



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CP

Test Method ASTM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-100, 33.0'-36.0' 40°C	590	6/23/09	Hom	3/4"		No	29.89	273.66	232.58	20.3
STN-106, 12.0'-15.0'	591	6/23/09	Hom	3/4"		No	47.23	244.00	195.76	32.5
STN-110, 13.0'-15.0'	592	6/23/09	Hom	3/8"		No	44.80	321.11	268.08	23.8
STN-104, 2.0'-4.0'	593	6/23/09	Hom	1 1/2"		No	44.41	281.92	254.90	12.8
STN-72, 30.0'-33.0' 40°C	594	6/23/09	Hom	3/8"		No	49.64	261.87	226.11	20.3
STN-74, 10.0'-12.0'	595	6/23/09	Hom	3/8"		No	43.27	294.03	245.12	24.2
STN-74, 22.0'-25.0'	596	6/23/09	Hom	3/8"		No	43.82	439.59	324.41	41.0
STN-74, 34.0'-37.0'	597	6/23/09	Hom	3/4"		No	45.67	437.77	344.71	31.1
STN-75, 19.0'-22.0'	598	6/23/09	Hom	1 1/2"		No	48.52	330.72	288.74	17.5
STN-75, 34.0'-37.0' 40°C	599	6/23/09	Hom	3/8"		No	43.78	456.50	370.88	26.2
STN-77, 6.0'-9.0'	600	6/23/09	Hom	3/8"		No	47.28	267.29	220.99	26.7
STN-77, 22.0'-24.0'	601	6/23/09	Hom	3/4"		No	43.75	397.00	322.48	26.7
STN-78, 8.0'-11.0' 40°C	602	6/23/09	Hom	No. 4		Yes	44.24	297.86	252.06	22.0
STN-78, 25.0'-28.0'	603	6/23/09	Hom	3/4"		No	43.76	384.85	342.35	14.2



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STN-100, 33.0'-36.0' 200°C	590	6/23/09	Hom	3/4"		No	29.89	273.66	231.19	21.1
STN-106, 12.0'-15.0'		6/29/09								
STN-110, 13.0'-15.0'		6/29/09								
STN-104, 2.0'-4.0'		6/29/09								
STN-72, 30.0'-33.0' 200°C	594	6/23/09	Hom	3/8"		No	49.64	261.87	222.35	22.9
STN-74, 10.0'-12.0'		6/29/09								
STN-74, 22.0'-25.0'		6/29/09								
STN-74, 34.0'-37.0'		6/29/09								
STN-75, 19.0'-22.0'		6/29/09								
STN-75, 34.0'-37.0' 200°C	599	6/23/09	Hom	3/8"		No	43.78	456.50	365.93	28.1
STN-77, 6.0'-9.0'		6/29/09								
STN-77, 22.0'-24.0'		6/29/09								
STN-78, 8.0'-11.0' 200°C	602	6/23/09	Hom	No. 4		Yes	44.24	297.86	247.41	24.8
STN-78, 25.0'-28.0'		6/29/09								



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Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-100, 17.0'-18.0'	997	6/29/09	Hom	3/4"			No	19.19	115.76	100.93	18.1
STN-100, 20.3'-21.0'	998	6/29/09	Hom	No. 10			Yes	19.18	104.88	80.57	39.6
STN-104, 46.5'-47.0'	999	7/1/09	Hom	3/4"			No	18.86	102.34	93.20	12.3
STN-106, 49.5'-50.5'	1000	7/1/09	Hom	No. 4			Yes	38.86	311.22	262.20	21.9
STN-109, 20.6'-21.5'	1001	6/29/09									
SB-74, 16.1'-17.0'	1002	6/23/09	Hom	3/4"			No	21.03	109.17	92.33	23.6
SB-74, 22.5'-23.0'	1003	6/23/09	Hom	3/4"			No	19.56	104.76	87.91	24.7
SB-74, 51.0'-51.5'	1004	6/23/09	Str	1 1/2"			No	22.56	124.67	102.97	27.0
SB-77, 17.5'-18.0'	1005	6/25/09	Hom	No. 4			No	29.11	123.91	112.07	14.3
SB-77, 49.8'-50.0'	1006	6/25/09	Hom	1 1/2"			No	27.18	111.01	106.09	6.2
SB-78, 30.0'-30.5'	1007	6/25/09	Hom	3/8"			No	29.71	164.99	144.53	17.8
SB-78, 32.8'-33.5'	1008	6/25/09	Hom	3/8"			No	26.67	136.24	104.77	40.3
SB-109, 20.0'-20.6'	1008b	7/1/09	Hom	1 1/2"			No	44.12	270.92	222.92	26.8
SB-78, 17.8'-18.0'	1008a	7/1/09	Hom	No. 4			No	27.39	81.37	76.38	10.2



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Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & CanWeight (g)	Moisture Content (%)
200° C	1007	6/25/09	Hom	3/8"		No	29.71	164.99	142.28	20.2
200° C	1008a	6/25/09	Hom	No. 4		No	27.39	81.37	76.21	10.6



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Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-63, 5.0'-10.0'	90	6/18/09	Hom	3/8"		No	22.53	99.47	87.39	18.6
SB-63, 30.0'-35.0'	91	6/18/09	Hom	3/8"		No	18.76	127.81	112.12	16.8
SB-65, 15.0'-20.0'	92	6/18/09	Hom	3/8"		No	19.45	102.34	87.32	22.1
SB-65, 30.0'-45.0'	93	6/18/09	Hom	3/8"		No	19.78	121.38	99.76	27.0
SB-69, 18.0'-25.0'	94	6/18/09	Hom	3/8"		No	21.56	126.27	101.93	30.3



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Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
	392	6/10/09	Hom	No. 4	1	No. 4	Yes	31.64	251.09	206.38	25.6
	393	6/10/09	Hom	No. 10			Yes	33.51	228.04	186.72	27.0
	394	6/10/09	Len	No. 10			Yes	29.43	265.63	228.26	18.8
	395	6/10/09	Hom	No. 10			Yes	32.61	255.35	223.41	16.7
	396	6/10/09	Hom	No. 10			Yes	31.67	181.35	154.62	21.7
	397	6/10/09	Hom	No. 10			Yes	31.63	238.34	201.03	22.0
	398	6/10/09	Hom	No. 10			Yes	32.95	238.39	196.94	25.3
	399	6/10/09	Hom	No. 10			Yes	32.56	284.66	232.14	26.3
	400	6/10/09	Hom	No. 10			Yes	30.99	225.45	190.26	22.1
	401	6/10/09	Hom	No. 10			Yes	30.47	229.41	190.67	24.2
	402	6/10/09	Hom	No. 10			Yes	32.60	182.15	152.45	24.8
60°C	404	6/10/09	Hom	No. 10				17.53	72.82		-415.4
60°C	405	6/10/09	Hom	No. 10				17.47	75.15		-430.2
	408	6/10/09	Hom	3/8"	1	3/8"	No	33.14	265.55	221.85	23.2
	409	6/10/09	Hom	No. 10			Yes	32.32	212.33	179.67	22.2
	410	6/10/09	Hom	No. 4	3	No. 4	Yes	33.05	291.25	228.60	32.0
	411	6/10/09	Hom	No. 10			Yes	33.07	245.58	201.25	26.4
	412	6/10/09	Hom	No. 10			Yes	29.95	193.36	166.79	19.4
	413	6/10/09	Hom	No. 4	5	No. 4	Yes	29.31	215.57	185.46	19.3
	414	6/10/09	Hom	No. 4	2	No. 4	Yes	28.37	260.30	224.09	18.5
	415	6/10/09	Hom	No. 4	1	No. 4	Yes	29.16	260.42	216.53	23.4
	416	6/10/09	Len	3/8"	2	3/8"	No	28.38	210.32	182.42	18.1
	417	6/10/09	Hom	3/8"	7	3/8"	No	26.96	251.48	215.46	19.1
	418	6/10/09	Len	No. 10			Yes	29.25	198.02	174.32	16.3
	419	6/10/09	Hom	No. 10			Yes	28.58	198.27	178.44	13.2
	421	6/10/09	Hom	3/8"	9	3/8"	No	28.81	192.47	160.42	24.4
	422	6/10/09	Hom	3/8"	1	3/8"	No	32.32	172.30	143.54	25.9
	423	6/10/09	Hom	No. 10			Yes	31.86	190.23	164.68	19.2



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Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-71, 36.5'-38.0'	424	6/11/09	Hom	No. 10			Yes	29.92	237.49	206.37	17.6
SB-71, 38.0'-39.5'	425	6/11/09	Hom	No. 10			Yes	29.29	160.62	138.52	20.2
SB-71, 41.5'-43.0'	426	6/11/09	Hom	3/4"	12	3/4"	No	28.36	192.55	167.21	18.2
SB-73, 0.0'-1.5'	427	6/11/09	Hom	No. 10			Yes	29.19	194.34	169.44	17.8
SB-73, 1.5'-3.0'	428	6/11/09	Hom	No. 10			Yes	28.36	181.61	158.48	17.8
SB-73, 3.0'-4.5'	429	6/11/09	Hom	No. 4	1	No. 4	Yes	26.93	222.38	191.37	18.9
SB-73, 4.5'-6.0'	431	6/11/09	Hom	No. 4	2	No. 4	Yes	29.20	189.58	165.71	17.5
SB-73, 6.0'-7.5'	432	6/11/09	Hom	3/4"	3	3/4"	No	28.57	230.18	206.71	13.2
SB-73, 7.5'-9.0'	433	6/11/09	Hom	3/8"	3	3/8"	No	28.84	175.81	152.34	19.0
SB-73, 9.0'-10.5'	434	6/11/09	Hom	3/8"	1	3/8"	No	28.80	201.47	172.39	20.3
SB-73, 10.5'-11.0'	435	6/11/09	Hom	No. 10			Yes	32.30	122.01	104.18	24.8
SB-76, 0.0'-1.5'	436	6/11/09	Hom	No. 10			Yes	31.82	177.01	144.56	28.8
SB-76, 1.5'-3.0'	437	6/12/09	Hom	No. 10			Yes	33.05	130.75	116.37	17.3
SB-76, 3.0'-4.5'	438	6/12/09	Hom	No. 10			Yes	33.09	111.54	100.21	16.9
SB-76, 4.5'-6.0'	439	6/12/09	Hom	No. 10			Yes	32.26	156.20	134.79	20.9
SB-76, 6.0'-7.5'	440	6/12/09	Hom	No. 10			Yes	33.10	133.74	121.09	14.4
SB-76, 7.5'-9.0'	441	6/12/09	Hom	No. 10			Yes	32.57	116.07	104.34	16.3
SB-76, 9.0'-10.5'	442	6/12/09	Hom	No. 10			Yes	30.42	133.04	116.86	18.7
SB-76, 10.5'-12.0'	443	6/12/09	Hom	No. 10			Yes	30.96	114.75	103.32	15.8
SB-76, 12.0'-13.5'	444	6/12/09	Hom	No. 10			Yes	32.48	140.30	126.87	14.2
SB-76, 13.5'-15.0'	445	6/12/09	Hom	No. 10			Yes	32.91	154.91	134.81	19.7
SB-76, 15.0'-16.5'	446	6/12/09	Hom	No. 10			Yes	31.58	123.08	110.74	15.6
SB-76, 16.5'-18.0'	447	6/12/09	Hom	No. 10			Yes	31.64	158.68	141.62	15.5
SB-76, 18.0'-19.5'	448	6/12/09	Hom	No. 10			Yes	32.56	112.66	100.66	17.6
SB-76, 19.5'-21.0'	449	6/12/09	Hom	No. 10			Yes	29.39	108.47	95.27	20.0
SB-76, 21.0'-22.5'	450	6/12/09	Hom	No. 10			Yes	33.47	114.86	101.71	19.3
SB-76, 22.5'-24.0'	451	6/12/09	Hom	No. 10			Yes	31.64	117.47	103.41	19.6
SB-76, 24.0'-25.5'	452	6/12/09	Hom	No. 10			Yes	20.85	77.03	67.70	19.9
SB-76, 25.5'-27.0'	453	6/12/09	Hom	3/4"	1	3/4"	No	20.63	83.77	75.96	14.1
SB-76, 27.0'-28.5'	454	6/12/09	Hom	3/8"	3	3/8"	No	17.37	70.01	62.70	16.1



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SB-76, 28.5'-30.0'	455	6/12/09	Hom	No. 4			No	20.72	84.10	74.47	17.9
SB-76, 30.0'-31.5'	456	6/12/09	Hom	No. 10			Yes	16.44	78.16	67.95	19.8
SB-76, 31.5'-33.0'	457	6/12/09	Hom	No. 10			Yes	20.91	89.33	78.79	18.2
SB-76, 33.0'-34.5'	458	6/12/09	Hom	No. 10			Yes	21.70	71.81	63.58	19.7
SB-76, 34.5'-36.0'	459	6/12/09	Hom	No. 10			Yes	17.31	93.31	82.08	17.3
SB-76, 36.0'-37.5'	460	6/12/09	Hom	No. 10			Yes	21.66	92.25	80.68	19.6
SB-76, 37.5'-39.0'	461	6/12/09	Hom	No. 10			Yes	22.23	87.22	76.74	19.2
SB-76, 39.0'-40.5'	463	6/12/09	Hom	3/8"	3	3/8"	No	20.43	96.28	87.04	13.9
SB-76, 40.5'-42.0'	464	6/12/09	Hom	No. 4			No	17.43	95.12	82.97	18.5
SB-76, 42.0'-43.5'	466	6/12/09	Hom	No. 10			Yes	22.17	73.01	56.02	50.2
SB-76, 43.5'-45.0'	467	6/12/09	Hom	No. 10			Yes	21.90	84.00	64.49	45.8
SB-76, 45.0'-46.5'	468	6/12/09	Hom	No. 10			Yes	17.33	99.67	76.25	39.7
SB-76, 46.5'-48.0'	469	6/12/09	Hom	No. 10			Yes	17.56	95.76	74.50	37.3
SB-76, 48.0'-49.8'	470	6/12/09	Hom	No. 10			Yes	17.49	83.59	64.02	42.1
SB-80, 0.0'-1.5'	471	6/12/09	Hom	No. 10			Yes	21.77	90.29	80.32	17.0
SB-80, 1.5'-3.0'	472	6/12/09	Hom	No. 10			Yes	17.42	84.24	67.77	32.7
SB-80, 3.0'-4.5'	473	6/12/09	Hom	No. 10			Yes	22.18	104.61	84.17	33.0
SB-80, 4.5'-6.0'	474	6/12/09	Hom	No. 10			Yes	21.11	79.36	64.37	34.7
SB-80, 6.0'-7.5'	476	6/12/09	Hom	No. 10			Yes	17.46	88.29	68.45	38.9
SB-80, 7.5'-9.0'	477	6/12/09	Hom	No. 10			Yes	21.43	98.01	81.67	27.1
SB-80, 9.0'-10.5'	478	6/12/09	Hom	No. 10			Yes	21.27	75.02	61.87	32.4
SB-80, 12.5'-14.0'	479	6/12/09	Hom	No. 10			Yes	28.88	93.64	79.48	28.0
SB-80, 14.0'-15.5'	480	6/12/09	Hom	No. 10			Yes	29.15	110.82	96.75	20.8
SB-80, 15.5'-17.0'	481	6/12/09	Hom	No. 10			Yes	31.84	111.96	98.95	19.4
SB-80, 17.0'-18.5'	482	6/12/09	Hom	No. 4			No	29.22	102.56	89.66	21.3
SB-80, 18.5'-20.0'	483	6/12/09	Hom	No. 4			No	28.57	130.10	108.77	26.6
SB-80, 22.0'-23.5'	484	6/12/09	Hom	No. 10			Yes	28.80	133.41	98.03	51.1
SB-80, 23.5'-25.0'	485	6/12/09	Hom	No. 10			Yes	29.20	113.09	87.39	44.2
SB-80, 25.0'-26.5'	487	6/12/09	Hom	No. 10			Yes	28.38	106.79	81.89	46.5
SB-80, 26.5'-28.0'	488	6/12/09	Hom	No. 10			Yes	26.97	104.17	81.37	41.9



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Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded		Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
					Amount	Size					
SB-80, 32.0'-33.5' 60°C	489	6/12/09	Hom	No. 10			Yes	29.97	122.94	98.55	35.6
SB-80, 33.5'-35.0' 60°C	490	6/12/09	Hom	No. 10			Yes	32.32	118.32	92.47	43.0
SB-80, 37.0'-38.5'	491	6/12/09						21.23	82.50	72.49	19.5
SB-80, 38.5'-40.0'	492	6/12/09						28.61	116.82	100.64	22.5
SB-80, 40.0'-41.5'	493	6/12/09						29.33	148.10	124.49	24.8
SB-80, 41.5'-43.0'	494	6/12/09	Hom	3/8"	2	3/8"	No	31.88	175.03	147.40	23.9
SB-80, 43.0'-44.5'	495	6/12/09						28.77	160.92	136.57	22.6
SB-80, 44.5'-46.0'	496	6/12/09						32.31	163.77	140.67	21.3
SB-80, 46.0'-47.5'	497	6/12/09						28.88	155.82	137.45	16.9
SB-80, 49.5'-51.0'	498	6/12/09						28.97	159.56	135.15	23.0
SB-82, 0.0'-1.5'	499	6/12/09						28.27	134.49	123.36	11.7
SB-82, 1.5'-3.0'	500	6/12/09						28.35	118.78	102.48	22.0
SB-82, 3.0'-4.5'	501	6/12/09						33.17	164.03	133.87	30.0
SB-82, 4.5'-6.0'	502	6/12/09						29.40	144.12	124.07	21.2
SB-82, 6.0'-7.5'	503	6/12/09						31.43	131.49	108.74	29.4
SB-82, 9.5'-11.0'	504	6/12/09						28.79	102.94	86.75	27.9
SB-82, 11.0'-12.5'	505	6/12/09						28.68	130.45	110.35	24.6
SB-82, 12.5'-14.0'	506	6/12/09						28.41	126.74	107.02	25.1
SB-82, 14.0'-15.5'	507	6/12/09						29.74	146.94	125.46	22.4
SB-82, 15.5'-16.0' 60°C	508	6/12/09						29.67	104.72	93.50	17.6
SB-82, 17.0'-18.5' 60°C	509	6/12/09						29.20	99.60	87.65	20.4
SB-82, 18.5'-20.0' 60°C	510	6/12/09						30.58	146.40	113.08	40.4
SB-82, 22.0'-23.5' 60°C	511	6/12/09						29.30	137.02	100.79	50.7
SB-82, 23.5'-25.0' 60°C	512	6/12/09	Hom	No. 10			Yes	28.82	155.74	115.11	47.1
SB-82, 25.0'-26.5' 60°C	513	6/12/09	Hom	No. 10			Yes	28.61	137.53	107.77	37.6
SB-82, 26.5'-28.0' 60°C	514	6/12/09	Hom	No. 10			Yes	28.68	141.74	106.83	44.7
SB-82, 28.0'-29.5' 60°C	515	6/12/09	Hom	No. 10			Yes	29.80	134.11	99.55	49.5
SB-82, 29.5'-31.0' 60°C	516	6/12/09	Hom	No. 10			Yes	29.06	181.80	143.31	33.7
SB-82, 31.0'-32.5' 60°C	517	6/12/09	Hom	No. 10			Yes	29.38	165.80	131.71	33.3
SB-82, 32.5'-34.0' 60°C	518	6/12/09	Hom	No. 10			Yes	25.21	124.38	98.29	35.7



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant – TVA

Project Number 175569036

Tested By RHB/RSB

Test Method ASTM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
60°C	519	6/12/09	Hom	No. 10			Yes	20.14	68.02	54.88	37.8
60°C	520	6/12/09	Hom	No. 10			Yes	17.43	79.42	64.93	30.5
60°C	521	6/12/09	Hom	No. 10			Yes	21.37	97.87	76.69	38.3
60°C	522	6/12/09	Hom	No. 10			Yes	22.00	100.69	77.62	41.5
	523	6/12/09	Hom	No. 10			Yes	25.15	102.06	91.00	16.8
	524	6/12/09	Hom	No. 10			Yes	25.28	110.49	97.22	18.4
	525	6/12/09	Hom	No. 10			Yes	17.45	67.29	57.11	25.7
	526	6/12/09	Hom	No. 10			Yes	17.52	70.53	61.32	21.0
	527	6/12/09	Hom	No. 10			Yes	21.33	92.19	80.72	19.3
	528	6/12/09	Hom	No. 10			Yes	22.17	101.52	84.00	28.3
	529	6/12/09	Hom	3/8"	2	3/8"	No	20.69	84.42	68.93	32.1
	530	6/12/09	Hom	No. 10			Yes	17.40	104.06	92.21	15.8
	531	6/12/09	Hom	No. 10			Yes	17.49	91.91	81.22	16.8
	532	6/12/09	Hom	No. 10			Yes	17.35	61.49	53.39	22.5
	533	6/12/09	Hom	No. 10			Yes	20.70	84.27	71.93	24.1
	534	6/12/09	Hom	No. 10			Yes	22.18	111.91	97.98	18.4
	535	6/12/09	Hom	No. 10			Yes	17.34	88.25	76.06	20.8
	536	6/12/09	Hom	No. 10			Yes	21.77	101.34	87.55	21.0
	537	6/12/09	Hom	No. 10			Yes	17.55	102.33	86.81	22.4
	538	6/12/09	Hom	No. 10			Yes	20.14	95.60	79.82	26.4
	539	6/12/09	Hom	3/4"	1	3/4"	No	21.72	135.95	113.50	24.5
	540	6/12/09	Hom	No. 10			Yes	20.00	105.81	89.39	23.7
60°C	541	6/12/09	Hom	No. 10			Yes	22.28	111.38	90.82	30.0
60°C	542	6/12/09	Hom	No. 10			Yes	21.31	128.97	100.84	35.4
60°C	543	6/12/09	Hom	No. 10			Yes	17.56	129.33	102.75	31.2
60°C	544	6/12/09	Hom	No. 10			Yes	17.36	73.40	59.10	34.3
60°C	545	6/12/09	Hom	No. 10			Yes	17.47	93.79	65.16	60.0
	546	6/12/09	Hom	No. 10			Yes	17.43	94.13	79.27	24.0
	547	6/12/09	Hom	No. 10			Yes	17.32	79.93	70.08	18.7
	548	6/12/09	Hom	No. 10			Yes	21.69	71.10	61.99	22.6



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant – TVA

Project Number 175569036
Tested By RHB/RSB

Test Method ASTM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-81, 32.0'-33.5'	550	6/12/09	Hom	3/8"	1	3/8"	No	17.52	70.12	61.77	18.9
SB-81, 33.5'-35.0'	551	6/12/09	Hom	No. 10			Yes	17.39	79.38	69.15	19.8
SB-81, 35.0'-36.5'	552	6/12/09	Hom	No. 10			Yes	16.46	119.94	104.49	17.6
SB-81, 36.5'-38.0'	553	6/12/09	Hom	No. 10			Yes	17.43	87.63	72.39	27.7
SB-81, 38.0'-39.5'	554	6/12/09	Hom	No. 10			Yes	21.91	98.72	81.19	29.6
SB-81, 39.5'-41.0'	555	6/12/09	Hom	No. 10			Yes	21.69	99.87	81.03	31.7
SB-82, 16.0'-17.0'	556	6/12/09	Hom	No. 10			Yes	20.86	72.72	63.27	22.3
SB-82, 43.0'-43.5'	557	6/12/09	Hom	No. 10			Yes	21.92	122.22	109.29	14.8



Moisture Content of Soil ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By DB

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-111, 20.0'-21.5'	1009	6/29/09	Hom	No. 10			Yes	39.90	208.22	173.55	25.9
STN-111, 21.5'-23.0'	1011	6/29/09	Hom	No. 10			Yes	48.00	226.55	189.59	26.1
STN-111, 23.0'-24.5'	1012	6/29/09	Str	No. 10			Yes	43.69	287.47	226.65	33.2
STN-111, 24.5'-26.0'	1013	6/29/09	Len	1 1/2"			No	38.22	281.67	220.32	33.7
STN-111, 26.0'-27.5'	1014	6/29/09	Len	1 1/2"			No	43.96	340.40	291.20	19.9
STN-112, 20.0'-21.5'	1015	6/30/09	Len	No. 10			Yes	49.12	360.27	287.60	30.5
STN-112, 21.5'-23.0'	1017	6/30/09	Hom	No. 10			Yes	44.51	427.39	341.73	28.8
STN-112, 23.0'-24.5'	1018	6/30/09	Len	No. 10			Yes	44.25	363.23	285.01	32.5
STN-112, 24.5'-26.0'	1019	6/30/09	Len	1 1/2"			No	47.19	346.36	260.35	40.3
STN-112, 26.0'-27.5'	1020	6/30/09	Len	3/4"			No	44.13	351.18	279.01	30.7
STN-112, 27.5'-29.0'	1021	6/30/09	Hom	3/4"			No	43.77	311.39	266.73	20.0
STN-95, 0.0'-1.5'	1022	6/30/09	Hom	No. 4			Yes	47.02	285.96	244.68	20.9
STN-95, 1.5'-3.0'	1023	6/30/09	Hom	3/8"			No	43.73	325.15	282.77	17.7
STN-95, 3.0'-4.5'	1024	6/30/09	Hom	3/8"			No	47.04	250.78	201.14	32.2
STN-95, 4.5'-6.0'	1025	6/30/09	Hom	3/8"			No	44.61	280.33	227.98	28.5
STN-95, 6.0'-7.5'	1026	6/30/09	Hom	No. 10			Yes	44.23	284.19	219.22	37.1
STN-95, 7.5'-9.0'	1027	6/30/09	Hom	3/8"			No	44.51	293.79	220.06	42.0
STN-95, 9.0'-10.5'	1028	6/30/09	Hom	3/8"			No	44.28	279.22	213.35	39.0
STN-95, 10.5'-12.0'	1029	6/30/09	Hom	3/8"			No	43.64	324.73	266.39	26.2
STN-95, 12.0'-13.5'	1030	6/30/09	Hom	3/8"			No	43.71	346.37	289.88	22.9
STN-95, 13.5'-15.0'	1031	6/30/09	Hom	3/8"			No	43.65	391.01	339.23	17.5
STN-95, 15.0'-16.5'	1032	6/30/09	Hom	3/8"			No	43.67	373.49	306.69	25.4
STN-95, 16.5'-18.0'	1033	6/30/09	Len	No. 10			Yes	44.23	328.43	243.97	42.3
STN-95, 18.0'-19.5'	1034	6/30/09	Len	No. 10			Yes	44.99	324.06	254.42	33.3
STN-95, 19.5'-21.0'	1035	6/30/09	Len	3/8"			No	45.72	319.68	250.39	33.9
STN-95, 21.0'-22.5'	1036	6/30/09	Len	3/8"			No	47.16	322.69	246.23	38.4
STN-95, 22.5'-24.0'	1037	6/30/09	Len	3/8"			No	44.64	331.74	250.19	39.7
STN-95, 24.0'-25.5'	1038	6/30/09	Len	No. 10			Yes	44.33	287.31	201.06	55.0



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By DB

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-95, 27.5'-29.0'	1039	6/30/09	Hom	1 1/2"			No	43.92	298.34	232.12	35.2
STN-95, 29.0'-30.5'	1040	6/30/09	Hom	No. 10			Yes	46.43	301.17	240.70	31.1
STN-95, 32.5'-34.0'	1041	6/30/09	Hom	No. 10			Yes	48.37	348.19	280.70	29.0
STN-95, 34.0'-35.5'	1042	6/30/09	Hom	3/8"			No	43.84	341.46	274.69	28.9
STN-95, 37.5'-38.5'	1043	6/30/09	Len	No. 4			Yes	43.65	271.00	219.03	29.6
STN-95, 38.5'-39.0'	1044	6/30/09	Len	No. 10			Yes	43.64	290.99	190.59	68.3
STN-95, 39.0'-40.5'	1045	6/30/09	Len	No. 10			Yes	44.60	331.67	242.56	45.0
STN-95, 42.5'-44.0'	1046	6/30/09	Len	No. 10			Yes	46.81	282.32	220.08	35.9
STN-95, 44.0'-45.5'	1047	6/30/09	Len	No. 10			Yes	43.92	319.60	240.76	40.1
STN-95, 47.5'-49.0'	1048	6/30/09	Len	No. 10			Yes	47.77	356.19	245.43	56.0
STN-95, 49.0'-49.8'	1049	6/30/09	Hom	No. 10			Yes	43.68	272.97	174.97	74.6
STN-95, 49.8'-50.5'	1050	6/30/09	Len	No. 10			Yes	44.52	228.96	189.90	26.9
STN-95, 52.5'-54.0'	1051	6/30/09	Hom	No. 10			Yes	43.89	332.57	268.79	28.4
STN-95, 54.0'-55.5'	1052	6/30/09	Len	No. 10			Yes	46.38	322.75	261.38	28.5
STN-96, 0.0'-1.5'	1053	6/30/09	Hom	3/8"			No	43.39	281.64	241.50	20.3
STN-96, 1.5'-3.0'	1054	6/30/09	Hom	3/8"			No	43.82	299.51	255.73	20.7
STN-96, 3.0'-4.5'	1055	6/30/09	Hom	3/8"			No	43.77	312.38	280.80	13.3
STN-96, 4.5'-6.0'	1056	6/30/09	Hom	3/8"			No	43.44	317.10	272.18	19.6
STN-96, 6.0'-7.5'	1057	6/30/09	Hom	3/8"			No	43.67	312.70	271.81	17.9
STN-96, 7.5'-9.0'	1058	6/30/09	Hom	3/4"			No	43.82	305.07	245.48	29.5
STN-96, 9.0'-10.5'	1059	6/30/09	Hom	3/8"			No	47.10	275.24	218.50	33.1
STN-96, 10.5'-12.0'	1060	6/30/09	Hom	3/8"			No	47.64	333.01	292.75	16.4
STN-96, 12.0'-13.5'	1061	6/30/09	Hom	3/8"			No	49.39	339.59	298.18	16.6
STN-96, 13.5'-15.0'	1062	6/30/09	Hom	3/8"			No	45.95	362.59	310.56	19.7
STN-96, 15.0'-16.5'	1063	6/30/09	Len	No. 4			Yes	44.22	234.66	196.10	25.4
STN-96, 16.5'-18.0'	1064	6/30/09	Len	1 1/2"			No	44.26	310.08	267.57	19.0
STN-96, 18.0'-19.5'	1065	6/30/09	Len	3/4"			No	48.14	309.07	255.00	26.1
STN-96, 19.5'-21.0'	1066	6/30/09	Len	3/8"			No	43.85	306.19	256.56	23.3
STN-96, 21.0'-22.5'	1067	6/30/09	Len	3/8"			No	43.70	312.46	260.55	23.9
STN-96, 22.5'-24.0'	1068	6/30/09	Str	1 1/2"			No	43.42	365.28	298.26	26.3
STN-96, 24.0'-25.5'	1069	6/30/09	Len	No. 10			Yes	43.87	386.39	323.18	22.6



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By DB

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-96, 27.5'-29.0'	1070	6/30/09	Hom	No. 10			Yes	45.98	363.86	296.72	26.8
STN-96, 29.0'-30.5'	1071	6/30/09	Len	No. 10			Yes	47.04	340.74	253.81	42.0
STN-96, 30.5'-32.0'	1072	6/30/09	Lam	No. 10			Yes	47.05	302.32	248.76	26.6
STN-96, 32.0'-33.5'	1073	6/30/09	Hom	3/8"			No	43.70	377.84	316.51	22.5
STN-96, 33.5'-35.0'	1074	6/30/09	Hom	No. 10			Yes	43.38	343.90	288.40	22.7
STN-96, 37.0'-38.5'	1075	6/30/09	Hom	No. 10			Yes	47.52	365.94	314.69	19.2
STN-96, 38.5'-40.0'	1076	6/30/09	Hom	No. 10			Yes	46.21	426.52	315.21	41.4
STN-96, 40.0'-41.5'	1077	6/30/09	Hom	No. 10			Yes	46.06	401.94	343.83	19.5
STN-96, 41.5'-43.0'	1078	6/30/09	Hom	No. 10			Yes	43.39	381.96	326.04	19.8
STN-96, 43.0'-44.5'	1079A	6/30/09	Hom	No. 10			Yes	46.21	316.52	268.40	21.7
STN-96, 43.0'-44.5'	1079B	6/30/09	Str	No. 10			Yes	47.06	326.76	228.43	54.2
STN-96, 44.5'-45.5'	1080	6/30/09	Str	No. 10			Yes	46.27	310.42	247.92	31.0
STN-96, 45.5'-46.0'	1081	6/30/09	Len	No. 4			Yes	43.81	225.56	188.36	25.7
STN-96, 48.0'-49.5'	1082	6/30/09	Len	No. 10			Yes	46.41	257.90	211.31	28.3
STN-96, 49.5'-51.0'	1083	6/30/09	Str	No. 10			Yes	44.03	329.34	267.69	27.6
STN-96, 51.0'-52.5'	1084	6/30/09	Hom	No. 10			Yes	43.54	236.27	197.11	25.5
STN-97, 0.0'-1.5'	1085	7/1/09	Hom	3/8"			No	48.78	168.97	166.80	1.8
STN-97, 1.5'-3.0'	1086	7/1/09	Len	No. 10			Yes	44.75	243.20	199.44	28.3
STN-97, 3.0'-4.5'	1087	7/1/09	Len	No. 10			Yes	47.27	235.81	197.19	25.8
STN-97, 4.5'-6.0'	1088	7/1/08	Len	3/8"			No	44.25	272.95	226.48	25.5
STN-97, 6.0'-7.5'	1089	7/1/09	Len	No. 4			Yes	44.05	305.00	252.32	25.3
STN-97, 7.5'-9.0'	1090	7/1/09	Len	No. 10			Yes	39.89	202.11	170.16	24.5
STN-97, 9.0'-10.5'	1091	7/1/09	Len	3/4"			No	43.77	256.51	213.53	25.3
STN-97, 10.5'-12.0'	1092	7/1/09	Len	No. 10			Yes	44.18	296.94	237.90	30.5
STN-97, 12.0'-13.5'	1093	7/1/09	Len	No. 10			Yes	48.66	358.47	282.42	32.5
STN-97, 13.5'-15.0'	1094	7/1/09	Len	1 1/2"			No	38.95	206.95	168.80	29.4
STN-97, 15.0'-16.5'	1095	7/1/09	Len	No. 10			Yes	38.81	292.90	243.76	24.0
STN-97, 16.5'-18.0'	1096	7/1/09	Len	1 1/2"			No	44.18	284.81	244.62	20.1
STN-97, 18.0'-19.5'	1097	7/1/09	Len	3/8"			No	44.26	274.03	234.52	20.8
STN-97, 21.5'-23.0'	1098	7/1/09	Len	3/4"			No	43.65	346.95	280.25	28.2
STN-97, 23.0'-24.5'	1099	7/1/09	Len	3/8"			No	50.63	288.45	233.79	29.8



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By DB

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-97, 24.5'-26.0'	1100	7/1/09	Len	No. 10			Yes	43.60	200.05	166.24	27.6
STN-97, 26.0'-27.5'	1101	7/1/09	Hom	No. 10			Yes	44.12	268.93	229.77	21.1
STN-97, 27.5'-29.0'	1102	7/1/09	Hom	No. 10			Yes	45.41	234.19	198.15	23.6
STN-97, 31.0'-32.5'	1103	7/1/09	Lam	No. 10			Yes	46.42	307.29	251.66	27.1
STN-97, 32.5'-34.0'	1105	7/1/09	Hom	No. 10			Yes	46.94	266.65	217.75	28.6
STN-97, 34.0'-35.5'	1106	7/1/09	Len	No. 4			Yes	71.47	302.65	246.38	32.2
STN-97, 35.5'-37.0'	1107	7/1/09	Hom	No. 10			Yes	40.96	292.67	236.21	28.9
STN-97, 37.0'-38.5'	1108	7/1/09	Len	3/8"			No	41.16	313.93	253.14	28.7
STN-97, 38.5'-40.0'	1109	7/1/09	Lam	3/8"			No	29.60	235.85	191.44	27.4
STN-99, 0.0'-1.5'	1110	7/1/09	Hom	3/4"			No	49.56	333.86	288.28	19.1
STN-99, 1.5'-3.0'	1111	7/1/09	Str	3/8"			No	43.67	320.18	264.72	25.1
STN-99, 3.0'-4.5'	1112	7/1/09	Len	No. 10			Yes	40.26	238.38	198.65	25.1
STN-99, 4.5'-6.0'	1113	7/1/09	Len	No. 4			Yes	38.99	202.81	169.06	25.9
STN-99, 6.0'-7.5'	1114	7/1/09	Len	3/8"			No	43.67	274.18	221.71	29.5
STN-99, 7.5'-9.0'	1115	7/1/09	Len	No. 10			Yes	49.45	284.86	234.80	27.0
STN-99, 9.0'-10.5'	1116	7/1/09	Len	No. 10			Yes	48.48	274.54	224.31	28.6
STN-99, 10.5'-12.0'	1117	7/1/09	Len	3/8"			No	48.75	281.71	232.46	26.8
STN-99, 12.0'-13.5'	1118	7/1/09	Len	3/4"			No	43.85	286.59	242.47	22.2
STN-99, 13.5'-15.0'	1119	7/1/09	Len	No. 4			Yes	43.80	262.61	223.11	22.0
STN-99, 15.0'-16.5'	1120	7/1/09	Len	3/4"			No	43.71	148.66	131.08	20.1
STN-99, 16.5'-18.0'	1121	7/1/09	Len	3/8"			No	45.54	296.74	251.94	21.7
STN-99, 18.0'-19.5'	1122	7/1/09	Str	No. 10			Yes	73.97	392.64	335.25	22.0
STN-99, 21.5'-23.0'	1123	7/1/09	Len	No. 10			Yes	29.71	255.78	206.16	28.1
STN-99, 23.0'-24.5'	1124	7/1/09	Lam	No. 10			Yes	44.75	236.79	195.38	27.5
STN-99, 24.5'-26.0'	1125	7/1/09	Lam	No. 10			Yes	47.15	201.38	168.85	26.7
STN-99, 26.0'-27.5'	1126	7/1/09	Lam	No. 10			Yes	43.71	255.45	212.30	25.6
STN-99, 27.5'-29.0'	1127	7/1/09	Len	No. 10			Yes	43.64	319.54	264.41	25.0
STN-99, 31.0'-32.5'	1128	7/1/09	Len	No. 10			Yes	49.35	255.47	215.65	23.9
STN-99, 32.5'-34.0'	1129	7/1/09	Len	No. 10			Yes	45.33	308.55	258.18	23.7
STN-99, 34.0'-35.5'	1130	7/1/09	Len	No. 10			Yes	43.60	297.73	252.77	21.5
STN-99, 35.5'-37.0'	1131	7/1/09	Lam	No. 10			Yes	44.22	255.98	212.70	25.7



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By DB

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & CanWeight (g)	Moisture Content (%)
STN-99, 37.0'-38.5'	1132	7/1/09	Str	No. 10		Yes	39.66	261.07	221.96	21.5
STN-99, 38.5'-40.0'	1134	7/1/09	Hom	No. 10		Yes	39.39	227.88	192.48	23.1
STN-99, 42.0'-43.5'	1135	7/1/09	Hom	No. 10		Yes	38.18	270.26	223.32	25.4
STN-99, 43.5'-45.0'	1136	7/1/09	Hom	No. 10		Yes	44.22	341.98	277.38	27.7
STN-99, 45.0'-46.5'	1137	7/1/09	Len	No. 10		Yes	48.00	265.94	221.04	25.9
STN-99, 46.5'-48.0'	1138	7/1/09	Len	No. 10		Yes	28.42	230.17	189.23	25.5

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Moisture Content of Soil ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By DB

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-95, 39.0'-40.5'	1045	6/30/09	Len	No. 10			Yes	44.60	331.67	236.94	49.3
STN-95, 42.5'-44.0'	1046	6/30/09	Len	No. 10			Yes	46.81	282.32	217.25	38.2
STN-95, 44.0'-45.5'	1047	6/30/09	Len	No. 10			Yes	43.92	319.60	238.18	41.9
STN-95, 47.5'-49.0'	1048	6/30/09	Len	No. 10			Yes	47.77	356.19	242.56	58.3
STN-96, 27.5'-29.0'	1070	6/30/09	Hom	No. 10			Yes	45.98	363.86	292.27	29.1
STN-96, 29.0'-30.5'	1071	6/30/09	Len	No. 10			Yes	47.04	340.74	250.58	44.3
STN-96, 30.5'-32.0'	1072	6/30/09	Lam	No. 10			Yes	47.05	302.32	246.85	27.8
STN-96, 43.0'-44.5'	1079A	6/30/09	Hom	No. 10			Yes	46.21	316.52	266.87	22.5
STN-96, 43.0'-44.5'	1079B	6/30/09	Str	No. 10			Yes	47.06	326.76	227.46	55.0
STN-97, 26.0'-27.5'	1101	7/1/09	Hom	No. 10			Yes	44.12	268.93	224.21	24.8
STN-97, 27.5'-29.0'	1102	7/1/09	Hom	No. 10			Yes	45.41	234.19	193.70	27.3



Moisture Content of Soil ASTM D 2216

Project Name Widows Creek Fossil Plant -- TVA

Project Number 175569036
Tested By CP

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-108, 10.0'-12.0'	377	6/11/09	Hom	3/4"		No	74.77	626.60	529.78	21.3
SB-76, 15.0'-17.0'	378	6/9/09	Hom	3/4"		No	44.41	326.47	284.25	17.6
SB-82, 22.0'-25.0'	379	6/9/09	Hom	3/8"		No	44.46	389.72	303.02	33.5
SB-82, 38.0'-40.0'	380	6/9/09	Hom	3/4"		No	48.83	415.80	323.26	33.7

CP



Moisture Content of Soil ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By JW

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-113, 4.5'-5.1'	1327	8/28/09		1 1/2"	60%	3/4"	No	21.16	103.43	102.05	1.7
STN-113, 5.1'-6.0'	1328	8/28/09		3/4"	10%	3/8"	No	21.17	101.83	95.11	9.1
STN-113, 6.0'-7.5'	1329	8/28/09	Str	1 1/2"	20%	3/4"	No	21.35	106.10	95.87	13.7
STN-113, 7.5'-9.0'	1330	8/28/09		1 1/2"	20%	3/8"	No	21.40	112.12	106.25	6.9
STN-113, 9.0'-9.8'	1331	8/28/09		1 1/2"	20%	3/8"	No	21.41	105.28	99.65	7.2
STN-113, 9.8'-10.5'	1332	8/28/09		1 1/2"	75%	3/8"	No	21.39	123.01	121.70	1.3
STN-113, 10.5'-12.0'	1333	8/28/09		3/4"	40%	3/8"	No	21.45	114.01	107.28	7.8
STN-113, 12.0'-13.5'	1334	8/28/09		3/4"	60%	3/8"	No	21.49	144.47	128.02	15.4
STN-113, 13.5'-15.0'	1335	8/28/09		1 1/2"	50%	3/8"	No	21.49	82.43	74.79	14.3
STN-113, 15.0'-16.5'	1336	8/28/09	Hom	No. 10			Yes	21.45	129.93	109.00	23.9
STN-113, 16.5'-18.0'	1337	8/28/09	Hom	No. 10			Yes	21.46	132.01	109.88	25.0
STN-113, 18.0'-19.5'	1338	8/28/09	Hom	No. 10			Yes	21.52	115.24	93.68	29.9
STN-113, 19.5'-21.0'	1340	8/28/09	Hom	No. 10			Yes	21.40	106.64	89.91	24.4
STN-113, 21.0'-22.5'	1341	8/28/09	Hom	No. 10			Yes	21.38	106.01	88.71	25.7
STN-113, 22.5'-24.0'	1342	8/28/09	Hom	No. 10			Yes	21.51	97.03	80.95	27.1
STN-113, 24.0'-25.5'	1343	8/28/09	Hom	1 1/2"	10%	No. 4	No	21.49	138.05	113.35	26.9
STN-113, 25.5'-27.0'	1344	8/28/09	Hom	3/8"	5%	No. 4	No	21.46	137.66	112.92	27.1
STN-113, 27.0'-28.5'	1345	8/28/09	Hom	1 1/2"	5%	No. 4	No	21.49	134.46	109.35	28.6
STN-113, 28.5'-30.0'	1346	8/28/09	Hom	3/8"	1%	No. 4	No	21.32	125.81	101.06	31.0
STN-113, 30.0'-31.5'	1347	8/28/09	Hom	3/8"	1%	No. 4	No	21.35	133.13	109.69	26.5
STN-113, 31.5'-33.0'	1349	8/28/09	Hom	No. 10			Yes	21.43	142.27	114.99	29.2
STN-113, 33.0'-34.5'	1350	8/28/09	Hom	No. 4			No	21.43	133.17	105.43	33.0
STN-113, 34.5'-36.0'	1351	8/28/09	Hom	3/4"	10%	No. 4	No	21.42	146.29	114.64	34.0
STN-113, 36.0'-37.5'	1352	8/28/09	Hom	1 1/2"	10%	No. 4	No	21.44	137.47	106.04	37.2
STN-113, 37.5'-39.0'	1353	8/28/09		3/8"	5%	No. 4	No	21.33	131.58	103.48	34.2
STN-113, 39.0'-40.5'	1354	8/28/09		1 1/2"	50%	3/8"	No	21.40	159.17	134.10	22.2
STN-113, 40.5'-42.0'	1356	8/28/09		No. 10			Yes	21.48	134.95	113.51	23.3
STN-113, 42.0'-43.5'	1357	8/28/09		3/8"	5%	No. 4	No	21.63	130.30	112.90	19.1



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

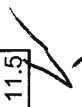
Project Number 175569036
Tested By JW

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-113, 43.5'-45.0'	1358	8/28/09		1 1/2"	10%	3/8"	No	21.36	150.11	131.29	17.1
STN-113, 45.0'-46.5'	1359	8/28/09		1 1/2"	60%	3/4"	No	21.62	113.52	93.67	27.6
STN-113, 46.5'-48.0'	1360	8/28/09		3/4"	5%	No. 4	No	21.36	117.28	82.71	56.3
STN-113, 48.0'-49.5'	1361	8/28/09		1 1/2"	40%	3/8"	No	21.63	136.05	107.29	33.6
STN-113, 49.5'-51.0'	1362	8/28/09		1 1/2"	25%	3/8"	No	21.28	141.44	113.64	30.1
STN-113, 51.0'-52.5'	1363	8/28/09		1 1/2"	60%	3/8"	No	21.44	137.58	125.60	11.5





Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant -- TVA

Project Number 175569036
Tested By BWT / CP

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-62, 0.0'-2.0'	1	5/19/09	Len	3/4"			No	40.76	220.53	196.47	15.5
SB-62, 2.0'-4.0'	2	5/19/09	Hom	3/4"			No	38.69	206.05	178.34	19.8
SB-62, 5.0'-7.0'	4	5/15/09	Hom	3/4"			No	24.91	198.74	178.15	13.4
SB-62, 7.0'-9.0'	5	5/15/09	Hom	3/4"			No	32.02	198.05	172.52	18.2
SB-62, 10.0'-12.0'	6	5/15/09	Hom	1 1/2"			No	32.02	209.35	186.90	14.5
SB-62, 12.0'-14.0'	7	5/19/09	Hom	3/4"			No	39.74	230.59	206.57	14.4
SB-62, 15.0'-17.0'	8	5/19/09	Hom	1 1/2"			No	43.99	270.52	236.61	17.6
SB-62, 17.0'-19.0'	9	5/19/09	Hom	1 1/2"			No	27.89	322.89	277.08	18.4
SB-62, 20.0'-22.0'	10	5/19/09	Str	3/4"			No	27.89	223.89	193.74	18.2
SB-62, 22.0'-24.0'	11	5/19/09	Hom	3/4"			No	46.48	293.74	243.98	25.2
SB-62, 25.0'-27.0'	12	5/19/09	Hom	1 1/2"			No	70.34	455.40	359.83	33.0
SB-62, 27.0'-29.0'	13	5/19/09	Str	1 1/2"			No	73.33	411.90	316.27	39.4
SB-62, 30.0'-32.0'	14	5/19/09	Hom	3/4"			No	73.30	495.40	422.65	20.8
SB-62, 32.0'-33.5'	15A	5/19/09	Hom	3/4"			No	69.53	453.70	373.74	26.3
SB-62, 33.5'-34.0'	15B	5/19/09	Hom	No. 4			Yes	69.66	239.11	203.38	26.7
SB-62, 35.0'-36.4'	16A	5/19/09	Hom	3/4"			No	70.08	320.65	280.07	19.3
SB-62, 36.4'-37.0'	16B	5/19/09	Len	No. 4			No	74.19	200.53	169.34	32.8
SB-62, 37.0'-37.5'	17	5/19/09	Str	1 1/2"			No	69.15	300.13	251.07	27.0
SB-62, 37.5'-37.9'	18	5/19/09									
SB-83, 0.0'-2.0'	19	5/19/09	Str	3/4"			No	71.53	454.80	393.18	19.2
SB-83, 2.0'-4.0'	21	5/15/09	Len	1 1/2"			No	32.11	183.29	162.16	16.2
SB-83, 5.0'-7.0'	22	5/15/09	Len	3/4"			No	19.11	97.12	85.22	18.0
SB-83, 7.0'-9.0'	23	5/15/09	Len	3/4"			No	21.02	103.46	91.24	17.4
SB-83, 12.0'-14.0'	24	5/19/09	Hom	No. 10			Yes	69.39	123.62	104.94	52.5
SB-83, 15.0'-17.0'	25	5/19/09	Len	No. 10			Yes	70.14	321.25	242.09	46.0
SB-83, 17.0'-19.0'	26	5/19/09	Len	No. 4			Yes	69.75	378.86	293.47	38.2
SB-83, 20.0'-22.0'	27	5/19/09	Hom	No. 10			Yes	73.87	337.75	260.75	41.2
SB-83, 22.0'-23.0'	28A	5/19/09	Hom	3/8"			No	73.91	421.90	336.11	32.7

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Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant -- TVA

Project Number 175569036
Tested By BWT / CP

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-83, 23.0'-24.0'	28B	5/1/09	Len	No. 10		Yes	73.65	394.06	302.76	39.8
SB-83, 25.0'-27.0'	29	5/19/09	Hom	No. 10		Yes	74.43	424.60	319.66	42.8
SB-83, 27.0'-27.6'	30A	5/19/09	Len	No. 10		Yes	73.31	213.11	173.55	39.5
SB-83, 27.6'-29.0'	30B	5/19/09	Str	1 1/2"		No	70.27	417.10	325.04	36.1
SB-83, 30.0'-32.0'	31	5/19/09	Str	3/4"		No	69.05	432.00	366.39	22.1
SB-83, 32.0'-34.0'	32	5/19/09	Len	3/8"		No	69.81	313.73	275.71	18.5
SB-83, 35.0'-37.0'	33	5/19/09	Hom	1 1/2"		No	71.09	422.70	369.56	17.8
SB-83, 37.0'-39.0'	34	5/19/09	Len	3/4"		No	46.21	200.09	174.13	20.3
SB-84, 0.0'-2.0'	35	5/19/09	Hom	3/4"		No	71.29	363.29	326.37	14.5
SB-84, 2.0'-4.0'	36	5/19/09	Hom	3/4"		No	69.95	426.80	382.75	14.1
SB-84, 5.0'-5.8'	37A	5/19/09	Len	3/4"		No	72.64	360.38	323.80	14.6
SB-84, 5.8'-7.0'	37B	5/19/09	Hom	3/4"		No	69.31	396.41	367.11	9.8
SB-84, 7.0'-7.5'	38A	5/19/09	Hom	3/8"		No	68.98	165.77	156.01	11.2
SB-84, 7.5'-9.0'	38B	5/19/09	Hom	3/4"		No	78.41	366.71	323.02	17.9
SB-84, 12.0'-14.0'	39	5/19/09	Hom	3/4"		No	71.56	438.10	411.03	8.0
SB-84, 14.0'-16.0'	40	5/19/09	Hom	3/4"		No	72.48	481.60	438.01	11.9
SB-84, 17.0'-19.0'	41	5/19/09	Hom	3/4"		No	71.33	537.50	486.13	12.4
SB-84, 22.0'-24.0'	42	5/19/09	Hom	3/8"		No	75.27	495.70	429.27	18.8
SB-84, 25.0'-27.0'	43	5/19/09	Hom	3/4"		No	71.58	495.00	437.24	15.8
SB-84, 27.0'-29.0'	44	5/19/09	Hom	3/4"		No	71.02	430.70	374.68	18.4
SB-84, 30.0'-30.9'	45A	5/19/09	Hom	3/8"		No	71.62	396.56	339.85	21.1
SB-84, 30.9'-32.0'	45B	5/19/09	Len	3/8"		No	75.80	356.84	306.91	21.6
SB-84, 32.0'-32.6'	46A	5/19/09	Len	No. 10		Yes	69.90	294.18	246.70	26.9
SB-84, 32.6'-34.0'	46B	5/19/09	Hom	3/8"		No	75.57	516.40	436.86	22.0
SB-84, 35.0'-37.0'	48	5/15/09	Len	No. 4		No	22.45	129.03	105.06	29.0
SB-84, 37.0'-39.0'	49	5/15/09	Len	1 1/2"		No	24.19	145.39	116.15	31.8
SB-87, 0.0'-2.0'	50	5/19/09	Str	3/4"		No	74.76	435.20	379.82	18.2
SB-87, 2.0'-4.0'	51	5/19/09	Hom	3/8"		No	72.50	363.30	329.37	13.2
SB-87, 5.0'-7.0'	52	5/19/09	Str	3/4"		No	75.05	410.10	379.08	10.2
SB-87, 7.0'-9.0'	54	5/15/09	Hom	3/4"		No	22.47	110.69	102.66	10.0

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Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant -- TVA

Project Number 175569036
Tested By BWT / CP

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Straatified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-87, 10.0'-12.0'	55	5/15/09	Hom	3/4"			No	19.64	85.93	71.90	26.8
SB-87, 12.0'-14.0'	56	5/15/09	Hom	1 1/2"			No	20.03	87.27	78.10	15.8
SB-87, 15.0'-17.0'	57	5/19/09	Hom	3/4"			No	74.34	448.90	381.70	21.9
SB-87, 17.0'-19.0'	58	5/19/09	Hom	No. 4			Yes	72.55	452.70	384.58	21.8
SB-87, 20.0'-22.0'	59	5/19/09	Hom	3/4"			No	74.67	408.40	354.35	19.3
SB-87, 22.0'-22.3'	60	5/19/09	Hom	No. 4			Yes	70.97	246.80	220.05	17.9
SB-87, 25.0'-27.0'	61	5/20/09	Hom	3/4"			No	47.38	296.29	252.41	21.4
SB-87, 27.0'-28.1'	62A	5/20/09	Hom	3/8"			No	47.75	252.06	208.87	26.8
SB-87, 28.1'-29.0'	62B	5/20/09	Hom	No. 4			Yes	70.52	286.30	234.62	31.5
SB-87, 30.0'-31.0'	63A	5/20/09	Hom	3/4"			No	49.56	322.45	281.59	17.6
SB-87, 31.0'-32.0'	63B	5/20/09	Len	3/4"			No	69.78	328.17	290.16	17.2
SB-87, 32.0'-33.0'	64A	5/20/09	Hom	1 1/2"			No	45.96	354.61	314.74	14.8
SB-87, 33.0'-34.0'	64B	5/20/09	Lam	3/8"			No	72.36	350.25	304.81	19.5
SB-87, 35.0'-36.0'	65A	5/20/09	Hom	3/8"			No	43.79	138.47	120.91	22.8
SB-87, 36.0'-37.0'	65B	5/20/09	Len	3/8"			No	72.73	336.36	290.20	21.2
SB-87, 40.0'-42.0'	66	5/20/09	Hom	3/8"			No	48.62	314.63	267.70	21.4
SB-91, 0.0'-2.0'	67	5/20/09	Hom	1 1/2"			No	44.69	253.49	219.13	19.7
SB-91, 2.0'-4.0'	68	5/20/09	Hom	1 1/2"			No	45.63	278.48	247.29	15.5
SB-91, 5.0'-7.0'	69	5/20/09	Hom	3/4"			No	44.15	293.45	239.95	27.3
SB-91, 7.0'-9.0'	70	5/20/09	Hom	3/4"			No	44.64	284.60	235.33	25.8
SB-91, 10.0'-12.0'	71	5/20/09	Hom	1 1/2"			No	44.50	293.77	240.06	27.5
SB-91, 12.0'-14.0'	72	5/20/09	Hom	3/4"			No	29.67	360.56	311.67	17.3
SB-91, 15.0'-17.0'	73	5/20/09	Hom	3/4"			No	43.67	351.82	302.63	19.0
SB-91, 17.0'-18.4', 18.7'-19.0'	74A	5/20/09	Hom	1 1/2"			No	43.93	323.19	247.20	37.4
SB-91, 18.4'-18.7'	74B	5/20/09	Lam	3/4"			No	72.89	181.08	155.03	31.7
SB-92, 0.0'-2.0'	75	5/20/09	Hom	3/4"			No	44.26	218.44	202.45	10.1
SB-92, 2.0'-4.0'	76	5/20/09	Hom	3/4"			No	45.25	239.48	213.64	15.3
SB-92, 5.0'-7.0'	77	5/20/09	Len	3/4"			No	45.00	288.82	245.27	21.7
SB-92, 7.0'-9.0'	78	5/20/09	Hom	3/4"			No	44.12	315.19	253.81	29.3
SB-92, 10.0'-12.0'	79	5/20/09	Hom	1 1/2"			No	45.09	352.17	292.54	24.1
SB-92, 12.0'-13.8'	80A	5/20/09	Hom	1 1/2"			No	50.96	388.71	339.69	17.0



Moisture Content of Soil ASTM D 2216

Project Name Widows Creek Fossil Plant -- TVA

Project Number 175569036
Tested By BWT / CP

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-92, 13.8'-14.0'	80B	5/20/09	Len	3/8"		No	73.49	178.04	157.20	24.9
SB-92, 16.0'-17.5'	81A	5/20/09	Hom	1 1/2"		No	73.62	544.10	474.15	17.5
SB-92, 17.5'-18.0'	81B	5/20/09	Lam	3/8"		No	73.18	204.50	180.12	22.8
SB-92, 18.0'-18.7', 19.0'-19.5'	82	5/20/09	Len	1 1/2"		No	75.12	441.80	386.29	17.8
SB-92, 18.7'-19.0'	82B	5/20/09	Len	1 1/2"		No	71.90	225.68	194.56	25.4

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TOTAL=93





Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-63, 0.5'-2.0'	95	6/4/09	Hom	3/8"			No	20.88	110.01	94.12	21.7
SB-63, 2.5'-4.0'	96	6/4/09	Hom	3/4"			No	29.12	149.30	132.49	16.3
SB-63, 5.5'-7.0'	97	6/4/09	Hom	3/8"			No	21.82	107.81	93.19	20.5
SB-63, 10.5'-12.0'	98	6/4/09	Hom	1 1/2"			No	21.25	139.80	119.42	20.8
SB-63, 12.5'-14.0'	99	6/4/09	Hom	3/8"			No	22.19	116.37	112.93	3.8
SB-63, 15.5'-17.0'	100	6/4/09	Hom	3/4"			No	27.39	160.08	152.31	6.2
SB-63, 17.5'-19.0'	101	6/4/09	Hom	3/8"			No	29.15	159.03	144.25	12.8
SB-63, 20.5'-22.0'	102	6/4/09	Hom	3/4"			No	21.81	136.25	105.64	36.5
SB-63, 22.5'-24.0'	103	6/4/09	Hom	3/8"			No	22.37	137.33	108.63	33.3
SB-63, 25.5'-27.0'	104	6/4/09	Hom	3/8"			No	21.29	116.01	103.34	15.4
SB-63, 27.5'-29.0'	105	6/4/09	Hom	1 1/2"			No	19.77	127.54	101.99	31.1
SB-63, 30.5'-32.0'	106	6/4/09	Hom	3/4"			No	29.57	126.24	124.25	2.1
SB-63, 32.5'-34.0'	107	6/4/09	Hom	3/4"			No	19.23	107.69	79.53	46.7
SB-63, 35.5'-37.0'	108	6/4/09	Hom	3/4"			No	17.23	133.19	98.74	42.3
SB-63, 37.5'-39.0'	109	6/4/09	Hom	3/8"			No	18.63	102.72	77.67	42.4
SB-63, 40.5'-42.0'	110	6/4/09	Hom	3/8"			No	23.94	140.21	107.76	38.7
SB-63, 42.5'-44.0'	111	6/4/09	Hom	3/8"			No	21.60	137.92	112.84	27.5
SB-63, 45.5'-47.0'	112	6/4/09	Hom	3/8"			No	26.38	120.72	94.86	37.8
SB-63, 47.5'-49.0'	113	6/4/09	Hom	3/8"			No	15.60	109.78	82.12	41.6
SB-63, 50.5'-51.5'	114	6/4/09	Hom	3/4"			No	20.66	98.44	77.51	36.8
SB-63, 52.5'-54.0'	116	6/4/09	Hom	No. 4			No	21.33	122.84	101.86	26.1
SB-63, 55.5'-57.0'	117	6/4/09	Hom	3/8"			No	21.42	127.63	104.47	27.9
SB-63, 57.9'-59.0'	118	6/4/09	Hom	3/8"			No	20.24	119.20	98.14	27.0
SB-64, 0.0'-1.5'	119	6/4/09	Hom	3/4"			No	21.96	112.21	101.30	13.8
SB-64, 1.5'-3.0'	120	6/4/09	Hom	3/4"			No	20.52	123.48	113.05	11.3
SB-64, 3.0'-4.5'	121	6/4/09	Hom	3/8"			No	21.66	112.41	88.57	35.6
SB-64, 4.5'-6.0'	122	6/4/09	Hom	3/8"			No	24.33	124.50	103.00	27.3
SB-64, 6.0'-7.5'	123	6/4/09	Hom	3/8"			No	28.09	147.51	121.57	27.7



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-64, 7.5'-9.0'	125	6/4/09	Hom	3/8"			No	19.86	103.30	84.02	30.0
SB-64, 9.0'-10.5'	126	6/4/09	Hom	3/4"			No	26.41	131.34	105.88	32.0
SB-64, 10.5'-12.0'	127	6/4/09	Hom	3/8"			No	21.64	111.13	91.13	28.8
SB-64, 12.0'-13.5'	128	6/4/09	Hom	No. 4			No	19.25	98.78	80.18	30.5
SB-64, 13.5'-15.0'	129	6/4/09	Hom	No. 4			No	22.21	126.71	102.22	30.6
SB-64, 15.0'-16.5'	130	6/4/09	Lam	No. 4			No	22.39	118.80	95.38	32.1
SB-64, 16.5'-18.0'	131	6/4/09	Hom	No. 4			No	19.26	106.57	89.08	25.1
SB-64, 18.0'-19.5'	132	6/4/09	Hom	No. 4			No	20.92	118.88	98.92	25.6
SB-64, 19.5'-21.0'	133	6/4/09	Hom	3/8"			No	20.48	118.73	96.78	28.8
SB-64, 21.0'-22.5'	134	6/4/09	Hom	3/4"			No	21.56	105.83	90.17	22.8
SB-64, 22.5'-24.0'	135	6/4/09	Hom	3/4"			No	21.86	116.38	97.07	25.7
SB-64, 24.0'-25.5'	136	6/4/09	Hom	3/8"			No	20.22	122.54	98.11	31.4
SB-64, 25.5'-27.0'	137	6/4/09	Hom	3/8"			No	22.86	134.33	108.67	29.9
SB-64, 27.0'-28.5'	138	6/4/09	Hom	No. 4			No	21.77	127.03	104.69	26.9
SB-64, 28.5'-30.0'	139	6/5/09	Hom	3/8"			No	76.65	309.96	265.12	23.8
SB-64, 30.0'-31.5'	140	6/5/09	Hom	No. 4			Yes	72.51	306.60	257.55	26.5
SB-64, 31.5'-33.0'	141	6/5/09	Hom	3/4"			No	69.75	337.21	272.33	32.0
SB-64, 33.0'-34.5'	142	6/5/09	Hom	No. 4			Yes	74.52	320.38	266.80	27.9
SB-64, 34.5'-36.0'	143	6/5/09	Hom	No. 4			Yes	68.78	297.32	247.24	28.1
SB-64, 36.0'-37.5'	144	6/5/09	Hom	No. 4			Yes	74.78	385.48	316.21	28.7
SB-64, 37.5'-39.0'	145	6/5/09	Hom	No. 4			Yes	70.11	360.47	300.11	26.2
SB-64, 39.0'-40.5'	146	6/5/09	Hom	No. 4			Yes	75.41	381.66	318.65	25.9
SB-64, 40.5'-42.0'	147	6/5/09	Hom	No. 4			Yes	70.96	316.29	265.07	26.4
SB-64, 42.0'-43.5'	148	6/5/09	Hom	No. 4			Yes	69.76	228.76	196.69	25.3
SB-64, 43.5'-45.0'	149	6/5/09	Hom	3/8"			No	71.98	325.17	267.95	29.2
SB-64, 45.0'-46.5'	150	6/5/09	Hom	No. 4			Yes	71.21	363.63	296.20	30.0
SB-64, 46.5'-48.0'	151	6/9/09	Hom	No. 4			Yes	44.38	289.62	227.19	34.2
SB-64, 48.0'-49.5'	152	6/9/09	Hom	No. 4			Yes	43.85	299.69	242.09	29.1
SB-64, 49.5'-51.0'	153	6/9/09	Hom	No. 4			Yes	48.39	257.74	215.61	25.2
SB-64, 51.0'-52.5'	154	6/9/09	Hom	3/8"			No	43.71	292.32	244.87	23.6



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-64, 52.5'-54.0'	155	6/9/09	Hom	No. 4			Yes	43.79	317.79	272.80	19.6
SB-64, 54.0'-55.5'	156	6/9/09	Hom	No. 4			Yes	45.03	309.23	262.48	21.5
SB-64, 55.5'-57.0'	157	6/9/09	Hom	No. 4			Yes	43.72	295.93	240.75	28.0
SB-64, 57.0'-58.5'	158	6/9/09	Hom	3/8"			No	43.37	214.92	184.31	21.7
SB-65, 0.5'-2.0'	159	6/10/09	Hom	3/4"			No	43.83	234.09	204.88	18.1
SB-65, 2.5'-4.0'	161	6/10/09	Hom	1 1/2"			No	43.87	217.03	191.69	17.1
SB-65, 5.5'-7.0'	162	6/9/09	Hom	3/8"			No	47.30	241.45	211.73	18.1
SB-65, 7.5'-9.0'	163	6/9/09	Hom	3/8"			No	44.13	234.60	181.59	38.6
SB-65, 12.5'-13.0'	164	6/10/09	Hom	3/8"			No	48.27	181.82	157.79	21.9
SB-65, 15.5'-17.0'	165	6/9/09	Hom	3/4"			No	49.36	256.19	230.13	14.4
SB-65, 17.5'-19.0'	166	6/9/09	Hom	3/4"			No	43.64	252.96	222.72	16.9
SB-65, 22.5'-24.0'	167	6/10/09	Hom	3/4"			No	48.53	230.92	202.14	18.7
SB-65, 25.5'-27.0'	168	6/10/09	Hom	3/4"			No	44.46	252.89	218.94	19.5
SB-65, 27.5'-29.0'	169	6/10/09	Hom	1 1/2"			No	47.23	294.25	257.75	17.3
SB-65, 30.5'-32.0'	170	6/10/09	Hom	3/8"			No	50.06	307.01	261.49	21.5
SB-65, 35.5'-37.0'	171	6/10/09	Hom	No. 4			Yes	44.45	271.82	209.10	38.1
SB-65, 37.5'-39.0'	172	6/10/09	Hom	No. 4			No	20.99	104.59	75.64	53.0
SB-65, 40.5'-42.0'	173	6/10/09	Hom	No. 10			Yes	23.34	109.60	70.83	81.6
SB-65, 42.5'-44.0'	174	6/10/09	Hom	No. 4			No	21.99	106.81	69.20	79.7
SB-65, 47.5'-49.0'	175	6/10/09	Hom	3/8"			No	21.86	114.24	77.18	67.0
SB-65, 50.5'-52.0'	176	6/10/09	Hom	No. 4			No	21.92	111.49	89.45	32.6
SB-65, 52.5'-53.2'	177	6/10/09	Hom	No. 4			No	21.57	117.54	92.86	34.6
SB-65, 55.5'-57.0'	178	6/10/09	Hom	No. 4			No	21.96	110.64	92.58	25.6
SB-65, 57.5'-59.0'	179	6/10/09	Hom	No. 4			No	21.20	126.07	103.39	27.6
SB-66, 0.0'-1.5'	180	6/10/09	Hom	No. 4			No	21.90	107.91	93.49	20.1
SB-66, 1.5'-3.0'	181	6/10/09	Hom	3/8"			No	21.73	91.16	78.95	21.3
SB-66, 3.0'-4.5'	182	6/10/09	Hom	No. 4			No	21.81	119.34	103.89	18.8
SB-66, 4.5'-6.0'	183	6/10/09	Hom	3/8"			No	22.75	103.83	89.61	21.3
SB-66, 6.0'-7.5'	184	6/10/09	Hom	No. 4			No	22.90	111.46	94.47	23.7
SB-66, 7.5'-9.0'	185	6/10/09	Hom	No. 4			No	22.08	107.51	90.49	24.9
SB-66, 9.0'-10.5'	186	6/10/09	Hom	No. 4			No	19.11	99.09	84.27	22.7



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Straightened, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-66, 10.5'-12.0'	187	6/10/09	Hom	No. 4			No	19.12	95.35	81.13	22.9
SB-66, 12.0'-13.5'	188	6/10/09	Hom	No. 4			No	21.00	94.08	80.34	23.2
SB-66, 13.5'-15.0'	189	6/10/09	Hom	No. 4			No	18.95	90.94	76.80	24.4
SB-66, 15.0'-16.5'	191	6/10/09	Hom	No. 4			No	21.20	106.40	89.61	24.5
SB-66, 16.5'-18.0'	192	6/10/09	Hom	No. 4			No	18.76	97.90	81.46	26.2
SB-66, 18.0'-19.5'	193	6/10/09	Hom	No. 4			No	20.30	106.67	87.99	27.6
SB-66, 19.5'-21.0'	194	6/10/09	Hom	No. 4			No	18.74	112.28	93.09	25.8
SB-66, 21.0'-22.5'	195	6/10/09	Hom	No. 4			No	20.75	120.01	92.63	38.1
SB-66, 22.5'-24.0'	196	6/10/09									
SB-66, 24.0'-25.5'	197	6/10/09	Hom	No. 4			No	16.17	99.72	79.11	32.7
SB-66, 25.5'-27.0'	198	6/10/09	Hom	No. 4			No	20.81	117.72	92.87	34.5
SB-66, 27.0'-27.9'	199	6/10/09	Hom	3/4"			No	21.37	121.53	95.61	34.9
SB-67, 0.0'-1.5'	200	6/10/09	Hom	1 1/2"			No	19.90	81.15	70.91	20.1
SB-67, 1.5'-3.0'	201	6/10/09	Hom	3/4"			No	22.37	106.19	94.89	15.6
SB-67, 3.0'-4.5'	202	6/10/09	Hom	3/8"			No	21.92	96.81	82.36	23.9
SB-67, 4.5'-6.0'	204	6/10/09	Hom	3/8"			No	23.33	114.56	101.00	17.5
SB-67, 6.0'-7.5'	205	6/10/09	Hom	1 1/2"			No	22.19	119.31	106.13	15.7
SB-67, 7.5'-9.0'	206	6/10/09	Hom	1 1/2"			No	21.57	90.80	74.08	31.8
SB-67, 11.0'-12.5'	207	6/10/09	Hom	3/8"			No	22.34	126.37	114.26	13.2
SB-67, 12.5'-14.0'	209	6/10/09	Hom	3/8"			No	21.34	127.80	108.99	21.5
SB-67, 14.0'-15.5'	210	6/10/09	Hom	3/4"			No	21.80	113.10	94.29	25.9
SB-67, 15.5'-17.0'	211	6/10/09	Hom	1 1/2"			No	21.37	113.41	97.38	21.1
SB-67, 17.0'-18.5'	212	6/10/09	Hom	3/4"			No	21.79	140.59	122.84	17.6
SB-67, 18.5'-20.0'	213	6/10/09	Hom	1 1/2"			No	21.34	115.82	96.41	25.9
SB-67, 22.0'-23.5'	214	6/10/09	Hom	No. 4			No	22.06	117.17	82.42	57.6
SB-67, 23.5'-25.0'	215	6/10/09	Hom	No. 4			No	22.11	113.03	81.73	52.5
SB-67, 25.0'-26.5'	216	6/10/09									
SB-67, 26.5'-28.0'	217	6/10/09	Hom	No. 4			No	19.56	113.28	82.81	48.2
SB-67, 28.0'-29.5'	219	6/10/09	Hom	3/8"			No	21.00	124.87	100.21	31.1
SB-67, 29.5'-31.0'	220	6/10/09	Hom	No. 4			No	19.32	110.90	84.13	41.3
SB-67, 31.0'-32.5'	221	6/10/09	Hom	No. 4			No	18.89	100.00	64.58	77.5



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
40° C	222	6/10/09	Hom	No. 4			No	19.69	113.27	86.79	39.5
40° C	223	6/10/09	Hom	No. 4			No	19.08	104.03	82.24	34.5
40° C	224	6/10/09	Hom	No. 4			No	23.88	132.20	98.92	44.3
	225	6/10/09	Hom	3/4"			No	21.70	116.17	89.74	38.8
	226	6/10/09	Hom	3/4"			No	20.76	120.78	98.89	28.0
	227	6/10/09	Hom	3/8"			No	21.39	126.18	108.41	20.4
	228	6/10/09	Hom	3/8"			No	22.08	133.67	108.04	29.8
	229	6/10/09	Hom	3/8"	1	1 1/2"	No	19.19	100.57	85.64	22.5
	230	6/10/09	Hom	3/8"	1	1 1/2"	No	21.50	100.32	85.73	22.7
	231	6/10/09	Hom	1 1/2"	1	1 1/2"	No	20.16	97.67	83.96	21.5
	232	6/10/09	Hom	1 1/2"			No	22.79	127.41	109.03	21.3
	233	6/10/09	Str	1 1/2"			No	21.78	113.01	96.04	22.9
	234	6/10/09	Hom	3/8"			No	21.25	117.07	96.98	26.5
	235	6/10/09	Hom	3/8"			No	20.45	93.35	78.90	24.7
	237	6/10/09	Hom	3/4"			No	20.95	115.20	97.51	23.1
	238	6/10/09	Hom	3/4"			No	22.32	125.89	106.66	22.8
	239	6/10/09	Hom	3/8"			No	26.35	118.74	98.67	27.8
	240	6/10/09	Hom	3/8"			No	28.04	124.81	104.19	27.1
	241	6/10/09	Hom	3/8"			No	19.19	96.89	79.57	28.7
	242	6/10/09	Hom	3/8"			No	22.46	129.72	105.61	29.0
	243	6/10/09	Hom	No. 4			No	21.59	111.56	89.24	33.0
	244	6/10/09	Hom	No. 4			No	21.79	105.50	87.19	28.0
	245	6/10/09	Hom	No. 4			No	22.02	120.19	97.19	30.6
	246	6/10/09	Hom	No. 4			No	20.50	138.11	106.66	36.5
	247	6/10/09	Hom	1 1/2"	1	1 1/2"	No	21.62	125.89	98.03	36.5
	248	6/11/09	Hom	3/4"			No	21.94	111.11	97.91	17.4
	249	6/11/09	Hom	3/4"			No	21.17	86.28	74.89	21.2
	251	6/11/09	Hom	3/4"			No	24.33	121.66	95.53	36.7
	252	6/11/09	Hom	3/4"			No	22.34	111.19	95.05	22.2
	253	6/11/09	Hom	3/8"			No	20.26	105.53	84.26	33.2
	254	6/11/09	Hom	3/4"			No	20.64	102.97	85.95	26.1



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-69, 9.0'-10.5'	255	6/11/09	Hom	3/4"			No	22.45	115.27	92.82	31.9
SB-69, 10.5'-12.0'	256	6/11/09	Hom	3/8"			No	21.36	107.88	84.22	37.6
SB-69, 12.0'-13.5'	257	6/11/09	Hom	3/4"			No	19.18	87.84	71.36	31.6
SB-69, 13.5'-14.0'	258	6/11/09	Hom	3/4"			No	21.07	108.80	88.71	29.7
SB-69, 15.0'-16.5'	259	6/11/09	Hom	1 1/2"			No	22.49	158.95	139.37	16.8
SB-69, 16.5'-17.0'	260	6/11/09	Hom	1 1/2"			No	19.85	108.73	96.05	16.6
SB-69, 18.0'-19.5'	261	6/11/09	Hom	No. 4			No	21.44	120.81	96.66	32.1
SB-69, 19.5'-21.0'	262	6/11/09	Hom	3/8"			No	22.50	124.77	94.22	42.6
SB-69, 21.0'-22.5'	263	6/11/09	Hom	No. 4			No	29.14	148.37	114.71	39.3
SB-69, 26.0'-27.5'	264	6/11/09	Hom	No. 4			No	21.64	128.37	99.22	37.6
SB-69, 27.5'-29.0'	265	6/11/09	Hom	No. 4			No	15.46	110.65	82.74	41.5
SB-69, 29.0'-30.5'	266	6/11/09	Hom	No. 4			No	21.34	123.42	96.91	35.1
SB-69, 30.5'-32.0'	267	6/11/09	Hom	No. 4			No	18.73	114.68	87.01	40.5
SB-69, 32.0'-33.5'	268	6/11/09	Hom	No. 4			No	20.65	103.80	83.88	31.5
SB-69, 33.5'-35.0'	269	6/11/09	Hom	No. 4			No	21.30	111.07	82.80	46.0
SB-69, 35.0'-36.0'	270	6/11/09	Hom	No. 4			No	23.01	132.73	98.58	45.2
SB-69, 36.5'-37.0'	271	6/11/09	Hom	3/8"			No	19.13	93.95	80.17	22.6
SB-69, 40.0'-41.5'	272	6/11/09	Hom	3/4"			No	20.56	120.56	102.28	22.4
SB-69, 41.5'-43.0'	273	6/11/09	Str	3/4"			No	20.86	106.45	90.11	23.6
SB-69, 43.0'-44.5'	274	6/11/09	Lam	1 1/2"			No	21.21	128.00	107.39	23.9
SB-69, 44.5'-46.0'	275	6/11/09	Hom	3/4"			No	21.62	117.81	100.90	21.3
SB-69, 46.0'-47.5'	276	6/11/09	Hom	3/8"			No	22.50	157.15	130.86	24.3
SB-69, 47.5'-49.0'	277	6/11/09	Hom	3/8"			No	19.35	99.37	87.81	16.9
SB-69, 49.0'-50.5'	278	6/11/09	Hom	No. 4			No	20.64	110.97	94.22	22.8
SB-69, 50.5'-52.0'	279	6/11/09	Hom	3/4"			No	24.00	138.18	118.61	20.7
SB-69, 52.0'-53.5'	280	6/11/09	Hom	3/8"			No	22.50	124.55	107.06	20.7
SB-70, 0.0'-1.5'	281	6/11/09	Hom	3/8"			No	44.04	228.25	188.35	27.6
SB-70, 1.5'-3.0'	282	6/11/09	Hom	1 1/2"			No	46.49	267.69	226.68	22.8
SB-70, 3.0'-4.5'	283	6/11/09	Hom	3/8"			No	46.34	215.95	190.21	17.9
SB-70, 4.5'-6.0'	284	6/11/09	Hom	3/8"			No	43.72	249.46	210.78	23.2
SB-70, 6.0'-7.5'	285	6/11/09	Hom	No. 4			Yes	43.90	255.94	210.53	27.3



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-70, 7.5'-9.0'	286	6/11/09	Hom	No. 4			Yes	44.64	278.12	228.73	26.8
SB-70, 9.0'-10.5'	287	6/11/09	Hom	3/8"			No	43.24	292.00	243.47	24.2
SB-70, 10.5'-12.0'	288	6/11/09	Hom	3/8"			No	43.87	257.37	221.67	20.1
SB-70, 12.0'-13.5'	290	6/11/09	Hom	3/8"			No	43.94	241.57	209.43	19.4
SB-70, 13.5'-15.0'	291	6/11/09	Hom	1 1/2"			No	46.88	186.28	160.78	22.4
SB-70, 15.0'-16.5'	292	6/11/09	Hom	3/4"			No	43.77	316.12	263.93	23.7
SB-70, 16.5'-18.0'	293	6/11/09	Hom	1 1/2"			No	43.77	274.19	242.20	16.1
SB-70, 18.0'-19.5'	294	6/11/09	Hom	3/8"			No	43.90	279.74	243.02	18.4
SB-70, 19.5'-21.0'	295	6/11/09	Hom	3/4"			No	46.71	281.47	244.52	18.7
SB-70, 21.0'-22.5'	296	6/11/09	Hom	1 1/2"			No	45.59	226.43	198.46	18.3
SB-85, 5.5'-7.0'	297	6/11/09	Hom	1 1/2"			No	47.69	293.76	242.68	26.2
SB-85, 7.5'-9.0'	298	6/11/09	Hom	3/8"			No	40.69	254.61	203.89	31.1
SB-85, 10.5'-12.0'	299	6/11/09	Hom	3/8"			No	38.99	233.15	192.24	26.7
SB-85, 12.5'-14.0'	301	6/11/09	Hom	3/8"			No	38.49	194.96	161.29	27.4
SB-85, 17.5'-19.0'	302	6/11/09	Hom	3/8"			No	40.11	198.04	167.32	24.1
SB-85, 20.5'-22.0'	303	6/11/09	Hom	3/4"			No	38.70	197.04	158.53	32.1
SB-85, 22.5'-24.0'	304	6/11/09	Hom	3/4"			No	21.51	132.54	103.93	34.7
SB-85, 27.0'-27.4' Rock	305	6/11/09	Hom	1 1/2"			No	23.04	56.85	54.92	6.1
SB-88, 5.5'-7.0'	306	6/11/09	Hom	1 1/2"			No	21.02	115.37	96.51	25.0
SB-88, 7.5'-9.0'	307	6/11/09	Hom	1 1/2"			No	20.84	135.18	121.17	14.0
SB-88, 10.5'-12.0'	308	6/11/09	Hom	3/8"			No	19.52	127.10	109.06	20.1
SB-88, 12.5'-14.0'	309	6/11/09	Hom	3/8"			No	19.15	121.31	103.36	21.3
SB-88, 15.5'-17.0'	310	6/11/09	Hom	1 1/2"	1	1 1/2"	No	19.28	125.06	104.51	24.1
SB-88, 17.5'-18.5' See 311A & 311B	311	6/16/09									
SB-88, 17.5'-18.5'	311A	6/11/09	Hom	1 1/2"			No	20.53	158.67	138.07	17.5
SB-88, 18.5'-19.0'	311B	6/11/09	Hom	3/8"			No	19.62	113.78	97.66	20.7
SB-88, 20.5'-22.0'	312	6/11/09	Hom	1 1/2"	1	1 1/2"	No	20.59	107.64	89.88	25.6
SB-88, 22.5'-24.0'	313	6/11/09	Hom	1 1/2"			No	18.95	85.80	72.63	24.5
SB-88, 25.0'-25.3'	314	6/11/09	Hom	1 1/2"			No	20.64	110.70	99.67	14.0
SB-89, 0.5'-2.0'	315	6/11/09	Hom	1 1/2"			No	46.92	270.33	252.38	8.7
SB-89, 2.0'-2.8'	316	6/11/09	Hom	3/4"			No	51.31	275.43	256.24	9.4



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-89, 5.5'-7.0'	317	6/11/09	Hom	1 1/2"			No	48.81	265.89	231.39	18.9
SB-89, 7.5'-9.0'	318	6/11/09	Hom	3/8"			No	47.25	326.35	273.23	23.5
SB-89, 12.5'-14.0'	319	6/16/09									
See 319A & 319B											
SB-89, 12.5'-13.0'	319A	6/11/09	Hom	1 1/2"			No	47.69	324.52	295.14	11.9
SB-89, 13.0'-14.0'	319B	6/11/09	Hom	3/4"			No	34.64	291.15	248.22	20.1
SB-89, 17.5'-19.0'	320	6/11/09	Str	1 1/2"			No	44.28	226.03	191.76	23.2
SB-89, 22.5'-24.0'	321	6/11/09	Hom	3/8"			No	46.70	329.99	280.67	21.1
SB-89, 25.5'-27.0'	322	6/11/09	Hom	1 1/2"			No	44.01	326.41	274.93	22.3
SB-89, 27.5'-29.0'	323	6/11/09	Hom	3/4"			No	43.84	354.22	302.14	20.2
SB-89, 30.5'-32.0'	324	6/16/09									
See 324A & 324B											
SB-89, 30.5'-31.0'	324A	6/11/09	Hom	3/8"			No	44.09	337.37	282.89	22.8
SB-89, 31.0'-32.0'	324B	6/11/09	Hom	1 1/2"			No	43.72	288.09	244.61	21.6
SB-89, 32.5'-33.5'	325	6/11/09	Hom	3/8"			No	43.81	321.67	270.74	22.4
SB-89, 35.5'-37.0'	326	6/11/09	Hom	1 1/2"			No	43.26	313.48	265.25	21.7
SB-89, 37.5'-39.0'	327	6/11/09	Hom	1 1/2"			No	43.81	295.40	246.81	23.9
SB-89, 42.5'-44.0'	328	6/11/09	Hom	3/4"			No	44.49	351.60	290.96	24.6
SB-89, 45.5'-47.0'	329	6/11/09	Hom	1 1/2"			No	44.22	319.15	266.67	23.6
SB-89, 47.5'-49.0'	330	6/11/09	Hom	3/8"			No	45.35	304.75	249.34	27.2
SB-89, 50.5'-52.0'	331	6/11/09	Hom	3/8"			No	44.22	315.17	259.50	25.9
SB-89, 52.5'-54.0'	332	6/11/09	Str	1 1/2"			No	43.23	358.82	299.41	23.2
SB-89, 55.0'-55.2'	333	6/11/09	Hom	No. 4			Yes	44.87	251.14	208.40	26.1
SB-90, 0.5'-2.0'	334	6/12/09	Hom	3/4"			No	44.20	272.30	264.96	3.3
SB-90, 2.5'-4.0'	335	6/12/09	Hom	3/4"			No	47.13	321.64	306.43	5.9
SB-90, 7.5'-8.2'	336	6/12/09	Hom	1 1/2"			No	43.69	323.56	299.52	9.4
SB-90, 12.5'-14.0'	337	6/12/09	Hom	3/4"			No	29.89	313.69	251.13	28.3
SB-90, 15.5'-16.3'	338	6/12/09	Hom	3/4"			No	43.33	234.15	199.47	22.2
SB-90, 17.5'-19.0'	339	6/12/09	Hom	3/4"			No	45.05	379.60	314.12	24.3
SB-90, 22.5'-24.0'	340	6/12/09	Hom	3/8"			No	44.17	229.28	184.00	32.4
SB-90, 25.5'-27.0'	341	6/12/09	Hom	3/8"			No	49.60	175.89	148.23	28.0
SB-90, 27.5'-29.0'	342	6/12/09	Hom	3/8"			No	43.80	313.27	245.79	33.4
SB-90, 30.5'-32.0'	343	6/12/09	Hom	No. 4			Yes	43.91	380.89	303.62	29.8



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-90, 32.5'-34.0'	344	6/12/09	Len	No. 4			Yes	45.78	374.75	306.31	26.3
SB-90, 35.0'-35.5'	345	6/12/09						48.43	306.21	259.57	22.1
SB-90, 8.2'-9.0'	346	6/12/09	Hom	3/4"			No	43.77	234.37	202.68	19.9
SB-90, 16.3'-17.0'	347	6/12/09	Hom	3/8"			No	47.35	376.50	313.65	23.6
SB-63, 51.5'-52.0'	348	6/4/09						21.26	120.63	97.56	30.2
SB-65, 13.0'-14.0'	349	6/10/09	Hom	3/8"			No	22.22	105.55	96.21	12.6
SB-65, 53.2'-54.0'	350	6/10/09	Hom	No. 4			No	20.78	98.23	82.51	25.5
SB-66, 27.4'-28.1'	351	6/10/09	Hom	No. 4			No	19.15	120.50	105.86	16.9
SB-69, 36.0'-36.5'	352	6/11/09	Hom	3/8"			No	21.56	135.99	114.41	23.2
SB-69, 37.0'-38.0'	353	6/11/09	Hom	3/8"			No	22.02	144.46	127.65	15.9
SB-67, 43.1'-44.0'	354	6/10/09	Hom	3/8"			No	20.87	118.90	95.70	31.0
SB-69, 14.0'-15.0'	355	6/11/09	Hom					21.66	127.78	113.69	15.3
SB-69, 17.0'-18.0'	356	6/11/09	Hom	No. 4			No	18.98	97.59	73.71	43.6
SB-89, 33.5'-34.0'	357	6/11/09	Hom	No. 4			Yes	49.48	294.50	251.01	21.6



Moisture Content of Soil ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
200° C	99	6/4/09	Hom	3/8"		No	22.19	116.37	106.27	12.0
200° C	100	6/4/09	Hom	3/4"		No	27.39	160.08	143.40	14.4
200° C	101	6/4/09	Hom	3/8"		No	29.15	159.03	135.76	21.8
200° C	102	6/4/09	Hom	3/4"		No	21.81	136.25	99.31	47.7
200° C	103	6/4/09	Hom	3/8"		No	22.37	137.33	102.24	43.9
200° C	104	6/4/09	Hom	3/8"		No	21.29	116.01	97.19	24.8
200° C	105	6/4/09	Hom	1 1/2"		No	19.77	127.54	95.92	41.5
200° C	106	6/4/09	Hom	3/4"		No	29.57	126.24	124.17	2.2
200° C	107	6/4/09	Hom	3/4"		No	19.23	107.69	74.82	59.1
200° C	108	6/4/09	Hom	3/4"		No	17.23	133.19	92.83	53.4
200° C	109	6/4/09	Hom	3/8"		No	18.63	102.72	73.04	54.5
200° C	110	6/4/09	Hom	3/8"		No	23.94	140.21	101.36	50.2
200° C	111	6/4/09	Hom	3/8"		No	21.60	137.92	106.10	37.7
200° C	112	6/4/09	Hom	3/8"		No	26.38	120.72	89.28	50.0
200° C	113	6/4/09	Hom	3/8"		No	15.60	109.78	77.24	52.8
200° C	114	6/4/09	Hom	3/4"		No	20.66	98.44	72.87	49.0
200° C	167	6/10/09	Hom	3/4"		No	48.53	230.92	187.06	31.7
200° C	168	6/10/09	Hom	3/4"		No	44.46	252.89	208.96	26.7
200° C	169	6/10/09	Hom	1 1/2"		No	47.23	294.25	242.28	26.6
200° C	170	6/10/09	Hom	3/8"		No	50.06	307.01	243.56	32.8
200° C	171	6/10/09	Hom	No. 4		Yes	44.45	271.82	206.99	39.9
200° C	172	6/10/09	Hom	No. 4		No	20.99	104.59	75.46	53.5
200° C	173	6/10/09	Hom	No. 10		Yes	23.34	109.60	70.51	82.9
200° C	174	6/10/09	Hom	No. 4		No	21.99	106.81	68.91	80.8
200° C	175	6/10/09	Hom	3/8"		No	21.86	114.24	76.88	67.9
200° C	176	6/10/09	Hom	No. 4		No	21.92	111.49	88.23	35.1
200° C	177	6/10/09	Hom	No. 4		No	21.57	117.54	91.63	37.0
200° C	198	6/10/09	Hom	No. 4		No	20.81	117.72	89.95	40.2
200° C	199	6/10/09	Hom	3/4"		No	21.37	121.53	93.37	39.1



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By CM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-67, 22.0'-23.5' 200° C	214	6/10/09	Hom	No. 4			No	22.06	117.17	81.67	59.6
SB-67, 23.5'-25.0' 200° C	215	6/10/09	Hom	No. 4			No	22.11	113.03	80.98	54.4
SB-67, 25.0'-26.5' Not Found	216	6/10/09									
SB-67, 26.5'-28.0' 200° C	217	6/10/09	Hom	No. 4			No	19.56	113.28	79.60	56.1
SB-67, 28.0'-29.5' 200° C	219	6/10/09	Hom	3/8"			No	21.00	124.87	91.43	47.5
SB-67, 29.5'-31.0' 200° C	220	6/10/09	Hom	No. 4			No	19.32	110.90	79.79	51.4
SB-67, 31.0'-32.5' 200° C	221	6/10/09	Hom	No. 4			No	18.89	100.42	63.41	83.1
SB-67, 32.5'-34.0' 200° C	222	6/10/09	Hom	No. 4			No	19.69	113.27	81.63	51.1
SB-67, 34.0'-35.5' 200° C	223	6/10/09	Hom	No. 4			No	19.08	104.03	76.89	46.9
SB-67, 35.5'-37.0' 200° C	224	6/10/09	Hom	No. 4			No	23.88	132.20	96.84	48.5
SB-69, 18.0'-19.5' 200° C	261	6/11/09	Hom	No. 4			No	21.44	120.81	90.91	43.0
SB-69, 19.5'-21.0' 200° C	262	6/11/09	Hom	3/8"			No	22.50	124.77	88.70	54.5
SB-69, 21.0'-22.5' 200° C	263	6/11/09	Hom	No. 4			No	29.14	148.37	107.96	51.3
SB-69, 26.0'-27.5' 200° C	264	6/11/09	Hom	No. 4			No	21.64	128.37	93.48	48.6
SB-69, 27.5'-29.0' 200° C	265	6/11/09	Hom	No. 4			No	15.46	110.65	77.83	52.6
SB-69, 29.0'-30.5' 200° C	266	6/11/09	Hom	No. 4			No	21.34	123.42	91.14	46.2
SB-69, 30.5'-32.0' 200° C	267	6/11/09	Hom	No. 4			No	18.73	114.68	81.86	52.0
SB-69, 32.0'-33.5' 200° C	268	6/11/09	Hom	No. 4			No	20.65	103.80	78.90	42.7
SB-69, 33.5'-35.0' 200° C	269	6/11/09	Hom	No. 4			No	21.30	111.07	77.92	58.5



Moisture Content of Soil ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-72, 0.0'-1.5'	604	6/23/09	Hom	3/8"		No	24.37	118.82	105.98	15.7
SB-72, 1.5'-3.0'	605	6/23/09	Hom	No. 10		Yes	22.61	105.92	88.42	26.6
SB-72, 3.0'-4.5'	606	6/23/09	Hom	No. 4		No	23.15	118.36	100.05	23.8
SB-72, 4.5'-6.0'	607	6/23/09	Hom	No. 4		No	21.01	90.25	76.51	24.8
SB-72, 6.0'-7.5'	608	6/23/09	Hom	No. 10		Yes	19.28	101.12	84.79	24.9
SB-72, 7.5'-9.0'	609	6/23/09	Hom	No. 10		Yes	21.93	123.12	103.28	24.4
SB-72, 9.0'-10.5'	610	6/23/09	Hom	3/8"		No	22.14	125.40	106.78	22.0
SB-72, 10.5'-12.0'	611	6/23/09	Hom	No. 10		Yes	22.00	124.03	102.35	27.0
SB-72, 12.0'-13.5'	612	6/23/09	Len	3/8"		No	22.14	109.88	91.68	26.2
SB-72, 13.5'-15.0'	613	6/23/09	Hom	3/4"		No	18.92	114.49	94.60	26.3
SB-72, 15.0'-16.5'	614	6/23/09	Str	3/8"		No	20.60	117.75	105.05	15.0
SB-72, 16.5'-18.0'	615	6/23/09	Hom	No. 10		Yes	21.49	105.35	95.11	13.9
SB-72, 20.0'-21.5'	616	6/23/09	Str	3/8"		No	19.90	113.65	97.71	20.5
SB-72, 21.5'-23.0'	617	6/23/09	Hom	3/4"		No	20.34	124.33	103.76	24.7
SB-72, 23.0'-24.5'	618	6/23/09	Len	3/8"		No	21.04	110.24	97.68	16.4
SB-72, 24.5'-26.0'	619	6/23/09	Hom	3/4"		No	19.23	121.32	104.10	20.3
SB-72, 26.0'-27.5'	620	6/23/09	Hom	3/8"		No	19.26	120.76	105.44	17.8
SB-72, 27.5'-29.0'	621	6/23/09	Hom	3/8"		No	20.61	115.83	102.35	16.5
SB-72, 30.0'-31.5'	622	6/23/09	Hom	1 1/2"		No	20.57	86.45	77.28	16.2
SB-72, 31.5'-33.0'	623	6/23/09	Hom	3/4"		No	23.55	123.41	109.27	16.5
SB-72, 33.0'-34.5'	624	6/23/09	Hom	1 1/2"		No	21.40	131.71	115.85	16.8
SB-72, 34.5'-36.0'	625	6/23/09	Hom	No. 4		No	22.43	115.61	100.77	18.9
SB-72, 36.0'-37.5'	626	6/23/09	Hom	No. 4		No	21.19	95.98	87.71	12.4
SB-72, 37.5'-39.0'	627	6/23/09	Hom	3/8"		No	19.14	114.64	100.72	17.1
SB-72, 39.0'-40.5'	628	6/23/09	Len	No. 4		No	20.95	118.53	102.55	19.6
SB-74, 0.0'-1.5'	629	6/23/09	Len	No. 10		Yes	20.87	98.52	84.12	22.8
SB-74, 1.5'-3.0'	630	6/23/09	Hom	No. 10		Yes	22.52	122.77	101.86	26.4
SB-74, 3.0'-4.5'	631	6/23/09	Hom	No. 10		Yes	20.74	116.30	95.70	27.5



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-74, 4.5'-6.0'	633	6/23/09	Hom	1 1/2"			No	22.48	108.53	92.80	22.4
SB-74, 6.0'-7.5'	634	6/23/09	Hom	3/4"			No	21.58	111.96	95.24	22.7
SB-74, 7.5'-9.0'	635	6/23/09	Hom	No. 4			No	20.75	110.32	91.49	26.6
SB-74, 11.0'-12.5'	636	6/23/09	Hom	No. 4			No	20.58	98.27	81.55	27.4
SB-74, 12.5'-14.0'	637	6/23/09	Hom	No. 10			Yes	22.56	122.00	101.98	25.2
SB-74, 14.0'-15.5'	638	6/23/09	Hom	1 1/2"			No	21.09	131.00	110.51	22.9
SB-74, 15.5'-16.1'	639	6/23/09	Str	No. 4			No	22.46	104.59	89.13	23.2
SB-74, 17.0'-18.5'	641	6/23/09	Hom	3/4"			No	21.97	123.41	101.55	27.5
SB-74, 18.5'-20.0'	642	6/23/09	Hom	3/4"			No	19.09	88.24	73.27	27.6
SB-74, 20.0'-21.5'	643	6/23/09	Hom	No. 4			No	20.87	92.65	76.39	29.3
SB-74, 21.5'-22.5'	644	6/23/09	Hom	3/8"			No	22.50	131.97	104.39	33.7
SB-74, 23.0'-24.5'	645	6/23/09	Str	1 1/2"			No	18.90	92.22	78.03	24.0
SB-74, 26.5'-28.0'	646	6/23/09	Hom	1 1/2"			No	21.19	128.79	111.10	19.7
SB-74, 28.0'-29.5'	647	6/23/09	Str	3/4"			No	19.74	108.37	89.88	26.4
SB-74, 29.5'-31.0'	648	6/23/09	Hom	3/4"			No	21.70	123.31	104.71	22.4
SB-74, 31.0'-32.5'	649	6/23/09	Hom	3/4"			No	21.46	126.73	107.03	23.0
SB-74, 32.5'-34.0'	650	6/23/09	Hom	No. 4			No	22.15	123.80	106.60	20.4
SB-74, 34.0'-35.5'	651	6/23/09	Hom	1 1/2"			No	19.56	111.71	95.74	21.0
SB-74, 35.5'-37.0'	652	6/23/09	Hom	No. 10			Yes	23.99	135.56	106.60	35.1
SB-74, 45.0'-46.5'	653	6/23/09	Hom	3/8"			No	21.60	129.39	110.34	21.5
SB-74, 50.0'-51.5'	654	6/23/09	Hom	3/4"			No	18.82	105.75	88.82	24.2
SB-75, 0.0'-1.5'	655	6/23/09	Str	3/4"			No	22.57	98.55	89.31	13.8
SB-75, 1.5'-3.0'	656	6/23/09	Hom	No. 10			Yes	28.03	121.54	102.07	26.3
SB-75, 3.0'-4.5'	657	6/23/09	Hom	No. 4			No	21.65	100.89	83.80	27.5
SB-75, 4.5'-6.0'	658	6/23/09	Hom	No. 10			Yes	22.09	123.80	101.51	28.1
SB-75, 6.0'-7.5'	659	6/23/09	Hom	No. 4			No	18.79	96.36	79.45	27.9
SB-75, 7.5'-9.0'	661	6/23/09	Hom	3/4"			No	21.47	119.48	99.19	26.1
SB-75, 9.0'-10.5'	662	6/23/09	Hom	3/4"			No	20.46	96.64	81.52	24.8
SB-75, 10.5'-12.0'	663	6/23/09	Len	3/4"			No	18.97	88.84	72.79	29.8
SB-75, 12.0'-13.5'	664	6/23/09	Hom	No. 4			No	19.13	101.07	86.83	21.0
SB-75, 13.5'-15.0'	665	6/23/09	Hom	1 1/2"			No	21.64	131.49	109.26	25.4



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-75, 15.0'-16.5'	666	6/23/09	Str	3/4"			No	21.53	117.87	103.49	17.5
SB-75, 16.5'-18.0'	667	6/23/09	Hom	No. 4			No	19.19	90.16	80.07	16.6
SB-75, 18.0'-19.5'	668	6/23/09	Hom	1 1/2"			No	19.25	90.67	80.95	15.8
SB-75, 19.5'-21.0'	669	6/23/09	Hom	3/4"			No	21.23	113.05	99.72	17.0
SB-75, 21.0'-22.5'	670	6/23/09	Hom	3/4"			No	19.14	99.10	86.01	19.6
SB-75, 22.5'-24.0'	671	6/23/09	Hom	3/4"			No	20.55	117.58	101.72	19.5
SB-75, 24.0'-25.5'	672	6/23/09	Str	3/4"			No	21.75	122.04	98.80	30.2
SB-75, 27.5'-29.0'	673	6/23/09	Hom	3/4"			No	22.50	117.57	102.94	18.2
SB-75, 29.0'-30.5'	674	6/23/09	Hom	No. 4			No	19.49	111.55	96.09	20.2
SB-75, 30.5'-32.0'	675	6/23/09	Hom	3/4"			No	21.90	115.17	101.55	17.1
SB-75, 32.0'-33.5'	676	6/25/09	Hom	3/4"			No	22.48	127.17	111.88	17.1
SB-75, 33.5'-35.0'	677	6/25/09	Hom	3/4"			No	20.91	106.30	94.80	15.6
SB-75, 37.0'-38.5'	678	6/25/09	Hom	1 1/2"			No	19.21	117.20	100.01	21.3
SB-75, 38.5'-40.0'	679	6/25/09	Hom	1 1/2"			No	21.26	131.88	113.25	20.3
SB-75, 40.0'-41.5'	680	6/25/09	Hom	3/4"			No	21.70	116.78	102.04	18.3
SB-75, 41.5'-43.0'	681	6/25/09	Hom	3/4"			No	22.77	131.42	114.16	18.9
SB-75, 43.0'-44.5'	682	6/25/09	Hom	3/4"			No	21.25	116.05	101.09	18.7
SB-75, 44.5'-46.0'	683	6/25/09	Hom	3/4"			No	22.81	107.21	93.43	19.5
SB-75, 46.0'-47.5'	684	6/25/09	Hom	1 1/2"			No	21.77	138.60	119.12	20.0
SB-75, 47.5'-49.0'	685	6/25/09	Hom	3/4"			No	22.27	130.44	111.19	21.6
SB-75, 49.0'-50.5'	686	6/25/09	Len	3/4"			No	26.35	156.85	137.43	17.5
SB-75, 50.5'-52.0'	687	6/25/09	Hom	No. 10			Yes	21.78	119.22	101.35	22.5
SB-75, 52.0'-53.5'	688	6/25/09	Hom	3/4"			No	22.31	145.53	122.69	22.8
SB-75, 53.5'-55.0'	689	6/25/09	Str	1 1/2"			No	20.12	114.77	101.91	15.7
SB-77, 0.0'-1.5'	690	6/25/09	Hom	No. 10			Yes	21.96	103.06	89.12	20.8
SB-77, 1.5'-3.0'	691	6/25/09	Hom	No. 10			Yes	21.58	112.18	94.19	24.8
SB-77, 3.0'-4.5'	692	6/25/09	Len	No. 4			No	22.24	121.99	101.84	25.3
SB-77, 4.5'-6.0'	693	6/25/09	Hom	3/4"			No	18.94	100.38	85.21	22.9
SB-77, 6.0'-7.5'	694	6/25/09	Hom	No. 4			No	22.71	106.25	88.87	26.3
SB-77, 7.5'-9.0'	695	6/25/09	Hom	No. 10			Yes	21.63	122.45	100.14	28.4
SB-77, 9.0'-10.5'	696	6/25/09	Hom	No. 10			Yes	20.76	116.17	94.91	28.7



Moisture Content of Soil ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-77, 10.5'-12.0'	697	6/25/09	Hom	No. 10			Yes	23.45	111.87	90.95	31.0
SB-77, 12.0'-13.5'	698	6/25/09	Hom	3/4"			No	21.66	126.45	104.82	26.0
SB-77, 13.5'-15.0'	699	6/25/09	Hom	No. 10			Yes	22.34	109.01	90.85	26.5
SB-77, 15.0'-16.5'	700	6/25/09	Hom	No. 4			No	21.37	125.21	105.18	23.9
SB-77, 16.5'-17.5'	701	6/25/09	Hom	1 1/2"			No	16.14	108.15	89.48	25.5
SB-77, 18.0'-19.5'	702	6/25/09	Hom	No. 4			No	19.13	101.93	87.51	21.1
SB-77, 19.5'-21.0'	703	6/25/09	Hom	No. 10			Yes	21.92	100.28	85.69	22.9
SB-77, 23.0'-24.5'	704	6/25/09	Hom	3/8"			No	21.53	90.09	77.50	22.5
SB-77, 24.5'-26.0'	705	6/25/09	Hom	3/4"			No	16.25	115.53	89.63	35.3
SB-77, 26.0'-27.5'	706	6/25/09	Hom	3/4"			No	15.85	101.62	88.14	18.6
SB-77, 27.5'-29.0'	707	6/25/09	Str	1 1/2"			No	22.15	127.76	110.39	19.7
SB-77, 29.0'-30.5'	708	6/25/09	Hom	3/8"			No	21.96	146.47	122.50	23.8
SB-77, 30.5'-32.0'	709	6/25/09	Hom	3/8"			No	20.76	123.57	105.61	21.2
SB-77, 32.0'-33.5'	710	6/25/09	Hom	3/8"			No	20.86	117.96	99.44	23.6
SB-77, 33.5'-35.0'	711	6/25/09	Hom	3/8"			No	22.38	145.47	126.81	17.9
SB-77, 35.0'-36.5'	712	6/25/09	Len	3/8"			No	21.63	147.43	123.42	23.6
SB-77, 36.5'-38.0'	713	6/25/09	Hom	3/8"			No	21.34	124.43	107.15	20.1
SB-77, 43.5'-45.0'	714	6/25/09	Hom	3/4"			No	22.68	157.65	132.66	22.7
SB-77, 48.5'-49.8'	715	6/25/09	Hom	3/8"			No	19.76	129.24	111.61	19.2
SB-77, 50.0'-51.5'	716	6/25/09	Hom	1 1/2"			No	21.90	105.91	91.40	20.9
SB-78, 0.0'-1.5'	717	6/25/09	Str	1 1/2"			No	21.60	113.14	98.70	18.7
SB-78, 1.5'-3.0'	718	6/25/09	Hom	3/8"			No	22.15	107.05	88.27	28.4
SB-78, 3.0'-4.5'	719	6/25/09	Hom	No. 4			No	20.56	94.23	78.75	26.6
SB-78, 4.5'-6.0'	720	6/25/09	Hom	No. 10			Yes	22.78	108.78	91.60	25.0
SB-78, 6.0'-7.5'	721	6/25/09	Hom	No. 10			Yes	20.63	102.22	86.15	24.5
SB-78, 7.5'-9.0'	722	6/25/09	Hom	No. 10			Yes	19.33	99.10	83.85	23.6
SB-78, 9.0'-10.5'	723	6/25/09	Str	3/4"			No	24.03	131.25	114.15	19.0
SB-78, 12.5'-14.0'	724	6/25/09	Hom	No. 4			No	21.73	111.87	94.10	24.6
SB-78, 14.0'-15.5'	725	6/25/09	Hom	3/4"			No	18.98	102.87	85.54	26.0
SB-78, 15.5'-17.0'	726	6/25/09	Hom	No. 4			No	22.99	134.10	112.46	24.2
SB-78, 17.0'-17.6'	727	6/25/09	Hom	No. 4			No	19.69	106.71	88.33	26.8



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
40° C	728	6/25/09	Hom	1 1/2"			No	19.74	86.75	80.77	9.8
40° C	729	6/25/09	Hom	3/4"			No	19.73	92.48	84.93	11.6
40° C	730	6/25/09	Hom	3/8"			No	22.13	104.39	95.76	11.7
40° C	732	6/25/09	Str	3/4"			No	22.31	117.77	107.81	11.6
40° C	733	6/25/09	Hom	1 1/2"			No	21.40	109.75	95.94	18.5
40° C	734	6/25/09	Hom	3/4"			No	19.80	108.16	93.90	19.2
40° C	735	6/25/09	Hom	3/4"			No	20.70	99.00	68.50	63.8
40° C	736	6/25/09	Hom	1 1/2"			No	21.16	119.80	96.35	31.2
	737	6/25/09	Hom	3/4"			No	21.78	131.36	112.61	20.6
	738	6/25/09	Hom	No. 4			No	20.69	112.36	96.56	20.8
	739	6/25/09	Hom	No. 4			No	21.28	108.97	85.57	36.4
	740	6/25/09	Hom	No. 4			No	22.23	116.27	100.29	20.5
	741	6/25/09	Hom	3/4"			No	22.24	117.92	99.34	24.1
	742	6/25/09	Hom	1 1/2"			No	18.88	109.76	91.90	24.5
	743	6/25/09	Hom	3/8"			No	24.06	131.66	114.29	19.3
	744	6/26/09	Hom	No. 4			No	19.57	96.61	85.55	16.8
	745	6/26/09	Hom	1 1/2"			No	22.05	108.25	94.95	18.2
	746	6/26/09	Len	No. 4			No	21.12	112.14	99.50	16.1
	747	6/26/09	Hom	3/4"			No	29.58	146.17	122.93	24.9
	748	6/26/09	Hom	3/4"			No	26.36	145.14	124.57	20.9
	749	6/26/09	Hom	3/4"			No	29.06	172.48	145.97	22.7
	750	6/26/09	Hom	3/4"			No	21.27	109.95	97.13	16.9
	751	6/26/09	Hom	1 1/2"			No	19.30	90.92	79.56	18.9
	752	6/26/09	Hom	3/4"			No	22.94	142.33	124.12	18.0
	753	6/26/09	Hom	3/4"			No	21.28	119.34	103.52	19.2
	754	6/26/09	Hom	3/4"			No	22.18	119.90	104.47	18.8
	755	6/26/09	Hom	3/4"			No	20.61	105.79	91.12	20.8
	756	6/26/09	Hom	3/4"			No	21.52	117.16	101.77	19.2
	757	6/26/09	Hom	3/4"			No	21.68	109.09	94.43	20.2
	758	6/26/09	Hom	No. 4			No	18.86	94.62	81.71	20.5
	759	6/26/09	Hom	3/4"			No	19.72	106.98	90.05	24.1



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
SB-79, 26.0'-27.5'	760	6/26/09	Hom	3/8"			No	18.71	97.02	79.53	28.8
SB-79, 27.5'-29.0'	761	6/26/09	Hom	3/4"			No	21.00	107.96	87.43	30.9
SB-79, 29.0'-30.5'	762	6/26/09	Hom	3/4"			No	21.96	124.93	99.75	32.4
SB-79, 30.5'-32.0'	763	6/26/09	Hom	1 1/2"			No	19.27	106.31	84.85	32.7
SB-79, 32.0'-33.5'	764	6/26/09	Hom	1 1/2"			No	21.57	116.46	88.68	41.4
SB-79, 33.5'-35.0'	765	6/26/09	Hom	3/4"			No	21.96	122.18	95.79	35.7
SB-79, 35.0'-36.5'	766	6/26/09	Hom	No. 4			No	22.96	117.65	92.07	37.0
SB-79, 36.5'-38.0'	767	6/26/09	Hom	1 1/2"			No	19.68	120.15	89.50	43.9
SB-79, 38.0'-39.5'	768	6/26/09	Hom	No. 4			No	21.99	126.34	96.12	40.8
SB-79, 39.5'-41.0'	769	6/26/09	Hom	3/4"			No	23.54	128.37	102.13	33.4
SB-79, 41.0'-42.5'	770	6/26/09	Hom	3/8"			No	21.17	142.82	109.72	37.4
SB-79, 42.5'-44.0'	771	6/26/09	Hom	1 1/2"			No	22.24	128.95	101.00	35.5
SB-79, 44.0'-45.5'	772	7/9/09									
STN-100, 0.0'-1.5'	773	6/29/09	Hom	3/4"			No	19.97	89.15	79.42	16.4
STN-100, 1.5'-3.0'	774	6/29/09	Hom	3/4"			No	21.57	113.79	89.83	35.1
STN-100, 3.0'-4.5'	775	6/29/09	Hom	No. 4			No	20.96	97.64	89.68	11.6
STN-100, 4.5'-6.0'	776	6/29/09	Hom	3/4"			No	23.16	115.24	102.61	15.9
STN-100, 6.0'-7.5'	777	6/29/09	Hom	3/4"			No	21.91	101.67	90.64	16.0
STN-100, 7.5'-9.0'	778	6/29/09	Hom	No. 4			No	23.67	120.42	104.02	20.4
STN-100, 9.0'-10.5'	779	6/29/09	Hom	3/4"			No	21.31	113.16	91.65	30.6
STN-100, 10.5'-12.0'	780	6/29/09	Hom	3/8"			No	21.24	104.85	83.27	34.8
STN-100, 12.0'-13.5'	781	6/29/09	Hom	3/4"			No	21.95	134.08	121.92	12.2
STN-100, 13.5'-15.0'	782	6/29/09	Hom	3/8"			No	22.00	107.46	88.96	27.6
STN-100, 15.0'-16.5'	783	6/29/09	Hom	3/8"			No	23.46	104.93	85.31	31.7
STN-100, 16.5'-17.0'	784	6/29/09	Hom	3/8"			No	21.39	126.43	102.45	29.6
STN-100, 18.0'-19.5'	785	6/29/09	Hom	No. 4			No	20.60	104.65	85.45	29.6
STN-100, 19.5'-20.3'	786	6/29/09	Hom	No. 4			No	19.15	102.81	81.12	35.0
STN-100, 21.0'-22.5'	787	6/29/09	Hom	No. 10			Yes	20.91	95.34	73.49	41.6
STN-100, 22.5'-24.0'	788	6/29/09	Hom	No. 4			No	19.13	97.41	81.77	25.0
STN-100, 24.0'-25.5'	789	6/29/09	Hom	3/8"			No	22.53	146.08	123.05	22.9
STN-100, 25.5'-27.0'	790	6/29/09	Hom	No. 10			Yes	20.78	118.24	88.75	43.4



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-100, 27.0'-28.5' 40° C	791	6/29/09	Hom	No. 10			Yes	20.67	116.30	91.76	34.5
STN-100, 28.5'-30.0' 40° C	792	6/29/09	Hom	3/8"			No	19.18	126.86	99.78	33.6
STN-100, 32.0'-33.5' 40° C	793	6/29/09	Hom	3/8"			No	20.55	107.32	66.81	87.6
STN-100, 35.5'-37.0' 40° C	795	6/29/09	Hom	3/8"			No	21.22	110.34	65.91	99.4
STN-100, 37.0'-38.5' 40° C	796	6/29/09	Hom	No. 10			Yes	22.48	104.17	63.56	98.9
STN-100, 38.5'-40.0' 40° C	797	6/29/09	Hom	3/4"			No	22.40	111.73	72.46	78.4
STN-100, 40.0'-41.5' 40° C	798	6/29/09	Hom	No. 10			Yes	20.71	82.75	51.90	98.9
STN-100, 41.5'-43.0' 40° C	799	6/29/09	Hom	No. 10			Yes	20.54	93.67	56.39	104.0
STN-100, 43.0'-44.5' 40° C	800	6/29/09	Hom	3/4"			No	21.00	113.07	86.92	39.7
STN-100, 46.5'-48.0' 40° C	801	6/29/09	Hom	No. 4			No	22.46	120.07	96.98	31.0
STN-100, 48.0'-49.5' 40° C	802	6/29/09	Hom	No. 10			Yes	21.90	119.75	94.12	35.5
STN-100, 51.5'-53.0' 40° C	803	6/29/09	Hom	No. 10			Yes	22.62	121.59	98.65	30.2
STN-100, 53.0'-54.5' 40° C	804	6/29/09	Hom	No. 10			Yes	18.96	108.10	88.66	27.9
STN-101, 0.0'-1.5' 40° C	805	6/30/09	Hom	3/8"			No	21.21	104.49	96.74	10.3
STN-101, 1.5'-3.0' 40° C	806	6/30/09	Hom	3/4"			No	19.70	101.47	81.12	33.1
STN-101, 3.0'-4.5' 40° C	807	6/30/09	Hom	No. 4			No	22.53	129.89	107.47	26.4
STN-101, 4.5'-6.0' 40° C	808	6/30/09	Hom	No. 10			Yes	21.60	116.08	94.93	28.8
STN-101, 6.0'-7.5' 40° C	809	6/30/09	Hom	No. 10			Yes	19.27	113.81	93.72	27.0
STN-101, 7.5'-9.0' 40° C	810	6/30/09	Hom	No. 4			No	20.93	106.81	84.62	34.8
STN-101, 9.0'-10.5' 40° C	811	6/30/09	Hom	No. 10			Yes	21.52	127.65	104.86	27.3
STN-101, 10.5'-12.0' 40° C	812	6/30/09	Hom	No. 4			No	19.54	103.14	87.98	22.2
STN-101, 12.0'-13.5' 40° C	813	6/30/09	Hom	No. 4			No	24.00	139.61	118.72	22.1
STN-101, 13.5'-15.0' 40° C	814	6/30/09	Hom	3/4"			No	22.09	130.91	108.23	26.3
STN-101, 15.0'-16.5' 40° C	815	6/30/09	Hom	No. 4			No	21.44	119.36	101.90	21.7
STN-101, 16.5'-18.0' 40° C	816	6/30/09	Hom	No. 4			No	21.69	105.87	89.68	23.8
STN-101, 18.0'-19.5' 40° C	817	6/30/09	Hom	1 1/2"			No	21.52	139.58	115.91	25.1
STN-101, 21.5'-23.0' 40° C	818	6/30/09	Hom	No. 4			No	21.62	139.48	115.56	25.5
STN-101, 23.0'-24.5' 40° C	819	6/30/09	Hom	No. 10			Yes	19.43	122.47	101.27	25.9
STN-101, 24.5'-26.0' 40° C	820	6/30/09	Hom	No. 4			No	22.34	124.45	106.30	21.6
STN-101, 26.0'-27.5' 40° C	821	6/30/09	Hom	No. 4			No	18.80	116.36	95.87	26.6
STN-101, 27.5'-29.0' 40° C	822	6/30/09	Hom	3/8"			No	21.62	133.35	109.71	26.8



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-101, 31.0'-32.5'	823	6/30/09	Hom	3/4"			No	22.09	135.68	110.13	29.0
STN-101, 32.5'-34.0'	824	6/30/09	Hom	No. 4			No	19.98	107.48	90.82	23.5
STN-101, 34.0'-35.5'	825	6/30/09	Hom	No. 10			Yes	19.56	115.55	97.40	23.3
STN-101, 35.5'-37.0'	826	6/30/09	Hom	No. 10			Yes	18.96	118.49	98.02	25.9
STN-101, 37.0'-38.5'	827	6/30/09	Hom	No. 10			Yes	21.48	121.03	99.14	28.2
STN-101, 38.5'-40.0'	828	6/30/09	Hom	3/8"			No	19.06	122.21	97.99	30.7
STN-101, 42.0'-43.5'	829	6/30/09	Hom	No. 4			No	21.88	128.44	105.01	28.2
STN-101, 43.5'-45.0'	830	6/30/09	Hom	No. 4			No	20.09	121.88	99.80	27.7
STN-101, 45.0'-46.5'	831	6/30/09	Hom	No. 10			Yes	20.18	128.21	103.68	29.4
STN-101, 46.5'-48.0'	832	6/30/09	Hom	No. 10			Yes	19.44	109.77	88.92	30.0
STN-101, 48.0'-49.5'	833	6/30/09	Hom	No. 10			Yes	18.73	111.82	92.25	26.6
STN-101, 49.5'-51.0'	834	6/30/09	Hom	No. 10			Yes	20.85	110.98	87.97	34.3
STN-101, 51.0'-52.5'	835	6/30/09	Hom	No. 10			Yes	22.90	137.22	114.71	24.5
STN-101, 52.5'-54.0'	836	6/30/09	Hom	No. 10			Yes	22.56	143.37	117.86	26.8
STN-101, 54.0'-55.5'	837	6/30/09	Hom	No. 10			Yes	21.64	141.34	114.36	29.1
STN-101, 55.5'-57.0'	839	6/30/09	Hom	No. 4			No	20.96	112.45	91.28	30.1
STN-101, 57.0'-58.5'	840	6/30/09	Hom	1 1/2"			No	21.00	126.98	104.25	27.3
STN-101, 58.5'-60.0'	841	6/30/09	Hom	3/4"			No	22.12	141.17	115.82	27.1
STN-101, 60.0'-61.5'	842	6/30/09	Hom	1 1/2"			No	18.74	94.49	77.45	29.0
STN-101, 61.5'-63.0'	843	6/30/09	Hom	3/4"			No	19.87	134.07	115.09	19.9
STN-101, 63.0'-64.5'	844	6/30/09	Hom	1 1/2"			No	19.12	135.94	117.05	19.3
STN-102, 0.0'-1.5'	845	6/30/09	Hom	3/4"			No	22.05	102.29	94.68	10.5
STN-102, 1.5'-3.0'	846	6/30/09	Str	3/4"			No	21.24	112.22	97.82	18.8
STN-102, 3.0'-4.5'	847	6/30/09	Hom	No. 4			No	22.91	124.52	100.74	30.6
STN-102, 4.5'-6.0'	848	6/30/09	Hom	No. 10			Yes	22.08	124.65	101.06	29.9
STN-102, 6.0'-7.5'	849	6/30/09	Hom	3/8"			No	22.05	119.72	96.38	31.4
STN-102, 7.5'-9.0'	850	6/30/09	Hom	No. 4			No	20.93	114.78	95.73	25.5
STN-102, 9.0'-10.5'	851	6/30/09	Hom	No. 10			Yes	22.69	126.48	103.39	28.6
STN-102, 10.5'-12.0'	852	6/30/09	Hom	No. 10			Yes	19.56	108.47	91.86	23.0
STN-102, 12.0'-13.5'	853	6/30/09	Hom	3/4"			No	22.62	133.24	108.43	28.9
STN-102, 13.5'-15.0'	854	6/30/09	Hom	3/4"			No	19.24	95.39	80.90	23.5



Moisture Content of Soil ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-102, 15.0'-16.5'	855	6/30/09	Hom	3/8"			No	22.13	120.67	102.45	22.7
STN-102, 16.5'-18.0'	856	6/30/09	Str	1 1/2"			No	20.41	109.70	92.27	24.3
STN-102, 18.0'-19.5'	857	6/30/09	Str	3/4"			No	21.03	131.36	109.54	24.7
STN-102, 21.5'-23.0'	858	6/30/09	Hom	No. 4			Yes	22.07	146.88	123.27	23.3
STN-102, 23.0'-24.5'	859	6/30/09	Hom	3/4"			No	18.75	109.03	87.54	31.2
STN-102, 24.5'-26.0'	860	6/30/09	Hom	3/8"			No	21.35	123.47	101.03	28.2
STN-102, 26.0'-27.5'	861	6/30/09	Hom	1 1/2"			No	20.55	109.85	92.67	23.8
STN-102, 27.5'-29.0'	862	6/30/09	Hom	No. 4			No	21.69	121.23	102.79	22.7
STN-102, 31.0'-32.5'	863	6/30/09	Hom	No. 4			No	18.74	105.52	86.65	27.8
STN-102, 32.5'-34.0'	864	6/30/09	Hom	No. 10			Yes	19.07	111.70	92.58	26.0
STN-102, 34.0'-35.5'	865	6/30/09	Hom	No. 4			No	18.92	115.96	93.93	29.4
STN-102, 35.5'-37.0'	866	6/30/09	Hom	No. 4			No	21.48	130.63	107.41	27.0
STN-102, 37.0'-38.5'	867	6/30/09	Hom	No. 4			No	22.14	140.18	118.27	22.8
STN-102, 38.5'-40.0'	868	6/30/09	Hom	3/8"			No	18.87	121.98	100.73	26.0
STN-103, 0.0'-1.5'	869	6/30/09	Hom	1 1/2"			No	24.25	113.76	106.32	9.1
STN-103, 1.5'-3.0'	870	6/30/09	Str	3/4"			No	21.95	130.49	110.68	22.3
STN-103, 3.0'-4.5'	871	6/30/09	Hom	No. 10			Yes	22.04	127.48	103.22	29.9
STN-103, 4.5'-6.0'	872	6/30/09	Hom	No. 10			Yes	19.24	98.58	82.77	24.9
STN-103, 6.0'-7.5'	873	6/30/09	Hom	3/4"			No	21.55	117.85	98.90	24.5
STN-103, 7.5'-9.0'	874	6/30/09	Hom	No. 4			No	15.64	100.97	83.45	25.8
STN-103, 9.0'-10.5'	875	6/30/09	Hom	No. 4			No	20.31	99.83	83.14	26.6
STN-103, 10.5'-12.0'	876	6/30/09	Len	No. 4			No	21.95	110.01	94.95	20.6
STN-103, 12.0'-13.5'	877	6/30/09	Hom	No. 4			No	19.84	89.65	76.02	24.3
STN-103, 13.5'-15.0'	878	6/30/09	Hom	No. 4			No	20.64	109.08	93.58	21.3
STN-103, 15.0'-16.5'	879	6/30/09	Hom	3/8"			No	19.13	102.78	90.44	17.3
STN-103, 16.5'-18.0'	880	6/30/09	Str	3/8"			No	22.53	124.65	103.65	25.9
STN-103, 18.0'-19.5'	881	6/30/09	Hom	3/8"			No	21.31	123.54	108.38	17.4
STN-103, 21.5'-23.0'	882	6/30/09	Hom	3/8"			No	21.50	135.26	113.40	23.8
STN-103, 23.0'-24.5'	883	6/30/09	Hom	3/8"			No	21.67	142.13	118.59	24.3
STN-103, 24.5'-26.0'	884	6/30/09	Hom	1 1/2"			No	22.09	124.11	104.50	23.8
STN-103, 26.0'-27.5'	885	6/30/09	Hom	No. 10			Yes	21.49	123.31	104.84	22.2



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-103, 27.5'-29.0'	886	6/30/09	Hom	No. 10			Yes	22.20	135.23	113.40	23.9
STN-103, 31.0'-32.5'	887	6/30/09	Hom	3/8"			No	21.43	142.79	119.66	23.5
STN-103, 32.5'-34.0'	888	6/30/09	Hom	No. 4			No	22.21	121.99	104.60	21.1
STN-103, 34.0'-35.5'	889	6/30/09	Hom	No. 4			No	22.73	133.07	113.87	21.1
STN-103, 35.5'-37.0'	890	6/30/09	Hom	3/8"			No	21.86	146.32	119.54	27.4
STN-103, 37.0'-38.5'	891	6/30/09	Hom	3/4"			No	22.55	130.08	111.15	21.4
STN-103, 38.5'-40.0'	892	6/30/09	Hom	No. 4			No	21.80	125.10	109.59	17.7
STN-103, 42.0'-43.5'	893	6/30/09	Hom	3/8"			No	21.65	137.80	120.31	17.7
STN-103, 43.5'-45.0'	894	6/30/09	Hom	3/4"			No	18.99	109.85	94.91	19.7
STN-104, 0.0'-1.5'	906	7/1/09	Hom	3/4"			No	22.17	131.34	112.61	20.7
STN-104, 1.5'-3.0'	907	7/1/09	Hom	3/4"			No	22.04	130.74	115.55	16.2
STN-104, 3.0'-4.5'	908	7/1/09	Hom	3/4"			No	22.29	116.79	97.54	25.6
STN-104, 4.5'-6.0'	909	7/1/09	Hom	3/8"			No	22.35	97.41	82.75	24.3
STN-104, 6.0'-7.5'	910	7/1/09	Hom	No. 4			No	24.02	104.64	85.25	31.7
STN-104, 7.5'-9.0'	911	7/1/09	Hom	3/4"			No	22.26	100.40	92.74	10.9
STN-104, 9.0'-10.5'	912	7/1/09	Hom	3/4"			No	22.43	119.42	109.14	11.9
STN-104, 10.5'-12.0'	913	7/1/09	Hom	3/4"			No	22.41	109.86	101.31	10.8
STN-104, 12.0'-13.5'	914	7/1/09	Hom	3/4"			No	24.00	143.92	126.13	17.4
STN-104, 13.5'-15.0'	915	7/1/09	Hom	1 1/2"			No	22.49	129.16	90.72	56.3
STN-104, 15.0'-16.5'	917	7/1/09	Hom	3/8"			No	18.68	106.68	80.37	42.6
STN-104, 16.5'-18.0'	918	7/1/09	Hom	No. 10			Yes	15.48	96.00	72.58	41.0
STN-104, 18.0'-19.5'	919	7/1/09	Hom	3/8"			No	18.91	93.74	71.63	41.9
STN-104, 19.5'-21.0'	920	7/1/09	Hom	No. 10			Yes	20.86	116.39	87.74	42.8
STN-104, 21.0'-22.5'	921	7/1/09	Hom	3/8"			No	20.54	103.58	80.61	38.2
STN-104, 22.5'-24.0'	922	7/1/09	Hom	No. 4			No	20.67	86.04	66.80	41.7
STN-104, 26.0'-27.5'	923	7/1/09	Hom	No. 10			Yes	20.53	99.70	73.48	49.5
STN-104, 27.5'-29.0'	924	7/1/09	Hom	No. 10			Yes	19.78	108.95	78.84	51.0
STN-104, 29.0'-30.5'	925	7/1/09	Hom	No. 10			Yes	21.52	92.93	69.88	47.7
STN-104, 30.5'-32.0'	926	7/1/09	Hom	No. 10			Yes	21.74	118.34	89.68	42.2
STN-104, 32.0'-33.5'	927	7/1/09	Hom	No. 10			Yes	21.19	116.07	86.69	44.9
STN-104, 33.5'-35.0'	928	7/1/09	Hom	No. 10			Yes	19.18	105.82	78.85	45.2



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-104, 37.0'-38.5'	929	7/1/09	Hom	3/4"		No	22.08	128.58	107.90	24.1
STN-104, 38.5'-40.0'	930	7/1/09	Hom	1 1/2"		No	15.53	104.73	85.41	27.6
STN-104, 40.0'-41.5'	932	7/1/09	Hom	No. 10		Yes	22.69	112.47	88.87	35.7
STN-104, 41.5'-43.0'	933	7/1/09	Hom	No. 10		Yes	19.59	122.37	96.21	34.1
STN-104, 43.0'-44.5'	934	7/1/09								
STN-104, 46.5'-48.0'	935	7/1/09	Hom	3/4"		No	21.36	107.93	89.96	26.2
STN-106, 0.0'-1.5'	936	7/1/09	Hom	3/4"		No	15.99	81.40	70.02	21.1
STN-106, 1.5'-3.0'	937	7/1/09	Hom	3/4"		No	20.67	85.67	75.71	18.1
STN-106, 3.0'-4.5'	938	7/1/09	Hom	3/4"		No	20.77	79.15	65.43	30.7
STN-106, 4.5'-6.0'	939	7/1/09	Hom	3/8"		No	23.29	117.61	96.08	29.6
STN-106, 6.0'-7.5'	940	7/1/09	Hom	3/8"		No	20.00	91.71	78.32	23.0
STN-106, 7.5'-9.0'	941	7/1/09	Hom	3/8"		No	28.93	113.22	90.77	36.3
STN-106, 9.0'-10.5'	942	7/1/09	Hom	3/8"		No	17.44	137.20	103.94	38.5
STN-106, 10.5'-12.0'	943	7/1/09	Hom	3/8"		No	26.30	174.92	144.40	25.8
STN-106, 12.0'-13.5'	944	7/1/09	Hom	No. 4		No	27.03	159.98	122.57	39.2
STN-106, 13.5'-15.0'	945	7/1/09	Hom	No. 4		No	26.62	141.33	110.78	36.3
STN-106, 15.0'-16.5'	946	7/1/09	Hom	No. 10		Yes	28.01	172.49	124.65	49.5
STN-106, 16.5'-18.0'	947	7/1/09	Hom	No. 10		Yes	48.37	314.60	235.29	42.4
STN-106, 18.0'-19.5'	948	7/1/09	Hom	No. 10		Yes	44.41	263.84	201.10	40.0
STN-106, 19.5'-21.0'	949	7/1/09	Hom	No. 10		Yes	43.37	295.34	220.12	42.6
STN-106, 21.0'-22.5'	950	7/1/09		No. 10		Yes	43.74	304.93	232.88	38.1
STN-106, 22.5'-24.0'	951	7/1/09		No. 10		Yes	43.70	313.63	238.16	38.8
STN-106, 26.0'-27.5'	952	7/1/09		No. 10		Yes	46.88	239.12	175.52	49.4
STN-106, 27.5'-29.0'	953	7/1/09		No. 10		Yes	43.93	282.02	212.04	41.6
STN-106, 29.0'-30.5'	954	7/1/09		No. 10		Yes	43.79	304.82	226.22	43.1
STN-106, 30.5'-32.0'	955	7/1/09		No. 10		Yes	49.05	319.79	233.60	46.7
STN-106, 32.0'-33.5'	956	7/1/09		No. 10		Yes	45.00	322.38	238.61	43.3
STN-106, 33.5'-35.0'	957	7/1/09		No. 10		Yes	43.93	376.24	268.67	47.9
STN-106, 37.0'-38.5'	958	7/1/09		3/4"		No	40.26	198.26	151.06	42.6
STN-106, 38.5'-40.0'	959	7/1/09		No. 10		Yes	44.63	302.47	222.97	44.6
STN-106, 46.0'-47.5'	960	7/1/09		No. 4		Yes	43.77	332.70	243.61	44.6



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000
Material Type: <u>Stratified, Laminated, Lensed, Homogeneous</u>						

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-106, 47.5'-49.0'	961	7/1/09		No. 10			Yes	43.74	306.94	225.65	44.7
STN-106, 49.0'-49.5'	962	7/1/09		No. 10			Yes	38.68	276.21	193.89	53.0
STN-106, 52.5'-54.0'	963	7/1/09	Hom	3/4"			No	39.24	281.39	231.67	25.8
STN-106, 54.0'-55.5'	964	7/1/09	Hom	3/4"			No	48.98	392.28	316.85	28.2
STN-109, 20.0'-21.5'	966	7/1/09									
STN-109, 21.5'-23.0'	967	7/1/09									
STN-109, 23.0'-24.5'	969	7/1/09		1 1/2"			No	47.26	111.68	100.26	21.5
STN-109, 24.5'-26.0'	970	7/1/09		3/4"			No	44.62	166.69	142.29	25.0
STN-109, 26.0'-26.3'	971	7/1/09		1 1/2"			No	50.26	206.29	175.95	24.1
STN-110, 20.0'-21.5'	973	7/1/09	Hom	1 1/2"			No	43.86	151.51	137.48	15.0
STN-110, 21.5'-23.0'	974	7/1/09	Hom	3/8"			No	47.72	356.63	294.59	25.1
STN-110, 23.0'-24.5'	975	7/1/09	Hom	No. 4			Yes	44.30	263.44	218.75	25.6
STN-110, 24.5'-26.0'	977	7/1/09									
STN-110, 26.0'-27.5'	978	7/1/09									
STN-110, 27.5'-28.5'	979	7/1/09									
STN-98, 0.0'-1.5'	980	7/1/09		1 1/2"			No	49.02	171.01	166.57	3.8
STN-98, 1.5'-3.0'	981	7/1/09	Hom	No. 4			Yes	49.88	282.03	244.06	19.6
STN-98, 3.0'-4.5'	982	7/1/09	Hom	No. 10			Yes	47.39	147.75	125.42	28.6
STN-98, 4.5'-6.0'	983	7/1/09	Hom	No. 10			Yes	47.58	208.57	175.22	26.1
STN-98, 6.0'-7.5'	984	7/1/09	Hom	3/8"			No	44.48	142.79	120.46	29.4
STN-98, 7.5'-9.0'	985	7/1/09	Hom	3/4"			No	49.85	281.21	229.44	28.8
STN-98, 9.0'-10.5'	986	7/1/09	Hom	No. 10			Yes	45.06	195.24	160.45	30.1
STN-98, 10.5'-12.0'	987	7/1/09	Hom	No. 10			Yes	43.77	255.52	201.30	34.4
STN-98, 12.0'-13.5'	989	7/1/09	Hom	No. 10			Yes	44.17	254.16	202.38	32.7
STN-98, 13.5'-15.0'	990	7/1/09	Hom	No. 10			Yes	44.30	256.34	203.64	33.1
STN-98, 15.0'-16.5'	991	7/1/09	Hom	No. 10			Yes	43.70	285.76	227.40	31.8
STN-98, 16.5'-18.0'	992	7/1/09	Hom	3/4"			No	44.87	336.13	276.49	25.7
STN-98, 20.0'-21.5'	993	7/1/09		No. 4			Yes	45.08	274.99	226.50	26.7
STN-98, 21.5'-23.0'	994	7/1/09		No. 10			Yes	43.80	352.69	285.72	27.7
STN-98, 23.0'-24.5'	995	7/1/09		No. 10			Yes	45.25	290.53	222.49	38.4
STN-98, 24.5'-24.7'	996	7/1/09		3/4"			No	44.32	124.82	113.69	16.0



Moisture Content of Soil ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RM

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-100, 1.5'-3.0' 200° C	774	6/29/09	Hom	3/4"			No	21.57	113.79	98.29	20.2
STN-100, 22.5'-24.0' 200° C	788	6/29/09	Hom	No. 4			No	19.13	97.41	80.71	27.1
STN-100, 24.0'-25.5' 200° C	789	6/29/09	Hom	3/8"			No	22.53	146.08	120.07	26.7
STN-100, 25.5'-27.0' 200° C	790	6/29/09	Hom	No. 10			Yes	20.78	118.24	85.74	50.0
STN-100, 27.0'-28.5' 200° C	791	6/29/09	Hom	No. 10			Yes	20.67	116.30	86.25	45.8
STN-100, 28.5'-30.0' 200° C	792	6/29/09	Hom	3/8"			No	19.18	126.86	92.53	46.8
STN-100, 35.5'-37.0' 200° C	795	6/29/09	Hom	3/8"			No	21.22	110.34	64.94	103.8
STN-100, 37.0'-38.5' 200° C	796	6/29/09	Hom	No. 10			Yes	22.48	104.17	62.65	103.4
STN-100, 38.5'-40.0' 200° C	797	6/29/09	Hom	3/4"			No	22.40	111.73	71.45	82.1
STN-100, 40.0'-41.5' 200° C	798	6/29/09	Hom	No. 10			Yes	20.71	82.75	51.16	103.7
STN-100, 41.5'-43.0' 200° C	799	6/29/09	Hom	No. 10			Yes	20.54	93.67	55.42	109.7
STN-100, 43.0'-44.5' 200° C	800	6/29/09	Hom	3/4"			No	21.00	113.07	85.73	42.2



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By DB

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Test Method ASTM

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & CanWeight (g)	Moisture Content (%)
STN-95, 13.0'-16.0'	1139	6/29/09	Hom	1 1/2"		No	43.09	352.46	273.72	34.1
STN-95, 35.0'-38.0'	1140	6/29/09	Hom	3/8"		No	46.48	480.92	400.66	22.7
STN-96, 16.0'-19.0'	1141	6/29/09	Hom	3/4"		No	43.83	444.85	379.73	19.4
STN-96, 43.0'-46.0'	1142	6/29/09	Hom	3/4"		No	44.14	364.82	325.55	14.0
STN-111, 15.0'-17.0'	1143	6/29/09	Hom	3/4"		No	44.03	366.61	299.41	26.3
STN-112, 10.0'-12.0'	1144	6/29/09	Hom	3/4"		No	43.58	364.51	297.67	26.3

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Moisture Content of Soil

AASHTO T 265

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By DB

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method COE

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-107, 51.0'-52.5'	1219	6/30/09	Len	3/8"		No	43.86	351.93	298.55	21.0
STN-107, 52.5'-54.0'	1220	6/30/09	Len	1 1/2"		No	44.01	300.10	257.14	20.2
STN94, 52.5'-54.0'	1286	6/30/09	Len	No. 10		Yes	43.70	351.87	295.14	22.6
STN94, 54.0'-55.5'	1287	6/30/09	Len	No. 4		Yes	43.49	271.15	226.05	24.7



Moisture Content of Soil

AASHTO T 265

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RSB/RHB

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method COE ? ASTM
C 540 & 5 ASTM

Material Type: Stratified, Laminated, Leased, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
60° C	1159	7/2/09	Hom	No. 10			Yes	20.86	92.99	86.41	10.0
	1160	7/2/09	Hom	No. 10			Yes	16.44	111.09	92.73	24.1
	1161	7/2/09	Hom	No. 10			Yes	20.78	104.62	90.50	20.3
	1162	7/2/09	Hom	No. 10			Yes	21.76	92.00	80.16	20.3
	1163	7/2/09	Hom	No. 10			Yes	21.17	90.34	78.66	20.3
	1164	7/2/09	Hom	No. 10			Yes	22.27	88.27	75.06	25.0
	1165	7/2/09	Hom	No. 10			Yes	22.08	94.41	80.06	24.7
	1166	7/2/09	Hom	No. 10			Yes	21.83	82.55	70.87	23.8
	1167	7/2/09	Hom	No. 10			Yes	22.18	102.25	89.31	19.3
	1168	7/2/09	Hom	No. 10			Yes	22.52	102.46	95.09	10.2
	1169	7/2/09	Hom	No. 10			Yes	17.58	89.87	77.90	19.8
60° C	1170	7/2/09	Hom	No. 10			Yes	22.26	88.09	74.98	24.9
60° C	1171	7/2/09	Hom	No. 10			Yes	17.41	91.27	78.81	20.3
	1172	7/2/09	Hom	No. 10			Yes	22.18	107.44	92.94	20.5
	1173	7/2/09	Hom	No. 10			Yes	20.50	144.84	124.24	19.9
60° C	1174	7/2/09	Hom	No. 10			Yes	17.35	89.99	74.41	27.3
60° C	1175	7/2/09	Hom	No. 10			Yes	21.21	82.10	68.11	29.8
	1176	7/2/09	Hom	No. 10			Yes	17.27	93.86	82.58	17.3
	1177	7/2/09	Hom	No. 10			Yes	22.05	88.92	79.59	16.2
	1178	7/2/09	Hom	No. 10			Yes	17.49	128.77	108.76	21.9
	1179	7/2/09	Hom	No. 10			Yes	17.29	114.09	96.52	22.2
	1180	7/2/09	Hom	No. 10			Yes	17.36	121.66	101.37	24.2
	1181	7/2/09	Hom	No. 10			Yes	19.93	93.57	82.30	18.1
	1182	7/2/09	Hom	No. 10			Yes	17.44	87.36	74.69	22.1
	1183	7/6/09	Len	3/8"	5	3/8"	No	22.25	85.44	71.98	27.1
	1184	7/6/09	Len	3/8"	5	3/8"	No	22.06	84.73	71.91	25.7
	1185	7/6/09	Hom	No. 10			Yes	17.28	66.84	56.13	27.6
60° C	1186	7/6/09	Hom	No. 10			Yes	17.40	66.95	60.96	13.8



Moisture Content of Soil

AASHTO T 265

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RSB/RHB

Test Method COE

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
60° C	1187	7/6/09	Hom	No. 10		Yes	20.78	91.51	82.37	14.8
60° C	1188	7/6/09	Hom	No. 10		Yes	21.82	91.66	79.60	20.9
60° C	1189	7/6/09	Hom	No. 10		Yes	22.30	92.87	81.19	19.8
	1190	7/6/09	Hom	No. 10		Yes	21.14	77.32	67.76	20.5
	1191	7/6/09	Hom	No. 10		Yes	22.18	98.03	80.36	30.4
	1192	7/6/09	Hom	No. 10		Yes	19.94	95.85	78.77	29.0
	1193	7/6/09	Hom	No. 10		Yes	22.09	74.90	61.89	32.7
	1194	7/6/09	Hom	No. 10		Yes	17.37	102.93	87.75	21.6
	1196	7/6/09	Hom	No. 10		Yes	22.15	72.89	64.74	19.1
	1197	7/6/09	Hom	No. 10		Yes	17.45	98.97	86.14	18.7
	1198	7/6/09	Len	No. 10		Yes	21.25	98.23	88.13	15.1
60° C	1199	7/6/09	Hom	3/8"	1	No	16.45	75.04	67.70	14.3
	1200	7/6/09	Len	No. 10		Yes	21.76	82.01	67.88	30.6
	1201	7/6/09	Hom	No. 10		Yes	22.48	81.16	68.49	27.5
	1202	7/6/09	Len	No. 10		Yes	17.57	74.74	62.94	26.0
	1203	7/6/09	Len	No. 10		Yes	17.43	88.10	71.35	31.1
	1204	7/6/09	Hom	No. 10		Yes	20.86	89.40	75.98	24.3
	1205	7/6/09	Hom	No. 10		Yes	17.37	101.42	84.49	25.2
	1206	7/6/09	Len	No. 10		Yes	20.52	81.93	70.96	21.7
	1207	7/6/09	Hom	3/8"	2	No	17.30	72.60	64.39	17.4
	1208	7/6/09	Hom	No. 10		Yes	20.25	91.82	78.26	23.4
	1210	7/6/09	Hom	No. 4	2	No	17.43	117.07	93.93	30.2
	1211	7/6/09	Hom	No. 10		Yes	20.29	82.29	70.77	22.8
	1212	7/6/09	Hom	No. 10		Yes	21.66	85.77	71.82	27.8
	1213	7/6/09	Hom	3/8"	1	No	20.20	92.55	81.35	18.3
	1214	7/6/09	Hom	No. 10		Yes	17.70	71.83	59.52	29.4
	1215	7/6/09	Hom	No. 10		Yes	21.50	94.64	79.57	26.0
	1216	7/6/09	Hom	No. 10		Yes	22.00	101.80	81.55	34.0
	1217	7/6/09	Hom	No. 10		Yes	21.40	95.40	79.67	27.0
	1219	6/30/09	Len	3/8"		No	43.86	351.93	298.55	21.0

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Moisture Content of Soil

AASHTO T 265

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RSB/RHB

Test Method COE

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-107, 52.5'-54.0'	1220	6/30/09	Len	1 1/2"			No	44.01	300.10	257.14	20.2
STN-107, 54.0'-54.5'	1221	7/12/09	Len	3/8"	2	3/8"	No	21.92	108.25	97.67	14.0
STN93, 0.0'-1.5'	1222	7/12/09	Hom	No. 10			Yes	16.54	68.78	63.31	11.7
STN93, 1.5'-3.0'	1223	7/12/09	Hom	No. 10			Yes	17.49	81.11	76.08	8.6
STN93, 3.0'-4.5'	1224	7/12/09	Hom	No. 10			Yes	21.69	91.66	80.55	18.9
STN93, 4.5'-6.0'	1225	7/12/09	Hom	3/8"	1	3/8"	No	22.26	84.80	78.84	10.5
STN93, 6.0'-7.5'	1226	7/12/09	Hom	No. 10			Yes	20.87	94.43	85.67	13.5
STN93, 7.5'-9.0'	1227	7/12/09	Hom	No. 10			Yes	20.38	104.28	92.53	16.3
STN93, 9.0'-10.5'	1228	7/12/09	Hom	3/8"	2	3/8"	No	20.67	104.85	94.12	14.6
STN93, 10.5'-12.0'	1229	7/12/09	Hom	3/8"	2	3/8"	No	17.38	96.40	86.57	14.2
STN93, 12.0'-13.5'	1230	7/12/09	Hom	3/8"	2	3/8"	No	20.75	109.80	98.20	15.0
STN93, 13.5'-15.0'	1231	7/12/09	Hom	3/8"	2	3/8"	No	21.28	115.22	104.02	13.5
STN93, 15.0'-16.5'	1232	7/12/09	Hom	3/4"	2	3/4"	No	17.52	90.55	80.95	15.1
STN93, 16.5'-18.0'	1233	7/12/09	Hom	3/4"	2	3/4"	No	17.40	117.20	104.13	15.1
STN93, 18.0'-19.5'	1234	7/12/09	Hom	3/4"	2	3/4"	No	17.35	86.87	76.11	18.3
STN93, 19.5'-21.0'	1235	7/12/09	Hom	3/4"	4	3/4"	No	20.72	79.35	68.50	22.7
STN93, 21.0'-22.5'	1236	7/12/09	Hom	3/8"	2	3/8"	No	22.38	130.96	112.68	20.2
STN93, 22.5'-24.0'	1237	7/12/09	Hom	1 1/2"	1	1 1/2"	No	21.92	128.61	111.64	18.9
STN93, 24.0'-25.5'	1238	7/12/09	Hom	1 1/2"	1	1 1/2"	No	17.46	103.83	88.35	21.8
STN93, 25.5'-27.0'	1239	7/12/09	Hom	1 1/2"	1	1 1/2"	No	17.46	91.04	75.75	26.2
STN93, 27.0'-28.5'	1240	7/12/09	Hom	3/4"	5	3/4"	No	20.22	119.41	104.06	18.3
STN93, 28.5'-30.0'	1241	7/12/09	Hom	3/8"	11	3/8"	No	20.91	171.82	155.11	12.5
STN93, 33.5'-35.0'	1242	7/12/09	Hom	No. 10			Yes	20.73	111.05	85.27	39.9
STN93, 35.0'-36.5'	1243	7/12/09	Hom	3/4"	4	3/4"	No	20.61	156.43	138.35	15.4
STN93, 36.5'-38.0'	1244	7/12/09	Hom	3/8"	3	3/8"	No	17.48	164.47	144.59	15.6
STN93, 38.0'-39.5'	1245	7/12/09	Hom	3/8"	1	3/8"	No	17.45	155.79	137.38	15.4
STN93, 41.5'-43.0'	1246	7/12/09	Hom	No. 10			Yes	17.45	110.57	92.79	23.6
STN93, 43.0'-44.5'	1247	7/12/09	Hom	No. 10			Yes	20.34	125.71	105.92	23.1
STN93, 44.5'-46.0'	1248	7/12/09	Hom	No. 10			Yes	21.72	133.82	112.55	23.4
STN93, 46.0'-47.5'	1249	7/12/09	Hom	No. 10			Yes	17.49	132.10	115.27	17.2



Moisture Content of Soil

AASHTO T 265

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036

Tested By RSB/RHB

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method COE

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN93, 47.5'-49.0'	1250	7/21/09	Hom	No. 10			Yes	17.58	119.16	102.96	19.0
STN93, 51.0'-52.5'	1251	7/21/09	Hom	No. 10			Yes	17.30	111.83	94.18	23.0
STN93, 52.5'-54.0'	1252	7/21/09	Len	No. 10			Yes	20.88	121.56	101.94	24.2
STN94, 0.0'-1.5'	1253	7/21/09	Hom	3/8"	1	3/8"	No	21.20	120.12	102.95	21.0
STN94, 1.5'-3.0'	1254	7/21/09	Hom	3/4"	2	3/4"	No	17.42	121.32	113.83	7.8
STN94, 3.0'-4.5'	1255	7/21/09	Hom	No. 10			Yes	20.01	93.34	80.53	21.2
STN94, 4.5'-6.0'	1256	7/21/09	Len	No. 4	2	No. 4	Yes	17.43	145.86	122.43	22.3
STN94, 6.0'-7.5'	1257	7/21/09	Hom	No. 10			Yes	17.36	102.45	86.08	23.8
STN94, 7.5'-9.0'	1258	7/21/09	Len	No. 10			Yes	21.70	108.36	89.26	28.3
STN94, 9.0'-10.5'	1259	7/21/09	Hom	No. 10			Yes	25.25	152.36	132.60	18.4
STN94, 10.5'-12.0'	1260	7/21/09	Hom	No. 10			Yes	25.09	132.18	112.77	22.1
STN94, 12.0'-13.5'	1261	7/21/09	Hom	No. 10			Yes	25.30	126.77	101.37	33.4
STN94, 13.5'-15.0'	1262	7/21/09	Len	No. 10			Yes	25.00	161.07	129.74	29.9
STN94, 17.0'-18.5'	1263	7/21/09	Hom	No. 10			Yes	25.39	136.87	112.01	28.7
STN94, 18.5'-20.0'	1264	7/21/09	Hom	No. 10			Yes	21.64	116.91	96.52	27.2
STN94, 20.0'-21.5'	1265	7/21/09	Hom	3/8"	13	3/8"	No	20.18	134.35	113.20	22.7
STN94, 21.5'-23.0'	1266	7/21/09	Hom	No. 10			Yes	22.01	111.76	92.60	27.1
STN94, 23.0'-24.5'	1267	7/21/09	Hom	1 1/2"	6	1 1/2"	No	20.87	146.02	119.28	27.2
STN94, 26.5'-28.0'	1268	7/21/09	Lam	No. 10			Yes	17.41	153.53	124.39	27.2
STN94, 28.0'-29.5'	1270	7/21/09	Len	No. 10			Yes	21.99	127.83	105.39	26.9
STN94, 29.5'-31.0'	1271	7/21/09	Hom	No. 10			Yes	17.37	132.25	108.63	25.9
STN94, 31.0'-32.5'	1272	7/21/09	Len	No. 10			Yes	17.48	99.82	82.55	26.5
STN94, 32.5'-34.0'	1273	7/21/09	Len	No. 10			Yes	21.38	132.49	112.40	22.1
STN94, 34.0'-35.5'	1274	7/21/09	Hom	No. 10			Yes	17.35	99.56	85.42	20.8
STN94, 35.5'-37.0'	1275	7/21/09	Hom	No. 10			Yes	17.64	105.33	85.22	29.8
STN94, 37.0'-38.5'	1276	7/21/09	Hom	No. 10			Yes	21.17	125.07	97.87	35.5
STN94, 38.5'-40.0'	1277	7/21/09	Len	No. 10			Yes	20.20	139.92	116.43	24.4
STN94, 40.0'-41.5'	1278	7/21/09	Hom	No. 10			Yes	17.65	130.34	110.59	21.3
STN94, 41.5'-43.0'	1279	7/21/09	Len	No. 10			Yes	21.47	124.14	105.31	22.5
STN94, 43.0'-44.5'	1280	7/21/09	Hom	No. 10			Yes	17.35	136.61	116.60	20.2



Moisture Content of Soil

AASHTO T 265

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RSB/RHB

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method COE

Material Type: Stratified, Laminated, Layered, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Material Excluded Size	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN94, 44.5'-46.0'	1281	7/21/09	Hom	No. 10			Yes	21.85	130.04	111.10	21.2
STN94, 46.0'-47.5'	1282	7/21/09	Hom	No. 10			Yes	17.41	142.64	118.81	23.5
STN94, 47.5'-49.0'	1283	7/21/09	Hom	No. 10			Yes	17.27	147.66	119.09	28.1
STN94, 51.0'-52.5'	1284	7/21/09	Hom	No. 10			Yes	20.80	153.16	129.85	21.4
STN94, 52.5'-54.0'	1286	6/30/09	Len	No. 10			Yes	43.70	351.87	295.14	22.6
STN94, 54.0'-55.5'	1287	6/30/09	Len	No. 4			Yes	43.49	271.15	226.05	24.7
STN94, 55.5'-55.7'	1288	7/21/09	Hom	3/8"	3	3/8"	No	20.39	158.30	136.57	18.7



Moisture Content of Soil

ASTM D 2216

Project Name Widows Creek Fossil Plant (TVA)

Project Number 175569036
Tested By RJ

Maximum Particle Size in Sample	No. 10	No. 4	3/8"	3/4"	1 1/2"	3"
Recommended Minimum Mass (g)	20	100	500	2,500	10,000	50,000

Test Method ASTM

Material Type: Stratified, Laminated, Lensed, Homogeneous

Source	Lab ID	Date Tested	Material Type	Maximum Particle Size	Material Excluded Amount	Pass Min. Mass? (Y/N)	Can Weight (g)	Wet Soil & Can Weight (g)	Dry Soil & Can Weight (g)	Moisture Content (%)
STN-V-9, 33.6'-34.1' 40° C	1364	8/25/09					45.32	127.73	113.81	20.3
STN-V-9, 33.6'-34.1' 200° C	1365	8/25/09					45.32	127.73	106.26	35.2
STN-V-9, 37.7'-38.2' 40° C	1366	8/25/09					45.46	178.71	150.42	27.0
STN-V-9, 37.7'-38.2' 200° C	1367	8/25/09					45.46	178.71	140.34	40.4
STN-V-9, 39.6'-40.1' 40° C	1368	8/25/09					46.69	195.41	156.00	36.1
STN-V-9, 39.6'-40.1' 200° C	1369	8/25/09					46.69	195.41	146.84	48.5
STN-V-10, 32.3'-32.8' 40° C	1370	8/25/09					43.82	179.18	121.72	73.8
STN-V-10, 32.3'-32.8' 200° C	1371	8/25/09					43.82	179.18	117.87	82.8
STN-V-10, 36.1'-36.6' 40° C	1372	8/25/09					43.58	162.76	132.74	33.7
STN-V-10, 36.1'-36.6' 200° C	1373	8/25/09					43.58	162.76	124.55	47.2



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-62, 5.0'-7.0', 7.0'-9.0', 10.0'-12.0' Lab ID 3
 County Jackson County, AL Date Received 5-8-09
 Sample Type SPT Comp Date Reported 6-4-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: Not Tested
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	95.3
No. 4	4.75	86.1
No. 10	2	71.5
No. 40	0.425	52.3
No. 200	0.075	30.6
	0.02	11.2
	0.005	4.0
	0.002	3.0
estimated	0.001	2.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	13.9	28.5
Coarse Sand	14.6	19.2
Medium Sand	19.2	---
Fine Sand	21.7	21.7
Silt	26.6	27.6
Clay	4.0	3.0

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No.10
 Specific Gravity at 20° Celsius: 2.52

Classification

Unified Group Symbol: SM
 Group Name: Silty sand
 AASHTO Classification: A-2-4 (0)

Comments: Assumed Non Plastic

Reviewed by: [Signature]

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-62, 5.0'-7.0', 7.0'-9.0', 10.0'-12.0'

 Project Number 175569036
 Lab ID 3
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: CM
 Test Date: 05-18-2009
 Date Received 05-08-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	95.3
No. 4	86.1
No. 10	71.5

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

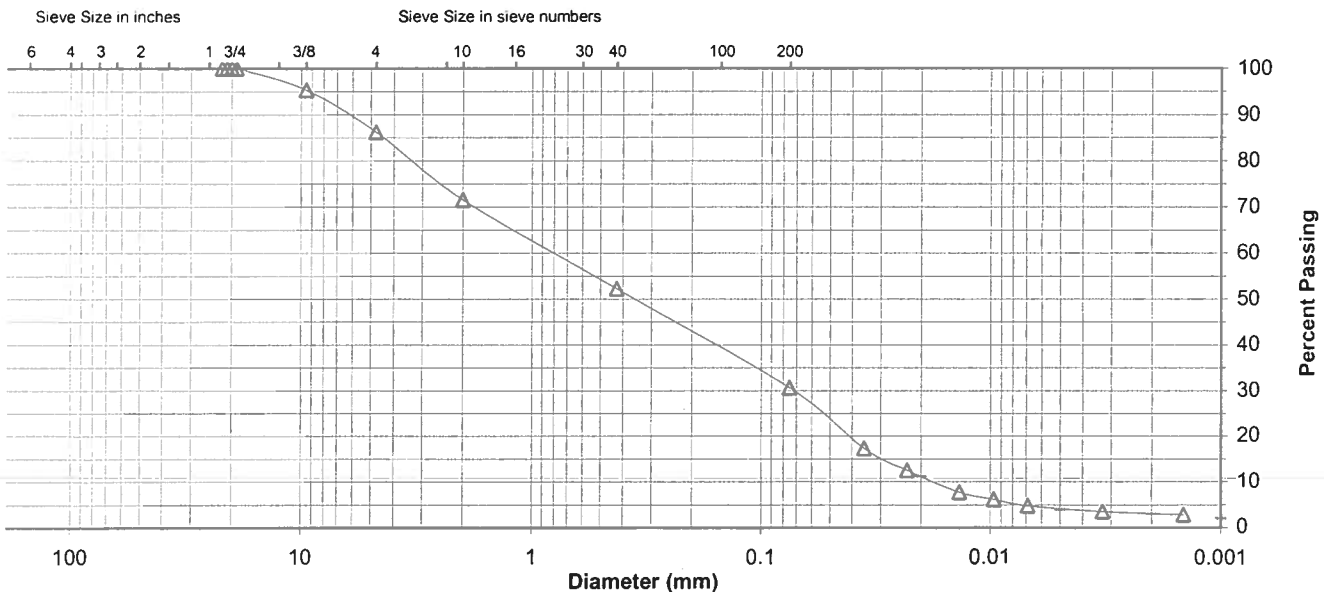
 Specific Gravity 2.52

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	52.3
No. 200	30.6
0.02 mm	11.2
0.005 mm	4.0
0.002 mm	3.0
0.001 mm	2.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay	
	0.0	13.9	14.6	19.2	21.7	26.6	4.0	
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt		Clay
	28.5		19.2		21.7	27.6		3.0



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-62, 7.0'-15.0' Lab ID 83
 County Jackson County, AL Date Received 5-8-09
 Sample Type Bag Date Reported 6-4-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	100.0
3/4"	19	98.7
3/8"	9.5	85.5
No. 4	4.75	64.4
No. 10	2	42.9
No. 40	0.425	26.1
No. 200	0.075	11.3
	0.02	4.2
	0.005	2.0
	0.002	1.8
estimated	0.001	1.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	35.6	57.1
Coarse Sand	21.5	16.8
Medium Sand	16.8	---
Fine Sand	14.8	14.8
Silt	9.3	9.5
Clay	2.0	1.8

Moisture-Density Relationship

Test Method: ASTM D 698 Method C
 Maximum Dry Density (lb/ft³): 122.9
 Maximum Dry Density (kg/m³): 1969
 Optimum Moisture Content (%): 9.5
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No.10
 Specific Gravity at 20° Celsius: 2.80

Classification

Unified Group Symbol: SP-SM
 Group Name: Poorly graded sand with silt and gravel
 AASHTO Classification: A-1-a (0)

Comments: _____

Reviewed by: _____

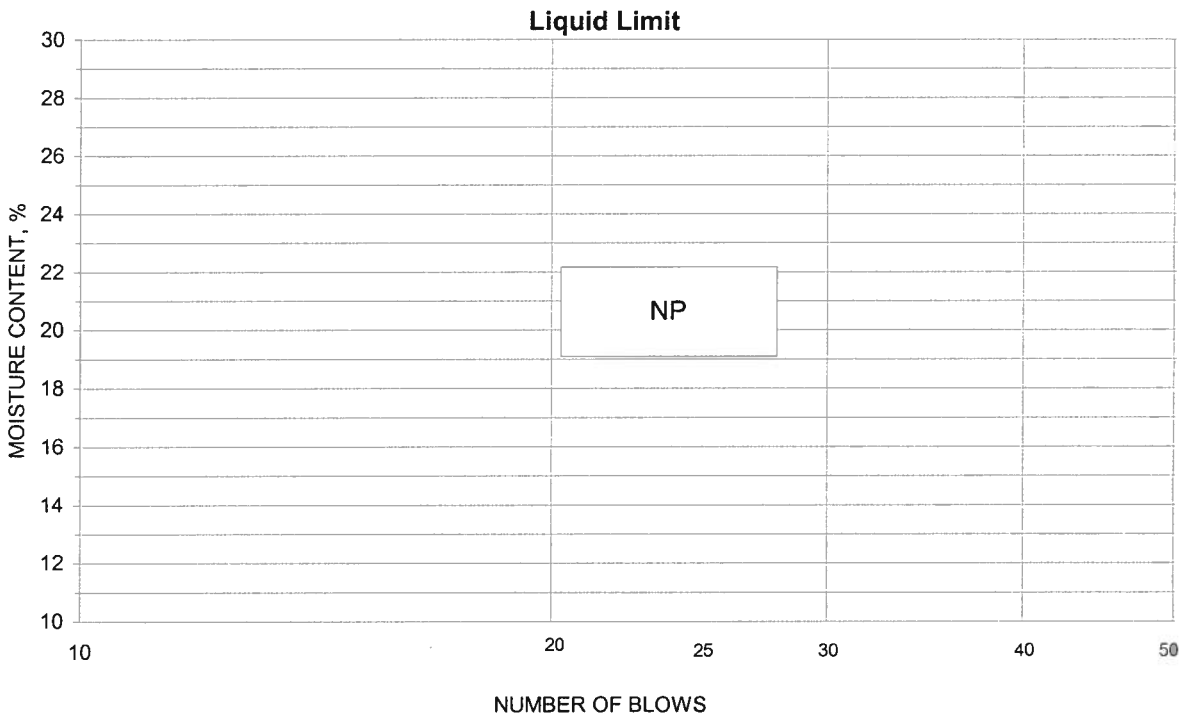


ATTERBERG LIMITS

Project Widows Creek Fossil Plant -- TVA
 Source SB-62, 7.0'-15.0'
 Tested By BW Test Method ASTM D 4318 Method A
 Test Date 05-27-2009 Prepared Dry

Project No. 175569036
 Lab ID 83
 % + No. 40 74
 Date Received 05-08-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-62, 7.0'-15.0'

 Project Number 175569036
 Lab ID 83
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: CP
 Test Date: 05-19-2009
 Date Received 05-08-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	98.7
3/8"	85.5
No. 4	64.4
No. 10	42.9

Maximum Particle size: 1" Sieve

Analysis for the portion Finer than the No. 10 Sieve

 Analysis Based on: Total Sample

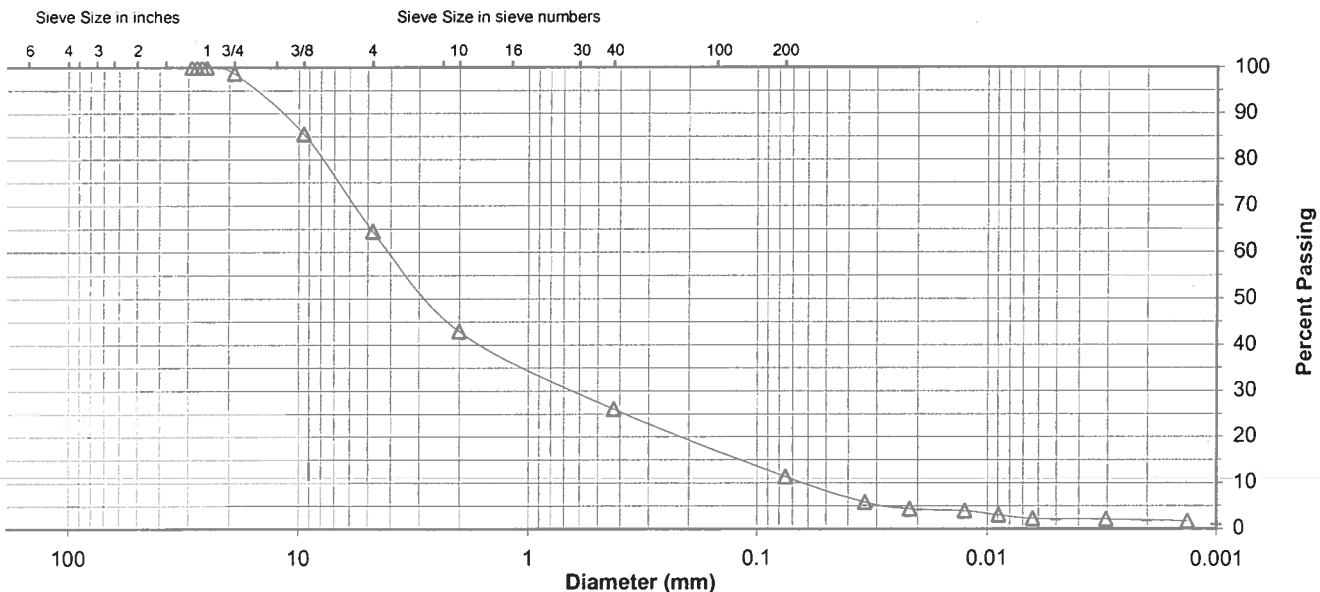
 Specific Gravity 2.8

 Dispersed using: Apparatus A - Mechanical, for 1 minute

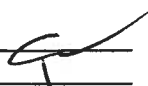
No. 40	26.1
No. 200	11.3
0.02 mm	4.2
0.005 mm	2.0
0.002 mm	1.8
0.001 mm	1.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	1.3	34.3	21.5	16.8	14.8	9.3	2.0
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	57.1		16.8		14.8	9.5	1.8



Comments _____

 Reviewed By 



Moisture-Density Data Sheet

Project: Widows Creek Fossil Plant -- TVA

Project No.: 175569036

Source: SB-62, 7.0'-15.0'

Sample No.: 83

Sample Description: Poorly Graded Sand with Silt and Gravel (SP-SM)

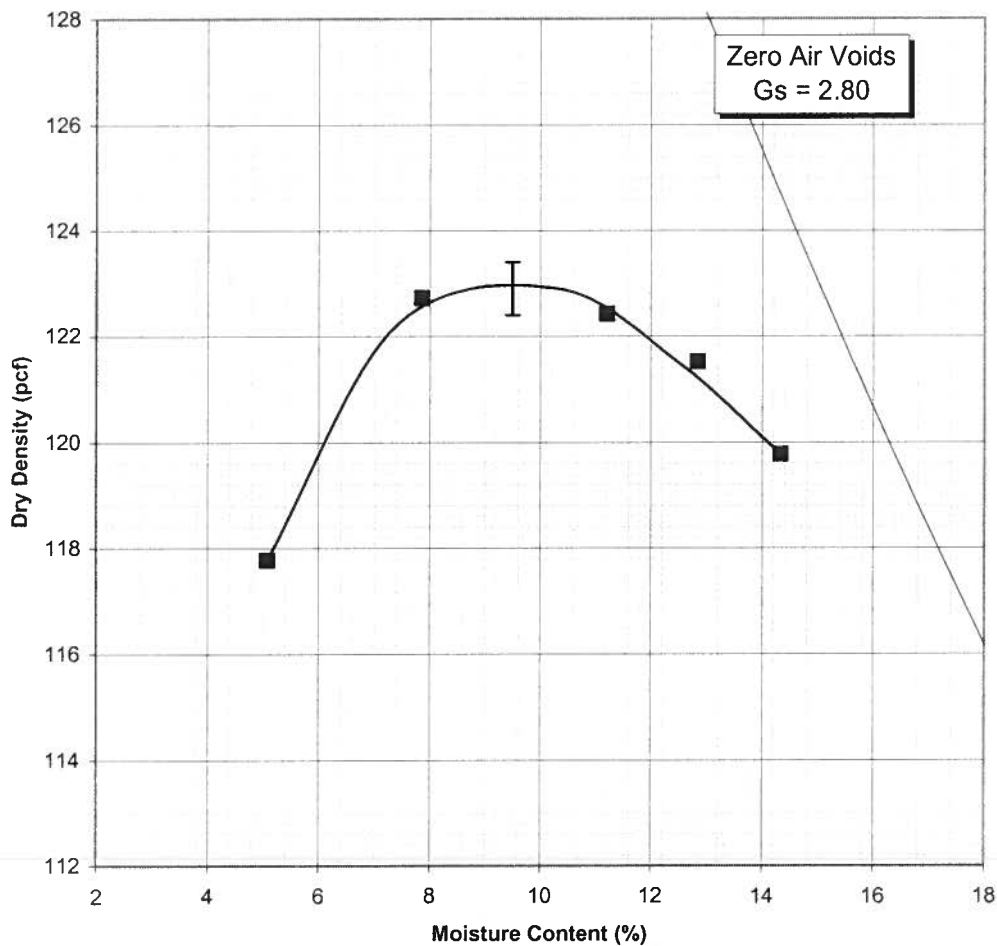
Visual Notes: Bottom Ash

Test Method: ASTM D 698 - Method C

Prepared: Moist Oversized Fraction: < 5 % Rammer: Mechanical

Gs - Fines: ASTM D 854

Mold Weight 5785 grams		Moisture Determination					
Wet Weight plus Mold (grams)	Wet Weight minus Mold (grams)	Wet Soil and Can Weight (grams)	Dry Soil and Can Weight (grams)	Can Weight (grams)	Water Content (%)	Dry Density (pcf)	
10392	4607	1030.18	940.65	142.08	11.2	122.4	
10425	4640	1485.60	1333.18	146.03	12.8	121.5	
10419	4634	1781.97	1576.97	146.35	14.3	119.8	
10264	4479	1215.53	1137.35	142.17	7.9	122.7	
9973	4188	1336.62	1278.62	138.18	5.1	117.8	



Maximum Dry Density 122.9 PCF
Optimum Moisture Content 9.5 %

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-63, 5.0'-10.0'

Project Number 175569036
 Lab ID 90

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: CM
 Test Date: 06-22-2009
 Date Received 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	97.4
No. 4	89.6
No. 10	75.8

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

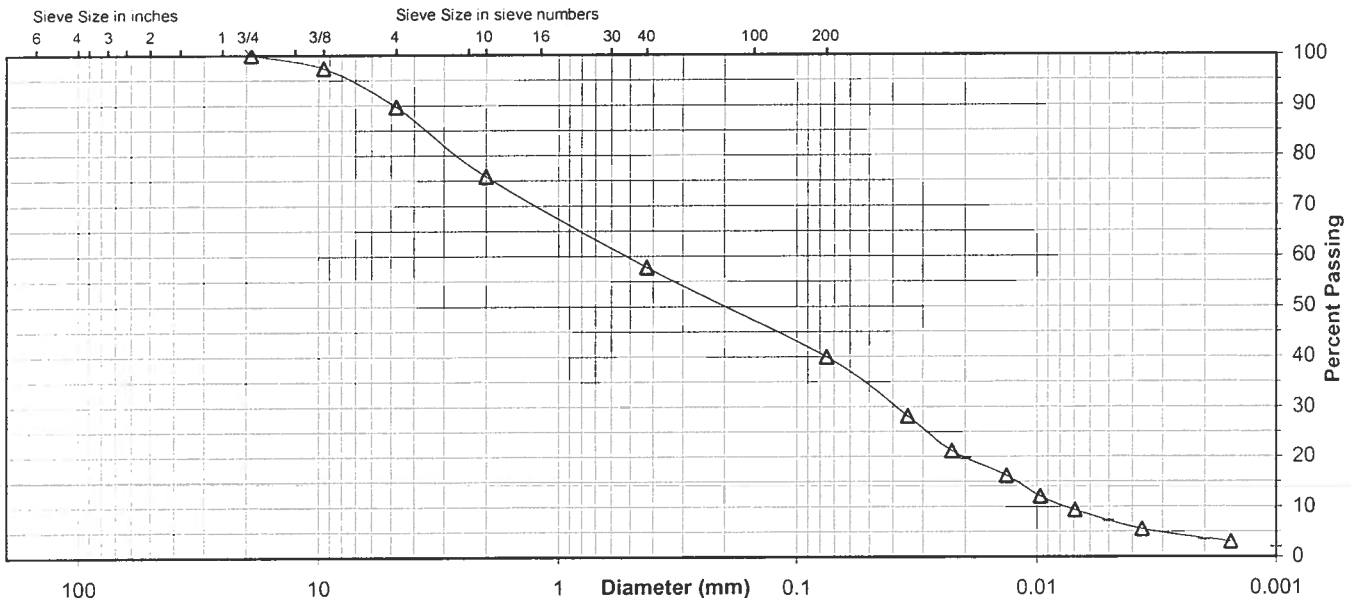
Specific Gravity 2.42

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	57.8
No. 200	39.9
0.02 mm	19.6
0.005 mm	7.2
0.002 mm	3.5
0.001 mm	2.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	10.4	13.8	18.0	17.9	32.7	7.2
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	24.2		18.0		17.9	36.4	3.5



Comments _____

Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-63, 30.0'-35.0' Lab ID 91
 County Jackson County, AL Date Received 5-29-09
 Sample Type Bag Date Reported 6-29-09

Test Results

Natural Moisture Content

Test Method: ASTM D 2216
 Moisture Content (%): 16.8

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	97.0
No. 4	4.75	85.9
No. 10	2	73.6
No. 40	0.425	59.5
No. 200	0.075	36.3
	0.02	18.9
	0.005	10.0
	0.002	6.3
estimated	0.001	4.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	14.1	26.4
Coarse Sand	12.3	14.1
Medium Sand	14.1	---
Fine Sand	23.2	23.2
Silt	26.3	30.0
Clay	10.0	6.3

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.61

Classification

Unified Group Symbol: SM
 Group Name: Silty sand
 AASHTO Classification: A-4 (0)

Comments: _____

Reviewed by:

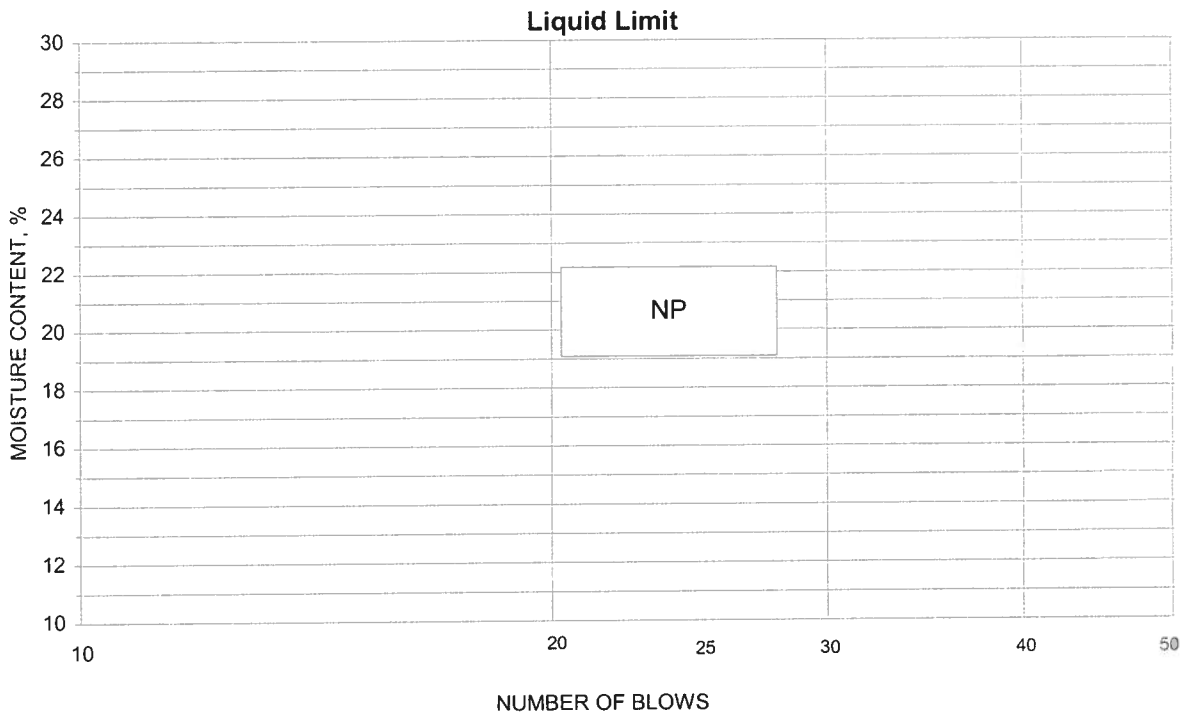


ATTERBERG LIMITS

Project Widows Creek Fossil Plant (TVA)
 Source SB-63, 30.0'-35.0'
 Tested By CSM Test Method ASTM D 4318 Method A
 Test Date 06-22-2009 Prepared Dry

Project No. 175569036
 Lab ID 91
 % + No. 40 41
 Date Received 05-29-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By

Laboratory Document
 Prepared By: MW
 Approved BY: TLK

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-63, 30.0'-35.0'

 Project Number 175569036
 Lab ID 91
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Rounded
 Particle Hardness: Hard and Durable
 Tested By: CM
 Test Date: 06-22-2009
 Date Received: 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	97.0
No. 4	85.9
No. 10	73.6

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

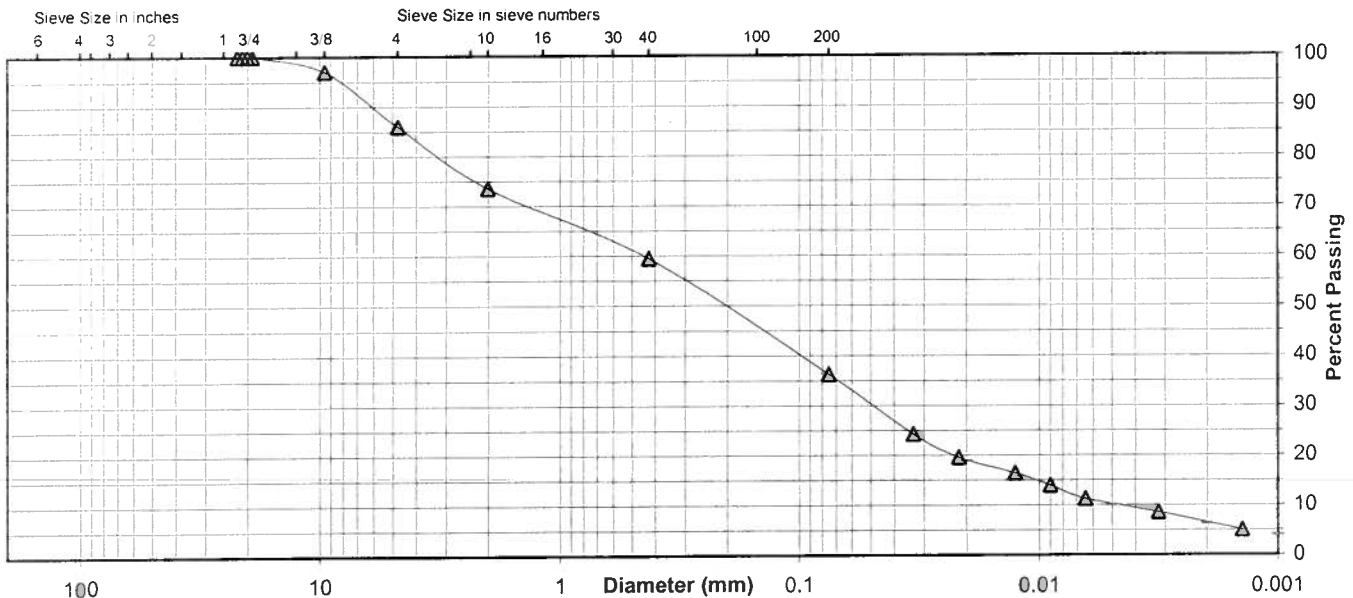
 Specific Gravity 2.61

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	59.5
No. 200	36.3
0.02 mm	18.9
0.005 mm	10.0
0.002 mm	6.3
0.001 mm	4.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	14.1	12.3	14.1	23.2	26.3	10.0
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	26.4		14.1		23.2	30.0	6.3



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-63, 52.5'-54.0', 55.5'-57.0', 57.9'-59.0' Lab ID 115
 County Jackson County, AL Date Received 5-29-09
 Sample Type SPT Comp Date Reported 6-25-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 44
 Plastic Limit: 21
 Plasticity Index: 23
 Activity Index: 0.64

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	
No. 4	4.75	100.0
No. 10	2	100.0
No. 40	0.425	99.1
No. 200	0.075	90.5
	0.02	67.6
	0.005	45.5
	0.002	36.3
estimated	0.001	30.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.0	0.0
Coarse Sand	0.0	0.9
Medium Sand	0.9	---
Fine Sand	8.6	8.6
Silt	45.0	54.2
Clay	45.5	36.3

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.74

Classification

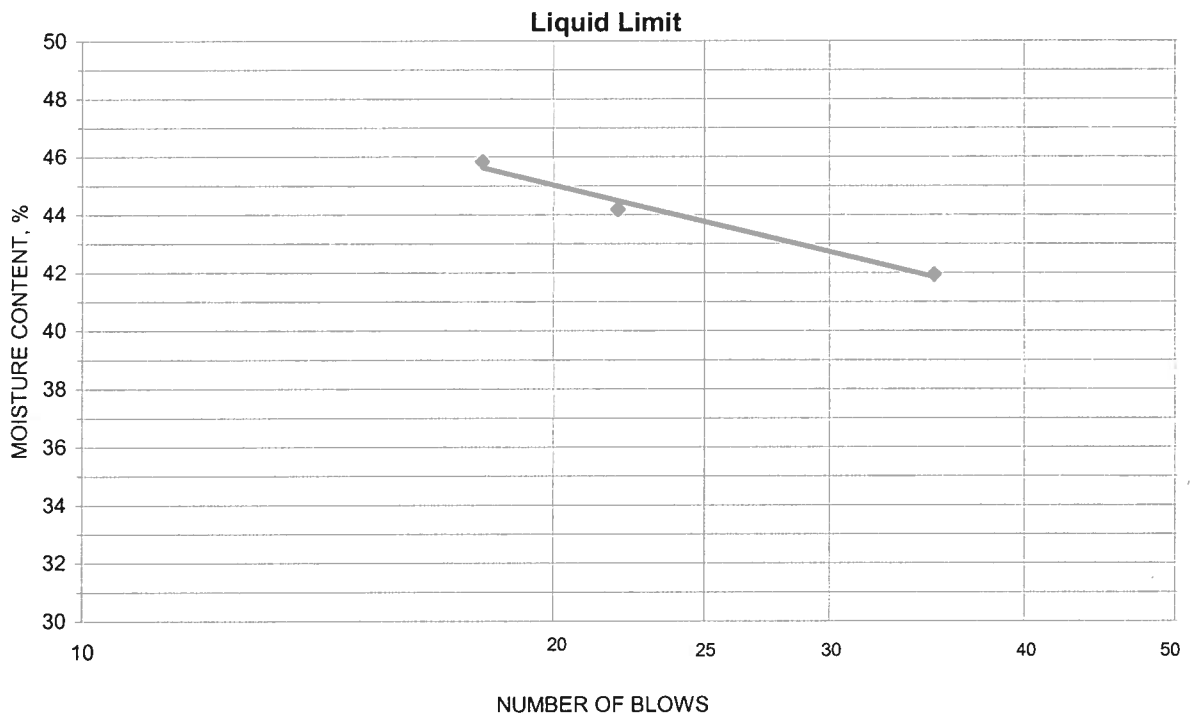
Unified Group Symbol: CL
 Group Name: Lean clay
 AASHTO Classification: A-7-6 (22)

Comments: _____
 Reviewed by: [Signature]

Project Widows Creek Fossil Plant (TVA)
 Source SB-63, 52.5'-54.0', 55.5'-57.0', 57.9'-59.0'
 Tested By CSM Test Method ASTM D 4318 Method A
 Test Date 06-19-2009 Prepared Dry

Project No. 175569036
 Lab ID 115
 % + No. 40 1
 Date Received 05-29-2009


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
24.16	20.39	11.40	35	41.9	44
24.47	20.56	11.71	22	44.2	
23.99	19.98	11.23	18	45.8	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
21.09	19.39	11.31	21.0	21	23
21.32	19.53	10.99	21.0		

Remarks: _____

Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-63, 52.5'-54.0', 55.5'-57.0', 57.9'-59.0'

 Project Number 175569036
 Lab ID 115
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: BWT
 Test Date: 06-08-2009
 Date Received: 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	100.0
No. 10	100.0

Maximum Particle size: No. 4 Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

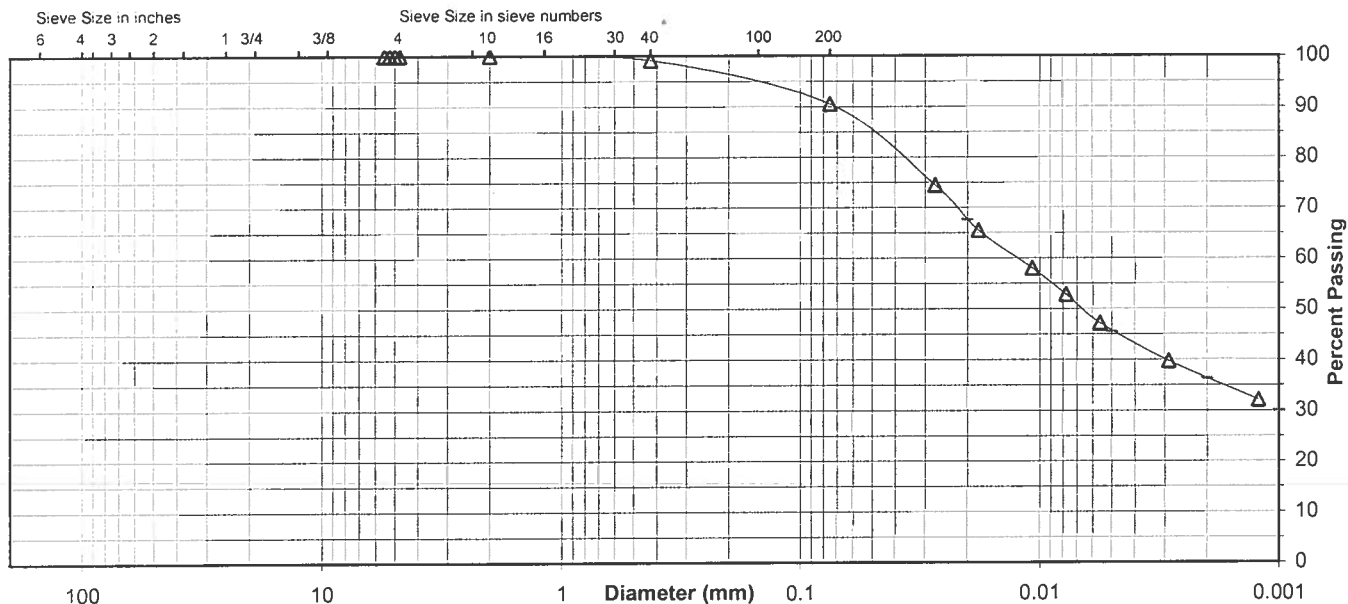
 Specific Gravity 2.74

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	99.1
No. 200	90.5
0.02 mm	67.6
0.005 mm	45.5
0.002 mm	36.3
0.001 mm	30.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.0	0.0	0.9	8.6	45.0	45.5
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	0.0		0.9		8.6	54.2	36.3



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-64, 7.5'-9.0', 9.0'-10.5', 10.5'-12.0' Lab ID 124
 County Jackson County, AL Date Received 5-29-09
 Sample Type SPT Comp Date Reported 6-25-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 65
 Plastic Limit: 24
 Plasticity Index: 41
 Activity Index: 0.76

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	
		Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	100.0
No. 4	4.75	99.8
No. 10	2	99.3
No. 40	0.425	96.3
No. 200	0.075	89.9
	0.02	76.3
	0.005	61.6
	0.002	53.6
estimated	0.001	48.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.2	0.7
Coarse Sand	0.5	3.0
Medium Sand	3.0	---
Fine Sand	6.4	6.4
Silt	28.3	36.3
Clay	61.6	53.6

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.77

Classification

Unified Group Symbol: CH
 Group Name: Fat clay
 AASHTO Classification: A-7-6 (41)

Comments: _____

Reviewed by: _____



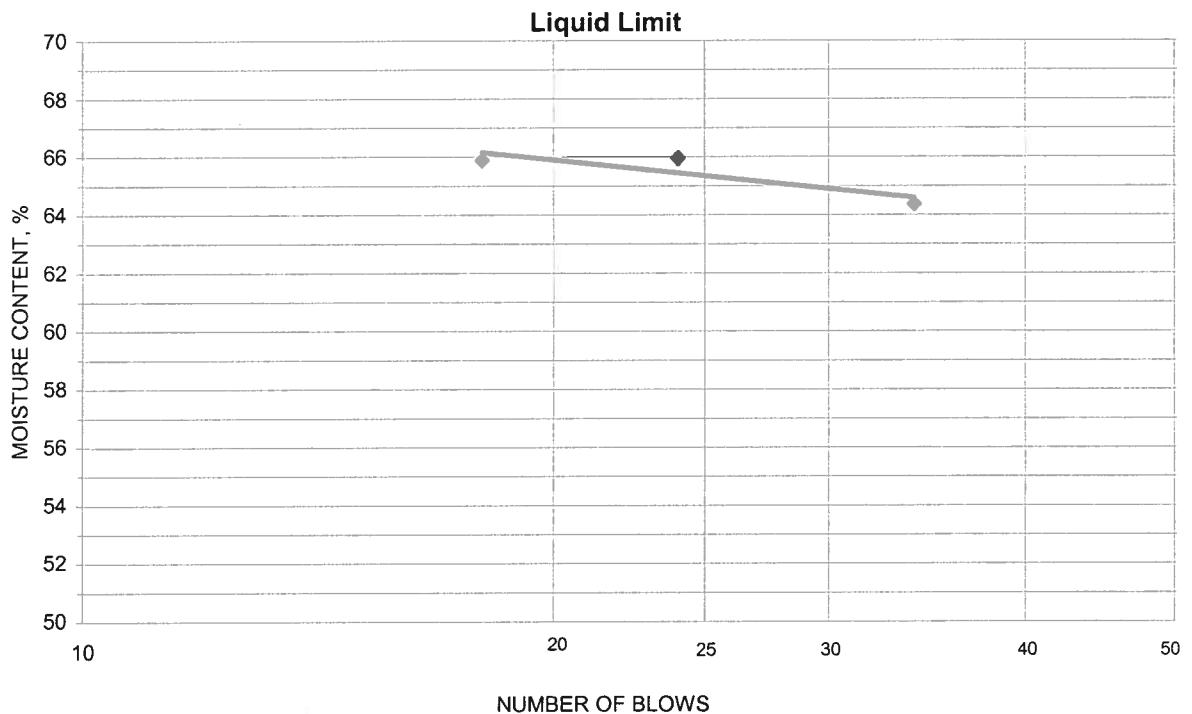
ATTERBERG LIMITS

Project Widows Creek Fossil Plant (TVA)
 Source SB-64, 7.5'-9.0', 9.0'-10.5', 10.5'-12.0'

Project No. 175569036
 Lab ID 124
 % + No. 40
 Date Received 05-29-2009

Tested By CSM Test Method ASTM D 4318 Method A
 Test Date 06-18-2009 Prepared Dry

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
22.65	18.10	11.03	34	64.4	65
23.39	18.49	11.06	24	65.9	
22.32	17.90	11.19	18	65.9	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
21.41	19.40	11.16	24.4	24	41
20.90	18.99	11.11	24.2		

Remarks: _____

Reviewed By _____

Laboratory Document
 Prepared By: MW
 Approved By: TLK

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-64, 7.5'-9.0', 9.0'-10.5', 10.5'-12.0'

 Project Number 175569036
 Lab ID 124
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: BWT
 Test Date: 06-09-2009
 Date Received: 05-29-2009

 Maximum Particle size: 3/8" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	99.8
No. 10	99.3

Analysis for the portion Finer than the No. 10 Sieve

 Analysis Based on: Total Sample

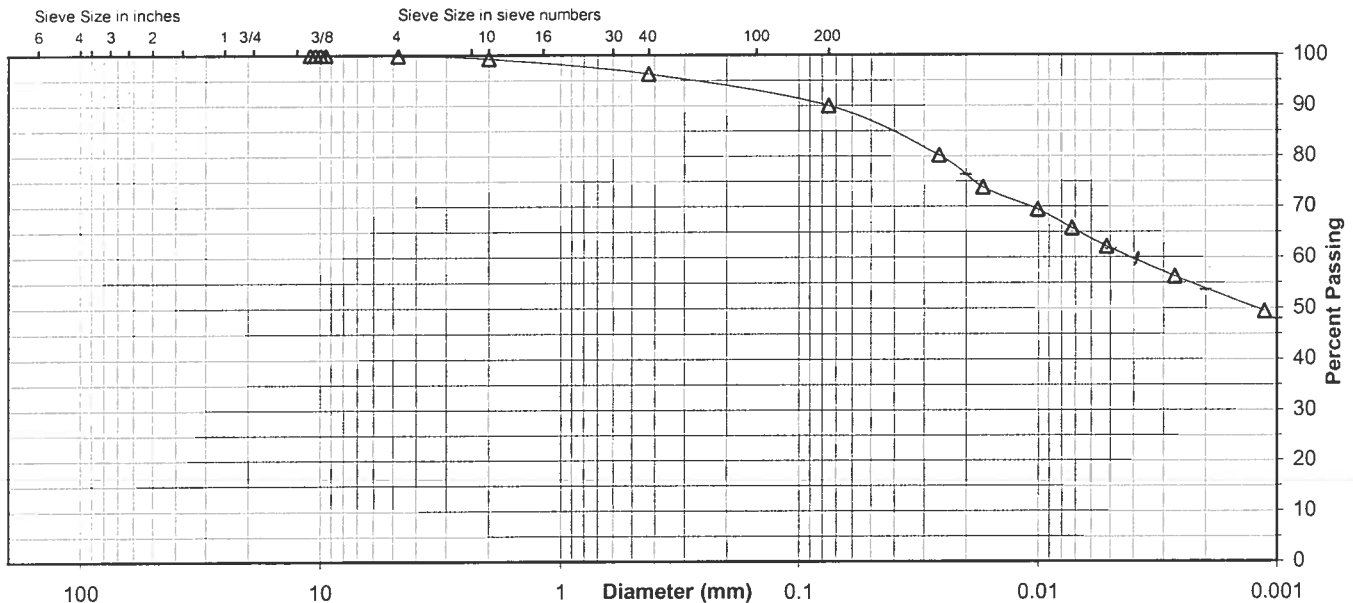
 Specific Gravity 2.77

 Dispersed using: Apparatus A - Mechanical, for 1 minute


No. 40	96.3
No. 200	89.9
0.02 mm	76.3
0.005 mm	61.6
0.002 mm	53.6
0.001 mm	48.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.2	0.5	3.0	6.4	28.3	61.6
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	0.7		3.0		6.4	36.3	53.6



Comments _____

 Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
Source SB-65, 2.5'-4.0', 5.5'-7.0', 7.5'-9.0'

Project Number 175569036
Lab ID 160

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
Prepared using: ASTM D 421

Particle Shape: Angular
Particle Hardness: Soft

Tested By: CP
Test Date: 06-16-2009
Date Received: 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	97.6
3/8"	95.9
No. 4	90.6
No. 10	74.2

Maximum Particle size: 1" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

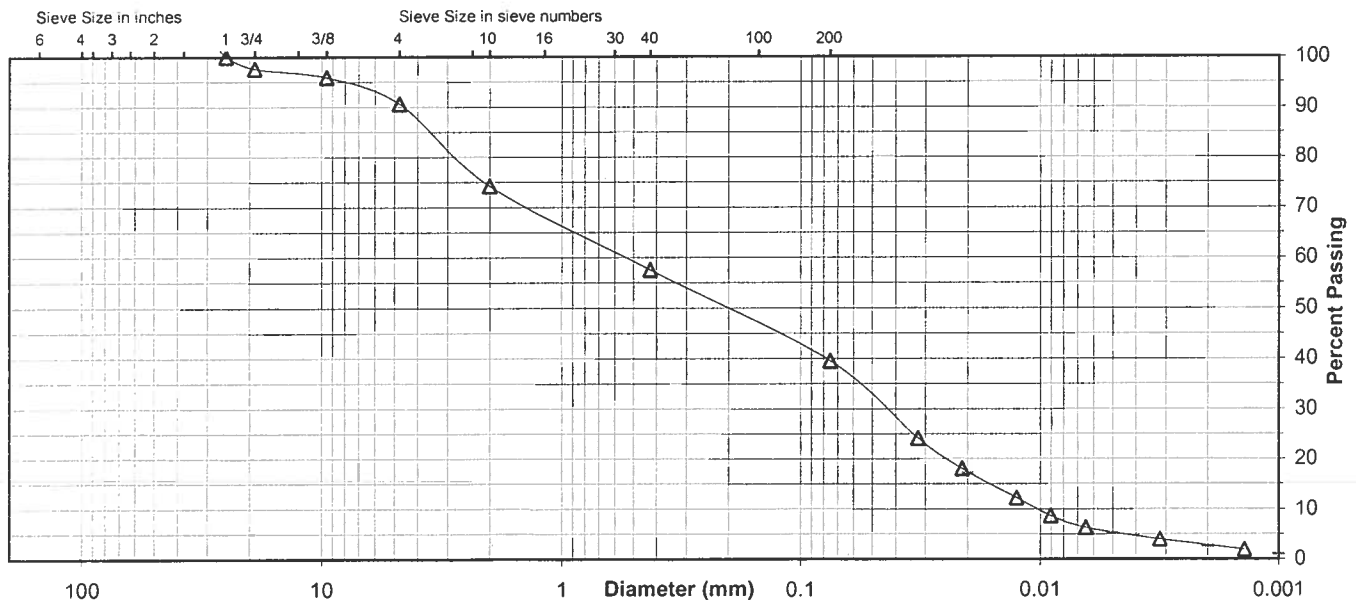
Specific Gravity 2.38

Dispersed using: Apparatus A - Mechanical, for 1 minute


No. 40	57.5
No. 200	39.5
0.02 mm	17.2
0.005 mm	5.2
0.002 mm	2.6
0.001 mm	1.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	2.4	7.0	16.4	16.7	18.0	34.3	5.2
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	25.8		16.7		18.0	36.9	2.6



Comments _____

Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-65, 15.0'-20.0' Lab ID 92
 County Jackson County, AL Date Received 5-29-09
 Sample Type Bag Date Reported 6-29-09

Test Results

Natural Moisture Content

Test Method: ASTM D 2216
 Moisture Content (%): 22.1

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	98.8
No. 4	4.75	91.9
No. 10	2	74.9
No. 40	0.425	53.1
No. 200	0.075	34.9
	0.02	16.9
	0.005	5.9
	0.002	3.6
estimated	0.001	3.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	8.1	25.1
Coarse Sand	17.0	21.8
Medium Sand	21.8	---
Fine Sand	18.2	18.2
Silt	29.0	31.3
Clay	5.9	3.6

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A


Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.42

Classification

Unified Group Symbol: SM
 Group Name: Silty sand
 AASHTO Classification: A-2-4 (0)

Comments: _____

Reviewed by: 

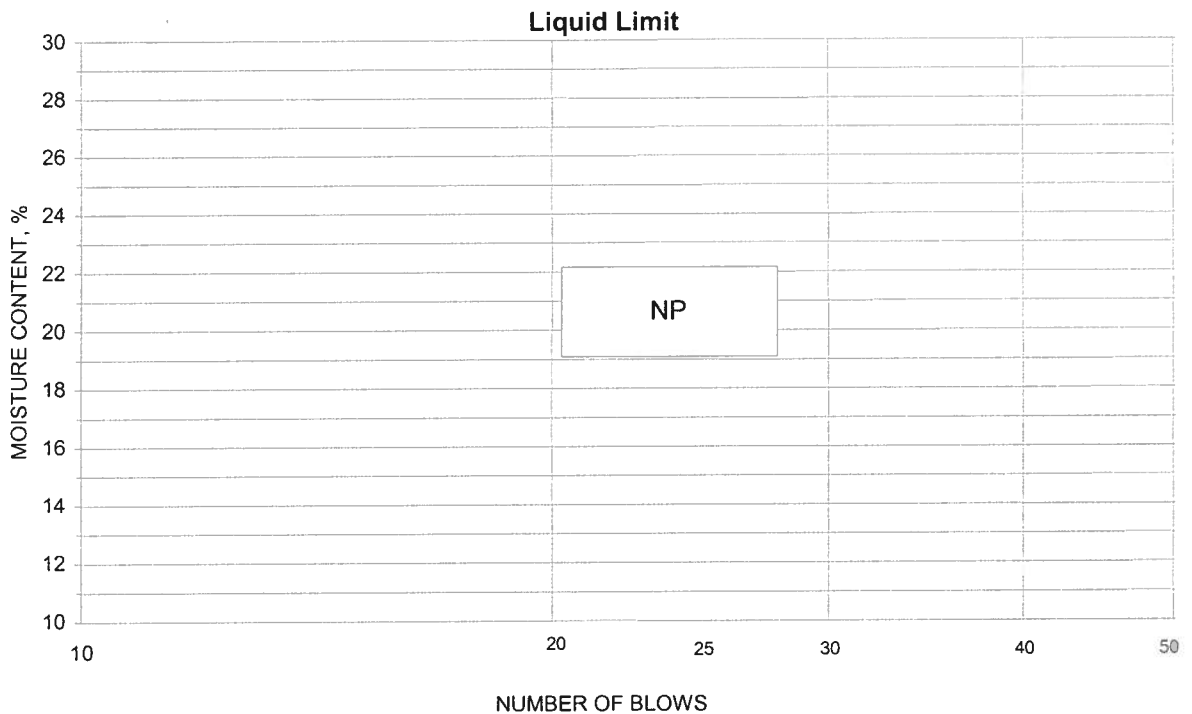


ATTERBERG LIMITS

Project Widows Creek Fossil Plant (TVA)
 Source SB-65, 15.0'-20.0'
 Tested By CSM Test Method ASTM D 4318 Method A
 Test Date 06-23-2009 Prepared Dry

Project No. 175569036
 Lab ID 92
 % + No. 40 47
 Date Received 05-29-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-65, 15.0'-20.0'

 Project Number 175569036
 Lab ID 92
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: CM
 Test Date: 06-22-2009
 Date Received: 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	98.8
No. 4	91.9
No. 10	74.9

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

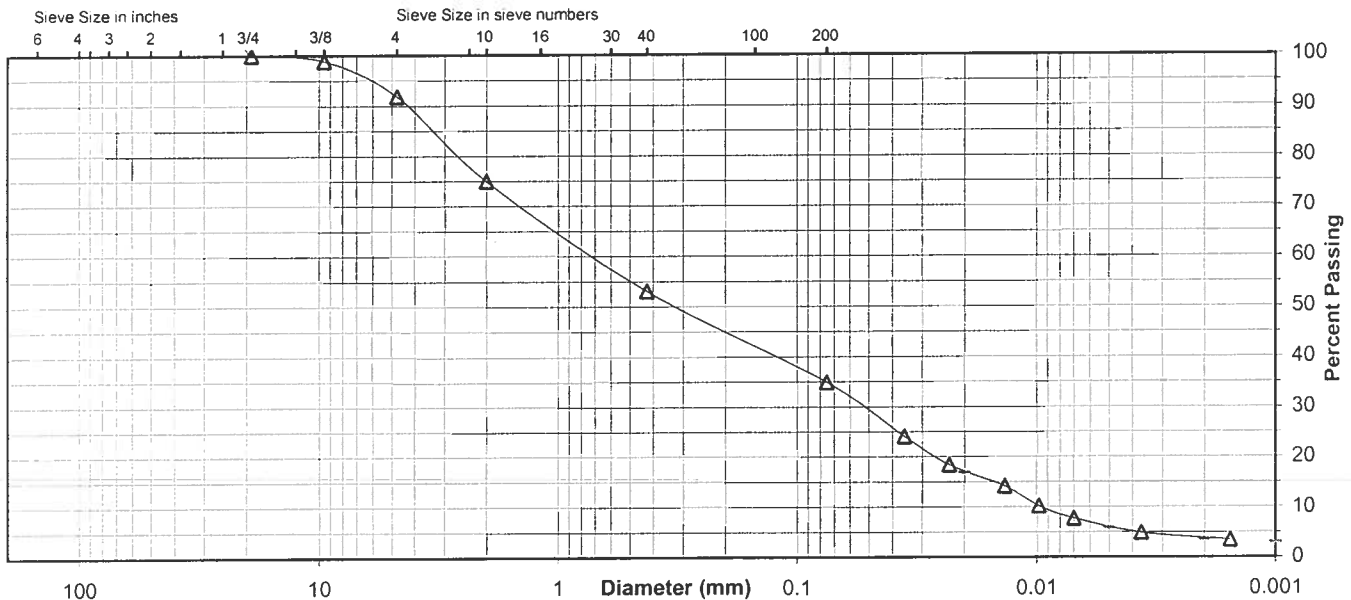
 Specific Gravity 2.42

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	53.1
No. 200	34.9
0.02 mm	16.9
0.005 mm	5.9
0.002 mm	3.6
0.001 mm	3.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	8.1	17.0	21.8	18.2	29.0	5.9
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	25.1		21.8		18.2	31.3	3.6



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-65, 30.0'-45.0' Lab ID 93
 County Jackson County, AL Date Received 5-29-09
 Sample Type Bag Date Reported 6-29-09

Test Results

Natural Moisture Content
 Test Method: ASTM D 2216
 Moisture Content (%): 27.0

Atterberg Limits
 Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Particle Size Analysis
 Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.2
No. 4	4.75	95.1
No. 10	2	83.0
No. 40	0.425	60.7
No. 200	0.075	38.5
	0.02	17.7
	0.005	7.2
	0.002	5.2
estimated	0.001	3.6

Moisture-Density Relationship
 Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	4.9	17.0
Coarse Sand	12.1	22.3
Medium Sand	22.3	---
Fine Sand	22.2	22.2
Silt	31.3	33.3
Clay	7.2	5.2

California Bearing Ratio
 Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity
 Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.53

Classification
 Unified Group Symbol: SM
 Group Name: Silty sand
 AASHTO Classification: A-4 (0)

Comments: _____
 Reviewed by: 



ATTERBERG LIMITS

Project Widows Creek Fossil Plant (TVA)
 Source SB-65, 30.0'-45.0'

Project No. 175569036

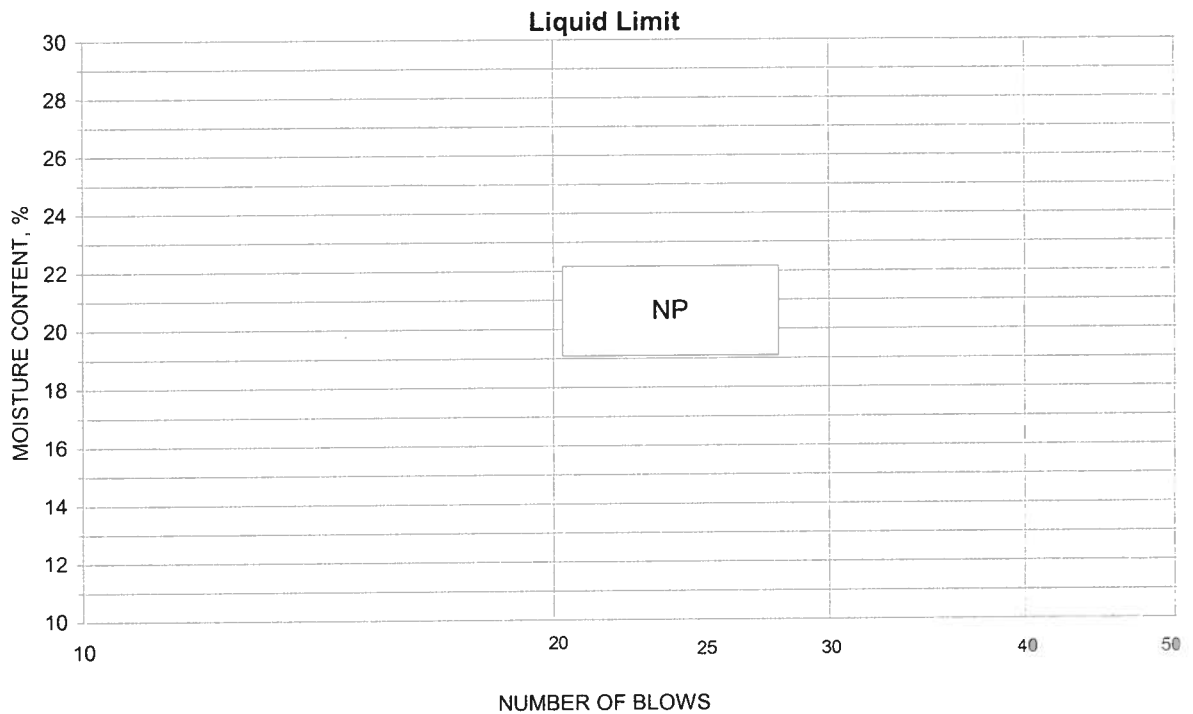
Lab ID 93

% + No. 40 39

Tested By DB Test Method ASTM D 4318 Method A
 Test Date 06-24-2009 Prepared Dry

Date Received 05-29-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-65, 30.0'-45.0'

 Project Number 175569036
 Lab ID 93
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: RM
 Test Date: 06-23-2009
 Date Received 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.2
No. 4	95.1
No. 10	83.0

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

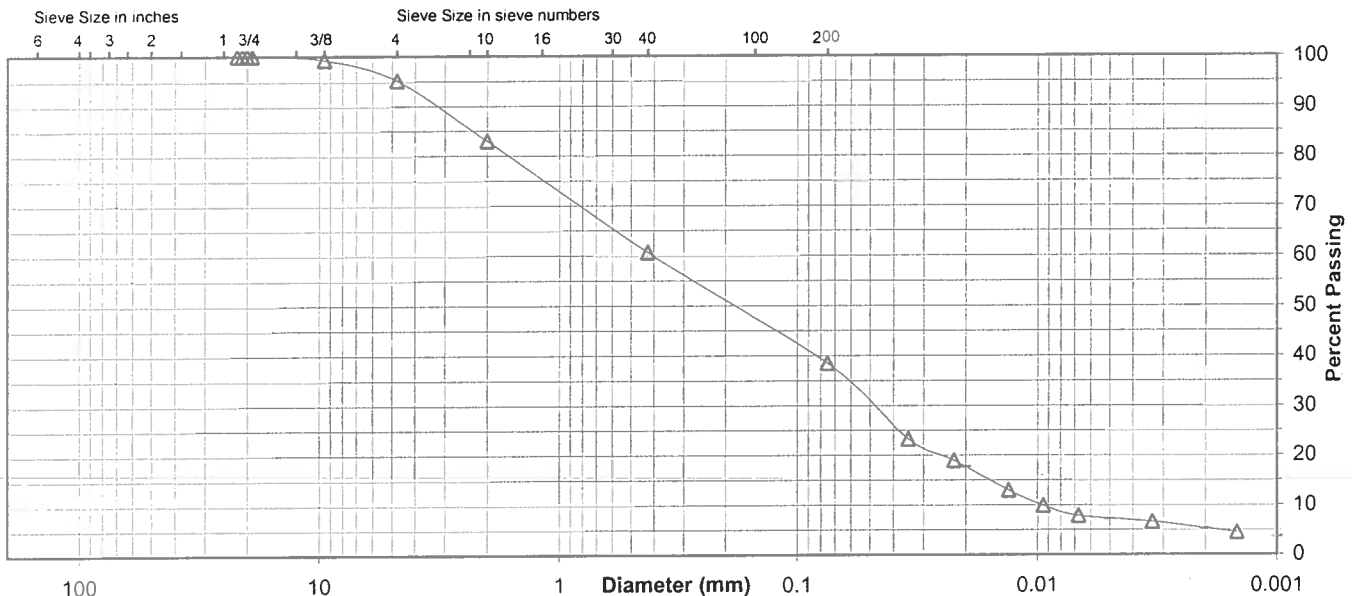
 Specific Gravity 2.53

Dispersed using: Apparatus A - Mechanical, for 1 minute

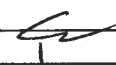
No. 40	60.7
No. 200	38.5
0.02 mm	17.7
0.005 mm	7.2
0.002 mm	5.2
0.001 mm	3.6

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	4.9	12.1	22.3	22.2	31.3	7.2
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt	Clay	
	17.0		22.3	22.2	33.3	5.2	



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-66, 15.0'-16.5', 16.5'-18.0', 18.0'-19.5' Lab ID 190
 County Jackson County, AL Date Received 5-29-09
 Sample Type SPT Comp Date Reported 6-25-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 45
 Plastic Limit: 23
 Plasticity Index: 22
 Activity Index: 0.58

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	100.0
No. 4	4.75	99.9
No. 10	2	99.9
No. 40	0.425	99.7
No. 200	0.075	94.0
	0.02	72.8
	0.005	49.5
	0.002	38.3
estimated	0.001	33.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.1	0.1
Coarse Sand	0.0	0.2
Medium Sand	0.2	---
Fine Sand	5.7	5.7
Silt	44.5	55.7
Clay	49.5	38.3

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.71

Classification

Unified Group Symbol: CL
 Group Name: Lean clay
 AASHTO Classification: A-7-6 (23)

Comments: _____

Reviewed by: 

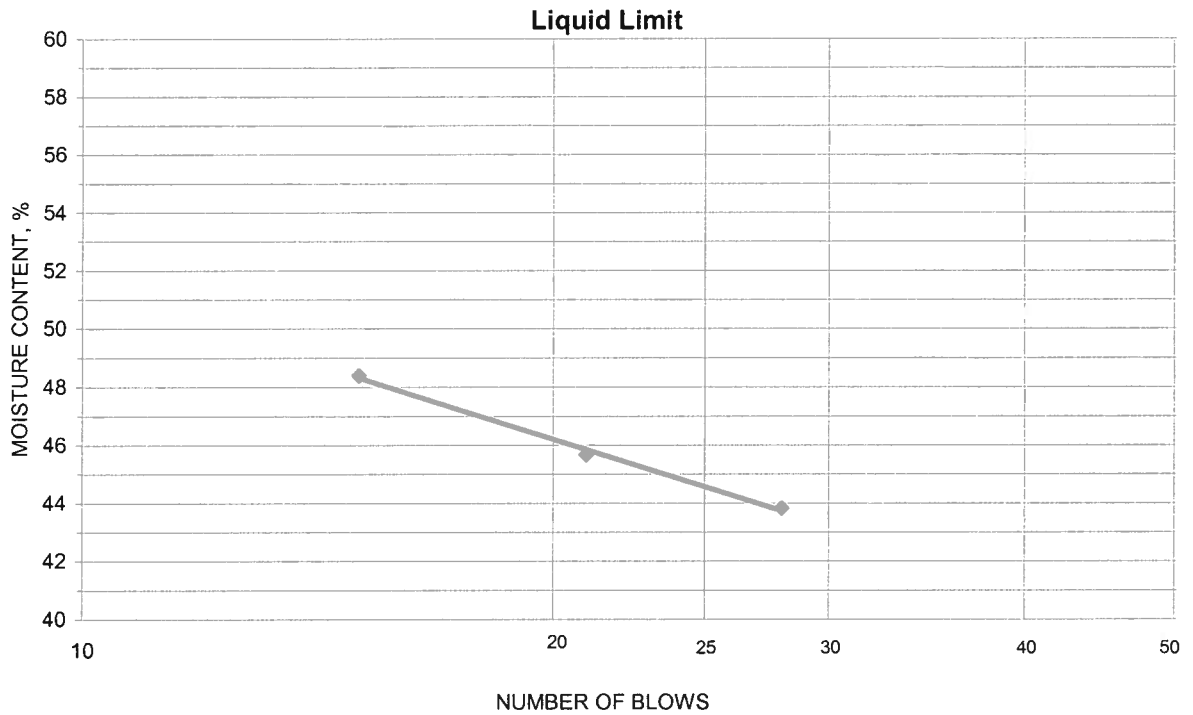


ATTERBERG LIMITS

Project Widows Creek Fossil Plant (TVA)
 Source SB-66, 15.0'-16.5', 16.5'-18.0', 18.0'-19.5'
 Tested By CSM Test Method ASTM D 4318 Method A
 Test Date 06-22-2009 Prepared Dry

Project No. 175569036
 Lab ID 190
 % + No. 40 0
 Date Received 05-29-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
23.40	19.61	10.96	28	43.8	45
22.86	19.38	11.76	21	45.7	
23.19	19.29	11.23	15	48.4	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
20.94	19.12	11.22	23.0	23	22
20.90	19.01	10.95	23.4		

Remarks: _____

Reviewed By _____

Laboratory Document
 Prepared By: MW
 Approved By: TLK

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-66, 15.0'-16.5', 16.5'-18.0', 18.0'-19.5'

 Project Number 175569036
 Lab ID 190
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: CSM
 Test Date: 06-16-2009
 Date Received: 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	99.9
No. 10	99.9

Maximum Particle size: 3/8" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

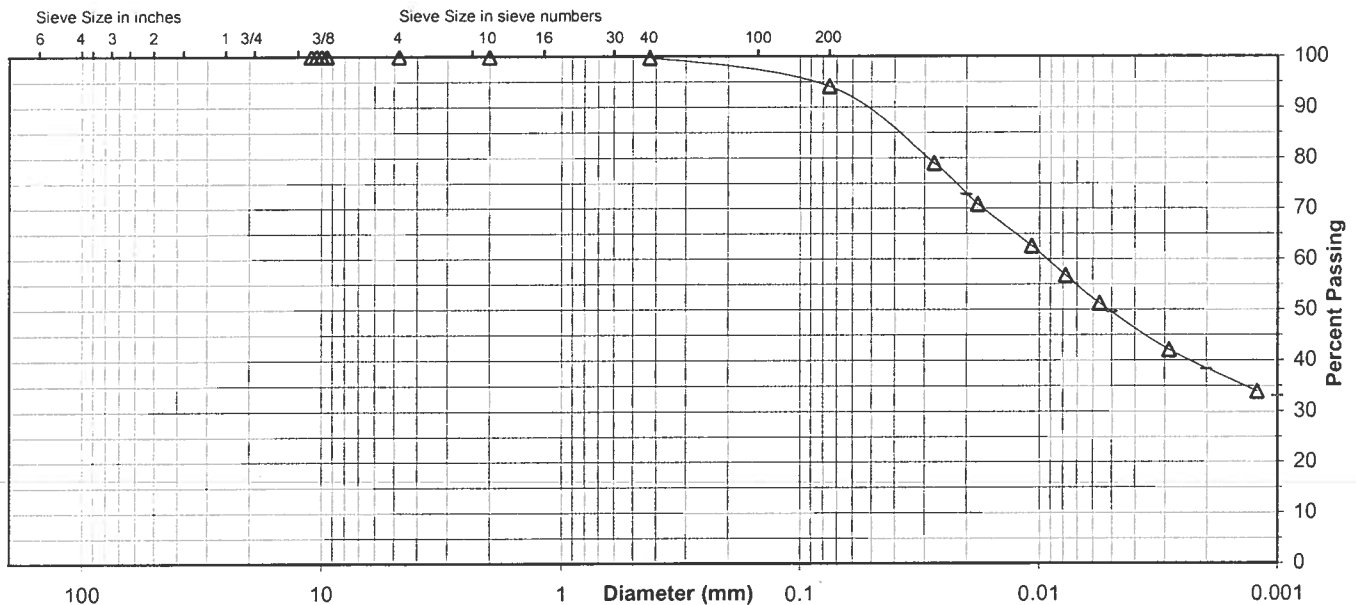
 Specific Gravity 2.71

Dispersed using: Apparatus A - Mechanical, for 1 minute


No. 40	99.7
No. 200	94.0
0.02 mm	72.8
0.005 mm	49.5
0.002 mm	38.3
0.001 mm	33.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.1	0.0	0.2	5.7	44.5	49.5
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	0.1		0.2		5.7	55.7	38.3



Comments _____

 Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-67, 4.5'-6.0', 6.0'-7.5', 7.5'-9.0'

 Project Number 175569036
 Lab ID 203
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Soft
 Tested By: CP
 Test Date: 06-16-2009
 Date Received: 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	97.8
No. 4	89.8
No. 10	74.8

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

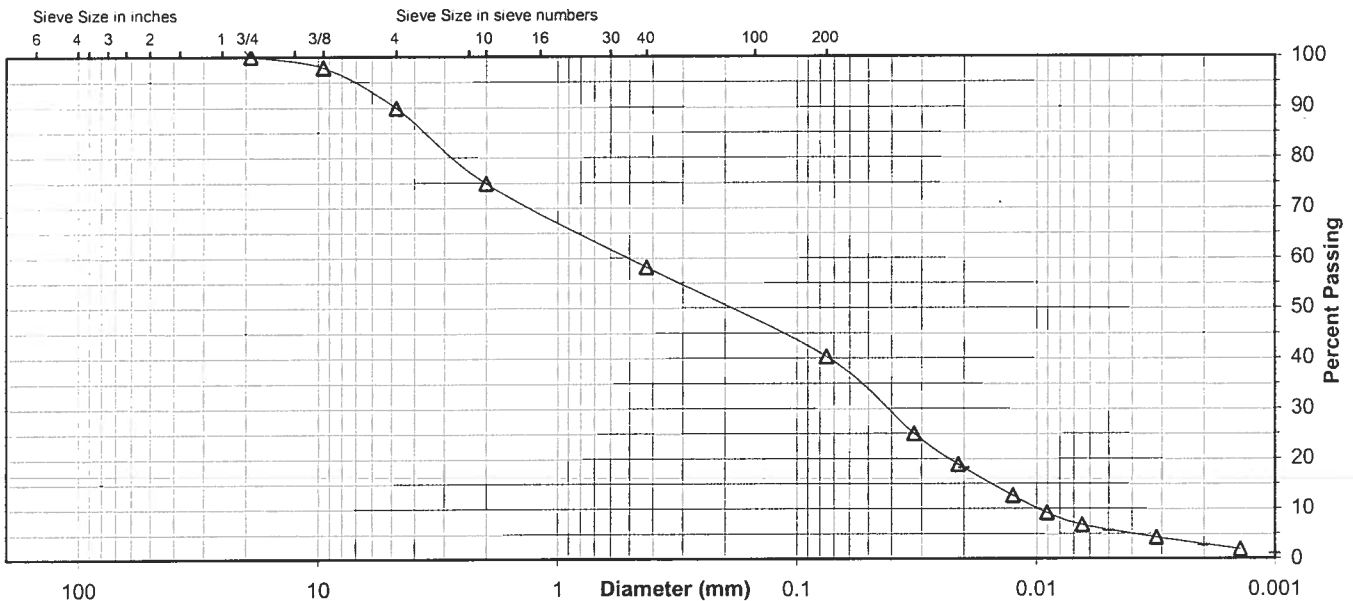
 Specific Gravity 2.36

Dispersed using: Apparatus A - Mechanical, for 1 minute


No. 40	58.1
No. 200	40.3
0.02 mm	18.1
0.005 mm	5.6
0.002 mm	2.7
0.001 mm	1.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	10.2	15.0	16.7	17.8	34.7	5.6
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	25.2		16.7		17.8	37.5	2.7



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-67, 12.5'-14.0', 14.0'-15.5', 15.5'-17.0' Lab ID 208
 County Jackson County, AL Date Received 5-29-09
 Sample Type SPT Comp Date Reported 6-25-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	100.0
3/4"	19	97.9
3/8"	9.5	96.3
No. 4	4.75	85.7
No. 10	2	67.1
No. 40	0.425	46.2
No. 200	0.075	26.2
	0.02	10.4
	0.005	4.6
	0.002	2.3
estimated	0.001	1.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	14.3	32.9
Coarse Sand	18.6	20.9
Medium Sand	20.9	---
Fine Sand	20.0	20.0
Silt	21.6	23.9
Clay	4.6	2.3

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

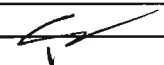
Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.35

Classification

Unified Group Symbol: SM
 Group Name: Silty sand
 AASHTO Classification: A-2-4 (0)

Comments: _____
 Reviewed by: 

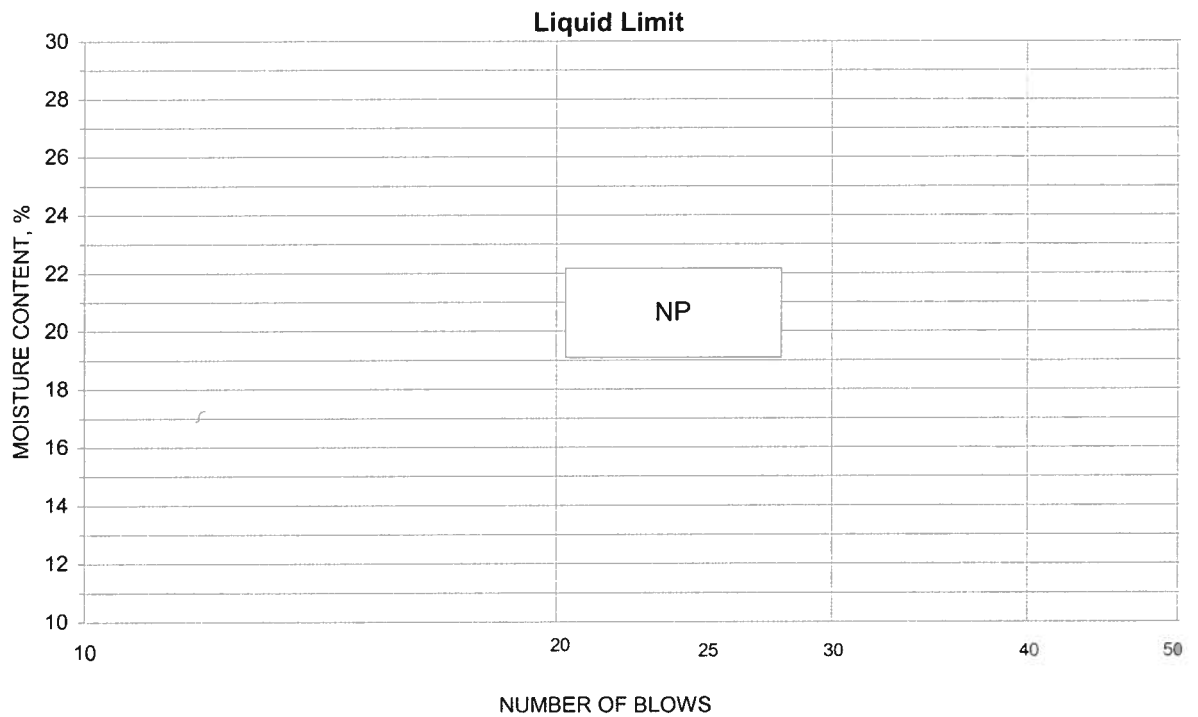


ATTERBERG LIMITS

Project Widows Creek Fossil Plant (TVA)
 Source SB-67, 12.5'-14.0', 14.0'-15.5', 15.5'-17.0'
 Tested By CSM Test Method ASTM D 4318 Method A
 Test Date 06-23-2009 Prepared Dry

Project No. 175569036
 Lab ID 208
 % + No. 40 54
 Date Received 05-29-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-67, 12.5'-14.0', 14.0'-15.5', 15.5'-17.0'

 Project Number 175569036
 Lab ID 208
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable
 Tested By: CSM
 Test Date: 06-17-2009
 Date Received 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	97.9
3/8"	96.3
No. 4	85.7
No. 10	67.1

Maximum Particle size: 1" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

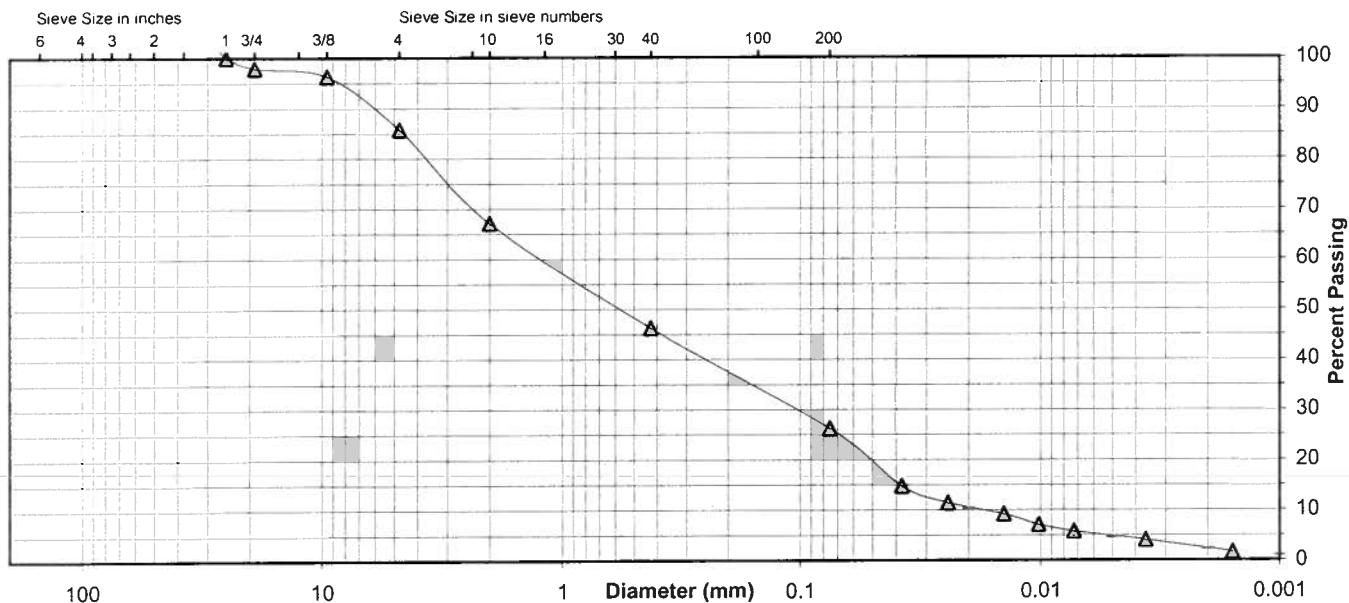
 Specific Gravity 2.35

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	46.2
No. 200	26.2
0.02 mm	10.4
0.005 mm	4.6
0.002 mm	2.3
0.001 mm	1.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	2.1	12.2	18.6	20.9	20.0	21.6	4.6
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	32.9		20.9		20.0	23.9	2.3



Comments _____

 Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-67, 28.0'-29.5', 29.5'-31.0', 31.0'-32.5'

 Project Number 175569036
 Lab ID 218
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Soft

 Tested By: CP
 Test Date: 06-16-2009
 Date Received: 05-29-2009

 Maximum Particle size: 3/4" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	98.5
No. 4	96.0
No. 10	78.8

Analysis for the portion Finer than the No. 10 Sieve

 Analysis Based on: Total Sample

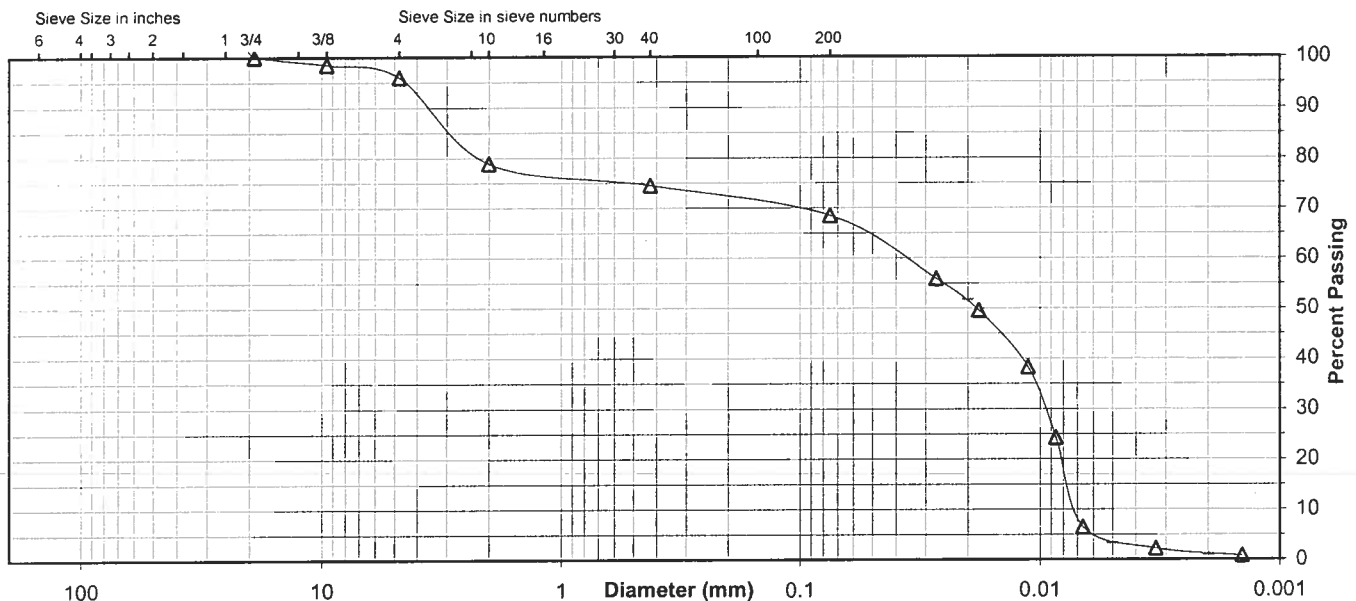
 Specific Gravity 2.62

 Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	74.5
No. 200	68.5
0.02 mm	51.7
0.005 mm	3.3
0.002 mm	1.0
0.001 mm	0.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay	
	0.0	4.0	17.2	4.3	6.0	65.2	3.3	
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt		Clay
	21.2		4.3		6.0	67.5		1.0



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-68, 10.5'-12.0', 12.0'-13.5', 13.5'-15.0' Lab ID 236
 County Jackson County, AL Date Received 5-29-09
 Sample Type SPT Comp Date Reported 6-25-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 49
 Plastic Limit: 26
 Plasticity Index: 23
 Activity Index: 0.77

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.8
No. 4	4.75	99.7
No. 10	2	97.9
No. 40	0.425	77.3
No. 200	0.075	60.6
	0.02	47.0
	0.005	36.0
	0.002	29.5
estimated	0.001	26.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.3	2.1
Coarse Sand	1.8	20.6
Medium Sand	20.6	---
Fine Sand	16.7	16.7
Silt	24.6	31.1
Clay	36.0	29.5

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.93

Classification

Unified Group Symbol: CL/CH
 Group Name: Sandy lean clay
 AASHTO Classification: A-7-6 (12)

Comments: _____
 Reviewed by: _____

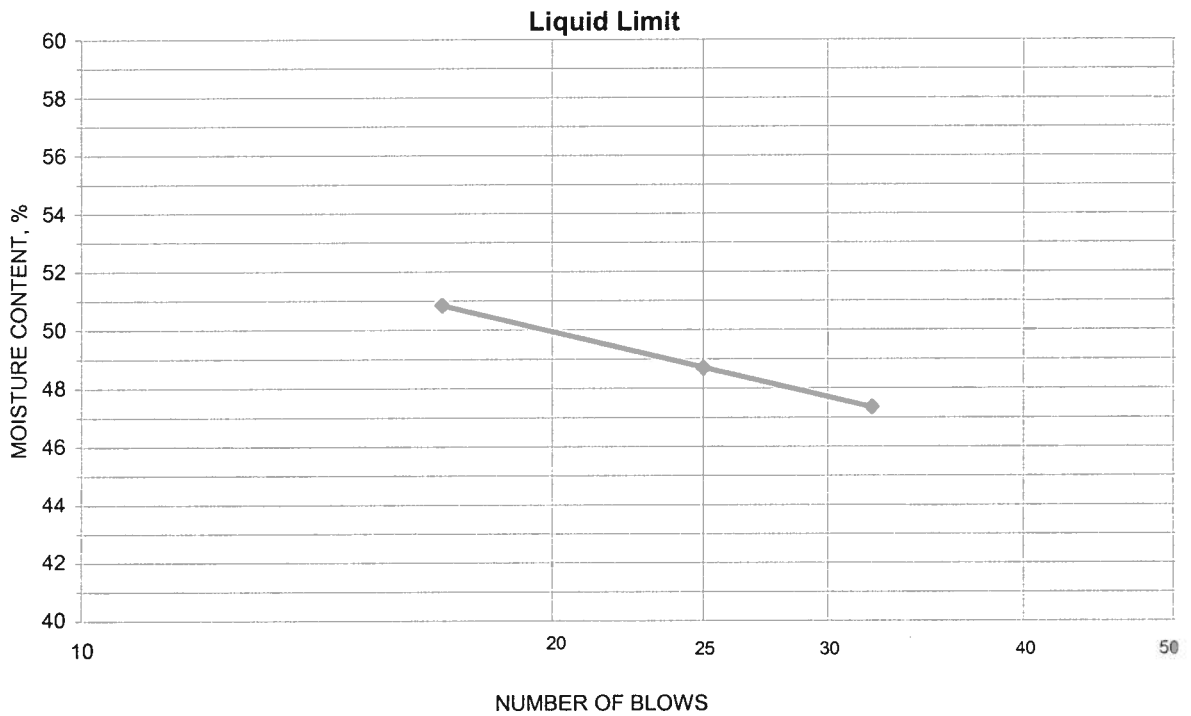


ATTERBERG LIMITS

Project Widows Creek Fossil Plant (TVA)
 Source SB-68, 10.5'-12.0', 12.0'-13.5', 13.5'-15.0'
 Tested By DRB Test Method ASTM D 4318 Method A
 Test Date 06-19-2009 Prepared Dry

Project No. 175569036
 Lab ID 236
 % + No. 40 23
 Date Received 05-29-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
21.51	18.18	11.63	17	50.8	49
20.72	17.75	11.65	25	48.7	
20.08	17.31	11.46	32	47.4	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.45	16.21	11.42	25.9	26	23
18.65	17.14	11.31	25.9		

Remarks: _____

Reviewed By

Project Name Widows Creek Fossil Plant (TVA)
Source SB-68, 10.5'-12.0', 12.0'-13.5', 13.5'-15.0'

Project Number 175569036
Lab ID 236

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
Prepared using: ASTM D 421

Particle Shape: Angular
Particle Hardness: Hard and Durable

Tested By: CSM
Test Date: 06-16-2009
Date Received 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.8
No. 4	99.7
No. 10	97.9

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

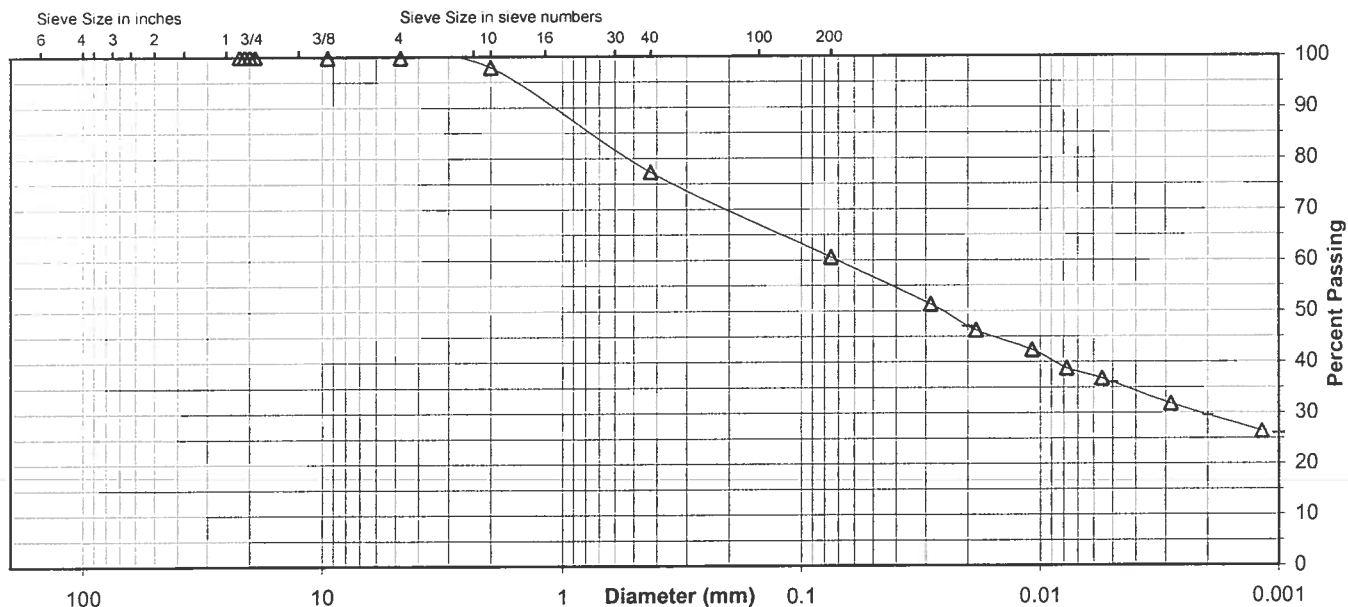
Specific Gravity 2.93

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	77.3
No. 200	60.6
0.02 mm	47.0
0.005 mm	36.0
0.002 mm	29.5
0.001 mm	26.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.3	1.8	20.6	16.7	24.6	36.0
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt	Clay	
	2.1		20.6	16.7	31.1	29.5	



Comments _____

Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-69, 3.0'-4.5', 4.5'-6.0', 6.0'-7.5'

Project Number 175569036
 Lab ID 250

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable
 Tested By: CSM
 Test Date: 06-17-2009
 Date Received: 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	97.7
No. 4	93.9
No. 10	83.9

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

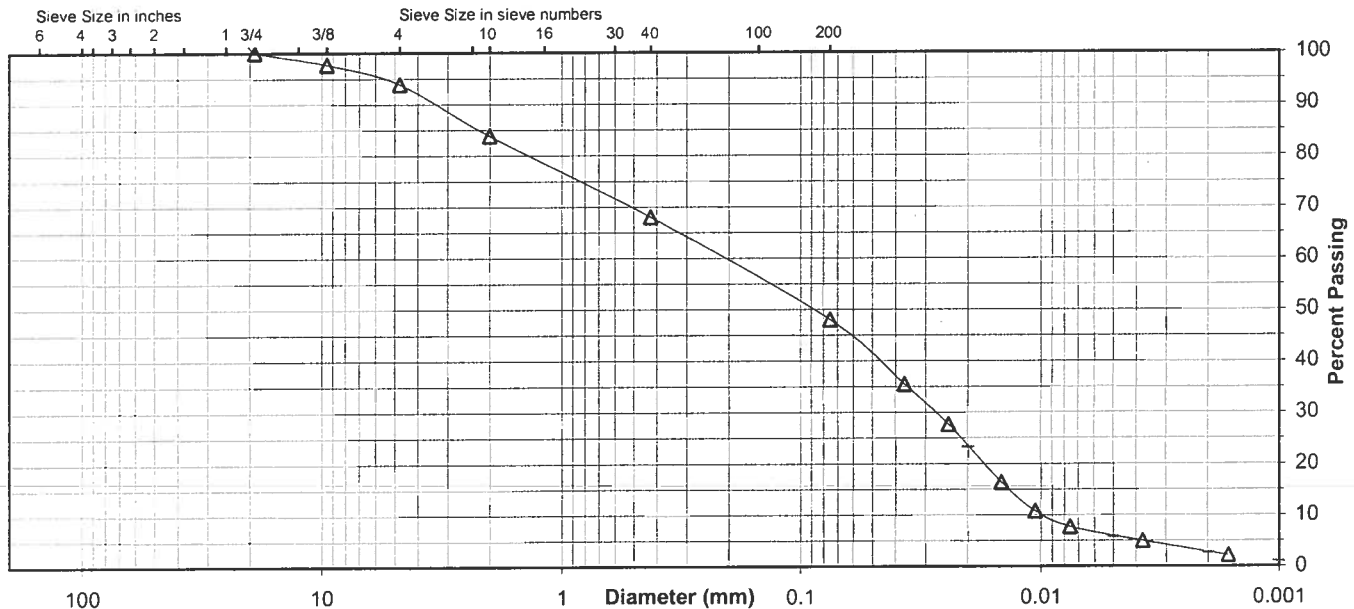
Specific Gravity 2.24

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	68.0
No. 200	48.0
0.02 mm	23.3
0.005 mm	5.8
0.002 mm	2.7
0.001 mm	1.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	6.1	10.0	15.9	20.0	42.2	5.8
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	16.1		15.9		20.0	45.3	2.7



Comments _____

Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-69, 18.0'-25.0' Lab ID 94
 County Jackson County, AL Date Received 5-29-09
 Sample Type Bag Date Reported 6-29-09

Test Results

Natural Moisture Content

Test Method: ASTM D 2216
 Moisture Content (%): 30.3

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.9
No. 4	4.75	98.3
No. 10	2	90.1
No. 40	0.425	74.9
No. 200	0.075	62.3
	0.02	35.7
	0.005	11.2
	0.002	6.2
estimated	0.001	5.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	1.7	9.9
Coarse Sand	8.2	15.2
Medium Sand	15.2	---
Fine Sand	12.6	12.6
Silt	51.1	56.1
Clay	11.2	6.2

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.45

Classification

Unified Group Symbol: ML
 Group Name: Sandy silt
 AASHTO Classification: A-4 (0)

Comments: _____

Reviewed by: 



ATTERBERG LIMITS

Project Widows Creek Fossil Plant (TVA)
 Source SB-69, 18.0'-25.0'

Project No. 175569036

Lab ID 94

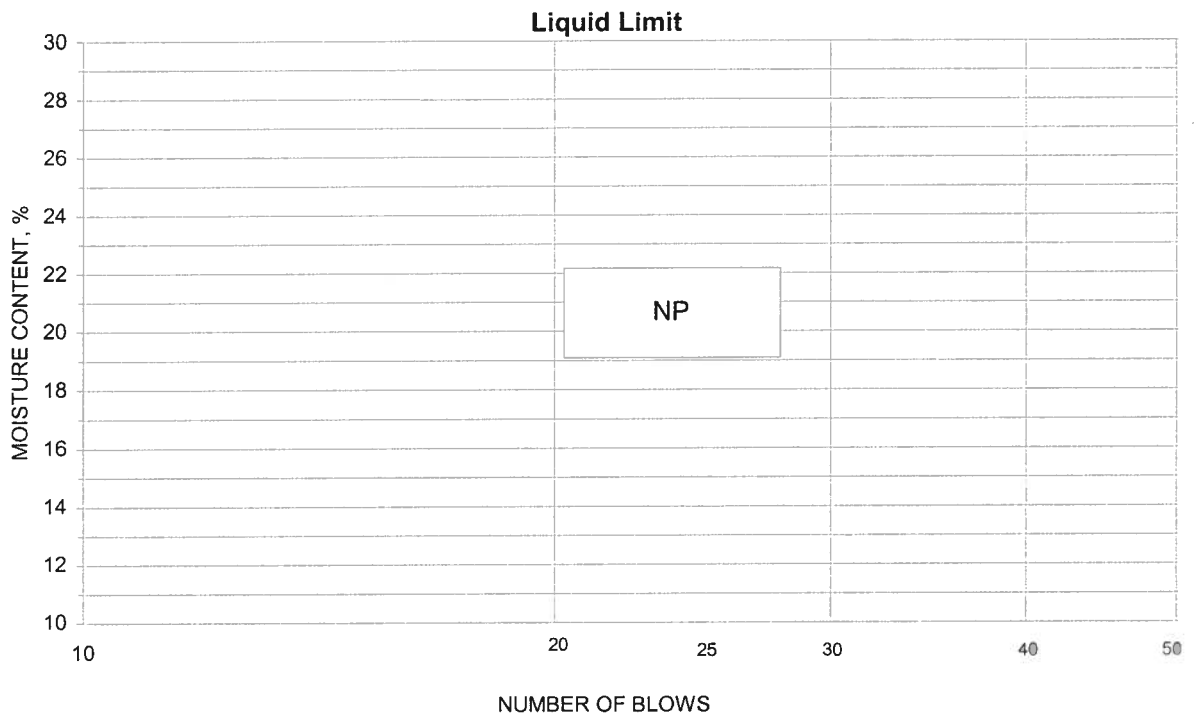
% + No. 40 25

Tested By CSM Test Method ASTM D 4318 Method A

Date Received 05-29-2009

Test Date 06-23-2009 Prepared Dry

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-69, 18.0'-25.0'

 Project Number 175569036
 Lab ID 94
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: CM
 Test Date: 06-22-2009
 Date Received 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.9
No. 4	98.3
No. 10	90.1

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

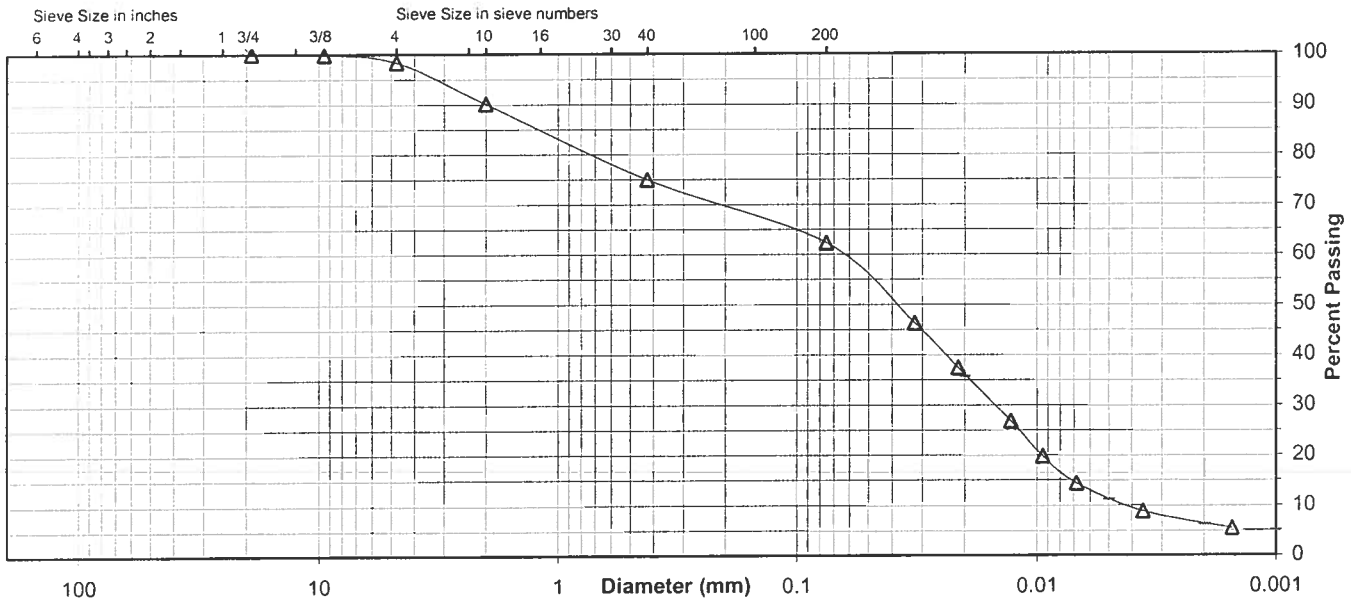
 Specific Gravity 2.45

Dispersed using: Apparatus A - Mechanical, for 1 minute


No. 40	74.9
No. 200	62.3
0.02 mm	35.7
0.005 mm	11.2
0.002 mm	6.2
0.001 mm	5.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	1.7	8.2	15.2	12.6	51.1	11.2
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	9.9		15.2		12.6	56.1	6.2



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-70, 12.0'-13.5', 13.5'-15.0', 15.0'-16.5' Lab ID 289
 County Jackson County, AL Date Received 5-29-09
 Sample Type SPT Comp Date Reported 6-25-09

Test Results

Natural Moisture Content
 Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits
 Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 35
 Plastic Limit: 16
 Plasticity Index: 19
 Activity Index: 0.73

Particle Size Analysis
 Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	98.3
No. 4	4.75	92.2
No. 10	2	64.7
No. 40	0.425	61.8
No. 200	0.075	47.0
	0.02	39.1
	0.005	30.3
	0.002	25.5
estimated	0.001	23.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	7.8	35.3
Coarse Sand	27.5	2.9
Medium Sand	2.9	---
Fine Sand	14.8	14.8
Silt	16.7	21.5
Clay	30.3	25.5

Moisture-Density Relationship
 Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio
 Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity
 Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.70

Classification
 Unified Group Symbol: SC
 Group Name: Clayey sand
 AASHTO Classification: A-6 (5)

Comments: _____

 Reviewed by: 

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-70, 12.0'-13.5', 13.5'-15.0', 15.0'-16.5'

 Project Number 175569036
 Lab ID 289
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: CP
 Test Date: 06-16-2009
 Date Received 05-29-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	98.3
No. 4	92.2
No. 10	64.7

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

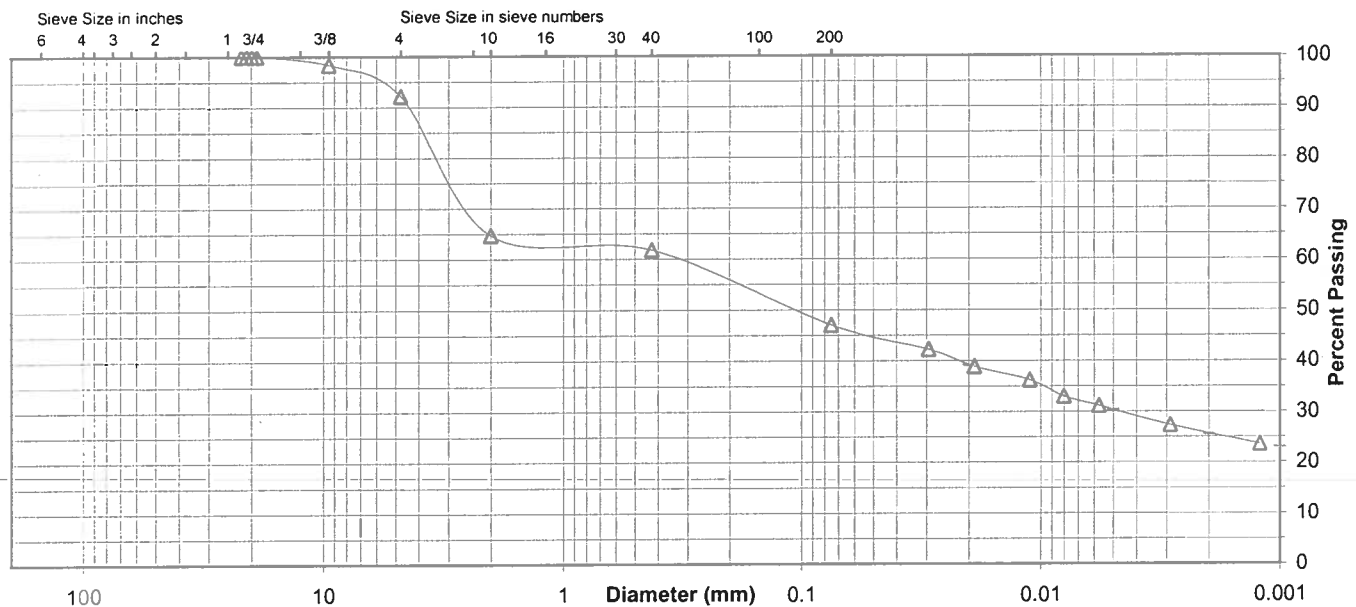
 Specific Gravity 2.7

Dispersed using: Apparatus A - Mechanical, for 1 minute

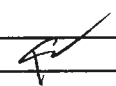
No. 40	61.8
No. 200	47.0
0.02 mm	39.1
0.005 mm	30.3
0.002 mm	25.5
0.001 mm	23.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	7.8	27.5	2.9	14.8	16.7	30.3
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	35.3		2.9		14.8	21.5	25.5



Comments _____

 Reviewed By 

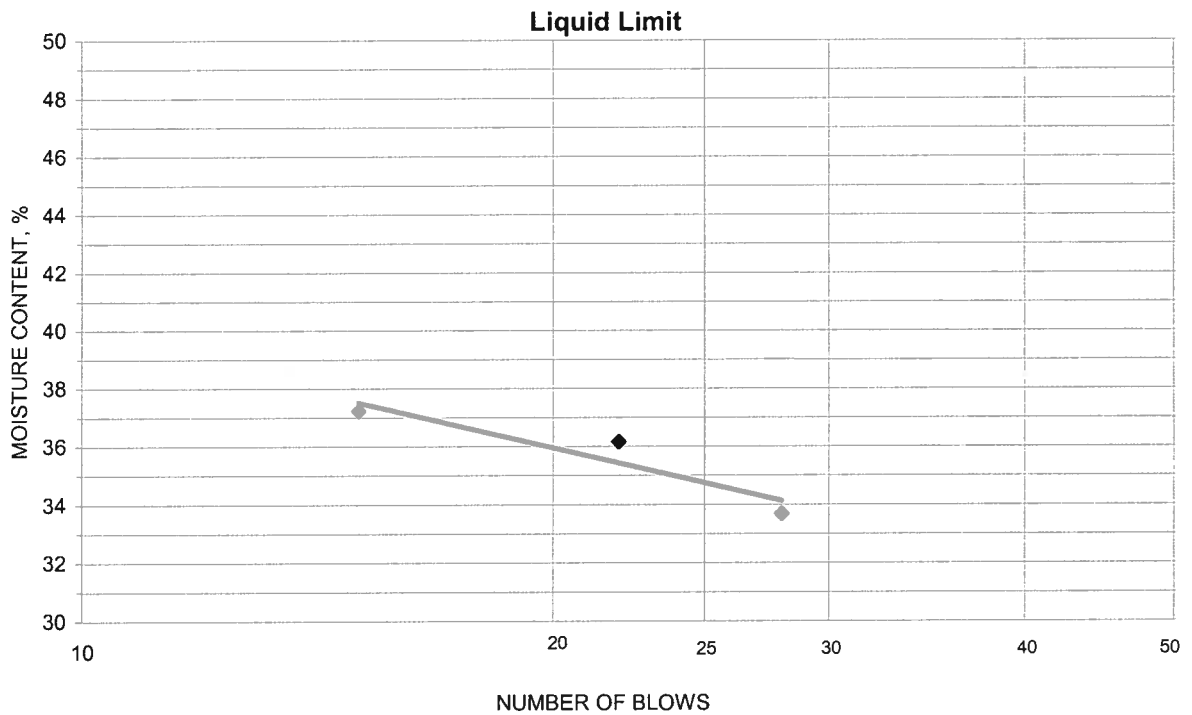


ATTERBERG LIMITS

Project Widows Creek Fossil Plant (TVA)
 Source SB-70, 12.0'-13.5', 13.5'-15.0', 15.0'-16.5'
 Tested By CSM Test Method ASTM D 4318 Method A
 Test Date 06-22-2009 Prepared Dry

Project No. 175569036
 Lab ID 289
 % + No. 40 38
 Date Received 05-29-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
25.18	21.50	11.32	22	36.1	35
24.48	20.97	11.54	15	37.2	
24.44	21.17	11.46	28	33.7	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
21.72	20.29	11.48	16.2	16	19
20.73	19.37	11.18	16.6		

Remarks: _____

Reviewed By [Signature]
 Laboratory Document
 Prepared By: MW
 Approved BY: TLK



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-71, 32.0'-33.5', 33.5'-35.0' Lab ID 420
 County Jackson County, AL Date Received 6-2-09
 Sample Type SPT Comp Date Reported 6-26-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 69
 Plastic Limit: 24
 Plasticity Index: 45
 Activity Index: 1.73

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	100.0
No. 4	4.75	96.2
No. 10	2	91.2
No. 40	0.425	86.9
No. 200	0.075	68.3
	0.02	52.4
	0.005	34.4
	0.002	25.7
estimated	0.001	22.7

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	3.8	8.8
Coarse Sand	5.0	4.3
Medium Sand	4.3	---
Fine Sand	18.6	18.6
Silt	33.9	42.6
Clay	34.4	25.7

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.71

Classification

Unified Group Symbol: CH
 Group Name: Sandy fat clay
 AASHTO Classification: A-7-6 (30)

Comments: _____

 Reviewed by: RHB

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-71, 32.0'-33.5', 33.5'-35.0'

 Project Number 175569036
 Lab ID 420
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable

 Tested By: RSB
 Test Date: 06-10-2009
 Date Received 06-02-2009

Maximum Particle size: 3/8" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	96.2
No. 10	91.2

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

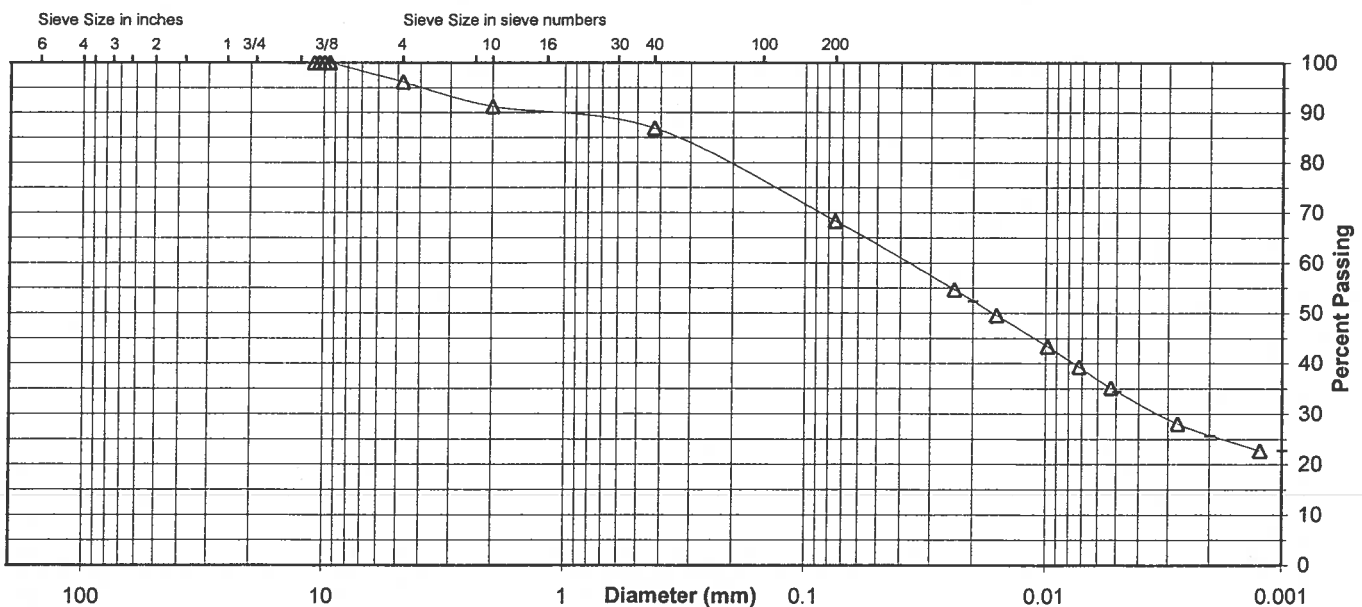
 Specific Gravity 2.71

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	86.9
No. 200	68.3
0.02 mm	52.4
0.005 mm	34.4
0.002 mm	25.7
0.001 mm	22.7

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	3.8	5.0	4.3	18.6	33.9	34.4
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	8.8		4.3		18.6	42.6	25.7



Comments _____

 Reviewed By RSB

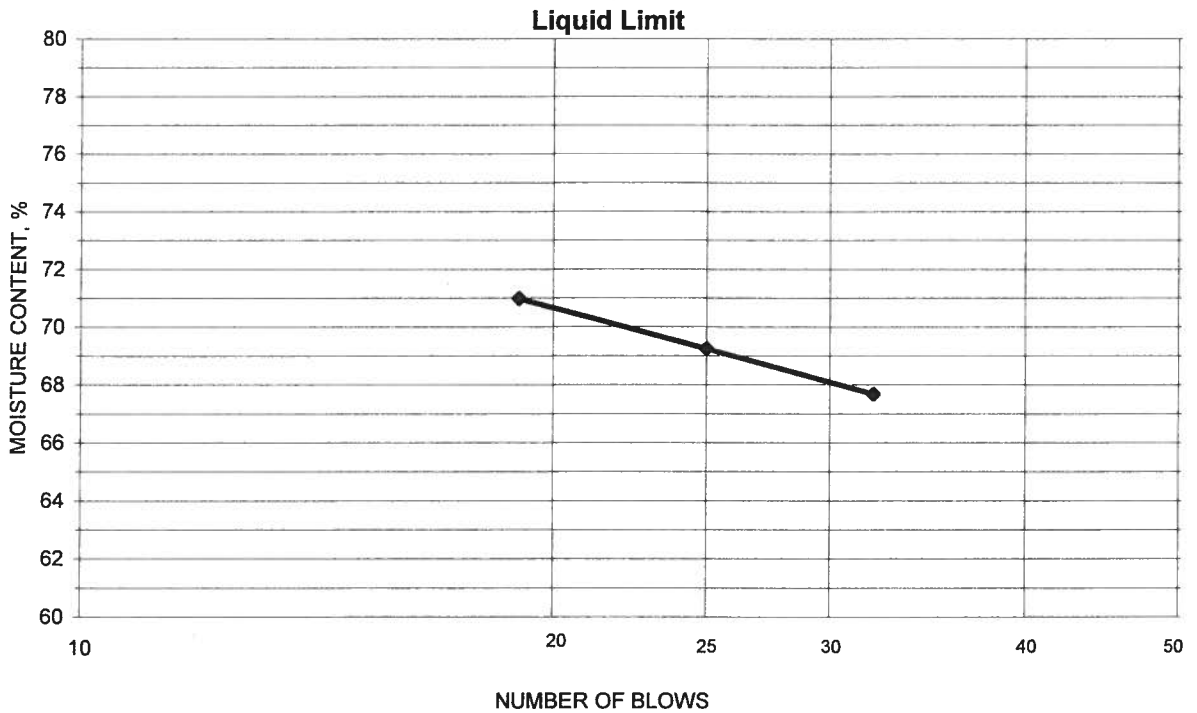


ATTERBERG LIMITS

Project Widows Creek Fossil Plant -- TVA
 Source SB-71, 32.0'-33.5', 33.5'-35.0'
 Tested By RSB Test Method ASTM D 4318 Method A
 Test Date 06-25-2009 Prepared Dry

Project No. 175569036
 Lab ID 420
 % + No. 40
 Date Received 06-02-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
12.15	9.01	4.37	32	67.7	69
12.64	9.24	4.33	25	69.2	
10.25	7.78	4.30	19	71.0	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
8.60	7.79	4.37	23.7	24	45
10.03	8.95	4.38	23.6		

Remarks: _____



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-73, 4.5'-6.0', 6.0'-7.5', 7.5'-9.0' Lab ID 430
 County Jackson County, AL Date Received 6-2-09
 Sample Type SPT Comp Date Reported 6-25-09

Test Results

Natural Moisture Content
 Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits
 Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 41
 Plastic Limit: 14
 Plasticity Index: 27
 Activity Index: 1.69

Particle Size Analysis
 Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	100.0
3/4"	19	97.5
3/8"	9.5	91.7
No. 4	4.75	76.5
No. 10	2	57.0
No. 40	0.425	43.4
No. 200	0.075	32.5
	0.02	27.0
	0.005	20.1
	0.002	16.1
estimated	0.001	14.2

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	23.5	43.0
Coarse Sand	19.5	13.6
Medium Sand	13.6	---
Fine Sand	10.9	10.9
Silt	12.4	16.4
Clay	20.1	16.1

Moisture-Density Relationship
 Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio
 Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity
 Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.74

Classification
 Unified Group Symbol: SC
 Group Name: Clayey sand with gravel
 AASHTO Classification: A-2-7 (3)

Comments: _____

 Reviewed by: RHS



Project Name Widows Creek Fossil Plant -- TVA
Source SB-73, 4.5'-6.0', 6.0'-7.5', 7.5'-9.0'

Project Number 175569036
Lab ID 430

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
Prepared using: ASTM D 421

Particle Shape: Angular
Particle Hardness: Hard and Durable

Tested By: AR
Test Date: 06-10-2009
Date Received: 06-02-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	97.5
3/8"	91.7
No. 4	76.5
No. 10	57.0

Maximum Particle size: 1" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

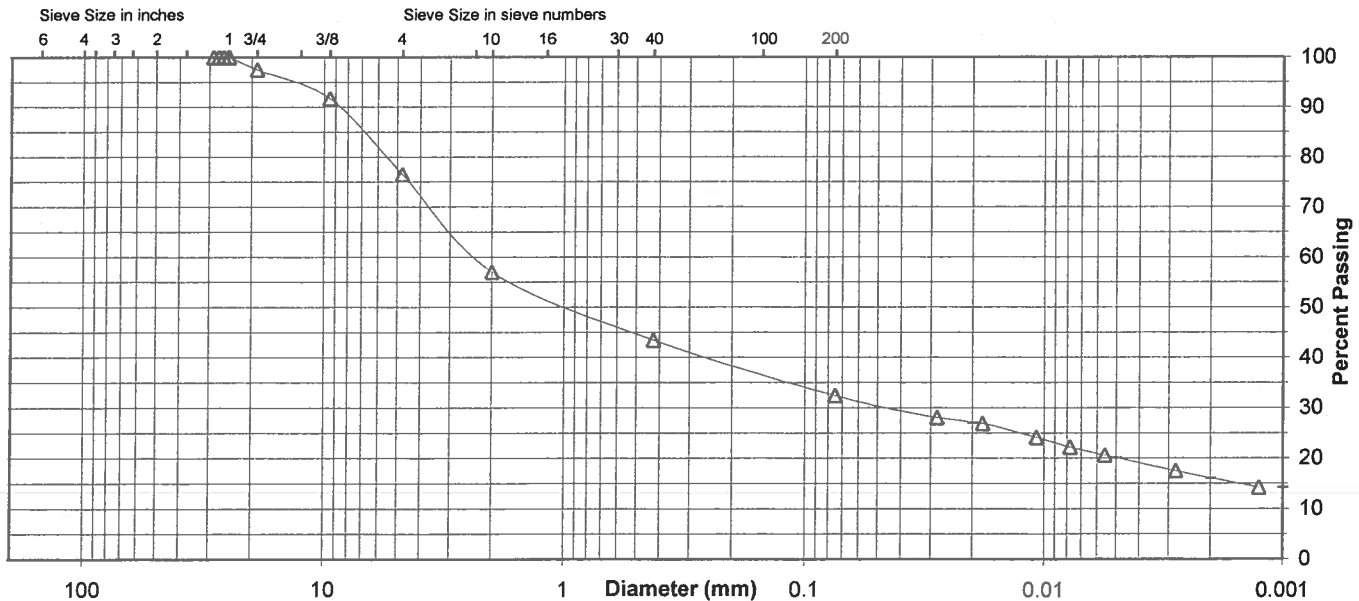
Specific Gravity 2.74

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	43.4
No. 200	32.5
0.02 mm	27.0
0.005 mm	20.1
0.002 mm	16.1
0.001 mm	14.2

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	2.5	21.0	19.5	13.6	10.9	12.4	20.1
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt and Clay	
	43.0		13.6		10.9	16.4	



Comments _____

Reviewed By RHO

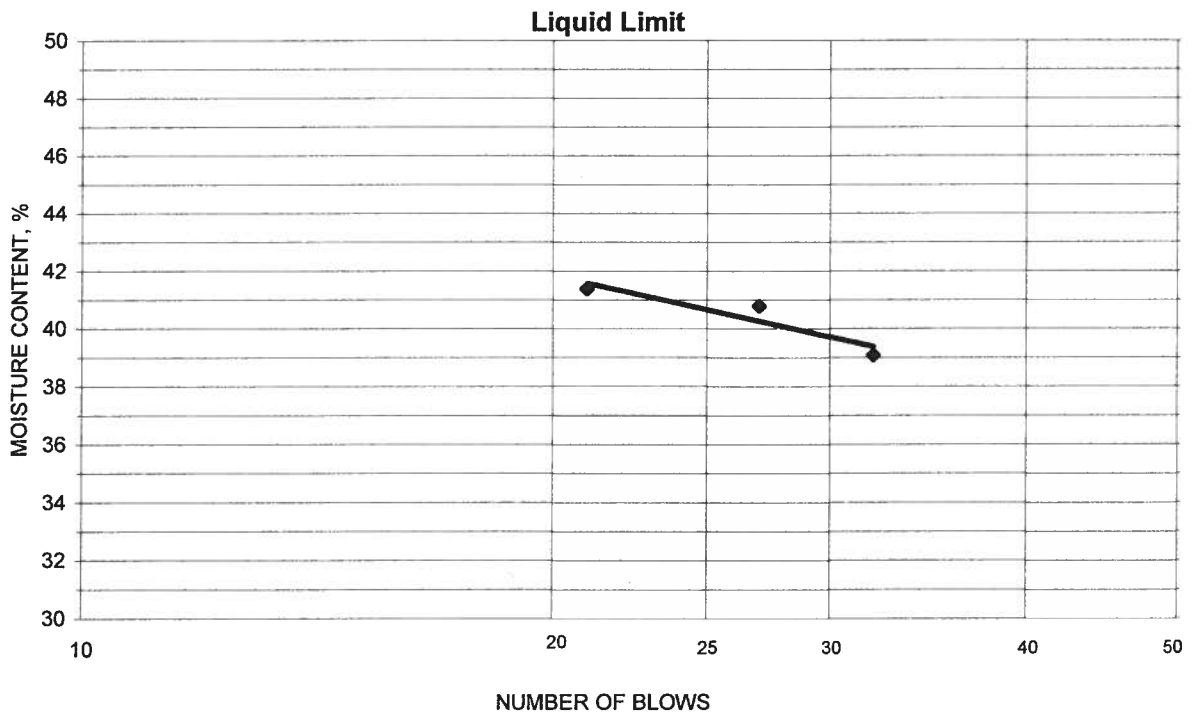


ATTERBERG LIMITS

Project Widows Creek Fossil Plant -- TVA
 Source SB-73, 4.5'-6.0', 6.0'-7.5', 7.5'-9.0'
 Tested By AR Test Method ASTM D 4318 Method A
 Test Date 06-11-2009 Prepared Dry

Project No. 175569036
 Lab ID 430
 % + No. 40 57
 Date Received 06-02-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
24.16	20.12	9.78	32	39.1	41
24.54	20.20	9.71	21	41.4	
23.00	19.15	9.71	27	40.8	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
18.48	17.77	12.79	14.3	14	27
18.48	17.77	12.70	14.0		

Remarks: _____

Reviewed By RHS
 Laboratory Document
 Prepared By: MW
 Approved BY: TLK



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-74, 4.5'-6.0', 6.0'-7.5', 7.5'-9.0' Lab ID 632
 County Jackson County, AL Date Received 6-22-09
 Sample Type SPT Comp Date Reported 7-10-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 59
 Plastic Limit: 25
 Plasticity Index: 34
 Activity Index: 0.68

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	100.0
3/4"	19	98.3
3/8"	9.5	98.1
No. 4	4.75	98.1
No. 10	2	97.8
No. 40	0.425	93.9
No. 200	0.075	85.3
	0.02	71.8
	0.005	57.3
	0.002	50.2
estimated	0.001	46.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	1.9	2.2
Coarse Sand	0.3	3.9
Medium Sand	3.9	---
Fine Sand	8.6	8.6
Silt	28.0	35.1
Clay	57.3	50.2

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: 0
 Specific Gravity at 20° Celsius: 2.79

Classification

Unified Group Symbol: CH
 Group Name: Fat clay
 AASHTO Classification: A-7-6 (32)

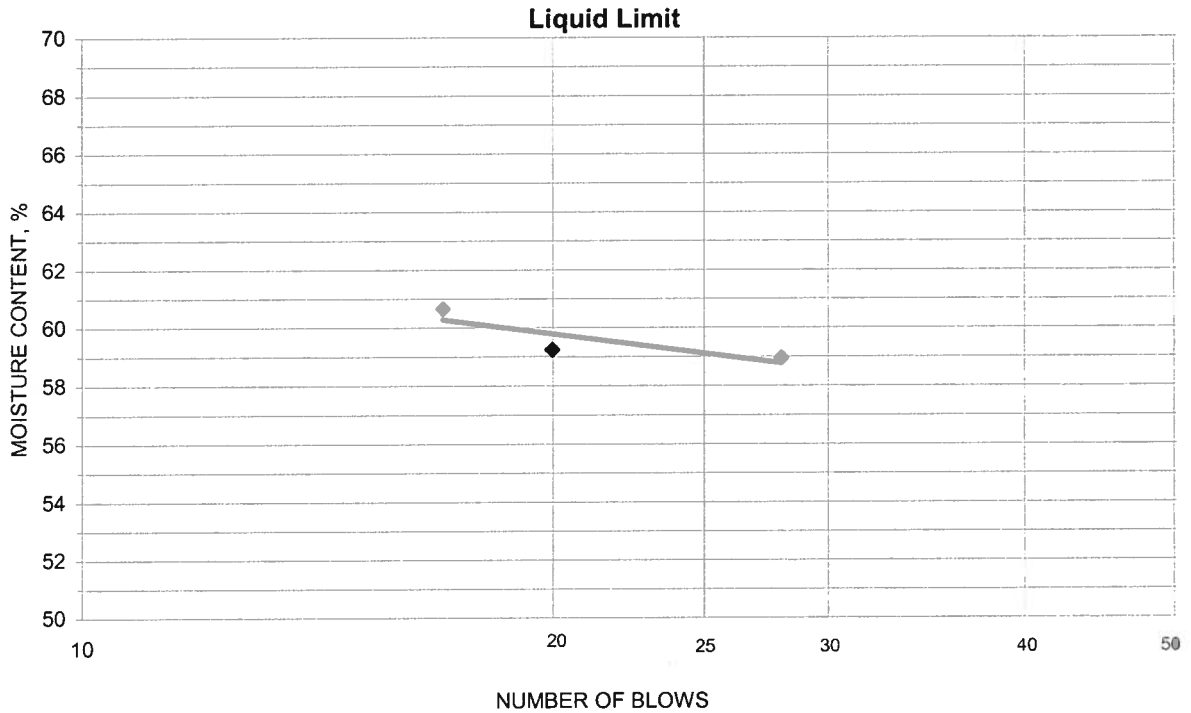
Comments: _____

 Reviewed by:

Project Widows Creek Fossil Plant (TVA)
 Source SB-74, 4.5'-6.0', 6.0'-7.5', 7.5'-9.0'
 Tested By KWS Test Method ASTM D 4318 Method A
 Test Date 06-29-2009 Prepared Dry

Project No. 175569036
 Lab ID 632
 % + No. 40 6
 Date Received 06-22-2009


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
18.11	15.54	11.18	28	58.9	59
18.55	15.79	11.13	20	59.2	
17.12	14.87	11.16	17	60.6	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
18.38	16.92	11.12	25.2	25	34
17.86	16.51	10.96	24.3		

Remarks: _____

Reviewed By 



Project Name Widows Creek Fossil Plant (TVA)
Source SB-74, 4.5'-6.0', 6.0'-7.5', 7.5'-9.0'

Project Number 175569036
Lab ID 632

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
Prepared using: ASTM D 421

Particle Shape: Angular
Particle Hardness: Hard and Durable

Tested By: DB
Test Date: 06-25-2009
Date Received: 06-22-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	98.3
3/8"	98.1
No. 4	98.1
No. 10	97.8

Maximum Particle size: 1" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

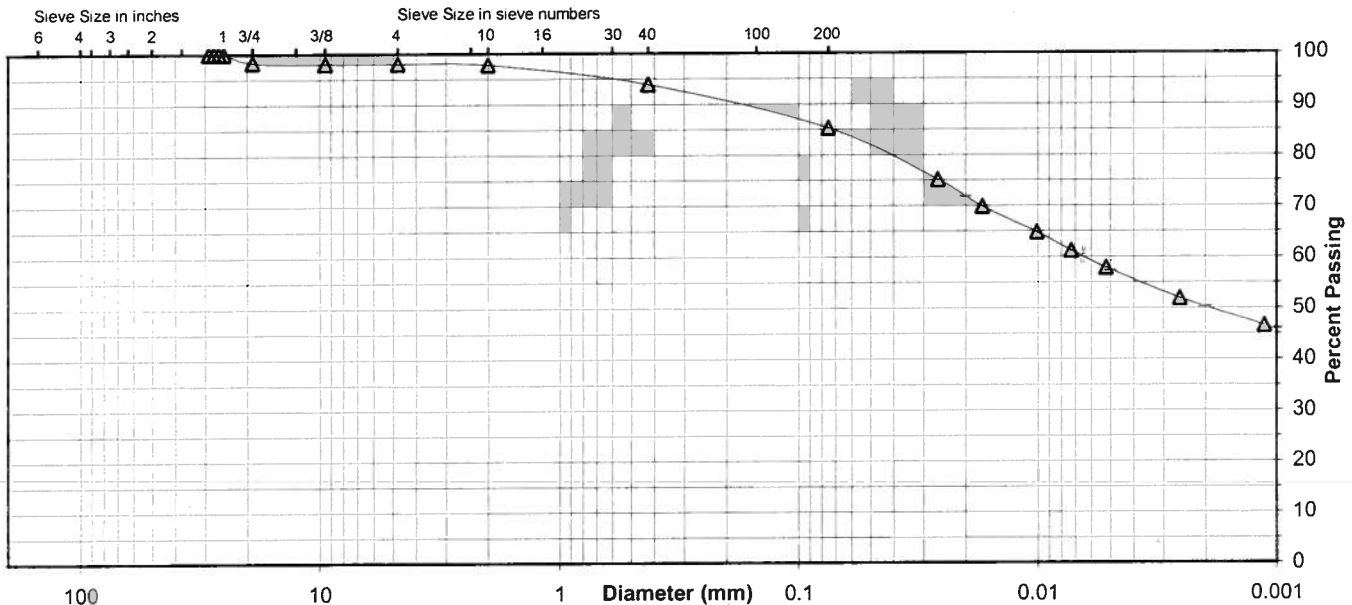
Specific Gravity 2.79

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	93.9
No. 200	85.3
0.02 mm	71.8
0.005 mm	57.3
0.002 mm	50.2
0.001 mm	46.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
		1.7	0.2	0.3	3.9	8.6	28.0
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	2.2		3.9		8.6	35.1	50.2



Comments _____

Reviewed By [Signature]



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-74, 17.0'-18.5', 18.5'-20.0', 20.0'-21.5' Lab ID 640
 County Jackson County, AL Date Received 6-22-09
 Sample Type SPT Comp Date Reported 7-10-09

Test Results

Natural Moisture Content

Test Not Performed

Moisture Content (%): N/A

Particle Size Analysis

Preparation Method: ASTM D 421

Gradation Method: ASTM D 422

Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	97.0
No. 4	4.75	89.9
No. 10	2	79.5
No. 40	0.425	54.9
No. 200	0.075	34.7
	0.02	11.9
	0.005	5.7
	0.002	4.3
estimated	0.001	4.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	10.1	20.5
Coarse Sand	10.4	24.6
Medium Sand	24.6	---
Fine Sand	20.2	20.2
Silt	29.0	30.4
Clay	5.7	4.3

Atterberg Limits

Test Method: ASTM D 4318 Method A

Prepared: Dry

Liquid Limit: ---

Plastic Limit: Non Plastic

Plasticity Index: ---

Activity Index: N/A

Moisture-Density Relationship

Test Not Performed

Maximum Dry Density (lb/ft³): N/A

Maximum Dry Density (kg/m³): N/A

Optimum Moisture Content (%): N/A

Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed

Bearing Ratio (%): N/A

Compacted Dry Density (lb/ft³): N/A

Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854

Prepared: Dry

Particle Size: No. 10

Specific Gravity at 20° Celsius: 2.48

Classification

Unified Group Symbol: SM

Group Name: Silty sand

AASHTO Classification: A-2-4 (0)

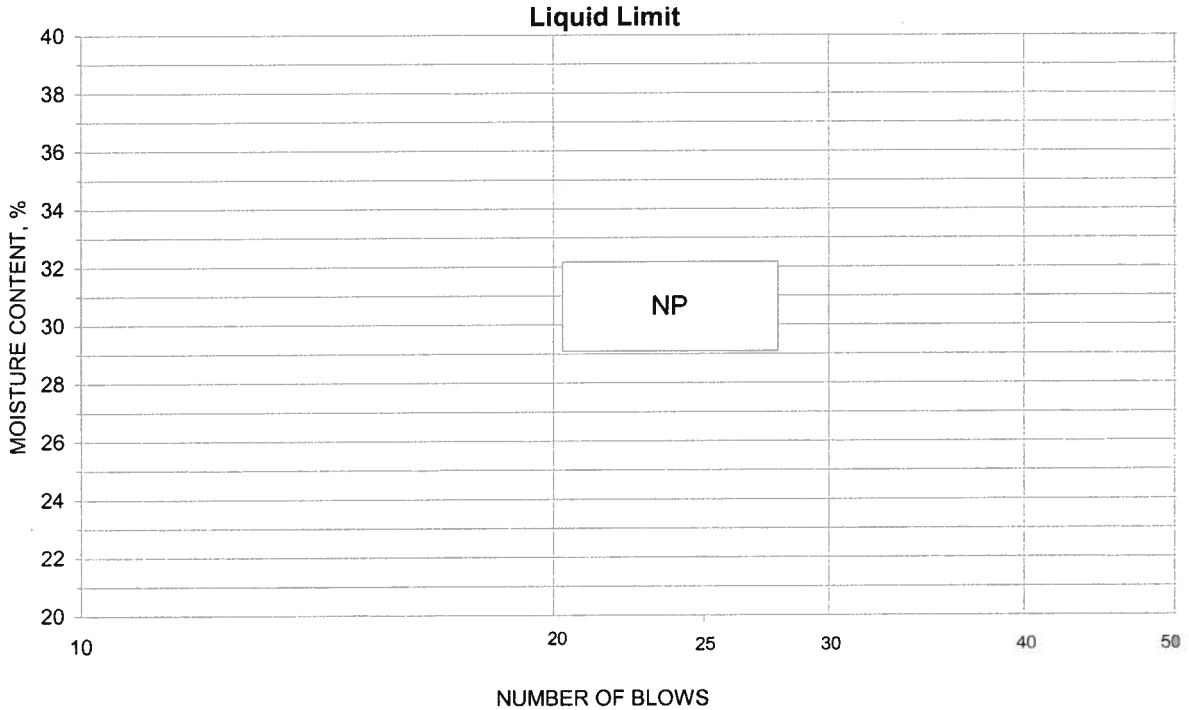
Comments: _____

Reviewed by:

Project Widows Creek Fossil Plant (TVA)
 Source SB-74, 17.0'-18.5', 18.5'-20.0', 20.0'-21.5'
 Tested By CM Test Method ASTM D 4318 Method A
 Test Date 06-30-2009 Prepared Dry

Project No. 175569036
 Lab ID 640
 % + No. 40
 Date Received 06-22-2009


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-74, 17.0'-18.5', 18.5'-20.0', 20.0'-21.5'

Project Number 175569036
 Lab ID 640

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: BWT
 Test Date: 06-30-2009
 Date Received: 06-22-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	97.0
No. 4	89.9
No. 10	79.5

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

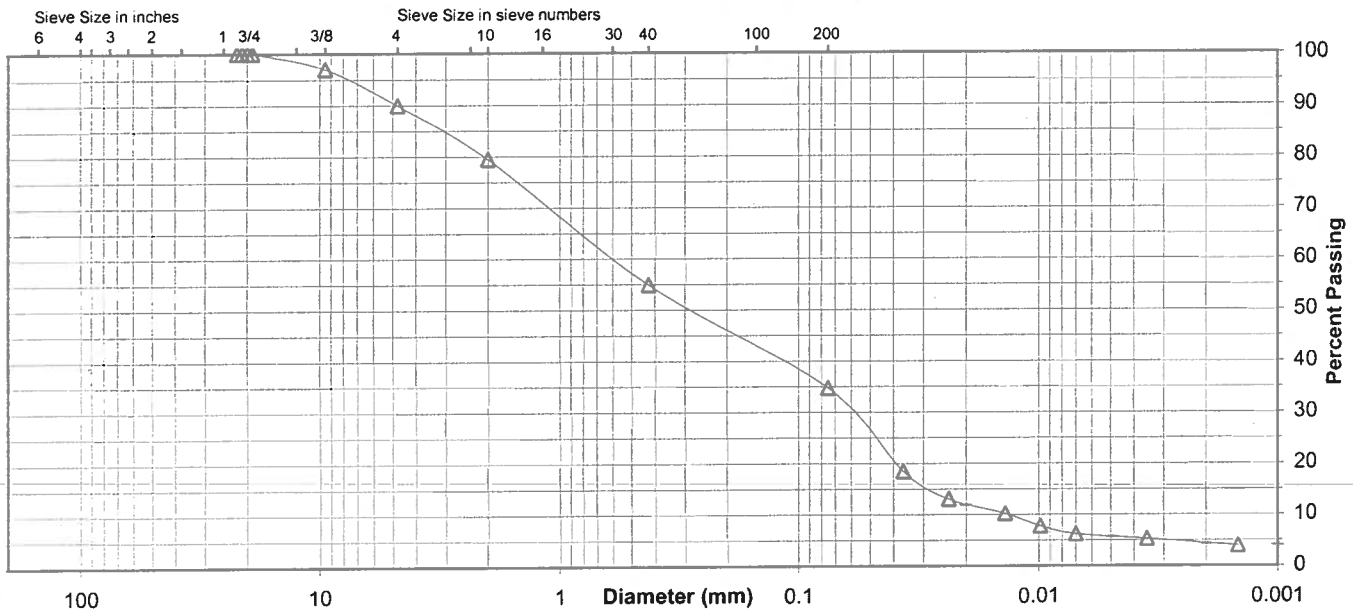
Specific Gravity 2.48

Dispersed using: Apparatus A - Mechanical, for 1 minute


No. 40	54.9
No. 200	34.7
0.02 mm	11.9
0.005 mm	5.7
0.002 mm	4.3
0.001 mm	4.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	10.1	10.4	24.6	20.2	29.0	5.7
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	20.5		24.6		20.2	30.4	4.3



Comments _____

Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-75, 7.5'-9.0', 9.0'-10.5', 10.5'-12.0' Lab ID 660
 County Jackson County, AL Date Received 6-22-09
 Sample Type SPT Comp Date Reported 7-10-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 55
 Plastic Limit: 21
 Plasticity Index: 34
 Activity Index: 0.72

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	
		Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	97.7
No. 4	4.75	94.6
No. 10	2	91.4
No. 40	0.425	86.2
No. 200	0.075	76.3
	0.02	64.0
	0.005	53.0
	0.002	47.4
estimated	0.001	44.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	5.4	8.6
Coarse Sand	3.2	5.2
Medium Sand	5.2	---
Fine Sand	9.9	9.9
Silt	23.3	28.9
Clay	53.0	47.4

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: 0
 Specific Gravity at 20° Celsius: 2.78

Classification

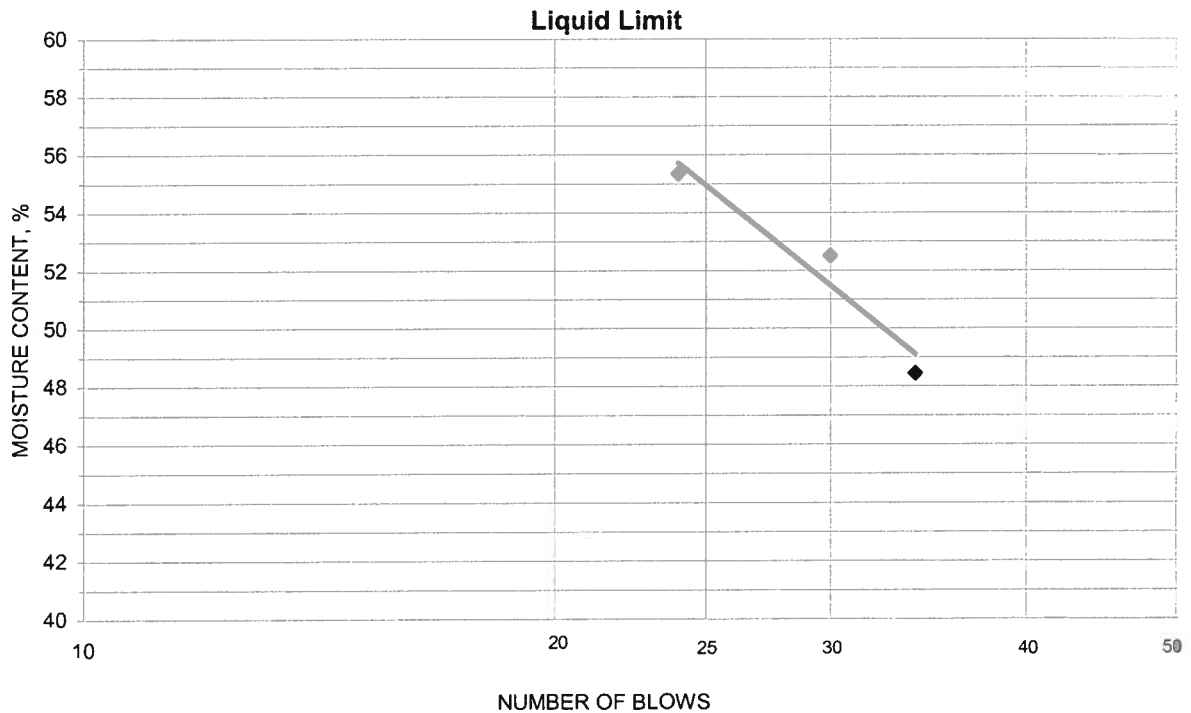
Unified Group Symbol: CH
 Group Name: Fat clay with sand
 AASHTO Classification: A-7-6 (26)

Comments: _____
 Reviewed by: [Signature]

Project Widows Creek Fossil Plant (TVA)
 Source SB-75, 7.5'-9.0', 9.0'-10.5', 10.5'-12.0'
 Tested By CSM Test Method ASTM D 4318 Method A
 Test Date 06-29-2009 Prepared Dry

Project No. 175569036
 Lab ID 660
 % + No. 40 14
 Date Received 06-22-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
23.64	19.47	10.86	34	48.4	55
22.40	18.53	11.16	30	52.5	
22.28	18.24	10.94	24	55.3	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
21.10	19.40	11.17	20.7	21	34
20.41	18.78	10.95	20.8		

Remarks: _____

Reviewed By _____

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-75, 7.5'-9.0', 9.0'-10.5', 10.5'-12.0'

 Project Number 175569036
 Lab ID 660
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: DB
 Test Date: 06-26-2009
 Date Received 06-22-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	97.7
No. 4	94.6
No. 10	91.4

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

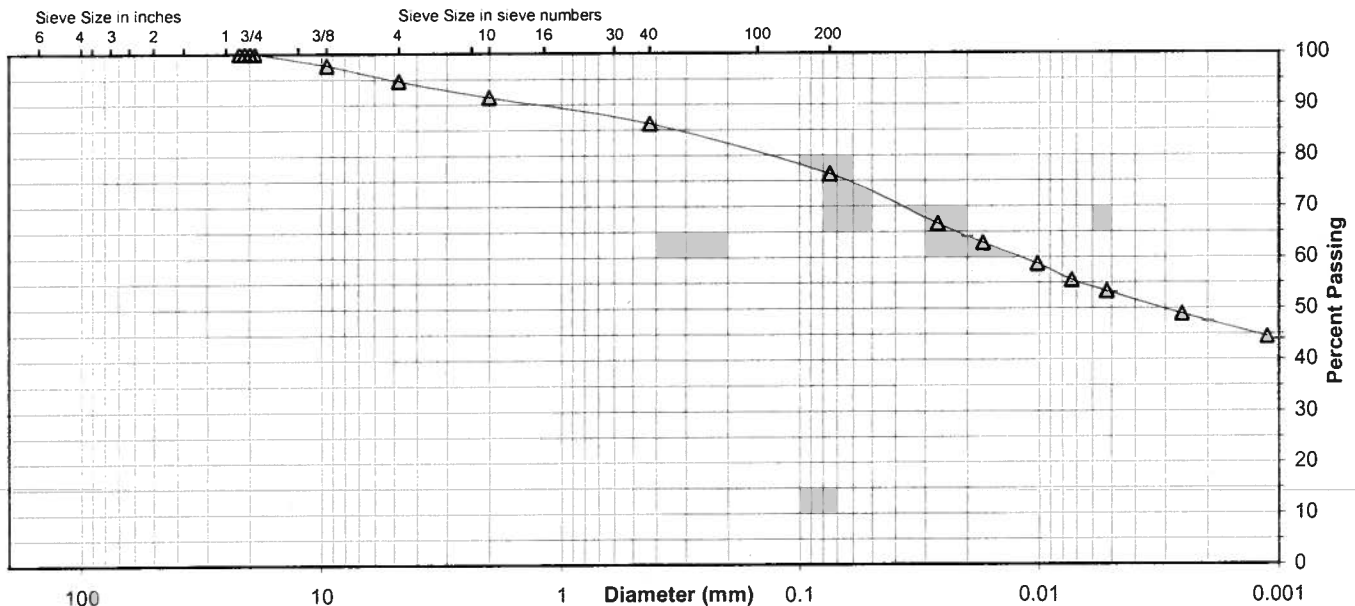
 Specific Gravity 2.78

Dispersed using: Apparatus A - Mechanical, for 1 minute


No. 40	86.2
No. 200	76.3
0.02 mm	64.0
0.005 mm	53.0
0.002 mm	47.4
0.001 mm	44.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	5.4	3.2	5.2	9.9	23.3	53.0
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	8.6		5.2		9.9	28.9	47.4



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-75, 19.0'-22.0' Lab ID 598
 County Jackson County, AL Date Received 6-22-09
 Sample Type Bag Date Reported 7-1-09

Test Results

Natural Moisture Content

Test Method: ASTM D 2216
 Moisture Content (%): 17.5

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 28
 Plastic Limit: 19
 Plasticity Index: 9
 Activity Index: 0.75

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	100.0
1"	25	---
3/4"	19	96.8
3/8"	9.5	93.7
No. 4	4.75	85.8
No. 10	2	66.6
No. 40	0.425	52.8
No. 200	0.075	36.2
	0.02	20.3
	0.005	14.4
	0.002	11.8
estimated	0.001	10.0

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.68

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	14.2	33.4
Coarse Sand	19.2	13.8
Medium Sand	13.8	---
Fine Sand	16.6	16.6
Silt	21.8	24.4
Clay	14.4	11.8

Classification

Unified Group Symbol: SC
 Group Name: Clayey sand
 AASHTO Classification: A-4 (0)

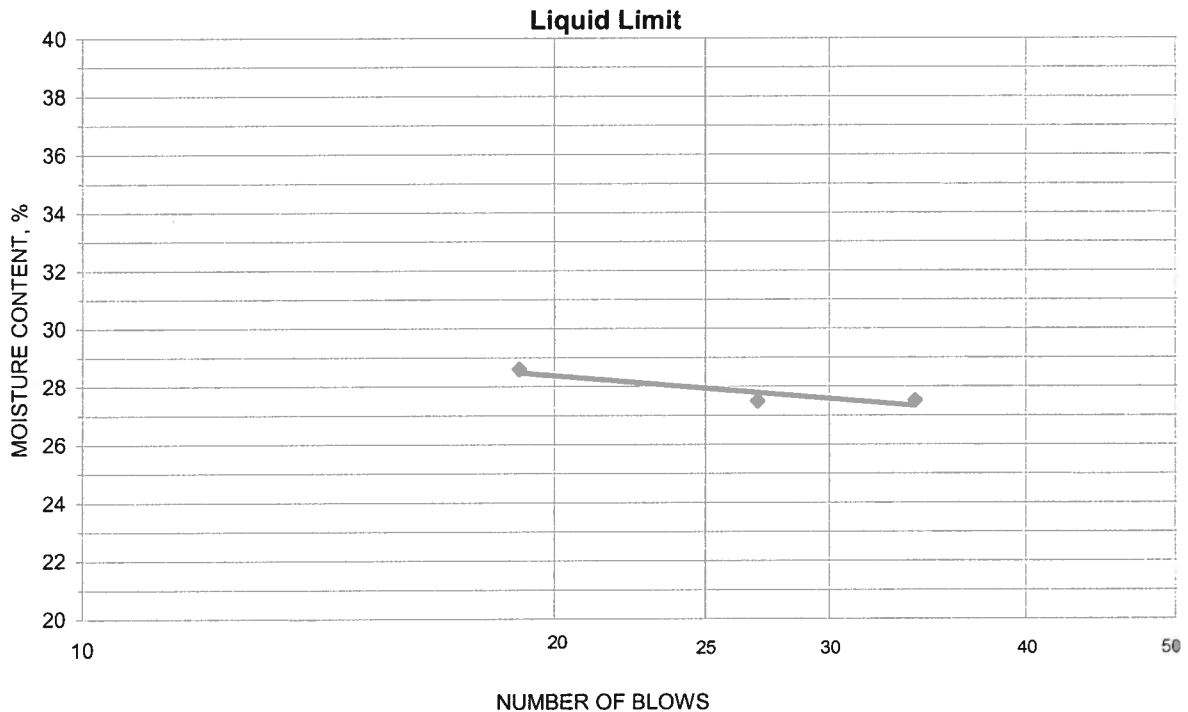
Comments: _____

Reviewed by: 

Project Widows Creek Fossil Plant (TVA)
 Source STN-75, 19.0'-22.0'
 Tested By KWS Test Method ASTM D 4318 Method A
 Test Date 06-29-2009 Prepared Dry

Project No. 175569036
 Lab ID 598
 % + No. 40 47
 Date Received 06-22-2009

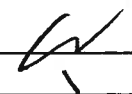
Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
20.19	18.08	10.70	19	28.6	28
19.91	17.97	10.91	27	27.5	
20.19	18.27	11.29	34	27.5	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
18.48	17.30	11.23	19.4	19	9
18.04	16.88	10.91	19.4		

Remarks: _____

Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-75, 19.0'-22.0'

Project Number 175569036
 Lab ID 598

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: DG
 Test Date: 06-26-2009
 Date Received 06-22-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	100.0
1"	---
3/4"	96.8
3/8"	93.7
No. 4	85.8
No. 10	66.6

Maximum Particle size: 1 1/2" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

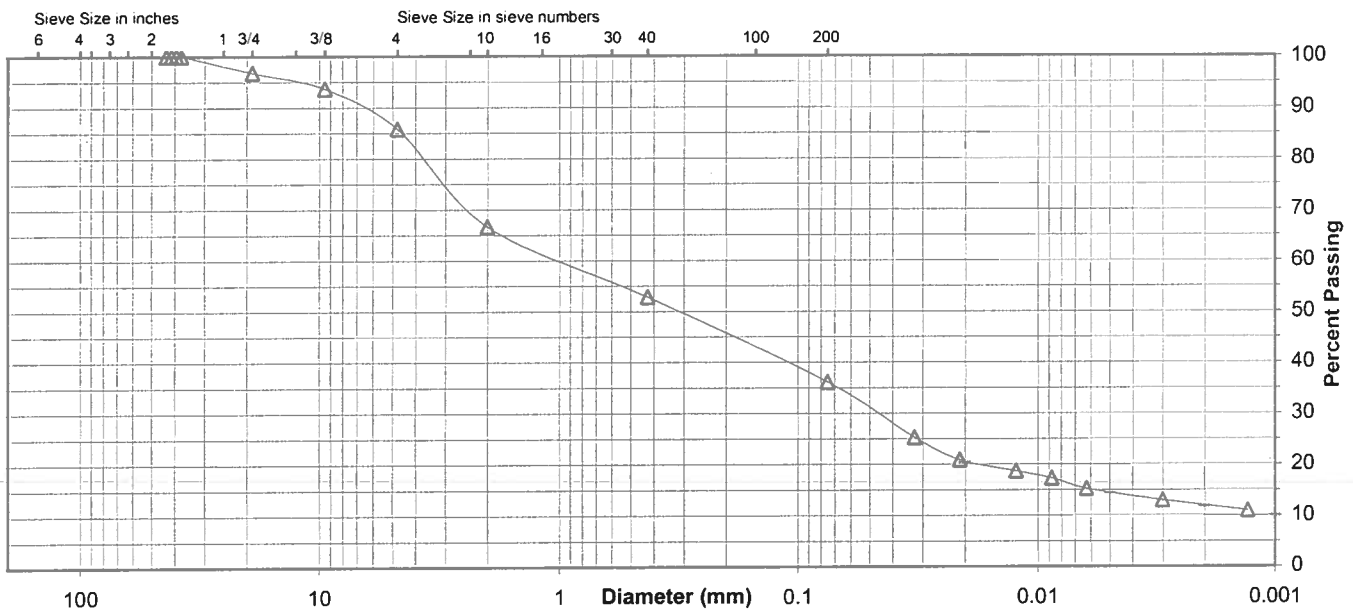
Specific Gravity 2.68

Dispersed using: Apparatus A - Mechanical, for 1 minute

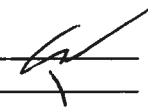
No. 40	52.8
No. 200	36.2
0.02 mm	20.3
0.005 mm	14.4
0.002 mm	11.8
0.001 mm	10.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	3.2	11.0	19.2	13.8	16.6	21.8	14.4
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	33.4		13.8		16.6	24.4	11.8



Comments _____

Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-76, 15.0'-17.0' Lab ID 378
 County Jackson County, AL Date Received 6-2-09
 Sample Type Bag Date Reported 7-23-09

Test Results

Natural Moisture Content

Test Method: ASTM D 2216
 Moisture Content (%): 17.6

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 42
 Plastic Limit: 16
 Plasticity Index: 26
 Activity Index: 0.68

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	100.0
No. 4	4.75	99.8
No. 10	2	97.2
No. 40	0.425	91.6
No. 200	0.075	77.0
	0.02	64.1
	0.005	46.6
	0.002	37.5
estimated	0.001	32.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.2	2.8
Coarse Sand	2.6	5.6
Medium Sand	5.6	---
Fine Sand	14.6	14.6
Silt	30.4	39.5
Clay	46.6	37.5

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

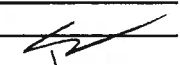
Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.69

Classification

Unified Group Symbol: CL
 Group Name: Lean clay with sand
 AASHTO Classification: A-7-6 (19)

Comments: _____
 Reviewed by: 

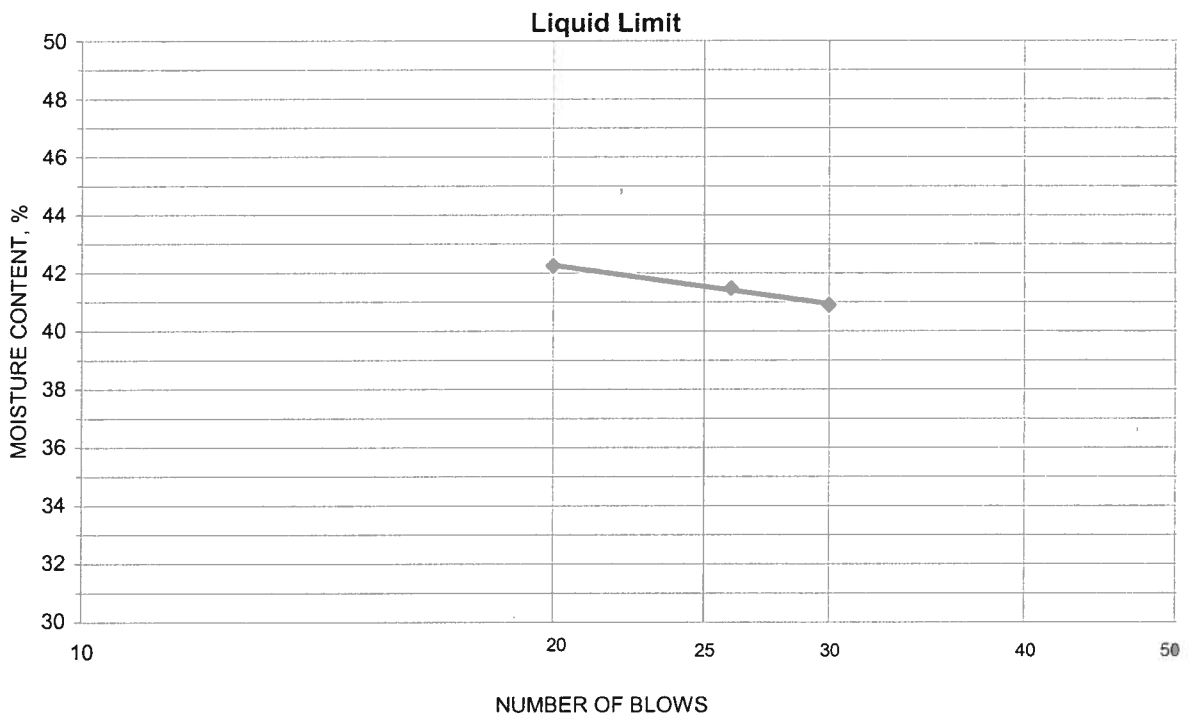


ATTERBERG LIMITS

Project Widows Creek Fossil Plant -- TVA
 Source SB-76, 15.0'-17.0'
 Tested By DRB Test Method ASTM D 4318 Method A
 Test Date 06-19-2009 Prepared Dry

Project No. 175569036
 Lab ID 378
 % + No. 40 8
 Date Received 06-02-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
20.76	18.01	11.50	20	42.2	42
22.70	19.47	11.68	26	41.5	
21.63	18.60	11.19	30	40.9	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
18.81	17.82	11.49	15.6	16	26
17.54	16.70	11.46	16.0		

Remarks: _____

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-76, 15.0'-17.0'

 Project Number 175569036
 Lab ID 378
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: CSM
 Test Date: 06-16-2009
 Date Received: 06-02-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	99.8
No. 10	97.2

Maximum Particle size: 3/8" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

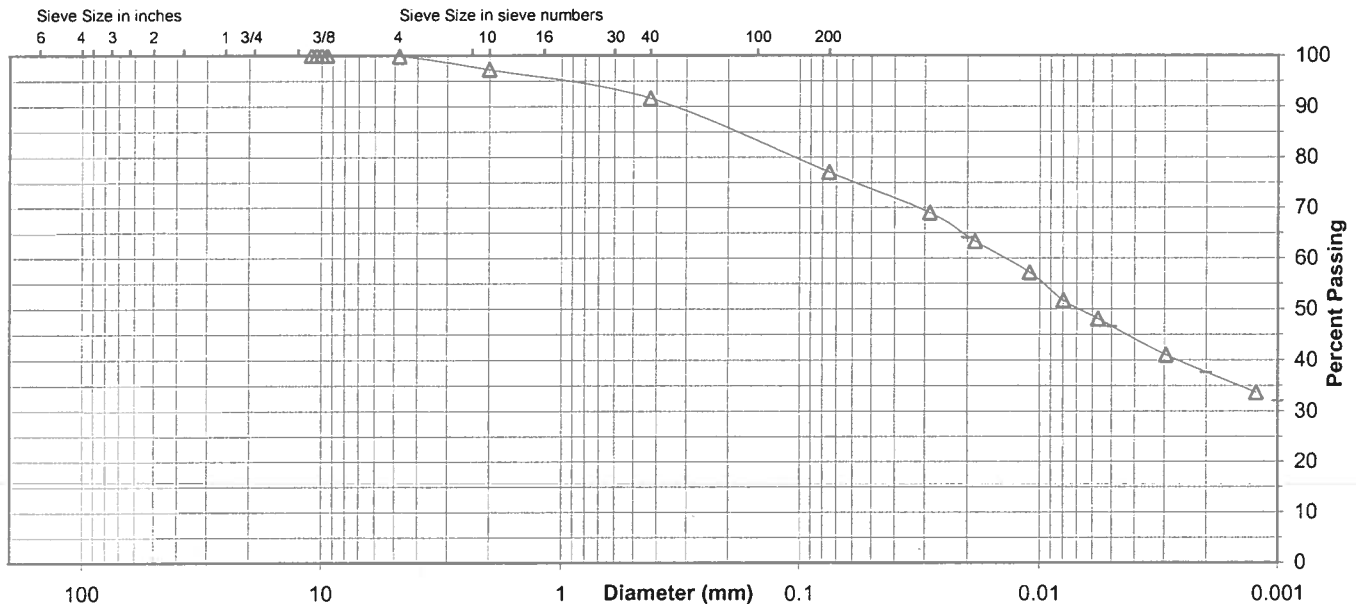
 Specific Gravity 2.69

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	91.6
No. 200	77.0
0.02 mm	64.1
0.005 mm	46.6
0.002 mm	37.5
0.001 mm	32.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
		0.0	0.2	2.6	5.6	14.6	30.4
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	2.8		5.6		14.6	39.5	37.5



Comments _____

 Reviewed By 

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-76, 39.0'-40.5', 40.5'-42.0'

 Project Number 175569036
 Lab ID 462
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: AR
 Test Date: 06-10-2009
 Date Received 06-02-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	97.4
3/8"	77.5
No. 4	60.5
No. 10	44.1

Maximum Particle size: 1" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

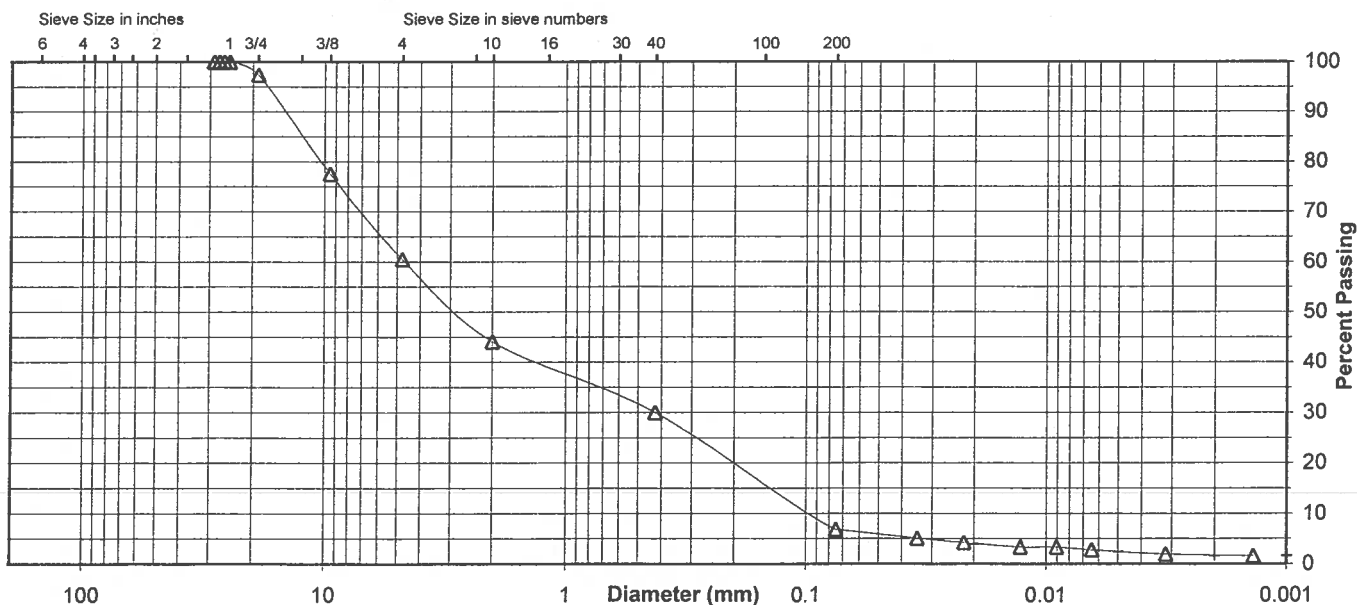
 Specific Gravity 2.72

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	30.0
No. 200	6.8
0.02 mm	3.9
0.005 mm	2.4
0.002 mm	1.6
0.001 mm	1.6

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	2.6	36.9	16.4	14.1	23.2	4.4	2.4
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	55.9		14.1		23.2	5.2	1.6



Comments _____

 Reviewed By RMS



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-76, 42.0'-43.5', 43.5'-45.0', 45.0'-46.5', 46.5'-48.0' Lab ID 465
 County Jackson County, AL Date Received 6-2-09
 Sample Type SPT Comp Date Reported 6-25-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.4
No. 4	4.75	98.7
No. 10	2	97.6
No. 40	0.425	94.6
No. 200	0.075	80.6
	0.02	68.7
	0.005	50.6
	0.002	44.1
estimated	0.001	40.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	1.3	2.4
Coarse Sand	1.1	3.0
Medium Sand	3.0	---
Fine Sand	14.0	14.0
Silt	30.0	36.5
Clay	50.6	44.1

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry

Liquid Limit: 48
 Plastic Limit: 15
 Plasticity Index: 33
 Activity Index: 0.75

Moisture-Density Relationship

Test Not Performed

Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed

Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854

Prepared: Dry

Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.72

Classification

Unified Group Symbol: CL
 Group Name: Lean clay with sand

AASHTO Classification: A-7-6 (26)

Comments: _____

Reviewed by: RWB



Particle-Size Analysis of Soils

ASTM D 422

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-76, 42.0'-43.5', 43.5'-45.0', 45.0'-46.5', 46.5'-48.0'

Project Number 175569036
 Lab ID 465

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
 Prepared using: ASTM D 421

Particle Shape: Angular
 Particle Hardness: Hard and Durable

Tested By: RHB
 Test Date: 06-10-2009
 Date Received 06-02-2009

Maximum Particle size: 3/4" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.4
No. 4	98.7
No. 10	97.6

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

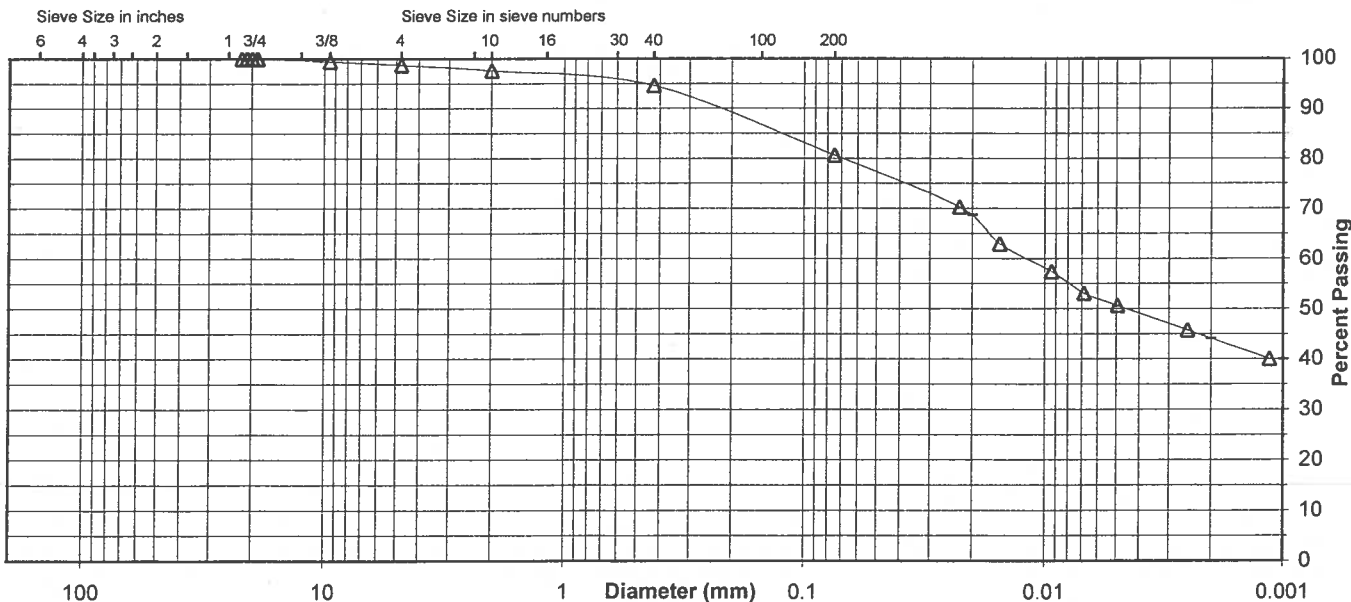
Specific Gravity 2.72

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	94.6
No. 200	80.6
0.02 mm	68.7
0.005 mm	50.6
0.002 mm	44.1
0.001 mm	40.0

Particle Size Distribution

ASTM	Coarse Gravel 0.0	Fine Gravel 1.3	C. Sand 1.1	Medium Sand 3.0	Fine Sand 14.0	Silt 30.0	Clay 50.6
AASHTO	Gravel 2.4		Coarse Sand 3.0		Fine Sand 14.0	Silt 36.5	Clay 44.1



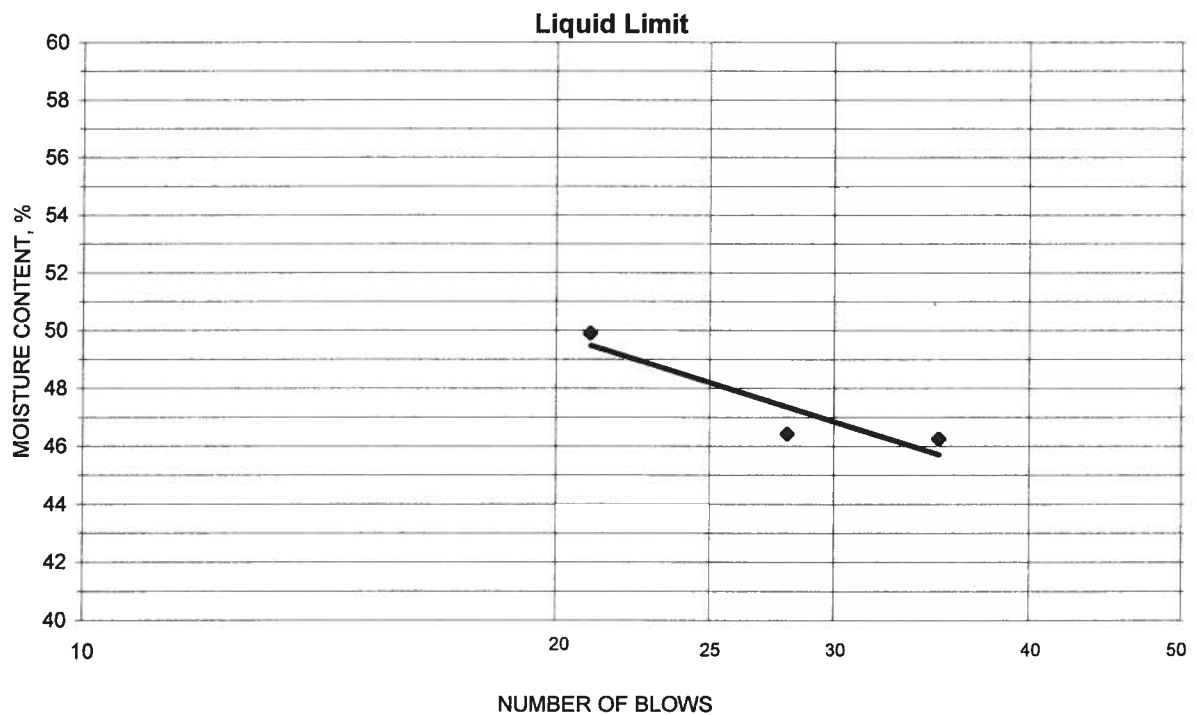
Comments _____

Reviewed By RHB

Project Widows Creek Fossil Plant -- TVA
 Source SB-76, 42.0'-43.5', 43.5'-45.0', 45.0'-46.5', 46.5'-48.0'
 Tested By RSB Test Method ASTM D 4318 Method A
 Test Date 06-11-2009 Prepared Dry

Project No. 175569036
 Lab ID 465
 % + No. 40
 Date Received 06-02-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
12.50	9.91	4.33	28	46.4	48
10.91	8.82	4.30	35	46.2	
11.15	8.87	4.30	21	49.9	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
9.27	8.63	4.32	14.8	15	33
9.97	9.20	4.30	15.7		

Remarks: _____



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-78, 21.0'-22.5', 22.5'-24.0', 24.0'-25.5' Lab ID 731
 County Jackson County, AL Date Received 6-22-09
 Sample Type SPT Comp Date Reported 7-10-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	
		Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	100.0
3/4"	19	97.7
3/8"	9.5	93.5
No. 4	4.75	84.0
No. 10	2	68.6
No. 40	0.425	45.7
No. 200	0.075	25.9
	0.02	11.6
	0.005	6.2
	0.002	4.6
estimated	0.001	3.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	16.0	31.4
Coarse Sand	15.4	22.9
Medium Sand	22.9	---
Fine Sand	19.8	19.8
Silt	19.7	21.3
Clay	6.2	4.6

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.67

Classification

Unified Group Symbol: SM
 Group Name: Silty sand with gravel
 AASHTO Classification: A-2-4 (0)

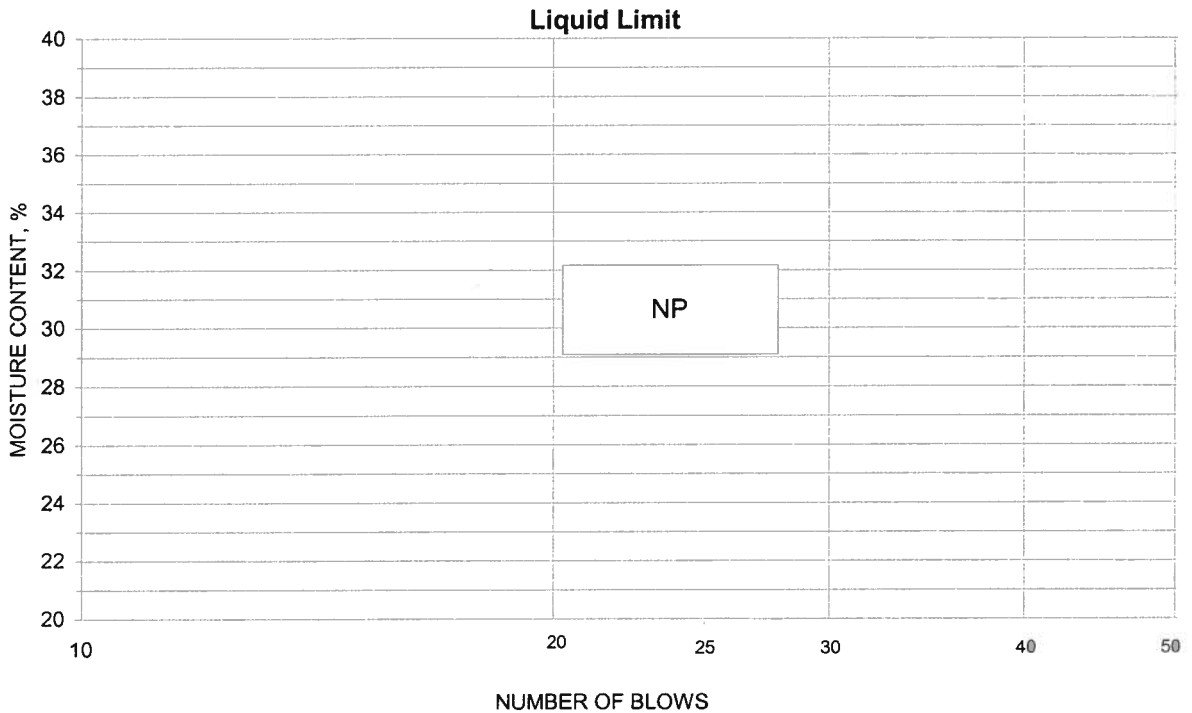
Comments: _____

 Reviewed by:

Project Widows Creek Fossil Plant (TVA)
 Source SB-78, 21.0'-22.5', 22.5'-24.0', 24.0'-25.5'
 Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-08-2009 Prepared Dry

Project No. 175569036
 Lab ID 731
 % + No. 40 54
 Date Received 06-22-2009


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By 



Project Name Widows Creek Fossil Plant (TVA)
Source SB-78, 21.0'-22.5', 22.5'-24.0', 24.0'-25.5'

Project Number 175569036
Lab ID 731

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
Prepared using: ASTM D 421

Particle Shape: Angular
Particle Hardness: Hard and Durable

Tested By: BWT
Test Date: 06-30-2009
Date Received: 06-22-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	97.7
3/8"	93.5
No. 4	84.0
No. 10	68.6

Maximum Particle size: 1" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

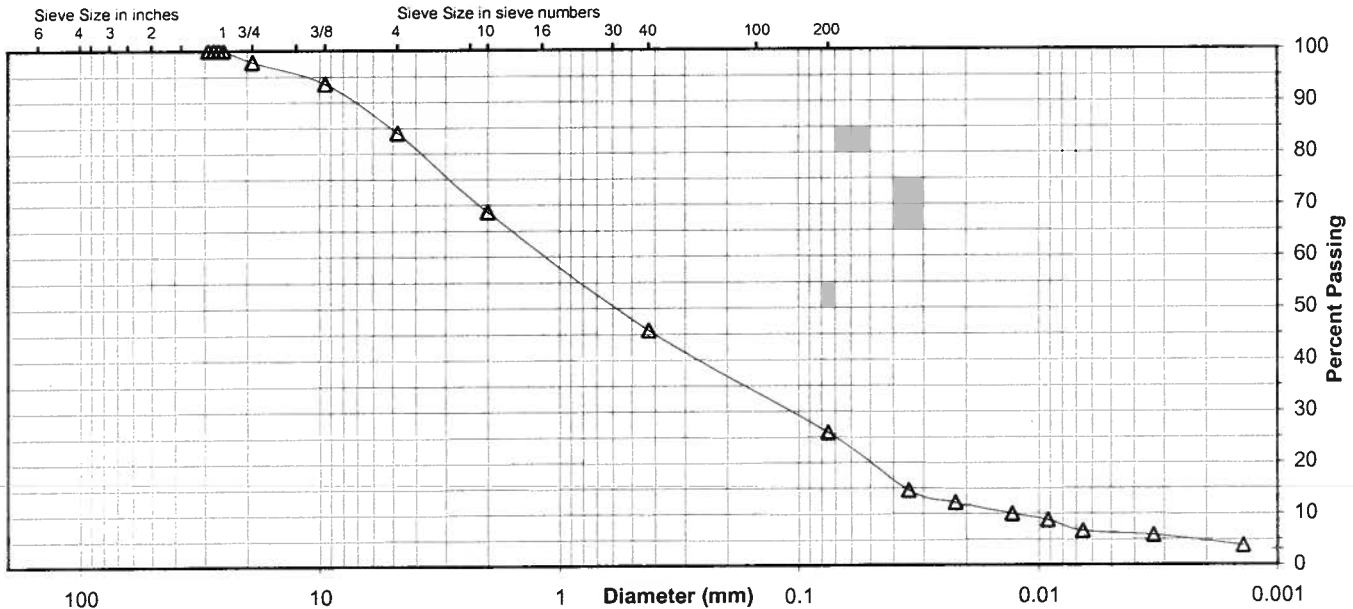
Specific Gravity 2.67

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	45.7
No. 200	25.9
0.02 mm	11.6
0.005 mm	6.2
0.002 mm	4.6
0.001 mm	3.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay	
	2.3	13.7	15.4	22.9	19.8	19.7	6.2	
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt		Clay
	31.4		22.9		19.8	21.3		4.6



Comments _____

Reviewed By [Signature]



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 6.0'-7.5', 7.5'-9.0', 9.0'-10.5' Lab ID 475
 County Jackson County, AL Date Received 6-2-09
 Sample Type SPT Comp Date Reported 6-25-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 65
 Plastic Limit: 27
 Plasticity Index: 38
 Activity Index: 0.68

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	
No. 4	4.75	
No. 10	2	100.0
No. 40	0.425	99.2
No. 200	0.075	96.0
	0.02	83.3
	0.005	66.6
	0.002	56.0
estimated	0.001	49.6

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.0	0.0
Coarse Sand	0.0	0.8
Medium Sand	0.8	---
Fine Sand	3.2	3.2
Silt	29.4	40.0
Clay	66.6	56.0

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.70

Classification

Unified Group Symbol: CH
 Group Name: Fat clay
 AASHTO Classification: A-7-6 (43)

Comments: _____

Reviewed by: RMB



Particle-Size Analysis of Soils

ASTM D 422

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-80, 6.0'-7.5', 7.5'-9.0', 9.0'-10.5'

Project Number 175569036
 Lab ID 475

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
 Prepared using: ASTM D 421

Particle Shape: N/A
 Particle Hardness: N/A

Tested By: RSB
 Test Date: 06-10-2009
 Date Received 06-02-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	
No. 10	100.0

Maximum Particle size: No. 10 Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

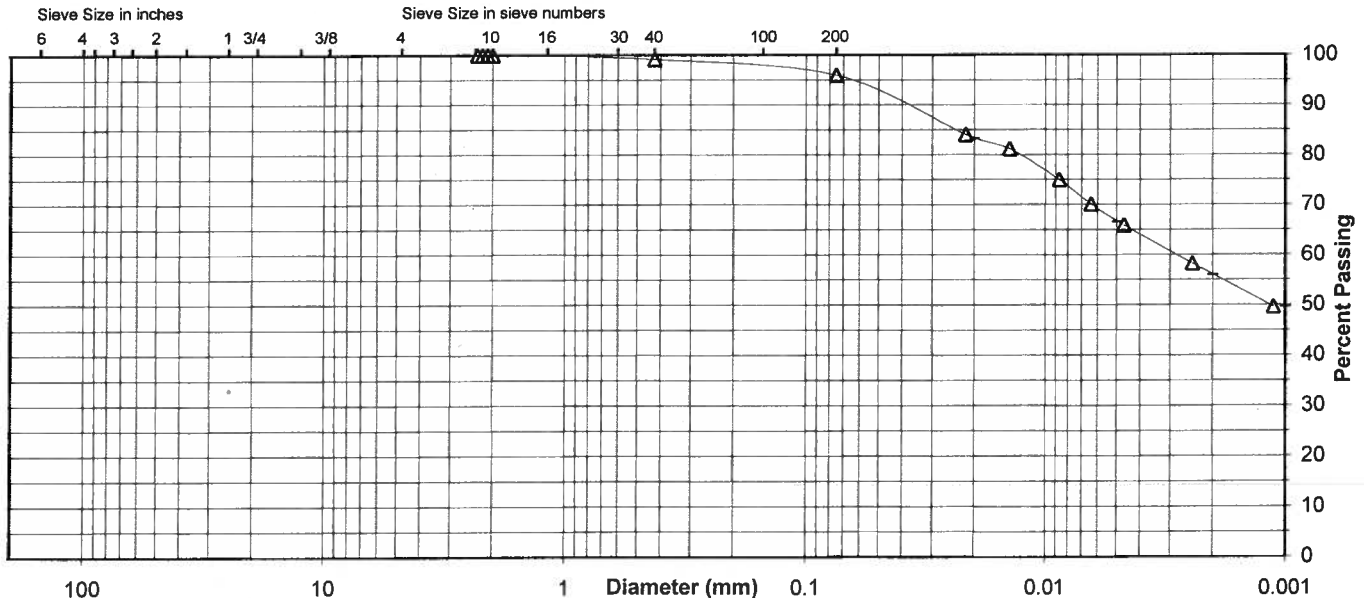
Specific Gravity 2.7

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	99.2
No. 200	96.0
0.02 mm	83.3
0.005 mm	66.6
0.002 mm	56.0
0.001 mm	49.6

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.0	0.0	0.8	3.2	29.4	66.6
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt	Clay	
	0.0		0.8	3.2	40.0	56.0	



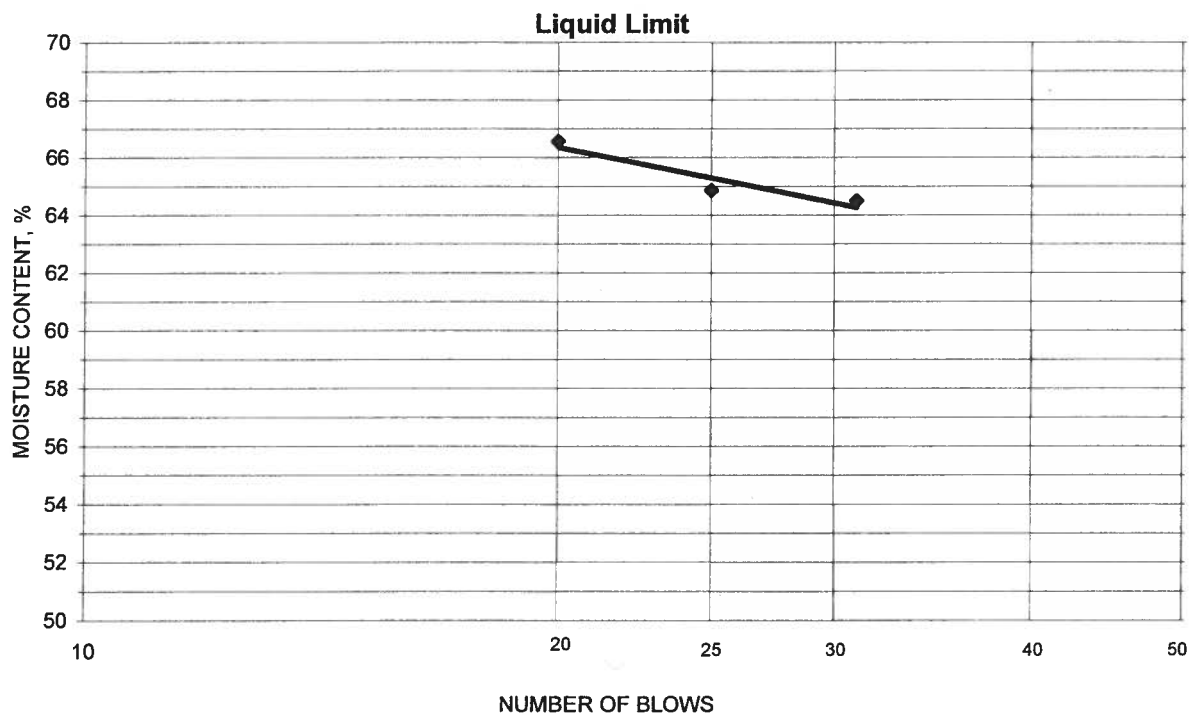
Comments _____

Reviewed By RSB

Project Widows Creek Fossil Plant -- TVA
 Source SB-80, 6.0'-7.5', 7.5'-9.0', 9.0'-10.5'
 Tested By AR Test Method ASTM D 4318 Method A
 Test Date 06-11-2009 Prepared Dry

Project No. 175569036
 Lab ID 475
 % + No. 40 1
 Date Received 06-02-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
14.71	10.55	4.30	20	66.6	65
15.27	10.97	4.34	25	64.9	
14.43	10.49	4.38	31	64.5	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
8.51	7.64	4.38	26.7	27	38
7.93	7.17	4.34	26.9		

Remarks: _____

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-80, 25.0'-26.5', 26.5'-28.0', 32.0'-33.5'

 Project Number 175569036
 Lab ID 486
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: AR
 Test Date: 06-10-2009
 Date Received 06-02-2009

Maximum Particle size: No. 4 Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	100.0
No. 10	99.9

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

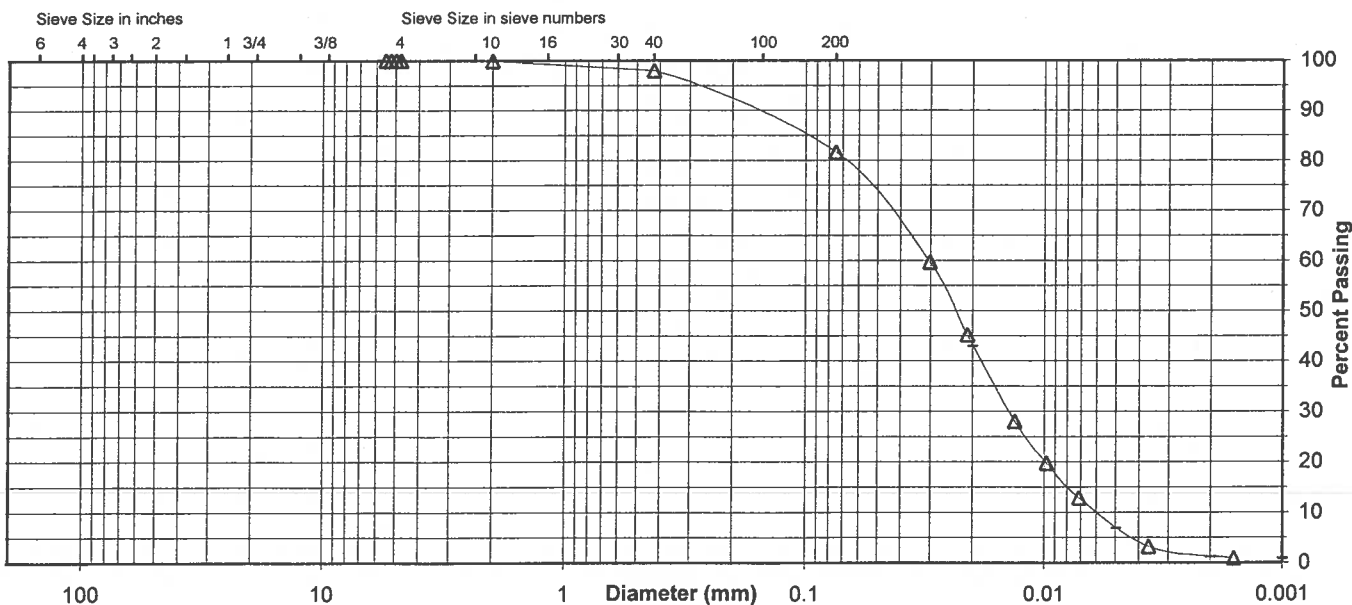
 Specific Gravity 2.33

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	98.0
No. 200	81.7
0.02 mm	43.0
0.005 mm	6.9
0.002 mm	1.2
0.001 mm	0.9

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.0	0.1	1.9	16.3	74.8	6.9
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	0.1		1.9		16.3	80.5	1.2



Comments _____

 Reviewed By RHB



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-81, 32.0'-33.5', 33.5'-35.0', 35.0'-36.5' Lab ID 549
 County Jackson County, AL Date Received 6-2-09
 Sample Type SPT Comp Date Reported 6-26-09

Test Results

Natural Moisture Content
 Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits
 Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 38
 Plastic Limit: 13
 Plasticity Index: 25
 Activity Index: 0.81

Particle Size Analysis
 Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	97.5
No. 4	4.75	95.7
No. 10	2	90.3
No. 40	0.425	84.6
No. 200	0.075	65.0
	0.02	49.9
	0.005	39.8
	0.002	31.1
estimated	0.001	28.4

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	4.3	9.7
Coarse Sand	5.4	5.7
Medium Sand	5.7	---
Fine Sand	19.6	19.6
Silt	25.2	33.9
Clay	39.8	31.1

Moisture-Density Relationship
 Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio
 Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity
 Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.71

Classification
 Unified Group Symbol: CL
 Group Name: Sandy lean clay
 AASHTO Classification: A-6 (13)

Comments: _____

 Reviewed by: RHB

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-81, 32.0'-33.5', 33.5'-35.0', 35.0'-36.5'

 Project Number 175569036
 Lab ID 549
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: AR
 Test Date: 06-16-2009
 Date Received: 06-02-2009

 Maximum Particle size: 3/4" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	97.5
No. 4	95.7
No. 10	90.3

Analysis for the portion Finer than the No. 10 Sieve

 Analysis Based on: Total Sample

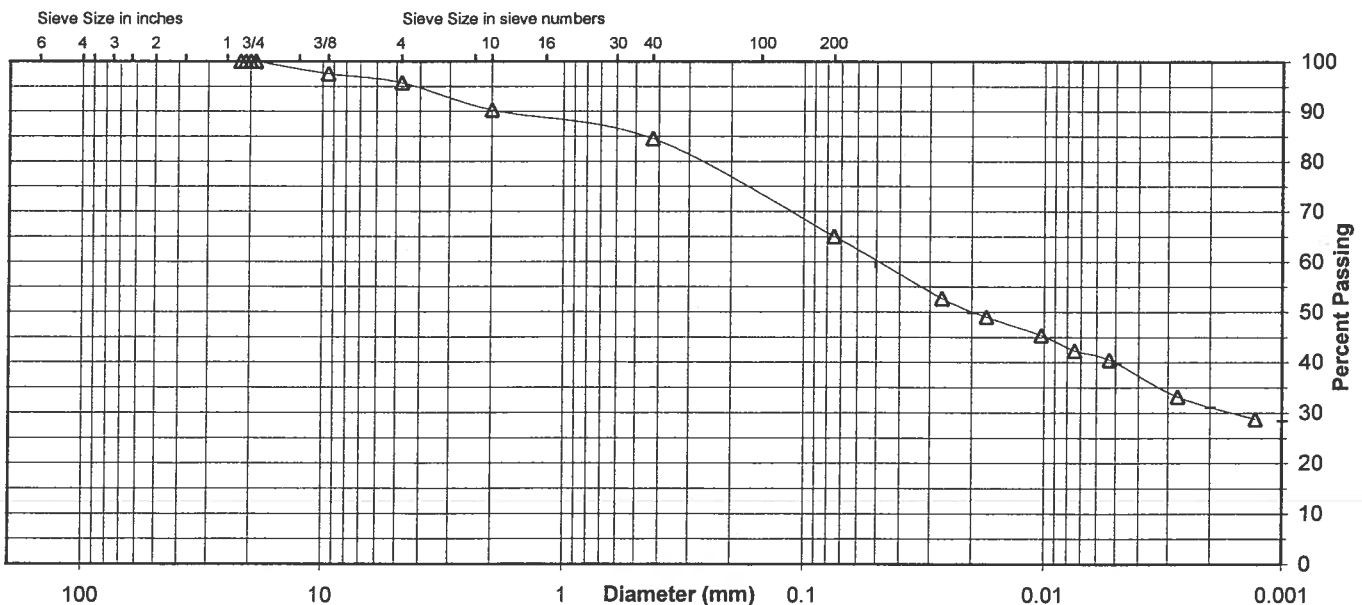
 Specific Gravity 2.71

 Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	84.6
No. 200	65.0
0.02 mm	49.9
0.005 mm	39.8
0.002 mm	31.1
0.001 mm	28.4

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	4.3	5.4	5.7	19.6	25.2	39.8
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	9.7		5.7		19.6	33.9	31.1



Comments _____

 Reviewed By RLB

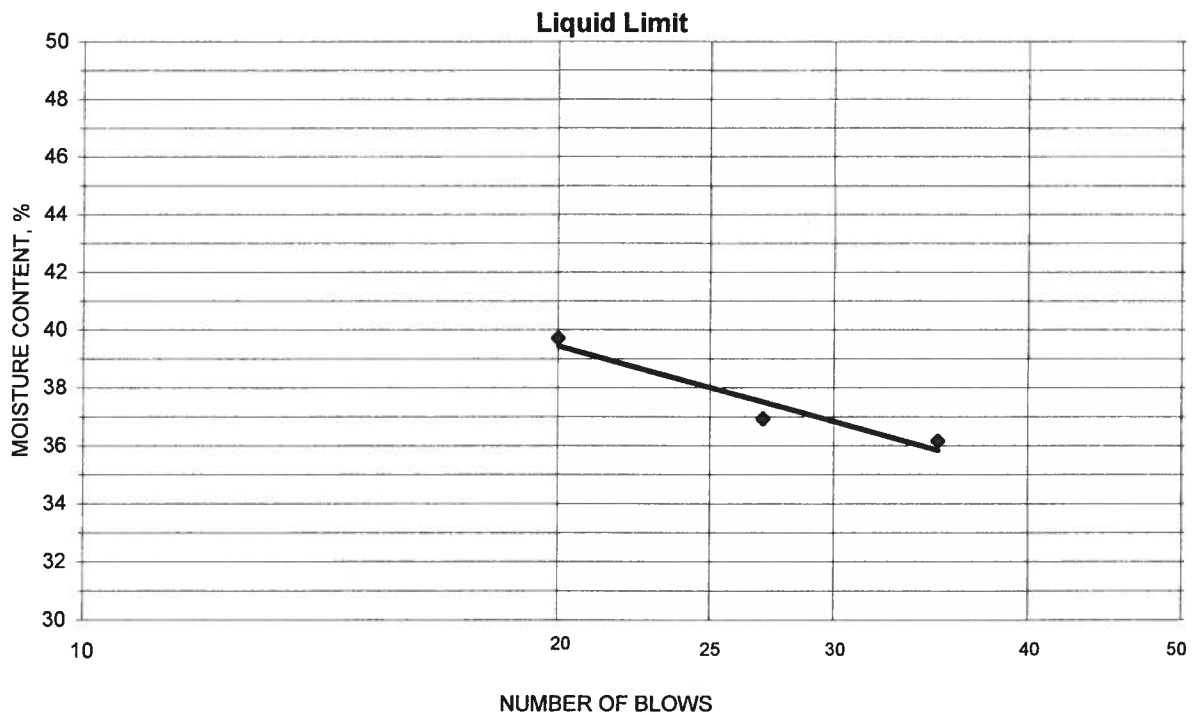


ATTERBERG LIMITS

Project Widows Creek Fossil Plant -- TVA
 Source SB-81, 32.0'-33.5', 33.5'-35.0', 35.0'-36.5'
 Tested By AR Test Method ASTM D 4318 Method A
 Test Date 06-17-2009 Prepared Dry

Project No. 175569036
 Lab ID 549
 % + No. 40 15
 Date Received 06-02-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
17.23	13.81	4.35	35	36.2	38
15.84	12.56	4.30	20	39.7	
14.40	11.69	4.35	27	36.9	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
11.64	10.81	4.33	12.8	13	25
11.41	10.61	4.30	12.7		

Remarks: _____



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-82, 22.0'-25.0' Lab ID 379
 County Jackson County, AL Date Received 6-2-09
 Sample Type Bag Date Reported 7-23-09

Test Results

Natural Moisture Content

Test Method: ASTM D 2216
 Moisture Content (%): 33.5

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	100.0
No. 4	4.75	99.6
No. 10	2	97.7
No. 40	0.425	90.9
No. 200	0.075	71.5
	0.02	36.2
	0.005	19.2
	0.002	16.9
estimated	0.001	14.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.4	2.3
Coarse Sand	1.9	6.8
Medium Sand	6.8	---
Fine Sand	19.4	19.4
Silt	52.3	54.6
Clay	19.2	16.9

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.33

Classification

Unified Group Symbol: ML
 Group Name: Silt with sand
 AASHTO Classification: A-4 (0)

Comments: _____

Reviewed by: _____

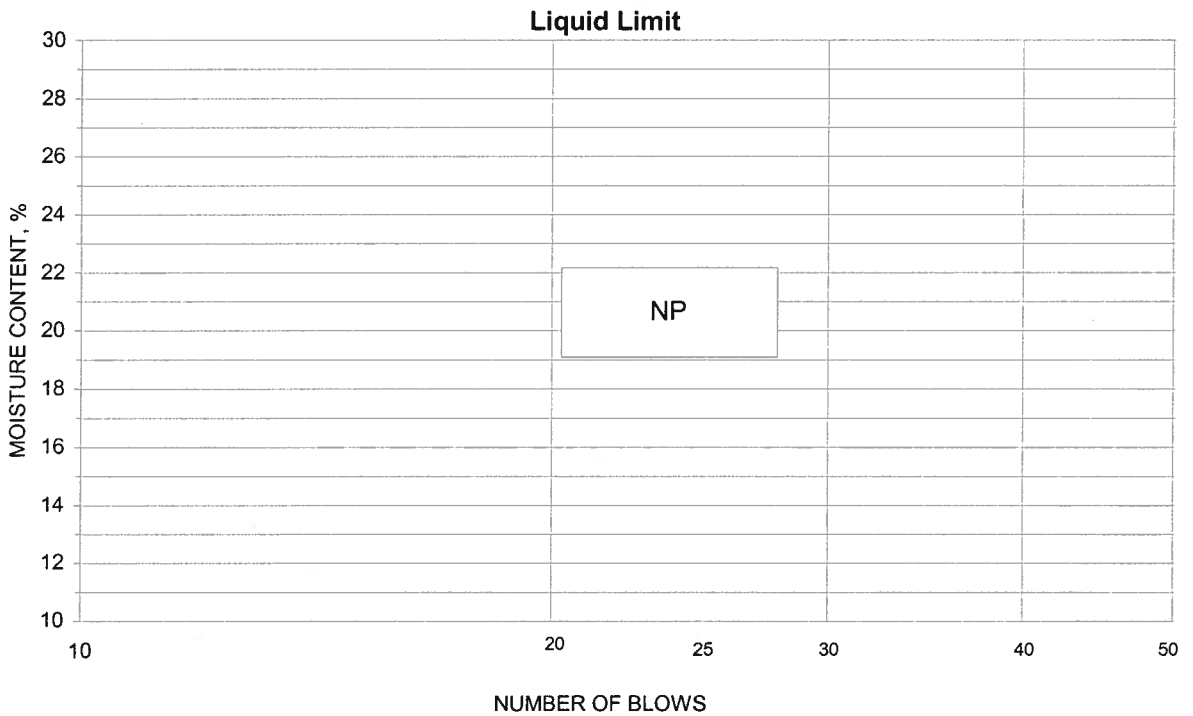


ATTERBERG LIMITS

Project Widows Creek Fossil Plant -- TVA
 Source SB-82, 22.0'-25.0'
 Tested By CSM Test Method ASTM D 4318 Method A
 Test Date 06-19-2009 Prepared Dry

Project No. 175569036
 Lab ID 379
 % + No. 40 9
 Date Received 06-02-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____



Project Name Widows Creek Fossil Plant -- TVA
Source SB-82, 22.0'-25.0'

Project Number 175569036
Lab ID 379

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
Prepared using: ASTM D 421

Particle Shape: Angular
Particle Hardness: Hard and Durable

Tested By: BWT
Test Date: 06-15-2009
Date Received 06-02-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	99.6
No. 10	97.7

Maximum Particle size: 3/8" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

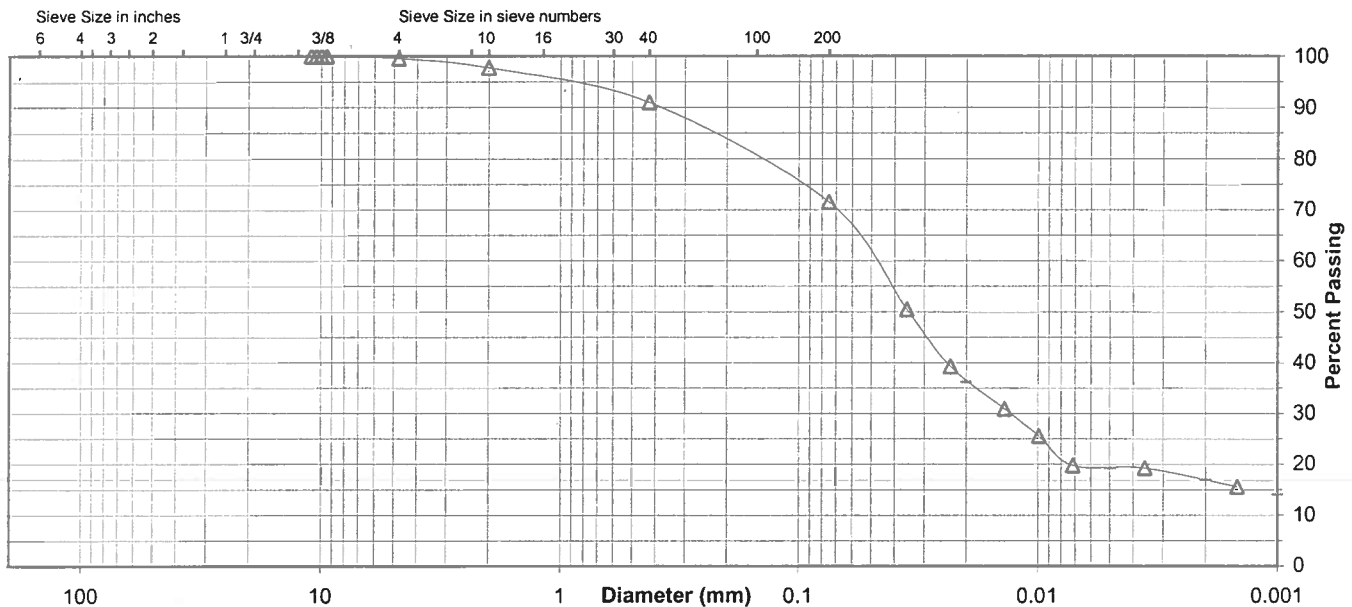
Specific Gravity 2.33

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	90.9
No. 200	71.5
0.02 mm	36.2
0.005 mm	19.2
0.002 mm	16.9
0.001 mm	14.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.4	1.9	6.8	19.4	52.3	19.2
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	2.3		6.8		19.4	54.6	16.9



Comments _____

Reviewed By _____



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-83, 2.0'-4.0', 5.0'-7.0', 7.0'-9.0' Lab ID 20
 County Jackson County, AL Date Received 5-8-09
 Sample Type SPT Comp Date Reported 6-4-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 43
 Plastic Limit: 18
 Plasticity Index: 25
 Activity Index: 1.09

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	
		Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	100.0
3/4"	19	99.0
3/8"	9.5	95.0
No. 4	4.75	86.1
No. 10	2	64.6
No. 40	0.425	56.5
No. 200	0.075	44.7
	0.02	37.9
	0.005	27.2
	0.002	23.1
estimated	0.001	21.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	13.9	35.4
Coarse Sand	21.5	8.1
Medium Sand	8.1	---
Fine Sand	11.8	11.8
Silt	17.5	21.6
Clay	27.2	23.1

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No.10
 Specific Gravity at 20° Celsius: 2.70

Classification

Unified Group Symbol: SC
 Group Name: Clayey sand
 AASHTO Classification: A-7-6 (7)

Comments: _____
 Reviewed by:

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-83, 2.0'-4.0', 5.0'-7.0', 7.0'-9.0'

 Project Number 175569036
 Lab ID 20
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: CM
 Test Date: 05-18-2009
 Date Received: 05-08-2009

Maximum Particle size: 1" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	99.0
3/8"	95.0
No. 4	86.1
No. 10	64.6

Analysis for the portion Finer than the No. 10 Sieve

 Analysis Based on: Total Sample

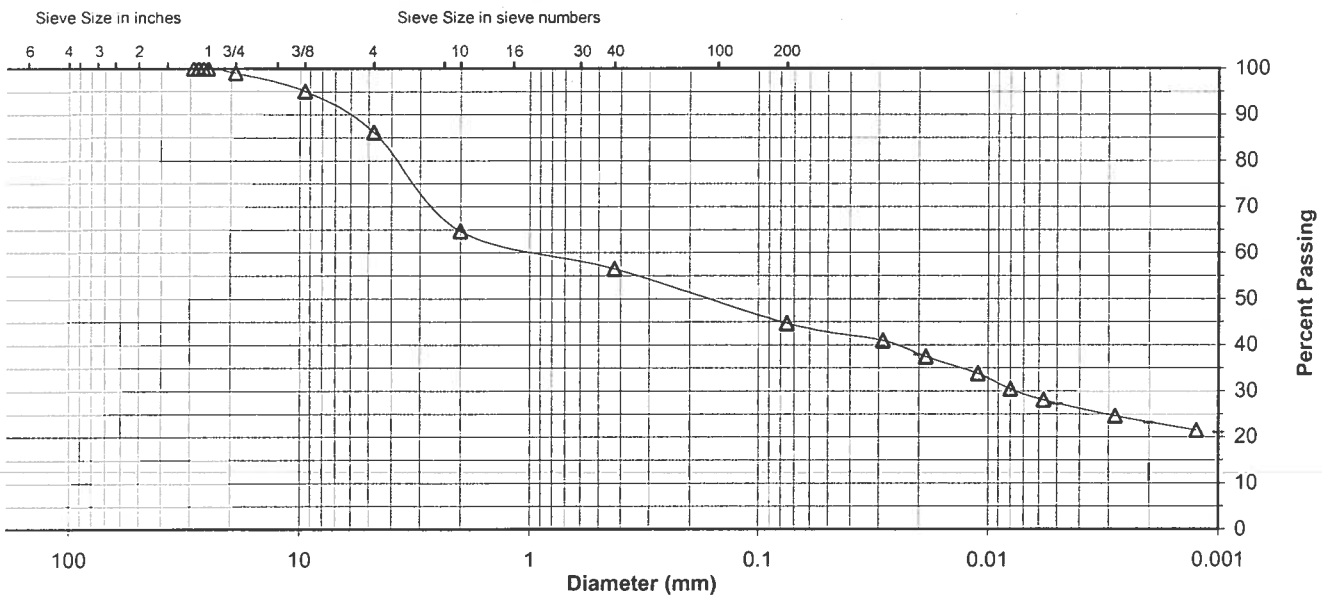
 Specific Gravity 2.7

 Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	56.5
No. 200	44.7
0.02 mm	37.9
0.005 mm	27.2
0.002 mm	23.1
0.001 mm	21.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	1.0	12.9	21.5	8.1	11.8	17.5	27.2
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt		Clay
	35.4		8.1	11.8	21.6		23.1



Comments _____

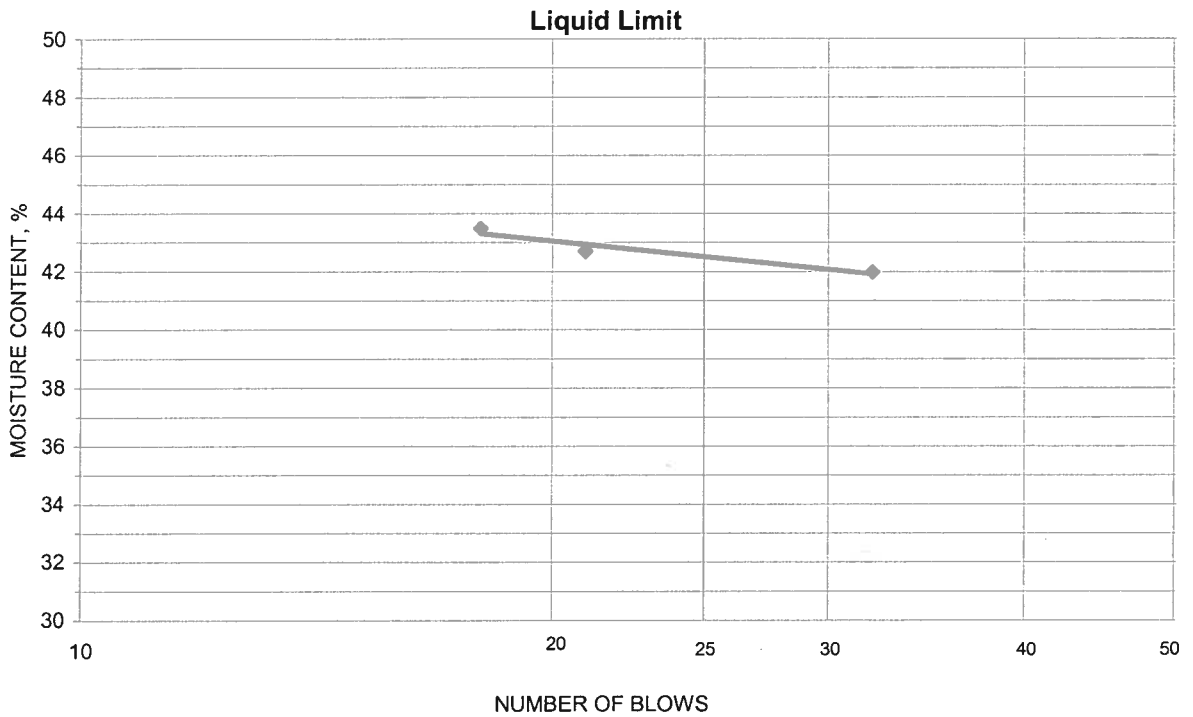
 Reviewed By 

Project Widows Creek Fossil Plant -- TVA
 Source SB-83, 2.0'-4.0', 5.0'-7.0', 7.0'-9.0'

Project No. 175569036
 Lab ID 20
 % + No. 40 44
 Date Received 05-08-2009

Tested By BW Test Method ASTM D 4318 Method A
 Test Date 05-26-2009 Prepared Dry

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
23.77	20.16	11.56	32	42.0	43
21.51	18.50	11.45	21	42.7	
22.33	19.03	11.44	18	43.5	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
21.20	19.74	11.68	18.1	18	25
20.37	19.02	11.45	17.8		

Remarks: _____



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-83, 8.0'-12.0' Lab ID 84
 County Jackson County, AL Date Received 5-8-09
 Sample Type Bag Date Reported 6-4-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 45
 Plastic Limit: 17
 Plasticity Index: 28
 Activity Index: 1.08

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	98.6
No. 4	4.75	94.4
No. 10	2	69.6
No. 40	0.425	62.1
No. 200	0.075	49.3
	0.02	42.2
	0.005	30.1
	0.002	26.3
estimated	0.001	22.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	5.6	30.4
Coarse Sand	24.8	7.5
Medium Sand	7.5	---
Fine Sand	12.8	12.8
Silt	19.2	23.0
Clay	30.1	26.3

Moisture-Density Relationship

Test Method: ASTM D 698 Method B
 Maximum Dry Density (lb/ft³): 109.5
 Maximum Dry Density (kg/m³): 1754
 Optimum Moisture Content (%): 16.8
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No.10
 Specific Gravity at 20° Celsius: 2.72

Classification

Unified Group Symbol: SC
 Group Name: Clayey sand
 AASHTO Classification: A-7-6 (9)

Comments: _____

Reviewed by: _____

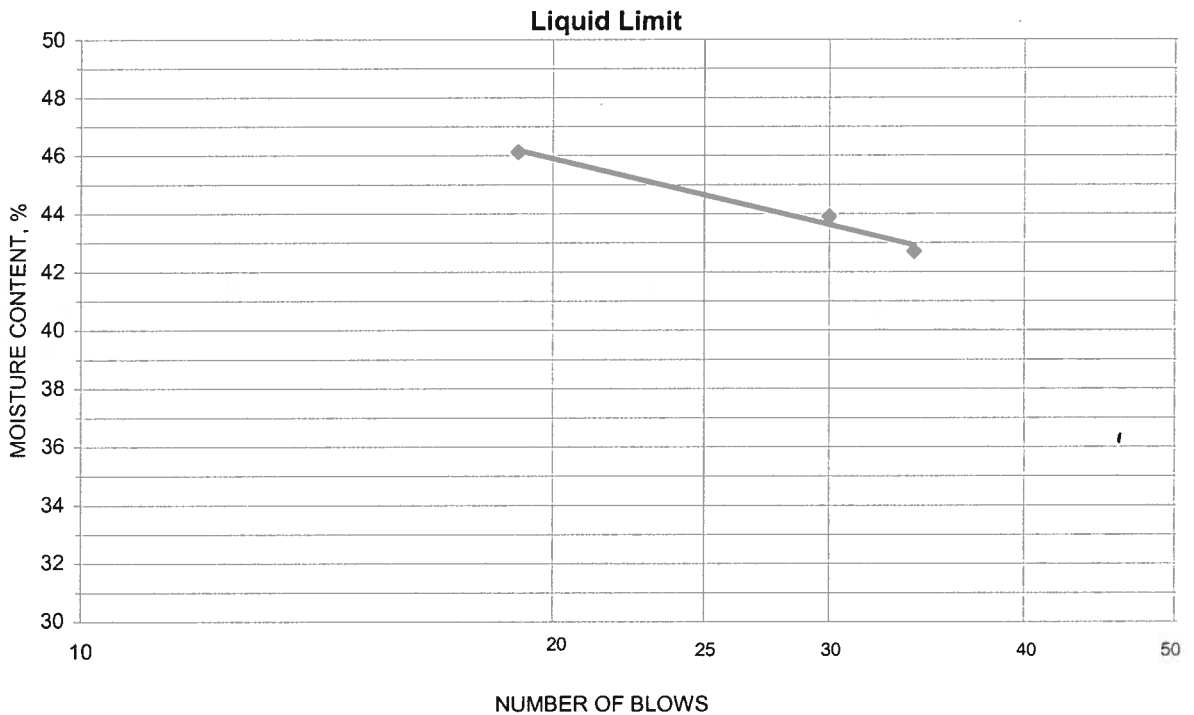


ATTERBERG LIMITS

Project Widows Creek Fossil Plant -- TVA
 Source SB-83, 8.0'-12.0'
 Tested By bw Test Method ASTM D 4318 Method A
 Test Date 05-27-2009 Prepared Dry

Project No. 175569036
 Lab ID 84
 % + No. 40 38
 Date Received 05-08-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
22.74	19.35	11.41	34	42.7	45
23.56	19.93	11.66	30	43.9	
24.06	20.14	11.64	19	46.1	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.75	16.85	11.48	16.8	17	28
17.76	16.86	11.34	16.3		

Remarks: _____

Reviewed By

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-83, 8.0'-12.0'

 Project Number 175569036
 Lab ID 84
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: CP
 Test Date: 05-19-2009
 Date Received 05-08-2009

Maximum Particle size: 3/4" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	98.6
No. 4	94.4
No. 10	69.6

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

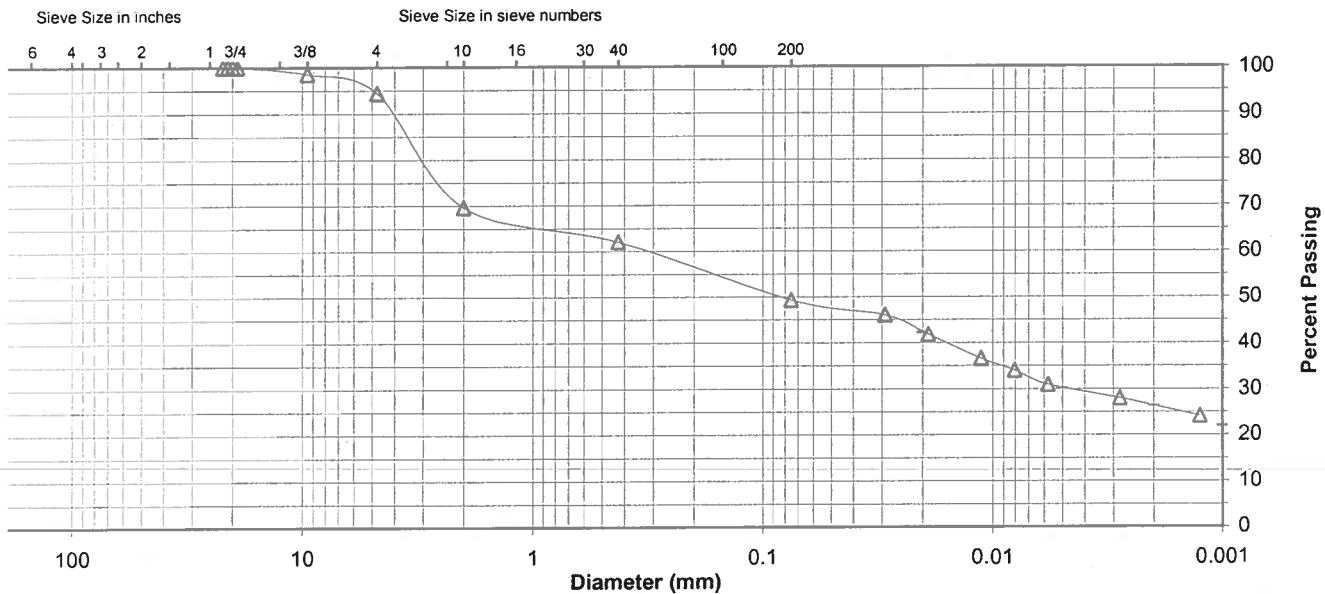
 Specific Gravity 2.72

Dispersed using: Apparatus A - Mechanical, for 1 minute


No. 40	62.1
No. 200	49.3
0.02 mm	42.2
0.005 mm	30.1
0.002 mm	26.3
0.001 mm	22.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	5.6	24.8	7.5	12.8	19.2	30.1
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt		Clay
	30.4		7.5	12.8	23.0		26.3



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-84, 35.0'-37.0', 37.0'-39.0' Lab ID 47
 County Jackson County, AL Date Received 5-8-09
 Sample Type SPT Comp Date Reported 6-4-09

Test Results

Natural Moisture Content
 Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits
 Test Method: ASTM D 4318 Method A
 Prepared: Dry

Liquid Limit: 60
 Plastic Limit: 21
 Plasticity Index: 39
 Activity Index: 0.81

Particle Size Analysis
 Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	98.6
No. 4	4.75	97.5
No. 10	2	86.6
No. 40	0.425	81.4
No. 200	0.075	72.7
	0.02	63.3
	0.005	52.6
	0.002	47.6
estimated	0.001	44.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	2.5	13.4
Coarse Sand	10.9	5.2
Medium Sand	5.2	---
Fine Sand	8.7	8.7
Silt	20.1	25.1
Clay	52.6	47.6

Moisture-Density Relationship
 Test Not Performed

Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio
 Test Not Performed

Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity
 Test Method: ASTM D 854
 Prepared: Dry

Particle Size: No.10
 Specific Gravity at 20° Celsius: 2.78

Classification

Unified Group Symbol: CH
 Group Name: Fat clay with sand
 AASHTO Classification: A-7-6 (28)

Comments: _____

Reviewed by: _____

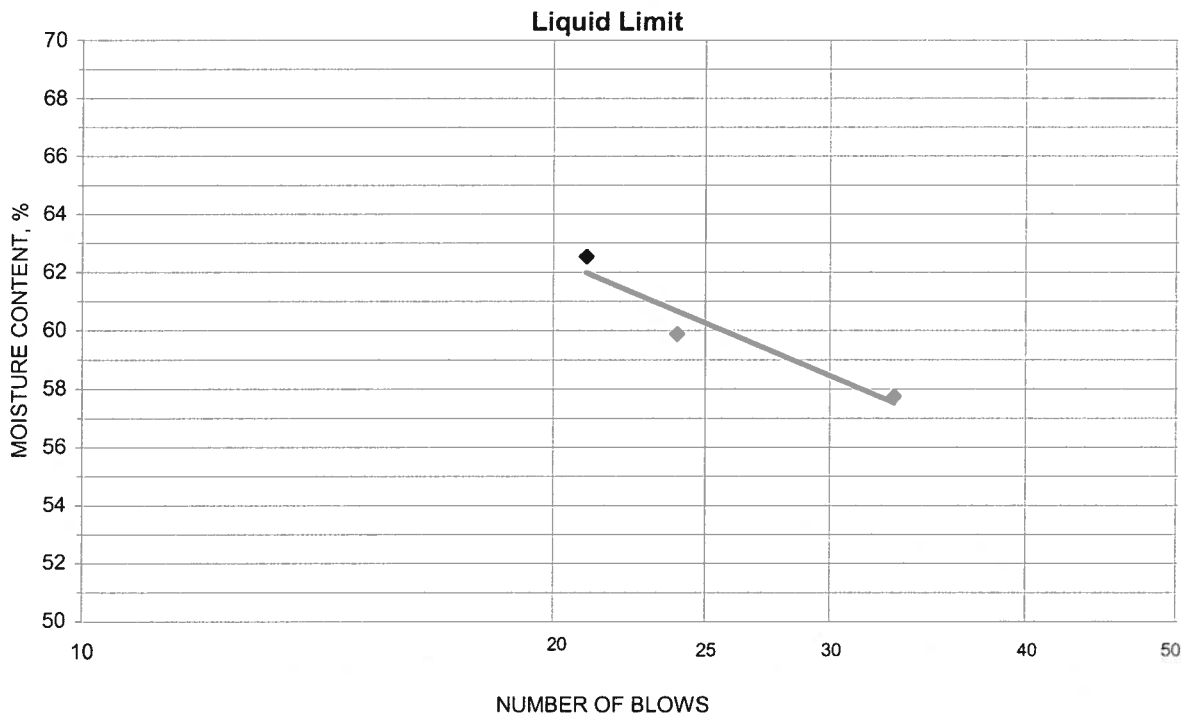


ATTERBERG LIMITS

Project Widows Creek Fossil Plant -- TVA
 Source SB-84, 35.0'-37.0', 37.0'-39.0'
 Tested By bw Test Method ASTM D 4318 Method A
 Test Date 05-27-2009 Prepared Dry

Project No. 175569036
 Lab ID 47
 % + No. 40 19
 Date Received 05-08-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
22.41	18.38	11.40	33	57.7	60
21.87	18.08	11.75	24	59.9	
22.06	18.04	11.61	21	62.5	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
20.34	18.83	11.69	21.1	21	39
21.45	19.72	11.51	21.1		

Remarks: _____

Reviewed By _____

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-84, 35.0'-37.0', 37.0'-39.0'

 Project Number 175569036
 Lab ID 47
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: CM
 Test Date: 05-18-2009
 Date Received 05-08-2009

Maximum Particle size: 3/4" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	98.6
No. 4	97.5
No. 10	86.6

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

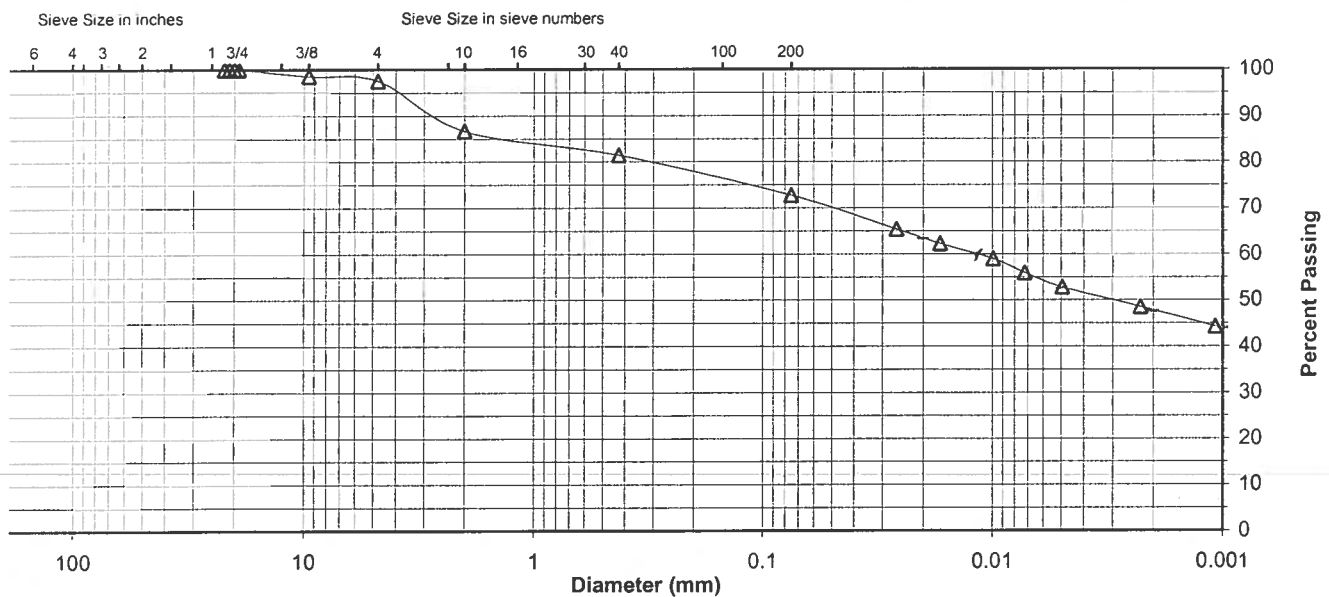
 Specific Gravity 2.78

Dispersed using: Apparatus A - Mechanical, for 1 minute


No. 40	81.4
No. 200	72.7
0.02 mm	63.3
0.005 mm	52.6
0.002 mm	47.6
0.001 mm	44.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay	
	0.0	2.5	10.9	5.2	8.7	20.1	52.6	
AASHTO	Gravel			Coarse Sand	Fine Sand	Silt		Clay
	13.4			5.2	8.7	25.1		47.6



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-85, 12.5'-14.0', 17.5'-19.0', 20.5'-22.0' Lab ID 300
 County Jackson County, AL Date Received 5-29-09
 Sample Type SPT Comp Date Reported 6-25-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 73
 Plastic Limit: 22
 Plasticity Index: 51
 Activity Index: 0.77

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	100.0
No. 4	4.75	99.9
No. 10	2	98.9
No. 40	0.425	97.1
No. 200	0.075	91.7
	0.02	81.3
	0.005	73.4
	0.002	65.8
estimated	0.001	59.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM	AASHTO
	(%)	(%)
Gravel	0.1	1.1
Coarse Sand	1.0	1.8
Medium Sand	1.8	---
Fine Sand	5.4	5.4
Silt	18.3	25.9
Clay	73.4	65.8

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.80

Classification

Unified Group Symbol: CH
 Group Name: Fat clay
 AASHTO Classification: A-7-6 (52)

Comments: _____

Reviewed by: _____

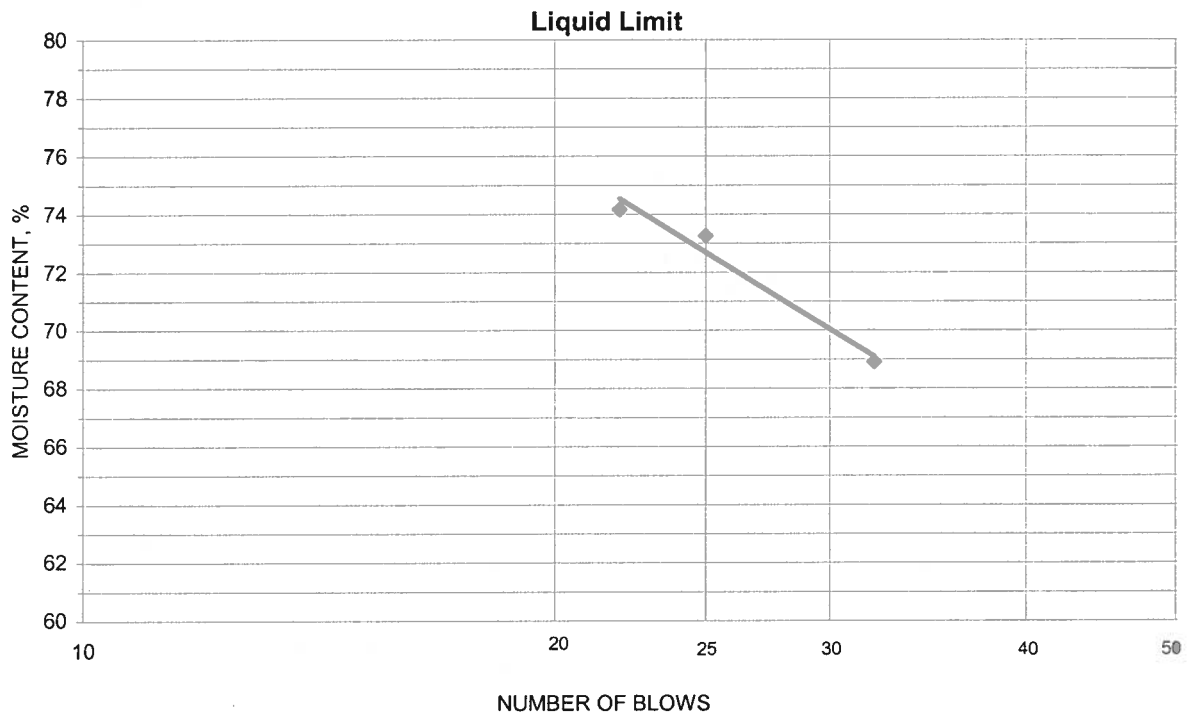


ATTERBERG LIMITS

Project Widows Creek Fossil Plant (TVA)
 Source SB-85, 12.5'-14.0', 17.5'-19.0', 20.5'-22.0'
 Tested By DRB Test Method ASTM D 4318 Method A
 Test Date 06-22-2009 Prepared Dry

Project No. 175569036
 Lab ID 300
 % + No. 40 3
 Date Received 05-29-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
19.21	15.91	11.46	22	74.2	73
19.19	15.74	11.03	25	73.2	
21.36	17.35	11.53	32	68.9	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.10	16.09	11.58	22.4	22	51
18.12	16.95	11.75	22.5		

Remarks: _____

Reviewed By

Project Name Widows Creek Fossil Plant (TVA)
 Source SB-85, 12.5'-14.0', 17.5'-19.0', 20.5'-22.0'

Project Number 175569036
 Lab ID 300

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
 Prepared using: ASTM D 421

Particle Shape: Angular
 Particle Hardness: Hard and Durable

Tested By: CSM
 Test Date: 06-16-2009
 Date Received 05-29-2009

Maximum Particle size: 3/8" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	99.9
No. 10	98.9

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

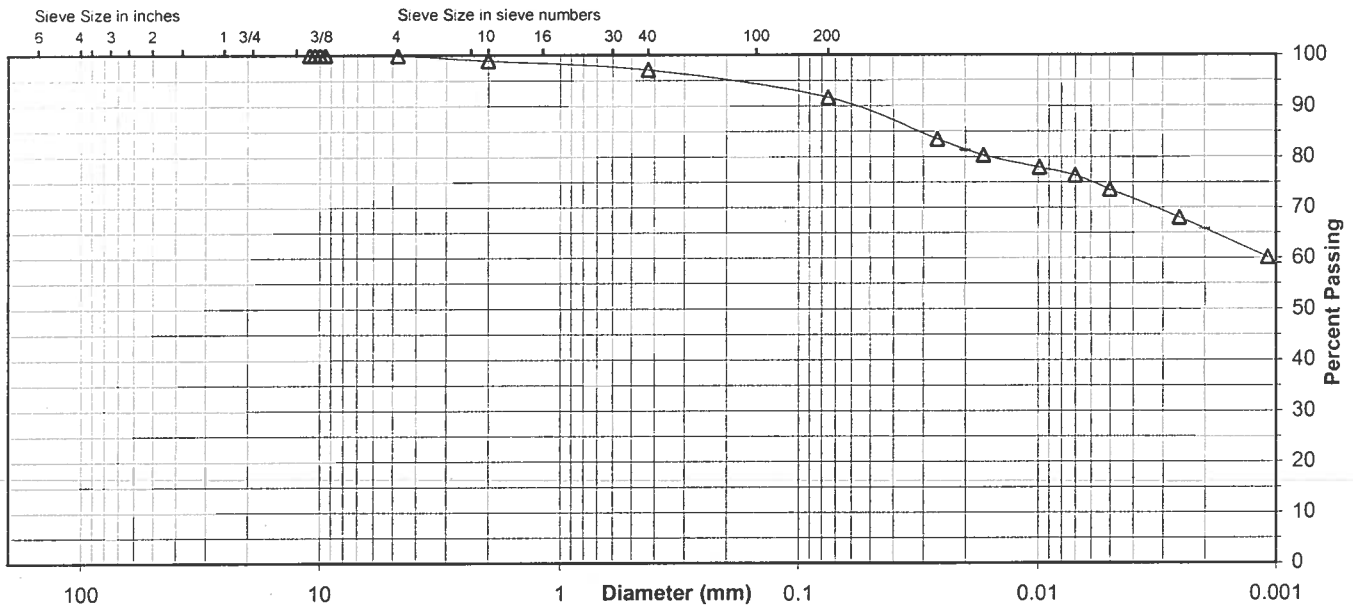
Specific Gravity 2.8

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	97.1
No. 200	91.7
0.02 mm	81.3
0.005 mm	73.4
0.002 mm	65.8
0.001 mm	59.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.1	1.0	1.8	5.4	18.3	73.4
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt	Clay	
	1.1		1.8	5.4	25.9	65.8	



Comments _____

Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-87, 7.0'-9.0', 10.0'-12.0', 12.0'-14.0' Lab ID 53
 County Jackson County, AL Date Received 5-8-09
 Sample Type SPT Comp Date Reported 6-4-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: Not Performed
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	100.0
3/4"	19	99.4
3/8"	9.5	97.7
No. 4	4.75	92.9
No. 10	2	81.4
No. 40	0.425	63.6
No. 200	0.075	36.0
	0.02	8.4
	0.005	1.8
	0.002	1.6
estimated	0.001	1.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	7.1	18.6
Coarse Sand	11.5	17.8
Medium Sand	17.8	---
Fine Sand	27.6	27.6
Silt	34.2	34.4
Clay	1.8	1.6

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

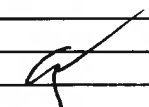
Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No.10
 Specific Gravity at 20° Celsius: 2.37

Classification

Unified Group Symbol: SM
 Group Name: Silty sand
 AASHTO Classification: A-4 (0)

Comments: Assumed Non Plastic

Reviewed by: 



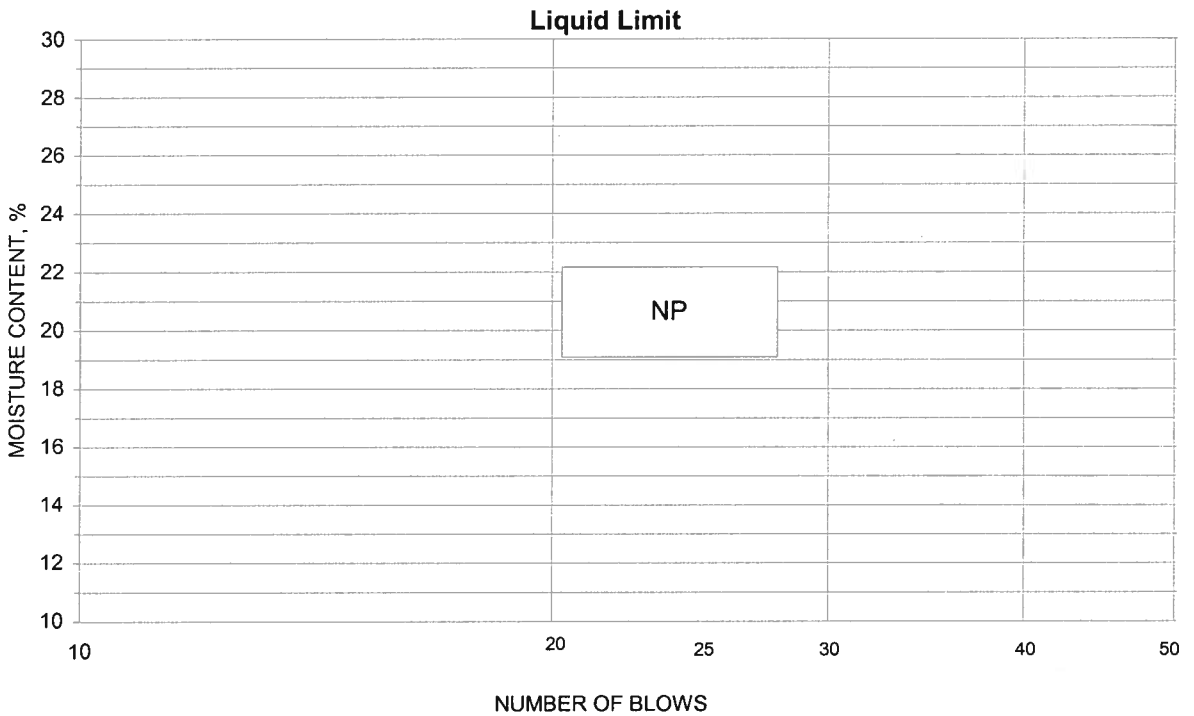
ATTERBERG LIMITS

Project Widows Creek Fossil Plant -- TVA
 Source SB-87, 7.0'-9.0', 10.0'-12.0', 12.0'-14.0'

Project No. 175569036
 Lab ID 53
 % + No. 40 36
 Date Received 05-08-2009

Tested By Need! Input-Limit Test Method ASTM D 4318 Method A
 Test Date Need! Input-Limit Prepared Dry

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-87, 7.0'-9.0', 10.0'-12.0', 12.0'-14.0'

 Project Number 175569036
 Lab ID 53
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable
 Tested By: CM
 Test Date: 05-18-2009
 Date Received 05-08-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	99.4
3/8"	97.7
No. 4	92.9
No. 10	81.4

Maximum Particle size: 1" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

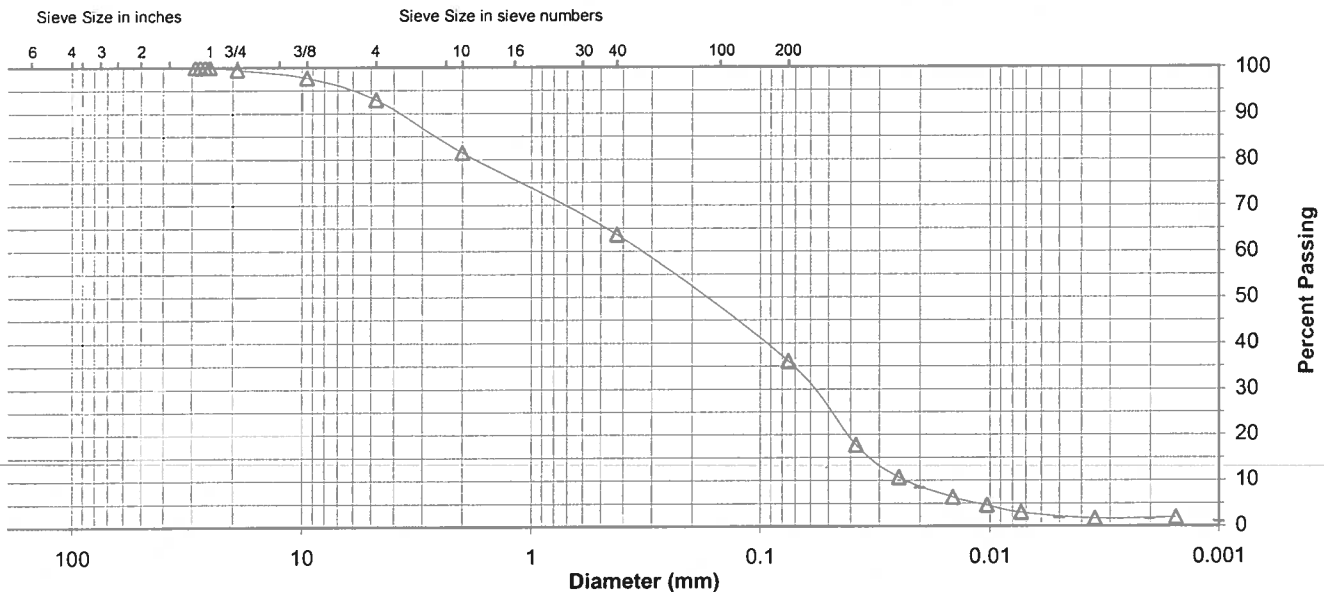
 Specific Gravity 2.37

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	63.6
No. 200	36.0
0.02 mm	8.4
0.005 mm	1.8
0.002 mm	1.6
0.001 mm	1.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.6	6.5	11.5	17.8	27.6	34.2	1.8
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	18.6		17.8		27.6	34.4	1.6



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source STN-93, 9.0'-12.0' Lab ID 1289
 County Jackson County, AL Date Received 6-26-09
 Sample Type Bag Date Reported 7-20-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	97.3
No. 4	4.75	89.2
No. 10	2	69.3
No. 40	0.425	43.5
No. 200	0.075	22.0
	0.02	6.2
	0.005	3.3
	0.002	2.4
estimated	0.001	1.8

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	10.8	30.7
Coarse Sand	19.9	25.8
Medium Sand	25.8	---
Fine Sand	21.5	21.5
Silt	18.7	19.6
Clay	3.3	2.4

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.58

Classification

Unified Group Symbol: SM
 Group Name: Silty sand
 AASHTO Classification: A-1-b (0)

Comments: _____

Reviewed by: RHS

Project Name Widows Creek Fossil Plant -- TVA
 Source STN-93, 9.0'-12.0'

 Project Number 175569036
 Lab ID 1289
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable

 Tested By: RSB
 Test Date: 07-01-2009
 Date Received 06-26-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	97.3
No. 4	89.2
No. 10	69.3

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

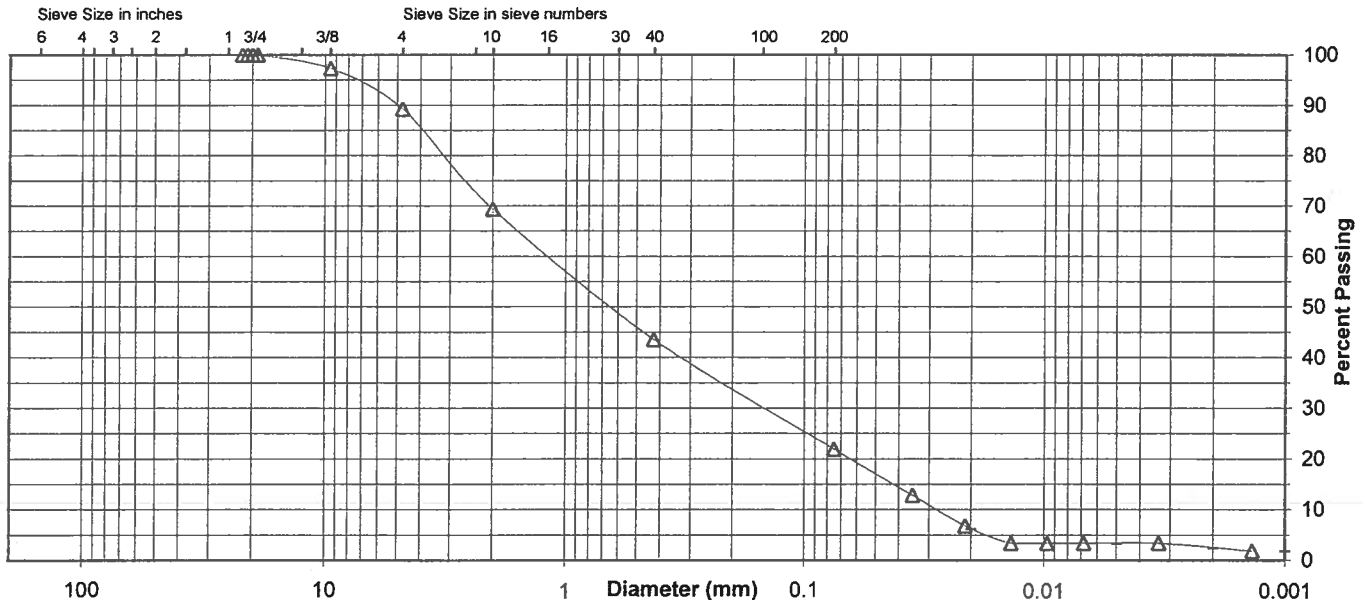
 Specific Gravity 2.58

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	43.5
No. 200	22.0
0.02 mm	6.2
0.005 mm	3.3
0.002 mm	2.4
0.001 mm	1.8

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay	
	0.0	10.8	19.9	25.8	21.5	18.7	3.3	
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt		Clay
	30.7		25.8		21.5	19.6		2.4



Comments

 Reviewed By RHB

Project Widows Creek Fossil Plant -- TVA
 Source STN-93, 9.0'-12.0'

 Project No. 175569036

 Lab ID 1289

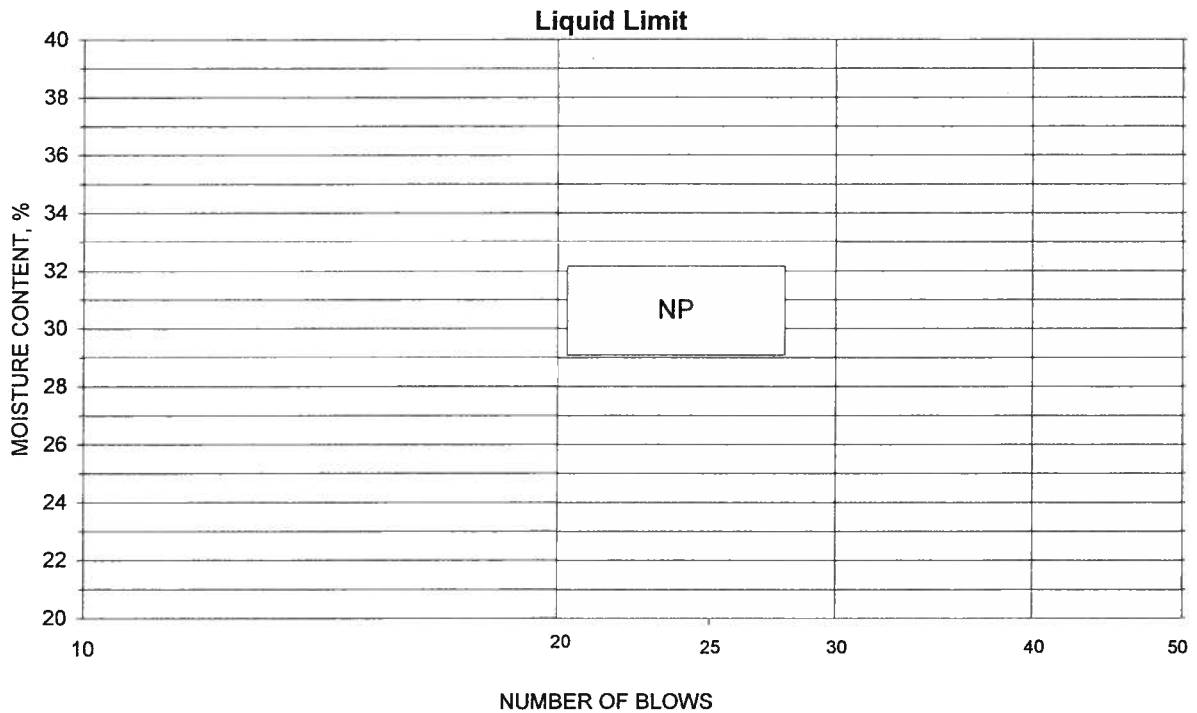
 % + No. 40 56

 Tested By RHB Test Method ASTM D 4318 Method A

 Date Received 06-26-2009

 Test Date 7/14/009 Prepared Dry

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

 Remarks: _____
 _____ Reviewed By RHB



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN94, 28.0'-29.5', 29.5'-31.0', 31.0'-32.5' Lab ID 1269
 County Jackson County, AL Date Received 6-26-09
 Sample Type SPT Comp Date Reported 7-20-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 47
 Plastic Limit: 16
 Plasticity Index: 31
 Activity Index: 0.86

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.6
No. 4	4.75	98.0
No. 10	2	92.3
No. 40	0.425	91.2
No. 200	0.075	79.0
	0.02	64.7
	0.005	46.9
	0.002	36.4
estimated	0.001	30.4

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.68

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	2.0	7.7
Coarse Sand	5.7	1.1
Medium Sand	1.1	---
Fine Sand	12.2	12.2
Silt	32.1	42.6
Clay	46.9	36.4

Classification

Unified Group Symbol: CL
 Group Name: Lean clay with sand
 AASHTO Classification: A-7-6 (24)

Comments: _____

Reviewed by: RHB

Project Name Widows Creek Fossil Plant (TVA)
 Source STN94, 28.0'-29.5', 29.5'-31.0', 31.0'-32.5'

 Project Number 175569036
 Lab ID 1269
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable

 Tested By: RSB
 Test Date: 07-01-2009
 Date Received: 06-26-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.6
No. 4	98.0
No. 10	92.3

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

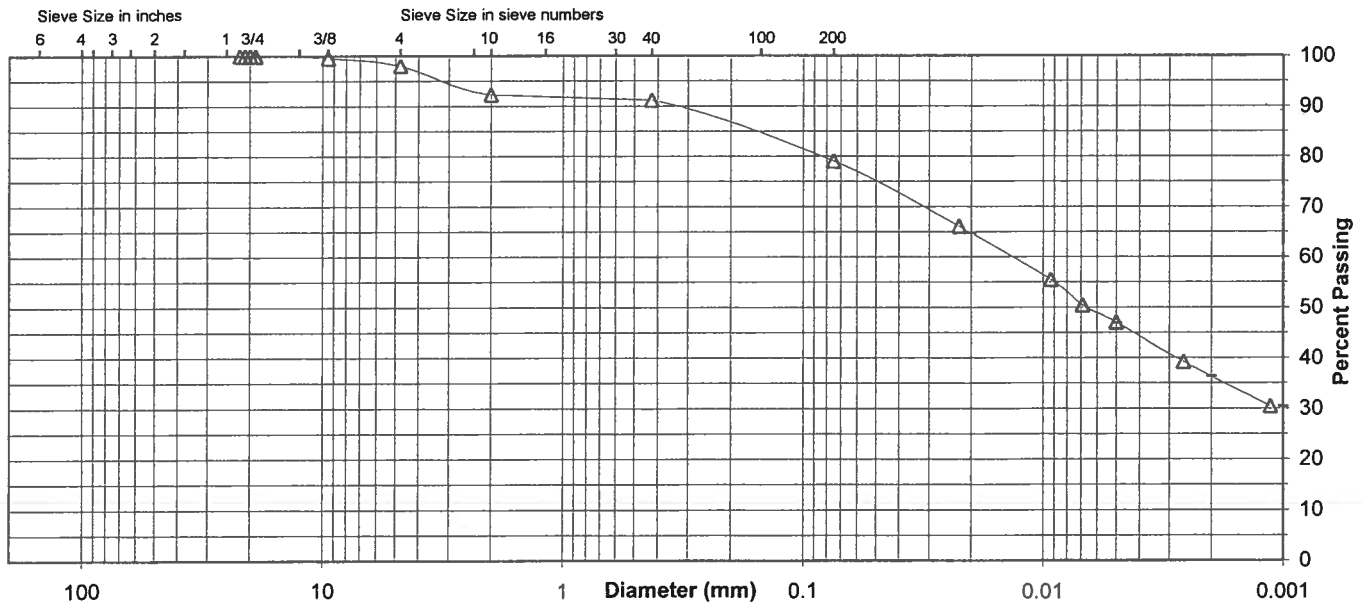
 Specific Gravity 2.68

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	91.2
No. 200	79.0
0.02 mm	64.7
0.005 mm	46.9
0.002 mm	36.4
0.001 mm	30.4

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	2.0	5.7	1.1	12.2	32.1	46.9
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt		Clay
	7.7		1.1	12.2	42.6		36.4



Comments _____

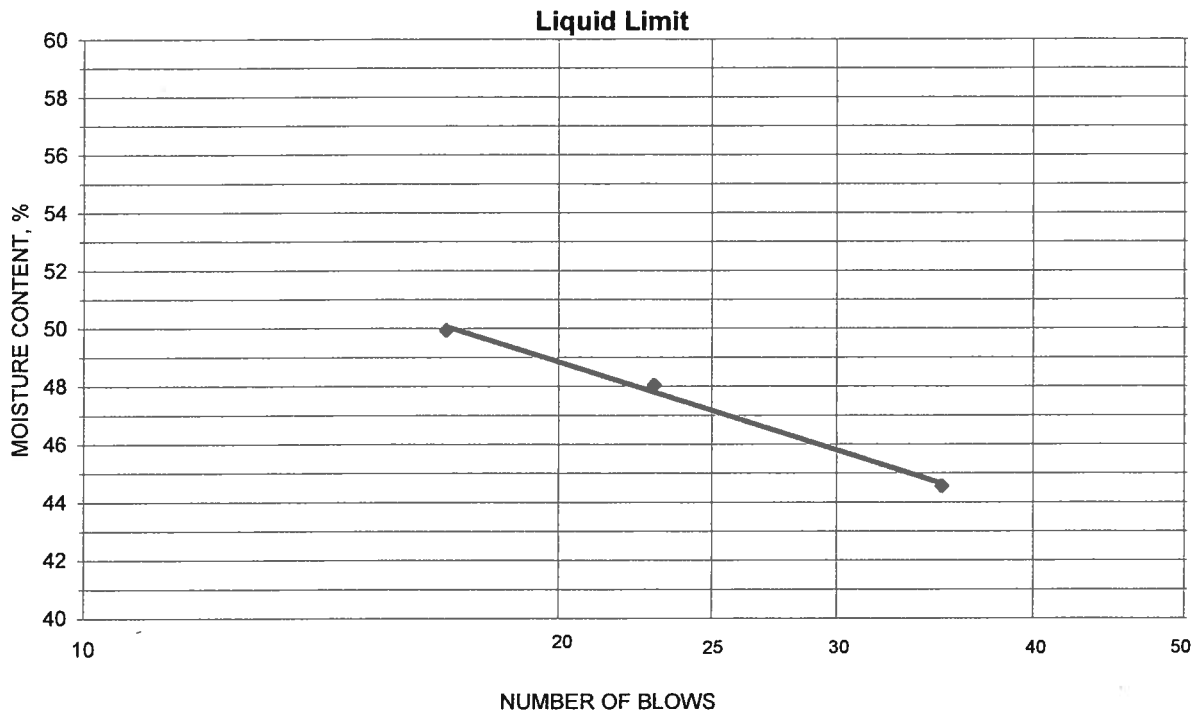
 Reviewed By RHB

Project Widows Creek Fossil Plant (TVA)
 Source STN94, 28.0'-29.5', 29.5'-31.0', 31.0'-32.5'

Project No. 175569036
 Lab ID 1269
 % + No. 40 9
 Date Received 06-26-2009

Tested By RSB Test Method ASTM D 4318 Method A
 Test Date 07-09-2009 Prepared Dry

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
12.26	9.81	4.31	35	44.5	47
14.82	11.42	4.34	23	48.0	
15.06	11.50	4.37	17	49.9	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
7.78	7.28	4.29	16.7	16	31
11.36	10.42	4.35	15.5		

Remarks: _____

 Reviewed By RSB



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN94, 52.5'-54.0', 54.0'-55.5' Lab ID 1285
 County Jackson County, AL Date Received 6-26-09
 Sample Type SPT Composite Date Reported 7-13-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 21
 Plastic Limit: 15
 Plasticity Index: 6
 Activity Index: 0.38

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	
No. 4	4.75	100.0
No. 10	2	99.5
No. 40	0.425	98.4
No. 200	0.075	33.9
	0.02	26.7
	0.005	19.2
	0.002	16.4
estimated	0.001	15.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.0	0.5
Coarse Sand	0.5	1.1
Medium Sand	1.1	---
Fine Sand	64.5	64.5
Silt	14.7	17.5
Clay	19.2	16.4

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.70

Classification

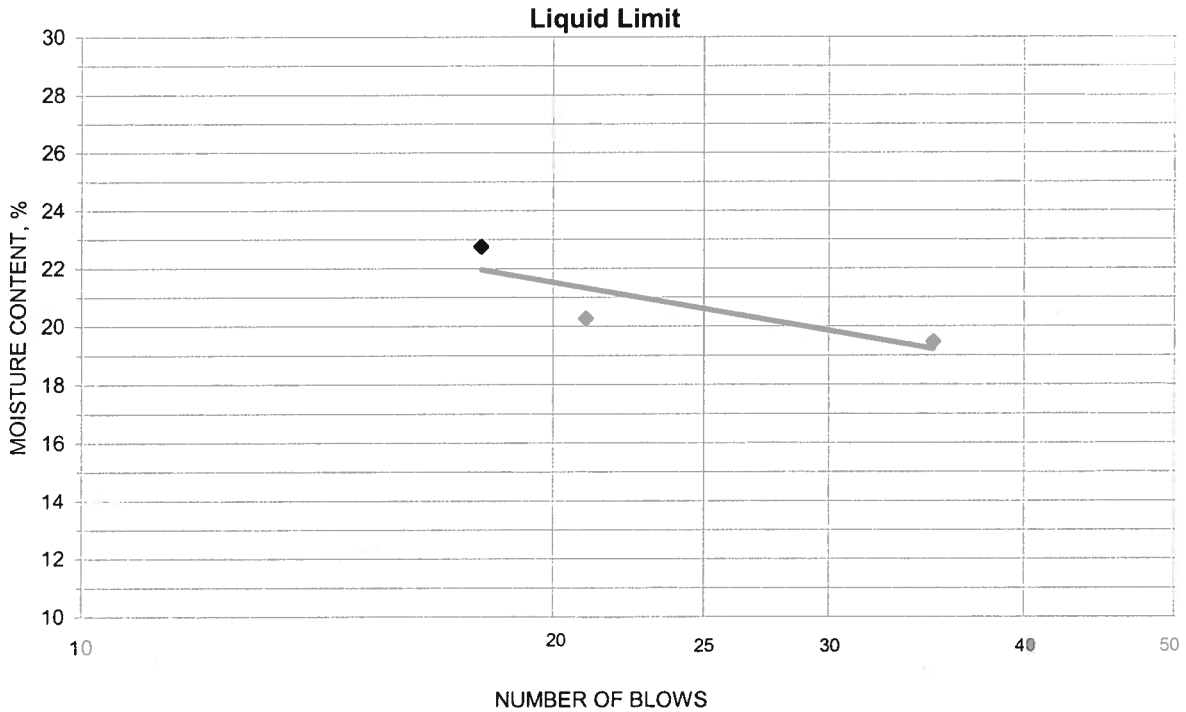
Unified Group Symbol: SC-SM
 Group Name: Silty, clayey sand
 AASHTO Classification: A-2-4 (0)

Comments: _____
 Reviewed by: [Signature]

Project Widows Creek Fossil Plant (TVA)
 Source STN94, 52.5'-54.0', 54.0'-55.5'
 Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-09-2009 Prepared Dry

Project No. 175569036
 Lab ID 1285
 % + No. 40 2
 Date Received 06-26-2009


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
25.27	22.66	11.19	18	22.8	21
25.33	22.95	11.20	21	20.3	
24.00	22.00	11.72	35	19.5	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
20.98	19.66	10.92	15.1	15	6
18.10	17.18	11.03	15.0		

Remarks: _____

Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source STN94, 52.5'-54.0', 54.0'-55.5'

 Project Number 175569036
 Lab ID 1285
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: cp
 Test Date: 07-02-2009
 Date Received: 06-26-2009

Maximum Particle size: No. 4 Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	100.0
No. 10	99.5

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

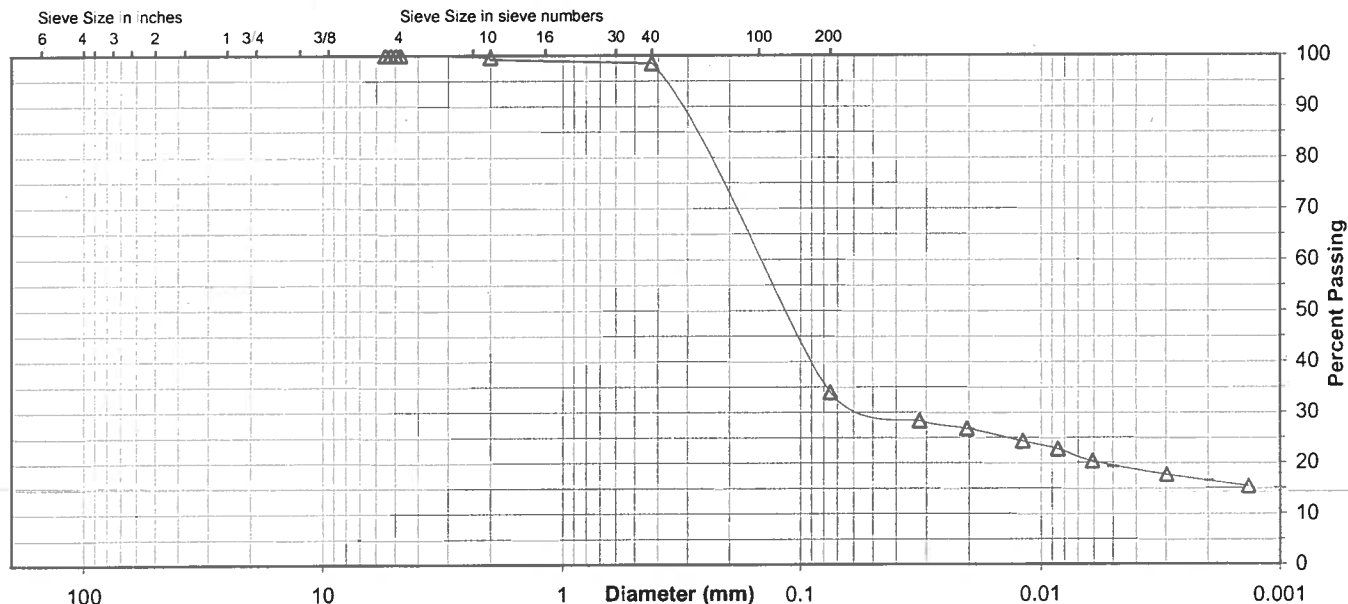
 Specific Gravity 2.7

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	98.4
No. 200	33.9
0.02 mm	26.7
0.005 mm	19.2
0.002 mm	16.4
0.001 mm	15.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.0	0.5	1.1	64.5	14.7	19.2
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	0.5		1.1		64.5	17.5	16.4



Comments _____

 Reviewed By 



Project Name Widows Creek Fossil Plant (TVA)
Source STN-95, 13.0'-16.0'

Project Number 175569036
Lab ID 1139

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
Prepared using: ASTM D 421

Particle Shape: Angular
Particle Hardness: Hard and Durable

Tested By: BWT
Test Date: 07-01-2009
Date Received: 06-23-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	98.9
No. 4	94.2
No. 10	86.6

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

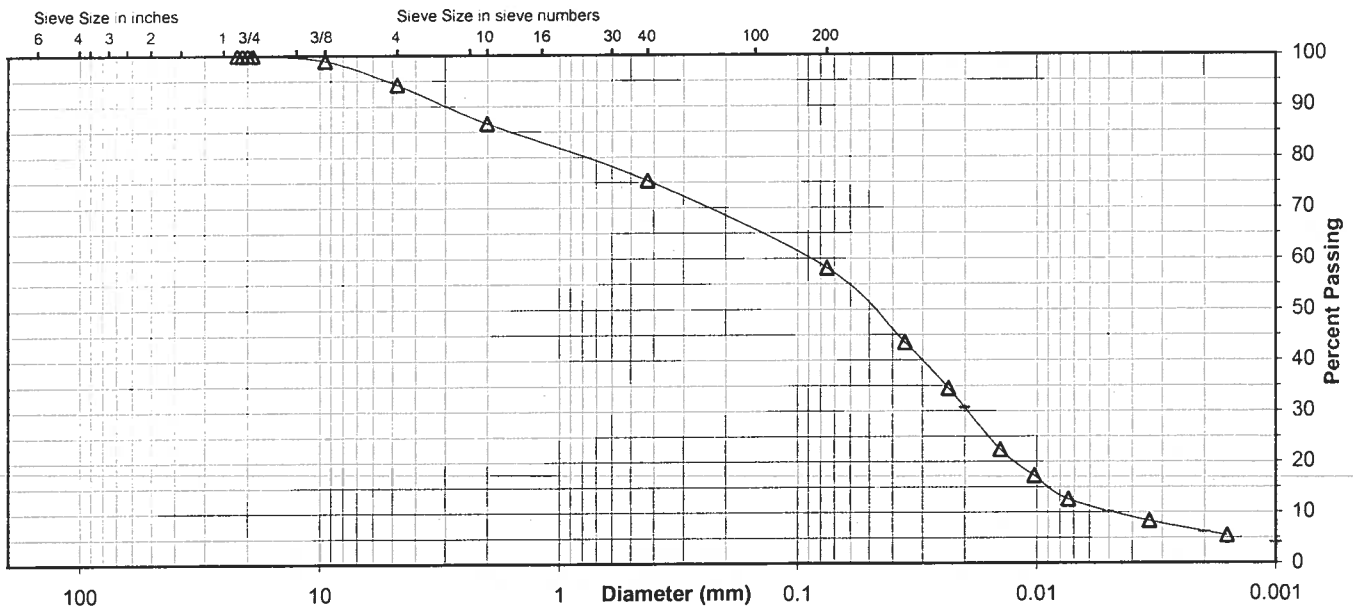
Specific Gravity 2.3

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	75.3
No. 200	58.1
0.02 mm	30.7
0.005 mm	10.1
0.002 mm	6.1
0.001 mm	4.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	5.8	7.6	11.3	17.2	48.0	10.1
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	13.4		11.3		17.2	52.0	6.1



Comments _____

Reviewed By [Signature]

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-95, 35.0'-38.0'

 Project Number 175569036
 Lab ID 1140
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: BWT
 Test Date: 07-01-2009
 Date Received 06-23-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.1
No. 4	93.6
No. 10	82.1

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

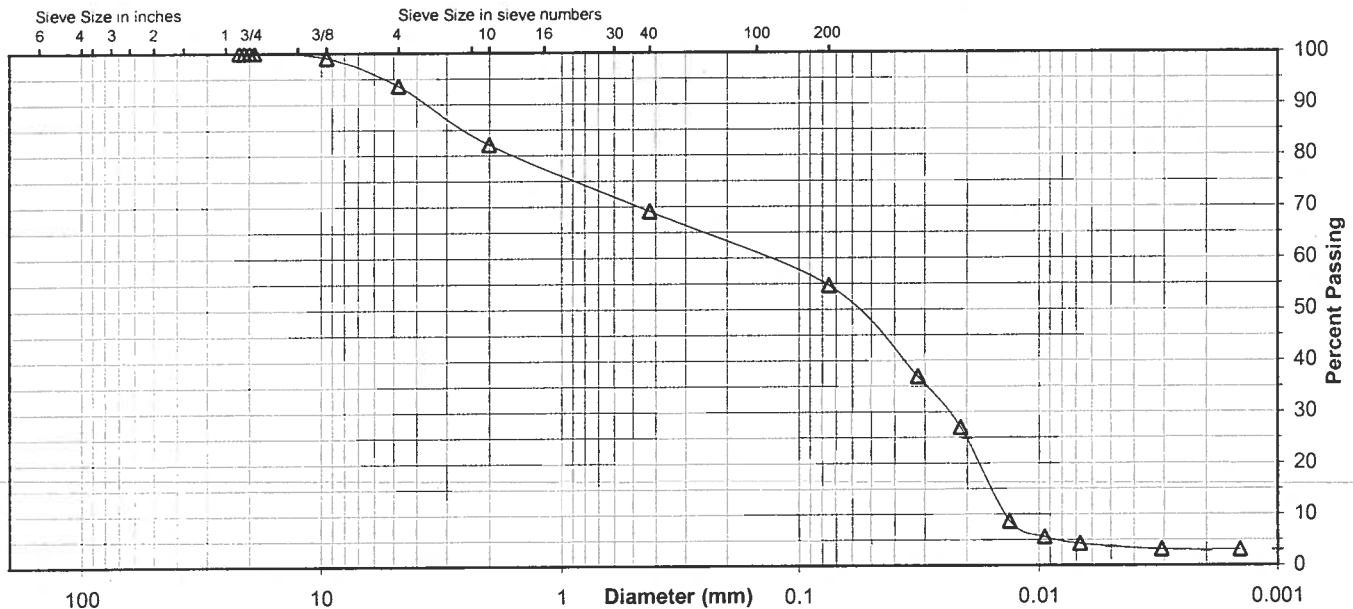
 Specific Gravity 2.63

Dispersed using: Apparatus A - Mechanical, for 1 minute


No. 40	69.0
No. 200	54.6
0.02 mm	24.9
0.005 mm	3.7
0.002 mm	2.9
0.001 mm	3.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	6.4	11.5	13.1	14.4	50.9	3.7
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	17.9		13.1		14.4	51.7	2.9



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-96, 43.0'-46.0' Lab ID 1142
 County Jackson County, AL Date Received 6-23-09
 Sample Type Bag Date Reported 7-13-09

Test Results

Natural Moisture Content

Test Method: ASTM D 2216
 Moisture Content (%): 14.0

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 29
 Plastic Limit: 21
 Plasticity Index: 8
 Activity Index: 4.00

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	100.0
3/4"	19	96.3
3/8"	9.5	94.8
No. 4	4.75	90.0
No. 10	2	81.9
No. 40	0.425	69.4
No. 200	0.075	53.8
	0.02	31.7
	0.005	2.6
	0.002	2.1
estimated	0.001	2.0

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	10.0	18.1
Coarse Sand	8.1	12.5
Medium Sand	12.5	---
Fine Sand	15.6	15.6
Silt	51.2	51.7
Clay	2.6	2.1

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: 0
 Specific Gravity at 20° Celsius: 2.61

Classification

Unified Group Symbol: CL
 Group Name: Sandy lean clay
 AASHTO Classification: A-4 (2)

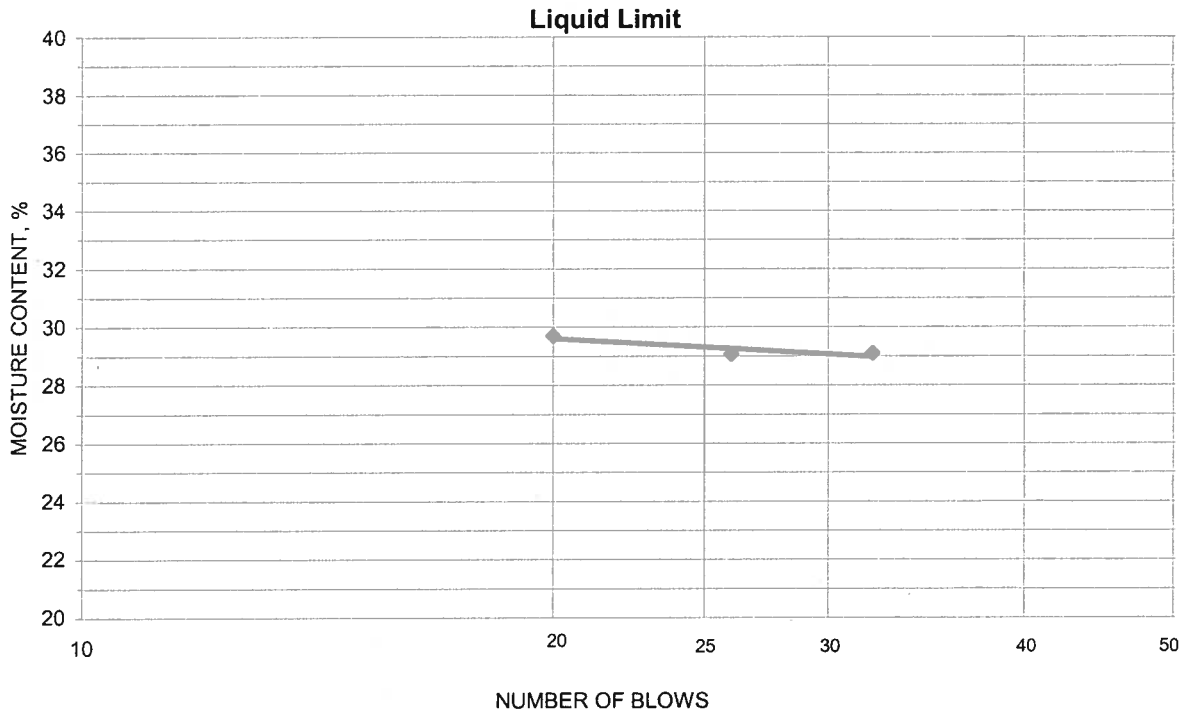
Comments: MC dried at 60° C

Reviewed by: [Signature]

Project Widows Creek Fossil Plant (TVA)
 Source STN-96, 43.0'-46.0'
 Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-08-2009 Prepared Dry

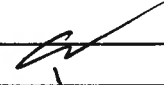
Project No. 175569036
 Lab ID 1142
 % + No. 40 31
 Date Received 06-23-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
22.34	19.81	11.29	20	29.7	29
21.71	19.31	11.05	26	29.1	
22.14	19.65	11.09	32	29.1	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.58	16.47	11.25	21.3	21	8
18.63	17.29	11.09	21.6		

Remarks: _____
 Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-96, 43.0'-46.0'

 Project Number 175569036
 Lab ID 1142
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable

 Tested By: BWT
 Test Date: 07-06-2009
 Date Received: 06-23-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	96.3
3/8"	94.8
No. 4	90.0
No. 10	81.9

Maximum Particle size: 1" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

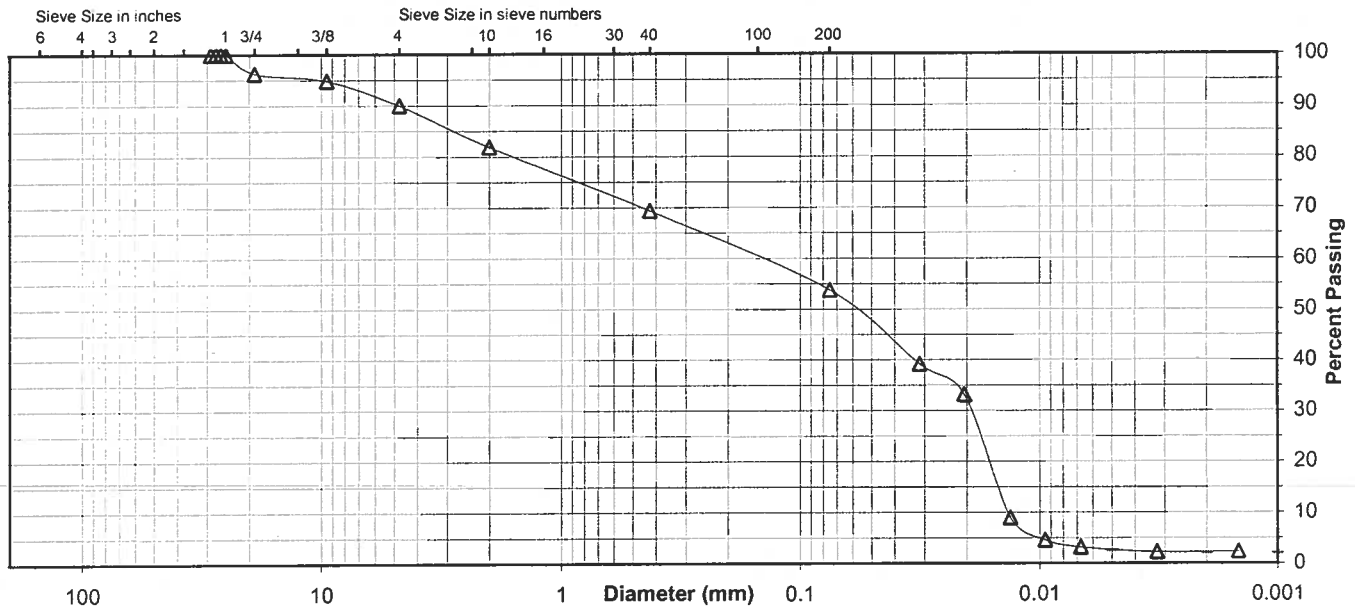
 Specific Gravity 2.61

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	69.4
No. 200	53.8
0.02 mm	31.7
0.005 mm	2.6
0.002 mm	2.1
0.001 mm	2.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	3.7	6.3	8.1	12.5	15.6	51.2	2.6
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	18.1		12.5		15.6	51.7	2.1



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-97, 32.5'-34.0', 34.0'-35.5', 35.5'-37.0' Lab ID 1104
 County Jackson County, AL Date Received 6-23-09
 Sample Type SPT Comp Date Reported 7-13-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 52
 Plastic Limit: 23
 Plasticity Index: 29
 Activity Index: 0.71

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	100.0
No. 4	4.75	100.0
No. 10	2	85.8
No. 40	0.425	84.0
No. 200	0.075	77.6
	0.02	70.7
	0.005	51.7
	0.002	41.2
estimated	0.001	35.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.0	14.2
Coarse Sand	14.2	1.8
Medium Sand	1.8	---
Fine Sand	6.4	6.4
Silt	25.9	36.4
Clay	51.7	41.2

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: 0
 Specific Gravity at 20° Celsius: 2.73

Classification

Unified Group Symbol: CH
 Group Name: Fat clay with sand
 AASHTO Classification: A-7-6 (23)

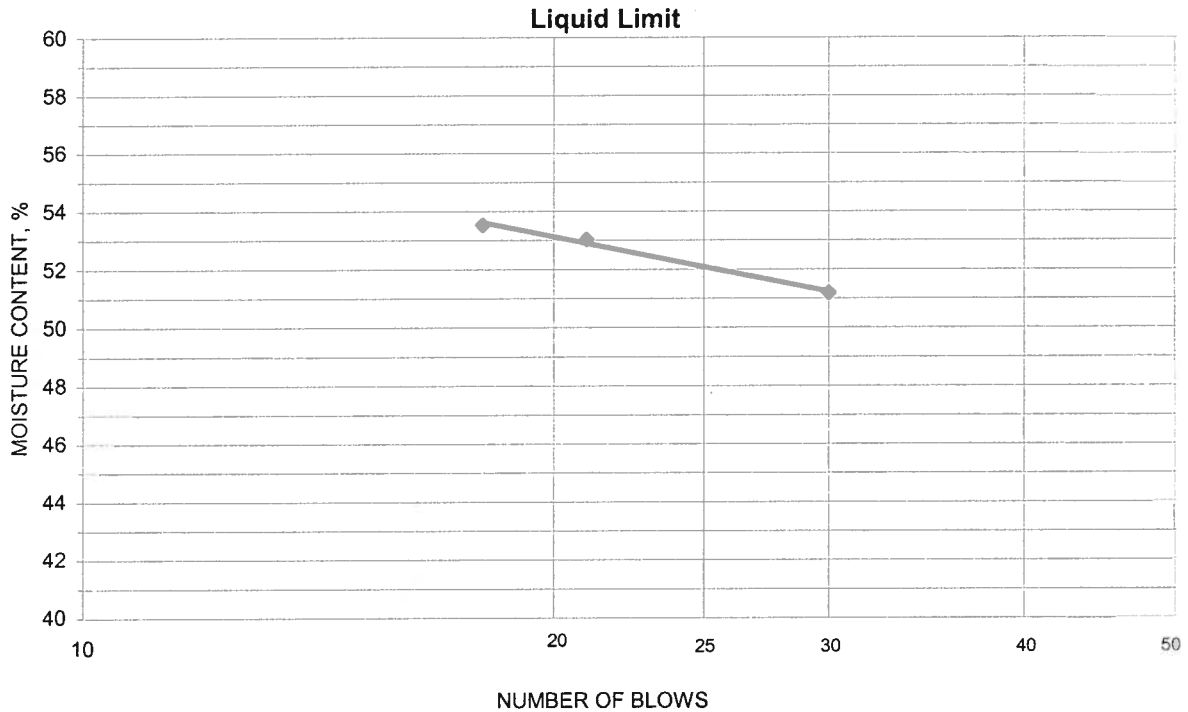
Comments: _____

 Reviewed by: [Signature]

Project Widows Creek Fossil Plant (TVA)
 Source STN-97, 32.5'-34.0', 34.0'-35.5', 35.5'-37.0'
 Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-08-2009 Prepared Dry

Project No. 175569036
 Lab ID 1104
 % + No. 40 16
 Date Received 06-23-2009


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
20.79	17.46	11.18	21	53.0	52
20.41	17.37	11.69	18	53.5	
21.38	18.13	11.78	30	51.2	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.70	16.57	11.59	22.7	23	29
17.24	16.13	11.16	22.3		

Remarks: _____

Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-97, 32.5'-34.0', 34.0'-35.5', 35.5'-37.0'

 Project Number 175569036
 Lab ID 1104
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: cp
 Test Date: 07-02-2009
 Date Received: 06-23-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	100.0
No. 10	85.8

Maximum Particle size: 3/8" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

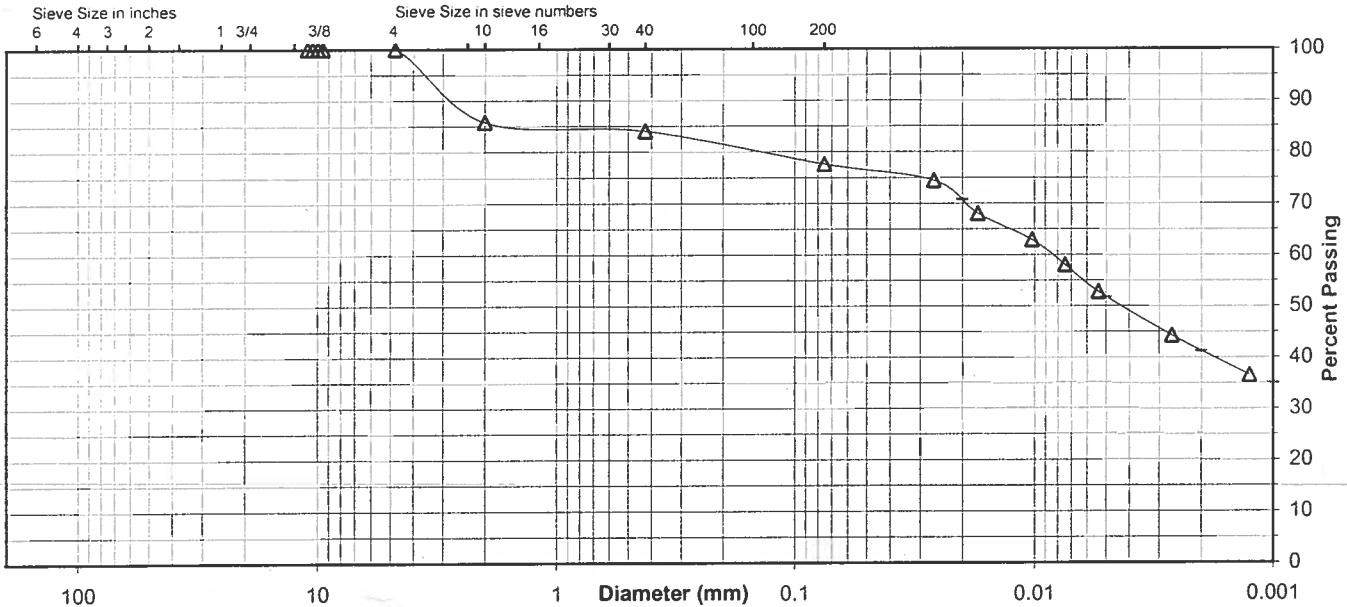
 Specific Gravity 2.73

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	84.0
No. 200	77.6
0.02 mm	70.7
0.005 mm	51.7
0.002 mm	41.2
0.001 mm	35.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.0	14.2	1.8	6.4	25.9	51.7
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	14.2		1.8		6.4	36.4	41.2



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-98, 12.0'-13.5', 13.5'-15.0', 15.0'-16.5' Lab ID 988
 County Jackson County, AL Date Received 6-22-09
 Sample Type SPT Comp Date Reported 7-10-09

Test Results

Natural Moisture Content
 Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits
 Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 49
 Plastic Limit: 23
 Plasticity Index: 26
 Activity Index: 0.65

Particle Size Analysis
 Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	
No. 4	4.75	
No. 10	2	100.0
No. 40	0.425	99.8
No. 200	0.075	93.7
	0.02	70.4
	0.005	49.3
	0.002	39.8
estimated	0.001	34.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.0	0.0
Coarse Sand	0.0	0.2
Medium Sand	0.2	---
Fine Sand	6.1	6.1
Silt	44.4	53.9
Clay	49.3	39.8

Moisture-Density Relationship
 Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio
 Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity
 Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: 0
 Specific Gravity at 20° Celsius: 2.70

Classification
 Unified Group Symbol: CL/CH
 Group Name: Lean clay
 AASHTO Classification: A-7-6 (27)

Comments: _____
 Reviewed by: [Signature]

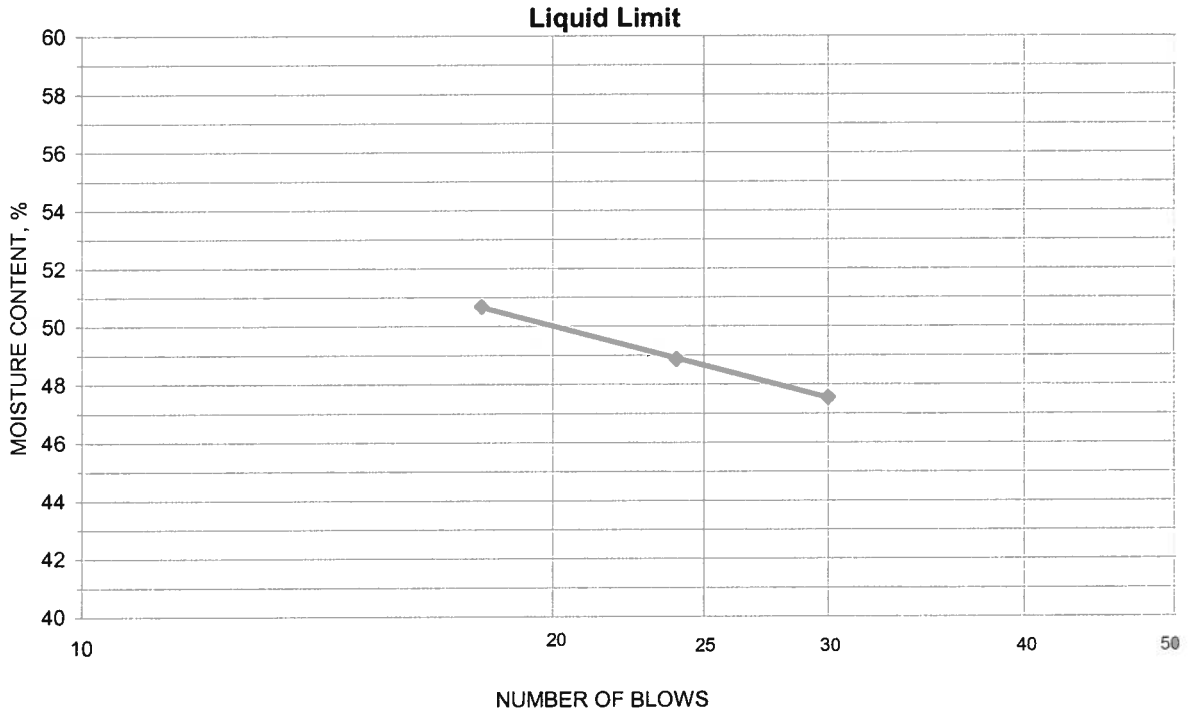


ATTERBERG LIMITS

Project Widows Creek Fossil Plant (TVA)
 Source STN-98, 12.0'-13.5', 13.5'-15.0', 15.0'-16.5'
 Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-08-2009 Prepared Dry

Project No. 175569036
 Lab ID 988
 % + No. 40
 Date Received 06-22-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
21.03	17.60	10.83	18	50.7	49
21.34	17.92	10.92	24	48.9	
21.29	17.91	10.80	30	47.5	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.35	16.16	11.01	23.1	23	26
17.32	16.08	10.69	23.0		

Remarks: _____
 Reviewed By

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-98, 12.0'-13.5', 13.5'-15.0', 15.0'-16.5'

 Project Number 175569036
 Lab ID 988
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: N/A
 Particle Hardness: N/A

 Tested By: BWT
 Test Date: 07-06-2009
 Date Received: 06-22-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	
No. 10	100.0

Maximum Particle size: No. 10 Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

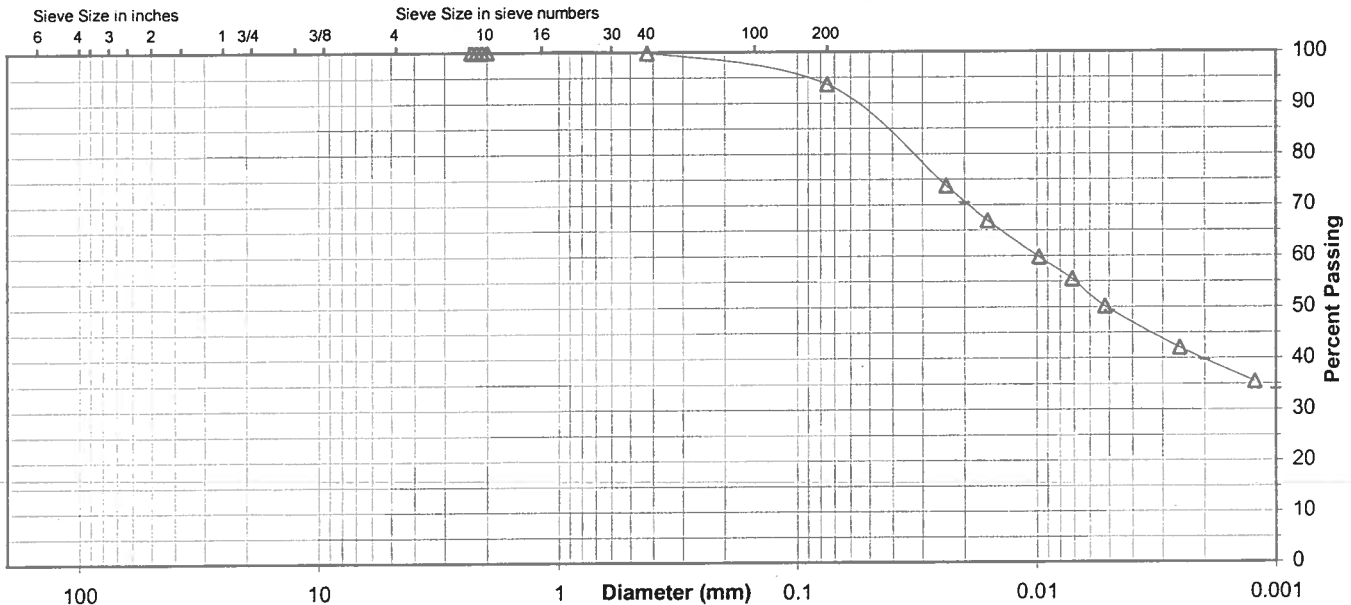
 Specific Gravity 2.7

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	99.8
No. 200	93.7
0.02 mm	70.4
0.005 mm	49.3
0.002 mm	39.8
0.001 mm	34.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
		0.0	0.0	0.0	0.2	6.1	44.4
AASHTO	Gravel			Coarse Sand	Fine Sand	Silt	Clay
	0.0			0.2	6.1	53.9	39.8



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-99, 38.5'-40.0', 42.0'-43.5' Lab ID 1133
 County Jackson County, AL Date Received 6-23-09
 Sample Type SPT Comp Date Reported 7-13-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 43
 Plastic Limit: 22
 Plasticity Index: 21
 Activity Index: 0.55

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	
		Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	
No. 4	4.75	100.0
No. 10	2	96.2
No. 40	0.425	95.8
No. 200	0.075	86.9
	0.02	74.3
	0.005	50.6
	0.002	37.5
estimated	0.001	31.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.0	3.8
Coarse Sand	3.8	0.4
Medium Sand	0.4	---
Fine Sand	8.9	8.9
Silt	36.3	49.4
Clay	50.6	37.5

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: 0
 Specific Gravity at 20° Celsius: 2.73

Classification

Unified Group Symbol: CL
 Group Name: Lean clay
 AASHTO Classification: A-7-6 (19)

Comments: _____

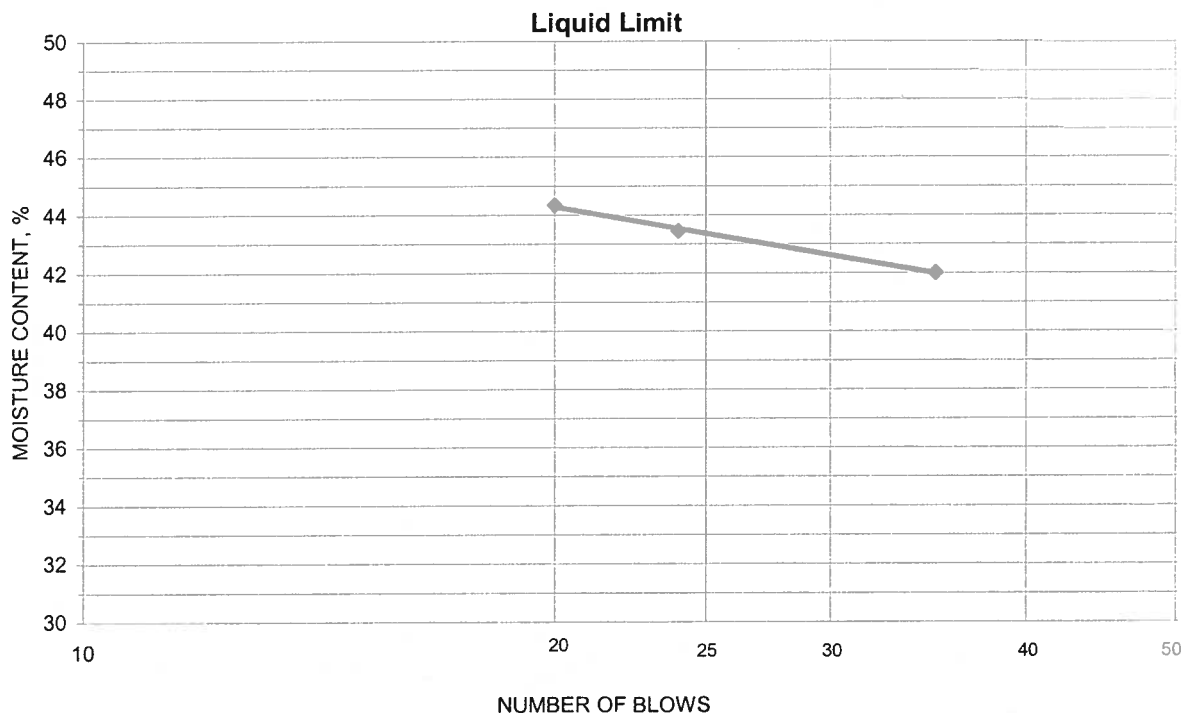
Reviewed by: _____

Project Widows Creek Fossil Plant (TVA)
 Source STN-99, 38.5'-40.0', 42.0'-43.5'

Project No. 175569036
 Lab ID 1133
 % + No. 40 4
 Date Received 06-23-2009

Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-08-2009 Prepared Dry


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
20.15	17.57	11.75	20	44.3	43
20.07	17.35	11.09	24	43.5	
20.88	17.94	10.94	35	42.0	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.22	16.12	11.11	22.0	22	21
17.21	16.12	11.06	21.5		

Remarks: _____

Reviewed By 



Project Name Widows Creek Fossil Plant (TVA)
Source STN-99, 38.5'-40.0', 42.0'-43.5'

Project Number 175569036
Lab ID 1133

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
Prepared using: ASTM D 421

Particle Shape: Angular
Particle Hardness: Hard and Durable

Tested By: cp
Test Date: 07-02-2009
Date Received 06-23-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	100.0
No. 10	96.2

Maximum Particle size: No. 4 Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

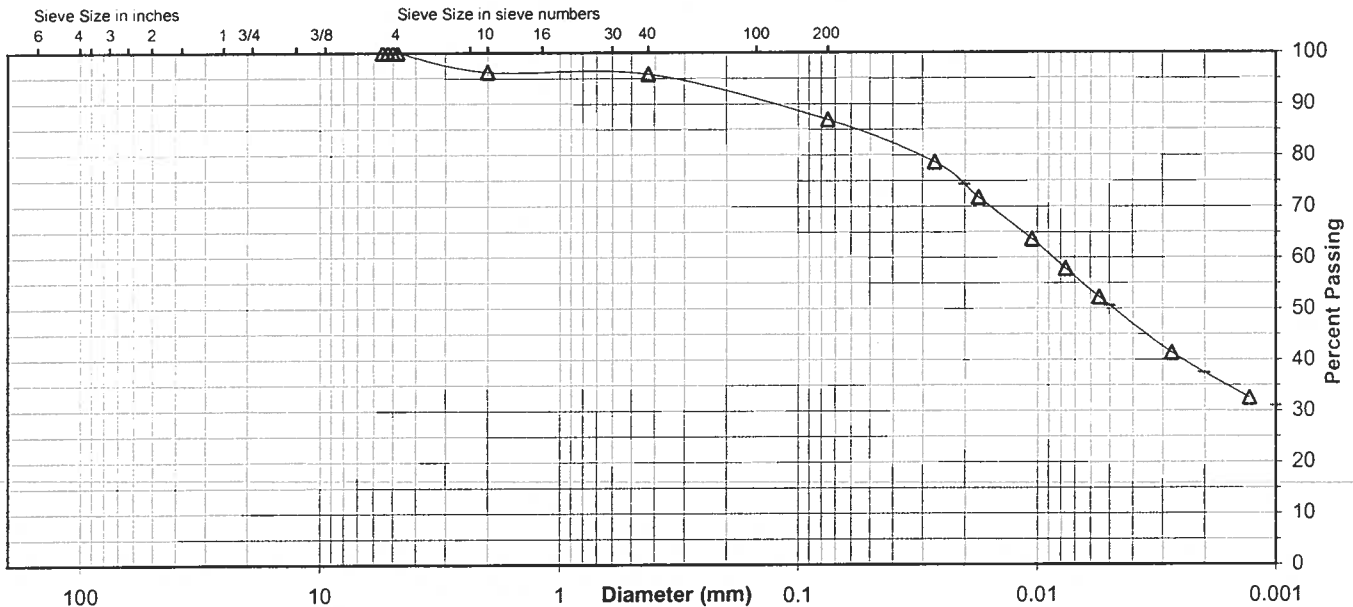
Specific Gravity 2.73

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	95.8
No. 200	86.9
0.02 mm	74.3
0.005 mm	50.6
0.002 mm	37.5
0.001 mm	31.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.0	3.8	0.4	8.9	36.3	50.6
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	3.8		0.4		8.9	49.4	37.5



Comments _____

Reviewed By [Signature]



Project Name Widows Creek Fossil Plant (TVA)
Source STN-100, 35.5'-37.0', 37.0'-38.5', 38.5'-40.0'

Project Number 175569036
Lab ID 794

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
Prepared using: ASTM D 421

Particle Shape: Angular
Particle Hardness: Soft

Tested By: RC
Test Date: 06-30-2009
Date Received: 06-22-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	97.7
No. 4	95.9
No. 10	91.7

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

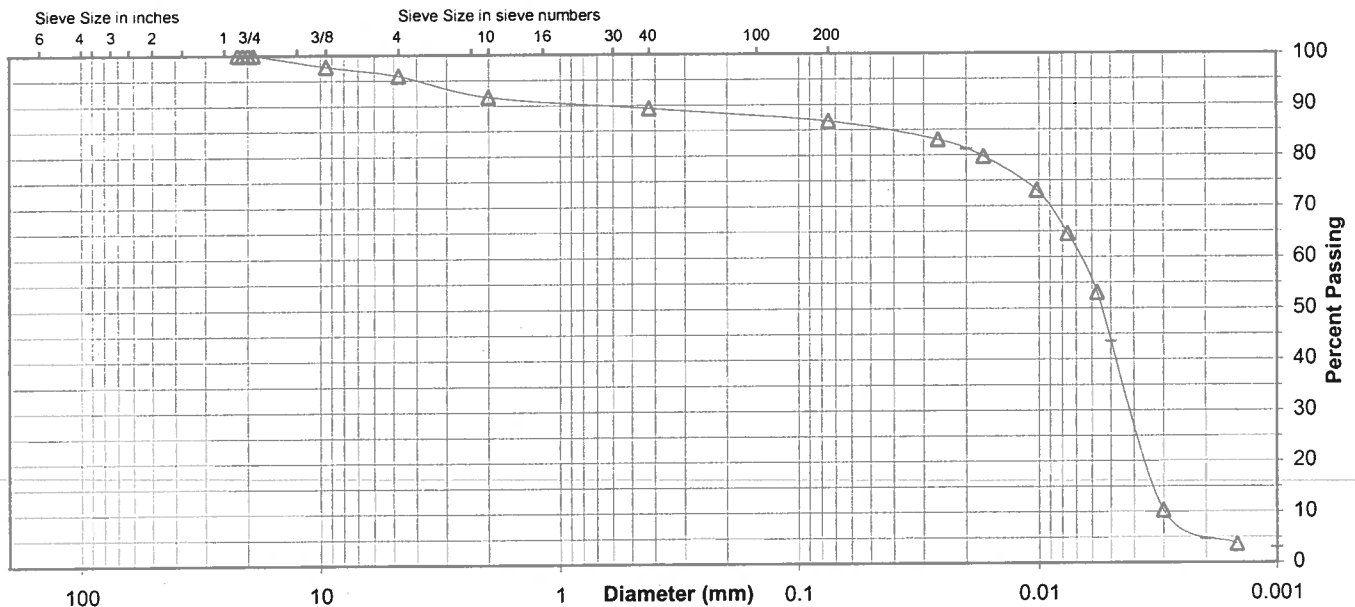
Specific Gravity 2.55

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	89.4
No. 200	86.7
0.02 mm	81.2
0.005 mm	43.5
0.002 mm	4.6
0.001 mm	3.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	4.1	4.2	2.3	2.7	43.2	43.5
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	8.3		2.3		2.7	82.1	4.6



Comments _____

Reviewed By



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-101, 55.5'-57.0', 57.0'-58.5', 58.5'-60.0' Lab ID 838
 County Jackson County, AL Date Received 6-22-09
 Sample Type SPT Comp Date Reported 7-13-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 31
 Plastic Limit: 18
 Plasticity Index: 13
 Activity Index: 0.54

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	
		Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	100.0
3/4"	19	97.3
3/8"	9.5	95.9
No. 4	4.75	93.7
No. 10	2	91.3
No. 40	0.425	87.5
No. 200	0.075	66.6
	0.02	44.4
	0.005	30.4
	0.002	23.7
estimated	0.001	20.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	6.3	8.7
Coarse Sand	2.4	3.8
Medium Sand	3.8	---
Fine Sand	20.9	20.9
Silt	36.2	42.9
Clay	30.4	23.7

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

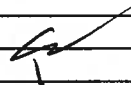
Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: 0
 Specific Gravity at 20° Celsius: 2.66

Classification

Unified Group Symbol: CL
 Group Name: Sandy lean clay
 AASHTO Classification: A-6 (7)

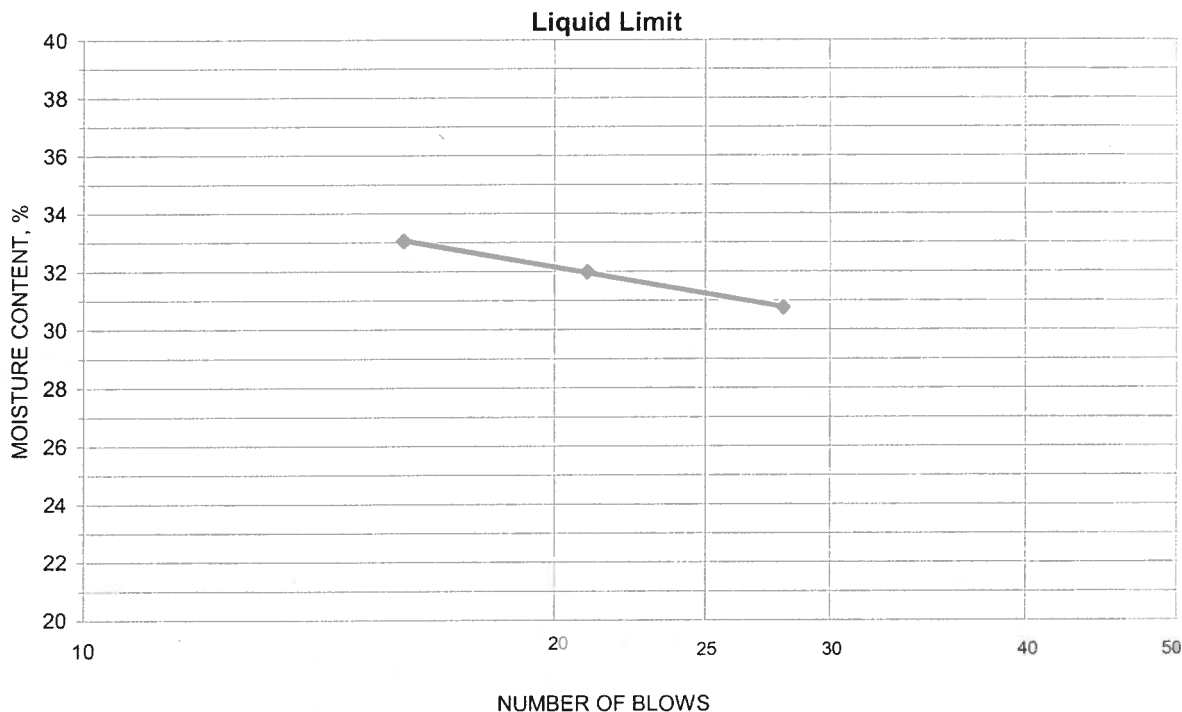
Comments: _____

 Reviewed by: 

Project Widows Creek Fossil Plant (TVA)
 Source STN-101, 55.5'-57.0', 57.0'-58.5', 58.5'-60.0'
 Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-08-2009 Prepared Dry

Project No. 175569036
 Lab ID 838
 % + No. 40 13
 Date Received 06-22-2009


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
21.74	19.11	11.15	16	33.0	31
22.22	19.54	11.16	21	32.0	
22.15	19.53	11.01	28	30.8	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
18.17	17.12	11.19	17.7	18	13
17.72	16.72	11.14	17.9		

Remarks: _____

Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-101, 55.5'-57.0', 57.0'-58.5', 58.5'-60.0'

 Project Number 175569036
 Lab ID 838
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable
 Tested By: rm
 Test Date: 07-02-2009
 Date Received 06-22-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	97.3
3/8"	95.9
No. 4	93.7
No. 10	91.3

Maximum Particle size: 1" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

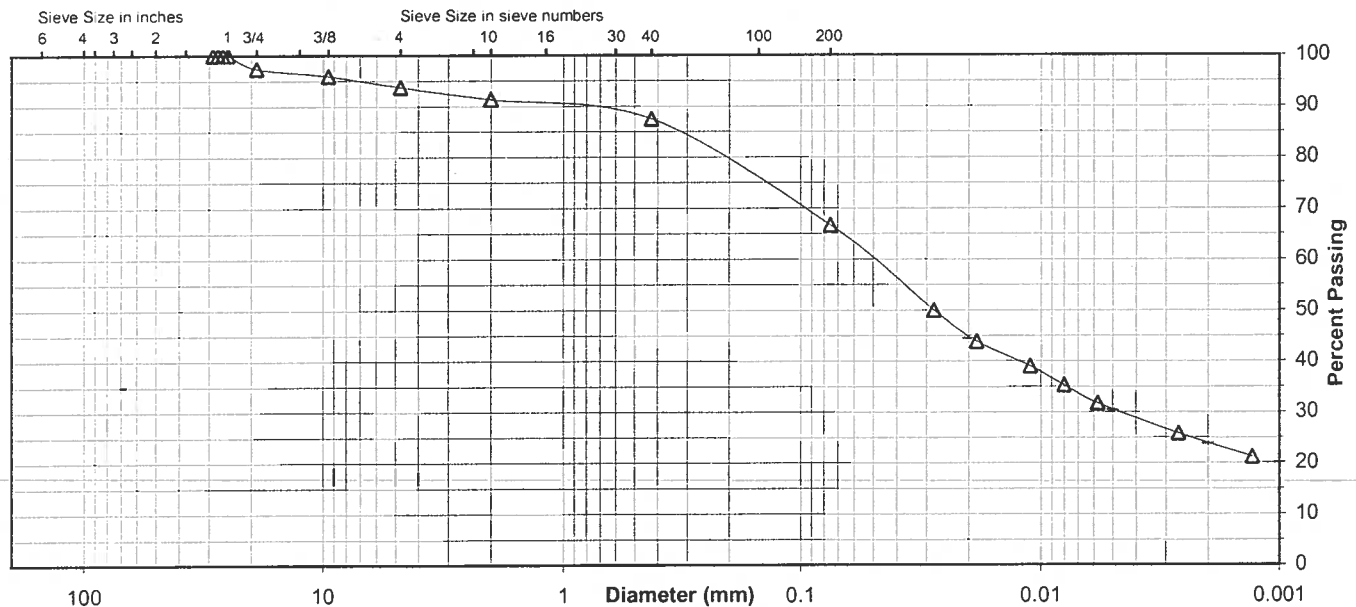
 Specific Gravity 2.66

Dispersed using: Apparatus A - Mechanical, for 1 minute

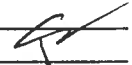
No. 40	87.5
No. 200	66.6
0.02 mm	44.4
0.005 mm	30.4
0.002 mm	23.7
0.001 mm	20.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	2.7	3.6	2.4	3.8	20.9	36.2	30.4
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	8.7		3.8		20.9	42.9	23.7



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-104, 15.0'-16.5', 16.5'-18.0', 18.0'-19.5' Lab ID 916
 County Jackson County, AL Date Received 6-22-09
 Sample Type SPT Comp Date Reported 7-10-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.8
No. 4	4.75	98.4
No. 10	2	92.5
No. 40	0.425	83.2
No. 200	0.075	53.2
	0.02	22.3
	0.005	7.2
	0.002	2.9
estimated	0.001	1.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	1.6	7.5
Coarse Sand	5.9	9.3
Medium Sand	9.3	---
Fine Sand	30.0	30.0
Silt	46.0	50.3
Clay	7.2	2.9

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.32

Classification

Unified Group Symbol: ML
 Group Name: Sandy silt
 AASHTO Classification: A-4 (0)

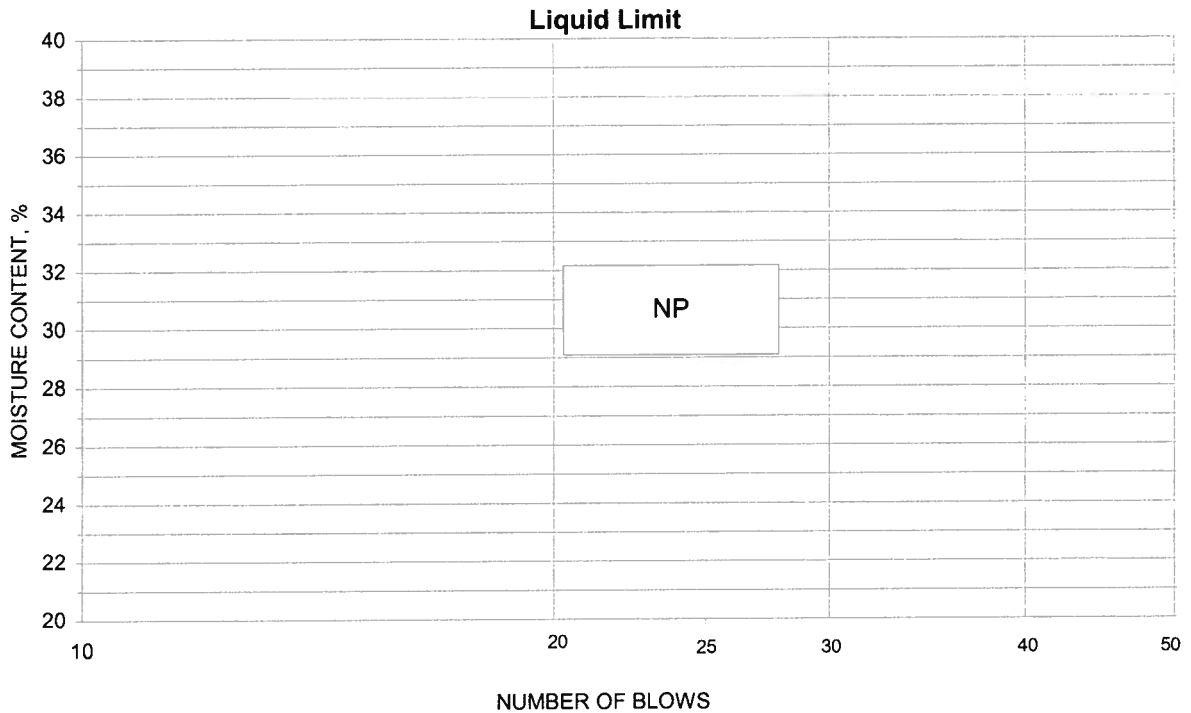
Comments: _____

 Reviewed by: _____

Project Widows Creek Fossil Plant (TVA)
 Source STN-104, 15.0'-16.5', 16.5'-18.0', 18.0'-19.5'
 Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-08-2009 Prepared Dry

Project No. 175569036
 Lab ID 916
 % + No. 40 17
 Date Received 06-22-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By _____

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-104, 15.0'-16.5', 16.5'-18.0', 18.0'-19.5'

 Project Number 175569036
 Lab ID 916
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: cp
 Test Date: 07-02-2009
 Date Received 06-22-2009

Maximum Particle size: 3/4" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.8
No. 4	98.4
No. 10	92.5

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

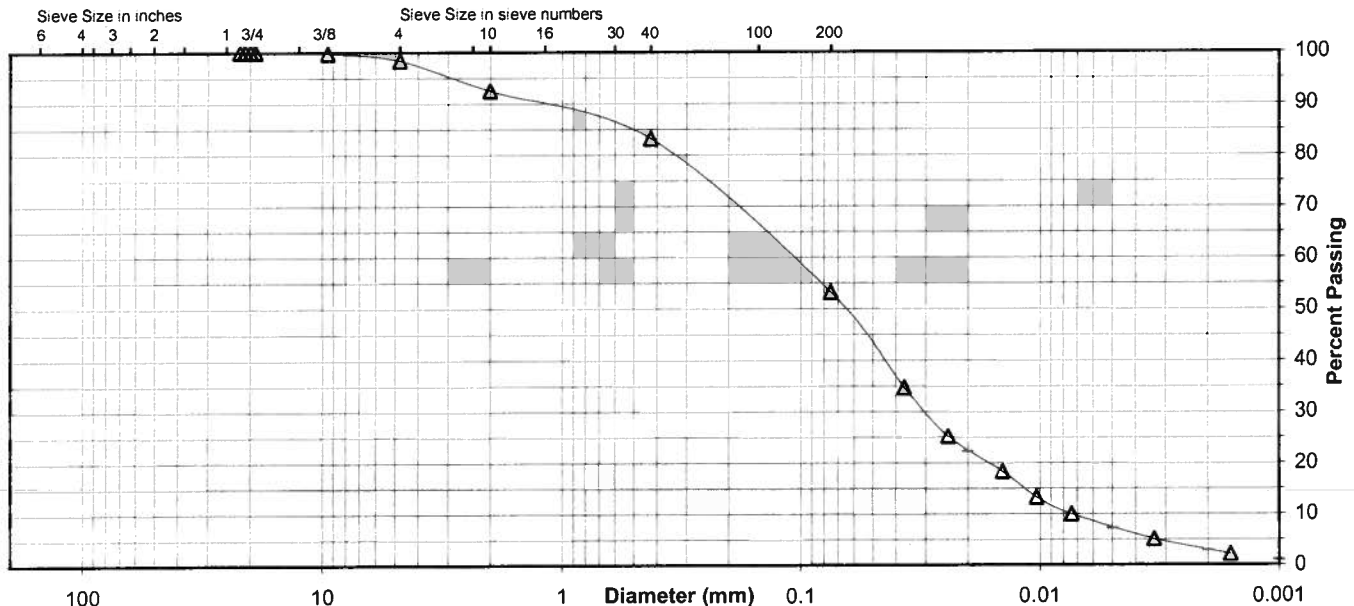
 Specific Gravity 2.32

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	83.2
No. 200	53.2
0.02 mm	22.3
0.005 mm	7.2
0.002 mm	2.9
0.001 mm	1.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	1.6	5.9	9.3	30.0	46.0	7.2
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	7.5		9.3		30.0	50.3	2.9



Comments _____

Reviewed By _____



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-104, 40.0'-41.5', 41.5'-43.0' Lab ID 931
 County Jackson County, AL Date Received 6-22-09
 Sample Type SPT Comp Date Reported 7-10-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 75
 Plastic Limit: 28
 Plasticity Index: 47
 Activity Index: 0.65

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	100.0
No. 4	4.75	100.0
No. 10	2	95.8
No. 40	0.425	95.5
No. 200	0.075	93.8
	0.02	90.9
	0.005	86.3
	0.002	72.2
estimated	0.001	62.0

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.0	4.2
Coarse Sand	4.2	0.3
Medium Sand	0.3	---
Fine Sand	1.7	1.7
Silt	7.5	21.6
Clay	86.3	72.2

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: 0
 Specific Gravity at 20° Celsius: 2.77

Classification

Unified Group Symbol: CH
 Group Name: Fat clay
 AASHTO Classification: A-7-6 (51)

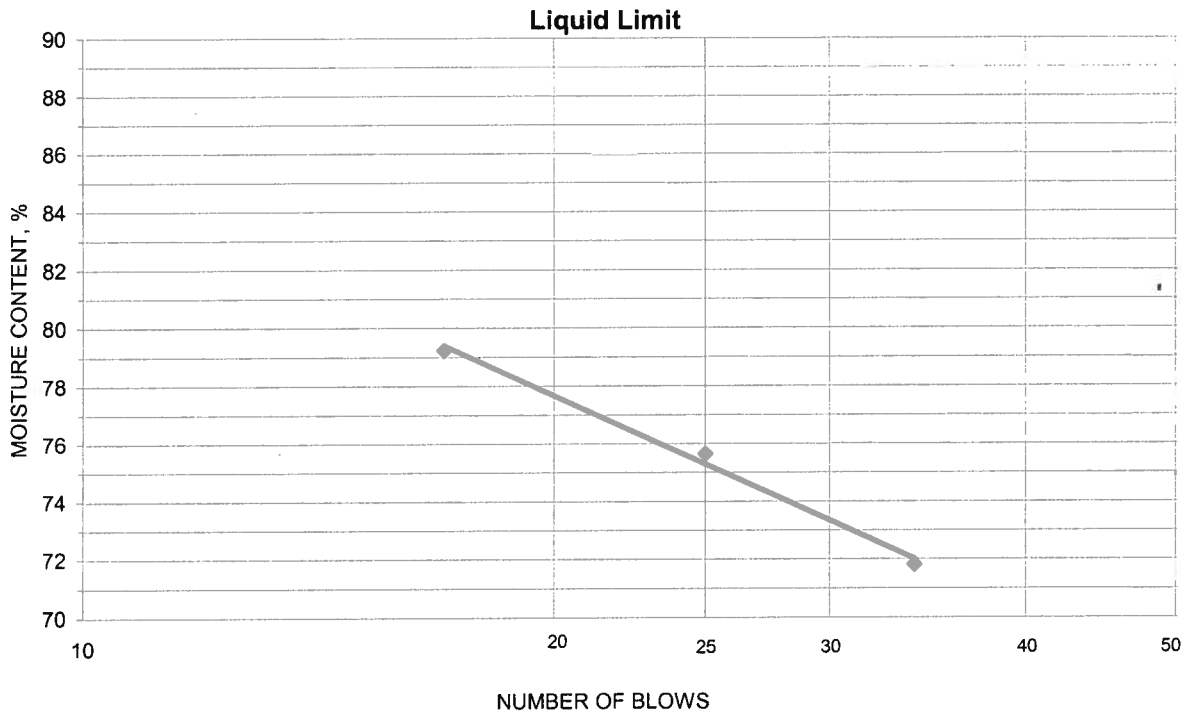
Comments: _____

Reviewed by: _____

Project Widows Creek Fossil Plant (TVA)
 Source STN-104, 40.0'-41.5', 41.5'-43.0'
 Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-08-2009 Prepared Dry

Project No. 175569036
 Lab ID 931
 % + No. 40 5
 Date Received 06-22-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
20.36	16.28	11.13	17	79.2	75
20.55	16.70	11.61	25	75.6	
19.67	16.08	11.08	34	71.8	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.90	16.51	11.56	28.1	28	47
16.99	15.66	10.96	28.3		

Remarks: _____

 Reviewed By _____

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-104, 40.0'-41.5', 41.5'-43.0'

 Project Number 175569036
 Lab ID 931
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: cp
 Test Date: 07-02-2009
 Date Received 06-22-2009

Maximum Particle size: 3/8" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	100.0
No. 10	95.8

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

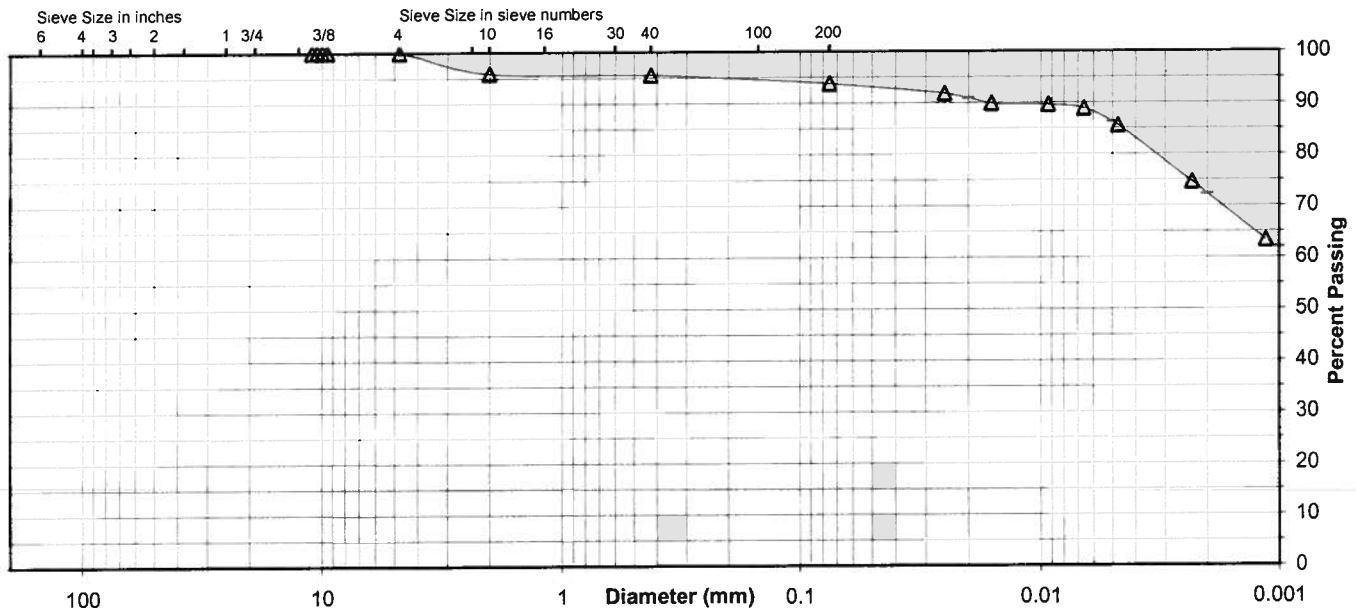
 Specific Gravity 2.77

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	95.5
No. 200	93.8
0.02 mm	90.9
0.005 mm	86.3
0.002 mm	72.2
0.001 mm	62.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.0	4.2	0.3	1.7	7.5	86.3
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	4.2		0.3		1.7	21.6	72.2



Comments _____

Reviewed By _____

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source STN-105, 13.0'-16.0' Lab ID 1290
 County Jackson County, AL Date Received 6-26-09
 Sample Type Bag Date Reported 7-20-09

Test Results
Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 55
 Plastic Limit: 19
 Plasticity Index: 36
 Activity Index: 0.77

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	
		Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.6
No. 4	4.75	99.3
No. 10	2	97.0
No. 40	0.425	91.9
No. 200	0.075	81.8
	0.02	71.6
	0.005	52.7
	0.002	46.9
estimated	0.001	42.3

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.7	3.0
Coarse Sand	2.3	5.1
Medium Sand	5.1	---
Fine Sand	10.1	10.1
Silt	29.1	34.9
Clay	52.7	46.9

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.70

Classification

Unified Group Symbol: CH
 Group Name: Fat clay with sand
 AASHTO Classification: A-7-6 (30)

Comments: _____

Reviewed by: RHB

Project Name Widows Creek Fossil Plant -- TVA
 Source STN-105, 13.0'-16.0'

 Project Number 175569036
 Lab ID 1290
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable

 Tested By: RSB
 Test Date: 07-01-2009
 Date Received 06-26-2009

 Maximum Particle size: 3/4" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.6
No. 4	99.3
No. 10	97.0

Analysis for the portion Finer than the No. 10 Sieve

 Analysis Based on: Total Sample

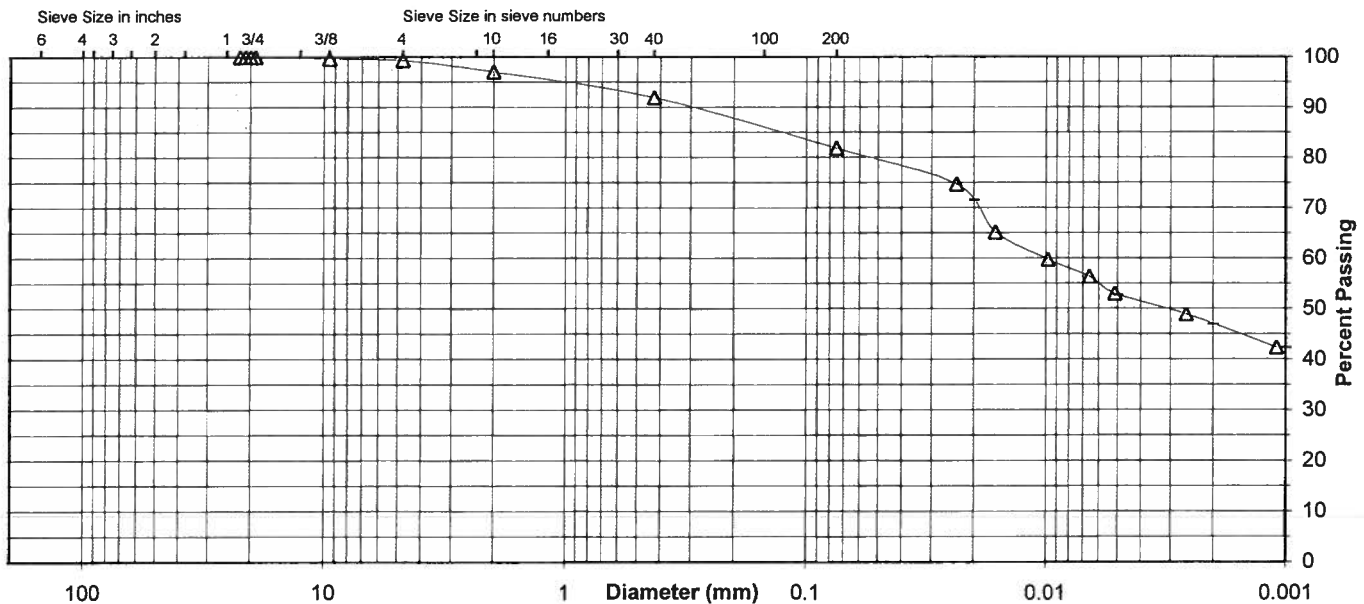
 Specific Gravity 2.7

 Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	91.9
No. 200	81.8
0.02 mm	71.6
0.005 mm	52.7
0.002 mm	46.9
0.001 mm	42.3

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.7	2.3	5.1	10.1	29.1	52.7
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	3.0		5.1		10.1	34.9	46.9



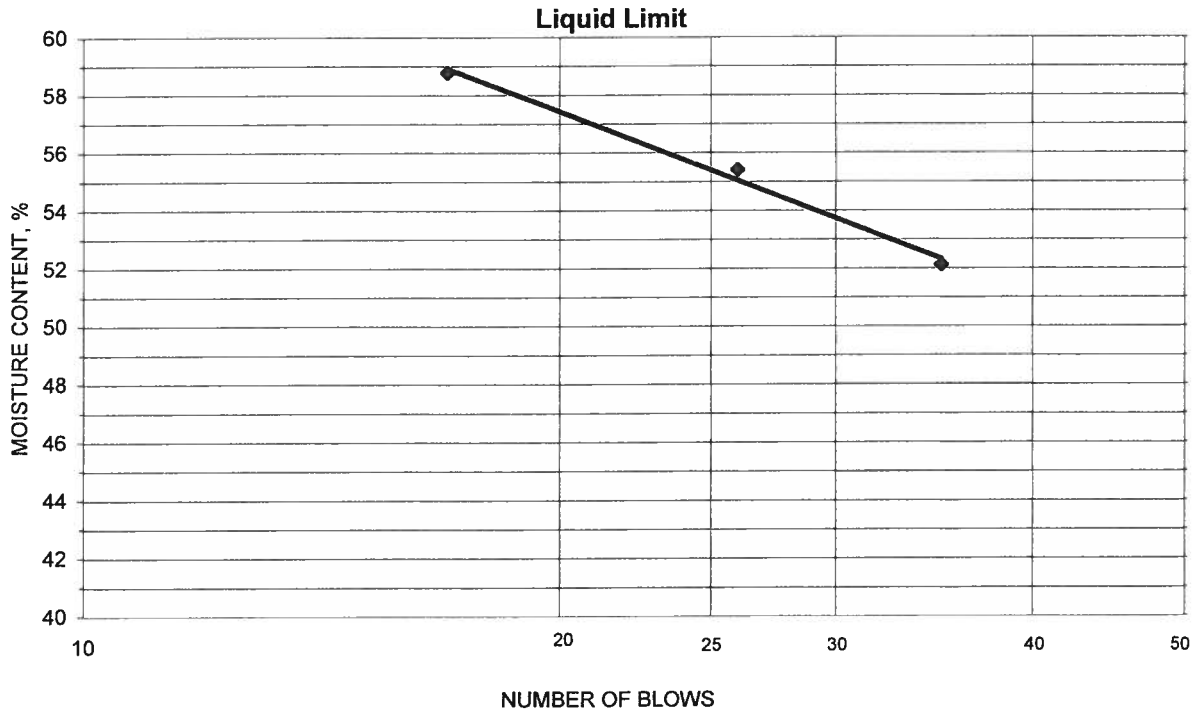
Comments _____

 Reviewed By RHB

Project Widows Creek Fossil Plant -- TVA
 Source STN-105, 13.0'-16.0'
 Tested By AR Test Method ASTM D 4318 Method A
 Test Date 07-13-2009 Prepared Dry

Project No. 175569036
 Lab ID 1290
 % + No. 40 8
 Date Received 06-26-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
14.43	10.84	4.36	26	55.4	55
14.39	10.67	4.34	17	58.8	
14.76	11.19	4.34	35	52.1	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
10.48	9.51	4.35	18.8	19	36
10.54	9.55	4.35	19.0		

Remarks: _____

 Reviewed By RHB



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-106, 12.0'-15.0' Lab ID 591
 County Jackson County, AL Date Received 6-22-09
 Sample Type Bag Date Reported 7-1-09

Test Results

Natural Moisture Content

Test Method: ASTM D 2216
 Moisture Content (%): 32.5

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.8
No. 4	4.75	98.5
No. 10	2	91.6
No. 40	0.425	79.3
No. 200	0.075	62.1
	0.02	33.5
	0.005	8.6
	0.002	3.6
estimated	0.001	2.0

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	1.5	8.4
Coarse Sand	6.9	12.3
Medium Sand	12.3	---
Fine Sand	17.2	17.2
Silt	53.5	58.5
Clay	8.6	3.6

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.32

Classification

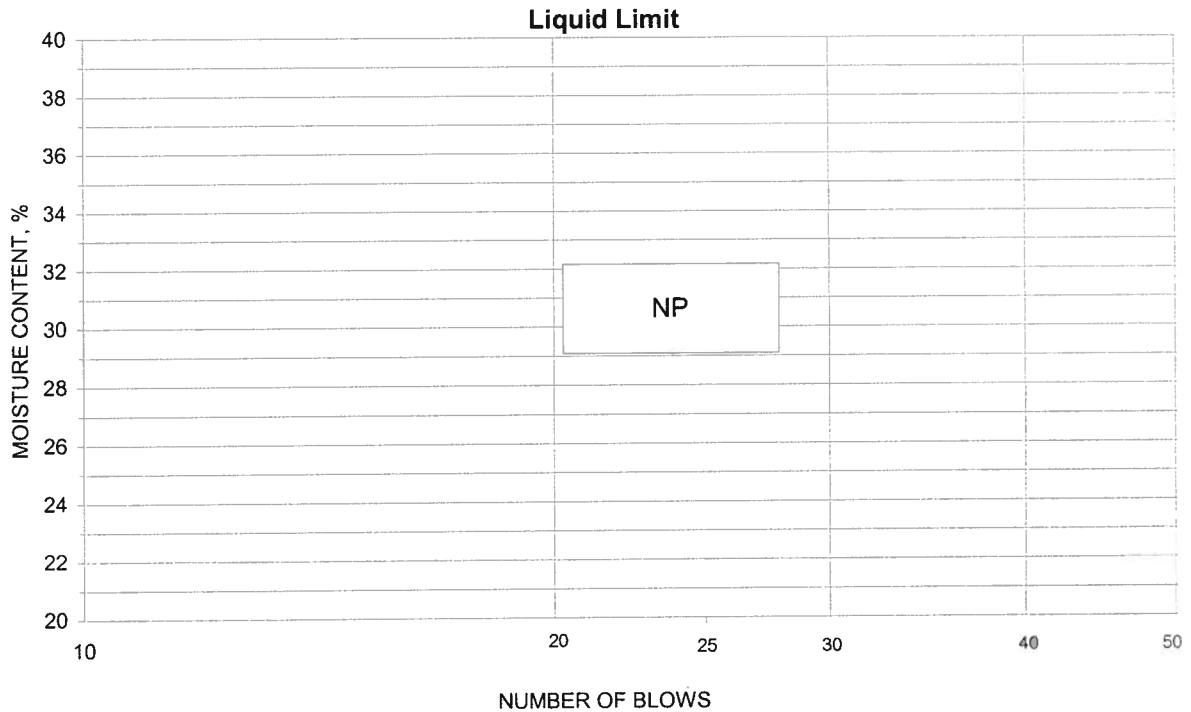
Unified Group Symbol: ML
 Group Name: Sandy silt
 AASHTO Classification: A-4 (0)

Comments: _____
 Reviewed by:

Project Widows Creek Fossil Plant (TVA)
 Source STN-106, 12.0'-15.0'
 Tested By KWS Test Method ASTM D 4318 Method A
 Test Date 06-29-2009 Prepared Dry

Project No. 175569036
 Lab ID 591
 % + No. 40 21
 Date Received 06-22-2009

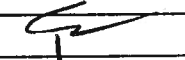
Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-106, 12.0'-15.0'

 Project Number 175569036
 Lab ID 591
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Rounded
 Particle Hardness: Hard and Durable

 Tested By: DB
 Test Date: 06-26-2009
 Date Received: 06-22-2009

 Maximum Particle size: 3/4" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.8
No. 4	98.5
No. 10	91.6

Analysis for the portion Finer than the No. 10 Sieve

 Analysis Based on: Total Sample

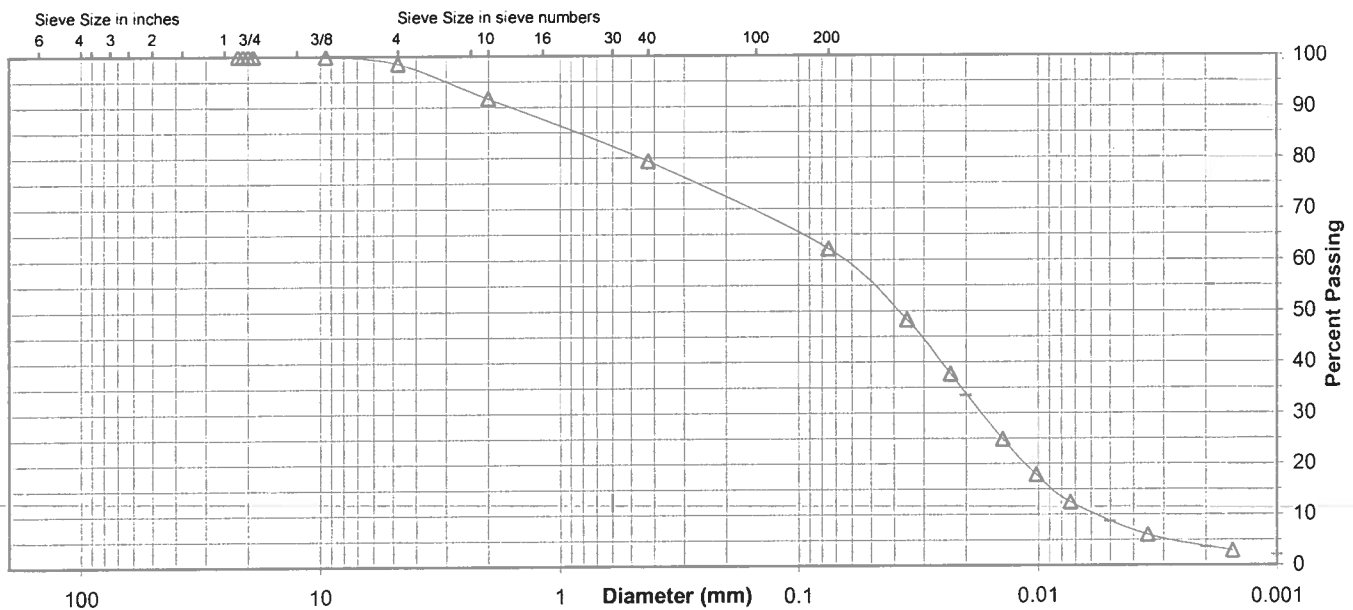
 Specific Gravity 2.32

 Dispersed using: Apparatus A - Mechanical, for 1 minute

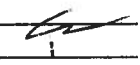
No. 40	79.3
No. 200	62.1
0.02 mm	33.5
0.005 mm	8.6
0.002 mm	3.6
0.001 mm	2.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	1.5	6.9	12.3	17.2	53.5	8.6
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	8.4		12.3		17.2	58.5	3.6



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-107, 13.5'-15.0', 15.0'-16.5', 16.5'-18.0' Lab ID 1195
 County Jackson County, AL Date Received 6-26-09
 Sample Type SPT Comp Date Reported 7-20-09

Test Results

Natural Moisture Content
 Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits
 Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 37
 Plastic Limit: 17
 Plasticity Index: 20
 Activity Index: 0.59

Particle Size Analysis
 Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	100.0
No. 4	4.75	99.4
No. 10	2	97.7
No. 40	0.425	92.3
No. 200	0.075	81.6
	0.02	64.1
	0.005	42.1
	0.002	33.8
estimated	0.001	30.4

Moisture-Density Relationship
 Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio
 Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity
 Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.73

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.6	2.3
Coarse Sand	1.7	5.4
Medium Sand	5.4	---
Fine Sand	10.7	10.7
Silt	39.5	47.8
Clay	42.1	33.8

Classification
 Unified Group Symbol: CL
 Group Name: Lean clay with sand
 AASHTO Classification: A-6 (15)

Comments: _____

Reviewed by: RHS

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-107, 13.5'-15.0', 15.0'-16.5', 16.5'-18.0'

 Project Number 175569036
 Lab ID 1195
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable

 Tested By: RSB
 Test Date: 07-01-2009
 Date Received: 06-26-2009

 Maximum Particle size: 3/8" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	99.4
No. 10	97.7

Analysis for the portion Finer than the No. 10 Sieve

 Analysis Based on: Total Sample

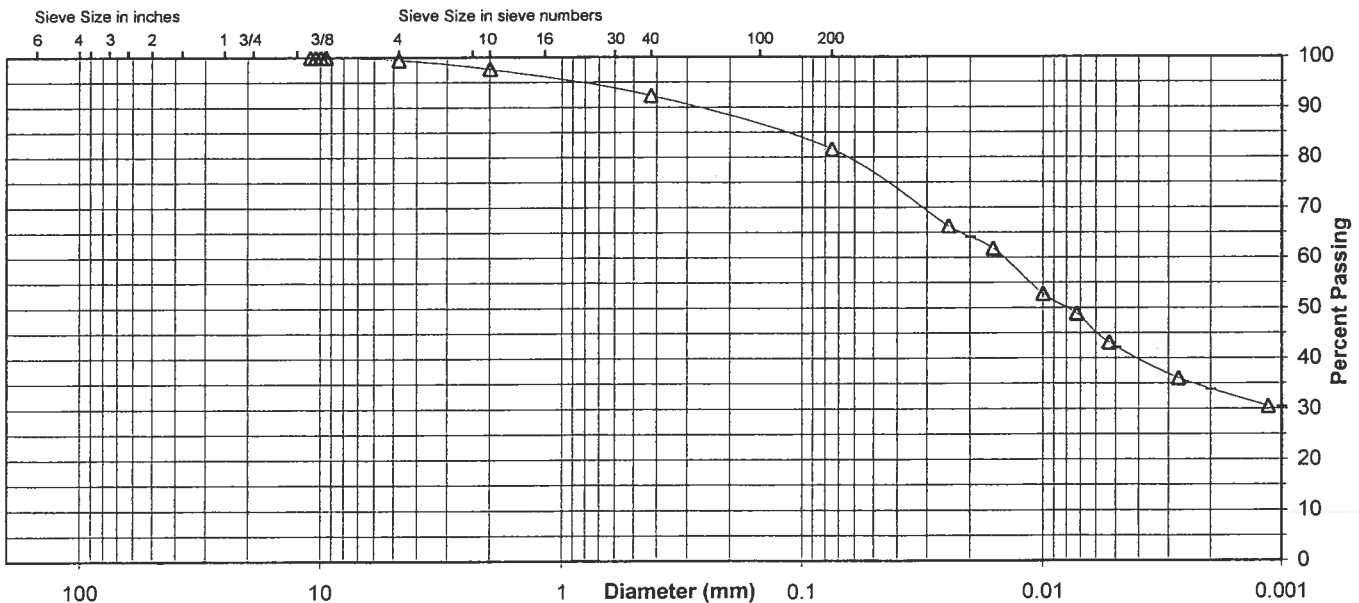
 Specific Gravity 2.73

 Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	92.3
No. 200	81.6
0.02 mm	64.1
0.005 mm	42.1
0.002 mm	33.8
0.001 mm	30.4

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.6	1.7	5.4	10.7	39.5	42.1
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	2.3		5.4		10.7	47.8	33.8



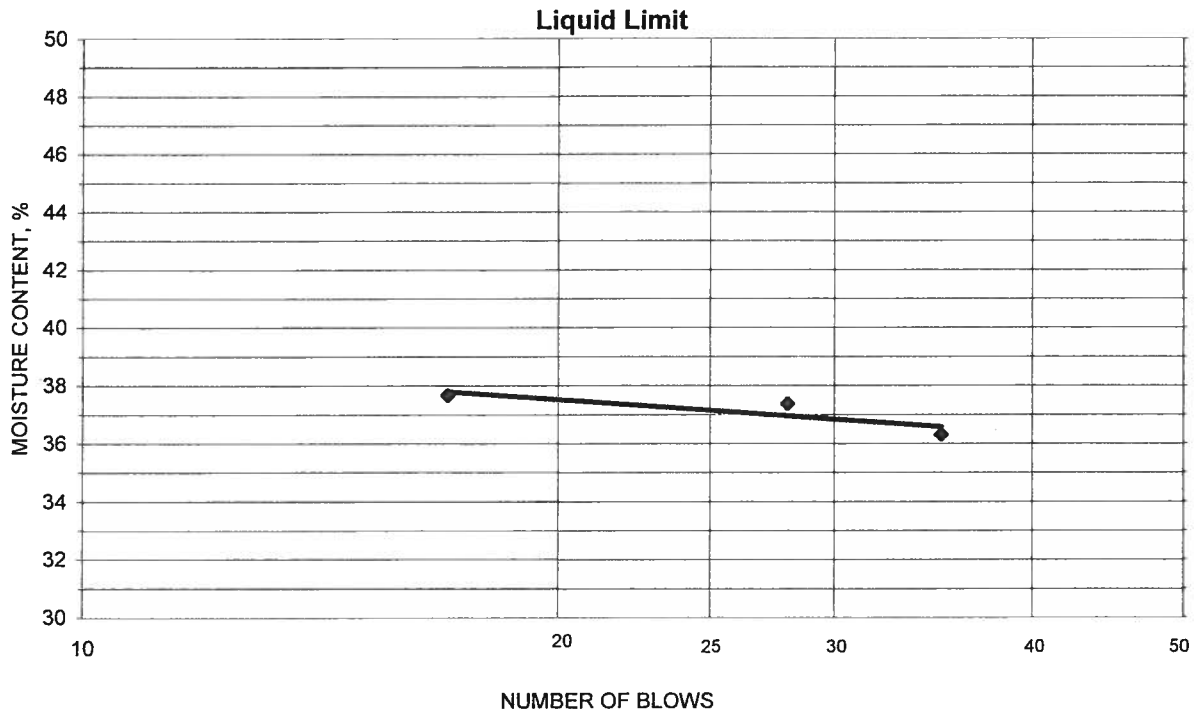
Comments _____

 Reviewed By RHB

Project Widows Creek Fossil Plant (TVA)
 Source STN-107, 13.5'-15.0', 15.0'-16.5', 16.5'-18.0'
 Tested By RHB Test Method ASTM D 4318 Method A
 Test Date 07-15-2009 Prepared Dry

Project No. 175569036
 Lab ID 1195
 % + No. 40 8
 Date Received 06-26-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
12.84	10.52	4.36	17	37.7	37
15.38	12.38	4.35	28	37.4	
13.70	11.21	4.35	35	36.3	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
9.62	8.85	4.33	17.0	17	20
10.97	10.04	4.36	16.4		

Remarks: _____

Reviewed By RHB



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-107, 35.0'-36.5', 36.5'-38.0', 38.0'-39.5' Lab ID 1209
 County Jackson County, AL Date Received 6-26-09
 Sample Type SPT Comp Date Reported 7-20-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.7
No. 4	4.75	98.9
No. 10	2	96.0
No. 40	0.425	92.7
No. 200	0.075	79.4
	0.02	66.6
	0.005	44.1
	0.002	32.7
estimated	0.001	27.5

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	1.1	4.0
Coarse Sand	2.9	3.3
Medium Sand	3.3	---
Fine Sand	13.3	13.3
Silt	35.3	46.7
Clay	44.1	32.7

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 36
 Plastic Limit: 16
 Plasticity Index: 20
 Activity Index: 0.61

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.70

Classification

Unified Group Symbol: CL
 Group Name: Lean clay with sand
 AASHTO Classification: A-6 (14)

Comments: _____

Reviewed by: RHB

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-107, 35.0'-36.5', 36.5'-38.0', 38.0'-39.5'

 Project Number 175569036
 Lab ID 1209
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable

 Tested By: RSB
 Test Date: 07-01-2009
 Date Received 06-26-2009

 Maximum Particle size: 3/4" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.7
No. 4	98.9
No. 10	96.0

Analysis for the portion Finer than the No. 10 Sieve

 Analysis Based on: Total Sample

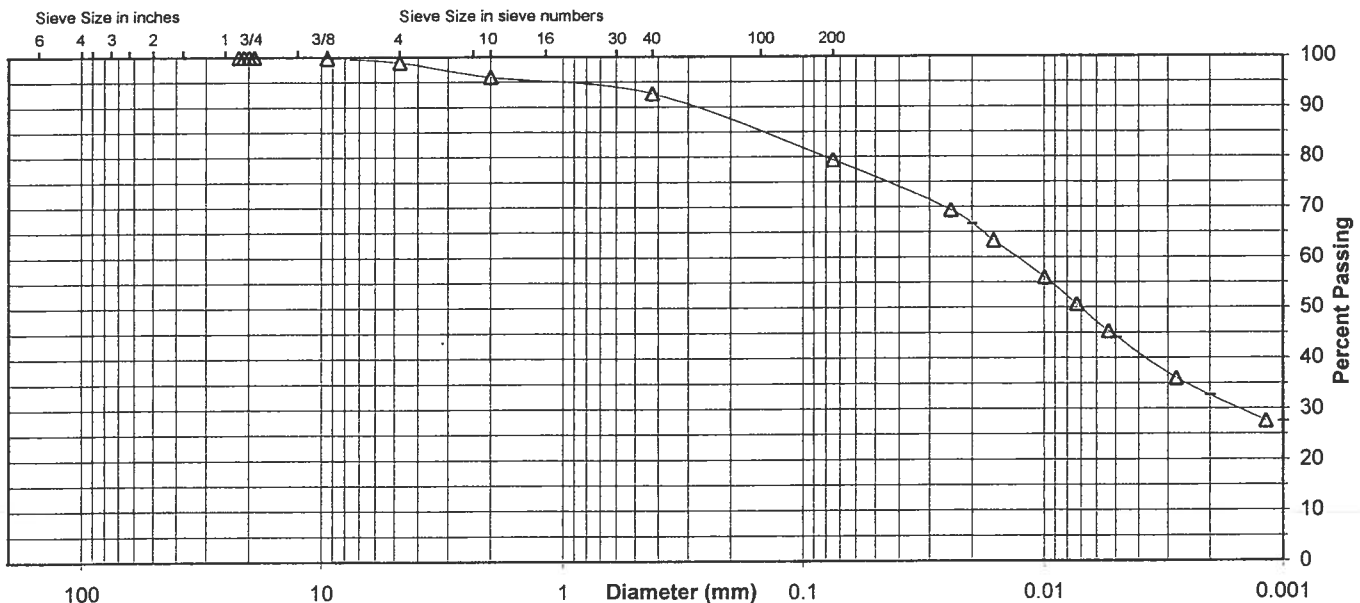
 Specific Gravity 2.7

 Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	92.7
No. 200	79.4
0.02 mm	66.6
0.005 mm	44.1
0.002 mm	32.7
0.001 mm	27.5

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	1.1	2.9	3.3	13.3	35.3	44.1
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	4.0		3.3		13.3	46.7	32.7



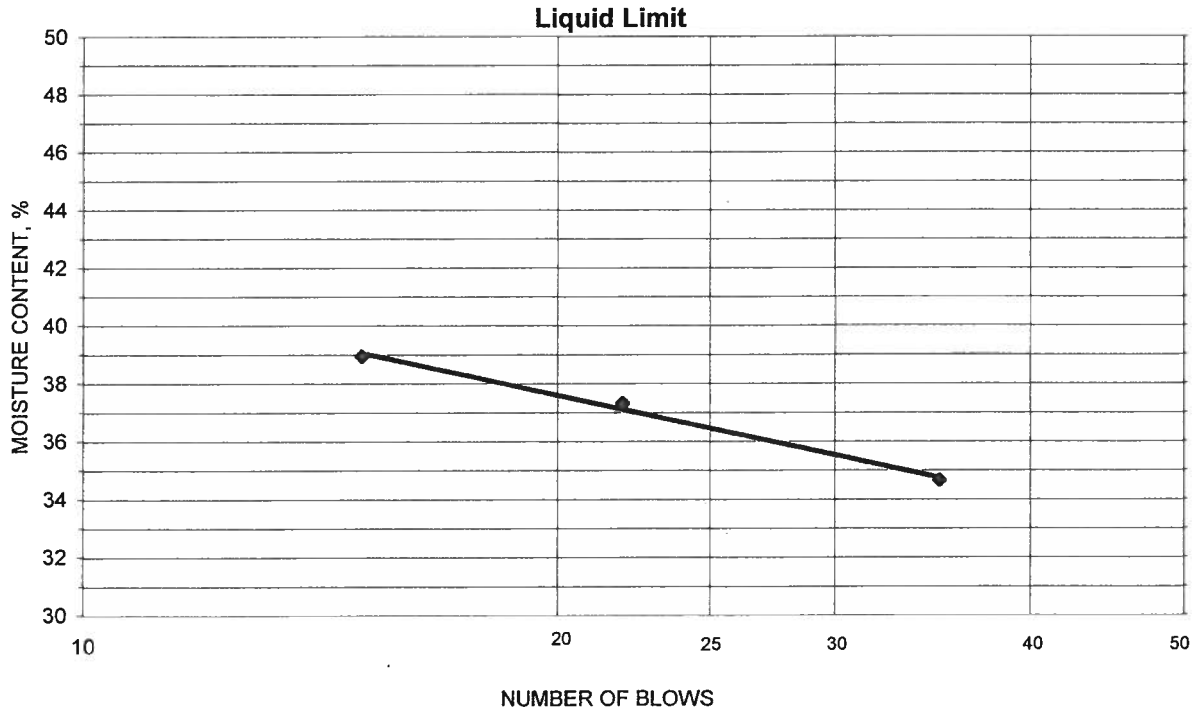
Comments _____

 Reviewed By RSB

Project Widows Creek Fossil Plant (TVA)
 Source STN-107, 35.0'-36.5', 36.5'-38.0', 38.0'-39.5'
 Tested By RHB Test Method ASTM D 4318 Method A
 Test Date 07-14-2009 Prepared Dry

Project No. 175569036
 Lab ID 1209
 % + No. 40 7
 Date Received 06-26-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
13.89	11.43	4.33	35	34.6	36
15.09	12.18	4.38	22	37.3	
14.15	11.42	4.41	15	38.9	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
8.18	7.66	4.36	15.8	16	20
8.87	8.24	4.34	16.2		

Remarks: _____
 _____ Reviewed By RHB



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-107, 51.0'-52.5', 52.5'-54.0' Lab ID 1218

County Jackson County, AL Date Received 6-26-09
 Sample Type SPT Composite Date Reported 7-13-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	95.7
No. 4	4.75	91.5
No. 10	2	85.2
No. 40	0.425	80.2
No. 200	0.075	24.7
	0.02	14.7
	0.005	10.0
	0.002	8.2
estimated	0.001	6.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	8.5	14.8
Coarse Sand	6.3	5.0
Medium Sand	5.0	---
Fine Sand	55.5	55.5
Silt	14.7	16.5
Clay	10.0	8.2

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.69

Classification

Unified Group Symbol: SM
 Group Name: Silty sand
 AASHTO Classification: A-2-4 (0)

Comments: _____

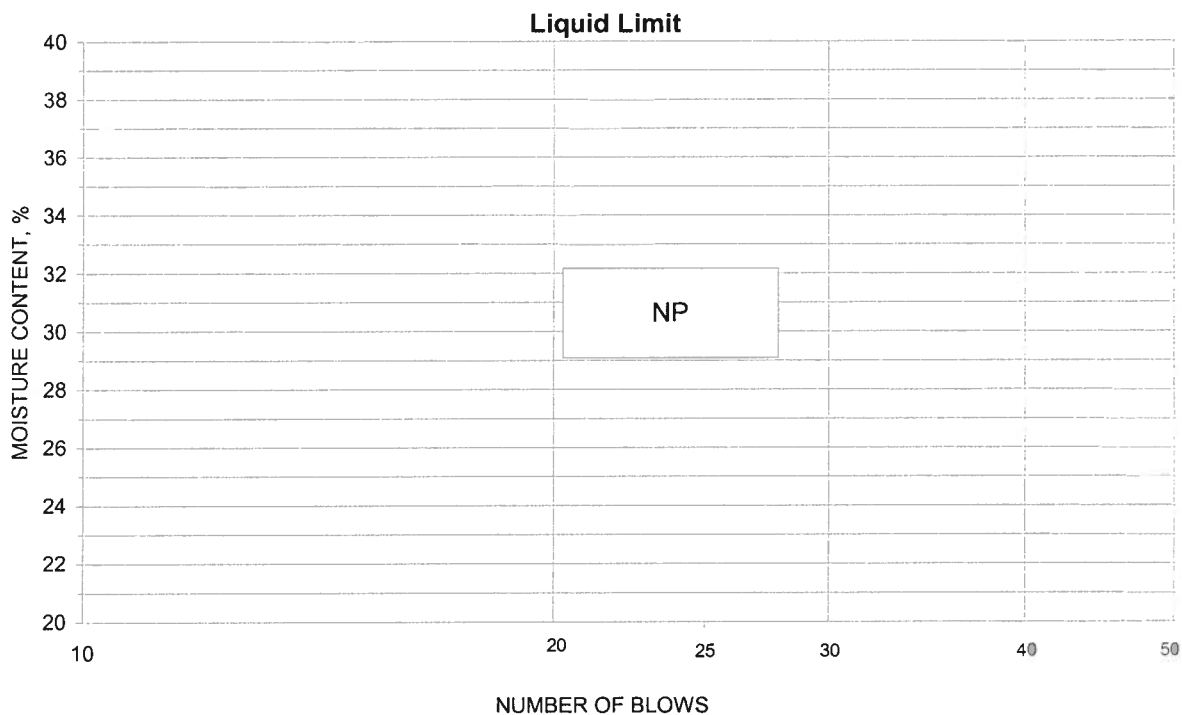
 Reviewed by:

Project Widows Creek Fossil Plant (TVA)
 Source STN-107, 51.0'-52.5', 52.5'-54.0'

Project No. 175569036
 Lab ID 1218
 % + No. 40 20
 Date Received 06-26-2009

Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-08-2009 Prepared Dry

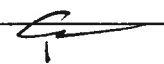
Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-107, 51.0'-52.5', 52.5'-54.0'

 Project Number 175569036
 Lab ID 1218
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: cp
 Test Date: 07-02-2009
 Date Received 06-26-2009

Maximum Particle size: 3/4" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	95.7
No. 4	91.5
No. 10	85.2

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

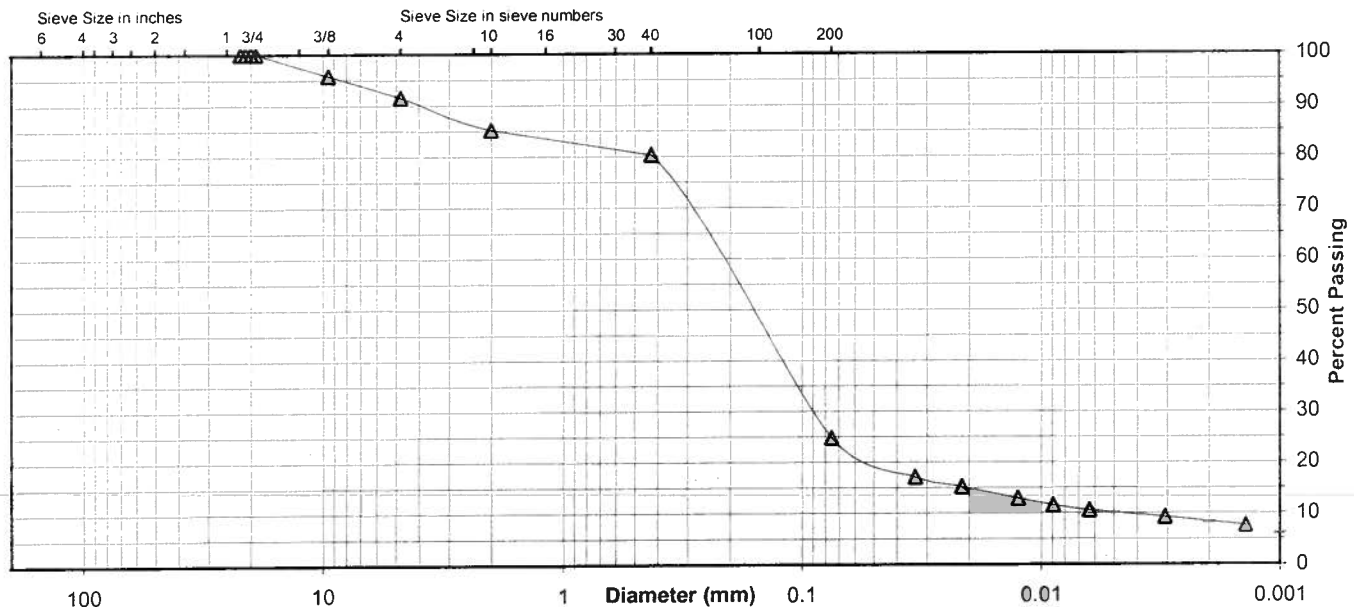
 Specific Gravity 2.69

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	80.2
No. 200	24.7
0.02 mm	14.7
0.005 mm	10.0
0.002 mm	8.2
0.001 mm	6.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	8.5	6.3	5.0	55.5	14.7	10.0
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	14.8		5.0		55.5	16.5	8.2



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-108, 20.5'-22.0', 22.0'-23.5', 19.7'-20.5' Lab ID 403
 County Jackson County, AL Date Received 6-2-09
 Sample Type SPT Comp Date Reported 6-25-09

Test Results

Natural Moisture Content
 Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits
 Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 25
 Plastic Limit: 24
 Plasticity Index: 1
 Activity Index: 0.09

Particle Size Analysis
 Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	100.0
No. 4	4.75	99.9
No. 10	2	99.9
No. 40	0.425	99.6
No. 200	0.075	45.4
	0.02	25.2
	0.005	15.7
	0.002	11.2
estimated	0.001	10.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.1	0.1
Coarse Sand	0.0	0.3
Medium Sand	0.3	---
Fine Sand	54.2	54.2
Silt	29.7	34.2
Clay	15.7	11.2

Moisture-Density Relationship
 Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio
 Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity
 Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.65

Classification
 Unified Group Symbol: SM
 Group Name: Silty sand
 AASHTO Classification: A-4 (0)

Comments: _____

Reviewed by: RHS

Project Name Widows Creek Fossil Plant -- TVA
 Source SB-108, 20.5'-22.0', 22.0'-23.5', 19.7'-20.5'

 Project Number 175569036
 Lab ID 403
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: AR
 Test Date: 06-10-2009
 Date Received: 06-02-2009

 Maximum Particle size: 3/8" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	100.0
No. 4	99.9
No. 10	99.9

Analysis for the portion Finer than the No. 10 Sieve

 Analysis Based on: Total Sample

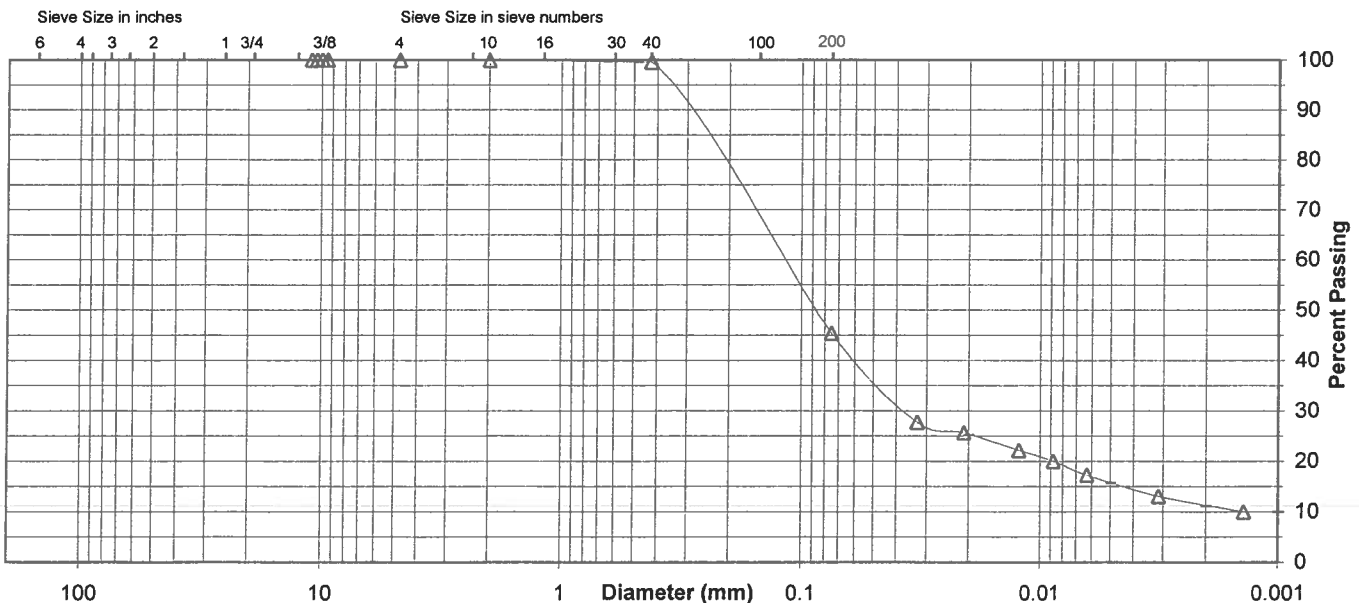
 Specific Gravity 2.65

 Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	99.6
No. 200	45.4
0.02 mm	25.2
0.005 mm	15.7
0.002 mm	11.2
0.001 mm	10.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.1	0.0	0.3	54.2	29.7	15.7
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt		Clay
	0.1		0.3	54.2	34.2		11.2



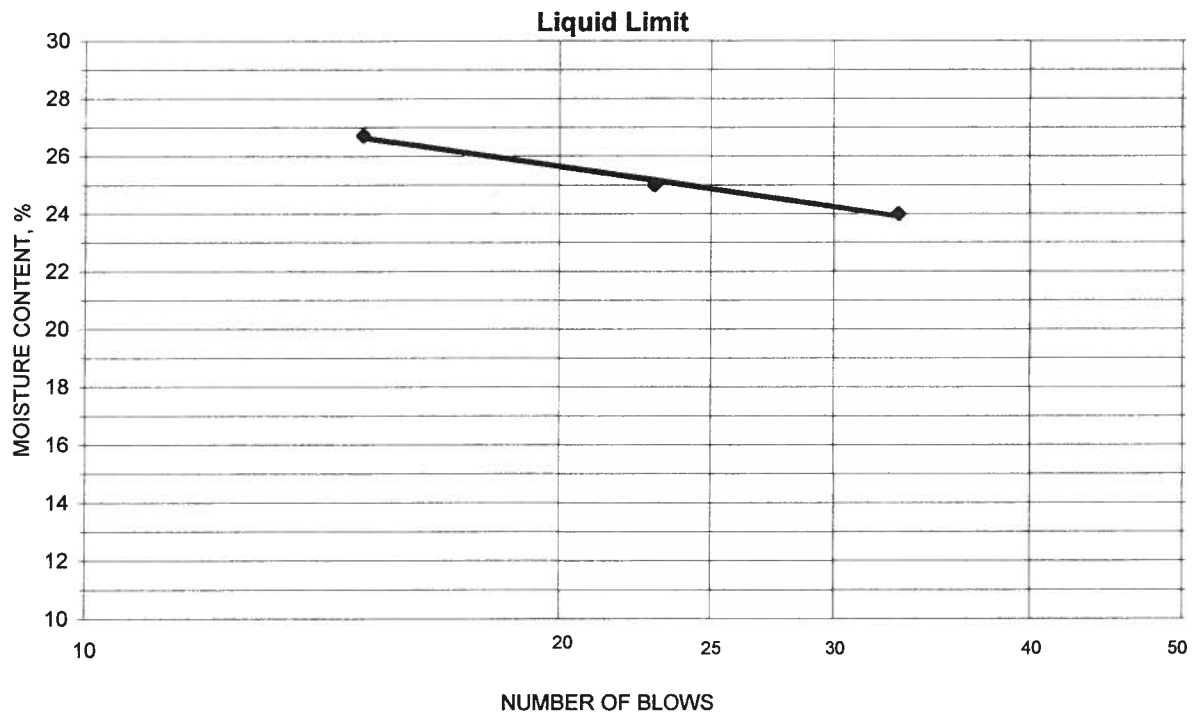
Comments _____

 Reviewed By RH8

Project Widows Creek Fossil Plant -- TVA
 Source SB-108, 20.5'-22.0', 22.0'-23.5', 19.7'-20.5'
 Tested By AR Test Method ASTM D 4318 Method A
 Test Date 06-11-2009 Prepared Dry

Project No. 175569036
 Lab ID 403
 % + No. 40 0
 Date Received 06-02-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
26.53	23.30	10.38	23	25.0	25
25.42	22.02	9.29	15	26.7	
25.96	23.22	11.80	33	24.0	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.47	16.42	12.05	24.0	24	1
17.64	16.53	11.73	23.1		

Remarks: _____

Reviewed By RH0



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-109, 23.0'-24.5', 24.5'-26.0', 26.0'-26.3' Lab ID 968
 County Jackson County, AL Date Received 6-22-09
 Sample Type SPT Comp Date Reported 7-10-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	100.0
1"	25	92.8
3/4"	19	88.3
3/8"	9.5	75.0
No. 4	4.75	65.6
No. 10	2	59.2
No. 40	0.425	51.4
No. 200	0.075	31.5
	0.02	18.9
	0.005	12.3
	0.002	9.5
estimated	0.001	8.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	34.4	40.8
Coarse Sand	6.4	7.8
Medium Sand	7.8	---
Fine Sand	19.9	19.9
Silt	19.2	22.0
Clay	12.3	9.5

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 28
 Plastic Limit: 17
 Plasticity Index: 11
 Activity Index: 1.10

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: 0
 Specific Gravity at 20° Celsius: 2.70

Classification

Unified Group Symbol: GC
 Group Name: Clayey gravel with sand
 AASHTO Classification: A-2-6 (0)

Comments: _____
 Reviewed by: [Signature]

Project Widows Creek Fossil Plant (TVA)
 Source STN-109, 23.0'-24.5', 24.5'-26.0', 26.0'-26.3'

Project No. 175569036

Lab ID 968

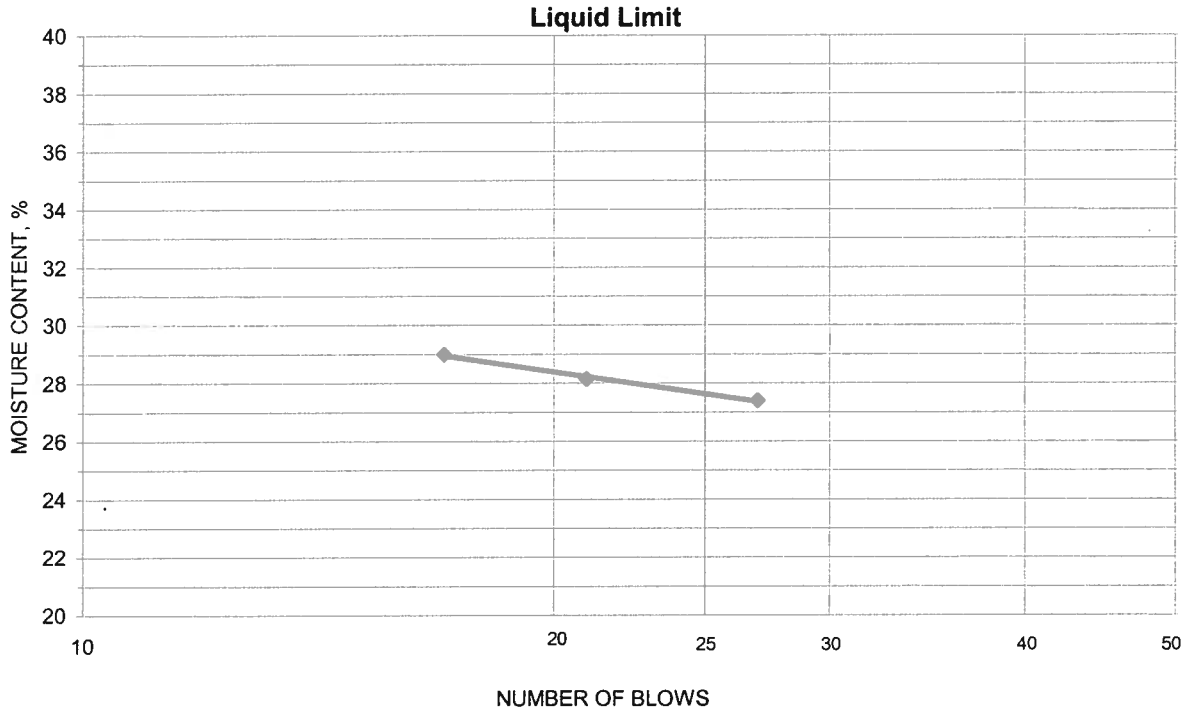
% + No. 40 49

Tested By DB Test Method ASTM D 4318 Method A

Date Received 06-22-2009

Test Date 07-08-2009 Prepared Dry


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
22.81	20.14	10.93	17	29.0	28
21.09	18.87	10.98	21	28.1	
22.62	20.16	11.18	27	27.4	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.25	16.37	11.14	16.8	17	11
18.64	17.51	10.85	17.0		

Remarks: _____

Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-109, 23.0'-24.5', 24.5'-26.0', 26.0'-26.3'

 Project Number 175569036
 Lab ID 968
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Rounded and Angular
 Particle Hardness: Hard and Durable

 Tested By: BWT
 Test Date: 07-06-2009
 Date Received: 06-22-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	100.0
1"	92.8
3/4"	88.3
3/8"	75.0
No. 4	65.6
No. 10	59.2

Maximum Particle size: 1 1/2" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

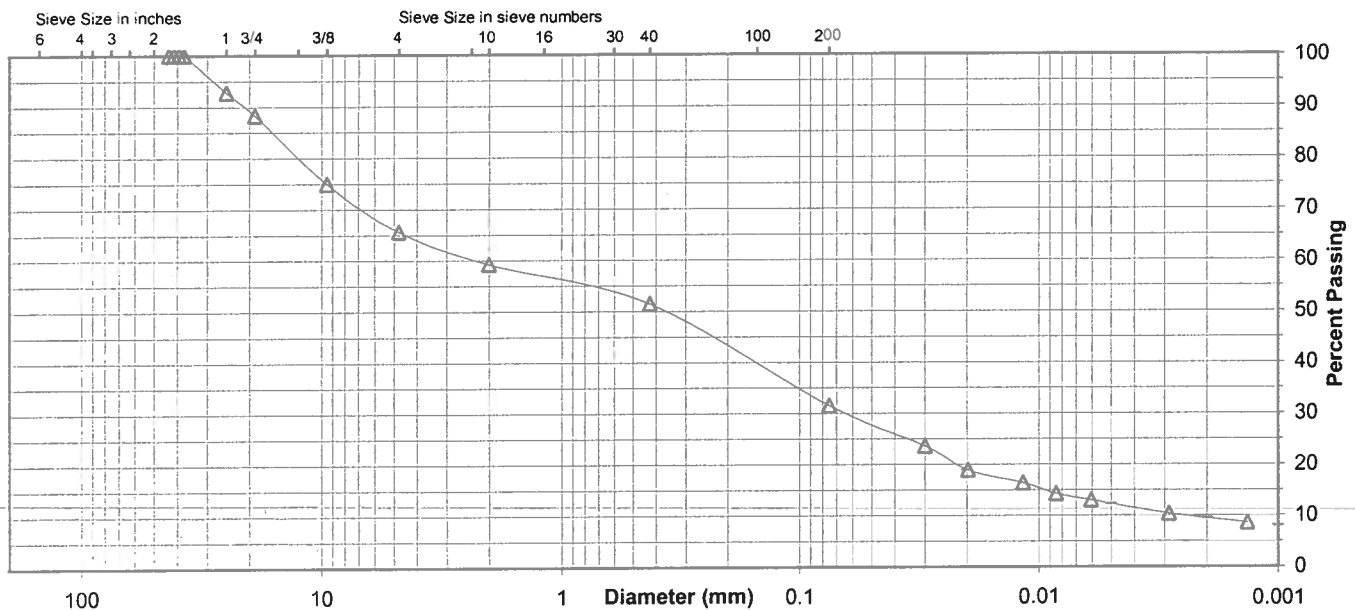
 Specific Gravity 2.7

Dispersed using: Apparatus A - Mechanical, for 1 minute


No. 40	51.4
No. 200	31.5
0.02 mm	18.9
0.005 mm	12.3
0.002 mm	9.5
0.001 mm	8.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	11.7	22.7	6.4	7.8	19.9	19.2	12.3
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	40.8		7.8		19.9	22.0	9.5



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-110, 13.0'-15.0' Lab ID 592
 County Jackson County, AL Date Received 6-22-09
 Sample Type Bag Date Reported 7-1-09

Test Results

Natural Moisture Content

Test Method: ASTM D 2216
 Moisture Content (%): 23.8

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 50
 Plastic Limit: 23
 Plasticity Index: 27
 Activity Index: 0.63

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.9
No. 4	4.75	99.9
No. 10	2	98.6
No. 40	0.425	98.4
No. 200	0.075	94.5
	0.02	73.4
	0.005	53.3
	0.002	42.9
estimated	0.001	36.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.1	1.4
Coarse Sand	1.3	0.2
Medium Sand	0.2	---
Fine Sand	3.9	3.9
Silt	41.2	51.6
Clay	53.3	42.9

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.77

Classification

Unified Group Symbol: CH/CL
 Group Name: Fat clay
 AASHTO Classification: A-7-6 (28)

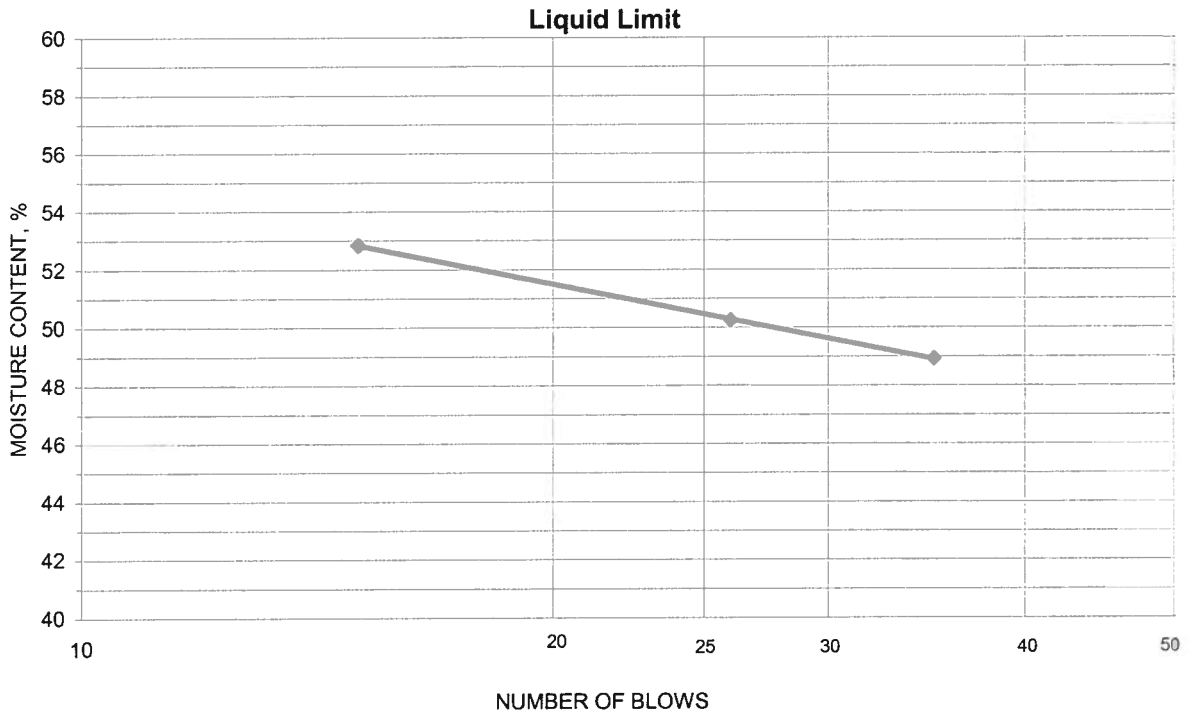
Comments: _____

Reviewed by:

Project Widows Creek Fossil Plant (TVA)
 Source STN-110, 13.0'-15.0'
 Tested By KWS Test Method ASTM D 4318 Method A
 Test Date 06-29-2009 Prepared Dry

Project No. 175569036
 Lab ID 592
 % + No. 40 2
 Date Received 06-22-2009


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
19.27	16.56	11.02	35	48.9	50
19.75	16.76	10.81	26	50.3	
20.00	16.83	10.83	15	52.8	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.55	16.33	11.11	23.4	23	27
18.08	16.75	10.93	22.9		

Remarks: _____

Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-110, 13.0'-15.0'

 Project Number 175569036
 Lab ID 592
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Soft

 Tested By: DG
 Test Date: 06-26-2009
 Date Received: 06-22-2009

 Maximum Particle size: 3/4" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.9
No. 4	99.9
No. 10	98.6

Analysis for the portion Finer than the No. 10 Sieve

 Analysis Based on: Total Sample

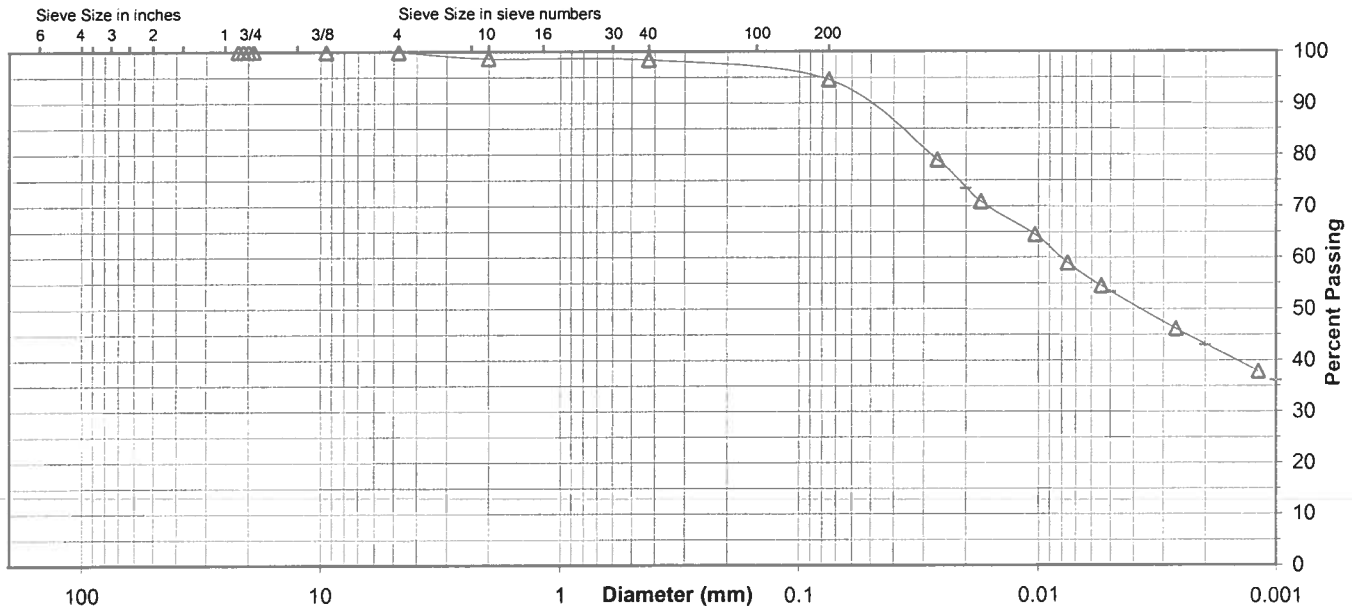
 Specific Gravity 2.77

 Dispersed using: Apparatus A - Mechanical, for 1 minute

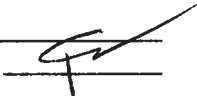
No. 40	98.4
No. 200	94.5
0.02 mm	73.4
0.005 mm	53.3
0.002 mm	42.9
0.001 mm	36.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.1	1.3	0.2	3.9	41.2	53.3
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt		Clay
	1.4		0.2	3.9	51.6		42.9



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-110, 20.0'-21.5', 21.5'-23.0', 23.0'-24.5' Lab ID 972
 County Jackson County, AL Date Received 6-22-09
 Sample Type SPT Comp Date Reported 7-10-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 39
 Plastic Limit: 20
 Plasticity Index: 19
 Activity Index: 0.63

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		% Passing
Sieve Size	(mm)	
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	100.0
3/4"	19	98.6
3/8"	9.5	97.1
No. 4	4.75	94.9
No. 10	2	93.1
No. 40	0.425	90.1
No. 200	0.075	81.4
	0.02	55.2
	0.005	37.3
	0.002	30.1
estimated	0.001	25.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	5.1	6.9
Coarse Sand	1.8	3.0
Medium Sand	3.0	---
Fine Sand	8.7	8.7
Silt	44.1	51.3
Clay	37.3	30.1

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: 0
 Specific Gravity at 20° Celsius: 2.76

Classification

Unified Group Symbol: CL
 Group Name: Lean clay with sand
 AASHTO Classification: A-6 (15)

Comments: _____

 Reviewed by: [Signature]

Project Widows Creek Fossil Plant (TVA)
 Source STN-110, 20.0'-21.5', 21.5'-23.0', 23.0'-24.5'

Project No. 175569036

Lab ID 972

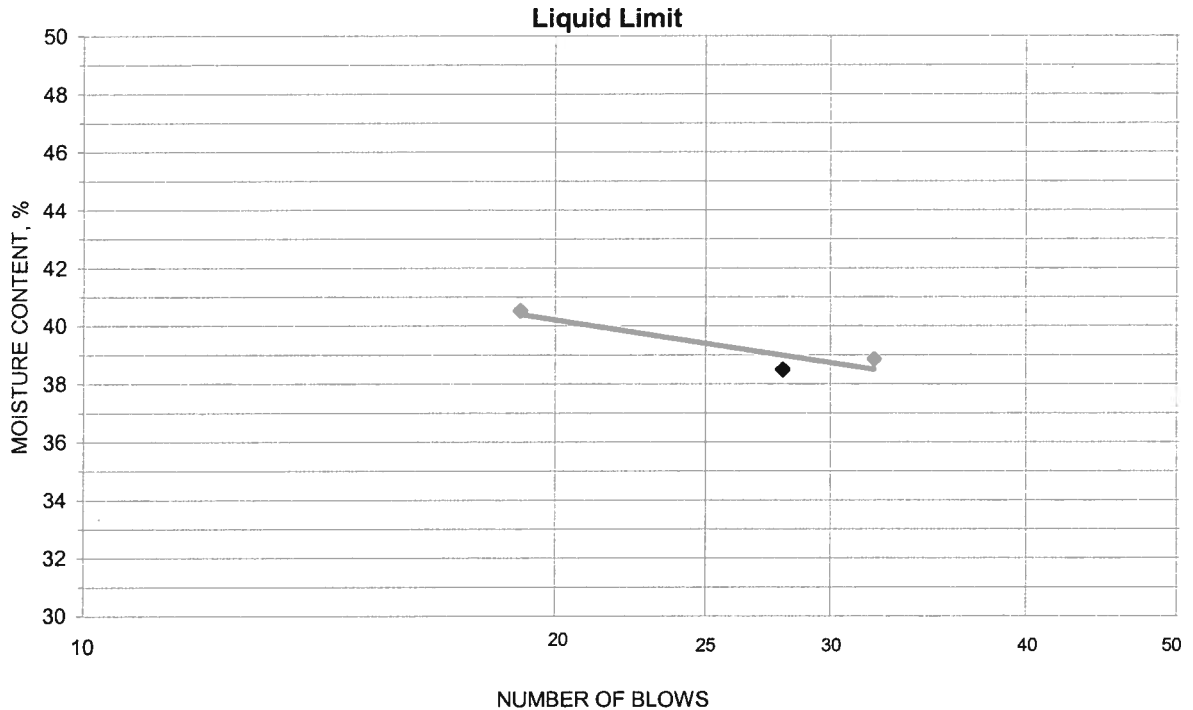
% + No. 40

Date Received 06-22-2009

Tested By DB Test Method ASTM D 4318 Method A

Test Date 07-08-2009 Prepared Dry

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
21.13	18.38	11.30	32	38.8	39
20.82	17.96	10.90	19	40.5	
21.12	18.29	10.94	28	38.5	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.96	16.84	11.22	19.9	20	19
18.31	17.12	10.91	19.2		

Remarks: _____
 Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-110, 20.0'-21.5', 21.5'-23.0', 23.0'-24.5'

 Project Number 175569036
 Lab ID 972
Sieve analysis for the Portion Coarser than the No. 10 Sieve

 Test Method: ASTM D 422
 Prepared using: ASTM D 421

 Particle Shape: Angular
 Particle Hardness: Hard and Durable

 Tested By: BWT
 Test Date: 07-06-2009
 Date Received: 06-22-2009

Maximum Particle size: 1" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	100.0
3/4"	98.6
3/8"	97.1
No. 4	94.9
No. 10	93.1

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

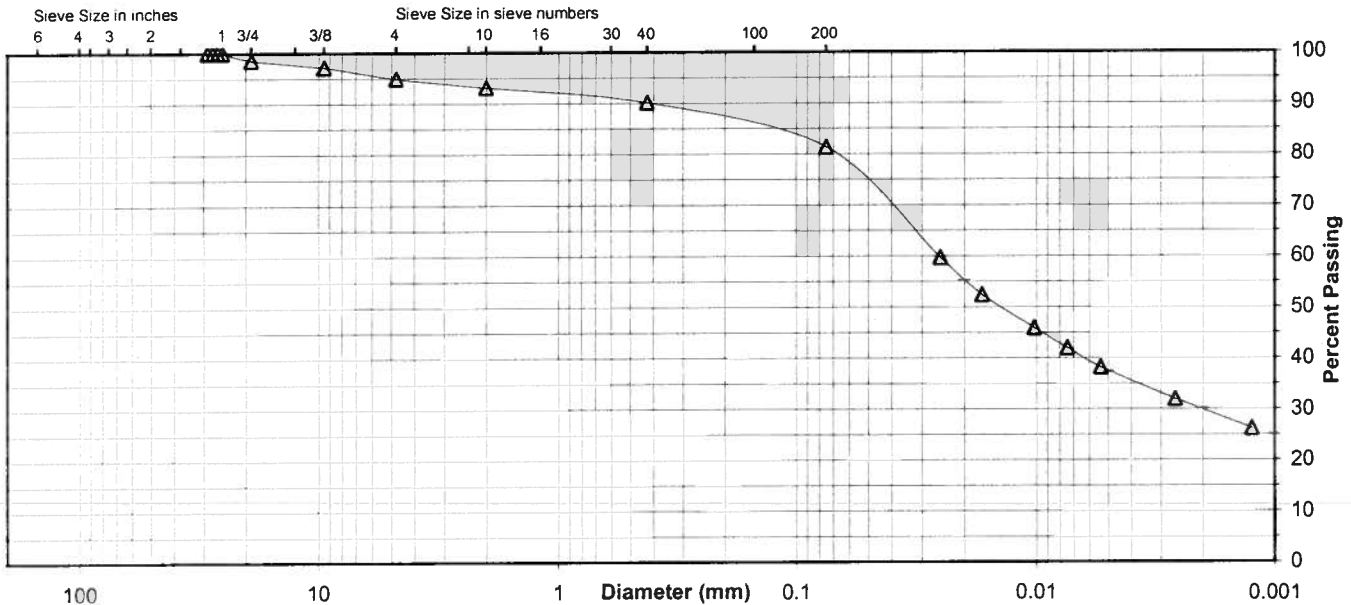
 Specific Gravity 2.76

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	90.1
No. 200	81.4
0.02 mm	55.2
0.005 mm	37.3
0.002 mm	30.1
0.001 mm	25.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	1.4	3.7	1.8	3.0	8.7	44.1	37.3
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt	Clay
	6.9		3.0		8.7	51.3	30.1



Comments _____

 Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-111, 21.5'-23.0', 23.0'-24.5' Lab ID 1010
 County Jackson County, AL Date Received 6-23-09
 Sample Type SPT Composite Date Reported 7-13-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 29
 Plastic Limit: 17
 Plasticity Index: 12
 Activity Index: 0.60

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	
3/8"	9.5	
No. 4	4.75	
No. 10	2	100.0
No. 40	0.425	99.7
No. 200	0.075	65.4
	0.02	39.9
	0.005	26.5
	0.002	20.4
estimated	0.001	15.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	0.0	0.0
Coarse Sand	0.0	0.3
Medium Sand	0.3	---
Fine Sand	34.3	34.3
Silt	38.9	45.0
Clay	26.5	20.4

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.62

Classification

Unified Group Symbol: CL
 Group Name: Sandy lean clay
 AASHTO Classification: A-6 (5)

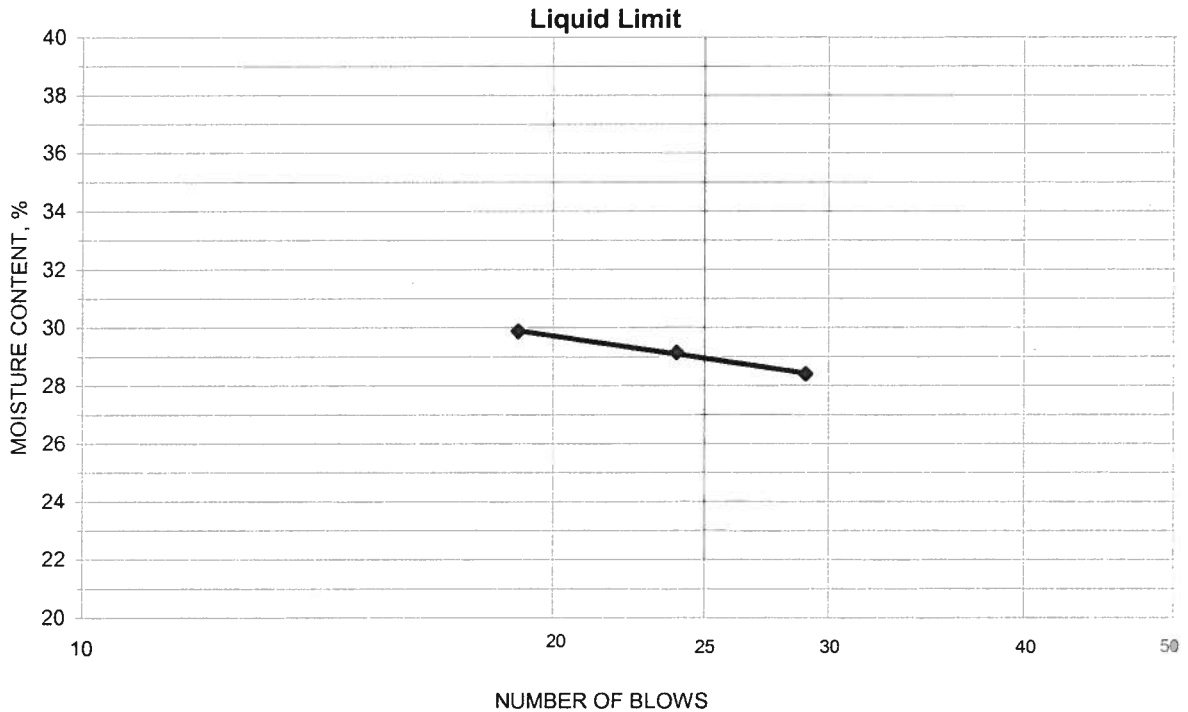
Comments: _____

 Reviewed by:

Project Widows Creek Fossil Plant (TVA)
 Source STN-111, 21.5'-23.0', 23.0'-24.5'
 Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-08-2009 Prepared Dry

Project No. 175569036
 Lab ID 1010
 % + No. 40 0
 Date Received 06-23-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
21.59	19.18	11.11	19	29.9	29
22.80	20.19	11.23	24	29.1	
22.61	20.01	10.85	29	28.4	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
17.38	16.49	11.29	17.1	17	12
20.20	18.89	11.26	17.2		

Remarks: _____
 Reviewed By 

Project Name Widows Creek Fossil Plant (TVA)
Source STN-111, 21.5'-23.0', 23.0'-24.5'

Project Number 175569036
Lab ID 1010

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
Prepared using: ASTM D 421

Particle Shape: N/A
Particle Hardness: N/A

Tested By: BWT
Test Date: 07-01-2009
Date Received: 06-23-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	
3/8"	
No. 4	
No. 10	100.0

Maximum Particle size: No. 10 Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

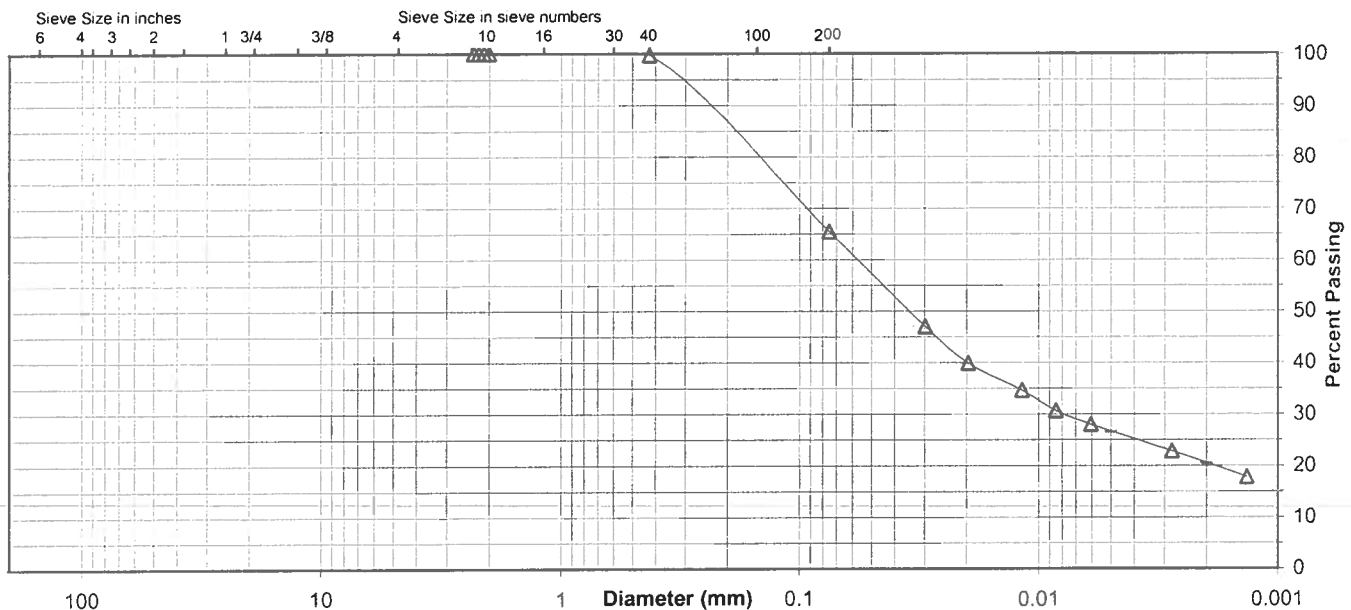
Specific Gravity 2.62

Dispersed using: Apparatus A - Mechanical, for 1 minute

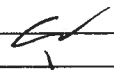
No. 40	99.7
No. 200	65.4
0.02 mm	39.9
0.005 mm	26.5
0.002 mm	20.4
0.001 mm	15.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	0.0	0.0	0.3	34.3	38.9	26.5
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt		Clay
	0.0		0.3	34.3	45.0		20.4



Comments _____

Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-112, 21.5'-23.0', 23.0'-24.5', 24.5'-26.0' Lab ID 1016
 County Jackson County, AL Date Received 6-23-09
 Sample Type SPT Comp Date Reported 7-13-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 32
 Plastic Limit: 19
 Plasticity Index: 13
 Activity Index: 0.59

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	100.0
1"	25	96.2
3/4"	19	96.2
3/8"	9.5	95.1
No. 4	4.75	94.9
No. 10	2	91.8
No. 40	0.425	91.3
No. 200	0.075	68.8
	0.02	43.8
	0.005	27.9
	0.002	21.7
estimated	0.001	19.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	5.1	8.2
Coarse Sand	3.1	0.5
Medium Sand	0.5	---
Fine Sand	22.5	22.5
Silt	40.9	47.1
Clay	27.9	21.7

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.65

Classification

Unified Group Symbol: CL
 Group Name: Sandy lean clay
 AASHTO Classification: A-6 (7)

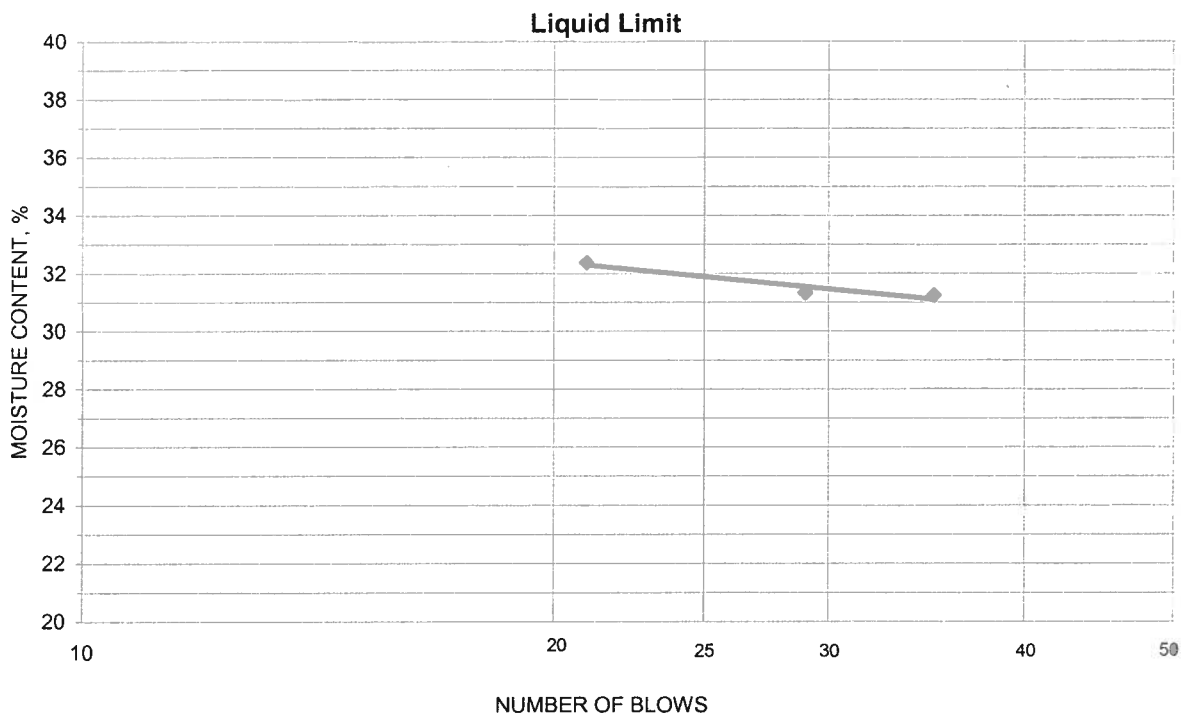
Comments: _____
 Reviewed by: [Signature]

Project Widows Creek Fossil Plant (TVA)
 Source STN-112, 21.5'-23.0', 23.0'-24.5', 24.5'-26.0'

Project No. 175569036
 Lab ID 1016
 % + No. 40 9
 Date Received 06-23-2009

Tested By DB Test Method ASTM D 4318 Method A
 Test Date 07-08-2009 Prepared Dry

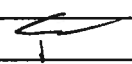
Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
22.53	19.75	11.16	21	32.4	32
21.28	18.89	11.26	29	31.3	
21.72	19.19	11.09	35	31.2	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
18.42	17.25	11.23	19.4	19	13
18.60	17.40	11.16	19.2		

Remarks: _____

Reviewed By 



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-113, 19.5'-21.0', 21.0'-22.5', 22.5'-24.0' Lab ID 1339
 County Jackson County, AL Date Received 8-4-09
 Sample Type SPT Comp Date Reported 8-9-09

Test Results

Natural Moisture Content
 Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits
 Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 36
 Plastic Limit: 20
 Plasticity Index: 16
 Activity Index: 0.55

Particle Size Analysis
 Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Moisture-Density Relationship
 Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.7
No. 4	4.75	99.0
No. 10	2	98.2
No. 40	0.425	97.6
No. 200	0.075	78.4
	0.02	52.9
	0.005	36.3
	0.002	29.1
estimated	0.001	24.0

California Bearing Ratio
 Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Plus 3 in. material, not included: 0 (%)

Specific Gravity
 Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.73

Range	ASTM (%)	AASHTO (%)
Gravel	1.0	1.8
Coarse Sand	0.8	0.6
Medium Sand	0.6	---
Fine Sand	19.2	19.2
Silt	42.1	49.3
Clay	36.3	29.1

Classification
 Unified Group Symbol: CL
 Group Name: Lean clay with sand
 AASHTO Classification: A-6 (12)

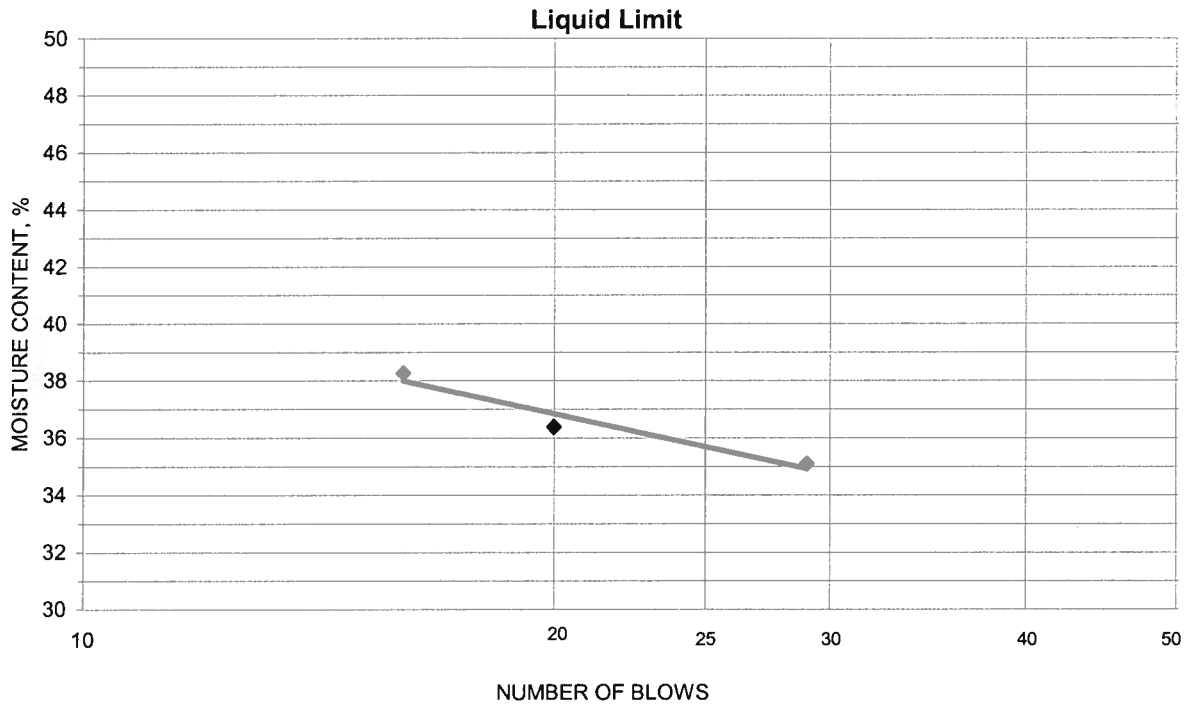
Comments: _____

 Reviewed by: [Signature]

Project Widows Creek Fossil Plant (TVA)
 Source STN-113, 19.5'-21.0', 21.0'-22.5', 22.5'-24.0'
 Tested By RJ Test Method ASTM D 4318 Method A
 Test Date 09-08-2009 Prepared Dry

Project No. 175569036
 Lab ID 1339
 % + No. 40 2
 Date Received 08-04-2009

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
22.33	19.39	11.01	29	35.1	36
23.10	19.96	11.33	20	36.4	
23.09	19.70	10.84	16	38.3	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
20.05	18.62	11.26	19.4	20	16
19.80	18.37	11.19	19.9		

Remarks: _____
 Reviewed By: 



Particle-Size Analysis of Soils

ASTM D 422

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-113, 19.5'-21.0', 21.0'-22.5', 22.5'-24.0'

Project Number 175569036
 Lab ID 1339

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
 Prepared using: ASTM D 421
 Particle Shape: Angular
 Particle Hardness: Hard and Durable
 Tested By: RJ
 Test Date: 08-31-2009
 Date Received 08-04-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.7
No. 4	99.0
No. 10	98.2

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

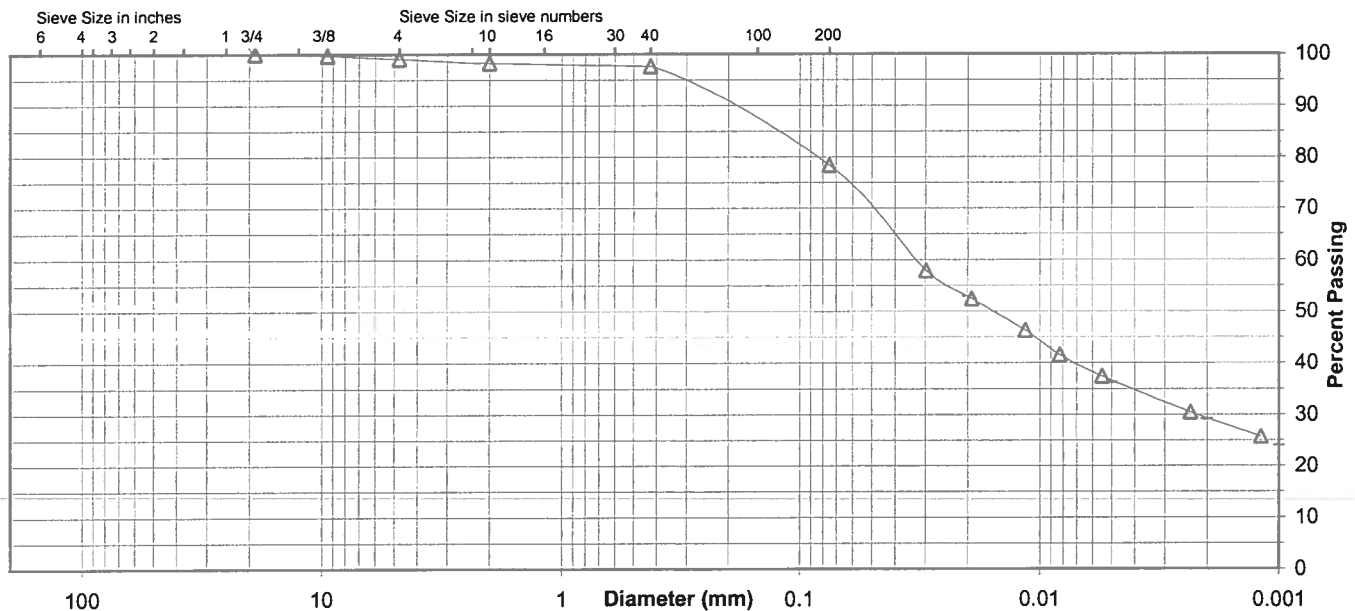
Analysis Based on: Total Sample
 Specific Gravity 2.73

No. 40	97.6
No. 200	78.4
0.02 mm	52.9
0.005 mm	36.3
0.002 mm	29.1
0.001 mm	24.0

Dispersed using: Apparatus A - Mechanical, for 1 minute

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay	
	0.0	1.0	0.8	0.6	19.2	42.1	36.3	
AASHTO	Gravel		Coarse Sand		Fine Sand	Silt		Clay
	1.8		0.6		19.2	49.3		29.1



Comments _____

Reviewed By [Signature]



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-113, 31.5'-33.0', 33.0'-34.5' Lab ID 1348
 County Jackson County, AL Date Received 8-4-09
 Sample Type SPT Comp Date Reported 8-9-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: 26
 Plastic Limit: 19
 Plasticity Index: 7
 Activity Index: 0.39

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	
1"	25	
3/4"	19	100.0
3/8"	9.5	99.3
No. 4	4.75	98.9
No. 10	2	98.3
No. 40	0.425	97.7
No. 200	0.075	64.6
	0.02	36.3
	0.005	23.2
	0.002	18.0
estimated	0.001	14.0

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	1.1	1.7
Coarse Sand	0.6	0.6
Medium Sand	0.6	---
Fine Sand	33.1	33.1
Silt	41.4	46.6
Clay	23.2	18.0

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.69

Classification

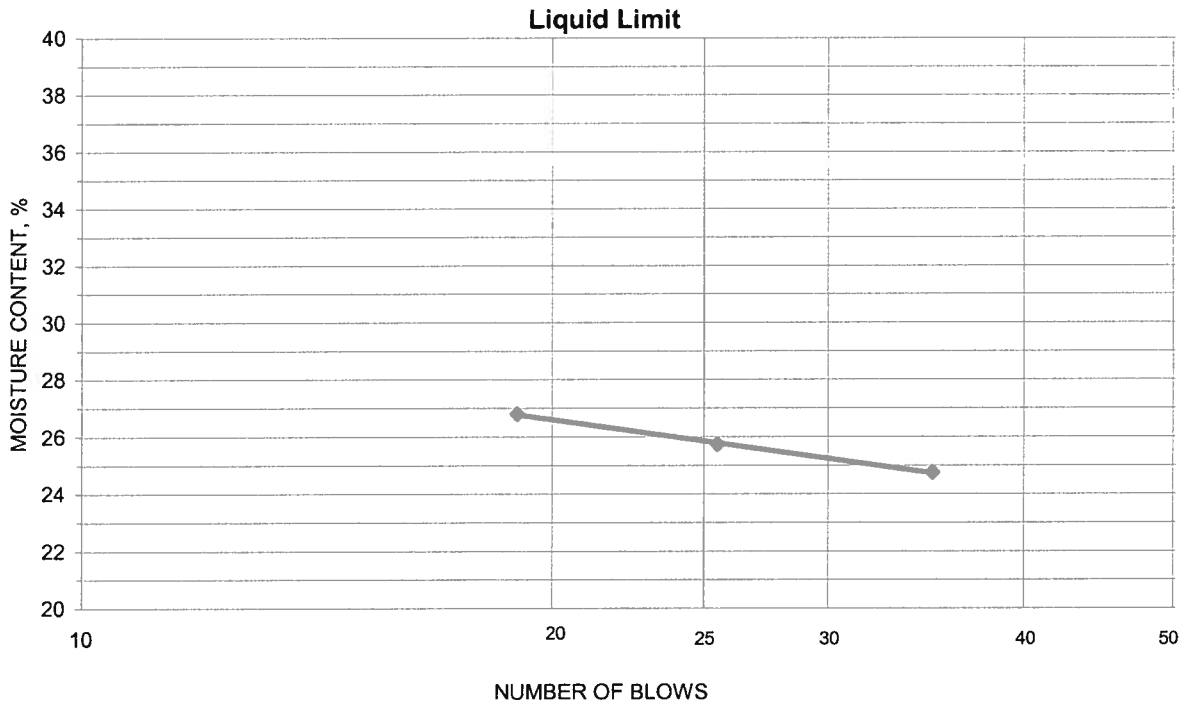
Unified Group Symbol: CL-ML
 Group Name: Sandy silty clay
 AASHTO Classification: A-4 (2)

Comments: _____
 Reviewed by:

Project Widows Creek Fossil Plant (TVA)
 Source STN-113, 31.5'-33.0', 33.0'-34.5'
 Tested By MC Test Method ASTM D 4318 Method A
 Test Date 09-08-2009 Prepared Dry

Project No. 175569036
 Lab ID 1348
 % + No. 40 2
 Date Received 08-04-2009


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit
23.36	21.04	11.66	35	24.7	26
23.95	21.40	11.49	25.5	25.7	
23.00	20.60	11.64	19	26.8	



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index
19.18	17.87	11.07	19.3	19	7
19.13	17.84	11.09	19.1		

Remarks: _____

Reviewed By 



Project Name Widows Creek Fossil Plant (TVA)
Source STN-113, 31.5'-33.0', 33.0'-34.5'

Project Number 175569036
Lab ID 1348

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
Prepared using: ASTM D 421

Particle Shape: Angular
Particle Hardness: Hard and Durable

Tested By: RJ
Test Date: 08-31-2009
Date Received: 08-04-2009

Sieve Size	% Passing
3"	
2"	
1 1/2"	
1"	
3/4"	100.0
3/8"	99.3
No. 4	98.9
No. 10	98.3

Maximum Particle size: 3/4" Sieve

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

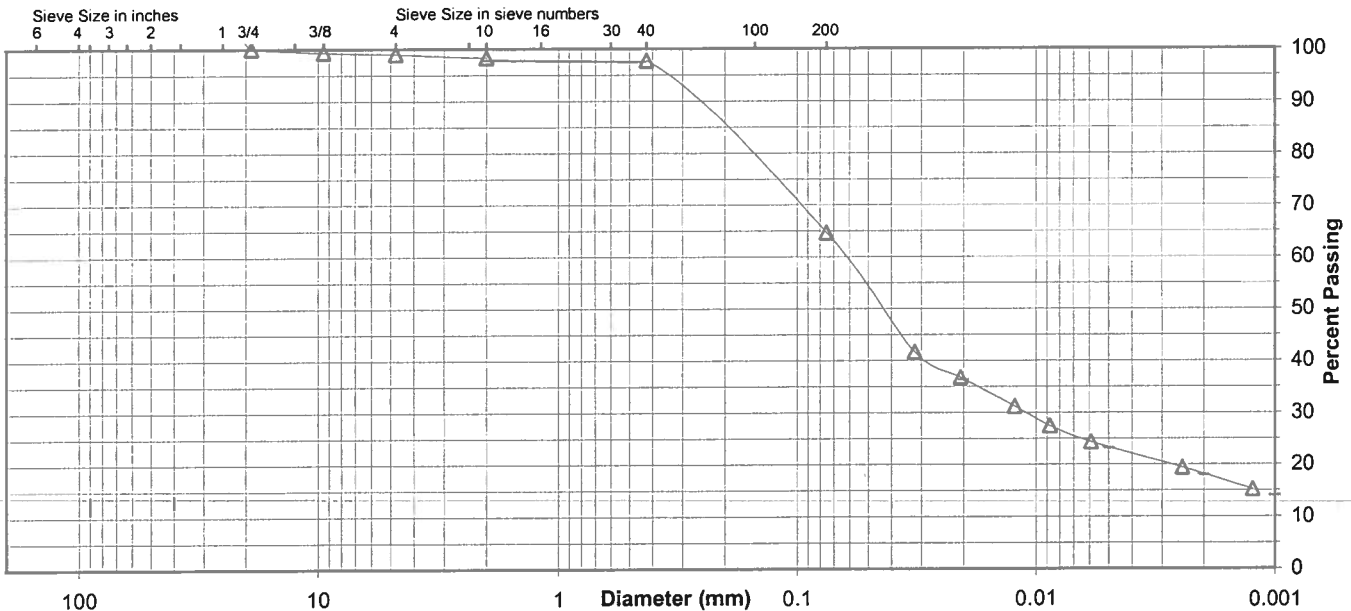
Specific Gravity 2.69

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	97.7
No. 200	64.6
0.02 mm	36.3
0.005 mm	23.2
0.002 mm	18.0
0.001 mm	14.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	0.0	1.1	0.6	0.6	33.1	41.4	23.2
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt		Clay
	1.7		0.6	33.1	46.6		18.0



Comments _____

Reviewed By



Summary of Soil Tests

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-113, 40.5'-42.0', 42.0'-43.5', 43.5'-45.0' Lab ID 1355
 County Jackson County, AL Date Received 8-4-09
 Sample Type SPT Comp Date Reported 8-9-09

Test Results

Natural Moisture Content

Test Not Performed
 Moisture Content (%): N/A

Atterberg Limits

Test Method: ASTM D 4318 Method A
 Prepared: Dry
 Liquid Limit: ---
 Plastic Limit: Non Plastic
 Plasticity Index: ---
 Activity Index: N/A

Particle Size Analysis

Preparation Method: ASTM D 421
 Gradation Method: ASTM D 422
 Hydrometer Method: ASTM D 422

Particle Size		%
Sieve Size	(mm)	Passing
3"	75	
2"	50	
1 1/2"	37.5	100.0
1"	25	97.1
3/4"	19	97.1
3/8"	9.5	93.3
No. 4	4.75	88.6
No. 10	2	83.1
No. 40	0.425	75.1
No. 200	0.075	13.4
	0.02	9.3
	0.005	6.2
	0.002	4.5
estimated	0.001	3.0

Moisture-Density Relationship

Test Not Performed
 Maximum Dry Density (lb/ft³): N/A
 Maximum Dry Density (kg/m³): N/A
 Optimum Moisture Content (%): N/A
 Over Size Correction %: N/A

California Bearing Ratio

Test Not Performed
 Bearing Ratio (%): N/A
 Compacted Dry Density (lb/ft³): N/A
 Compacted Moisture Content (%): N/A

Specific Gravity

Test Method: ASTM D 854
 Prepared: Dry
 Particle Size: No. 10
 Specific Gravity at 20° Celsius: 2.67

Plus 3 in. material, not included: 0 (%)

Range	ASTM (%)	AASHTO (%)
Gravel	11.4	16.9
Coarse Sand	5.5	8.0
Medium Sand	8.0	---
Fine Sand	61.7	61.7
Silt	7.2	8.9
Clay	6.2	4.5

Classification

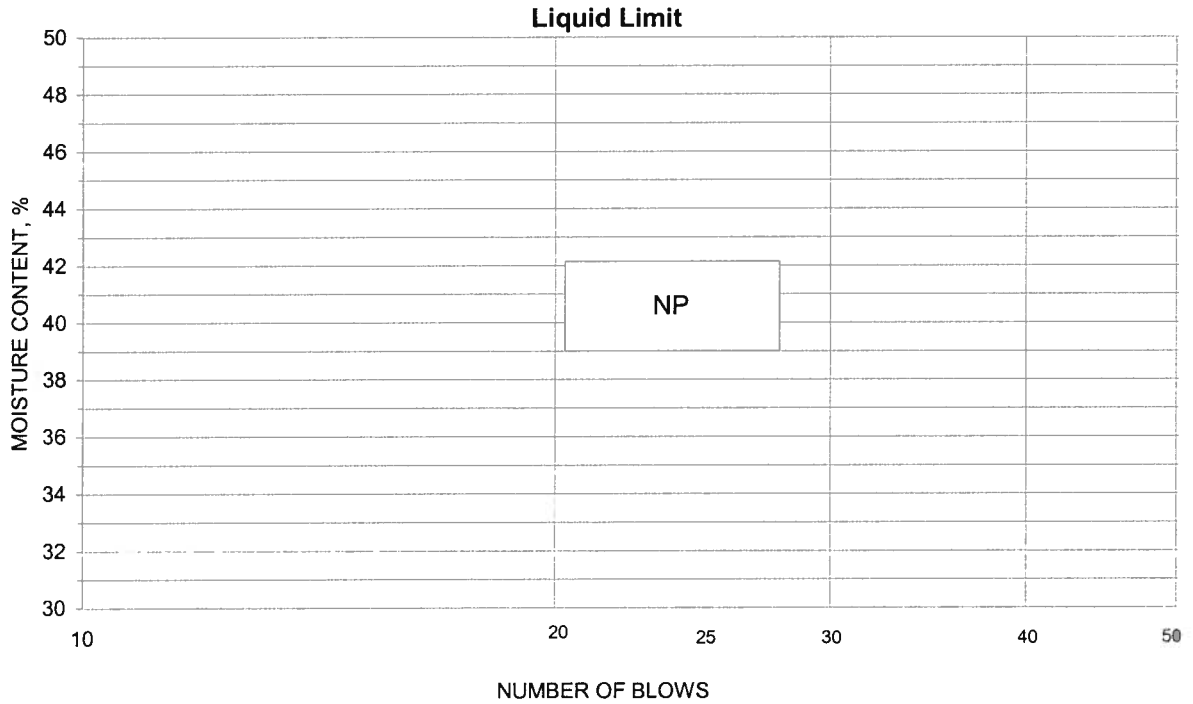
Unified Group Symbol: SM
 Group Name: Silty sand
 AASHTO Classification: A-2-4 (0)

Comments: _____
 Reviewed by: [Signature]

Project Widows Creek Fossil Plant (TVA)
 Source STN-113, 40.5'-42.0', 42.0'-43.5', 43.5'-45.0'
 Tested By RJ Test Method ASTM D 4318 Method A
 Test Date 09-01-2009 Prepared Dry

Project No. 175569036
 Lab ID 1355
 % + No. 40 25
 Date Received 08-04-2009


Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Number of Blows	Water Content (%)	Liquid Limit



PLASTIC LIMIT AND PLASTICITY INDEX

Wet Soil and Tare Mass (g)	Dry Soil and Tare Mass (g)	Tare Mass (g)	Water Content (%)	Plastic Limit	Plasticity Index

Remarks: _____

 Reviewed By 



Particle-Size Analysis of Soils

ASTM D 422

Project Name Widows Creek Fossil Plant (TVA)
 Source STN-113, 40.5'-42.0', 42.0'-43.5', 43.5'-45.0'

Project Number 175569036
 Lab ID 1355

Sieve analysis for the Portion Coarser than the No. 10 Sieve

Test Method: ASTM D 422
 Prepared using: ASTM D 421

Particle Shape: Angular
 Particle Hardness: Hard and Durable

Tested By: RJ
 Test Date: 08-31-2009
 Date Received 08-04-2009

Maximum Particle size: 1 1/2" Sieve

Sieve Size	% Passing
3"	
2"	
1 1/2"	100.0
1"	97.1
3/4"	97.1
3/8"	93.3
No. 4	88.6
No. 10	83.1

Analysis for the portion Finer than the No. 10 Sieve

Analysis Based on: Total Sample

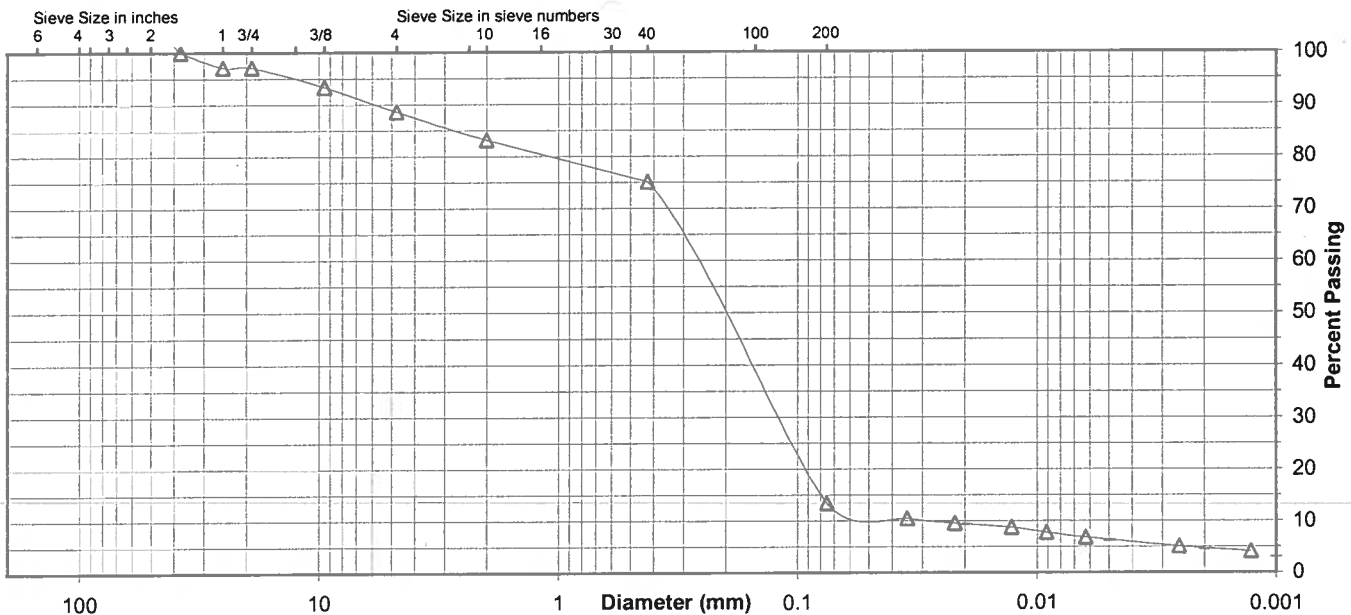
Specific Gravity 2.67

Dispersed using: Apparatus A - Mechanical, for 1 minute

No. 40	75.1
No. 200	13.4
0.02 mm	9.3
0.005 mm	6.2
0.002 mm	4.5
0.001 mm	3.0

Particle Size Distribution

ASTM	Coarse Gravel	Fine Gravel	C. Sand	Medium Sand	Fine Sand	Silt	Clay
	2.9	8.5	5.5	8.0	61.7	7.2	6.2
AASHTO	Gravel		Coarse Sand	Fine Sand	Silt		Clay
	16.9		8.0	61.7	8.9		4.5



Comments _____

Reviewed By



Widows Creek Fossil Plant (TVA)

Description and Identification of Soils
by the Visual-Manual Method

ASTM D 2488

Sheet 1 of 1

Date: 7/13/2009		Project Number 175569036									
Hole / Sta. & Offset	Corps Sample No.	Lab Number	Depth (ft.)	MC (%)	PL (%)	LL (%)	Estimate (* = actual values)				
							max.	grav.	sand	fine	
STN-96	1141	1141	16.0'-19.0'	19.4			3/8"	25	10	65	
STN-111	1143	1143	15.0'-17.0'	26.3			1 1/2"	5		95	
STN-112	1144	1144	10.0'-12.0'	26.3			3/4"			100	

Gravelly Silt (ML), dark grey, wet, very soft, homogenous, organic odor, low plasticity, low toughness, dilatancy rapid, low dry strength, subangular, Bag had tear in it.

Lean Clay (CL), brown, moist, soft, homogenous, none odor, medium plasticity, medium toughness, dilatancy none, high dry strength, subangular

Lean Clay (CL), dark brown, moist, soft, homogenous, none odor, medium plasticity, medium toughness, dilatancy none, high dry strength, angular



Moisture-Density Data Sheet

Project: Widows Creek Fossil Plant -- TVA

Project No.: 175569036

Source: SB-83, 8.0'-12.0'

Sample No.: 84

Sample Description: Clayey Sand (SC), red brown

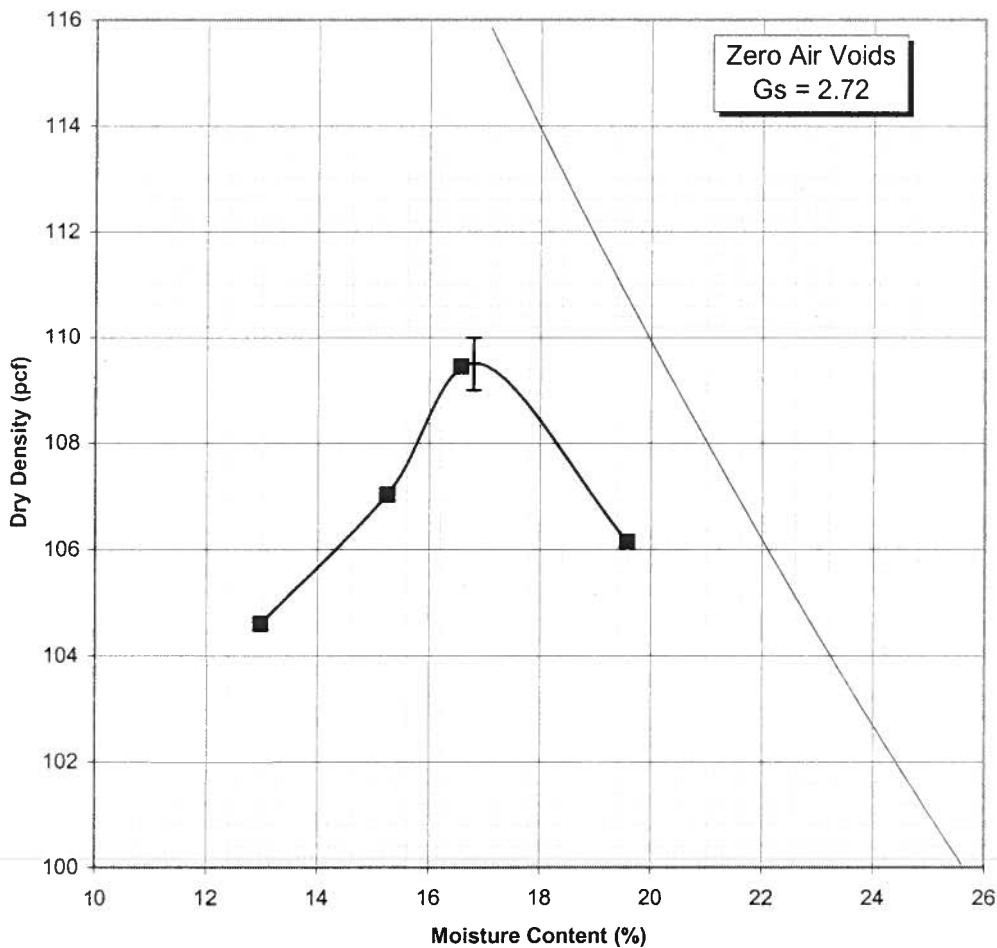
Visual Notes:

Test Method: ASTM D 698 - Method B

Prepared: Moist Oversized Fraction: < 5 % Rammer: Mechanical

Gs - Fines: ASTM D 854

Mold Weight 4215 grams		Moisture Determination					
Wet Weight plus Mold (grams)	Wet Weight minus Mold (grams)	Wet Soil and Can Weight (grams)	Dry Soil and Can Weight (grams)	Can Weight (grams)	Water Content (%)	Dry Density (pcf)	
6078	1863	632.79	558.33	69.99	15.2	107.0	
6142	1927	609.11	532.35	69.14	16.6	109.5	
6132	1917	620.12	530.15	70.62	19.6	106.1	
6000	1785	615.95	553.16	69.45	13.0	104.6	



Maximum Dry Density 109.5 PCF
Optimum Moisture Content 16.8 %



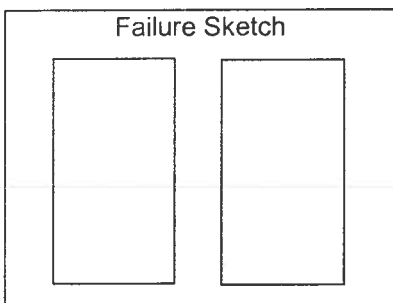
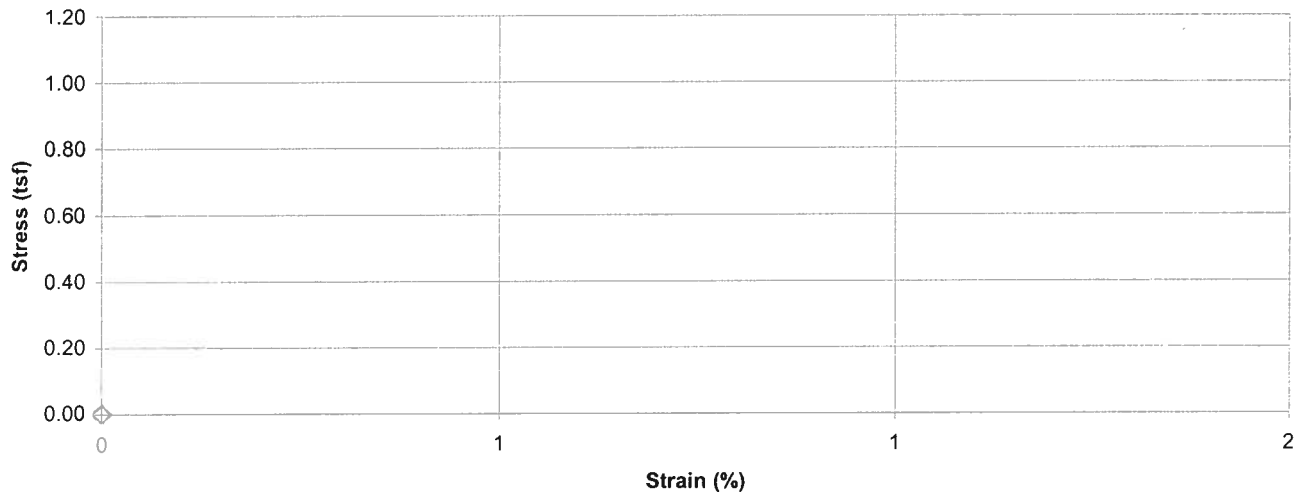
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-65, 10.0'-12.0' Lab ID 358
 Visual Description Silt with Sand (ML), dark gray, moist, firm, bottom ash

Recovered 0.4'
 Test Interval 10.0' - 10.4'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/12/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Center of Specimen</u>		
Initial Moisture Content (%) <u>17.2</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-65, 32.0'-34.0' Lab ID 360
 Visual Description Sandy Silt (ML), gray, moist, firm, (flyash)

Recovered 0.7'
 Test Interval 32.4' - 32.9'

Specimen Type: Undisturbed

LL N/A
 PL N/A
 PI N/A

Date Extruded 06/12/2009
 Date Tested N/A

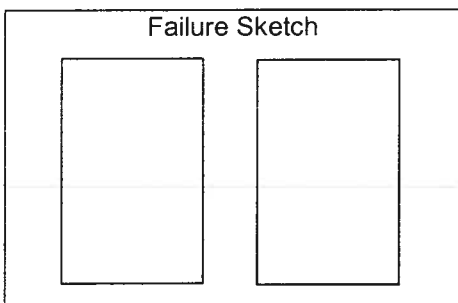
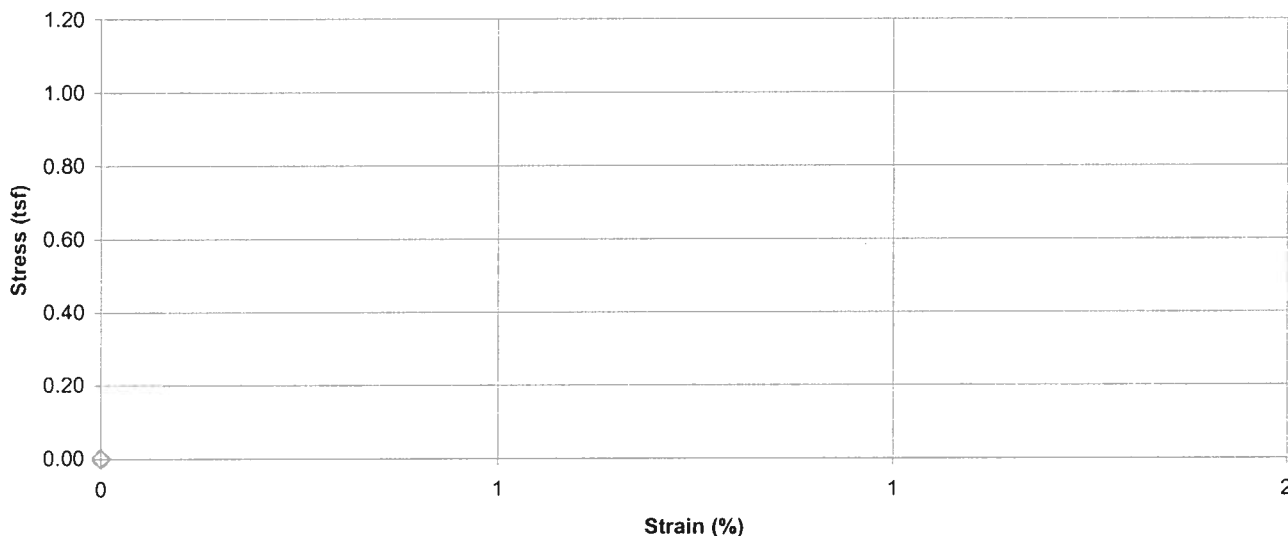
Initial Wet Density (pcf) 123.5
 Initial Dry Density (pcf) 101.9
 Initial Moisture Content, 40°C (%) 21.2
 Initial Moisture Content, 200°C (%) 30.6
 At Test Moisture Content, 40°C (%) N/A
 Specific Gravity N/A
 Degree of Saturation (%) N/A
 Average Height (in) 6.052
 Average Diameter (in) 2.859
 Height to Diameter Ratio 2.1

Initial MC Taken Before Test, From Trimmings

At Test MC Taken N/A

Unconfined Compressive Strength (tsf) N/A
 Undrained Shear Strength (tsf) N/A
 Strain at Maximum Stress (%) N/A
 Strain rate to failure (% / min.) N/A

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



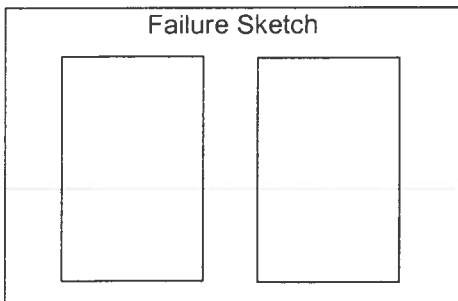
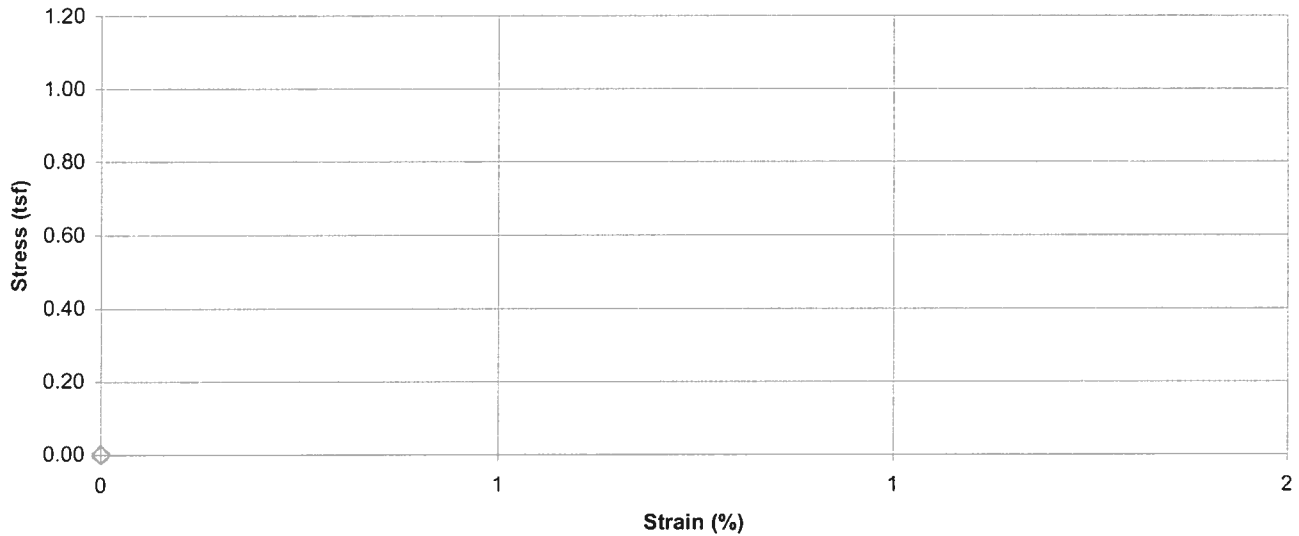
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-65, 45.0'-47.0' Lab ID 361A
 Visual Description Silt (ML), gray, moist, firm, (gypsum)

Recovered 1.4'
 Test Interval 45.4' - 45.9'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	Date Extruded <u>06/12/2009</u>
Initial Wet Density (pcf) <u>93.2</u>	PL <u>N/A</u>	Date Tested <u>N/A</u>
Initial Dry Density (pcf) <u>54.0</u>	PI <u>N/A</u>	
Initial Moisture Content, 40°C (%) <u>72.4</u>	Initial MC Taken <u>Before Test, From Trimmings</u>	
Initial Moisture Content, 200°C (%) <u>75.4</u>	At Test MC Taken <u>N/A</u>	
At Test Moisture Content, 40°C (%) <u>N/A</u>		
Specific Gravity <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>	
Degree of Saturation (%) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>	
Average Height (in) <u>6.100</u>	Strain at Maximum Stress (%) <u>N/A</u>	
Average Diameter (in) <u>2.821</u>	Strain rate to failure (% / min.) <u>N/A</u>	
Height to Diameter Ratio <u>2.2</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-65, 45.0'-47.0' Lab ID 361B
 Visual Description Silt (ML), gray, moist, firm, (gypsum)

Recovered 1.4'
 Test Interval 46.1' - 46.6'

Specimen Type: Undisturbed

LL N/A
 PL N/A
 PI N/A

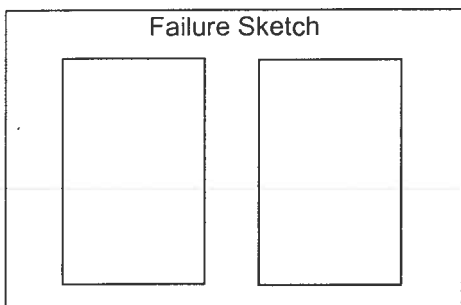
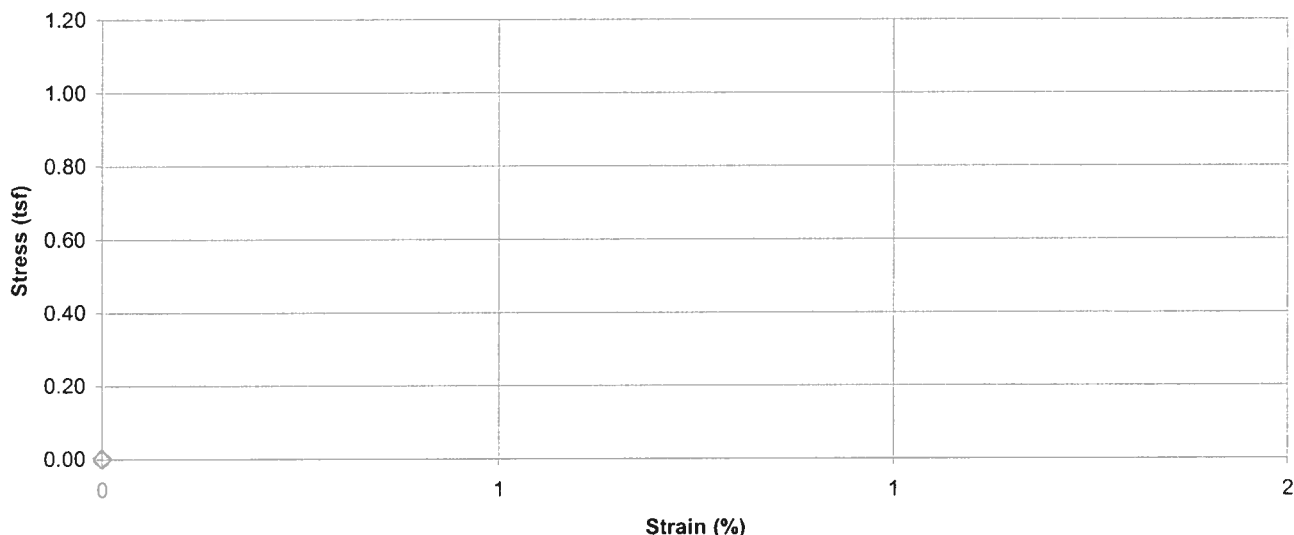
Date Extruded 06/12/2009
 Date Tested N/A

Initial Wet Density (pcf) 117.6
 Initial Dry Density (pcf) 69.8
 Initial Moisture Content, 40°C (%) 68.6
 Initial Moisture Content, 200°C (%) 71.9
 At Test Moisture Content, 40°C (%) N/A
 Specific Gravity N/A
 Degree of Saturation (%) N/A
 Average Height (in) 6.091
 Average Diameter (in) 2.823
 Height to Diameter Ratio 2.2

Initial MC Taken Before Test, From Trimmings
 At Test MC Taken N/A

Unconfined Compressive Strength (tsf) N/A
 Undrained Shear Strength (tsf) N/A
 Strain at Maximum Stress (%) N/A
 Strain rate to failure (% / min.) N/A

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



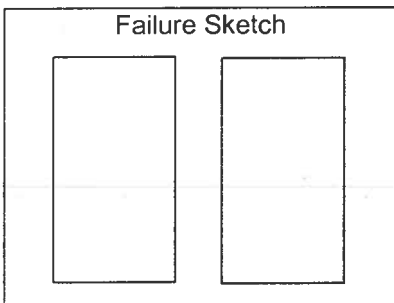
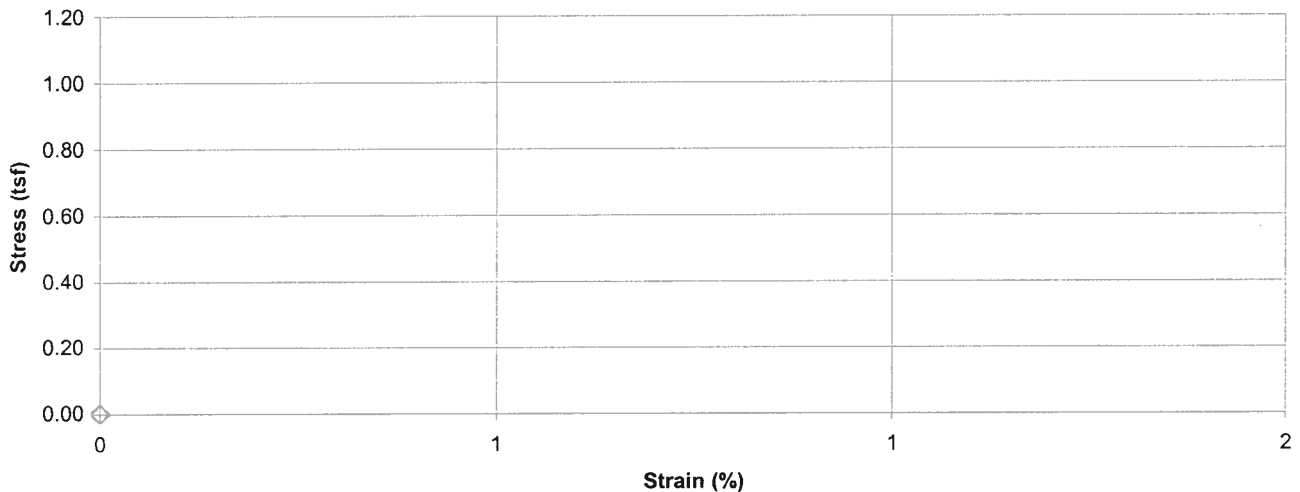
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-67, 9.0'-11.0' Lab ID 362
 Visual Description Poorly Graded Sand (SP), dark gray, moist, firm, bottom ash

Recovered 0.6'
 Test Interval 9.0' - 9.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/12/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>90.6</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>35.7</u>			
Initial Dry Density (pcf) <u>66.8</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.067</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.880</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-67, 40.5'-42.5' Lab ID 364A
 Visual Description Silt (ML), gray, moist, firm, (bottom ash, flyash, gypsum)

Recovered 1.4'
 Test Interval 40.8' - 41.3'

Specimen Type: Undisturbed

LL N/A
 PL N/A
 PI N/A

Date Extruded 06/12/2009
 Date Tested N/A

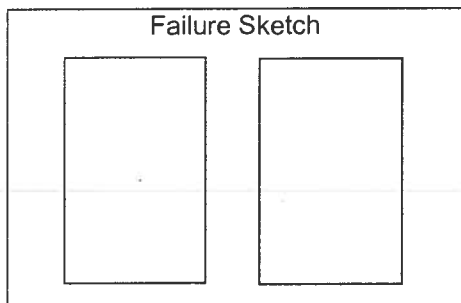
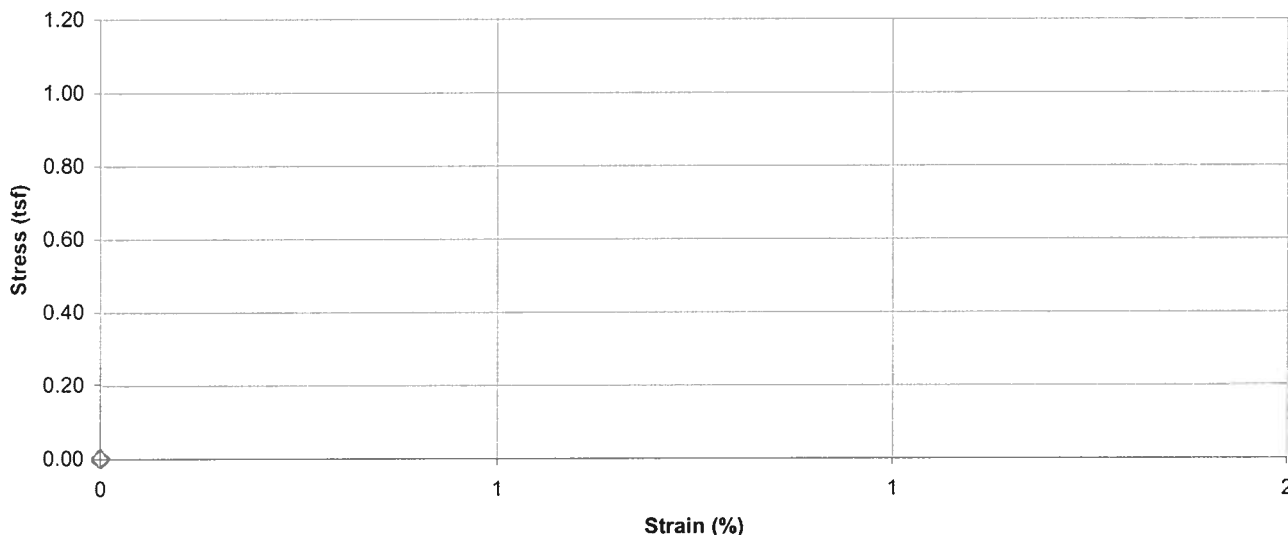
Initial Wet Density (pcf) 103.2
 Initial Dry Density (pcf) 65.7
 Initial Moisture Content, 40°C (%) 56.9
 Initial Moisture Content, 200°C (%) 62.3
 At Test Moisture Content, 40°C (%) N/A
 Specific Gravity N/A
 Degree of Saturation (%) N/A
 Average Height (in) 6.058
 Average Diameter (in) 2.855
 Height to Diameter Ratio 2.1

Initial MC Taken Before Test, From Trimmings

At Test MC Taken N/A

Unconfined Compressive Strength (tsf) N/A
 Undrained Shear Strength (tsf) N/A
 Strain at Maximum Stress (%) N/A
 Strain rate to failure (% / min.) N/A

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

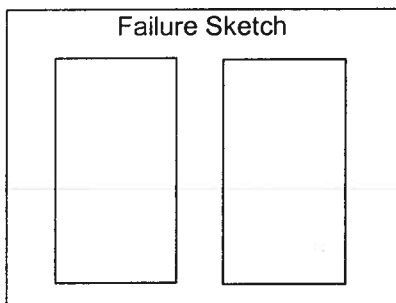
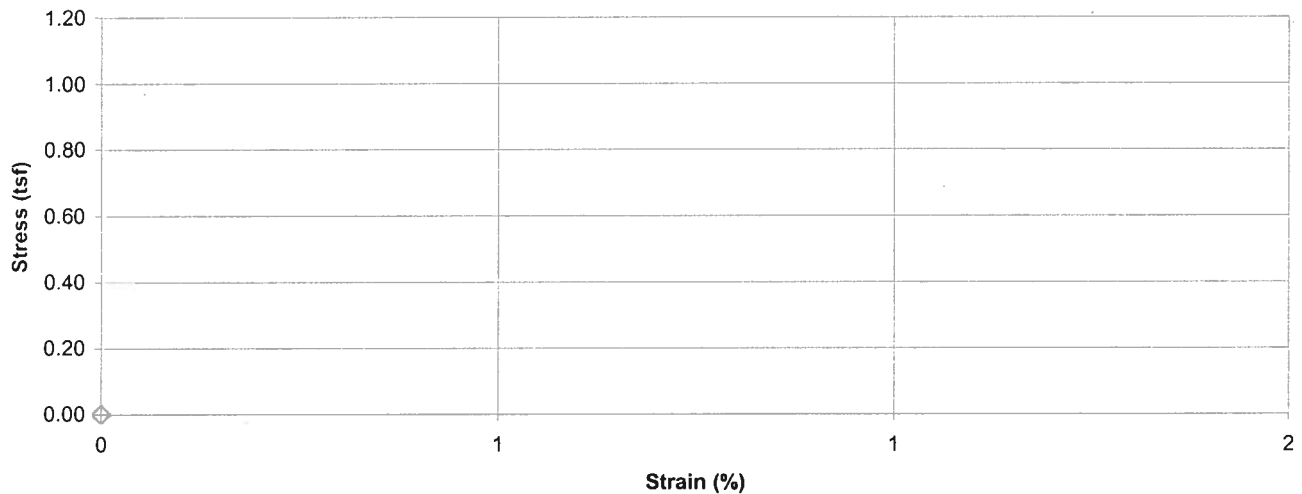
Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-71, 30.0'-32.0' Lab ID 366
 Visual Description Fat Clay (CH), brown, moist, firm

Recovered 0.8'
 Test Interval 30.0' - 30.5'

Specimen Type: Undisturbed LL N/A PL N/A
 PI N/A Date Extruded 06/11/2009
 Date Tested N/A

Initial Wet Density (pcf) <u>134.7</u>	Initial MC Taken <u>Before Test, From Trimmings</u>
Initial Moisture Content (%) <u>16.5</u>	
Initial Dry Density (pcf) <u>115.6</u>	
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>
At Test Dry Density (pcf) <u>N/A</u>	
Specific Gravity <u>N/A</u>	
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>
Average Height (in) <u>6.104</u>	Undrained Shear Strength (tsf) <u>N/A</u>
Average Diameter (in) <u>2.884</u>	Strain at Maximum Stress (%) <u>N/A</u>
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



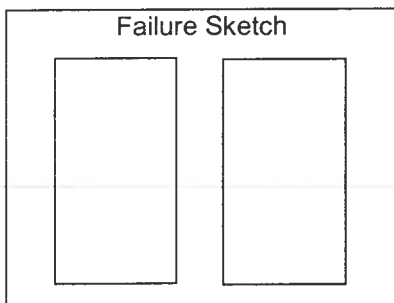
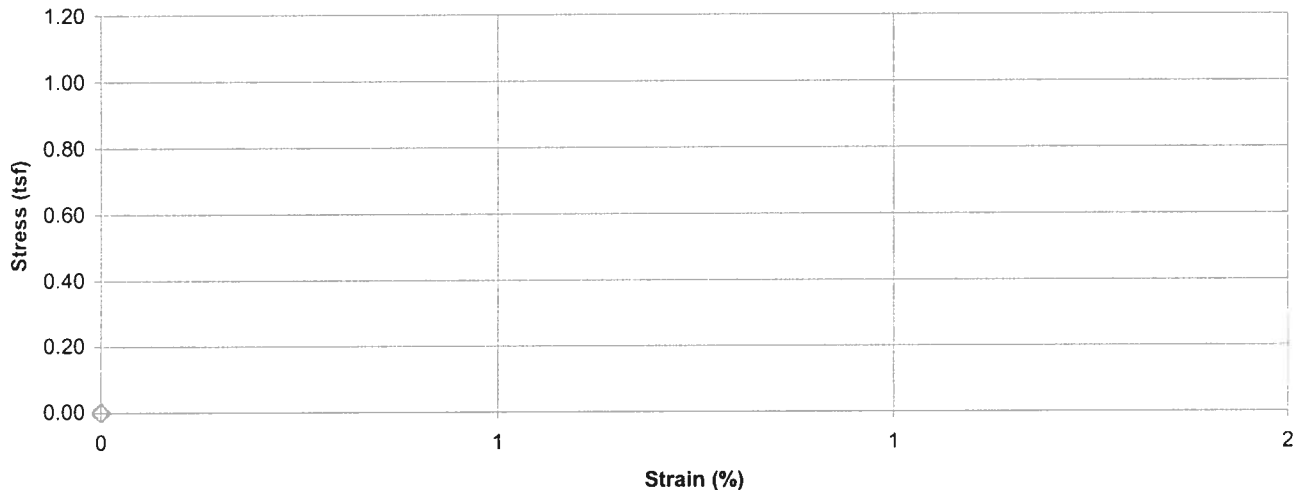
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-71, 39.5'-41.5' Lab ID 367
 Visual Description Fat Clay with Gravel (CH), brown, moist, firm

Recovered 0.8'
 Test Interval 39.5' - 40.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/11/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>130.6</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>17.5</u>			
Initial Dry Density (pcf) <u>111.1</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.062</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.877</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



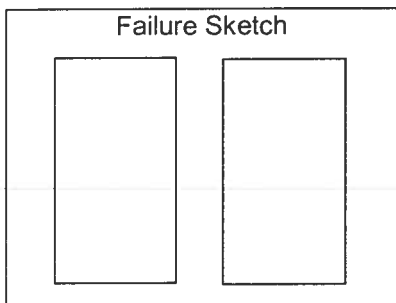
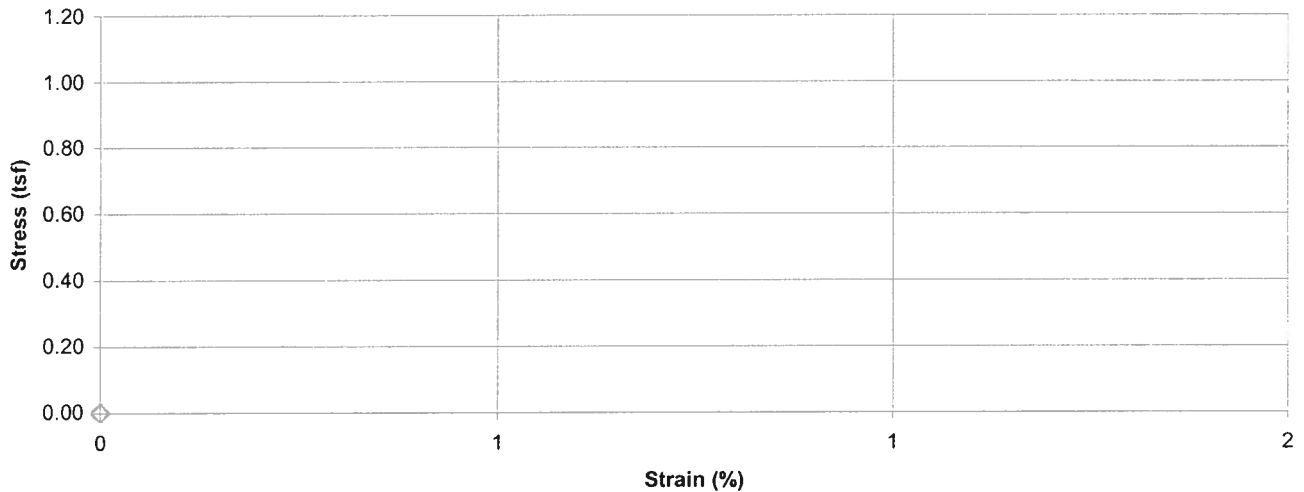
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 10.5'-12.5' Lab ID 383A
 Visual Description Fat Clay (CH), red brown, moist, firm

Recovered 1.3'
 Test Interval 10.5' - 11.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/15/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>122.1</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>29.0</u>			
Initial Dry Density (pcf) <u>94.7</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.006</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.852</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



Unconfined Compressive Strength of Cohesive Soil

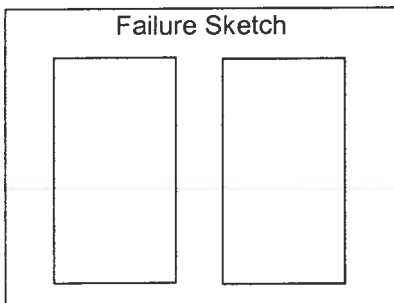
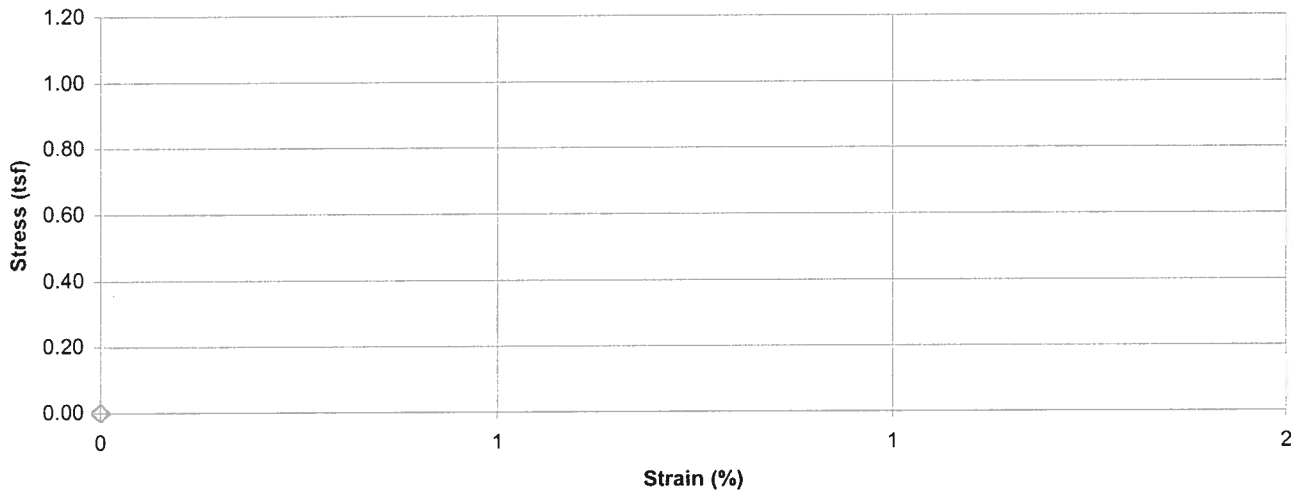
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 10.5'-12.5' Lab ID 383B
 Visual Description Fat Clay (CH), red brown, moist, firm

Recovered 1.3'
 Test Interval 11.1' - 11.6'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/15/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>123.3</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>25.8</u>			
Initial Dry Density (pcf) <u>98.0</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.066</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.858</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By [Signature]

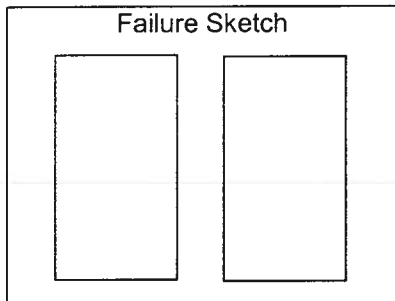
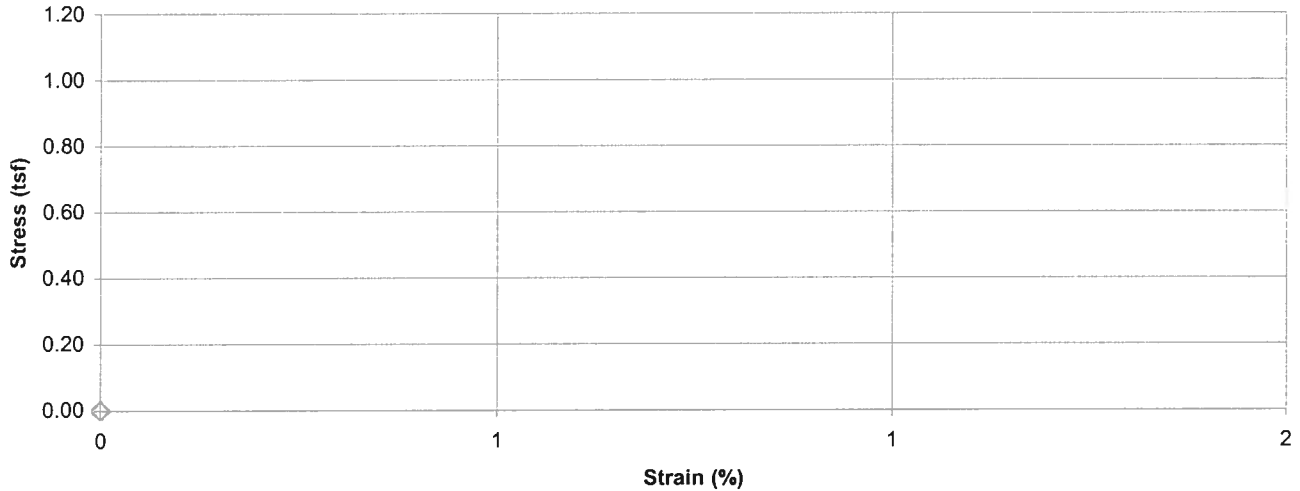


**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 20.0'-22.0' Lab ID 384
 Visual Description Fat Clay with Gravel (CH), red brown, moist, firm

		Recovered	<u>0.7'</u>
		Test Interval	<u>20.0' - 20.5'</u>
Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/15/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>123.0</u>		Initial MC Taken <u>Before Test, From Trimmings</u>	
Initial Moisture Content (%) <u>21.4</u>			
Initial Dry Density (pcf) <u>101.4</u>		At Test MC Taken <u>N/A</u>	
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>		Unconfined Compressive Strength (tsf) <u>N/A</u>	
Average Height (in) <u>6.073</u>		Undrained Shear Strength (tsf) <u>N/A</u>	
Average Diameter (in) <u>2.878</u>		Strain at Maximum Stress (%) <u>N/A</u>	
Height to Diameter Ratio <u>2.1</u>		Strain rate to failure (% / min.) <u>N/A</u>	

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



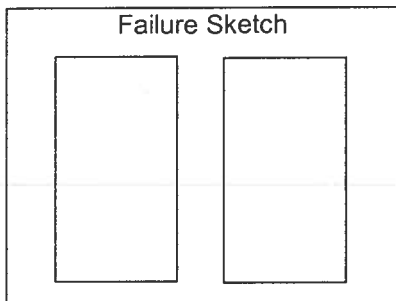
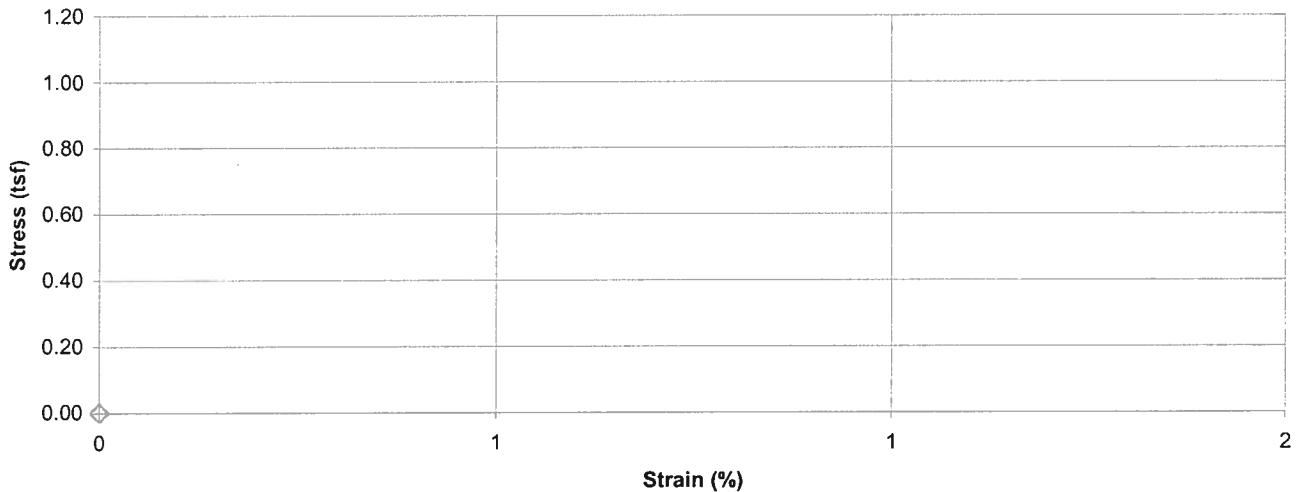
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 28.0'-30.0' Lab ID 385A
 Visual Description Silt (ML), (flyash), gray, moist, firm

Recovered 1.4'
 Test Interval 28' - 28.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/16/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>101.2</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>39.4</u>			
Initial Dry Density (pcf) <u>72.6</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.064</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.840</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



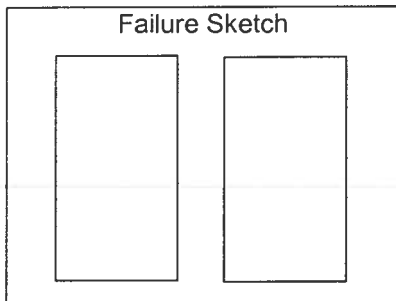
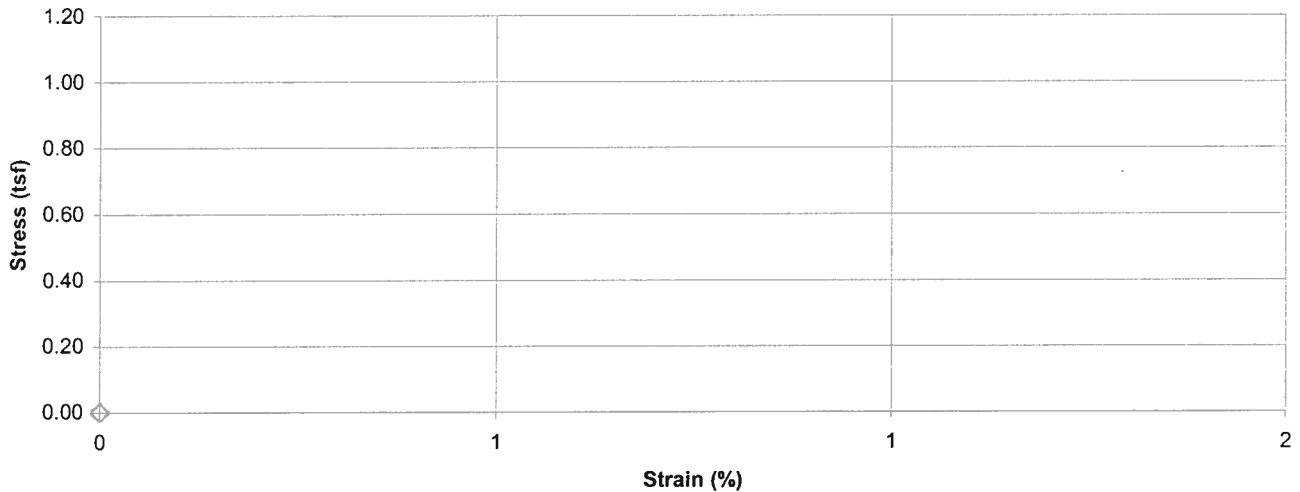
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 28.0'-30.0' Lab ID 385B
 Visual Description Silt (ML), (flyash), gray, moist, firm

Recovered 1.4'
 Test Interval 28.6' - 29.1'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/16/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>46.0</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A
 Comments Unable to obtain 6" specimen due to fractures.
Saved sample in bag.

Reviewed By



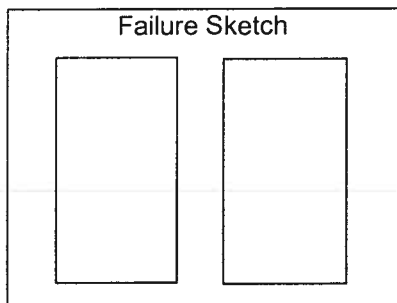
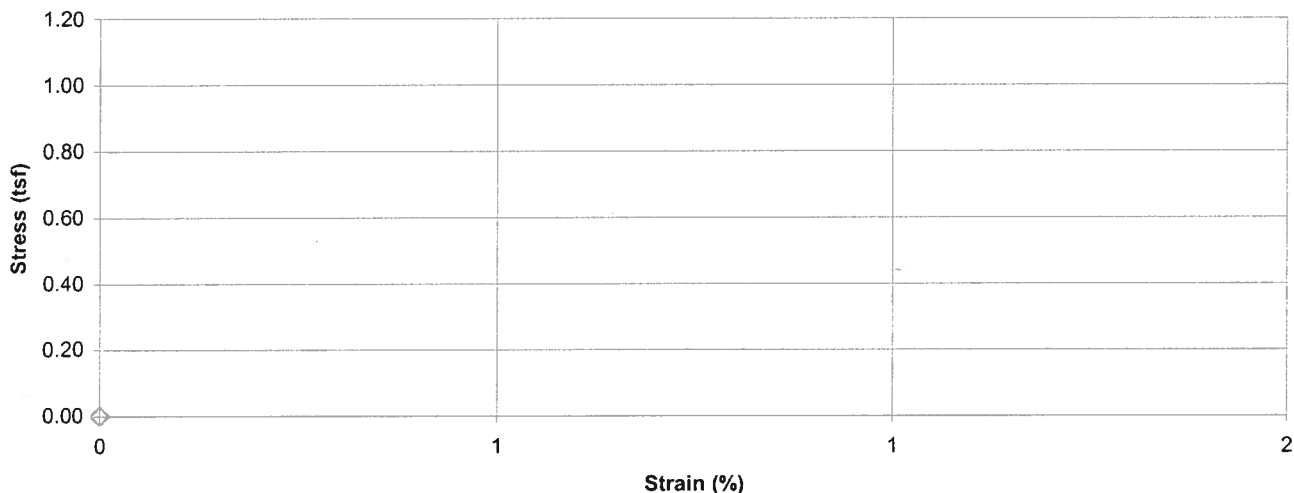
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 30.0'-32.0' Lab ID 386A
 Visual Description Silt with Sand (ML), (flyash), dark gray, moist, firm

Recovered 1.9'
 Test Interval 30.5' - 31.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/16/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>104.4</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>36.4</u>			
Initial Dry Density (pcf) <u>76.6</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>5.995</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.839</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

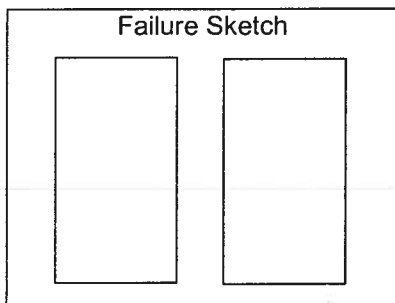
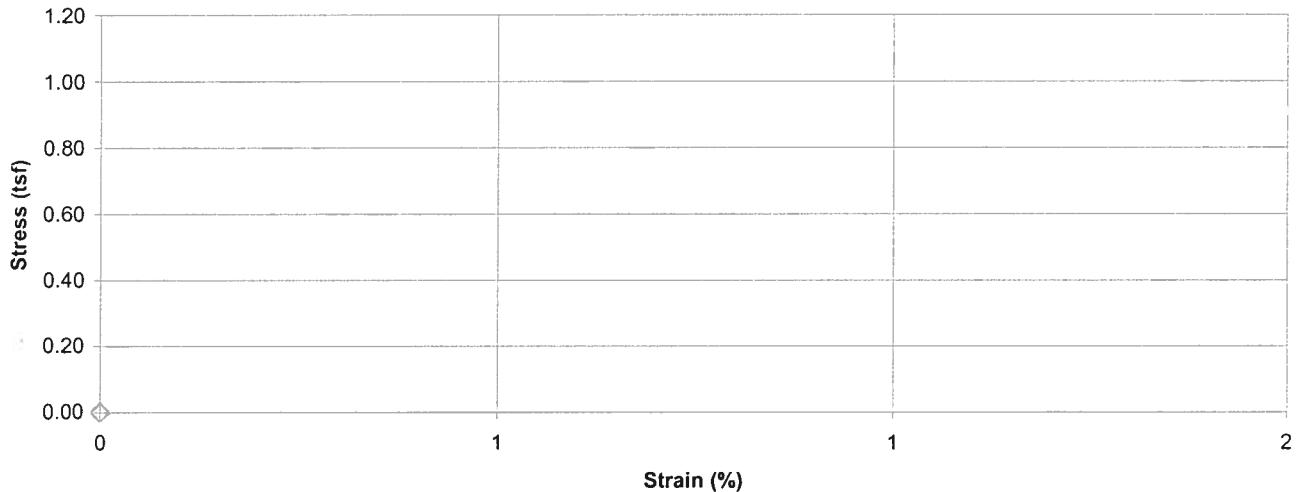
Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 30.0'-32.0' Lab ID 386B
 Visual Description Silt with Sand (ML), (flyash), dark gray, moist, firm

Recovered 1.9'
 Test Interval 31.2' - 31.7'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A Date Extruded 06/16/2009
 Date Tested N/A

Initial Wet Density (pcf)	<u>95.6</u>	Initial MC Taken	<u>Before Test, From Trimmings</u>
Initial Moisture Content (%)	<u>40.0</u>	At Test MC Taken	<u>N/A</u>
Initial Dry Density (pcf)	<u>68.3</u>		
At Test Moisture Content (%)	<u>N/A</u>		
At Test Dry Density (pcf)	<u>N/A</u>		
Specific Gravity	<u>N/A</u>		
Degree of Saturation (%)	<u>N/A</u>	Unconfined Compressive Strength (tsf)	<u>N/A</u>
Average Height (in)	<u>6.071</u>	Undrained Shear Strength (tsf)	<u>N/A</u>
Average Diameter (in)	<u>2.856</u>	Strain at Maximum Stress (%)	<u>N/A</u>
Height to Diameter Ratio	<u>2.1</u>	Strain rate to failure (% / min.)	<u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

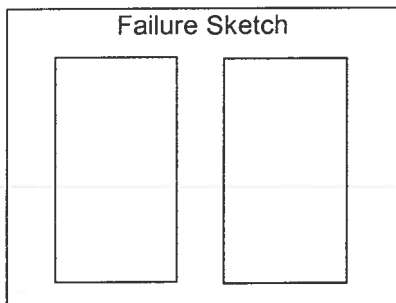
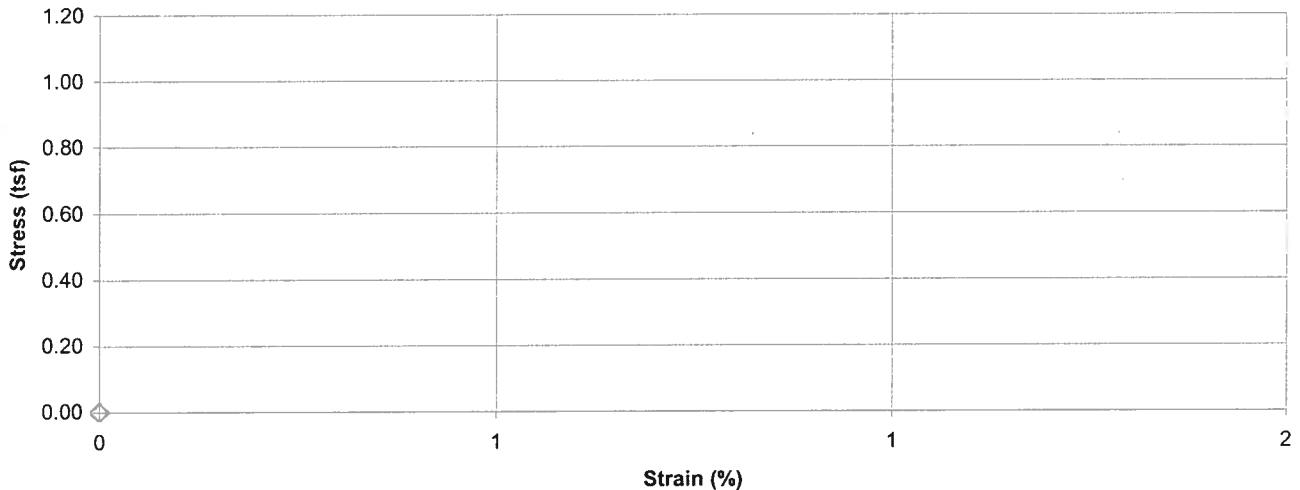
Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 35.0'-37.0' Lab ID 387A
 Visual Description Silt (ML), (flyash), dark gray, moist, firm

Recovered 1.8'
 Test Interval 35' - 35.5'

Specimen Type: Undisturbed LL N/A PL N/A
 PI N/A Date Extruded 06/16/2009

Initial Wet Density (pcf) <u>108.2</u>	Date Tested <u>N/A</u>
Initial Moisture Content (%) <u>31.4</u>	Initial MC Taken <u>Before Test, From Trimmings</u>
Initial Dry Density (pcf) <u>82.4</u>	
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>
At Test Dry Density (pcf) <u>N/A</u>	
Specific Gravity <u>N/A</u>	
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>
Average Height (in) <u>5.883</u>	Undrained Shear Strength (tsf) <u>N/A</u>
Average Diameter (in) <u>2.830</u>	Strain at Maximum Stress (%) <u>N/A</u>
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By [Signature]



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

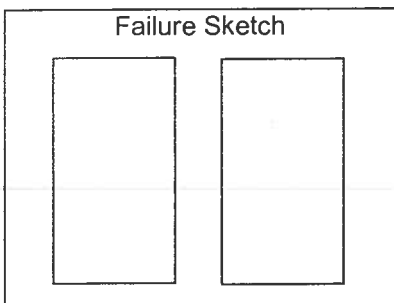
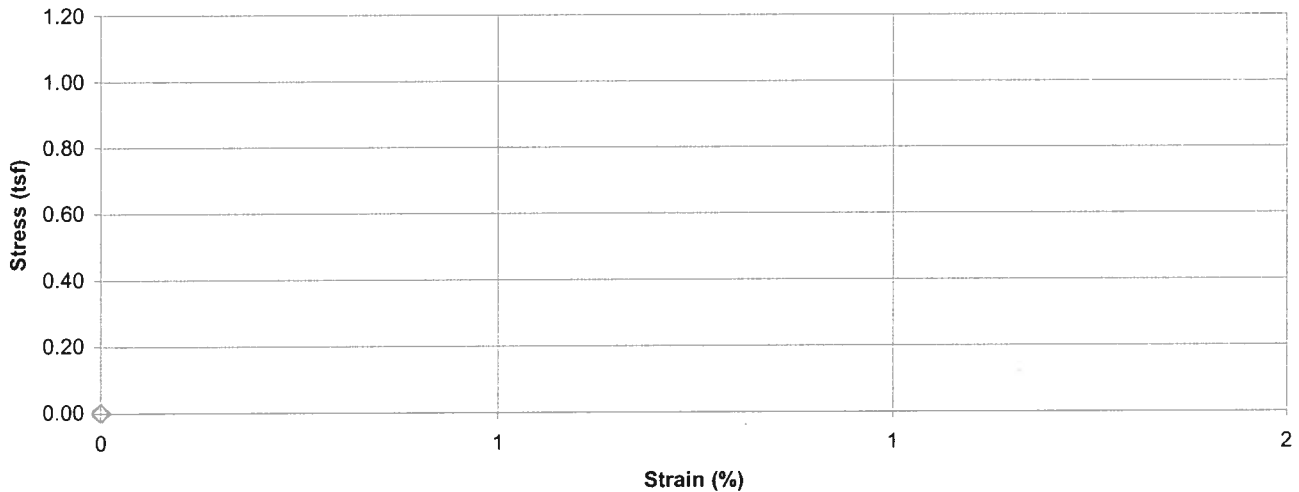
Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 35.0'-37.0' Lab ID 387B
 Visual Description Silt (ML), (flyash), dark gray, moist, firm

Recovered 1.8'
 Test Interval 35.6' - 36.1'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A Date Extruded 06/16/2009

Initial Wet Density (pcf) N/A Date Tested N/A
 Initial Moisture Content (%) 35.0 Initial MC Taken Before Test, From Center of Specimen
 Initial Dry Density (pcf) N/A
 At Test Moisture Content (%) N/A At Test MC Taken N/A
 At Test Dry Density (pcf) N/A
 Specific Gravity N/A
 Degree of Saturation (%) N/A Unconfined Compressive Strength (tsf) N/A
 Average Height (in) N/A Undrained Shear Strength (tsf) N/A
 Average Diameter (in) N/A Strain at Maximum Stress (%) N/A
 Height to Diameter Ratio N/A Strain rate to failure (% / min.) N/A

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Unable to obtain 6" specimen due to fractures.
Saved sample in bag.

Reviewed By



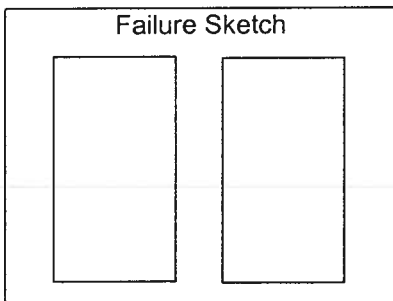
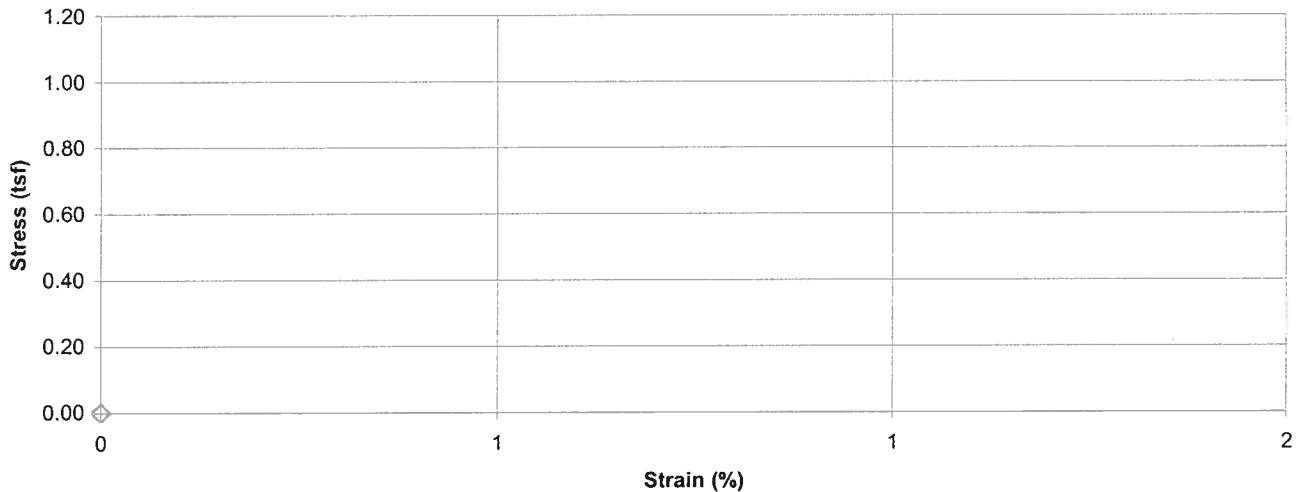
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 35.0'-37.0' Lab ID 387C
 Visual Description Poorly Graded Sand (SP), dark gray, moist, firm, bottom ash

Recovered 1.8'
 Test Interval 36.3' - 36.8'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/16/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>94.4</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>45.6</u>			
Initial Dry Density (pcf) <u>64.8</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.011</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.862</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A
 Comments Specimen fractured, saved in bag

Reviewed By



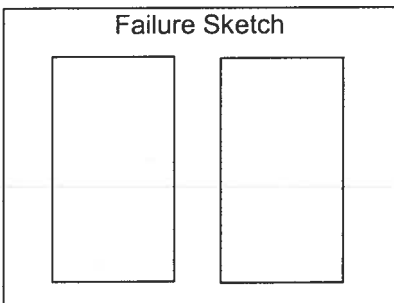
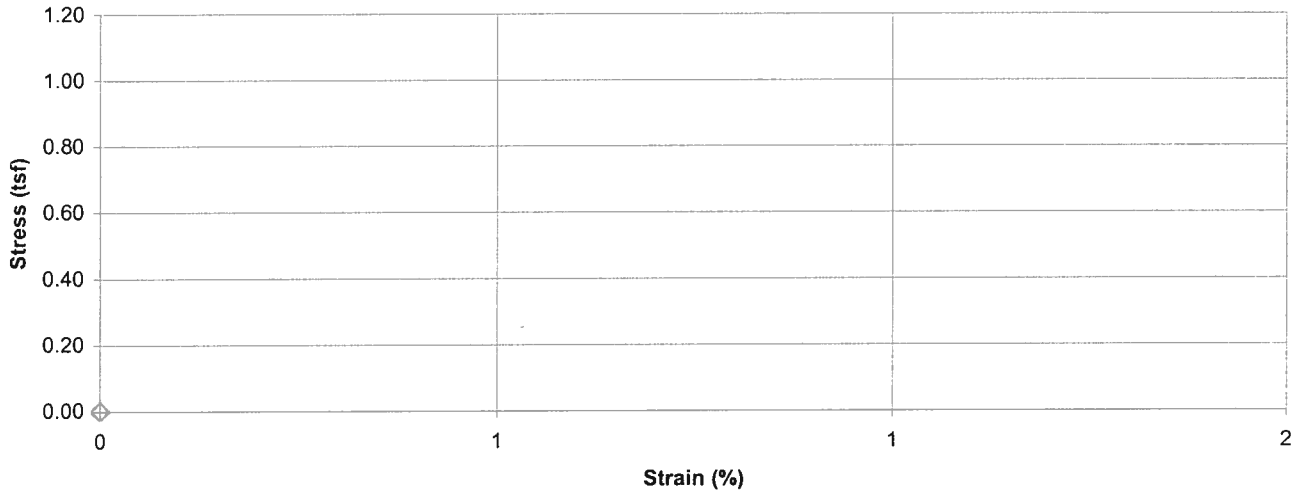
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 47.5'-49.5' Lab ID 388A
 Visual Description Lean Clay with Sand (CL), brown, moist, firm

Recovered 1.2'
 Test Interval 47.5' - 48.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/15/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>129.0</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>22.0</u>			
Initial Dry Density (pcf) <u>105.7</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.050</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.867</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



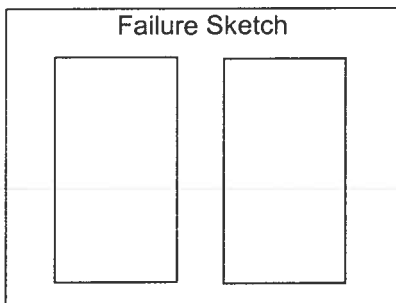
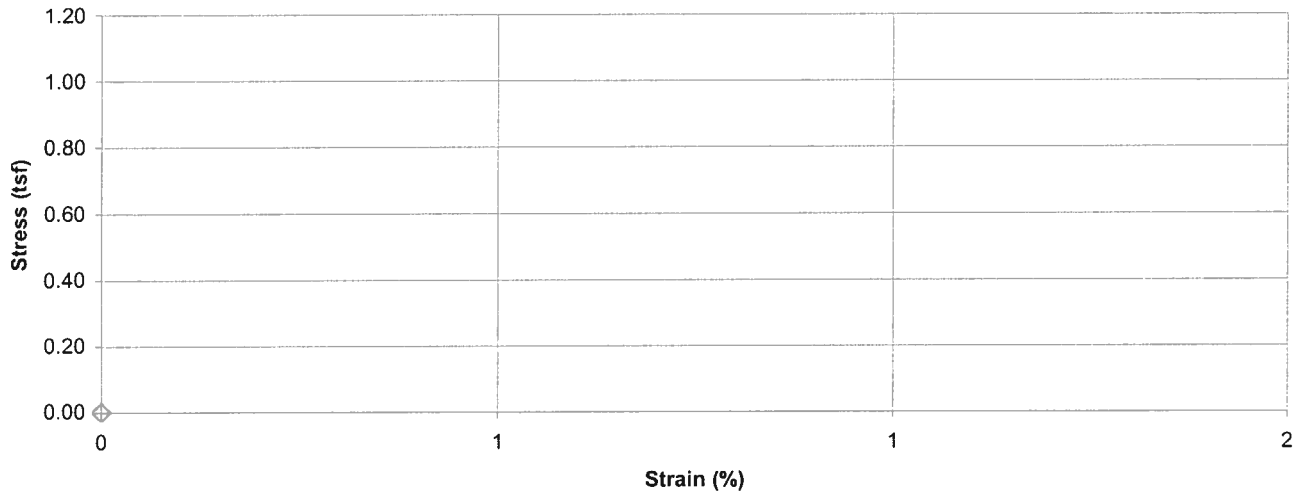
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-80, 47.5'-49.5' Lab ID 388B
 Visual Description Lean Clay with Sand (CL), brown, moist, firm

Recovered 1.2'
 Test Interval 48.1' - 48.6'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/15/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>131.9</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>17.9</u>			
Initial Dry Density (pcf) <u>111.9</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.050</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.885</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



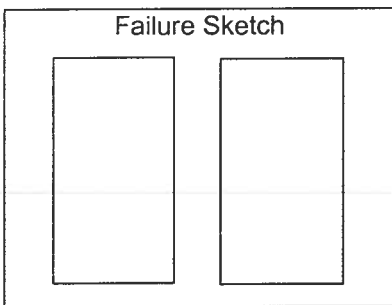
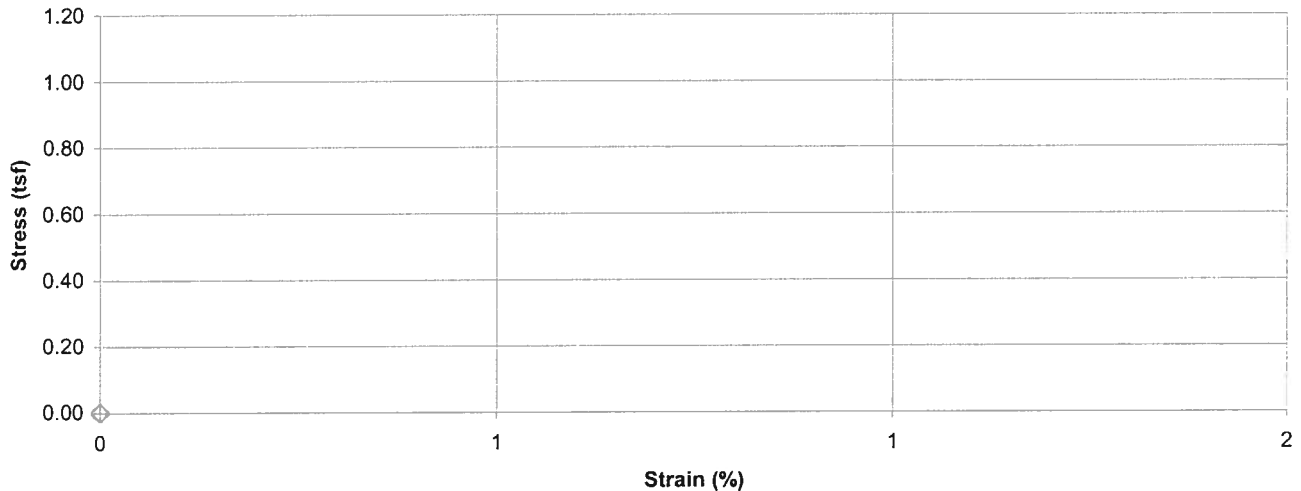
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-82, 7.5'-9.5' Lab ID 389
 Visual Description Fat Clay (CH), red brown, moist, firm, bottom ash

Recovered 0.6'
 Test Interval 7.5' - 8.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/15/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>122.6</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>22.4</u>	At Test MC Taken <u>N/A</u>		
Initial Dry Density (pcf) <u>100.2</u>			
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.062</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.881</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



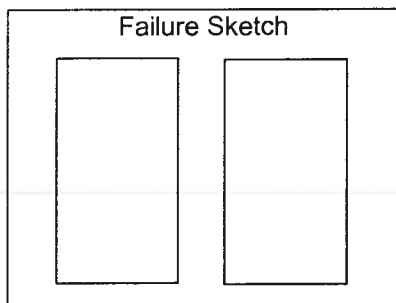
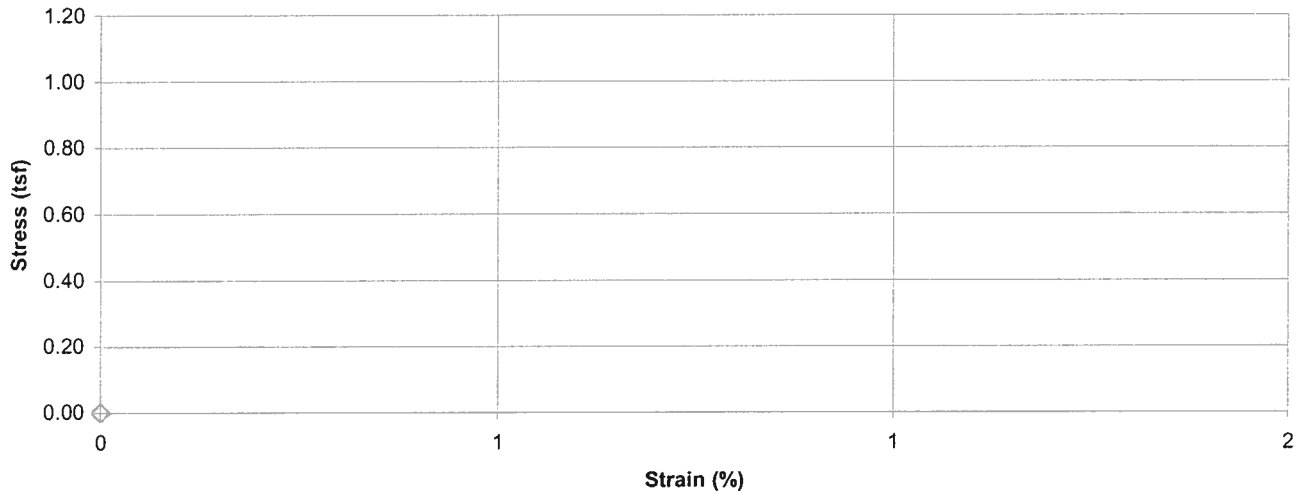
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-82, 20.0'-22.0' Lab ID 390A
 Visual Description Fat Clay (CH), red brown, moist, firm

Recovered 1.1'
 Test Interval 20.0' - 20.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/16/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>109.6</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>22.2</u>	At Test MC Taken <u>N/A</u>		
Initial Dry Density (pcf) <u>89.7</u>			
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.025</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.883</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By [Signature]



Unconfined Compressive Strength of Cohesive Soil

ASTM D 2166

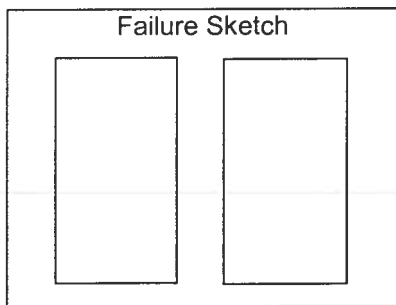
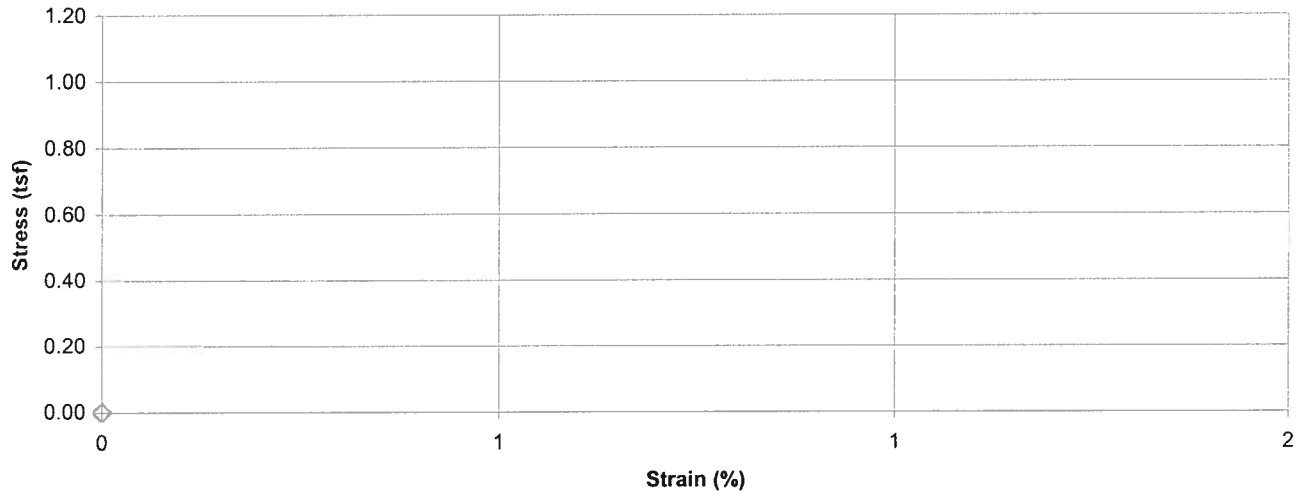
Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-82, 40.0'-42.0' Lab ID 391A
 Visual Description Silt (ML), (flyash), gray, moist, firm

Recovered 1.8'
 Test Interval 40' - 40.5'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A
 Date Extruded 06/16/2009
 Date Tested N/A

Initial Wet Density (pcf)	<u>114.5</u>	Initial MC Taken	<u>Before Test, From Trimmings</u>
Initial Moisture Content (%)	<u>23.6</u>	At Test MC Taken	<u>N/A</u>
Initial Dry Density (pcf)	<u>92.6</u>		
At Test Moisture Content (%)	<u>N/A</u>		
At Test Dry Density (pcf)	<u>N/A</u>		
Specific Gravity	<u>N/A</u>		
Degree of Saturation (%)	<u>N/A</u>	Unconfined Compressive Strength (tsf)	<u>N/A</u>
Average Height (in)	<u>5.983</u>	Undrained Shear Strength (tsf)	<u>N/A</u>
Average Diameter (in)	<u>2.829</u>	Strain at Maximum Stress (%)	<u>N/A</u>
Height to Diameter Ratio	<u>2.1</u>	Strain rate to failure (% / min.)	<u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

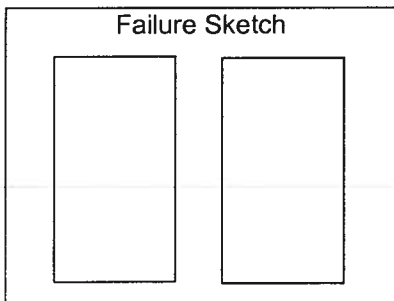
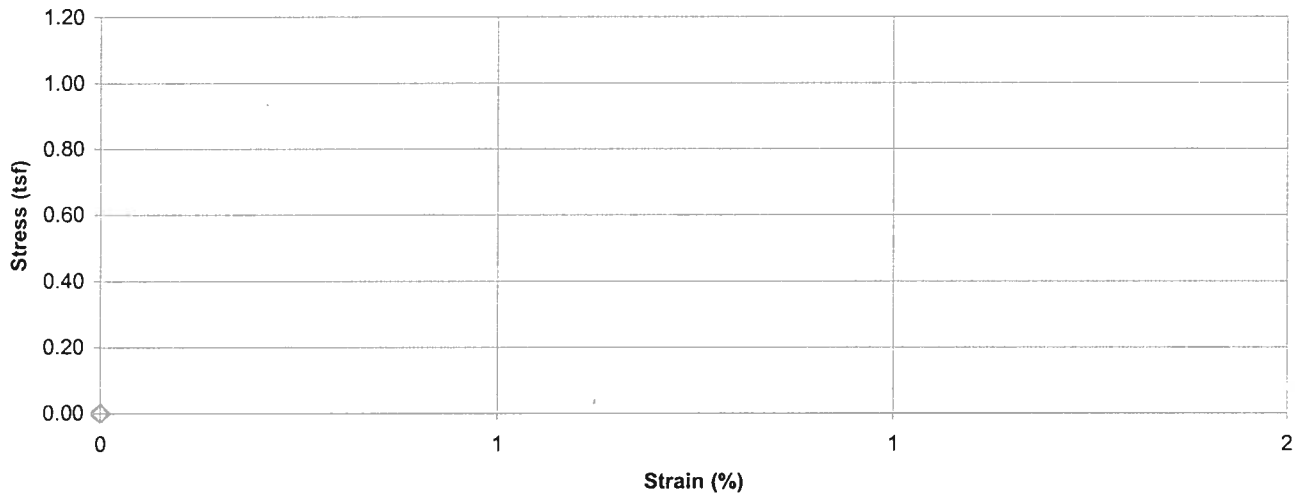
Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-82, 40.0'-42.0' Lab ID 391B
 Visual Description Silt (ML), (flyash), gray, moist, firm

Recovered 1.8'
 Test Interval 40.6' - 41.1'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A Date Extruded 06/16/2009
 Date Tested N/A


Initial Wet Density (pcf)	<u>106.8</u>	Initial MC Taken	<u>Before Test, From Trimmings</u>
Initial Moisture Content (%)	<u>26.7</u>	At Test MC Taken	<u>N/A</u>
Initial Dry Density (pcf)	<u>84.3</u>		
At Test Moisture Content (%)	<u>N/A</u>		
At Test Dry Density (pcf)	<u>N/A</u>		
Specific Gravity	<u>N/A</u>		
Degree of Saturation (%)	<u>N/A</u>	Unconfined Compressive Strength (tsf)	<u>N/A</u>
Average Height (in)	<u>5.844</u>	Undrained Shear Strength (tsf)	<u>N/A</u>
Average Diameter (in)	<u>2.831</u>	Strain at Maximum Stress (%)	<u>N/A</u>
Height to Diameter Ratio	<u>2.1</u>	Strain rate to failure (% / min.)	<u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By 



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

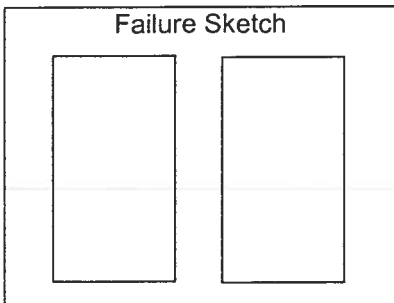
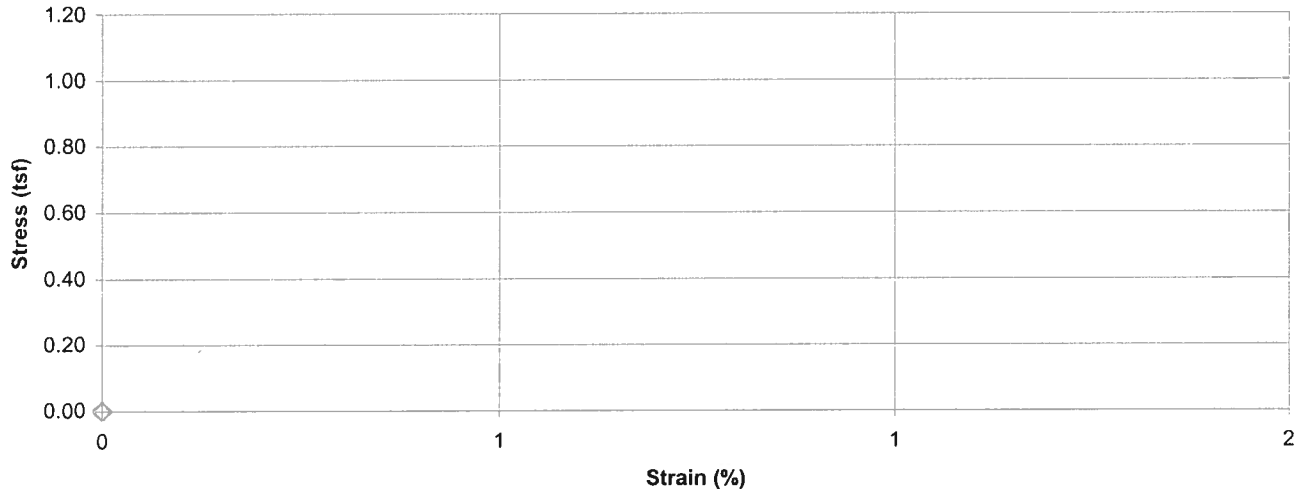
Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-82, 40.0'-42.0' Lab ID 391C
 Visual Description Silt (ML), (flyash), gray, moist, firm

Recovered 1.8'
 Test Interval 41.3' - 41.8'

Specimen Type: Undisturbed LL N/A PL N/A
 PI N/A Date Extruded 06/16/2009
 Date Tested N/A

Initial Wet Density (pcf)	<u>115.9</u>	Initial MC Taken	<u>Before Test, From Trimmings</u>
Initial Moisture Content (%)	<u>26.9</u>	At Test MC Taken	<u>N/A</u>
Initial Dry Density (pcf)	<u>91.3</u>		
At Test Moisture Content (%)	<u>N/A</u>		
At Test Dry Density (pcf)	<u>N/A</u>		
Specific Gravity	<u>N/A</u>		
Degree of Saturation (%)	<u>N/A</u>	Unconfined Compressive Strength (tsf)	<u>N/A</u>
Average Height (in)	<u>5.991</u>	Undrained Shear Strength (tsf)	<u>N/A</u>
Average Diameter (in)	<u>2.885</u>	Strain at Maximum Stress (%)	<u>N/A</u>
Height to Diameter Ratio	<u>2.1</u>	Strain rate to failure (% / min.)	<u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



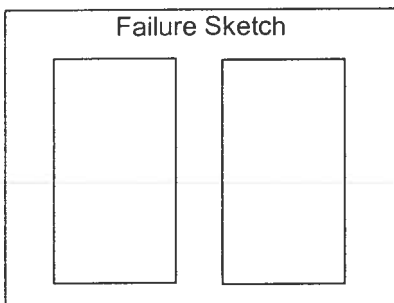
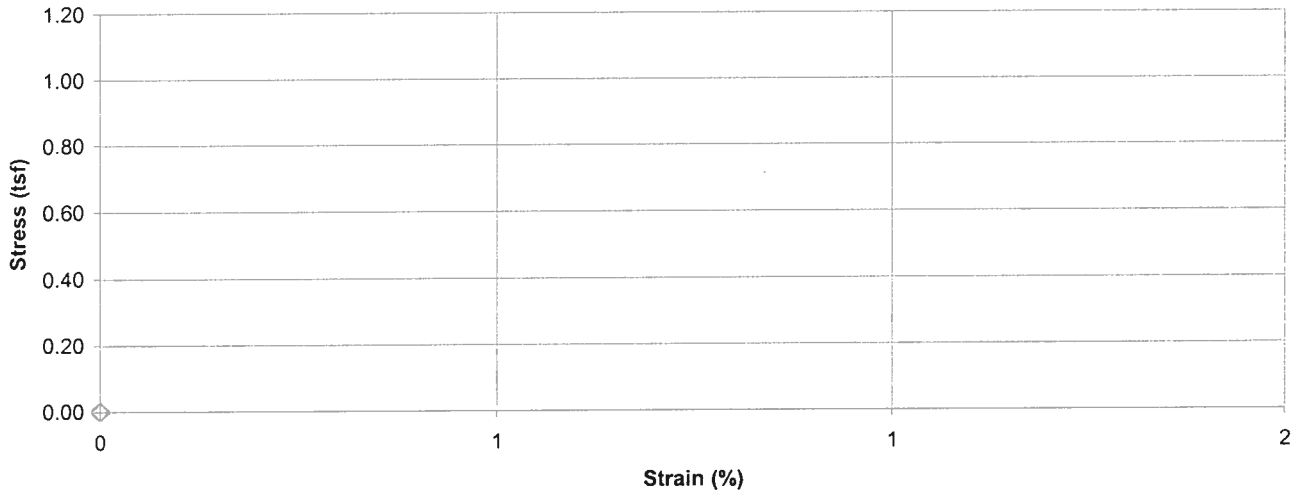
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-83, 10.0'-12.0' Lab ID 85
 Visual Description Fat Clay with Gravel (CH), brown, moist, firm

Recovered 0.8'
 Test Interval 10.0' - 10.8'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>05/21/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>18.2</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Specimen was not obtained. Saved in bag.

Reviewed By [Signature]



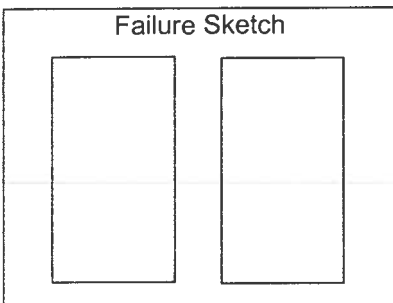
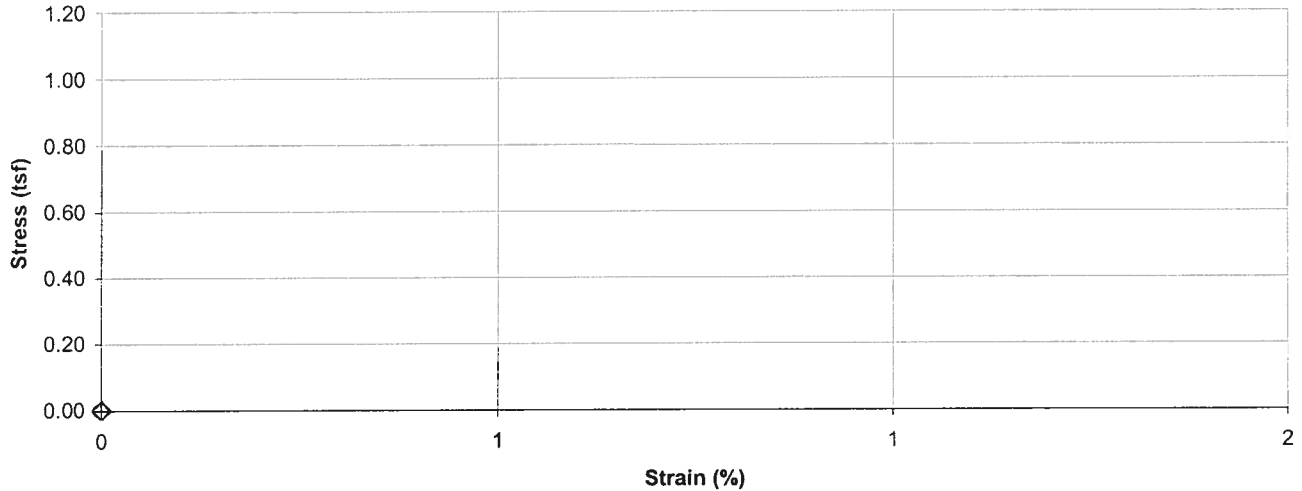
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-84, 10.0'-12.0' Lab ID 86
 Visual Description Silt (ML), fly ash, black, moist, soft

Recovered 0.7'
 Test Interval _____

Specimen Type: _____	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>05/21/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>19.0</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Unable to obtain 6" specimen due to
sample falling apart. Saved in bag.
Dried for MC @ 60° C

Reviewed By



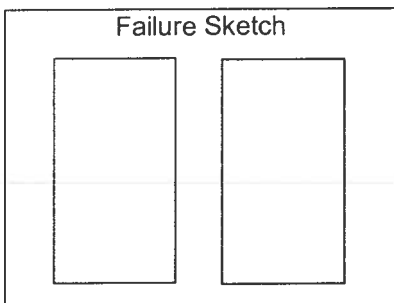
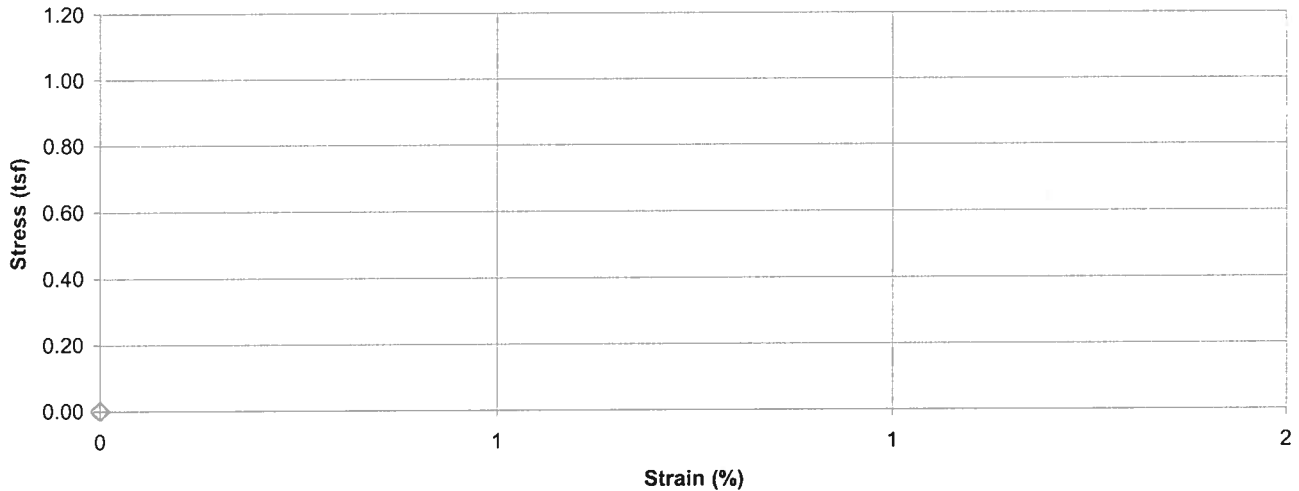
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-84, 20.0'-22.0' Lab ID 87
 Visual Description Silt (ML), fly ash, black, moist, soft

Recovered 0.7'
 Test Interval 20.0' - 20.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>05/21/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>15.9</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Unable to obtain 6" specimen. Sample fell
 apart. Saved in bag.
MC dried @ 60° C

Reviewed By [Signature]



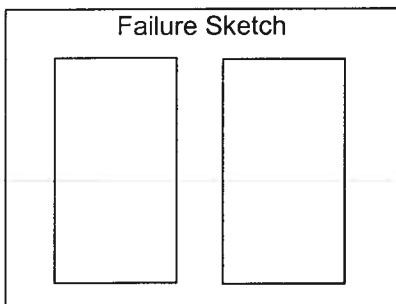
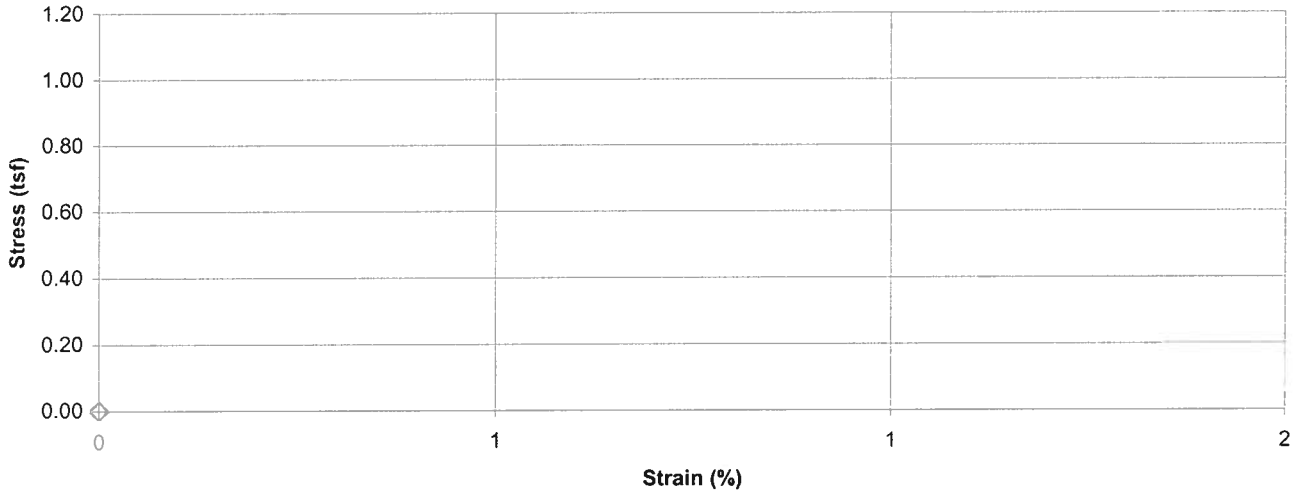
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-84, 40.0'-42.0' Lab ID 88A
 Visual Description Fat Clay with Gravel (CH), red brown, moist, firm

Recovered 1.5'
 Test Interval 40.0' - 40.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>05/21/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>			
Initial Moisture Content (%) <u>23.4</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Dry Density (pcf) <u>N/A</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Specimen was not obtained.
Due to large rock in specimen

Reviewed By



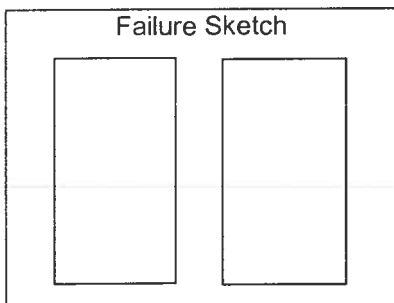
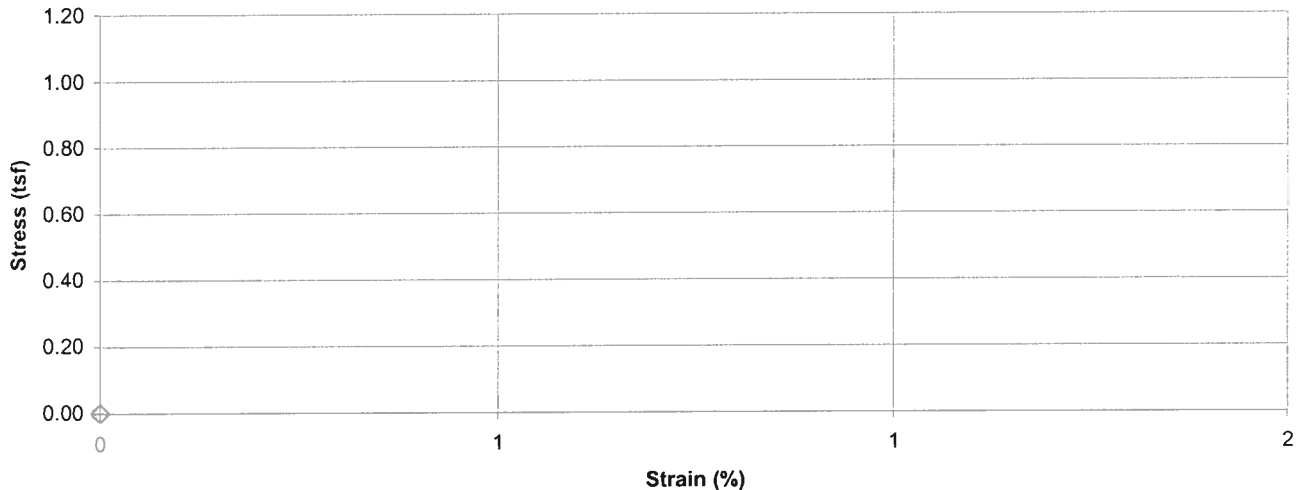
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-84, 40.0'-42.0' Lab ID 88B
 Visual Description Fat Clay with Gravel (CH), red brown, moist, firm

Recovered 1.5'
 Test Interval 40.5' - 41.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>05/21/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>126.0</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>24.7</u>			
Initial Dry Density (pcf) <u>101.0</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.034</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.877</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



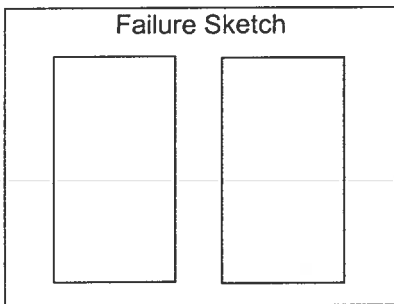
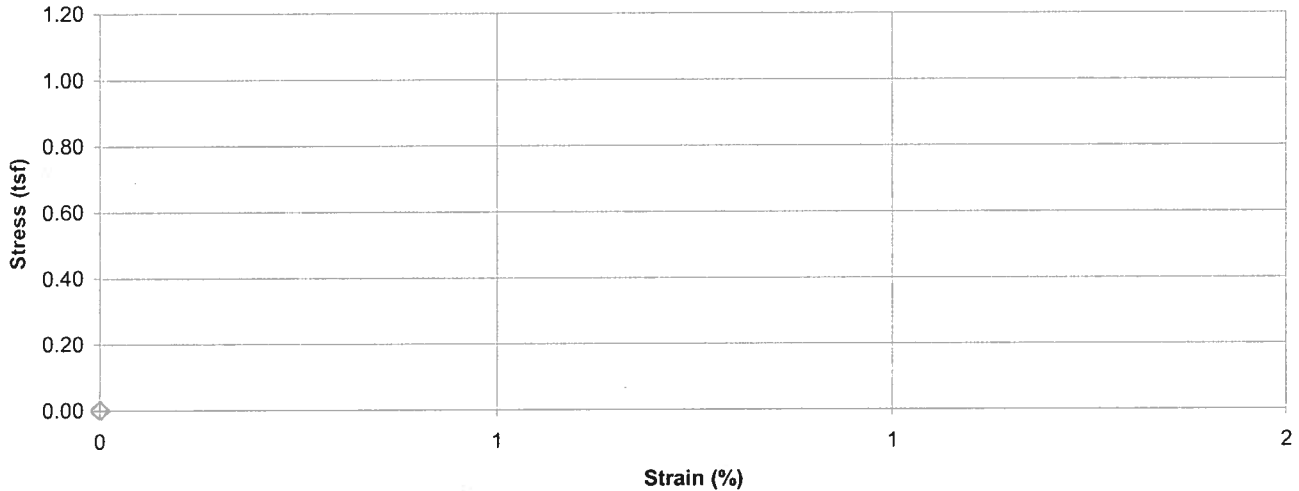
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-86, 15.0'-17.0' Lab ID 368A
 Visual Description Fat Clay (CH), red brown, moist, firm

Recovered 1.2'
 Test Interval 15.0' - 15.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/11/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>126.7</u>			
Initial Moisture Content (%) <u>22.6</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Dry Density (pcf) <u>103.3</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.040</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.886</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



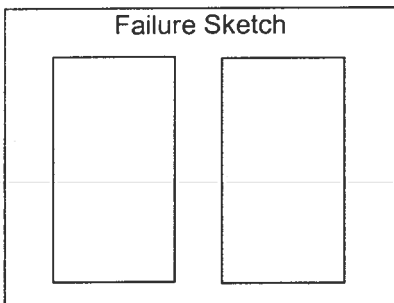
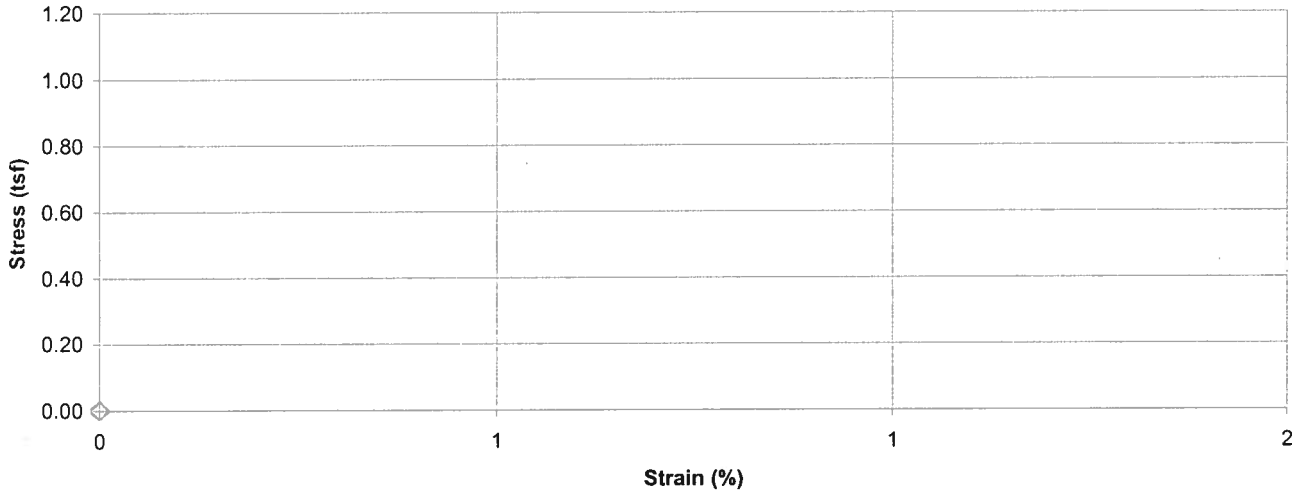
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-86, 15.0'-17.0' Lab ID 368B
 Visual Description Fat Clay (CH), red brown, moist firm

Recovered 1.2'
 Test Interval 15.6' - 16.4'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/11/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>126.9</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>24.6</u>			
Initial Dry Density (pcf) <u>101.8</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.060</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.884</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



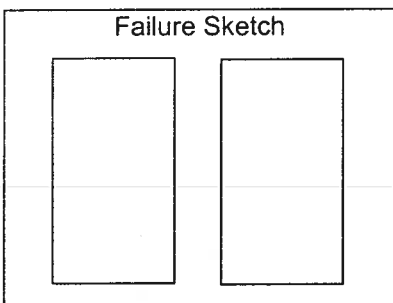
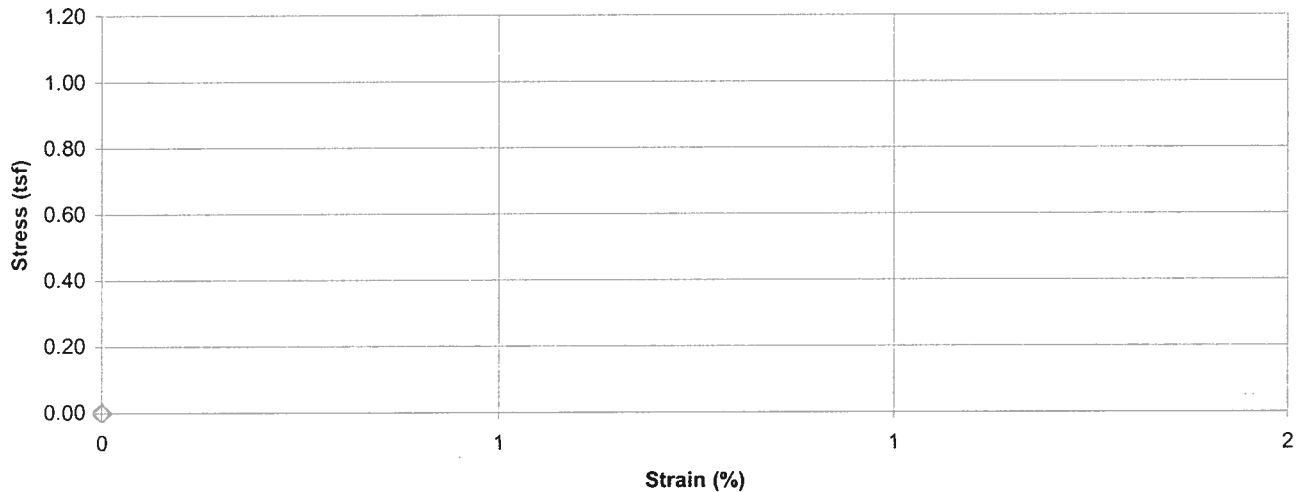
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-86, 24.0'-26.0' Lab ID 369
 Visual Description Lean Clay (CL), brown, moist, firm

Recovered 0.7'
 Test Interval 24.0' - 24.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/12/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>111.8</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>45.6</u>			
Initial Dry Density (pcf) <u>76.8</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.047</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.878</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

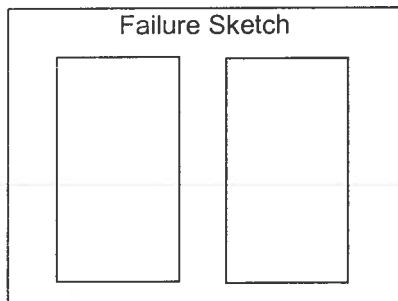
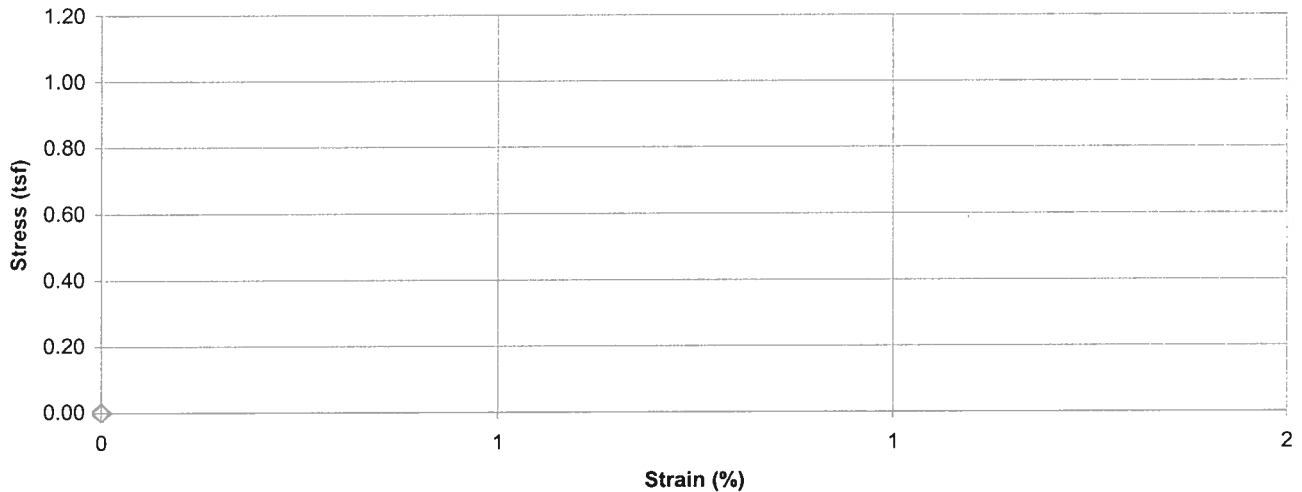
Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-87, 37.0'-39.0' Lab ID 89
 Visual Description Fat Clay with Gravel (CH), light brown, moist, firm

Recovered 0.9'
 Test Interval 37.0' - 37.5'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A Date Extruded 05/21/2009
 Date Tested N/A

Initial Wet Density (pcf)	<u>134.8</u>	Initial MC Taken	<u>Before Test, From Trimmings</u>
Initial Moisture Content (%)	<u>18.0</u>		
Initial Dry Density (pcf)	<u>114.2</u>		
At Test Moisture Content (%)	<u>N/A</u>	At Test MC Taken	<u>N/A</u>
At Test Dry Density (pcf)	<u>N/A</u>		
Specific Gravity	<u>N/A</u>		
Degree of Saturation (%)	<u>N/A</u>	Unconfined Compressive Strength (tsf)	<u>N/A</u>
Average Height (in)	<u>6.053</u>	Undrained Shear Strength (tsf)	<u>N/A</u>
Average Diameter (in)	<u>2.880</u>	Strain at Maximum Stress (%)	<u>N/A</u>
Height to Diameter Ratio	<u>2.1</u>	Strain rate to failure (% / min.)	<u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By

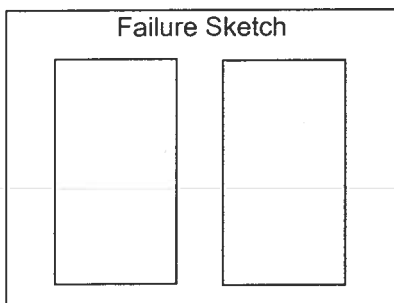
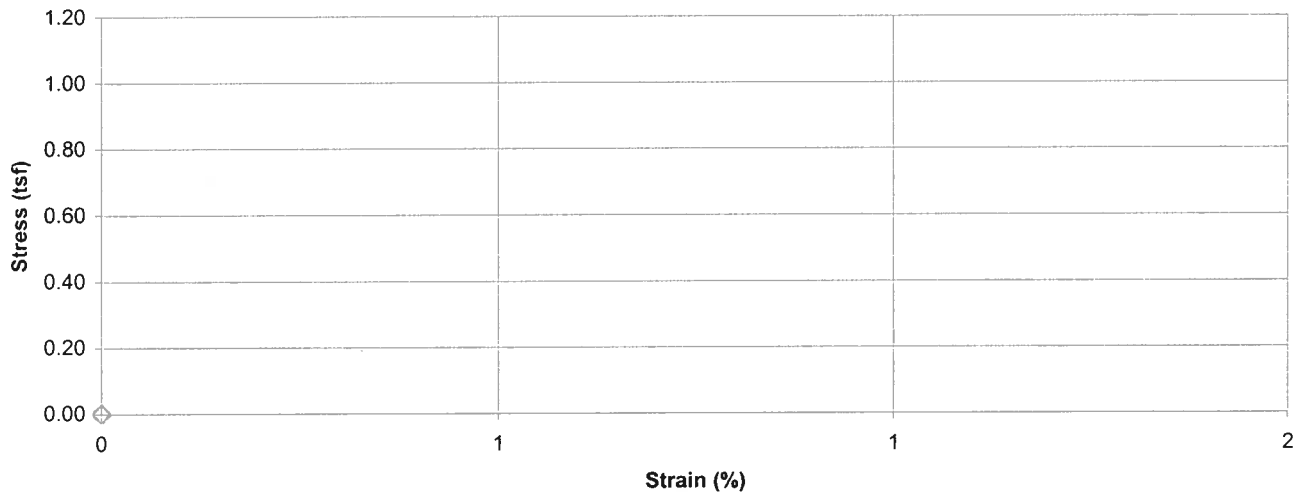


**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-89, 15.0'-17.0' Lab ID 371
 Visual Description Poorly Graded Sand with Gravel (SP), dark gray, moist, firm,
bottom ash Recovered 1.8'
 Test Interval 16.3' - 16.8'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/12/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>118.2</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>22.9</u>			
Initial Dry Density (pcf) <u>96.2</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>5.881</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.872</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.0</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A
 Comments 15.0'-15.3' fly ash, 15.3'-15.7' Gravelly Fat Clay
15.7'-16.3' fly ash

Reviewed By



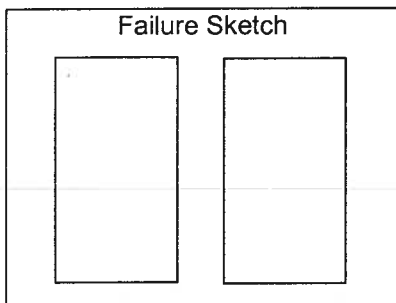
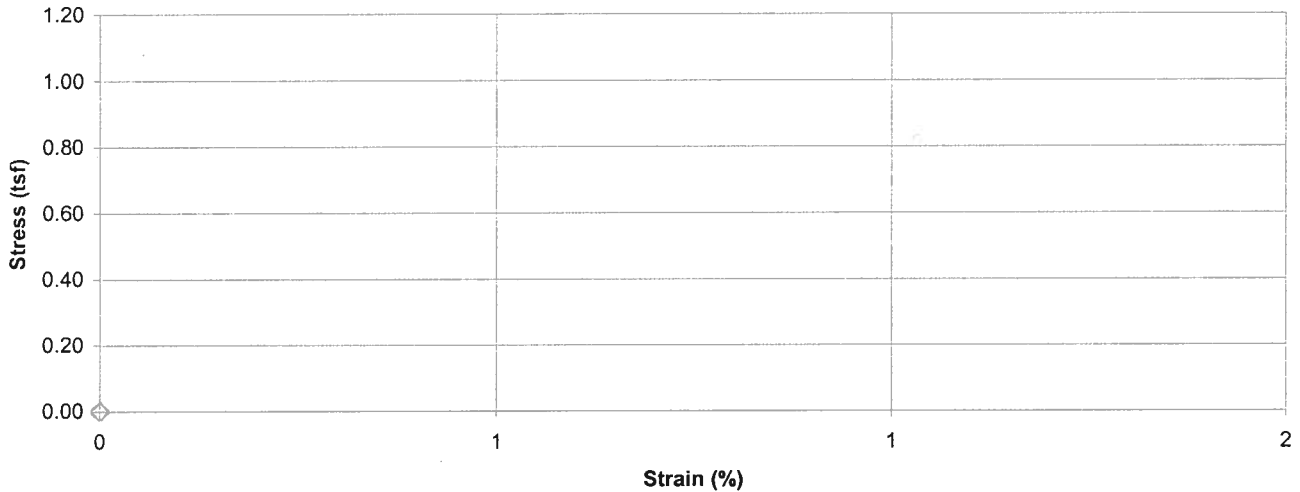
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-89, 20.0'-22.0' Lab ID 372
 Visual Description Gravelly Fat Clay (CH), brown, moist, firm

Recovered 0.7'
 Test Interval 20.5' - 21.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/12/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>123.7</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>27.3</u>			
Initial Dry Density (pcf) <u>97.2</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.024</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.860</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments remainder saved in bag

Reviewed By *[Signature]*

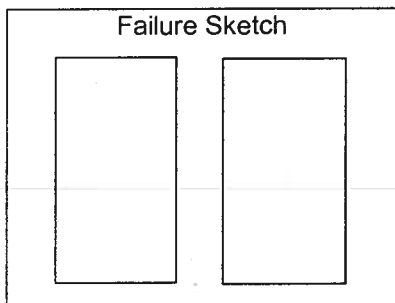
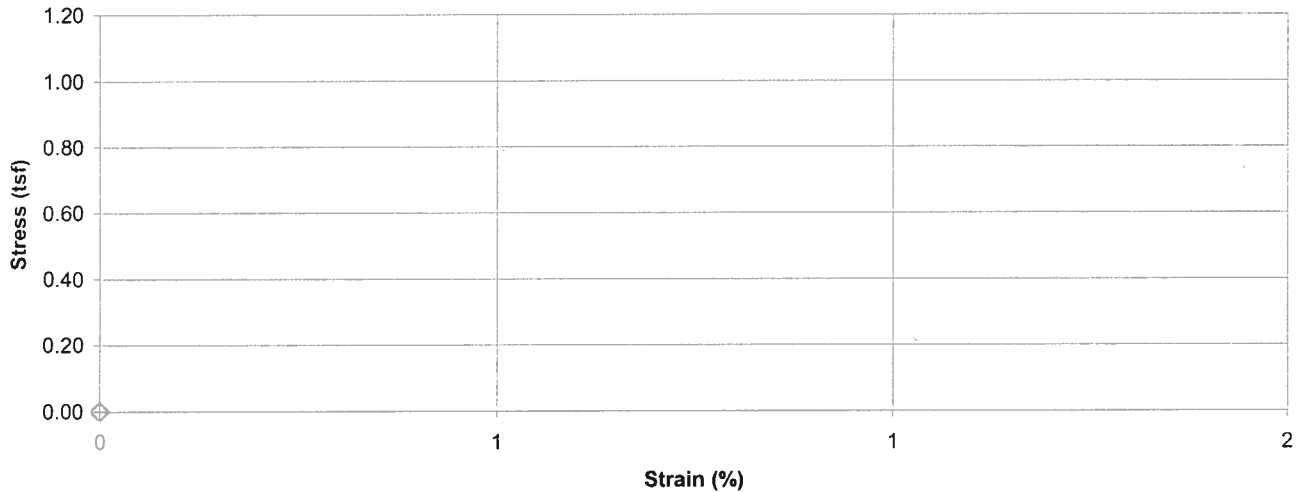


**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-89, 40.0'-42.0' Lab ID 373A
 Visual Description Poorly Graded Sand with Gravel (SP), dark gray, moist, firm,
bottom ash Recovered 1.4'
 Test Interval 40.3' - 40.8'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/12/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>127.6</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>21.7</u>			
Initial Dry Density (pcf) <u>104.8</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.017</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.877</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



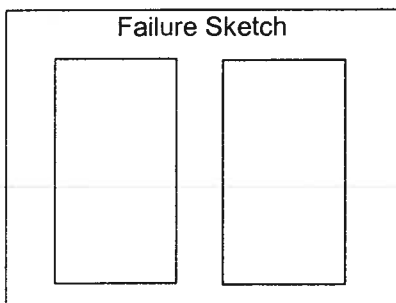
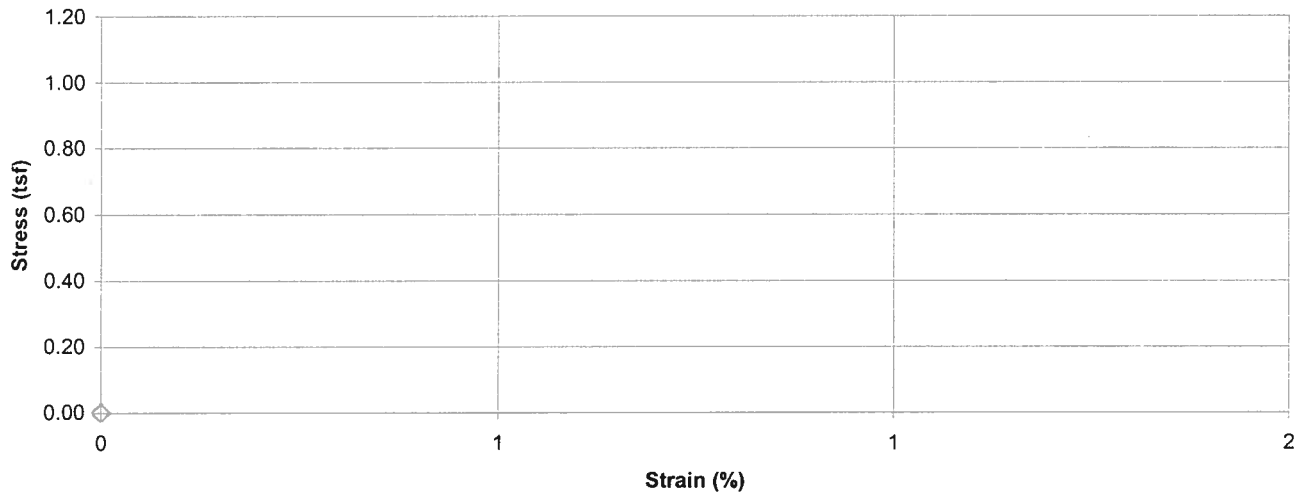
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-89, 40.0'-42.0' Lab ID 373B
 Visual Description Gravelly Fat Clay (CH), brown, moist, firm, bottom ash

Recovered 1.4'
 Test Interval 40.9' - 41.4'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/12/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>141.4</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>17.8</u>			
Initial Dry Density (pcf) <u>120.0</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.135</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.879</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



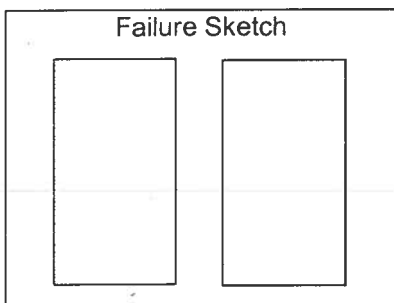
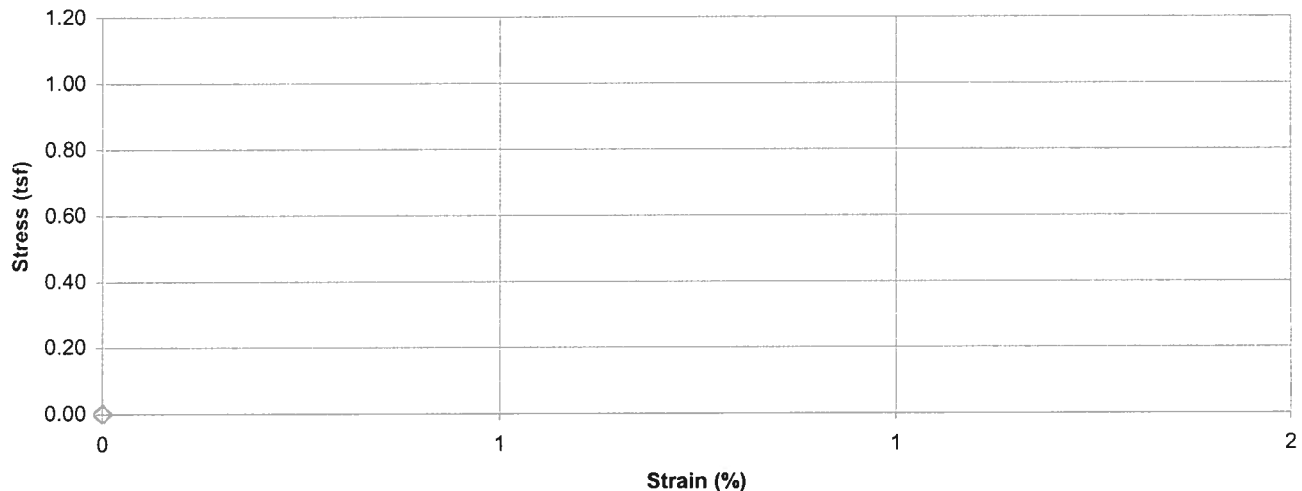
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-90, 5.0'-7.0' Lab ID 374
 Visual Description Lean Clay (CL), grown gray, moist, firm, 5.0'-5.3' DGA

Recovered 0.6'
 Test Interval 5.3' - 5.6'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/15/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Center of Specimen</u>		
Initial Moisture Content (%) <u>45.5</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Specimen fell apart. Saved in bag

Reviewed By



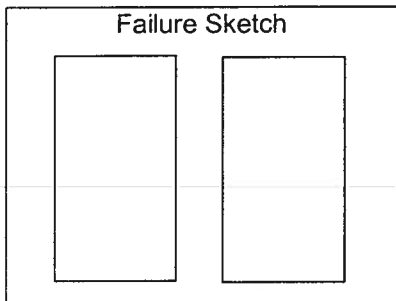
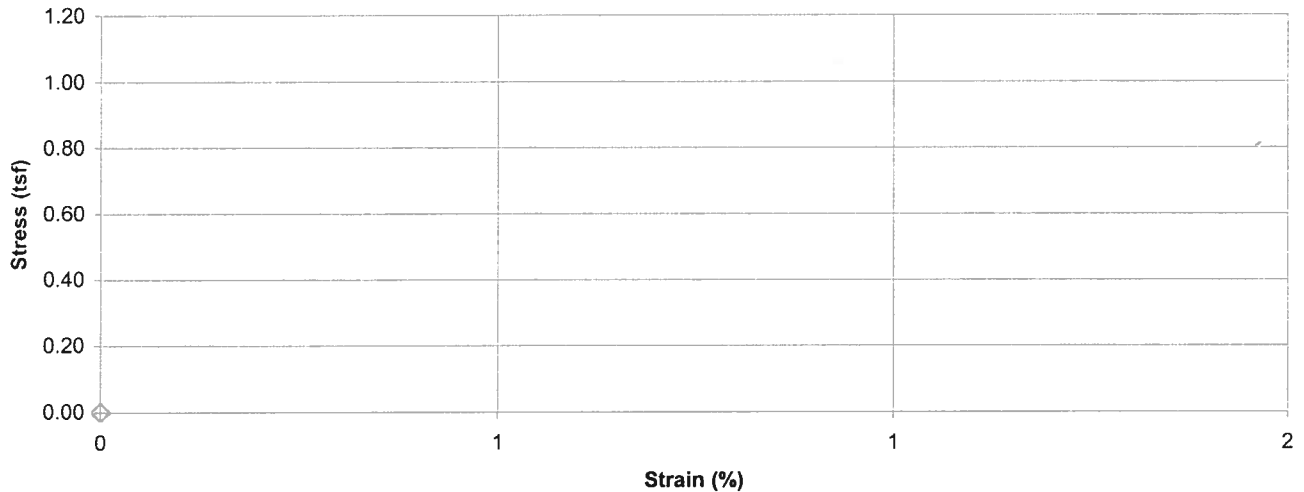
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-90, 10.0'-12.0' Lab ID 375A
 Visual Description Lean Clay with Gravel (CL), brown, moist, firm

Recovered 0.8'
 Test Interval 10.0' - 10.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/12/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>123.8</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>22.7</u>			
Initial Dry Density (pcf) <u>100.9</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.071</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.879</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



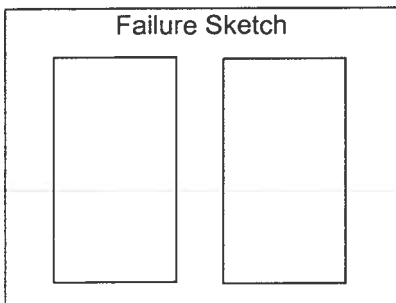
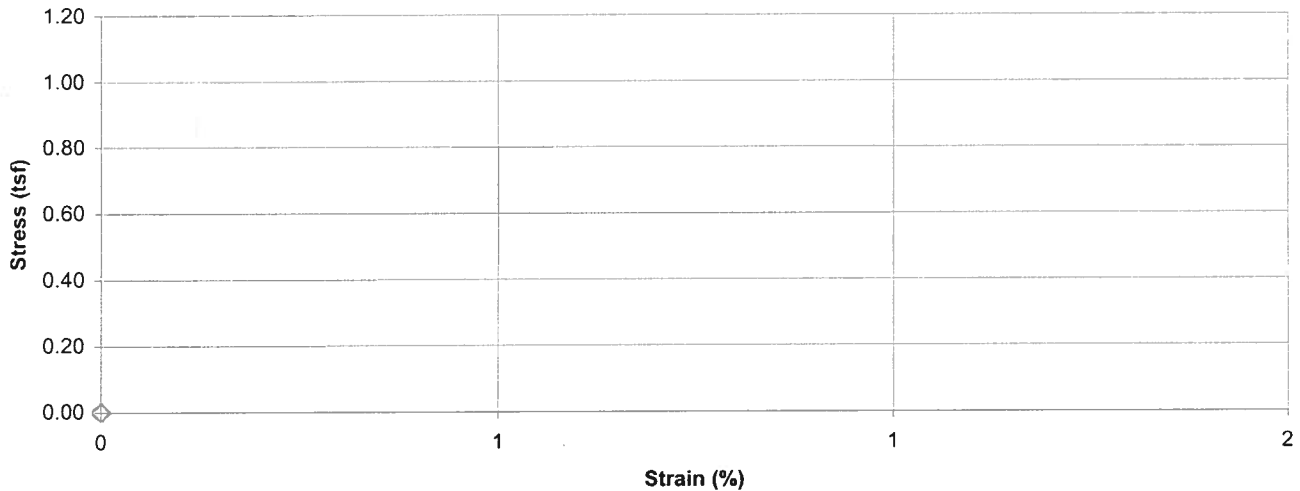
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source SB-90, 20.0'-22.0' Lab ID 376
 Visual Description Fat Clay with Gravel (CH), red brown, moist, firm

Recovered 0.4'
 Test Interval 20.0' - 20.4'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/12/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>17.9</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



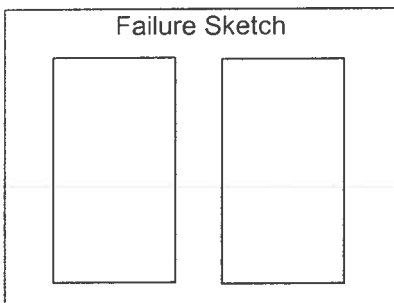
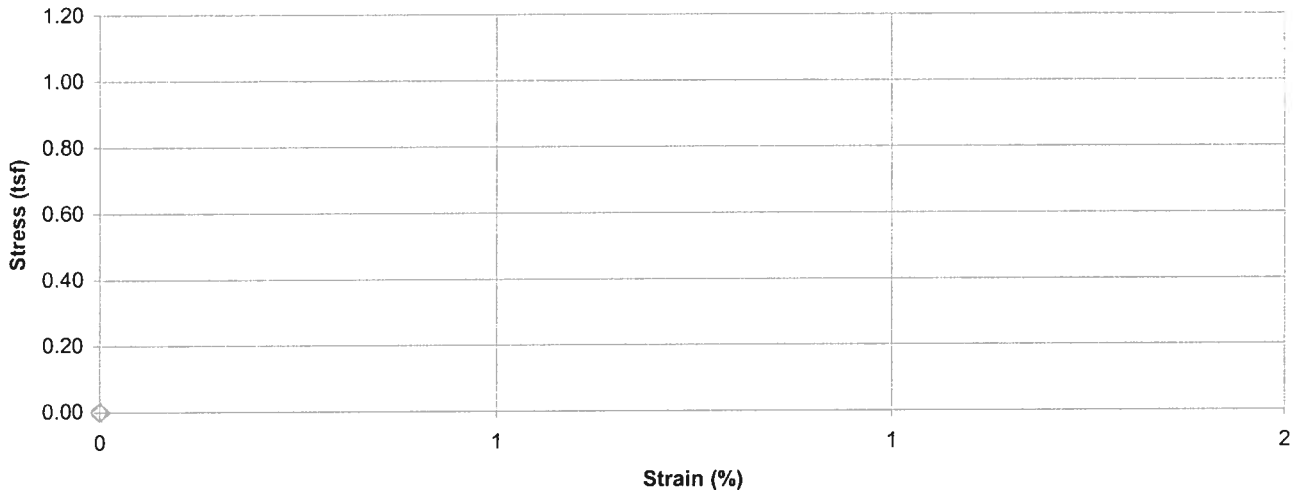
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-93, 30.0'-32.0' Lab ID 1297A
 Visual Description Poorly Graded Sand (SP), gray, moist, firm

Recovered 1.3'
 Test Interval 30.0' - 30.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Center of Specimen</u>		
Initial Moisture Content (%) <u>14.7</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments No test specimen obtained due to fractures.
Saved in a bag.

Reviewed By

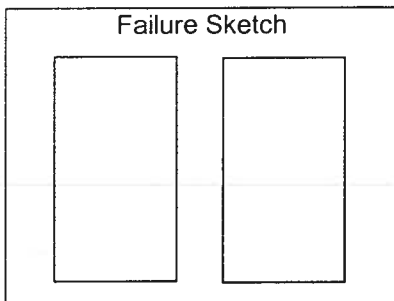
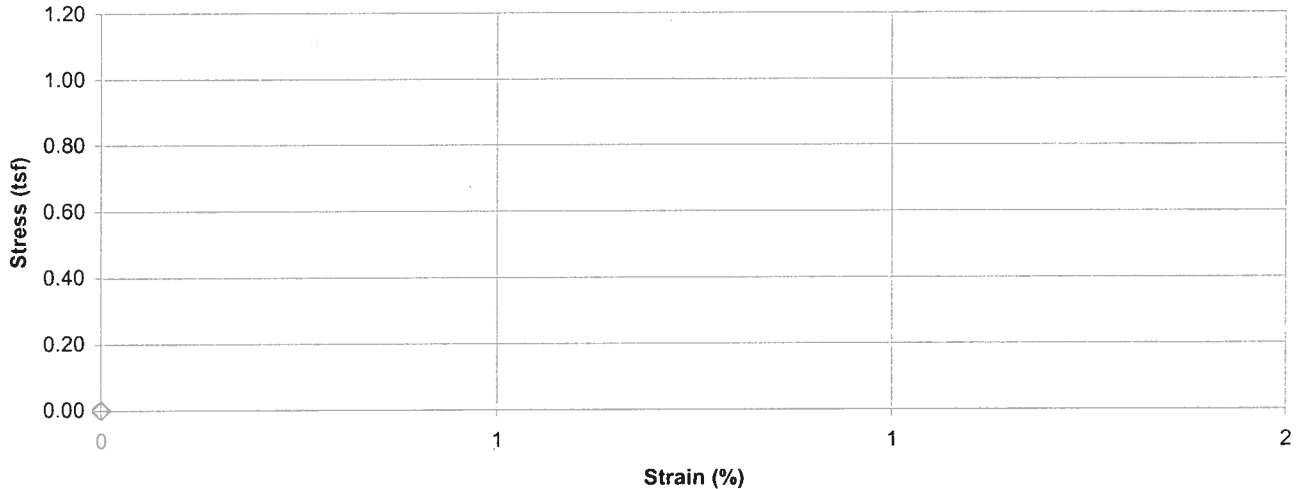


**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-93, 30.0'-32.0' Lab ID 1297B
 Visual Description Poorly Graded Gravel with Silt and Sand (GP-GM), gray, moist, firm,
bottom ash Recovered 1.3'
 Test Interval 30.6' - 31.1'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>137.9</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>10.3</u>			
Initial Dry Density (pcf) <u>125.0</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>5.982</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.865</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



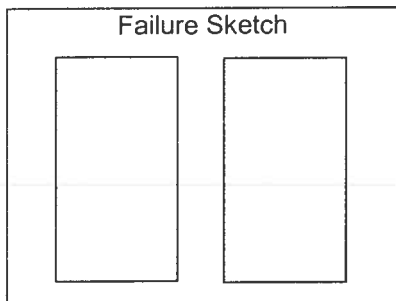
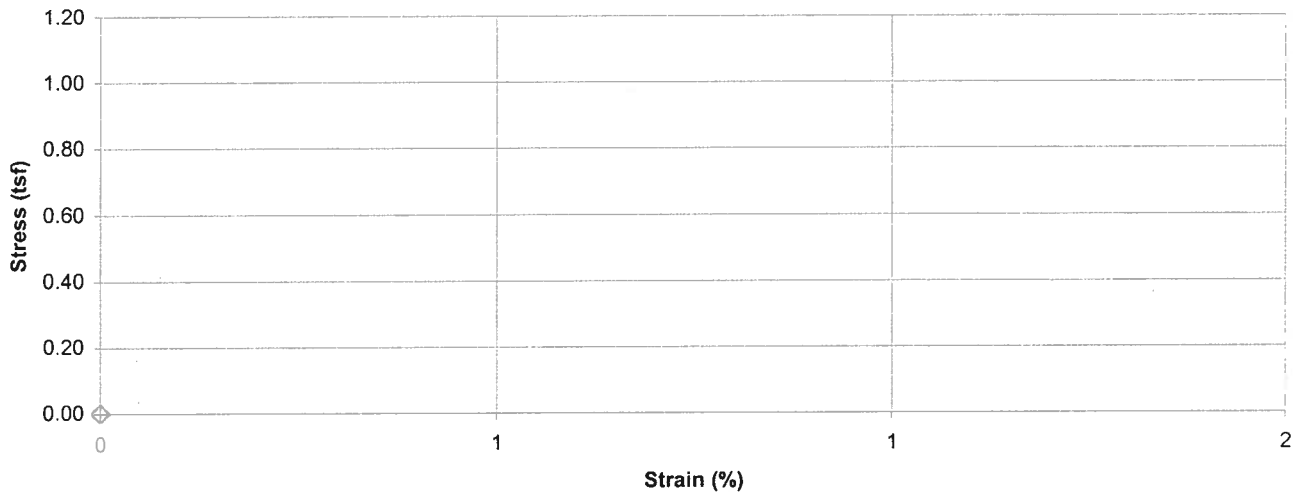
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-93, 49.0'-51.0' Lab ID 1298
 Visual Description Lean Clay (CL), brown, moist, firm

Recovered 0.7'
 Test Interval 49.0' - 49.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>124.6</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>23.8</u>			
Initial Dry Density (pcf) <u>100.7</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.006</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.833</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



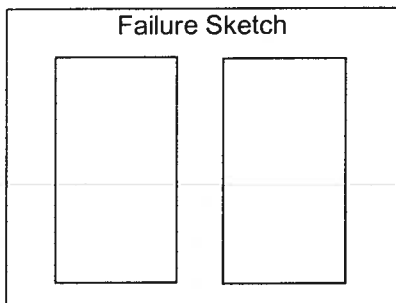
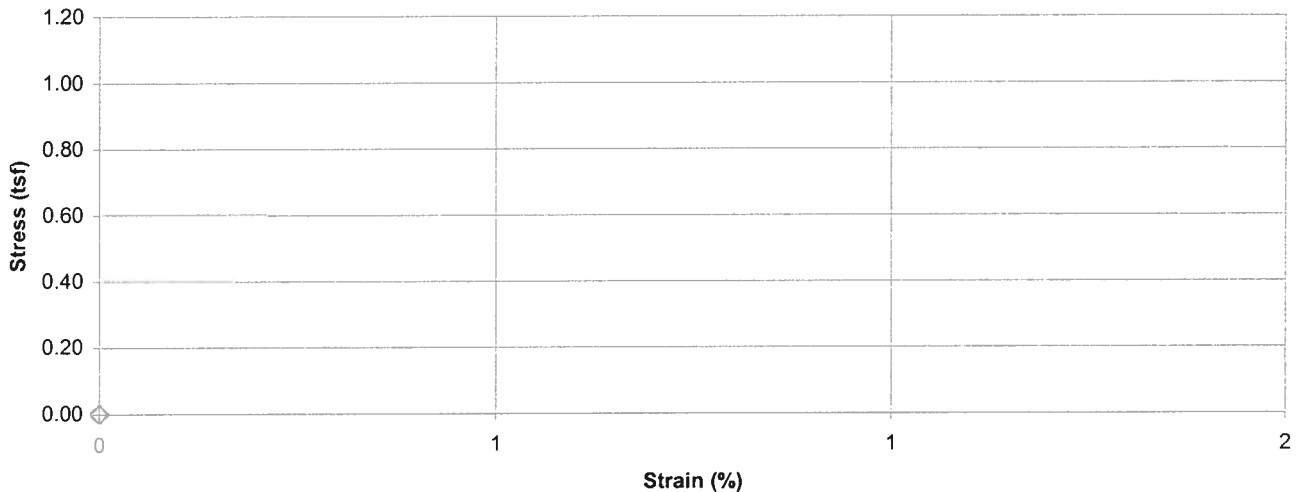
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-94, 15.0'-17.0' Lab ID 1299A
 Visual Description Fat Clay (CH), red brown, moist, firm

Recovered 1.3'
 Test Interval 15.0' - 15.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>127.7</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>23.0</u>			
Initial Dry Density (pcf) <u>103.8</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.004</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.885</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



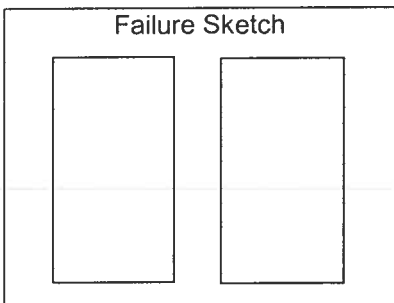
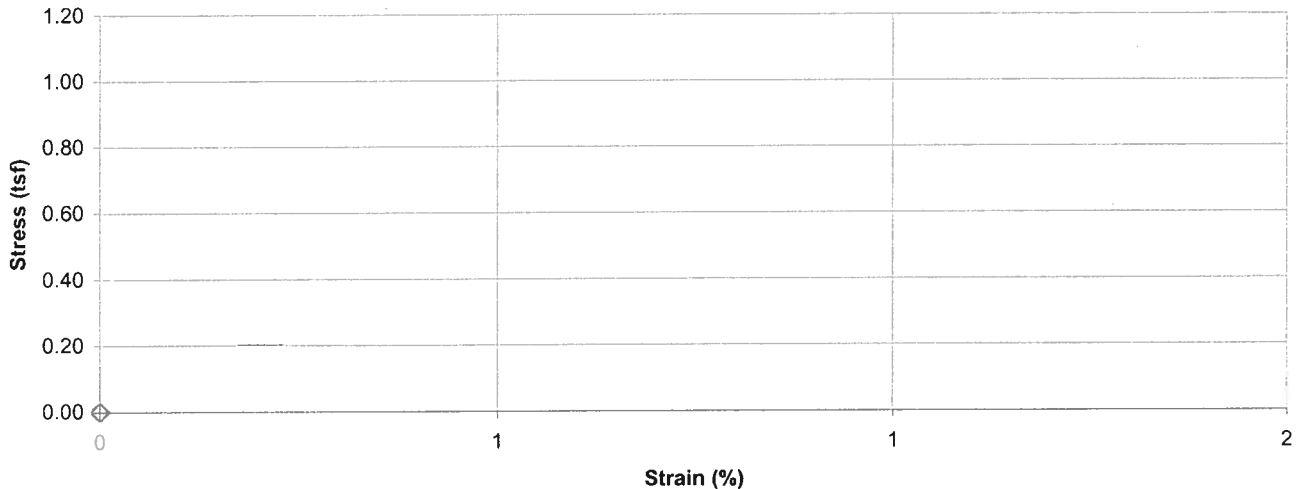
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-94, 15.0'-17.0' Lab ID 1299B
 Visual Description Fat Clay (CH), red brown, moist, firm

Recovered 1.3'
 Test Interval 15.6' - 16.1'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>122.2</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>22.8</u>			
Initial Dry Density (pcf) <u>99.5</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.063</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.884</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



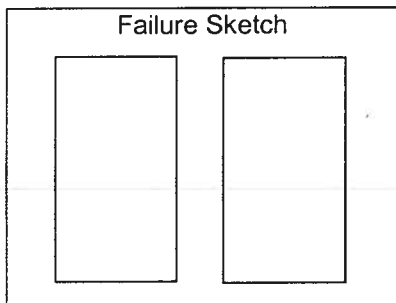
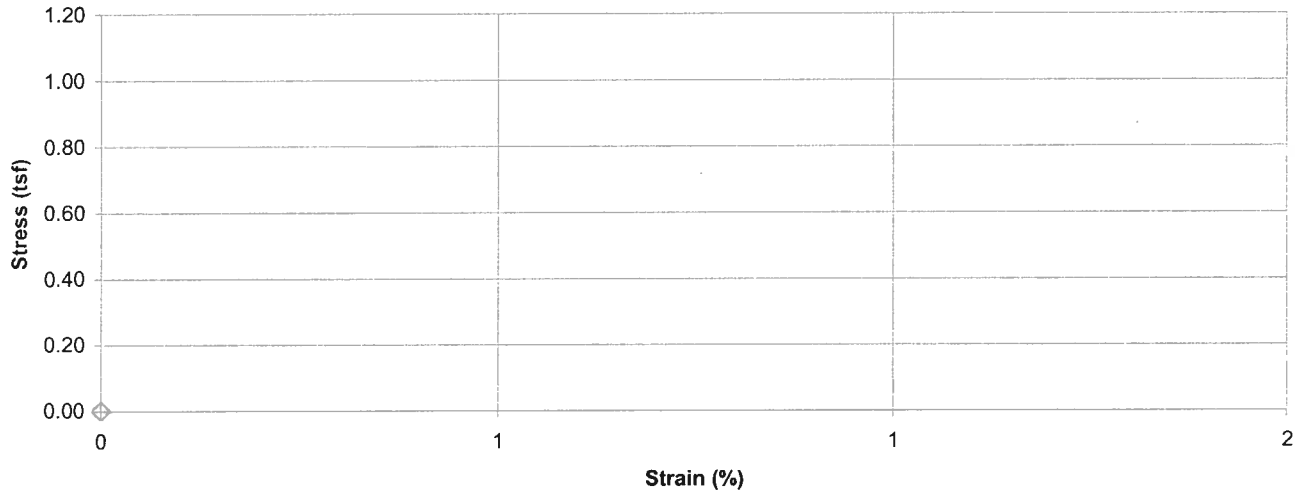
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-94, 24.5'-26.5' Lab ID 1300A
 Visual Description Lean Clay (CL), brown, moist, firm

Recovered 1.4'
 Test Interval 24.5' - 25.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>123.5</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>24.7</u>			
Initial Dry Density (pcf) <u>99.1</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.013</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.886</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

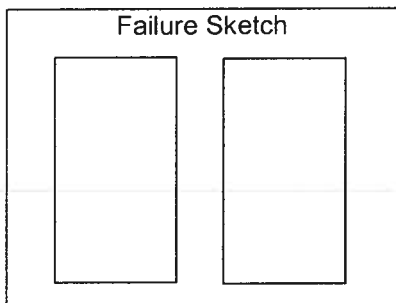
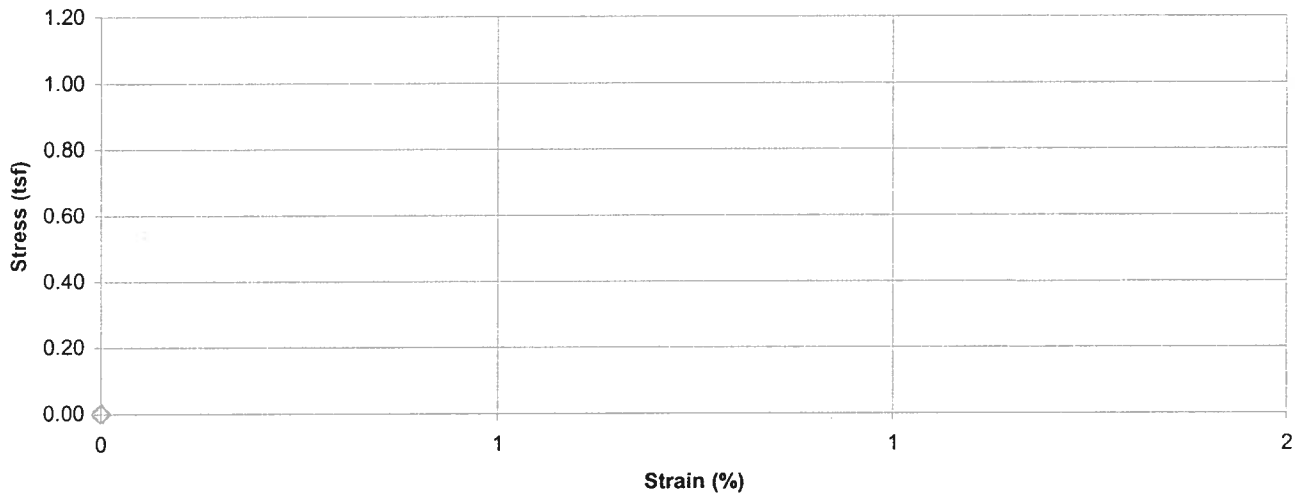
Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-94, 24.5'-26.5' Lab ID 1300B
 Visual Description Lean Clay (CL), brown, moist, firm

Recovered 1.4'
 Test Interval 25.1' - 25.6'

Specimen Type: Undisturbed LL N/A PL N/A
 PI N/A Date Extruded 07/08/2009
 Date Tested N/A

Initial Wet Density (pcf)	<u>124.6</u>	Initial MC Taken	<u>Before Test, From Trimmings</u>
Initial Moisture Content (%)	<u>25.9</u>	At Test MC Taken	<u>N/A</u>
Initial Dry Density (pcf)	<u>99.0</u>		
At Test Moisture Content (%)	<u>N/A</u>		
At Test Dry Density (pcf)	<u>N/A</u>		
Specific Gravity	<u>N/A</u>		
Degree of Saturation (%)	<u>N/A</u>	Unconfined Compressive Strength (tsf)	<u>N/A</u>
Average Height (in)	<u>6.038</u>	Undrained Shear Strength (tsf)	<u>N/A</u>
Average Diameter (in)	<u>2.877</u>	Strain at Maximum Stress (%)	<u>N/A</u>
Height to Diameter Ratio	<u>2.1</u>	Strain rate to failure (% / min.)	<u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



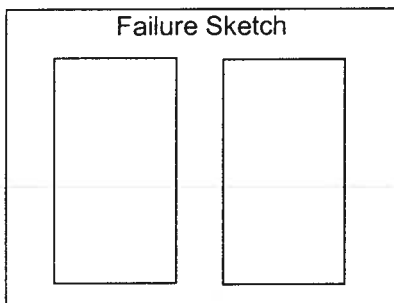
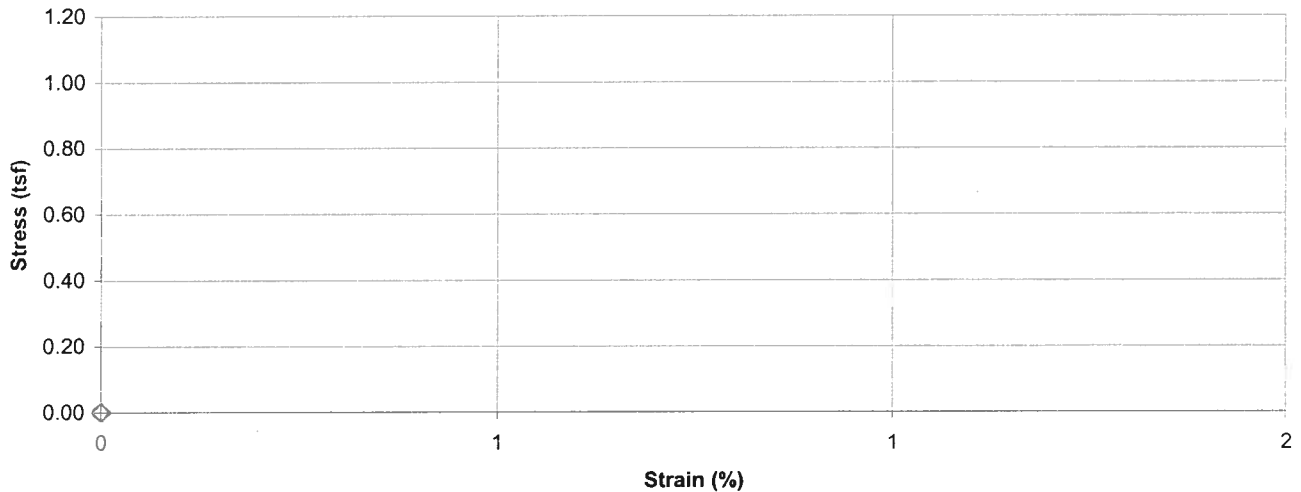
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-94, 49.0'-51.0' Lab ID 1301A
 Visual Description Lean Clay (CL), brown, moist, firm

Recovered 1.4'
 Test Interval 49.1' - 49.6'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>123.4</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>26.6</u>			
Initial Dry Density (pcf) <u>97.5</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.033</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.894</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



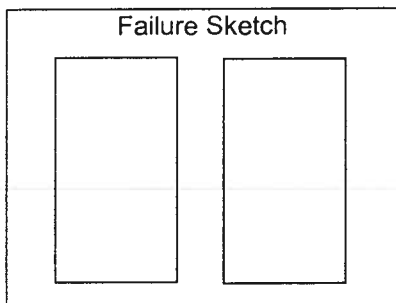
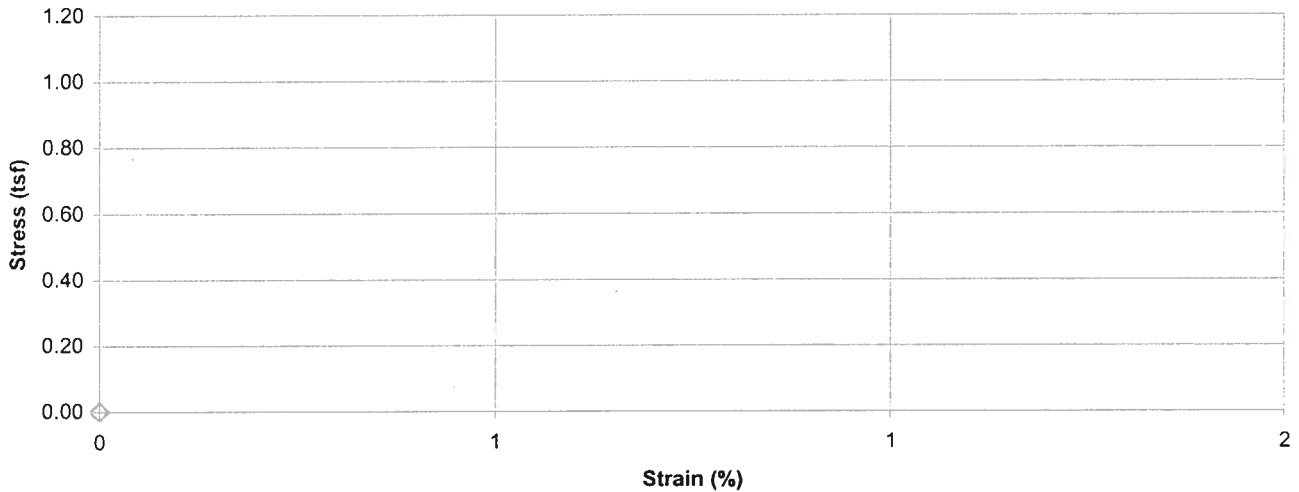
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-94, 49.0'-51.0' Lab ID 1301B
 Visual Description Lean Clay (CL), brown, moist, firm

Recovered 1.4'
 Test Interval 49.7' - 50.2'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>122.7</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>24.1</u>			
Initial Dry Density (pcf) <u>98.9</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.013</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.882</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



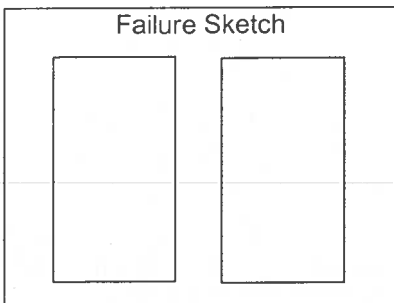
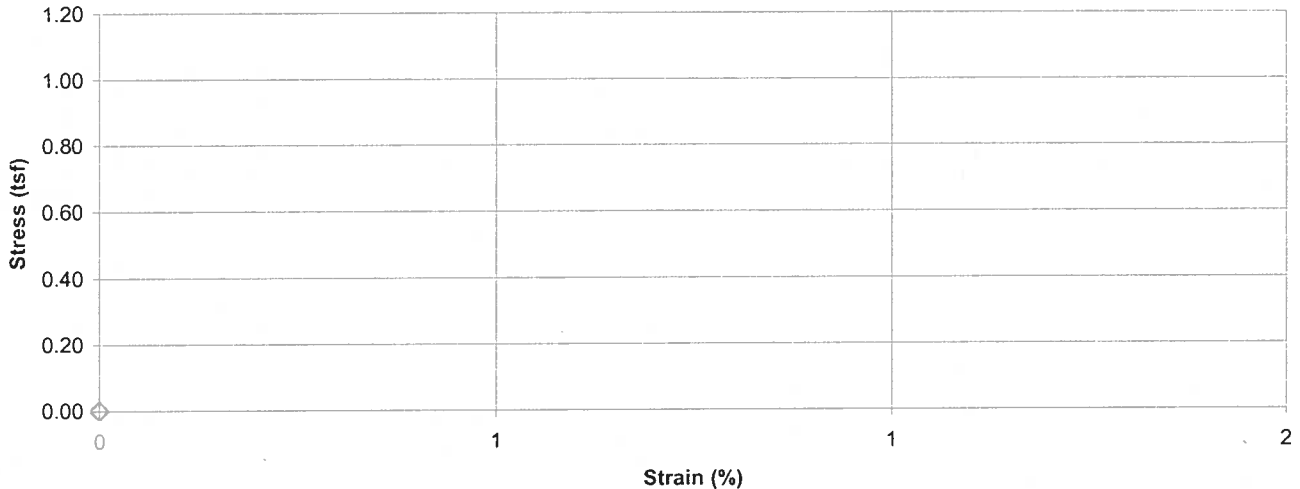
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-95, 25.5'-27.5' Lab ID 1145A
 Visual Description Silt (ML), gray, wet, soft, fly ash and gypsum

Recovered 1.2'
 Test Interval 26.0' - 26.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/07/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>112.9</u>		Initial MC Taken <u>Before Test, From Trimmings</u>	
Initial Moisture Content (%) <u>27.7</u>			
Initial Dry Density (pcf) <u>88.4</u>			
At Test Moisture Content (%) <u>N/A</u>		At Test MC Taken <u>N/A</u>	
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>		Unconfined Compressive Strength (tsf) <u>N/A</u>	
Average Height (in) <u>5.981</u>		Undrained Shear Strength (tsf) <u>N/A</u>	
Average Diameter (in) <u>2.886</u>		Strain at Maximum Stress (%) <u>N/A</u>	
Height to Diameter Ratio <u>2.1</u>		Strain rate to failure (% / min.) <u>N/A</u>	

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A
 Comments Moisture content obtained using a 60° C oven.

Reviewed By



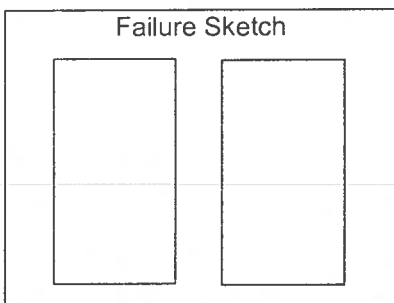
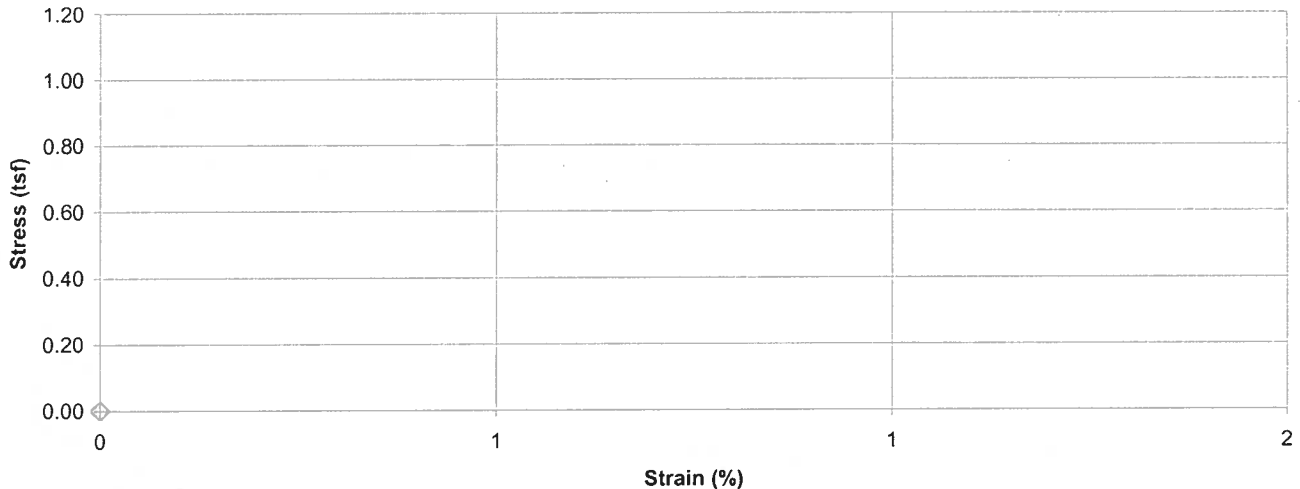
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-95, 25.5'-27.5' Lab ID 1145B
 Visual Description Gravelly Lean Clay (CL), brown and black, moist, firm, fly ash

Recovered 1.2'
 Test Interval 26.6' - 27.1'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/07/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>115.5</u>			Initial MC Taken <u>Before Test, From Trimmings</u>
Initial Moisture Content (%) <u>19.4</u>			
Initial Dry Density (pcf) <u>96.7</u>			
At Test Moisture Content (%) <u>N/A</u>		At Test MC Taken <u>N/A</u>	
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>		Unconfined Compressive Strength (tsf) <u>N/A</u>	
Average Height (in) <u>6.081</u>		Undrained Shear Strength (tsf) <u>N/A</u>	
Average Diameter (in) <u>2.888</u>		Strain at Maximum Stress (%) <u>N/A</u>	
Height to Diameter Ratio <u>2.1</u>		Strain rate to failure (% / min.) <u>N/A</u>	

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Moisture content obtained using a 60° C oven.

Reviewed By



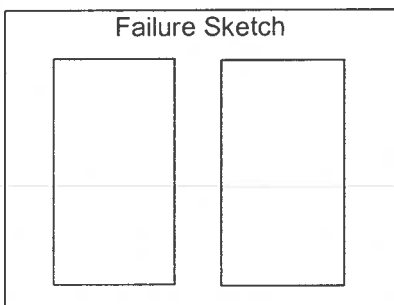
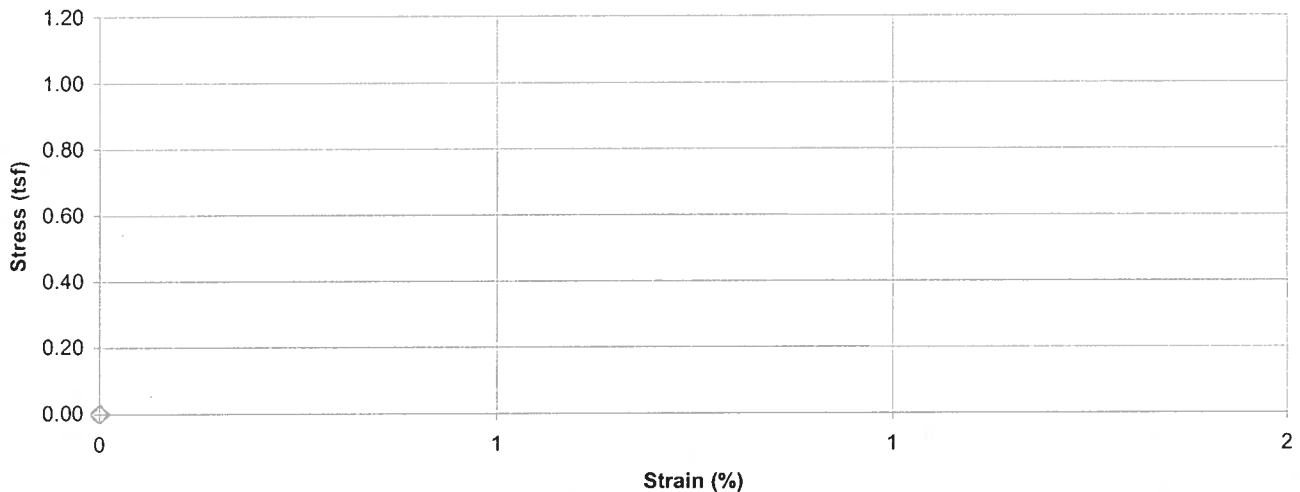
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-95, 30.5'-32.5' Lab ID 1146A
 Visual Description Silt (ML), black, wet, soft, fly ash

Recovered 1.3'
 Test Interval 30.5' - 31.1'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/07/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>115.8</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>27.6</u>			
Initial Dry Density (pcf) <u>90.7</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>5.895</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.870</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Moisture content obtained using a 60° C oven.

Reviewed By



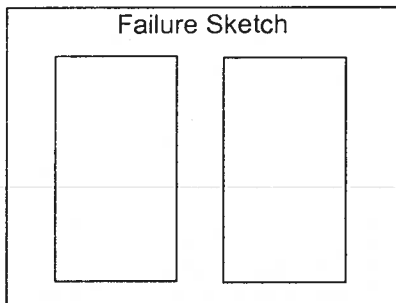
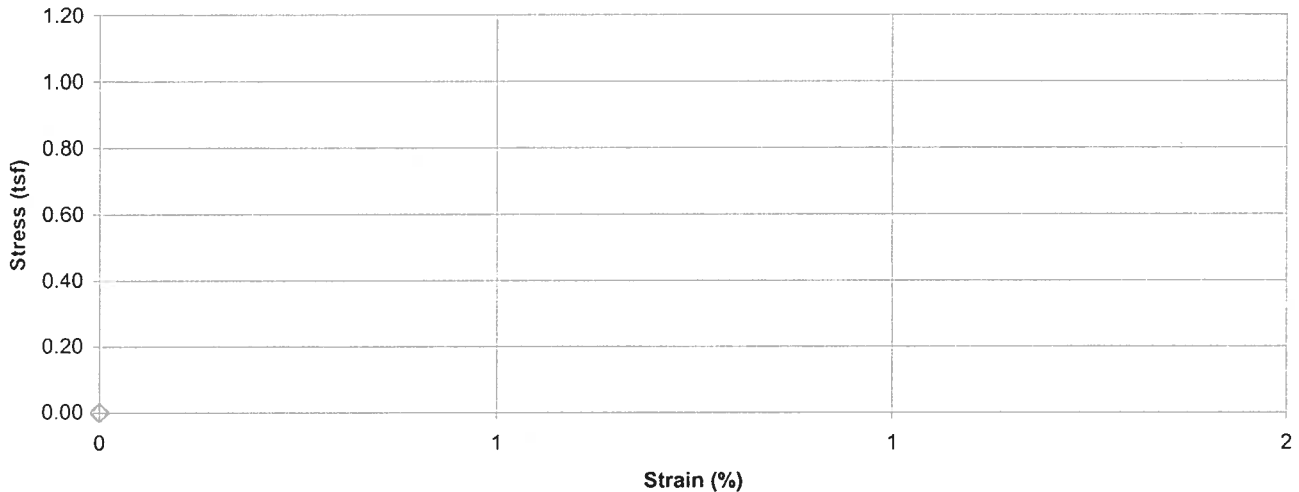
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-95, 30.5'-32.5' Lab ID 1146B
 Visual Description Silt (ML), black, wet, soft, fly ash

Recovered 1.3'
 Test Interval 31.2' - 31.7'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/07/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>108.2</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>29.3</u>			
Initial Dry Density (pcf) <u>83.6</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>5.931</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.851</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Moisture content obtained using a 60° C oven.

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

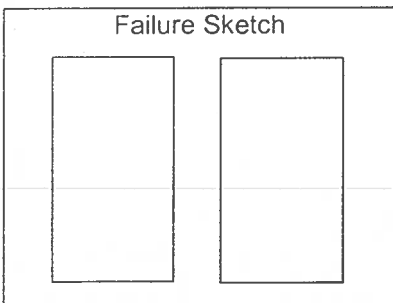
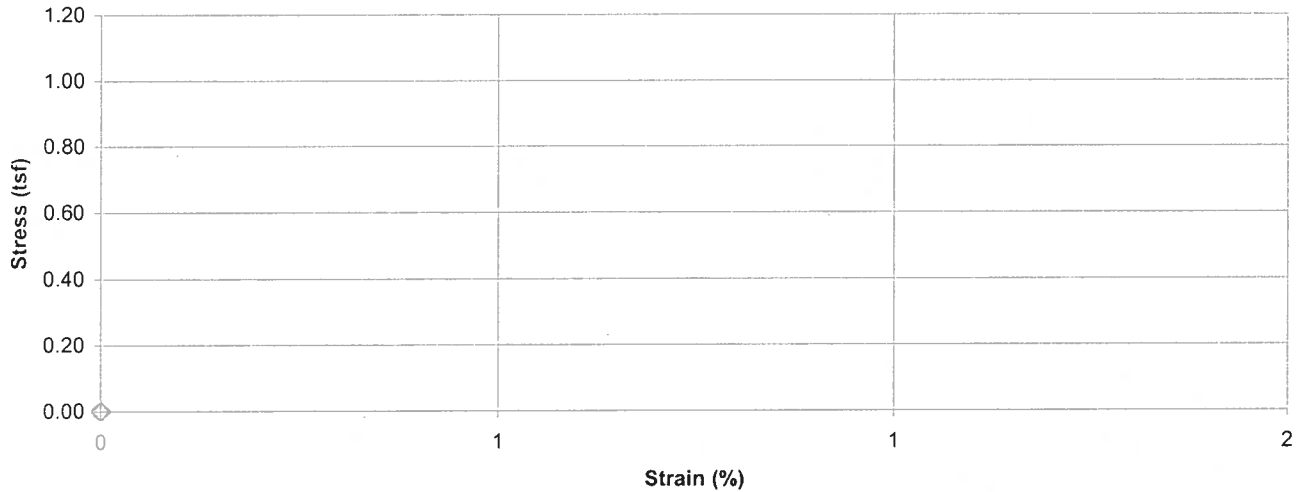
Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-95, 35.5'-37.5' Lab ID 1147
 Visual Description Silt (ML), black, wet, very soft, flyash and gypsum

Recovered 0.8'
 Test Interval 35.6' - 36.1'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A
 Date Extruded 07/07/2009
 Date Tested N/A

Initial Wet Density (pcf) <u>103.0</u>	Initial MC Taken <u>Before Test, From Trimmings</u>
Initial Moisture Content (%) <u>46.8</u>	
Initial Dry Density (pcf) <u>70.1</u>	
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>
At Test Dry Density (pcf) <u>N/A</u>	
Specific Gravity <u>N/A</u>	
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>
Average Height (in) <u>5.648</u>	Undrained Shear Strength (tsf) <u>N/A</u>
Average Diameter (in) <u>2.914</u>	Strain at Maximum Stress (%) <u>N/A</u>
Height to Diameter Ratio <u>1.9</u>	Strain rate to failure (% / min.) <u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A
 Comments Moisture content obtained using a 60° C oven.

Reviewed By



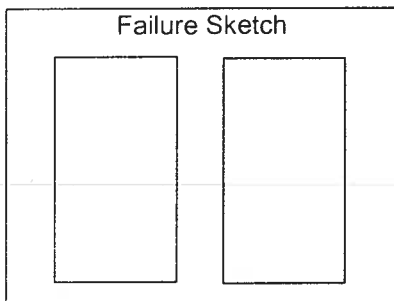
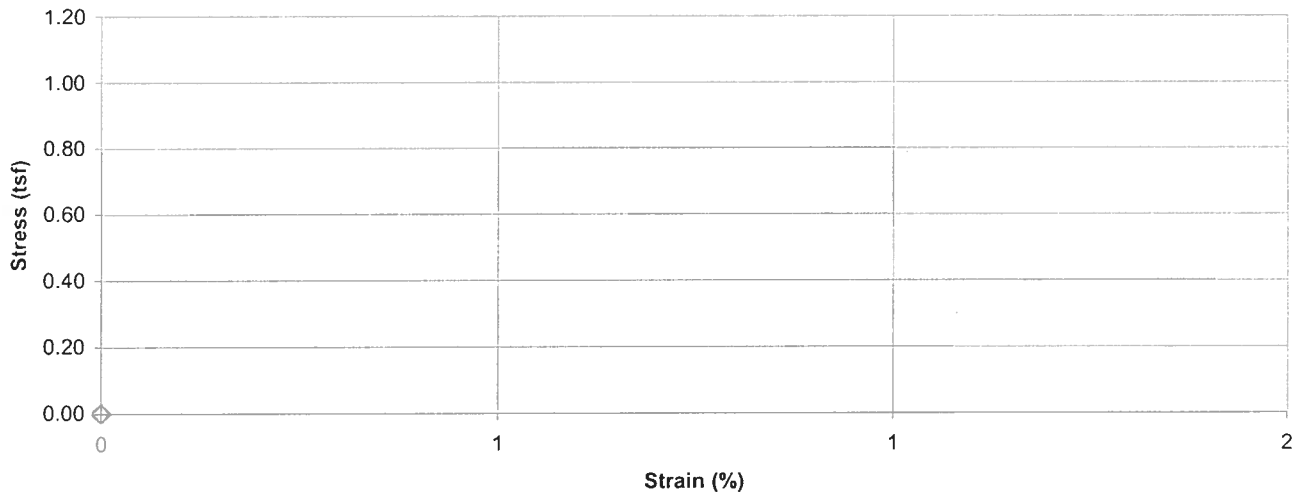
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-95, 50.5'-52.5' Lab ID 1149A
 Visual Description Lean Clay (CL), gray, moist, firm, pockets of fly ash

Recovered 1.2'
 Test Interval 50.5' - 51.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/02/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>116.7</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>30.8</u>			
Initial Dry Density (pcf) <u>89.3</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>5.968</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.869</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

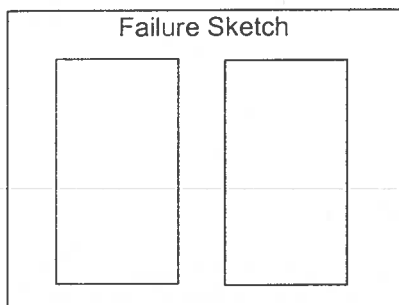
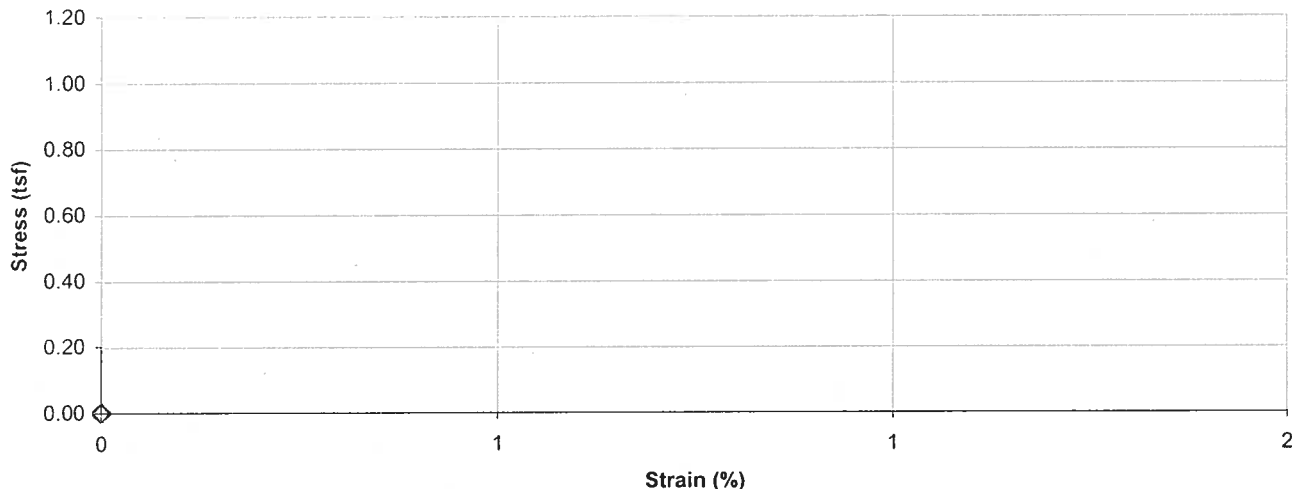
Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-95, 50.5'-52.5' Lab ID 1149B
 Visual Description Lean Clay (CL), gray, moist, firm, pockets of fly ash

Recovered 1.2'
 Test Interval 51.1' - 51.6'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A Date Extruded 07/02/2009

Initial Wet Density (pcf) <u>118.0</u>	Initial MC Taken <u>Before Test, From Trimmings</u>	Date Tested <u>N/A</u>
Initial Moisture Content (%) <u>35.0</u>		
Initial Dry Density (pcf) <u>87.4</u>		
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>	
At Test Dry Density (pcf) <u>N/A</u>		
Specific Gravity <u>N/A</u>		
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>	
Average Height (in) <u>6.025</u>	Undrained Shear Strength (tsf) <u>N/A</u>	
Average Diameter (in) <u>2.854</u>	Strain at Maximum Stress (%) <u>N/A</u>	
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>	

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By *[Signature]*



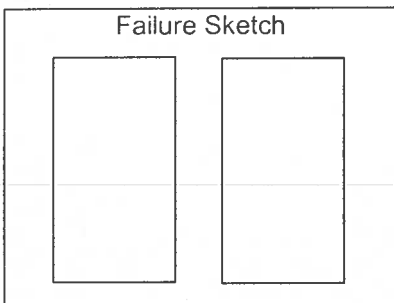
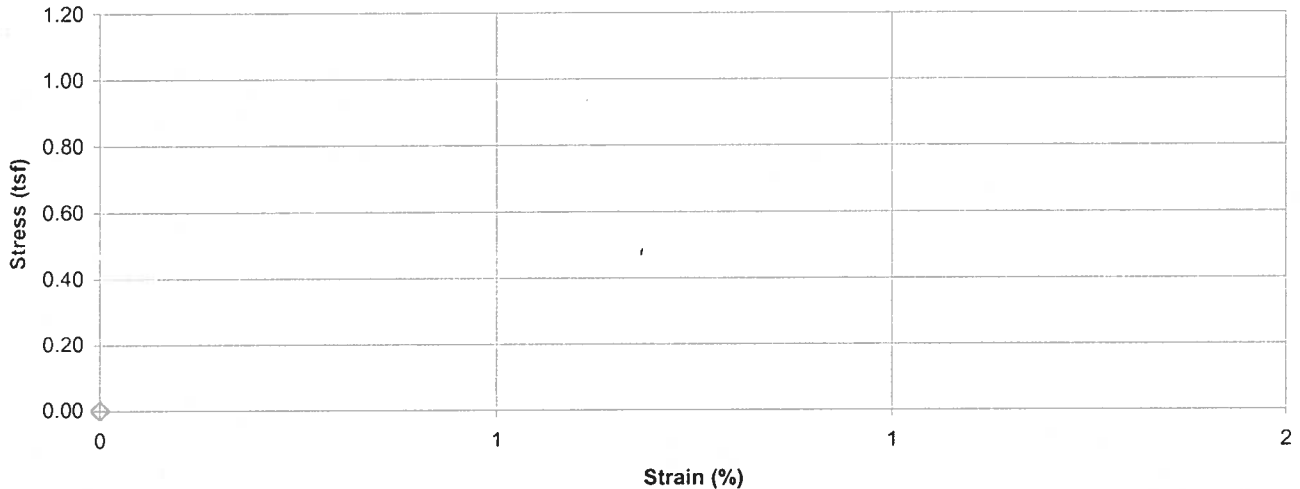
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-96, 25.5'-27.5' Lab ID 1150A
 Visual Description Silt (ML), black, wet, soft, fly ash

Recovered 1.8'
 Test Interval 25.6' - 26.1'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/07/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>123.6</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>23.6</u>			
Initial Dry Density (pcf) <u>100.0</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>5.945</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.886</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Moisture content obtained using a 60° C oven.

Reviewed By _____



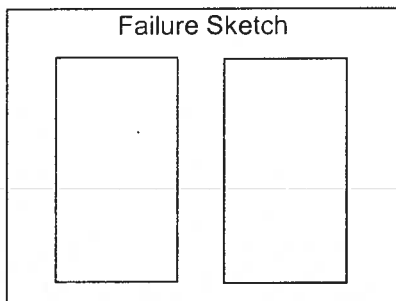
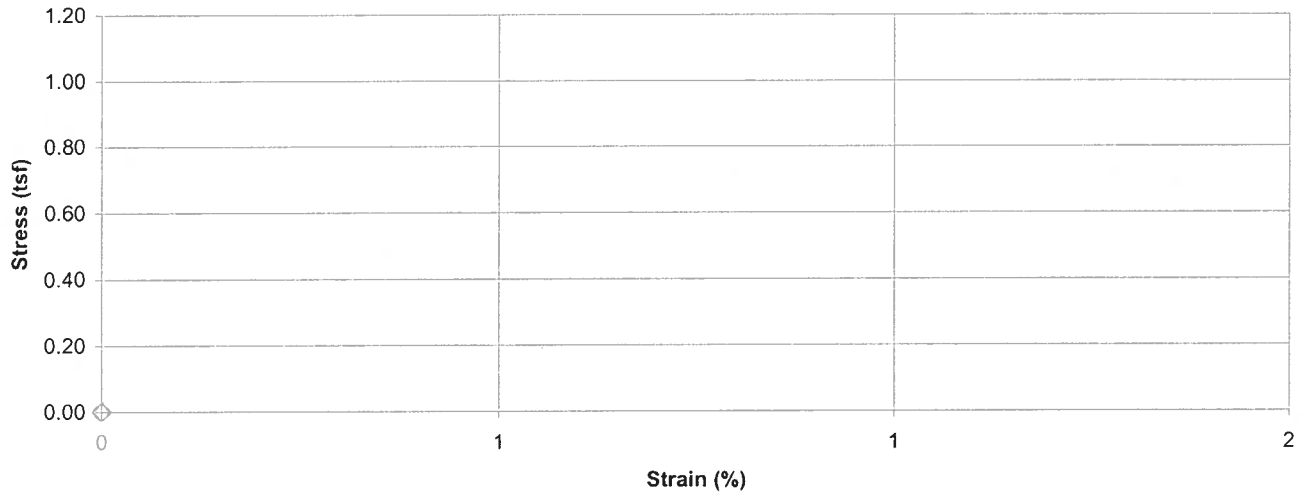
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-96, 25.5'-27.5' Lab ID 1150B
 Visual Description Silt (ML), black, wet, soft, fly ash

Recovered 1.8'
 Test Interval 26.2' - 26.7'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/07/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>29.4</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Unable to obtain sample.
Moisture content obtained using a 60° C oven.

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-96, 25.5'-27.5' Lab ID 1150C
 Visual Description Silt (ML), black, wet, very soft, fly ash

Recovered 1.8'
 Test Interval 26.8' - 27.3'

Specimen Type: Undisturbed LL N/A PL N/A
 PI N/A Date Extruded 07/07/2009

Initial Wet Density (pcf) 112.4 Date Tested N/A
 Initial Moisture Content (%) 28.2 Initial MC Taken Before Test, From Trimmings

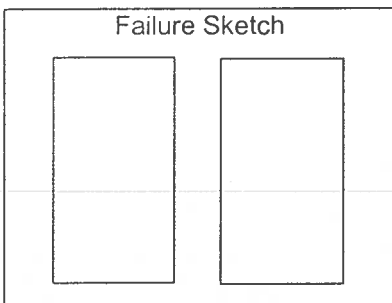
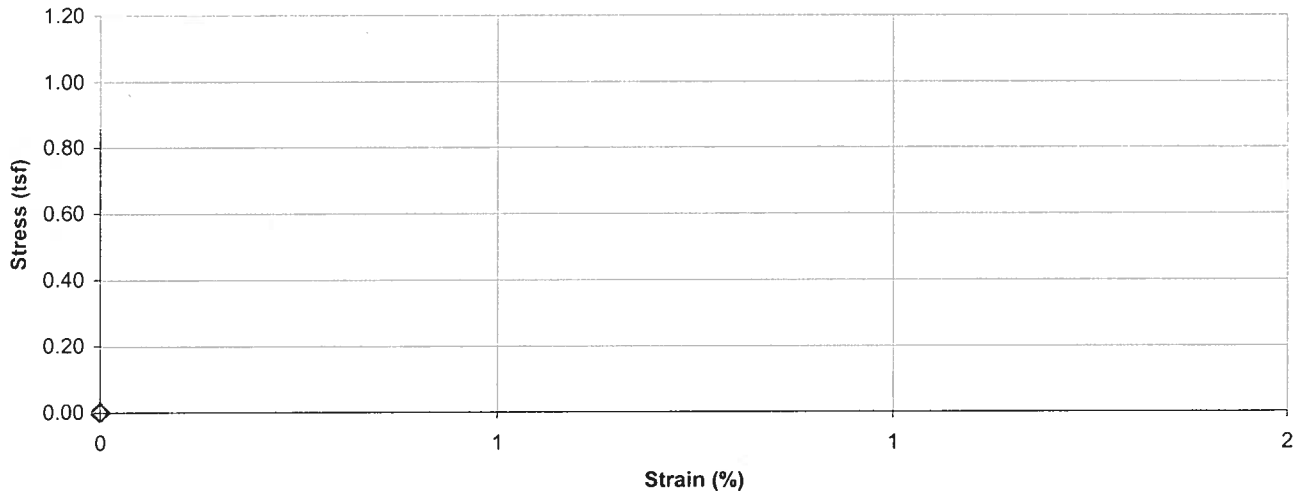
Initial Dry Density (pcf) 87.7
 At Test Moisture Content (%) N/A At Test MC Taken N/A

At Test Dry Density (pcf) N/A
 Specific Gravity N/A

Degree of Saturation (%) N/A Unconfined Compressive Strength (tsf) N/A
 Average Height (in) 5.805 Undrained Shear Strength (tsf) N/A

Average Diameter (in) 2.861 Strain at Maximum Stress (%) N/A
 Height to Diameter Ratio 2.0 Strain rate to failure (% / min.) N/A

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Moisture content obtained using a 60° C oven.

Reviewed By



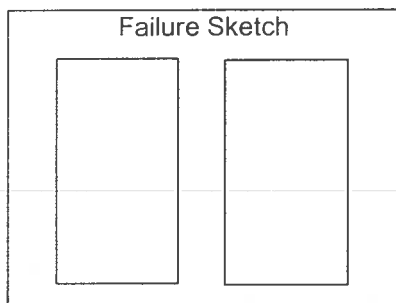
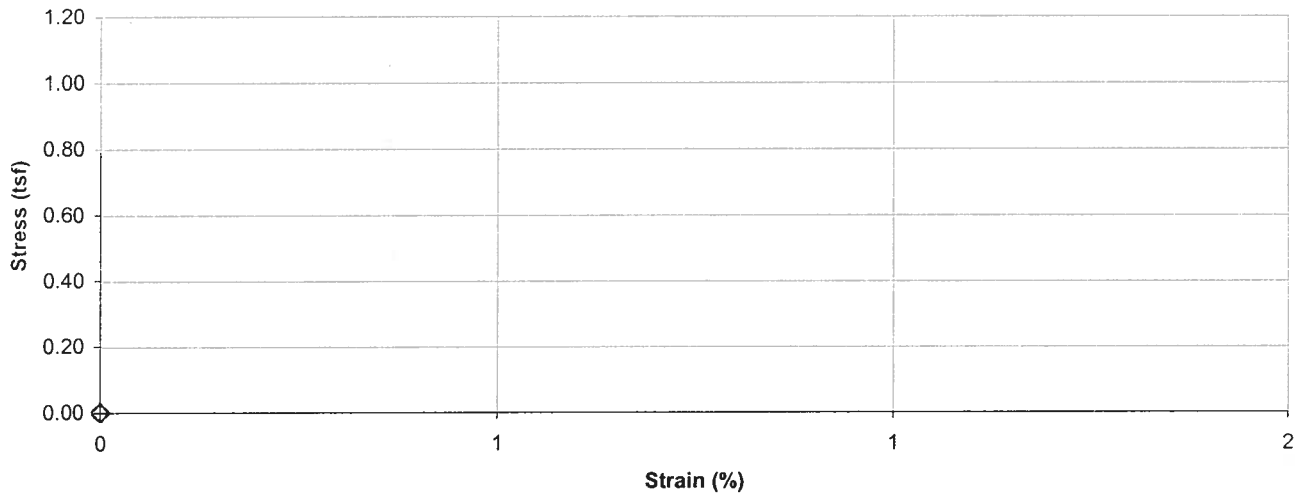
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-96, 35.0'-37.0' Lab ID 1151A
 Visual Description Poorly Graded Sand (SP), gray, moist, firm

Recovered 1.9'
 Test Interval 35.0' - 35.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>21.5</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Degree of Saturation (%) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>			

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Unable to obtain sample.
Moisture content obtained using a 60° C oven.

Reviewed By



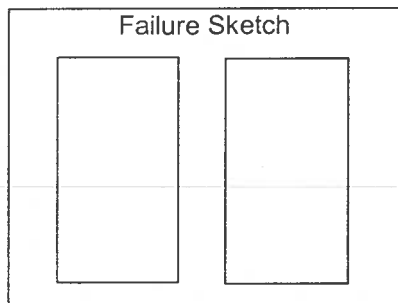
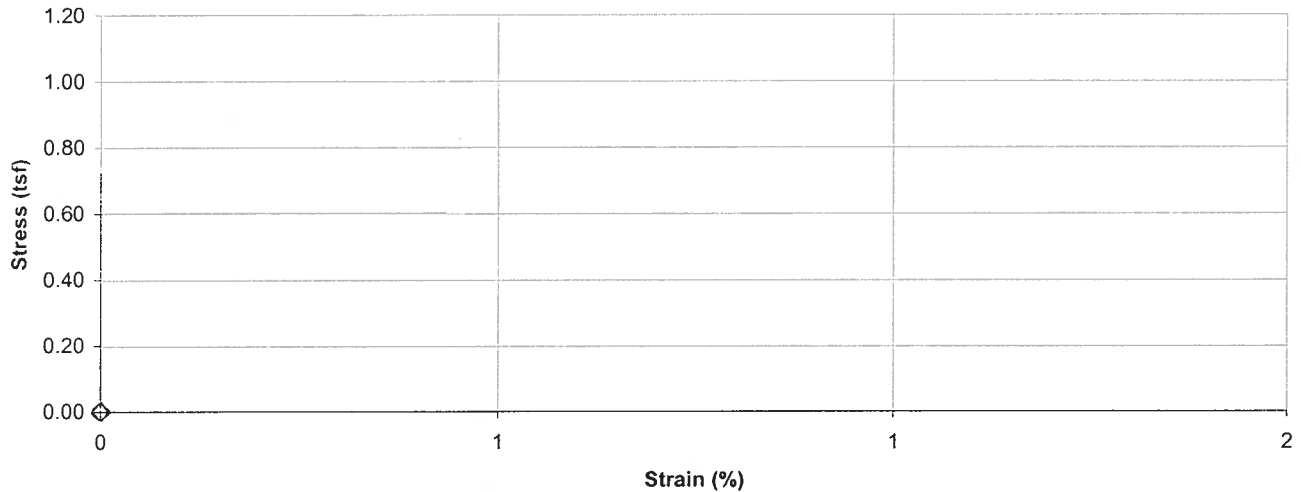
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-96, 35.0'-37.0' Lab ID 1151B
 Visual Description Sandy Silt (ML), gray, moist, firm

Recovered 1.9'
 Test Interval 35.6' - 36.1'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>121.6</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>24.1</u>			
Initial Dry Density (pcf) <u>98.0</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>5.931</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.864</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Moisture content obtained using a 60° C oven.

Reviewed By



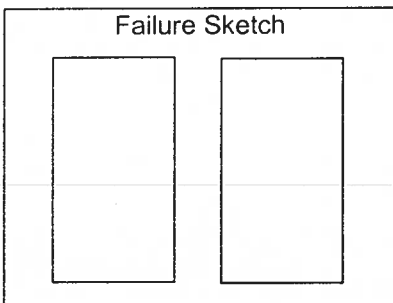
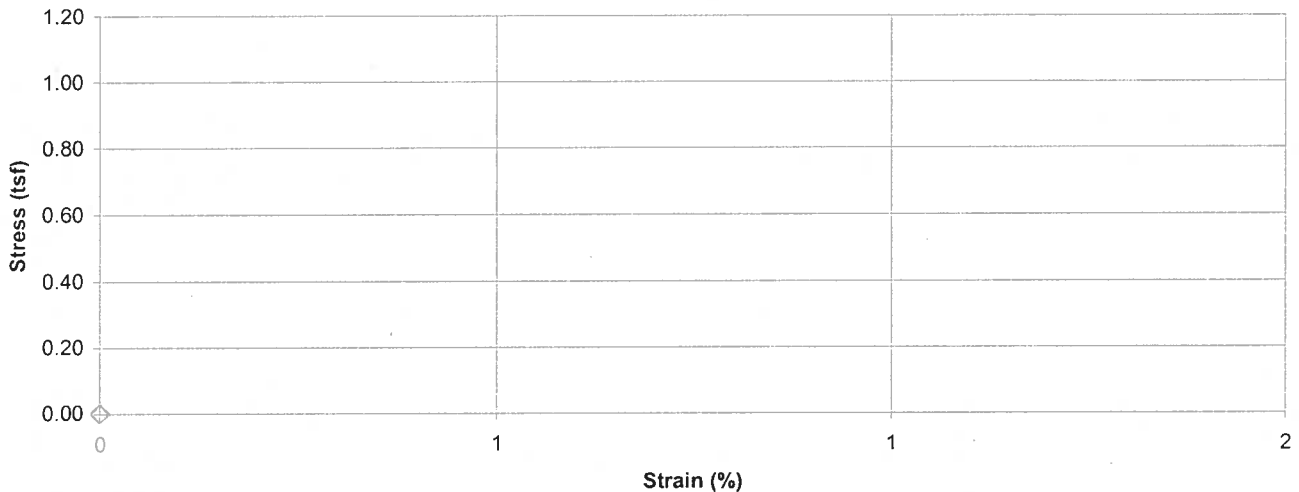
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-96, 35.0'-37.0' Lab ID 1151C
 Visual Description Silt with Sand (ML), gray, moist, firm

Recovered 1.9'
 Test Interval 36.2' - 36.7'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>118.1</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>21.7</u>			
Initial Dry Density (pcf) <u>97.1</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.016</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.861</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Moisture content obtained using a 60° C oven.

Reviewed By



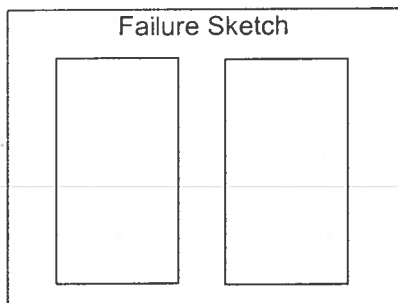
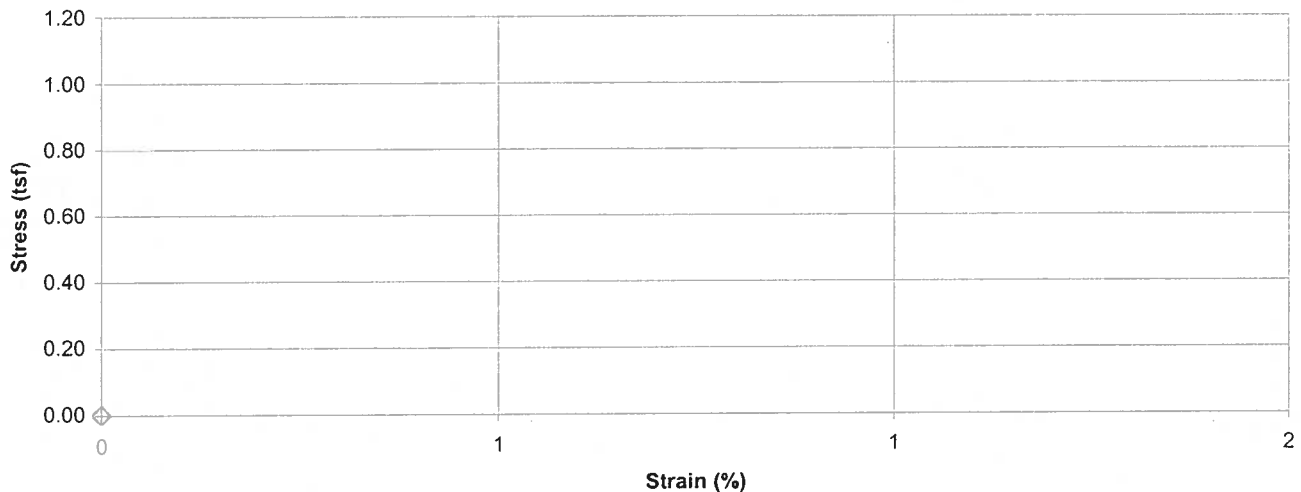
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-96, 52.5'-54.5' Lab ID 1152
 Visual Description Lean Clay (CL), gray, moist, firm, pockets of fly ash

Recovered 2'
 Test Interval 53.9' - 54.4'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/02/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>121.4</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>31.5</u>			
Initial Dry Density (pcf) <u>92.3</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.032</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.871</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



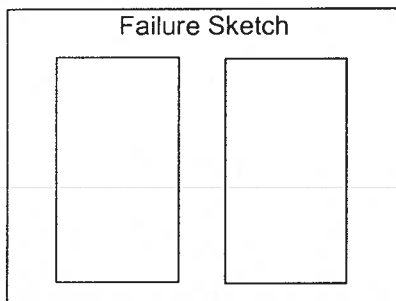
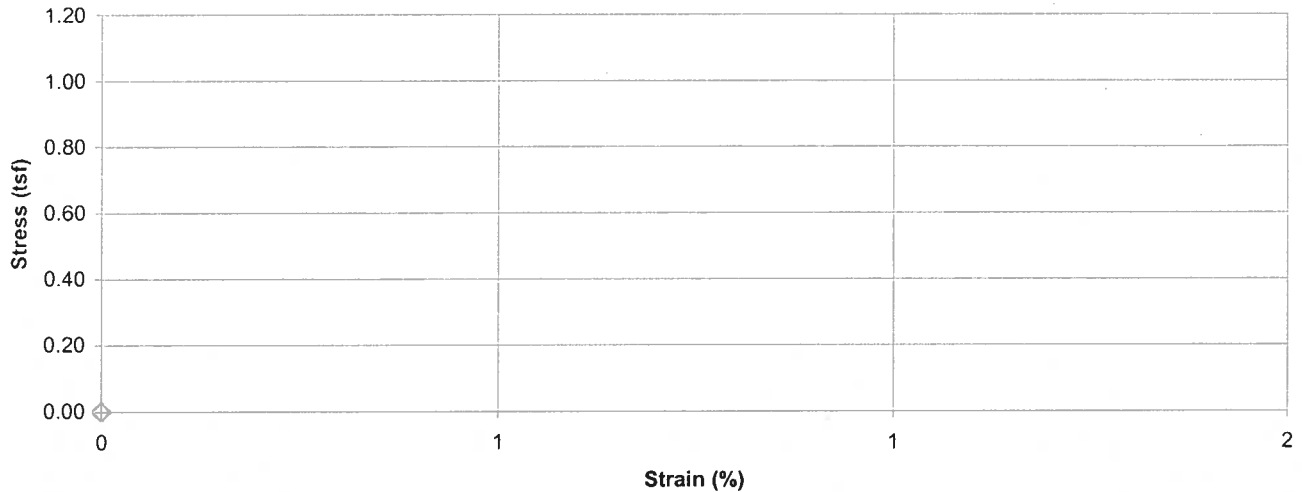
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-97, 19.5'-21.5' Lab ID 1153
 Visual Description Fat Clay with Gravel (CH), red brown, moist, firm, chert

Recovered 0.9'
 Test Interval 19.5' - 20.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/02/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>18.2</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments Unable to obtain sample.

Reviewed By



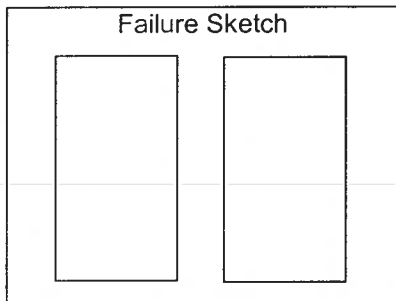
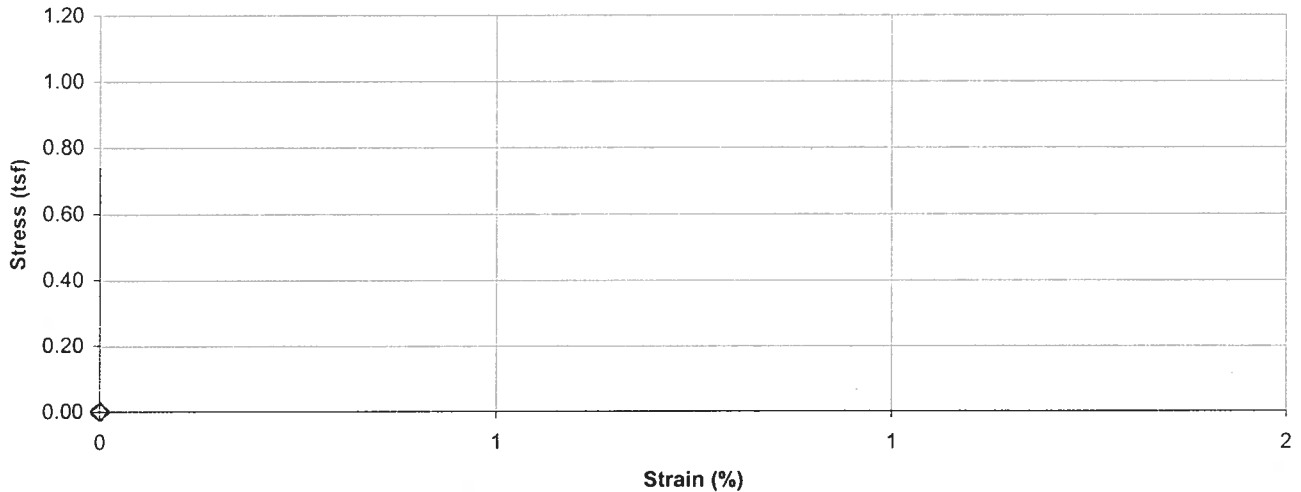
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-97, 29.0'-31.0' Lab ID 1154A
 Visual Description Fat Clay (CH), red brown, moist, firm

Recovered 1.2'
 Test Interval 29.0' - 29.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/02/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>119.1</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>26.2</u>			
Initial Dry Density (pcf) <u>94.4</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.036</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.885</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



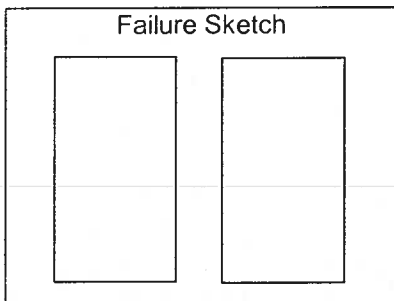
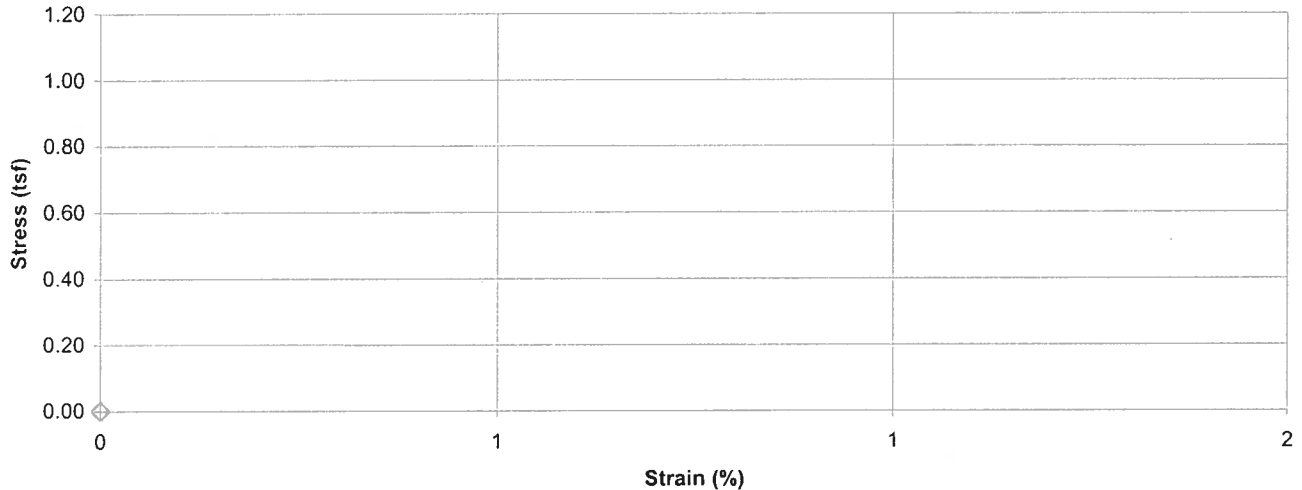
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-97, 29.0'-31.0' Lab ID 1154B
 Visual Description Fat Clay (CH), red brown, moist, firm

Recovered 1.2'
 Test Interval 29.6' - 31.1'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/02/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>126.8</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>24.5</u>			
Initial Dry Density (pcf) <u>101.8</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.017</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.886</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



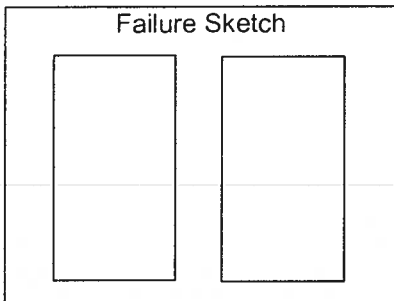
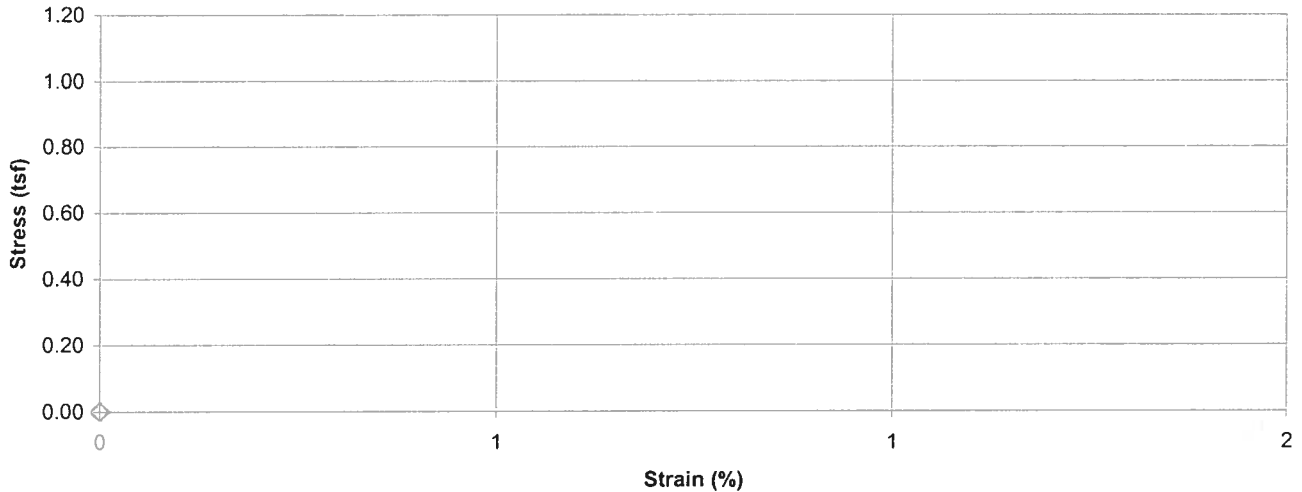
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-97, 40.0'-42.0' Lab ID 1155
 Visual Description Lean Clay (CL), gray, moist, firm

Recovered 0.6'
 Test Interval 40.0' - 40.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/02/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>122.7</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>29.7</u>			
Initial Dry Density (pcf) <u>94.6</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.004</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.885</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



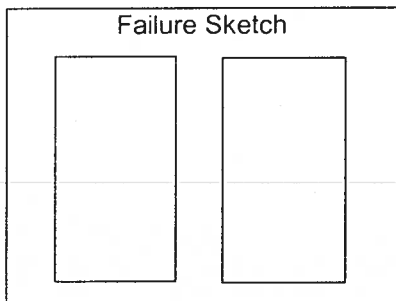
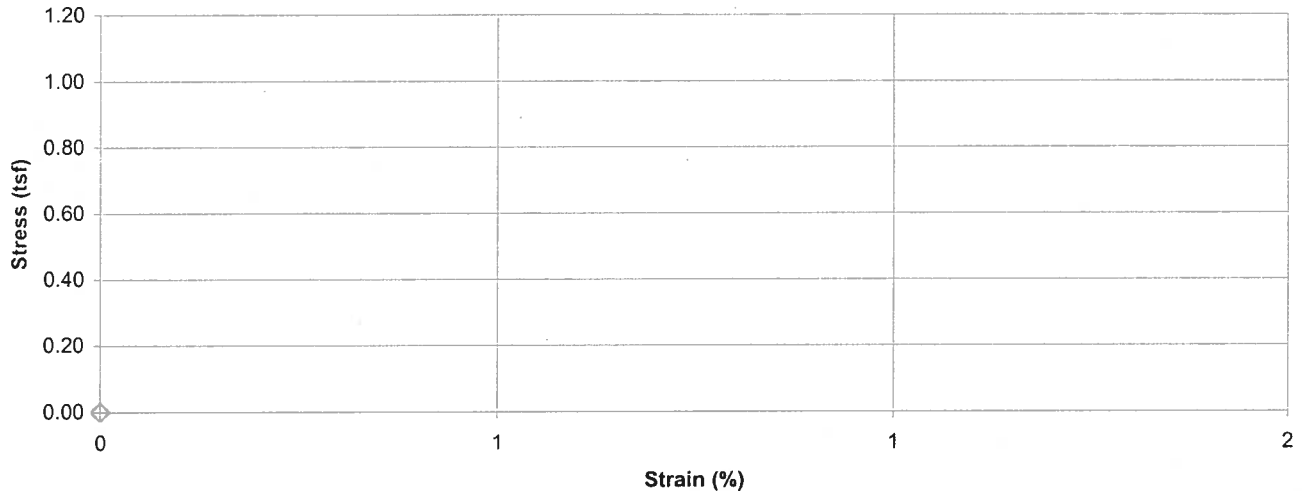
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-99, 19.5'-21.5' Lab ID 1156
 Visual Description Fat Clay (CH), red brown, moist, firm

Recovered 0.9'
 Test Interval 19.5' - 20.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/02/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>126.0</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>22.0</u>			
Initial Dry Density (pcf) <u>103.3</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>5.987</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.884</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By *[Signature]*



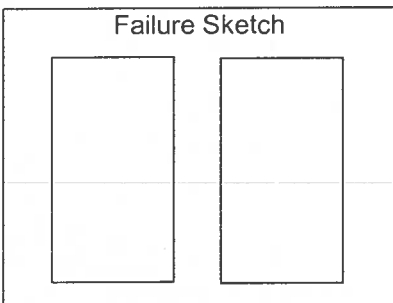
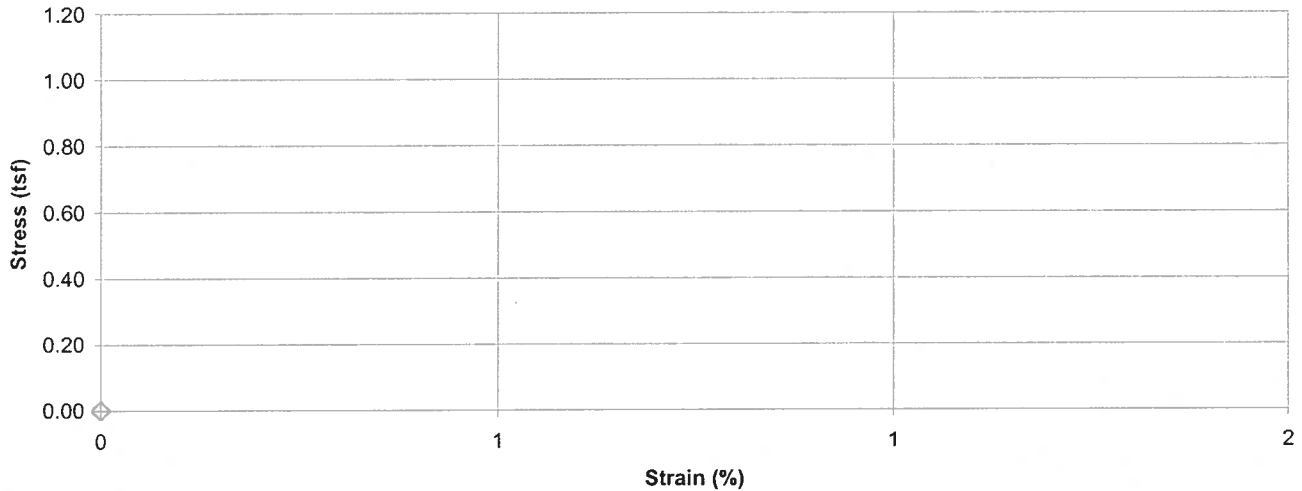
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-99, 29.0'-31.0' Lab ID 1157
 Visual Description Fat Clay (CH), brown, moist, firm

Recovered 0.9'
 Test Interval 29.0' - 29.5'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/02/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>125.7</u>			
Initial Moisture Content (%) <u>24.2</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Dry Density (pcf) <u>101.2</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.063</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.878</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By

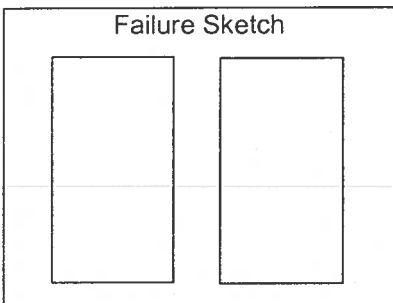
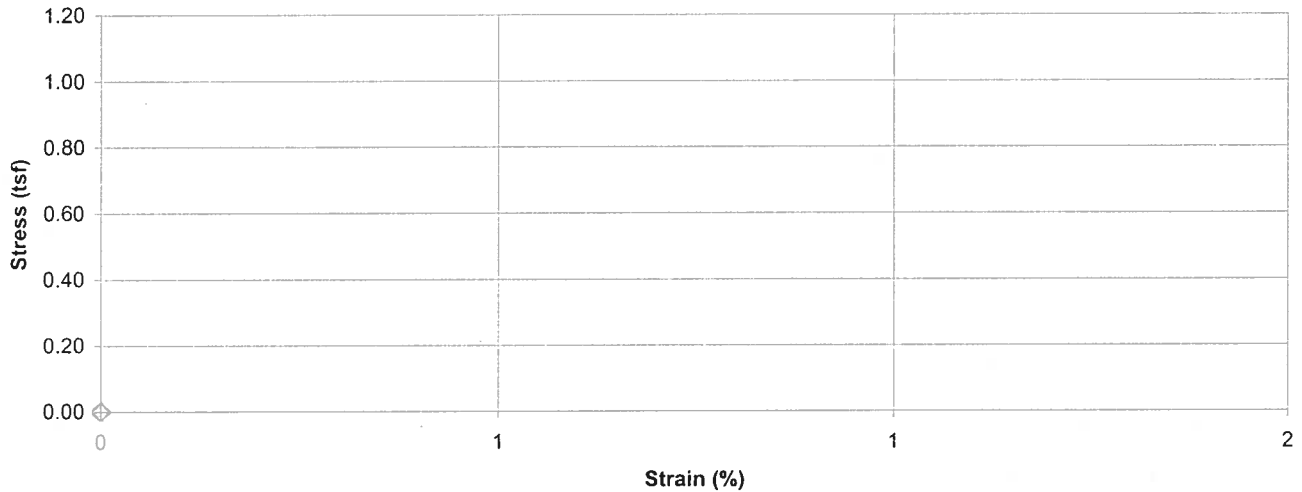


**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-99, 40.0'-42.0' Lab ID 1158A
 Visual Description Lean Clay (CL), brown, moist, hard, soft wet pockets of same material
especially near top of sample Recovered 1.8'
 Test Interval 40.1' - 40.6'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A Date Extruded 07/07/2009
 Initial Wet Density (pcf) 117.4 Date Tested N/A
 Initial Moisture Content (%) 35.1 Initial MC Taken Before Test, From Trimmings
 Initial Dry Density (pcf) 86.9
 At Test Moisture Content (%) N/A At Test MC Taken N/A
 At Test Dry Density (pcf) N/A
 Specific Gravity N/A
 Degree of Saturation (%) N/A Unconfined Compressive Strength (tsf) N/A
 Average Height (in) 5.857 Undrained Shear Strength (tsf) N/A
 Average Diameter (in) 2.883 Strain at Maximum Stress (%) N/A
 Height to Diameter Ratio 2.0 Strain rate to failure (% / min.) N/A

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

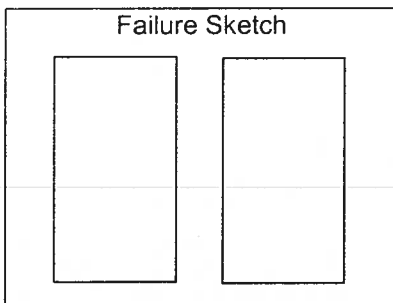
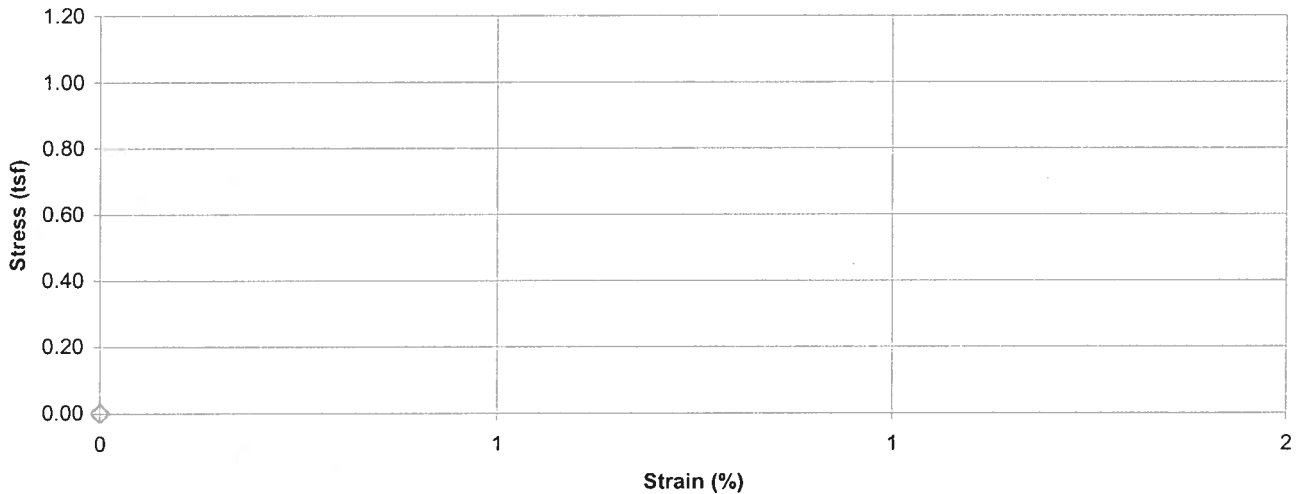
Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-99, 40.0'-42.0' Lab ID 1158B
 Visual Description Lean Clay (CL), brown, moist, hard

Recovered 1.8'
 Test Interval 40.7' - 41.2'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A Date Extruded 07/07/2009

Initial Wet Density (pcf) <u>127.1</u>	Initial MC Taken <u>Before Test, From Trimmings</u>	Date Tested <u>N/A</u>
Initial Moisture Content (%) <u>23.2</u>		
Initial Dry Density (pcf) <u>103.1</u>		
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>	
At Test Dry Density (pcf) <u>N/A</u>		
Specific Gravity <u>N/A</u>		
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>	
Average Height (in) <u>6.025</u>	Undrained Shear Strength (tsf) <u>N/A</u>	
Average Diameter (in) <u>2.883</u>	Strain at Maximum Stress (%) <u>N/A</u>	
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>	

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

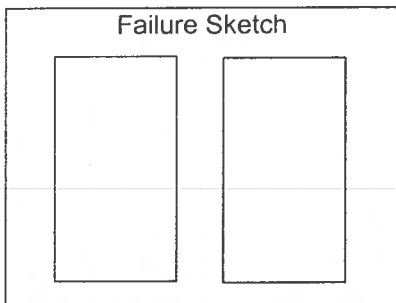
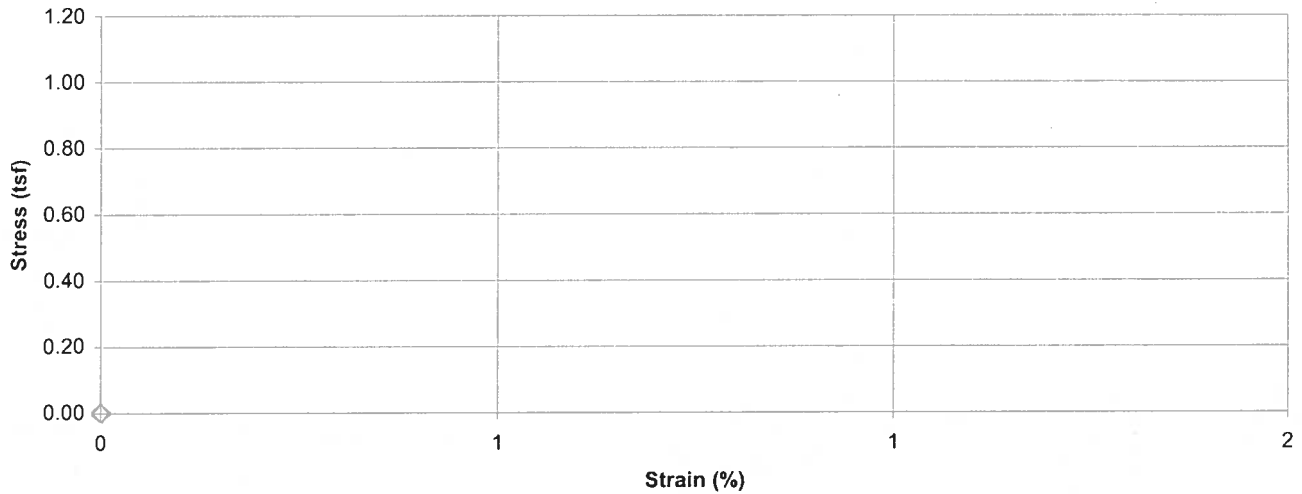
Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-99, 40.0'-42.0' Lab ID 1158C
 Visual Description Lean Clay (CL), brown, moist, hard

Recovered 1.8'
 Test Interval 41.2' - 41.7'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A
 Date Extruded 07/07/2009
 Date Tested N/A

Initial Wet Density (pcf)	<u>126.9</u>	Initial MC Taken	<u>Before Test, From Trimmings</u>
Initial Moisture Content (%)	<u>24.2</u>	At Test MC Taken	<u>N/A</u>
Initial Dry Density (pcf)	<u>102.1</u>		
At Test Moisture Content (%)	<u>N/A</u>		
At Test Dry Density (pcf)	<u>N/A</u>		
Specific Gravity	<u>N/A</u>		
Degree of Saturation (%)	<u>N/A</u>	Unconfined Compressive Strength (tsf)	<u>N/A</u>
Average Height (in)	<u>5.979</u>	Undrained Shear Strength (tsf)	<u>N/A</u>
Average Diameter (in)	<u>2.875</u>	Strain at Maximum Stress (%)	<u>N/A</u>
Height to Diameter Ratio	<u>2.1</u>	Strain rate to failure (% / min.)	<u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



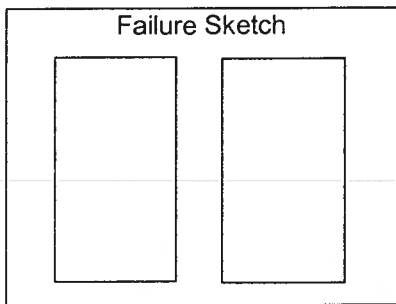
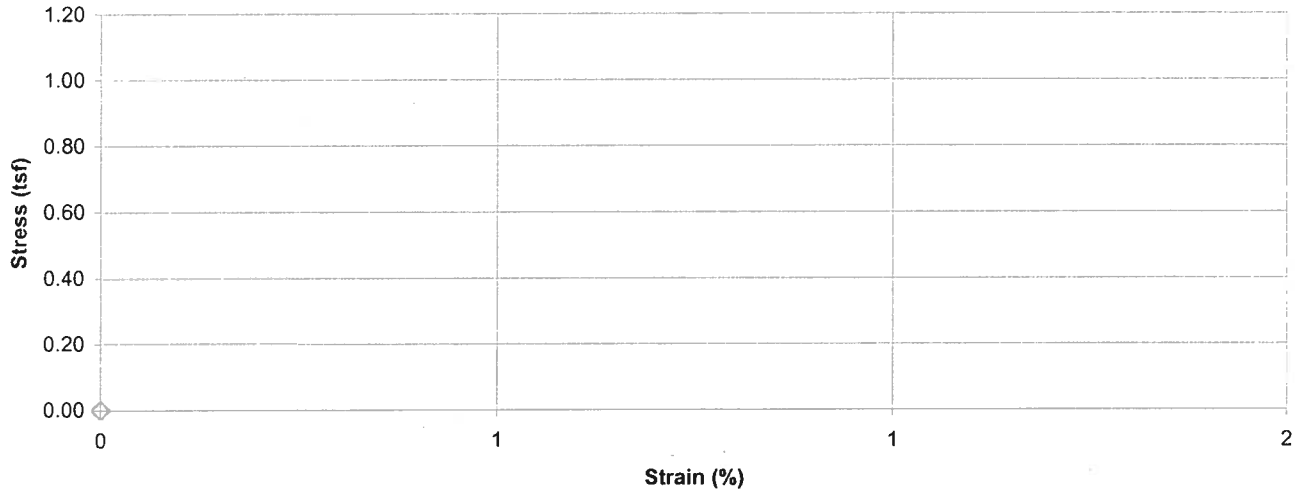
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-105, 30.0'-32.0' Lab ID 1292
 Visual Description Sandy Fat Clay (CH), (bottom ash), black, wet, firm

Recovered 1.1'
 Test Interval 30.1' - 30.6'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>131.4</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>21.2</u>			
Initial Dry Density (pcf) <u>108.4</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>5.950</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.884</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



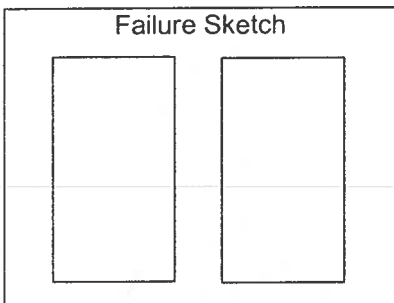
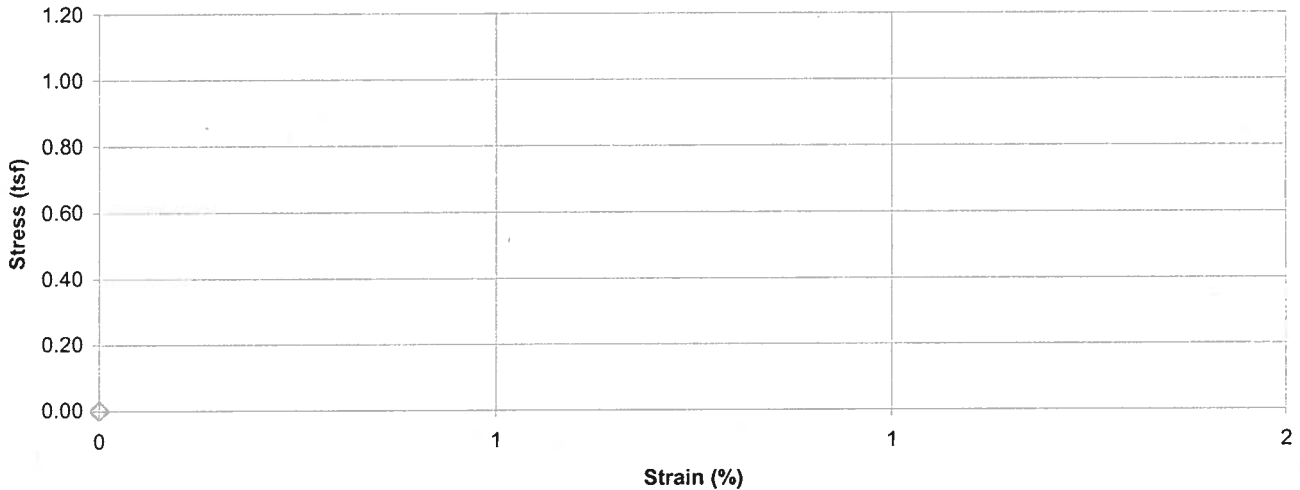
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-105, 39.5'-41.5' Lab ID 1293
 Visual Description Fat Clay with Gravel (CH), red brown, moist, firm

Recovered 0.9'
 Test Interval 39.5' - 40.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>122.9</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>27.0</u>			
Initial Dry Density (pcf) <u>96.7</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.040</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.883</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

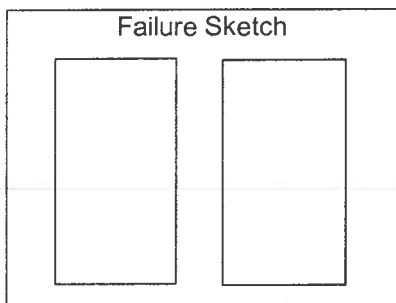
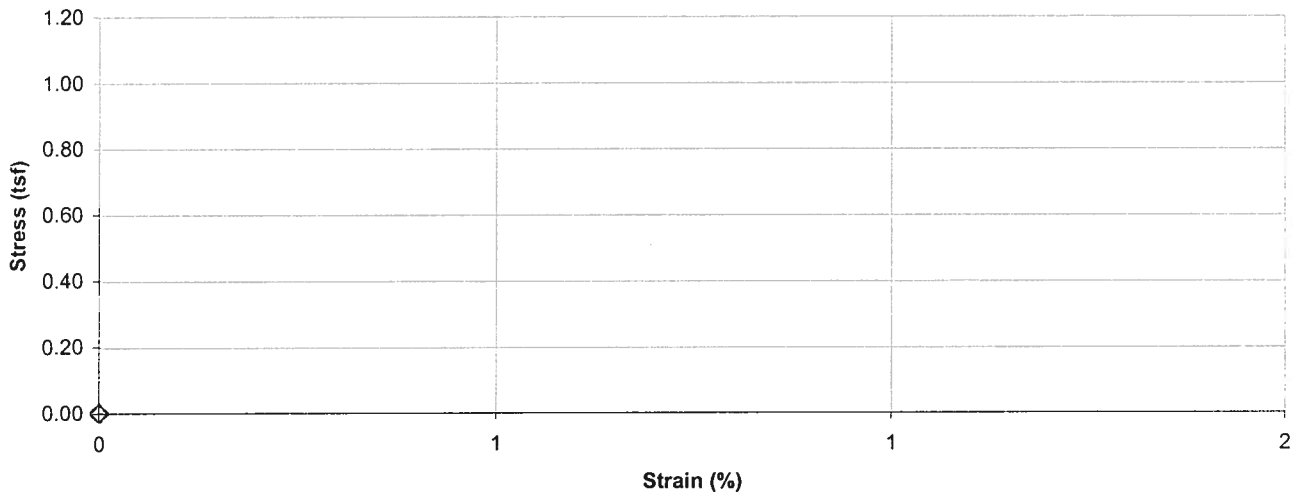
Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-107, 30.0'-32.0' Lab ID 1294A
 Visual Description Sandy Fat Clay (CH), (bottom ash), brown, moist, firm

Recovered 1.6'
 Test Interval 30.1' - 30.6'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A Date Extruded 07/08/2009

Initial Wet Density (pcf)	<u>123.2</u>	Date Tested	<u>N/A</u>
Initial Moisture Content (%)	<u>31.3</u>	Initial MC Taken	<u>Before Test, From Trimmings</u>
Initial Dry Density (pcf)	<u>93.8</u>		
At Test Moisture Content (%)	<u>N/A</u>	At Test MC Taken	<u>N/A</u>
At Test Dry Density (pcf)	<u>N/A</u>		
Specific Gravity	<u>N/A</u>		
Degree of Saturation (%)	<u>N/A</u>	Unconfined Compressive Strength (tsf)	<u>N/A</u>
Average Height (in)	<u>6.013</u>	Undrained Shear Strength (tsf)	<u>N/A</u>
Average Diameter (in)	<u>2.890</u>	Strain at Maximum Stress (%)	<u>N/A</u>
Height to Diameter Ratio	<u>2.1</u>	Strain rate to failure (% / min.)	<u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



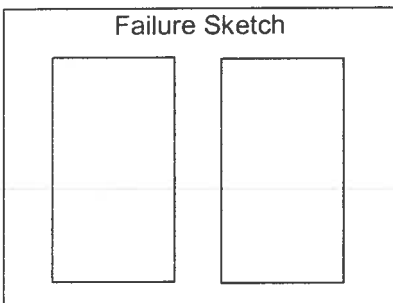
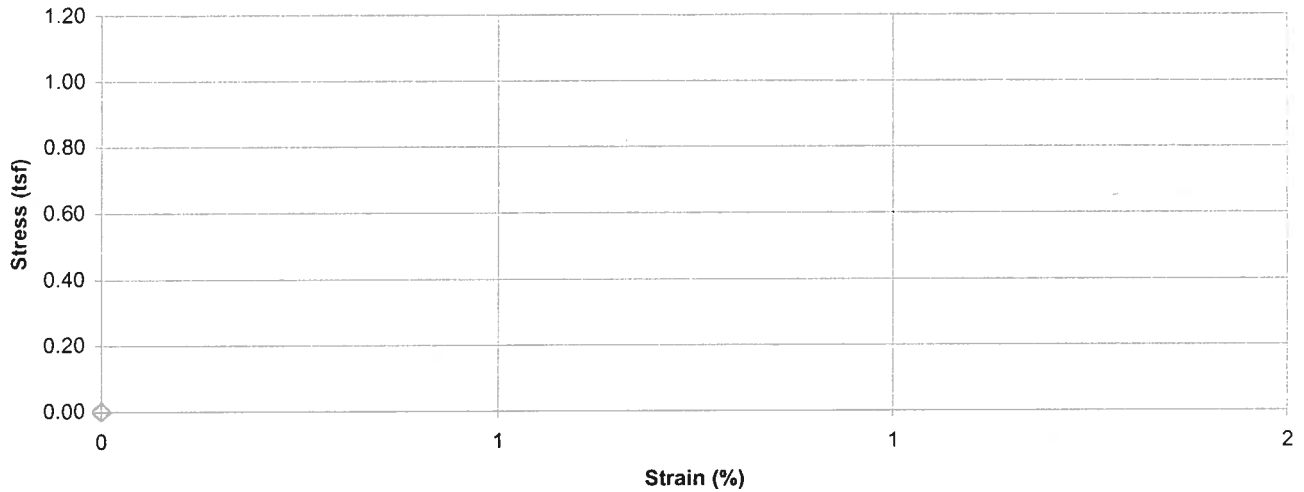
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-107, 30.0'-32.0' Lab ID 1294B
 Visual Description Lean Clay (CL), gray, moist, firm

Recovered 1.6'
 Test Interval 30.7' - 31.2'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>126.6</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>17.1</u>			
Initial Dry Density (pcf) <u>108.2</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.044</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.876</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By

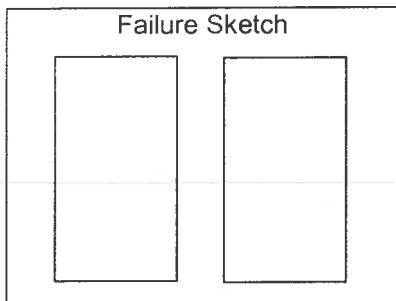
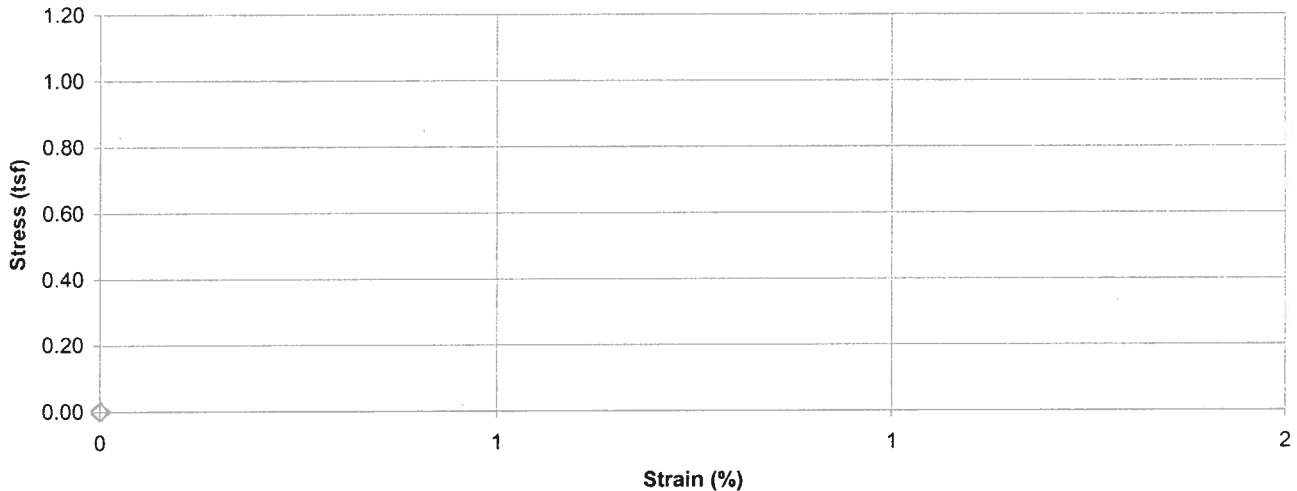


**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-107, 39.5'-41.5' Lab ID 1295A
 Visual Description Lean Clay (CL), brown, moist, firm

		Recovered	<u>1.3'</u>
		Test Interval	<u>35.5' - 40.0'</u>
Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>125.5</u>		Initial MC Taken <u>Before Test, From Trimmings</u>	
Initial Moisture Content (%) <u>24.4</u>			
Initial Dry Density (pcf) <u>100.9</u>		At Test MC Taken <u>N/A</u>	
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>		Unconfined Compressive Strength (tsf) <u>N/A</u>	
Average Height (in) <u>6.009</u>		Undrained Shear Strength (tsf) <u>N/A</u>	
Average Diameter (in) <u>2.883</u>		Strain at Maximum Stress (%) <u>N/A</u>	
Height to Diameter Ratio <u>2.1</u>		Strain rate to failure (% / min.) <u>N/A</u>	

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By

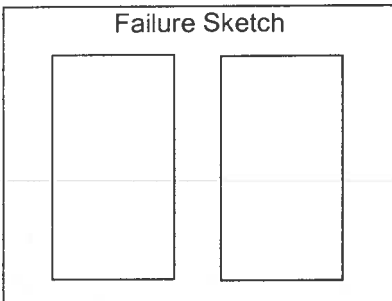
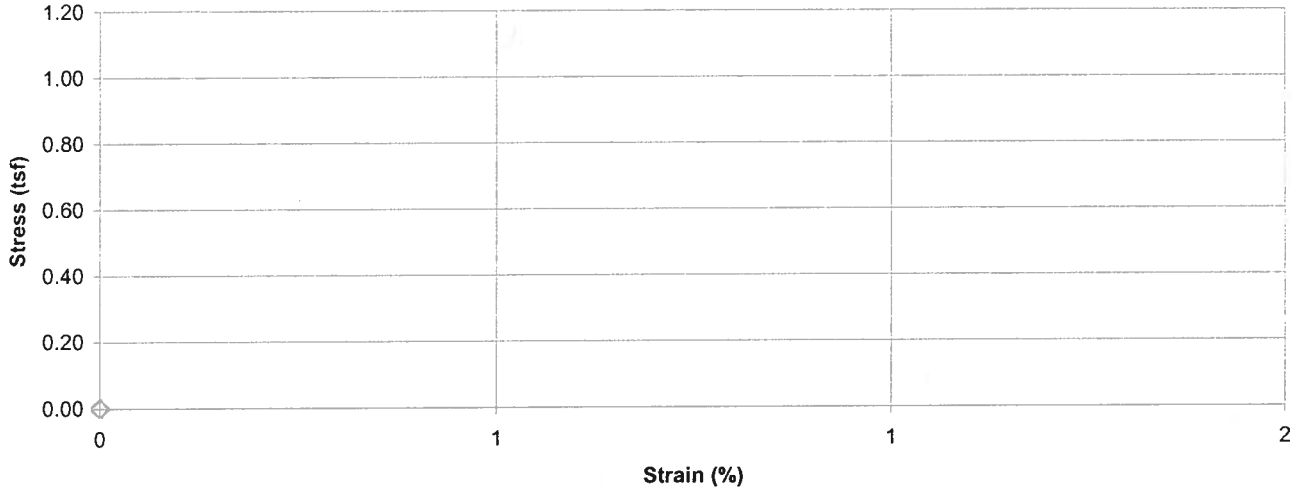


**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-107, 39.5'-41.5' Lab ID 1295B
 Visual Description Lean Clay (CL), brown, moist, firm

		Recovered	<u>1.3'</u>
		Test Interval	<u>40.1' - 40.6'</u>
Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>126.4</u>		Initial MC Taken <u>Before Test, From Trimmings</u>	
Initial Moisture Content (%) <u>20.6</u>			
Initial Dry Density (pcf) <u>104.9</u>		At Test MC Taken <u>N/A</u>	
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>		Unconfined Compressive Strength (tsf) <u>N/A</u>	
Average Height (in) <u>5.991</u>		Undrained Shear Strength (tsf) <u>N/A</u>	
Average Diameter (in) <u>2.887</u>		Strain at Maximum Stress (%) <u>N/A</u>	
Height to Diameter Ratio <u>2.1</u>		Strain rate to failure (% / min.) <u>N/A</u>	

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By

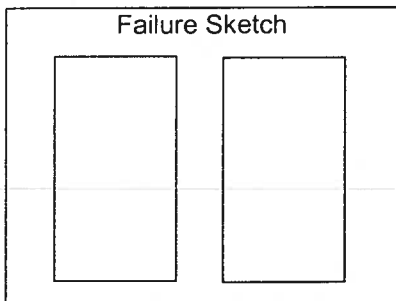
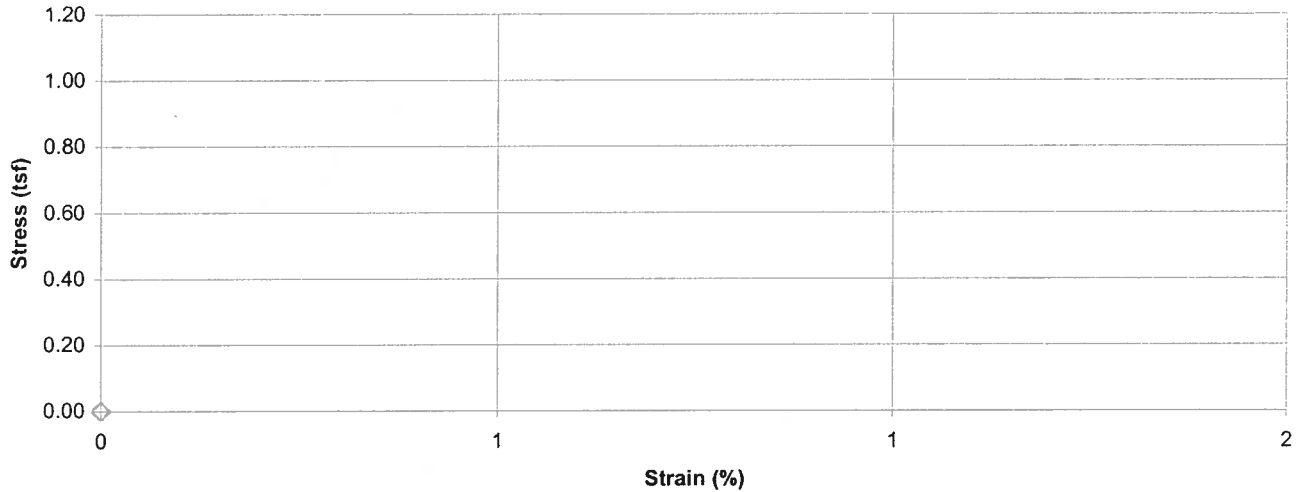


**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant (TVA) Project Number 175569036
 Source STN-107, 49.0'-51.0' Lab ID 1296
 Visual Description 49.0'-49.2' Lean Clay (CL), brown, moist, firm
49.4'-49.5' Poorly Graded Sand (SP), brown, moist, soft Recovered 0.5'
 Test Interval 49.0' - 49.2'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>07/08/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>N/A</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>25.5</u>			
Initial Dry Density (pcf) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Moisture Content (%) <u>N/A</u>			
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>N/A</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>N/A</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>N/A</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A
 Comments No test specimen obtained due to large rock in sample.

Reviewed By [Signature]



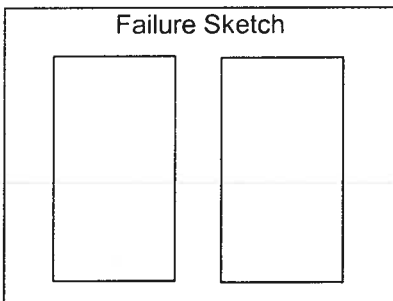
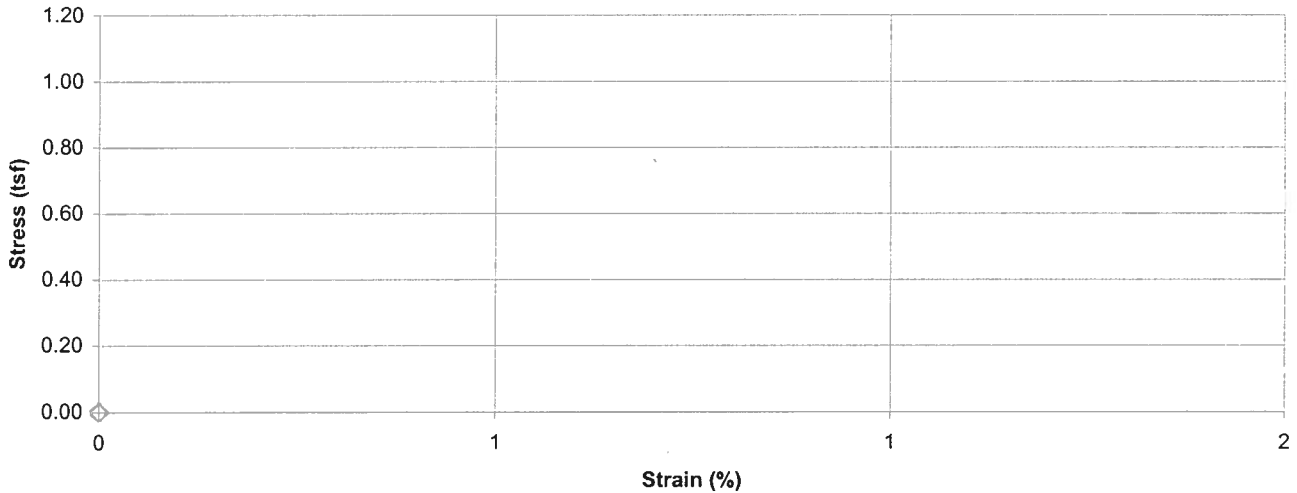
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-108, 10.5'-12.5' Lab ID 381A
 Visual Description Lean Clay (CL), brown, moist, firm

Recovered 1.2'
 Test Interval 10.5' - 11.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/15/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>124.0</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>21.2</u>			
Initial Dry Density (pcf) <u>102.4</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.041</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.890</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By [Signature]



**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

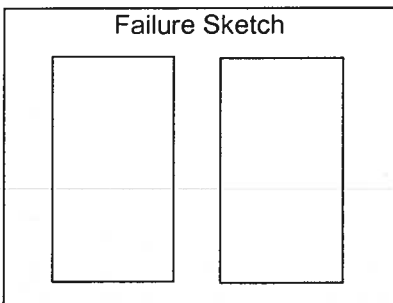
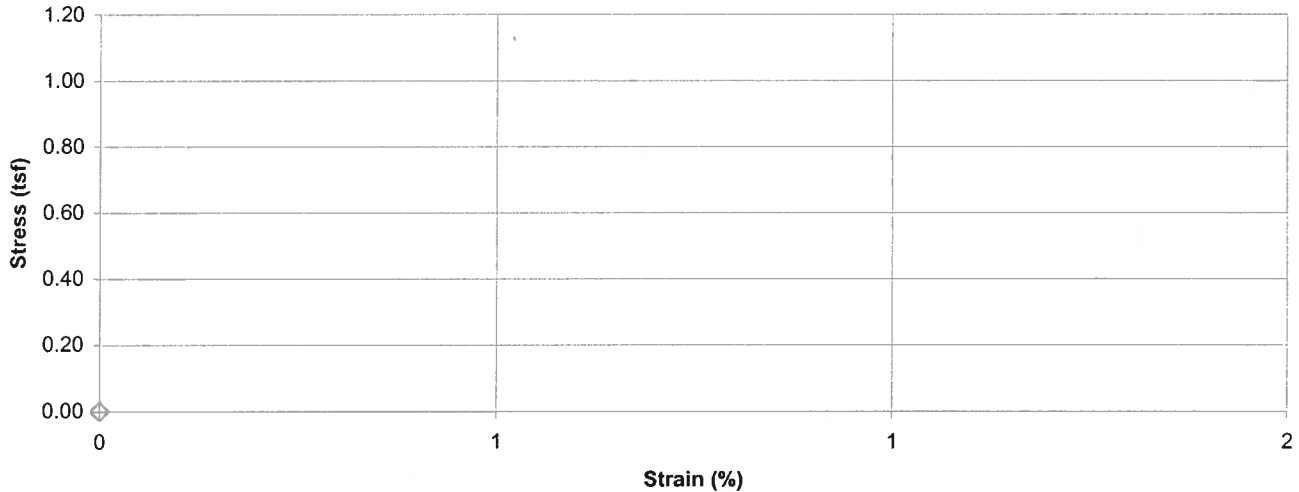
Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-108, 10.5'-12.5' Lab ID 381B
 Visual Description Lean Clay (CL), brown, moist, firm

Recovered 1.2'
 Test Interval 11.1' - 11.6'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A Date Extruded 06/15/2009

Initial Wet Density (pcf) <u>123.3</u>	Date Tested <u>N/A</u>
Initial Moisture Content (%) <u>26.7</u>	Initial MC Taken <u>Before Test, From Trimmings</u>
Initial Dry Density (pcf) <u>97.3</u>	
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>
At Test Dry Density (pcf) <u>N/A</u>	
Specific Gravity <u>N/A</u>	
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>
Average Height (in) <u>6.064</u>	Undrained Shear Strength (tsf) <u>N/A</u>
Average Diameter (in) <u>2.879</u>	Strain at Maximum Stress (%) <u>N/A</u>
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

Reviewed By



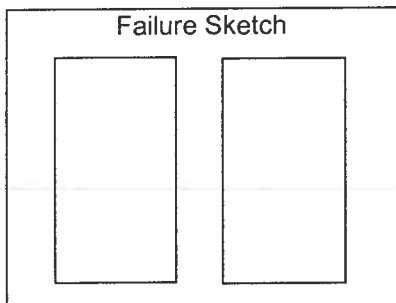
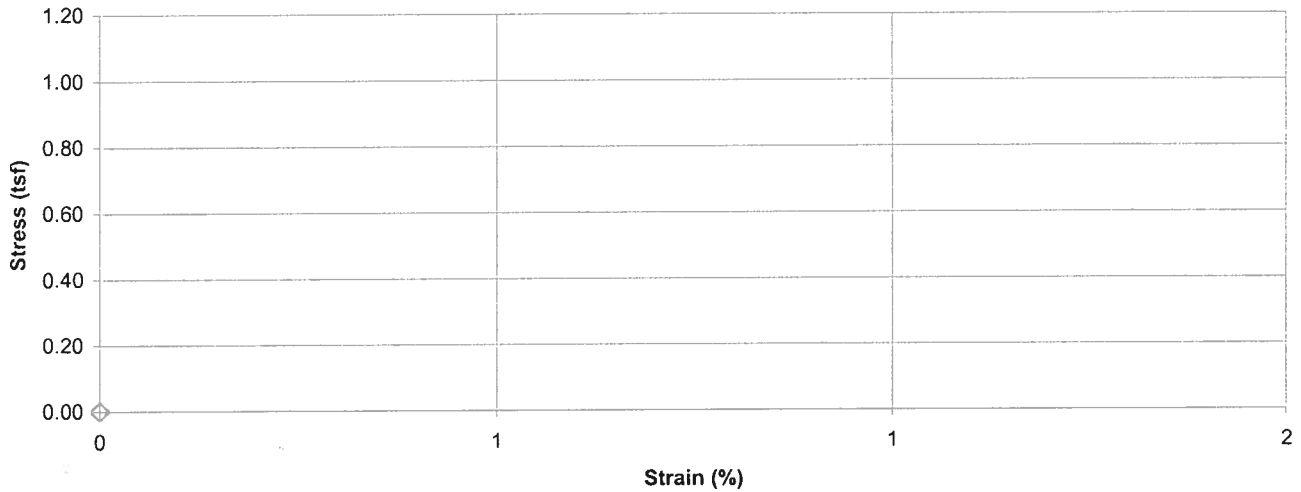
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name Widows Creek Fossil Plant -- TVA Project Number 175569036
 Source SB-108, 15.5'-17.5' Lab ID 382
 Visual Description Lean Clay (CL), brown, moist, firm

Recovered 0.7'
 Test Interval 15.5' - 16.0'

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Date Extruded <u>06/15/2009</u>
		PI <u>N/A</u>	Date Tested <u>N/A</u>
Initial Wet Density (pcf) <u>122.2</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		
Initial Moisture Content (%) <u>18.9</u>			
Initial Dry Density (pcf) <u>102.8</u>			
At Test Moisture Content (%) <u>N/A</u>	At Test MC Taken <u>N/A</u>		
At Test Dry Density (pcf) <u>N/A</u>			
Specific Gravity <u>N/A</u>			
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>N/A</u>		
Average Height (in) <u>6.096</u>	Undrained Shear Strength (tsf) <u>N/A</u>		
Average Diameter (in) <u>2.883</u>	Strain at Maximum Stress (%) <u>N/A</u>		
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>N/A</u>		

Stress vs. Strain



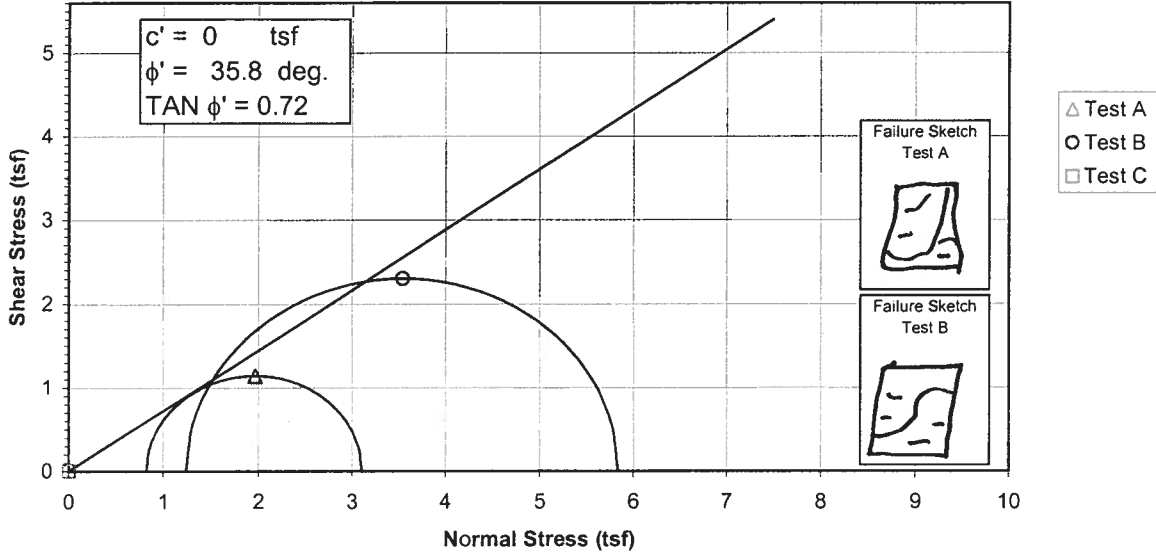
Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments _____

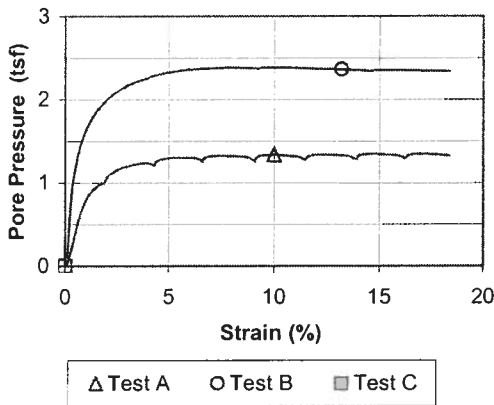
Reviewed By

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain



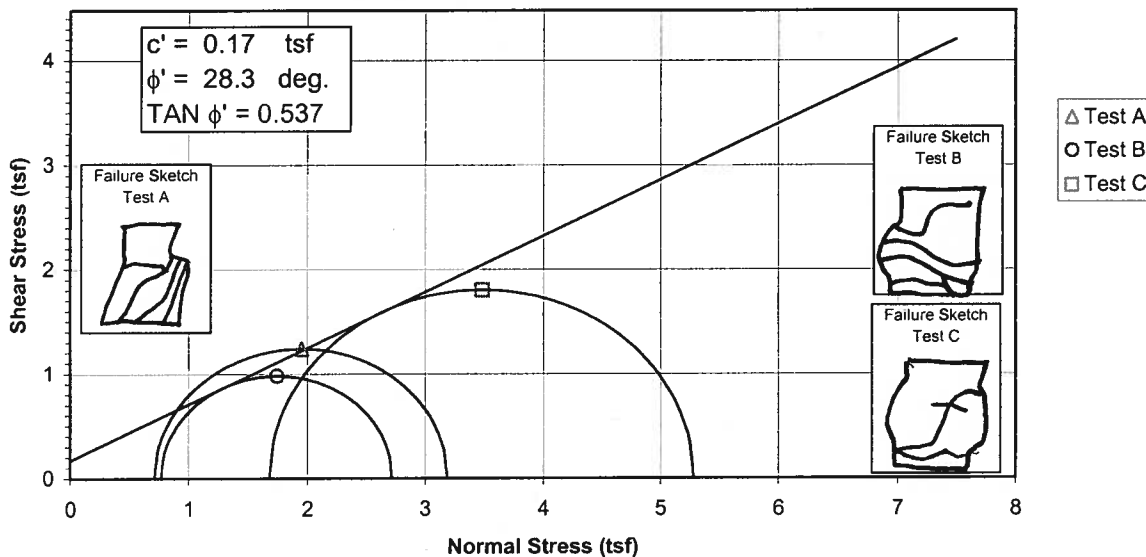
Specimen No.			A	B	C
Initial Data	Water content %	W_o	61.5	123.9	#####
	Dry Density PCF	γ_{d_o}	57.1	52.4	#####
	Saturation %	S_o	87.9	155.1	#####
	Void Ratio	e_o	1.777	2.029	#####
After Shear	Water content %	W_f	46.6	49.0	#####
	Dry Density PCF	γ_{d_f}	72.6	70.6	#####
	Saturation %	S_f	100.0	100.0	#####
	Void Ratio	e_f	1.184	1.246	#####
Final Back Pressure TSF		u_c	4.32	2.88	0.00
Minor Principal Stress TSF @ failure		σ_3^f	0.83	1.24	0.00
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$	2.28	4.60	0.00
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f	35.9	27.2	0.0
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$	2.20	4.57	0.00
Initial Diameter, in.		D_o	2.829	2.828	#####
Initial Height, in.		H_o	6.126	6.093	#####

Controlled - Strain Test			
Description of Specimens Silt (ML), gray, moist, firm, (gypsum)			
		Type of Specimen Undisturbed	Type of test R
LL	PL	PI	Gs 2.54
Project		Widows Creek Fossil Plant (TVA)	
Remarks:			
Boring No.		SB-65	Sample No. 361
Depth Elev.		45.4'-45.9', 46.1'-46.6'	
Laboratory		Stantec	Date 7-21-09
TRIAxIAL COMPRESSION TEST REPORT			

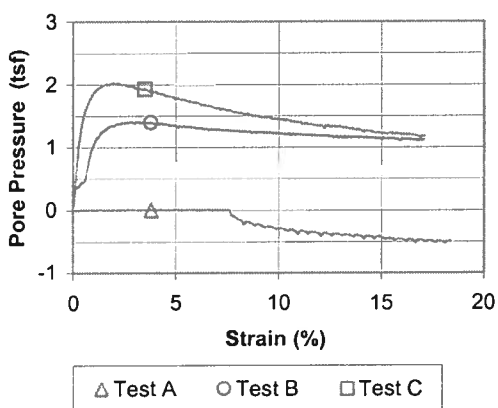
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Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain

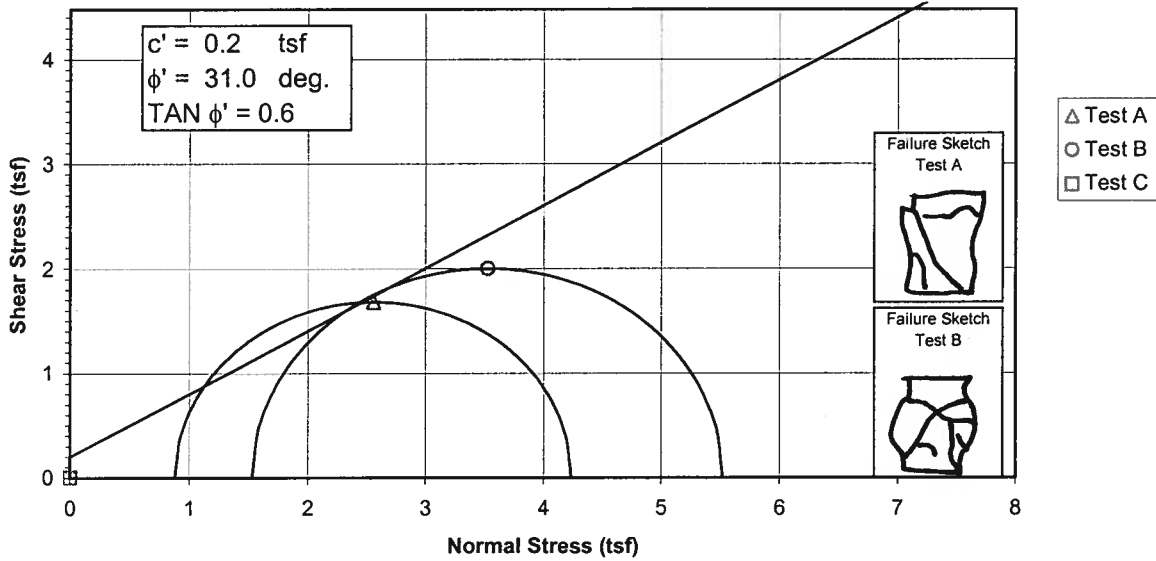


Specimen No.		A	B	C
Initial Data	Water content %	W_o 24.0	24.1	17.5
	Dry Density PCF	γ_{d_o} 101.9	101.5	113.0
	Saturation %	S_o 97.5	96.8	94.3
	Void Ratio	e_o 0.673	0.678	0.508
After Shear	Water content %	W_f 24.7	22.2	16.3
	Dry Density PCF	γ_{d_f} 101.8	106.1	117.8
	Saturation %	S_f 100.0	100.0	100.0
	Void Ratio	e_f 0.675	0.607	0.446
Final Back Pressure TSF		u_c 5.76	4.32	2.88
Minor Principal Stress TSF @ failure		$\sigma_3'f$ 0.71	0.77	1.68
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$ 2.47	1.95	3.61
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f 50.9	110.4	119.1
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$ 2.00	n/a	n/a
Initial Diameter, in.		D_o 2.886	2.884	2.878
Initial Height, in.		H_o 6.016	6.084	6.054

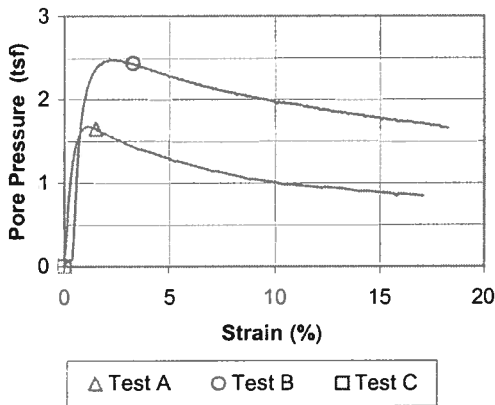
Controlled - Strain Test				Initial Height, in.				H_o	6.016	6.084	6.054
Description of Specimens Fat Clay (CH), red brown, moist, firm											
				Type of Specimen Undisturbed				Type of test \bar{R}			
LL	PL	PI	Gs	2.73		Project Widows Creek Fossil Plant (TVA)					
Remarks:											
				Boring No. SB-74				Sample No. 578			
				Depth Elev. 9.6'-10.1', 24.5'-25.0', 25.1'-25.6'							
				Laboratory Stantec				Date 8-16-09			
TRIAXIAL COMPRESSION TEST REPORT											

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain

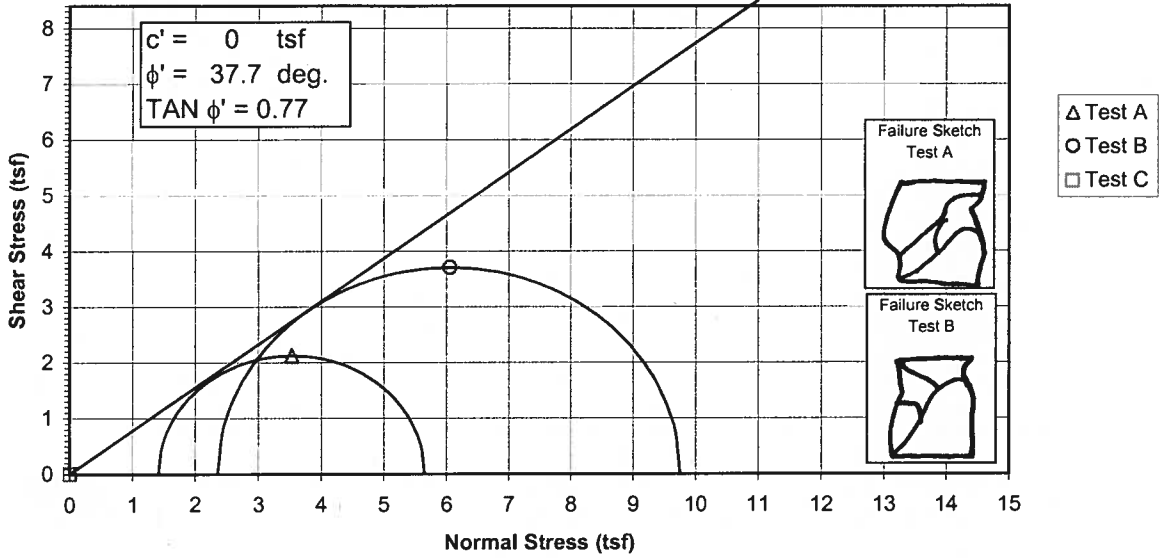


Specimen No.		A	B	C
Initial Data	Water content %	W _o 7.6	21.2	#####
	Dry Density PCF	γ _d 119.0	105.8	#####
	Saturation %	S _o 50.6	98.1	#####
	Void Ratio	e _o 0.401	0.576	#####
After Shear	Water content %	W _f 7.4	19.5	#####
	Dry Density PCF	γ _d 139.1	109.7	#####
	Saturation %	S _f 100.0	100.0	#####
	Void Ratio	e _f 0.198	0.519	#####
Final Back Pressure TSF		u _c 3.96	2.52	0.00
Minor Principal Stress TSF @ failure		σ ₃ ' _f 0.88	1.53	0.00
Maximum Deviator Stress (tsf) @ failure		(σ ₁ '-σ ₃ ') _{max} 3.36	3.99	0.00
Time to (σ ₁ '-σ ₃ ') _{max} min.		t _f 9.0	135.7	0.0
Ultimate Deviator Stress, t/sq ft		(σ ₁ '-σ ₃ ') _{ult} n/a	n/a	0.00
Initial Diameter, in.		D _o 2.884	2.877	#####
Initial Height, in.		H _o 5.992	6.067	#####

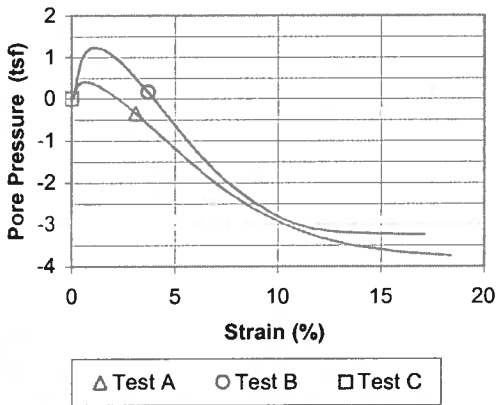
Controlled - Strain Test		Initial Height, in.		H _o	5.992	6.067	#####
Description of Specimens Lean Clay (CL), brown, moist, firm							
				Type of Specimen	Undisturbed	Type of test	R
LL	PL	PI	Gs	2.67	Project Widows Creek Fossil Plant (TVA)		
Remarks:							
				Boring No.	SB-74	Sample No.	580
				Depth Elev.	40.6'-41.1', 40.0'-40.5'		
				Laboratory	Stantec	Date	8-16-09
TRIAxIAL COMPRESSION TEST REPORT							

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain

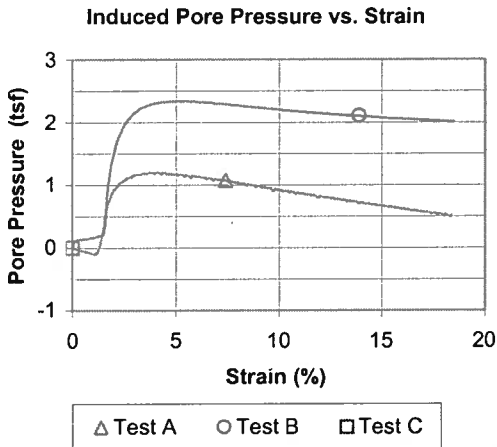
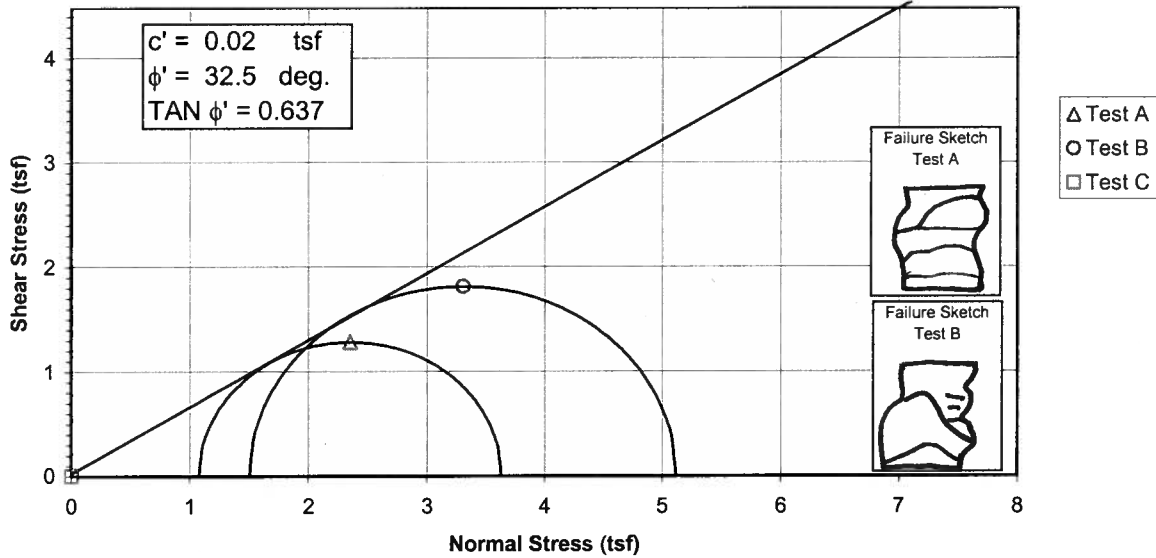


Specimen No.		A	B	C
Initial Data	Water content %	W_o 25.1	24.6	#####
	Dry Density PCF	γ_{d_o} 90.6	92.3	#####
	Saturation %	S_o 100.9	104.2	#####
	Void Ratio	e_o 0.565	0.535	#####
After Shear	Water content %	W_f 25.4	24.1	#####
	Dry Density PCF	γ_{d_f} 89.9	91.6	#####
	Saturation %	S_f 100.0	100.0	#####
	Void Ratio	e_f 0.576	0.546	#####
Final Back Pressure TSF		u_c 5.40	3.96	0.00
Minor Principal Stress TSF @ failure		$\sigma_3'f$ 1.42	2.36	0.00
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$ 4.23	7.39	0.00
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f 6.9	9.4	0.0
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$ n/a	n/a	0.00
Initial Diameter, in.		D_o 2.880	2.882	#####
Initial Height, in.		H_o 5.993	6.051	#####

Controlled - Strain Test				Description of Specimens Silt (ML), gray, moist, firm			
Type of Specimen Undisturbed				Type of test \bar{R}			
LL	PL	PI	Gs 2.27	Project Widows Creek Fossil Plant (TVA)			
Remarks:				Boring No. SB-77 Sample No. 583			
				Depth Elev. 21.6'-22.1', 22.2'-22.7'			
				Laboratory Stantec		Date 8-16-09	
TRIAxIAL COMPRESSION TEST REPORT							

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope

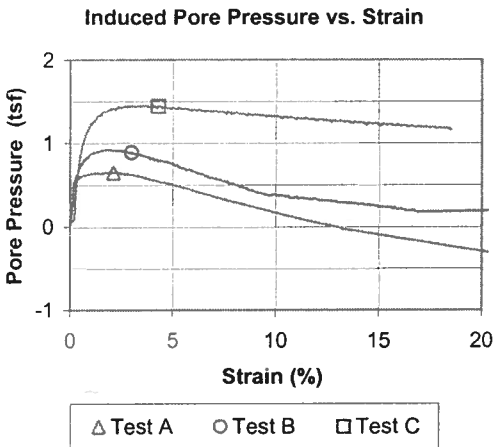
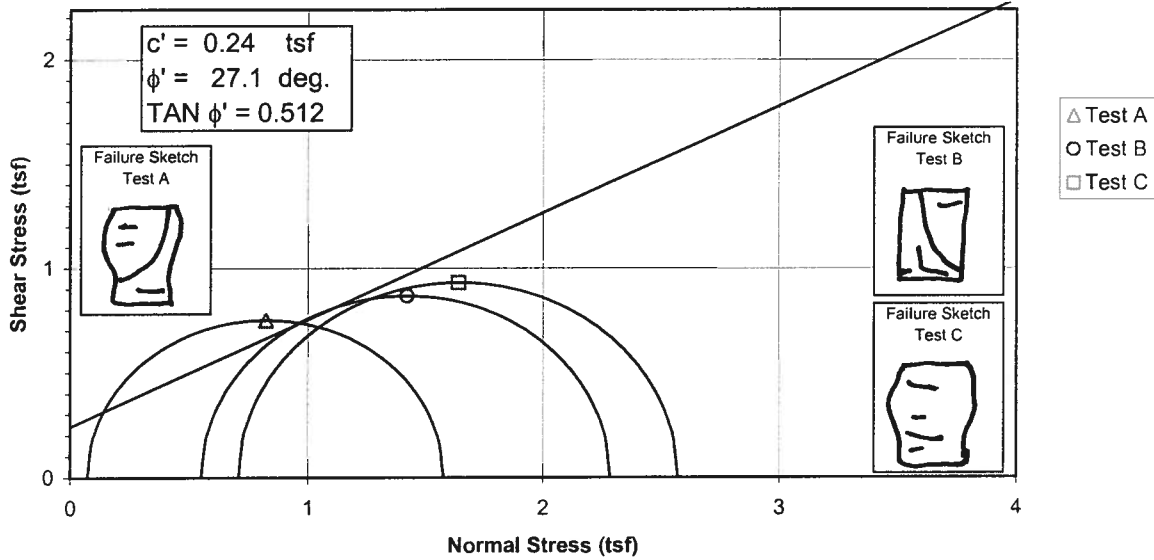


Specimen No.		A	B	C
Initial Data	Water content %	W _o 19.1	20.7	#####
	Dry Density PCF	γ _d 108.8	107.3	#####
	Saturation %	S _o 94.7	98.7	#####
	Void Ratio	e _o 0.543	0.565	#####
After Shear	Water content %	W _f 17.9	18.2	#####
	Dry Density PCF	γ _d 113.3	112.8	#####
	Saturation %	S _f 100.0	100.0	#####
	Void Ratio	e _f 0.482	0.489	#####
Final Back Pressure TSF		u _c 4.32	2.88	0.00
Minor Principal Stress TSF @ failure		σ ₃ ^f 1.08	1.50	0.00
Maximum Deviator Stress (tsf) @ failure		(σ ₁ '-σ ₃ ') _{max} 2.54	3.62	0.00
Time to (σ ₁ '-σ ₃ ') _{max} min.		t _f 230.2	354.9	0.0
Ultimate Deviator Stress, t/sq ft		(σ ₁ '-σ ₃ ') _{ult} n/a	3.60	0.00
Initial Diameter, in.		D _o 2.889	2.887	#####
Initial Height, in.		H _o 6.000	6.025	#####

Controlled - Strain Test		Initial Height, in.		H _o	6.000	6.025	#####
Description of Specimens Lean Clay (CL), brown, moist, firm							
				Type of Specimen	Undisturbed	Type of test R	
LL	PL	PI	Gs	2.69	Project Widows Creek Fossil Plant (TVA)		
Remarks:							
				Boring No.	SB-77	Sample No.	584
				Depth Elev.	38.0'-38.5', 38.6'-39.1'		
				Laboratory	Stantec	Date	8-16-09
TRIAXIAL COMPRESSION TEST REPORT							

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope

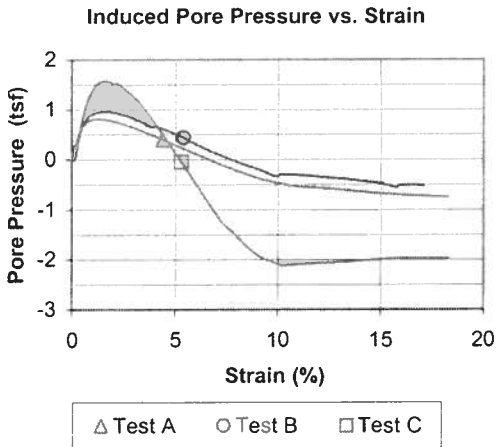
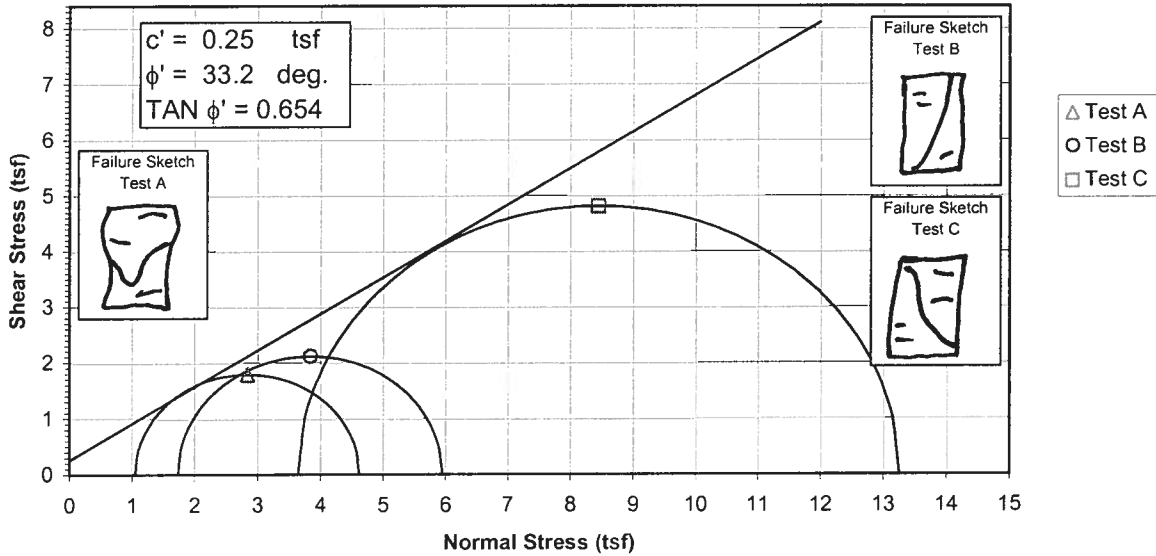


Specimen No.			A	B	C
Initial Data	Water content %	W_o	31.8	26.9	22.6
	Dry Density PCF	γ_{d_o}	92.6	97.2	100.4
	Saturation %	S_o	105.3	99.5	90.3
	Void Ratio	e_o	0.813	0.728	0.673
After Shear	Water content %	W_f	32.6	26.9	22.3
	Dry Density PCF	γ_{d_f}	89.4	97.4	105.0
	Saturation %	S_f	100.0	100.0	100.0
	Void Ratio	e_f	0.878	0.724	0.599
Final Back Pressure TSF		u_c	5.76	5.04	4.32
Minor Principal Stress TSF @ failure		σ_3^f	0.07	0.55	0.71
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1 - \sigma_3)_{max}$	1.50	1.73	1.85
Time to $(\sigma_1 - \sigma_3)_{max}$ min.		t_f	3.5	124.8	168.1
Ultimate Deviator Stress, t/sq ft		$(\sigma_1 - \sigma_3)_{ult}$	n/a	n/a	n/a
Initial Diameter, in.		D_o	2.852	2.858	2.878
Initial Height, in.		H_o	6.007	6.061	6.074

Controlled - Strain Test			
Description of Specimens Fat Clay (CH), red brown, moist, firm			
		Type of Specimen Undisturbed	Type of test R
LL	PL	PI	Gs 2.69
Project Widows Creek Fossil Plant -- TVA			
Remarks:			
Boring No. SB-80		Sample No. 2	
Depth Elev. 10.5'-11.0', 11.1'-11.6', 20.0'-20.5'			
Laboratory Stantec		Date 7-8-09	
TRIAxIAL COMPRESSION TEST REPORT			

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope

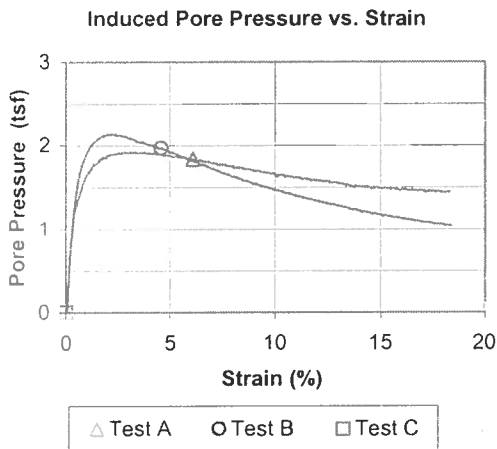
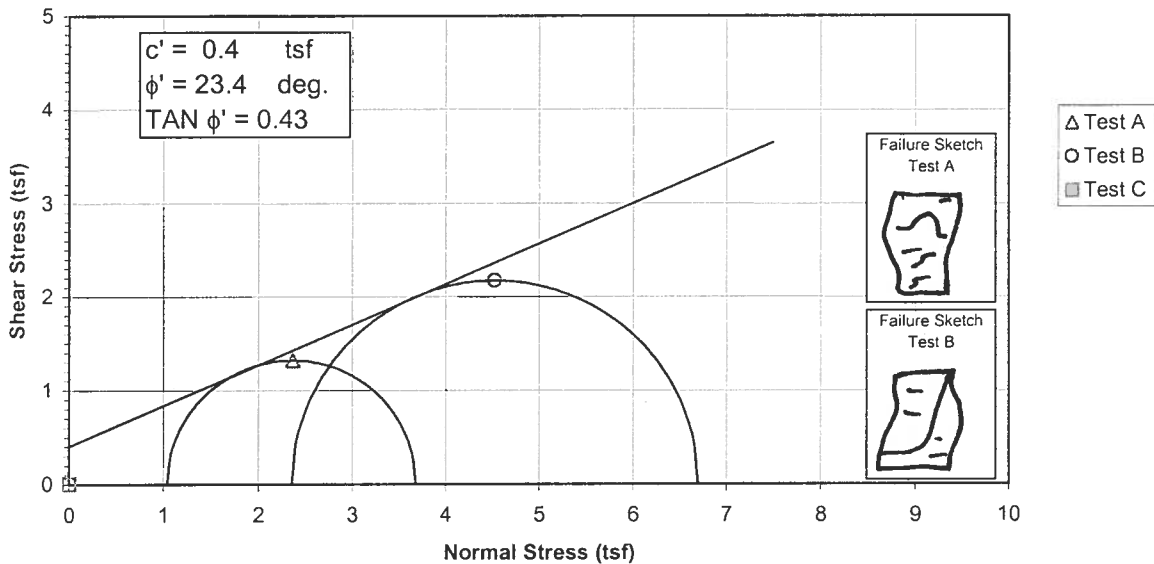


Specimen No.		A	B	C
Initial Data	Water content %	W_o 53.5	38.6	33.0
	Dry Density PCF	γ_{d_o} 62.2	75.2	81.5
	Saturation %	S_o 95.3	99.6	102.2
	Void Ratio	e_o 1.268	0.875	0.730
After Shear	Water content %	W_f 48.1	31.6	27.3
	Dry Density PCF	γ_{d_f} 67.6	82.3	87.2
	Saturation %	S_f 100.0	100.0	100.0
	Void Ratio	e_f 1.087	0.714	0.617
Final Back Pressure TSF		u_c 5.04	4.32	2.88
Minor Principal Stress TSF @ failure		$\sigma_3'f$ 1.05	1.73	3.65
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$ 3.57	4.23	9.61
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f 6.3	12.2	12.0
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$ n/a	n/a	n/a
Initial Diameter, in.		D_o 2.856	2.840	2.831
Initial Height, in.		H_o 6.079	6.001	5.866

Controlled - Strain Test				
Description of Specimens Silt with Sand (ML), (fly ash), dark gray, moist, firm				
		Type of Specimen Undisturbed	Type of test R	
LL	PL	PI	Gs 2.26	Project Widows Creek Fossil Plant -- TVA
Remarks:				
		Boring No. SB-80	Sample No. 3	
		Depth Elev. 31.2'-31.7', 30.5'-31.0', 35.0'-35.5'		
		Laboratory Stantec	Date 7-15-09	
TRIAxIAL COMPRESSION TEST REPORT				

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope

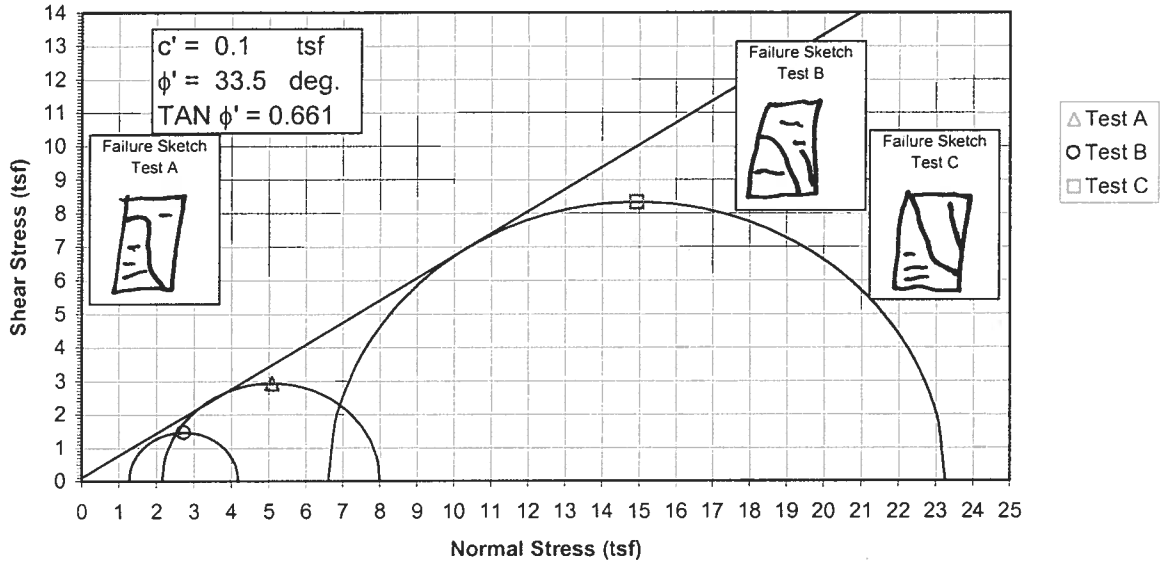


Specimen No.		A	B	C
Initial Data	Water content %	W_o 21.1	18.7	#####
	Dry Density PCF	γ_{d_o} 106.6	111.1	#####
	Saturation %	S_o 96.4	95.5	#####
	Void Ratio	e_o 0.598	0.534	#####
After Shear	Water content %	W_f 19.0	17.9	#####
	Dry Density PCF	γ_{d_f} 112.2	114.5	#####
	Saturation %	S_f 100.0	100.0	#####
	Void Ratio	e_f 0.518	0.489	#####
	Final Back Pressure TSF	u_c 3.60	2.16	0.00
Minor Principal Stress TSF @ failure		$\sigma_3'f$ 1.04	2.35	0.00
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$ 2.64	4.34	0.00
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f 459.2	387.0	0.0
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$ n/a	n/a	0.00
Initial Diameter, in.		D_o 2.866	2.885	#####
Initial Height, in.		H_o 6.046	6.052	#####

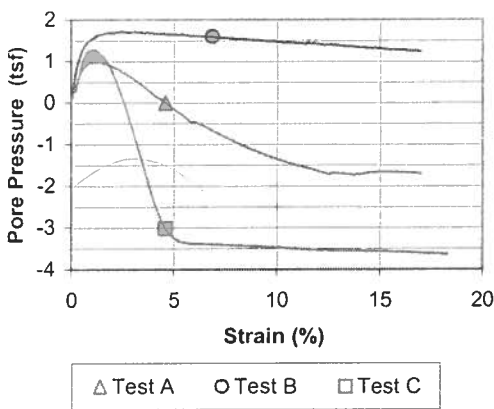
Controlled - Strain Test				Initial Height, in.		H_o	6.046	6.052	#####
Description of Specimens Lean Clay with Sand (CL), brown, moist, firm									
				Type of Specimen	Undisturbed			Type of test	R
LL	PL	PI	Gs	2.73	Project Widows Creek Fossil Plant -- TVA				
Remarks:									
				Boring No.	SB-80	Sample No.		4	
				Depth Elev. 47.5'-48.0', 48.1'-48.6'					
				Laboratory	Stantec	Date		7-15-09	
TRIAXIAL COMPRESSION TEST REPORT									

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain

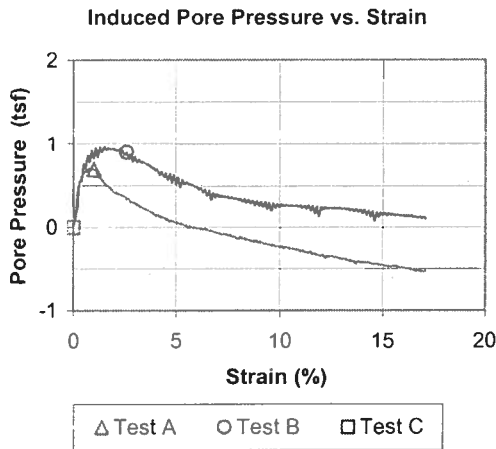
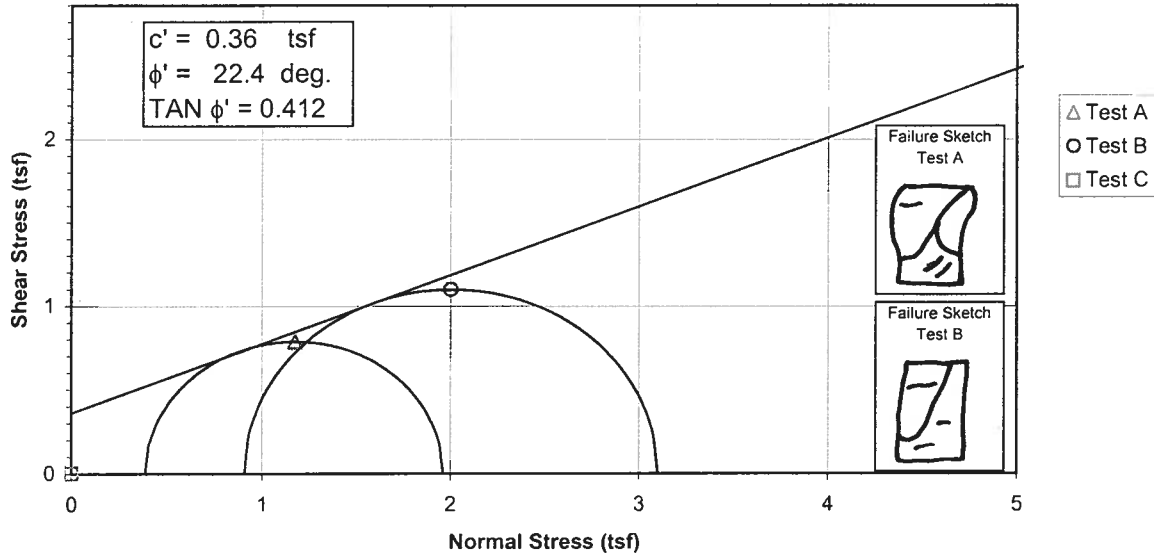


Specimen No.		A	B	C
Initial Data	Water content %	W_o 36.4	30.0	24.7
	Dry Density PCF	γ_{d_o} 78.3	89.2	85.8
	Saturation %	S_o 99.5	111.8	83.2
	Void Ratio	e_o 0.849	0.623	0.687
After Shear	Water content %	W_f 32.8	25.8	22.9
	Dry Density PCF	γ_{d_f} 82.2	90.6	94.6
	Saturation %	S_f 100.0	100.0	100.0
	Void Ratio	e_f 0.761	0.599	0.531
Final Back Pressure TSF		u_c 4.32	3.60	2.88
Minor Principal Stress TSF @ failure		$\sigma_3'f$ 2.17	1.28	6.62
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$ 5.84	2.90	16.64
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f 8.4	112.4	7.2
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$ n/a	n/a	15.35
Initial Diameter, in.		D_o 2.832	2.885	2.787
Initial Height, in.		H_o 5.838	5.984	6.048

Controlled - Strain Test			
Description of Specimens Silt (ML), (fly ash), gray, moist, firm			
		Type of Specimen Undisturbed	Type of test \bar{R}
LL	PL	PI	Gs 2.32
Project		Widows Creek Fossil Plant -- TVA	
Remarks:			
Boring No.		SB-82	Sample No. 5
Depth Elev.		40.6'-41.1', 41.3'-41.8', 40.0'-40.5'	
Laboratory		Stantec	Date 7-15-09
TRIAXIAL COMPRESSION TEST REPORT			

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope

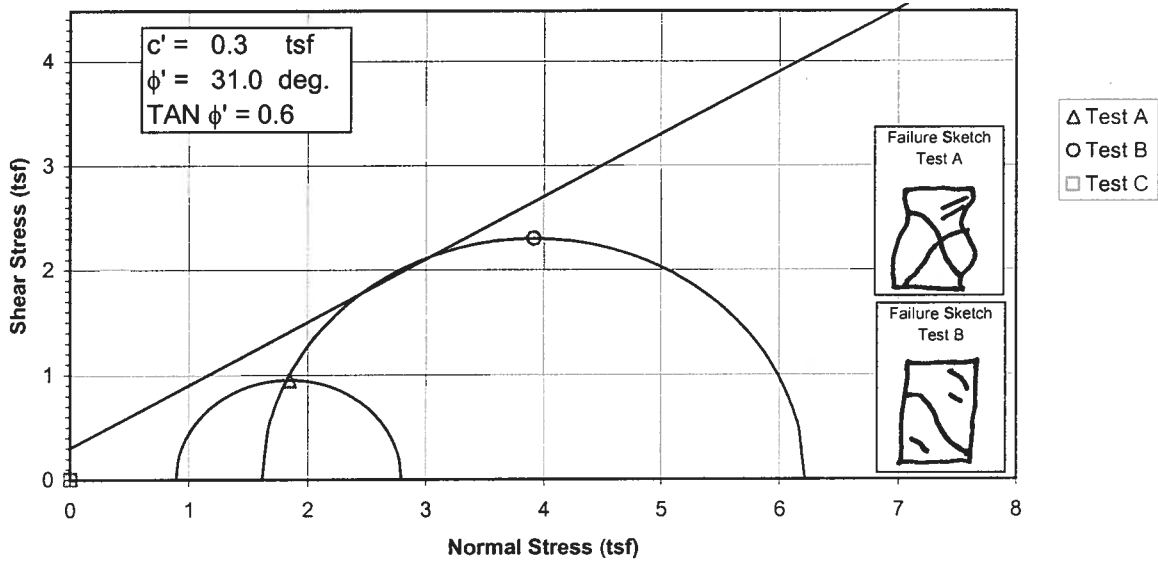


Specimen No.		A	B	C
Initial Data	Water content %	W _o 23.6	23.1	#####
	Dry Density PCF	γ _d 102.7	102.9	#####
	Saturation %	S _o 98.9	97.1	#####
	Void Ratio	e _o 0.647	0.644	#####
After Shear	Water content %	W _f 24.3	23.1	#####
	Dry Density PCF	γ _d 102.0	104.0	#####
	Saturation %	S _f 100.0	100.0	#####
	Void Ratio	e _f 0.659	0.627	#####
	Final Back Pressure TSF	u _c 5.40	4.68	0.00
Minor Principal Stress TSF @ failure		σ ₃ ' _f 0.39	0.91	0.00
Maximum Deviator Stress (tsf) @ failure		(σ ₁ '-σ ₃ ') _{max} 1.57	2.19	0.00
Time to (σ ₁ '-σ ₃ ') _{max} min.		t _f 16.9	116.4	0.0
Ultimate Deviator Stress, t/sq ft		(σ ₁ '-σ ₃ ') _{ult} n/a	n/a	0.00
Initial Diameter, in.		D _o 2.884	2.885	#####
Initial Height, in.		H _o 6.059	6.043	#####

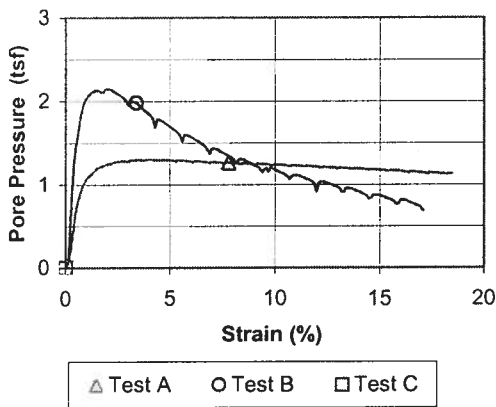
Controlled - Strain Test			
Description of Specimens Fat Clay (CH), red brown, moist, firm			
Type of Specimen Undisturbed		Type of test R	
LL	PL	PI	Gs 2.71
Project Widows Creek Fossil Plant (TVA)		Remarks:	
Boring No. SB-86		Sample No. 368	
Depth Elev. 15.0'-15.5', 15.6' - 16.1'		Laboratory Stantec	
Date 7-17-09		Date 7-17-09	
TRIAXIAL COMPRESSION TEST REPORT			

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain

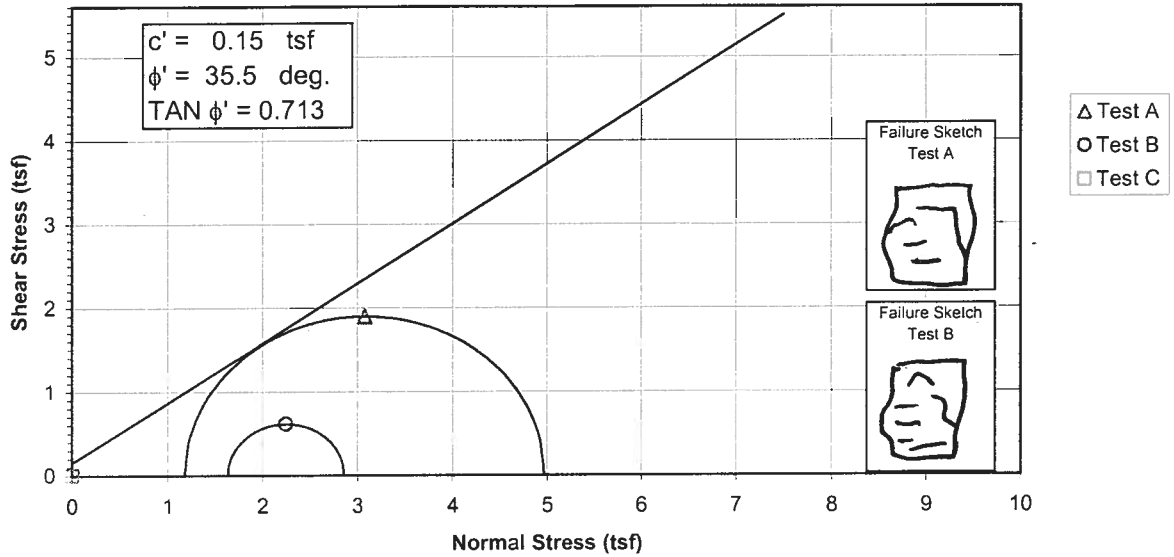


Specimen No.		A	B	C
Initial Data	Water content %	W_o 24.4	18.1	#####
	Dry Density PCF	γ_{d_o} 101.2	115.6	#####
	Saturation %	S_o 94.3	99.5	#####
	Void Ratio	e_o 0.721	0.506	#####
After Shear	Water content %	W_f 22.9	18.0	#####
	Dry Density PCF	γ_{d_f} 106.2	116.1	#####
	Saturation %	S_f 100.0	100.0	#####
	Void Ratio	e_f 0.640	0.501	#####
Final Back Pressure TSF		u_c 4.32	2.88	0.00
Minor Principal Stress TSF @ failure		σ_3^f 0.89	1.62	0.00
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1 - \sigma_3)_{max}$ 1.90	4.59	0.00
Time to $(\sigma_1 - \sigma_3)_{max}$ min.		t_f 173.9	27.3	0.0
Ultimate Deviator Stress, t/sq ft		$(\sigma_1 - \sigma_3)_{ult}$ n/a	n/a	0.00
Initial Diameter, in.		D_o 2.876	2.863	#####
Initial Height, in.		H_o 6.028	6.052	#####

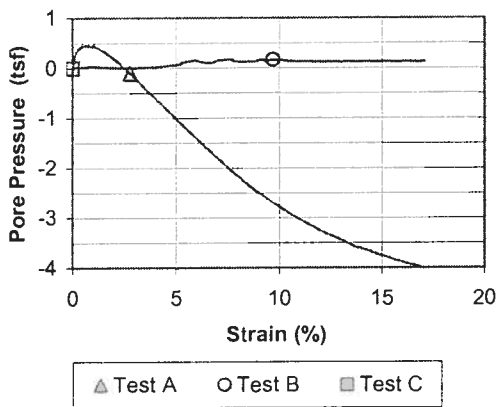
Controlled - Strain Test		Initial Height, in.		H_o 6.028	6.052	#####
Description of Specimens Fat Clay with Gravel (CH), red brown, moist, firm						
				Type of Specimen	Undisturbed	Type of test R
LL	PL	PI	Gs	2.79	Project Widows Creek Fossil Plant -- TVA	
Remarks:						
				Boring No.	SB-87, SB-84	Sample No. 89
				Depth Elev.	37.0' - 37.5', 40.5' - 41.0'	
				Laboratory	Stantec	Date 7-8-09
TRIAxIAL COMPRESSION TEST REPORT						

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain

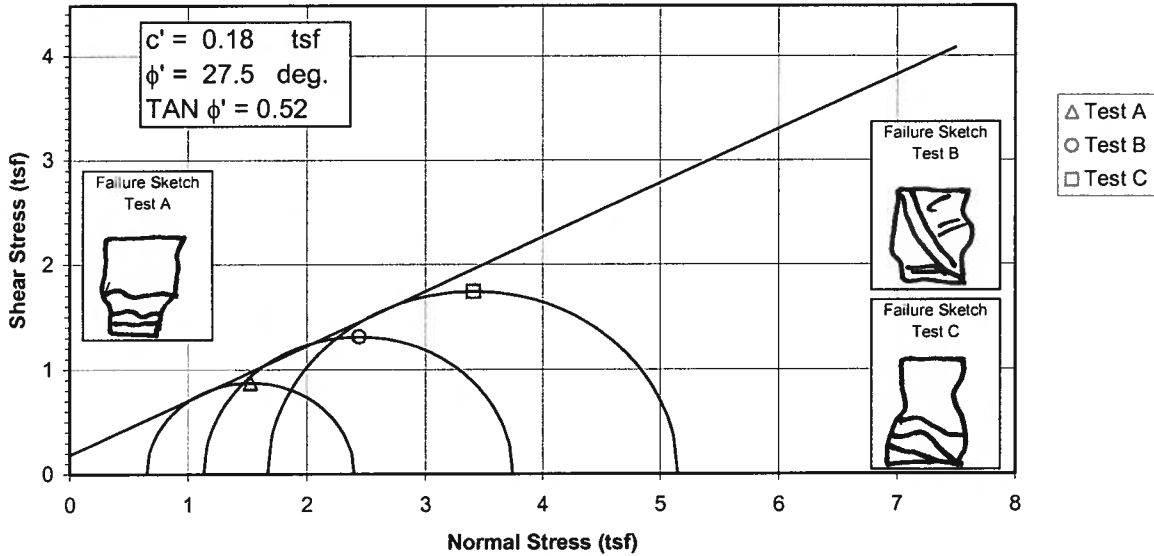


Specimen No.		A	B	C
Initial Data	Water content %	W_o 24.4	26.9	#####
	Dry Density PCF	γ_{d_o} 95.1	97.7	#####
	Saturation %	S_o 97.4	115.7	#####
	Void Ratio	e_o 0.615	0.572	#####
After Shear	Water content %	W_f 22.8	20.1	#####
	Dry Density PCF	γ_{d_f} 98.4	102.8	#####
	Saturation %	S_f 100.0	100.0	#####
	Void Ratio	e_f 0.561	0.494	#####
	Final Back Pressure TSF	u_c 5.40	4.68	0.00
	Minor Principal Stress TSF @ failure	$\sigma_3'f$ 1.18	1.63	0.00
	Maximum Deviator Stress (tsf) @ failure	$(\sigma_1' - \sigma_3')_{max}$ 3.79	1.22	0.00
	Time to $(\sigma_1' - \sigma_3')_{max}$ min.	t_f 5.2	1036.2	0.0
	Ultimate Deviator Stress, t/sq ft	$(\sigma_1' - \sigma_3')_{ult}$ n/a	1.12	0.00
	Initial Diameter, in.	D_o 2.873	2.859	#####
	Initial Height, in.	H_o 5.877	6.016	#####

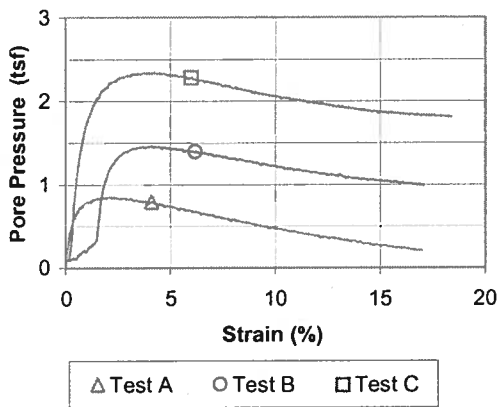
Controlled - Strain Test		Initial Height, in.		H_o	5.877	6.016	#####
Description of Specimens Poorly Graded Sand with Gravel (SP), dark gray, moist, firm							
				Type of Specimen	Undisturbed	Type of test	R
LL	PL	PI	Gs	2.46	Project Widows Creek Fossil Plant (TVA)		
Remarks:				Boring No.	SB-89	Sample No.	371
				Depth Elev.	16.3'-16.8', 20.5'-21.0'		
				Laboratory	Stantec	Date	7-20-09
TRIAXIAL COMPRESSION TEST REPORT							

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain

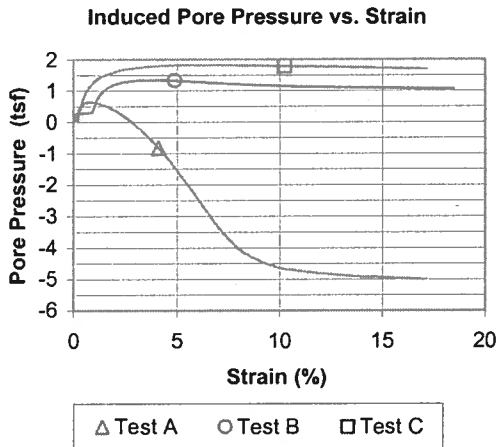
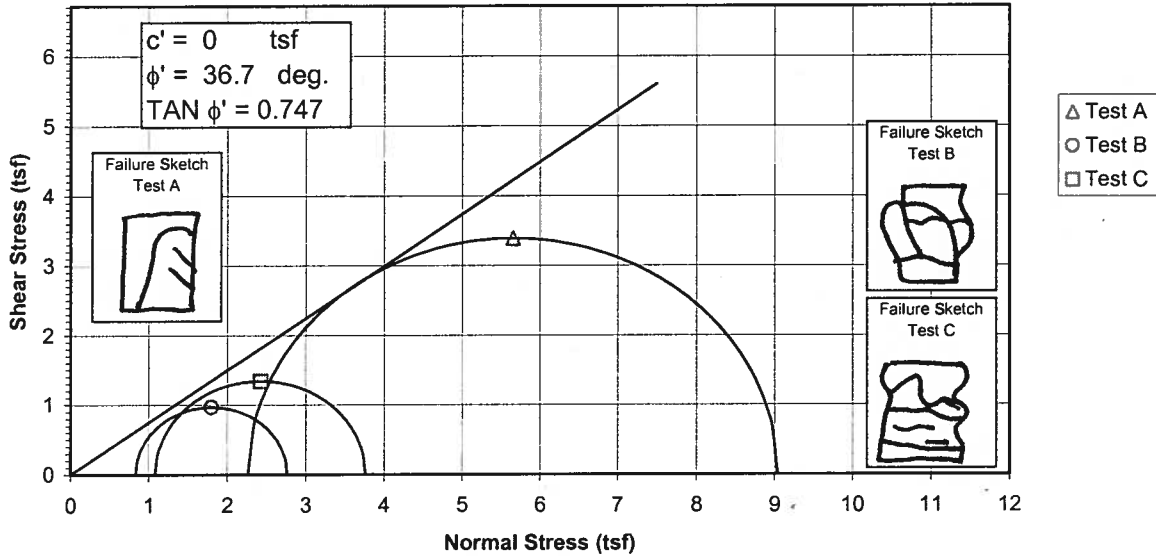


Specimen No.			A	B	C
Initial Data	Water content %	W_o	25.4	25.3	25.1
	Dry Density PCF	γ_{d_o}	98.4	99.4	98.3
	Saturation %	S_o	98.2	100.3	96.7
	Void Ratio	e_o	0.688	0.670	0.690
After Shear	Water content %	W_f	24.7	23.7	22.6
	Dry Density PCF	γ_{d_f}	100.2	101.8	103.7
	Saturation %	S_f	100.0	100.0	100.0
	Void Ratio	e_f	0.657	0.630	0.601
Final Back Pressure TSF		u_c	5.04	3.96	2.52
Minor Principal Stress TSF @ failure		σ_3^*f	0.65	1.13	1.67
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1 - \sigma_3)_{max}$	1.75	2.62	3.47
Time to $(\sigma_1 - \sigma_3)_{max}$ min.		t_f	106.3	451.0	244.6
Ultimate Deviator Stress, \sqrt{sq} ft		$(\sigma_1 - \sigma_3)_{ult}$	n/a	n/a	n/a
Initial Diameter, in.		D_o	2.887	2.878	2.880
Initial Height, in.		H_o	6.017	6.039	6.011

Controlled - Strain Test		Initial Height, in.		H_o	6.017	6.039	6.011	
Description of Specimens Lean Clay (CL), brown, moist, firm								
				Type of Specimen	Undisturbed	Type of test		R
LL	PL	PI	Gs	2.66	Project			Widows Creek Fossil Plant (TVA)
Remarks:								
				Boring No.	STN-94	Sample No.	1300	
				Depth Elev.	24.5'-25.0', 25.1'-25.6', 49.7'-50.2'			
				Laboratory	Stantec	Date	8-16-09	
TRIAxIAL COMPRESSION TEST REPORT								

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope

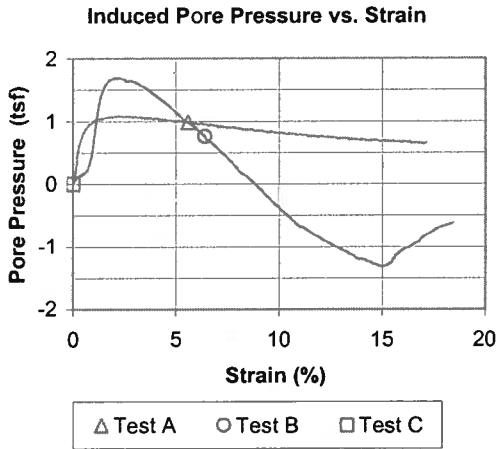
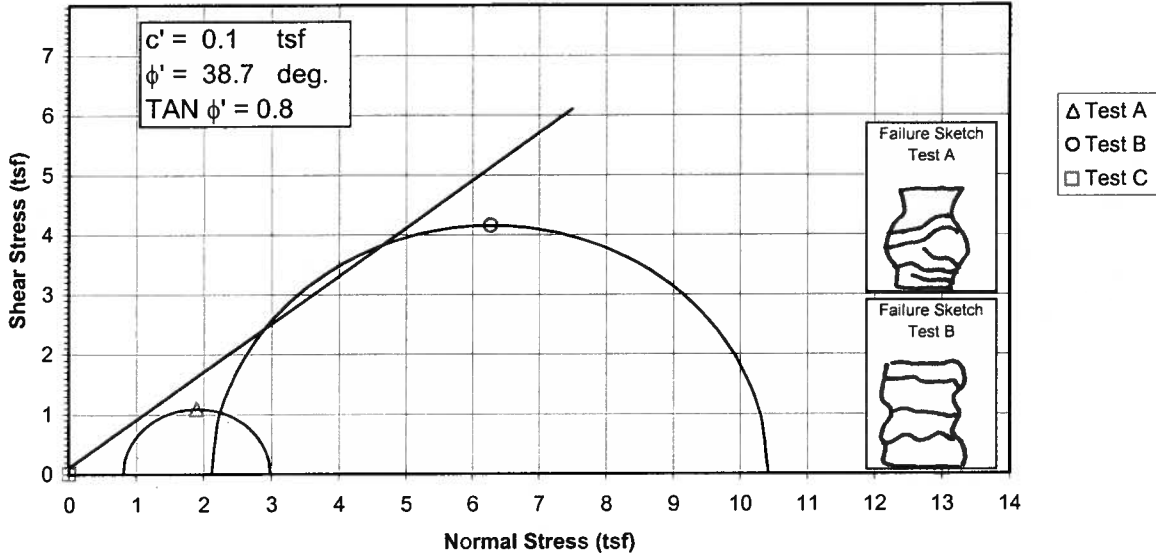


Specimen No.		A	B	C
Initial Data	Water content %	W_o 39.7	25.3	48.6
	Dry Density PCF	γ_{d_o} 82.5	85.7	69.1
	Saturation %	S_o 119.8	83.7	101.9
	Void Ratio	e_o 0.779	0.711	1.122
After Shear	Water content %	W_f 27.6	30.0	33.9
	Dry Density PCF	γ_{d_f} 89.0	86.1	81.6
	Saturation %	S_f 100.0	100.0	100.0
	Void Ratio	e_f 0.648	0.704	0.798
Final Back Pressure TSF		u_c 5.04	4.32	3.60
Minor Principal Stress TSF @ failure		σ_3^f 2.26	0.84	1.08
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1 - \sigma_3)_{max}$ 6.77	1.92	2.67
Time to $(\sigma_1 - \sigma_3)_{max}$ min.		t_f 10.5	191.5	77.4
Ultimate Deviator Stress, t/sq ft		$(\sigma_1 - \sigma_3)_{ult}$ n/a	n/a	n/a
Initial Diameter, in.		D_o 2.875	2.856	2.913
Initial Height, in.		H_o 5.904	5.951	5.662

Controlled - Strain Test		Initial Height, in.		H_o	5.904	5.951	5.662	
Description of Specimens Silt (ML), black, wet, soft, fly ash								
				Type of Specimen	Undisturbed	Type of test		
						R		
LL	PL	PI	Gs	2.35	Project			Widows Creek Fossil Plant (TVA)
Remarks:								
				Boring No.	STN-95	Sample No.	1146	
				Depth Elev.	30.5'-31.0', 31.2'-31.7', 35.6'-36.1'			
				Laboratory	Stantec	Date	8-18-09	
TRIAxIAL COMPRESSION TEST REPORT								

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope

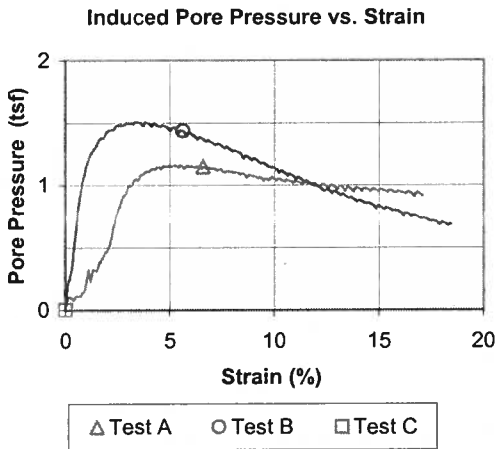
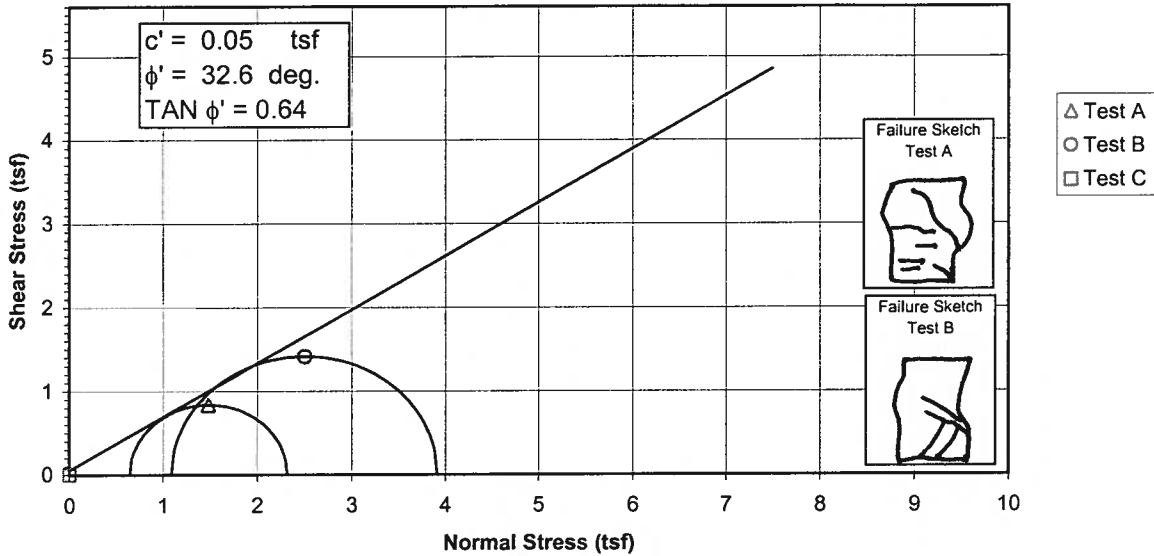


Specimen No.		A	B	C
Initial Data	Water content %	W_o 24.0	36.5	#####
	Dry Density PCF	γ_{d_o} 99.7	82.0	#####
	Saturation %	S_o 97.1	95.4	#####
	Void Ratio	e_o 0.654	1.009	#####
After Shear	Water content %	W_f 21.3	28.5	#####
	Dry Density PCF	γ_{d_f} 105.5	94.0	#####
	Saturation %	S_f 100.0	100.0	#####
	Void Ratio	e_f 0.563	0.753	#####
Final Back Pressure TSF		u_c 4.68	3.60	0.00
Minor Principal Stress TSF @ failure		σ_3^f 0.81	2.12	0.00
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$ 2.17	8.30	0.00
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f 186.6	22.5	0.0
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$ n/a	n/a	0.00
Initial Diameter, in.		D_o 2.885	2.869	#####
Initial Height, in.		H_o 5.946	5.800	#####

Controlled - Strain Test			
Description of Specimens Silt (ML), black, wet, soft, fly ash			
		Type of Specimen Undisturbed	Type of test R
LL	PL	PI	Gs 2.64
Project		Widows Creek Fossil Plant (TVA)	
Remarks:			
Boring No.		STN-96	Sample No. 1150
Depth Elev.		25.6'-26.1', 26.8'-27.3'	
Laboratory		Stantec	Date 8-18-09
TRIAxIAL COMPRESSION TEST REPORT			

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope

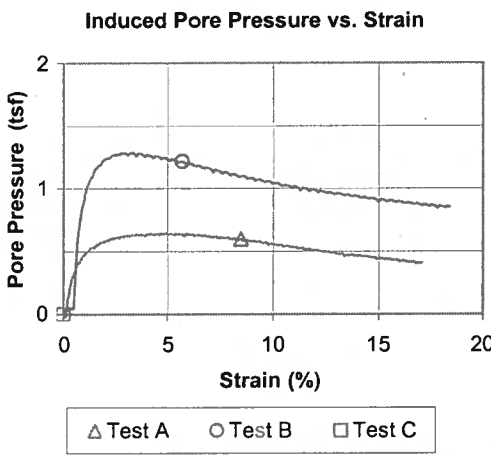
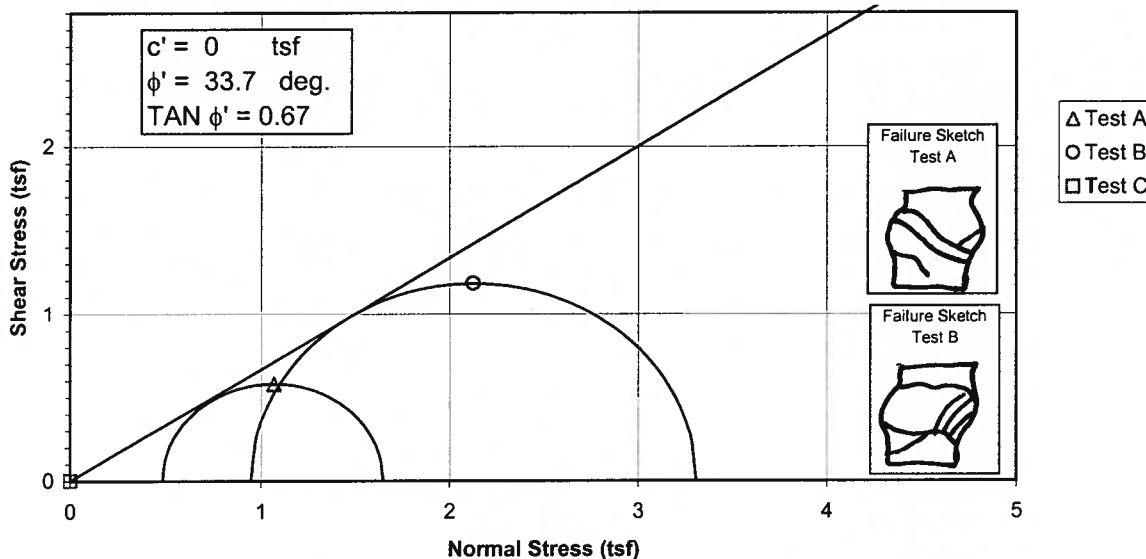


Specimen No.		A	B	C
Initial Data	Water content %	W _o 30.1	24.0	#####
	Dry Density PCF	γ _d 91.6	102.3	#####
	Saturation %	S _o 94.6	97.2	#####
	Void Ratio	e _o 0.874	0.678	#####
After Shear	Water content %	W _f 28.6	23.6	#####
	Dry Density PCF	γ _d 96.0	104.1	#####
	Saturation %	S _f 100.0	100.0	#####
	Void Ratio	e _f 0.788	0.649	#####
Final Back Pressure TSF		u _c 4.68	3.96	0.00
Minor Principal Stress TSF @ failure		σ ₃ ' _f 0.65	1.09	0.00
Maximum Deviator Stress (tsf) @ failure		(σ ₁ '-σ ₃ ') _{max} 1.66	2.83	0.00
Time to (σ ₁ '-σ ₃ ') _{max} min.		t _f 250.9	217.3	0.0
Ultimate Deviator Stress, t/sq ft		(σ ₁ '-σ ₃ ') _{ult} n/a	n/a	0.00
Initial Diameter, in.		D _o 2.885	2.886	#####
Initial Height, in.		H _o 6.036	6.017	#####

Controlled - Strain Test			
Description of Specimens Fat Clay (CH), red brown, moist, firm			
		Type of Specimen Undisturbed	Type of test R
LL	PL	PI	Gs 2.75
Project		Widows Creek Fossil Plant (TVA)	
Remarks:			
Boring No.		STN-97	Sample No. 1154
Depth Elev.		29.0'-29.5', 29.6'-31.1'	
Laboratory		Stantec	Date 8-18-09
TRIAxIAL COMPRESSION TEST REPORT			

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope

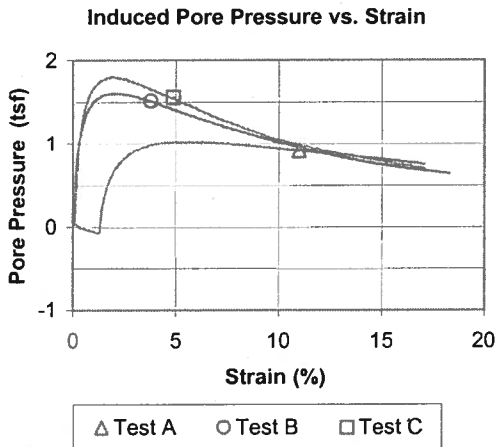
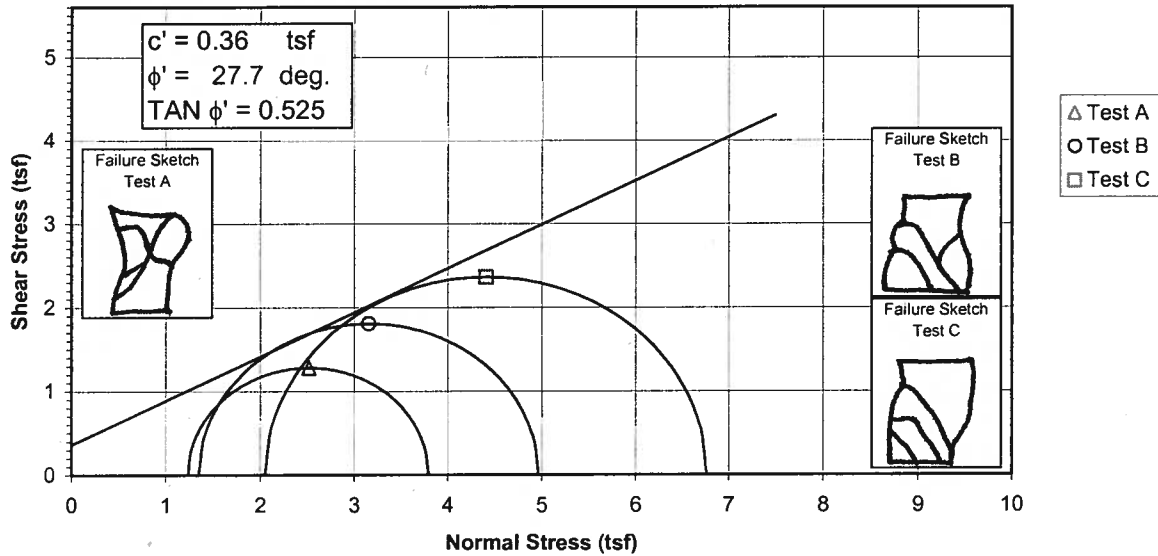


Specimen No.		A	B	C
Initial Data	Water content %	W _o 33.6	25.8	#####
	Dry Density PCF	γ _d 88.1	98.6	#####
	Saturation %	S _o 100.0	99.2	#####
	Void Ratio	e _o 0.900	0.696	#####
After Shear	Water content %	W _f 28.9	23.0	#####
	Dry Density PCF	γ _d 94.3	103.5	#####
	Saturation %	S _f 100.0	100.0	#####
	Void Ratio	e _f 0.774	0.617	#####
Final Back Pressure TSF		u _c 5.40	4.32	0.00
Minor Principal Stress TSF @ failure		σ ₃ ' _f 0.49	0.95	0.00
Maximum Deviator Stress (tsf) @ failure		(σ ₁ '-σ ₃ ') _{max} 1.16	2.36	0.00
Time to (σ ₁ '-σ ₃ ') _{max} min.		t _f 437.3	127.9	0.0
Ultimate Deviator Stress, t/sq ft		(σ ₁ '-σ ₃ ') _{ult} n/a	n/a	0.00
Initial Diameter, in.		D _o 2.885	2.868	#####
Initial Height, in.		H _o 6.018	6.040	#####

Controlled - Strain Test		Initial Height, in.		H _o	6.018	6.040	#####	
Description of Specimens Lean Clay (CL), brown, moist, firm								
				Type of Specimen	Undisturbed	Type of test R		
LL	PL	PI	Gs	2.68	Project			Widows Creek Fossil Plant (TVA)
Remarks:								
				Boring No.	STN-98	Sample No.	589	
				Depth Elev.	18.0'-18.5', 18.6'-19.1'			
				Laboratory	Stantec	Date	8-16-09	
TRIAXIAL COMPRESSION TEST REPORT								

Failure Criterion: Maximum Effective Principal Stress Ratio

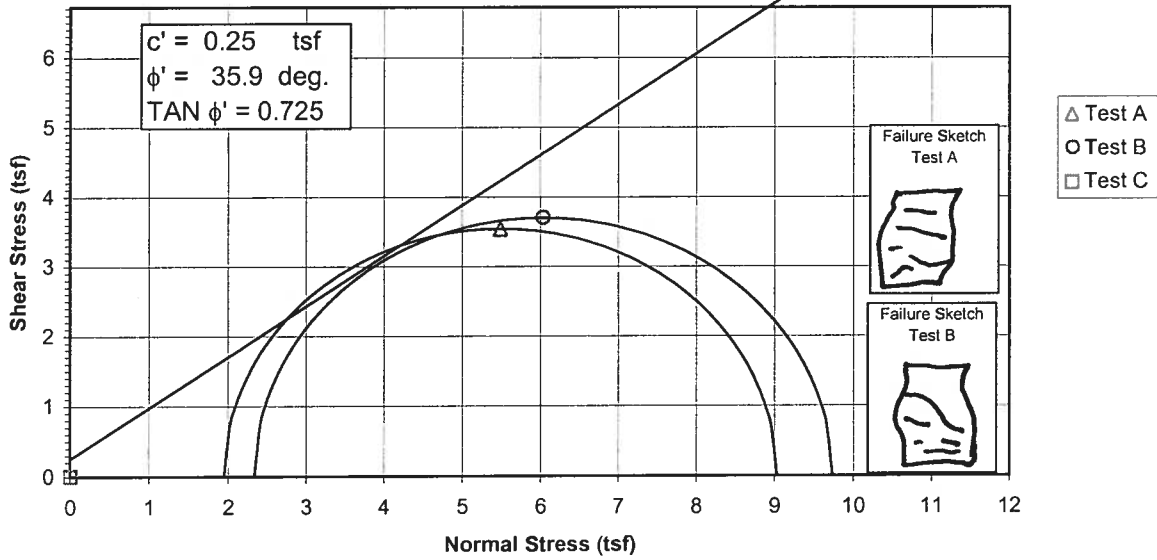
Effective Strength Envelope



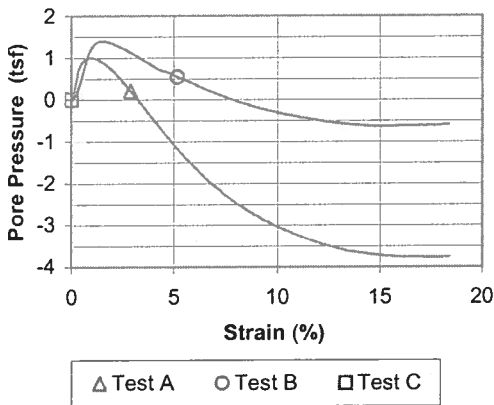
Specimen No.		A	B	C
Initial Data	Water content %	W_o 15.6	23.0	23.1
	Dry Density PCF	γ_{d_o} 101.1	103.3	103.0
	Saturation %	S_o 63.6	98.8	98.6
	Void Ratio	e_o 0.661	0.625	0.631
After Shear	Water content %	W_f 11.0	22.2	22.0
	Dry Density PCF	γ_{d_f} 129.6	105.1	105.5
	Saturation %	S_f 100.0	100.0	100.0
	Void Ratio	e_f 0.296	0.598	0.592
	Final Back Pressure TSF	u_c 4.32	3.60	2.88
Minor Principal Stress TSF @ failure		σ_3^f 1.24	1.35	2.05
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1 - \sigma_3)_{max}$ 2.56	3.59	4.72
Time to $(\sigma_1 - \sigma_3)_{max}$ min.		t_f 557.2	156.7	281.2
Ultimate Deviator Stress, t/sq ft		$(\sigma_1 - \sigma_3)_{ult}$ n/a	n/a	n/a
Initial Diameter, in.		D_o 2.887	2.883	2.876
Initial Height, in.		H_o 5.867	6.027	5.978
Controlled - Strain Test				
Description of Specimens Lean Clay (CL), brown, moist, hard				
		Type of Specimen Undisturbed	Type of test R	
LL	PL	PI	Gs	2.69
Project		Widows Creek Fossil Plant (TVA)		
Remarks:				
Boring No.		STN-99	Sample No. 1158	
Depth Elev.		40.1'-40.6', 40.7'-41.2', 41.2'-41.7'		
Laboratory		Stantec	Date 8-19-09	
TRIAxIAL COMPRESSION TEST REPORT				

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain

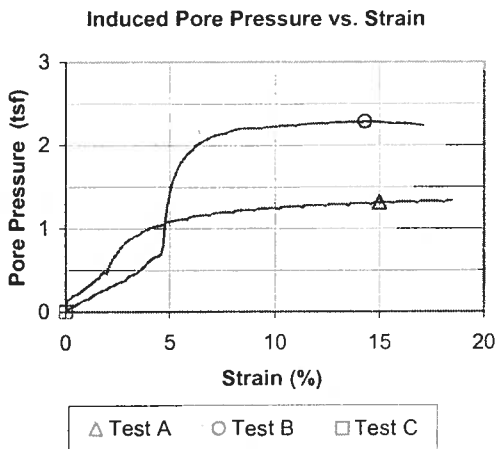
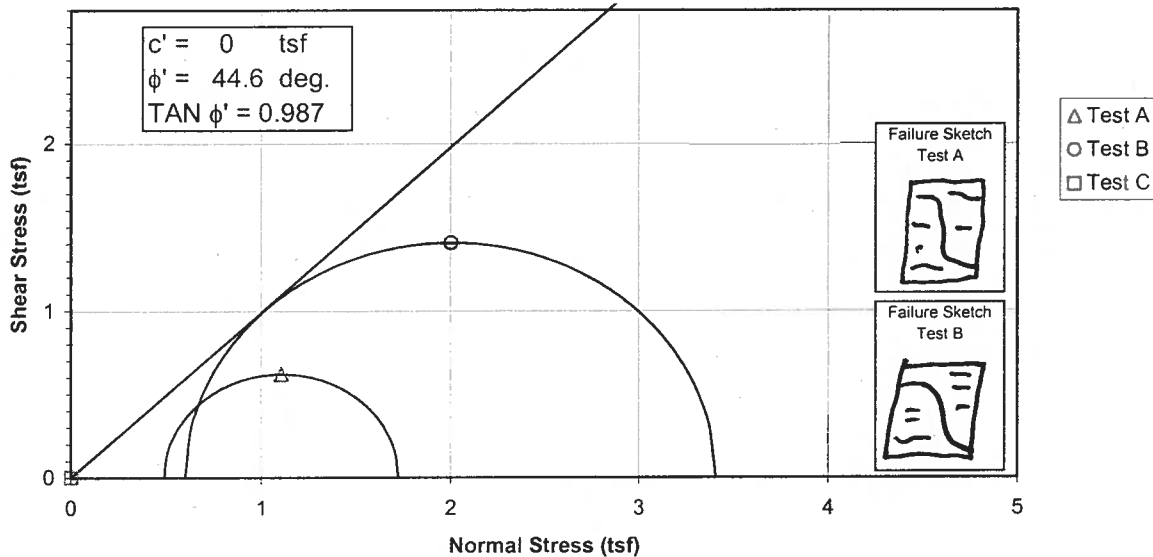


Specimen No.		A	B	C
Initial Data	Water content %	W_o 22.5	19.5	#####
	Dry Density PCF	γ_{d_o} 102.4	108.1	#####
	Saturation %	S_o 104.8	106.8	#####
	Void Ratio	e_o 0.542	0.461	#####
After Shear	Water content %	W_f 20.9	17.7	#####
	Dry Density PCF	γ_{d_f} 103.3	109.1	#####
	Saturation %	S_f 100.0	100.0	#####
	Void Ratio	e_f 0.528	0.447	#####
Final Back Pressure TSF		u_c 4.32	3.60	0.00
Minor Principal Stress TSF @ failure		σ_3^f 1.95	2.34	0.00
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$ 7.08	7.39	0.00
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f 3.6	5.5	0.0
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$ n/a	n/a	0.00
Initial Diameter, in.		D_o 2.868	2.828	#####
Initial Height, in.		H_o 6.023	5.984	#####

Controlled - Strain Test		Initial Height, in.		H_o	6.023	5.984	#####
Description of Specimens Gravelly Silt (ML), (bottom ash), gray, moist, firm							
				Type of Specimen	Undisturbed	Type of test	R
LL	PL	PI	Gs	2.53	Project Widows Creek Fossil Plant (TVA)		
Remarks:							
				Boring No.	STN-100	Sample No.	558
				Depth Elev.	30.6'-31.1', 30.0'-30.5'		
				Laboratory	Stantec	Date	7-24-09
TRIAXIAL COMPRESSION TEST REPORT							

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope

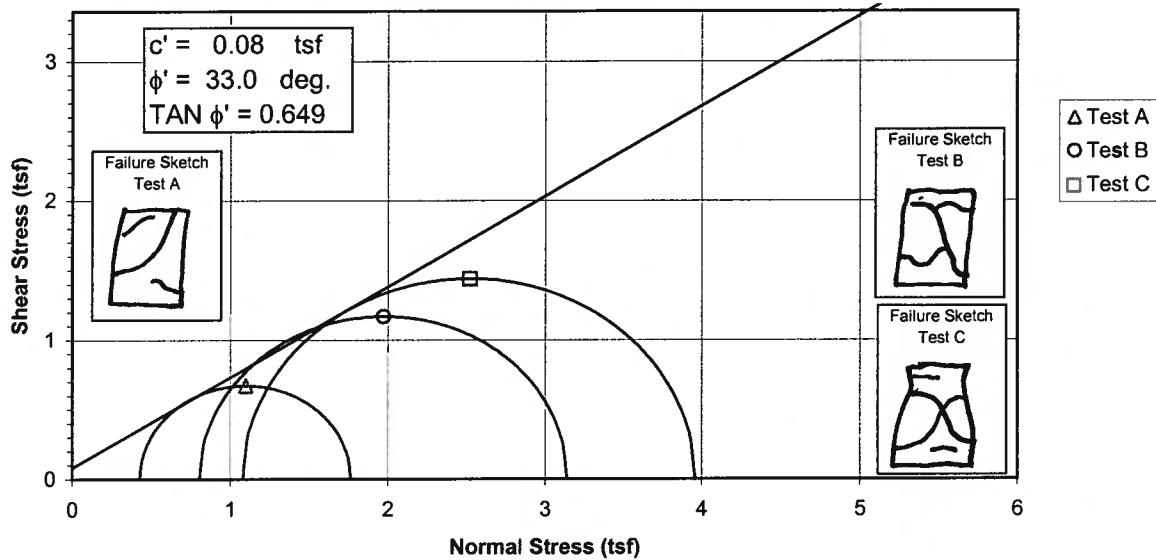


Specimen No.		A	B	C
Initial Data	Water content %	W_o 123.2	103.5	#####
	Dry Density PCF	γ_{d_o} 37.6	38.8	#####
	Saturation %	S_o 96.9	84.9	#####
	Void Ratio	e_o 3.256	3.118	#####
After Shear	Water content %	W_f 83.0	56.5	#####
	Dry Density PCF	γ_{d_f} 51.1	65.4	#####
	Saturation %	S_f 100.0	100.0	#####
	Void Ratio	e_f 2.126	1.445	#####
Final Back Pressure TSF		u_c 4.68	3.60	0.00
Minor Principal Stress TSF @ failure		$\sigma_3'f$ 0.49	0.60	0.00
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$ 1.24	2.81	0.00
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f 118.2	79.7	0.0
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$ n/a	2.79	0.00
Initial Diameter, in.		D_o 2.826	2.909	#####
Initial Height, in.		H_o 5.980	6.236	#####

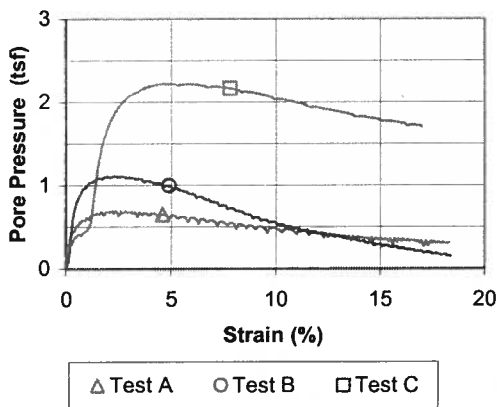
Controlled - Strain Test		Initial Height, in.		H_o	5.980	6.236	#####	
Description of Specimens Silt (ML), gray, moist, firm, fly ash								
				Type of Specimen	Undisturbed	Type of test R		
LL	PL	PI	Gs	2.56	Project			Widows Creek Fossil Plant (TVA)
Remarks: Specimens dried at 40° C.								
				Boring No.	STN-100	Sample No.	559	
				Depth Elev.				34.1'-34.6', 44.6'-45.1'
				Laboratory	Stantec	Date	7-30-09	
TRIAXIAL COMPRESSION TEST REPORT								

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain

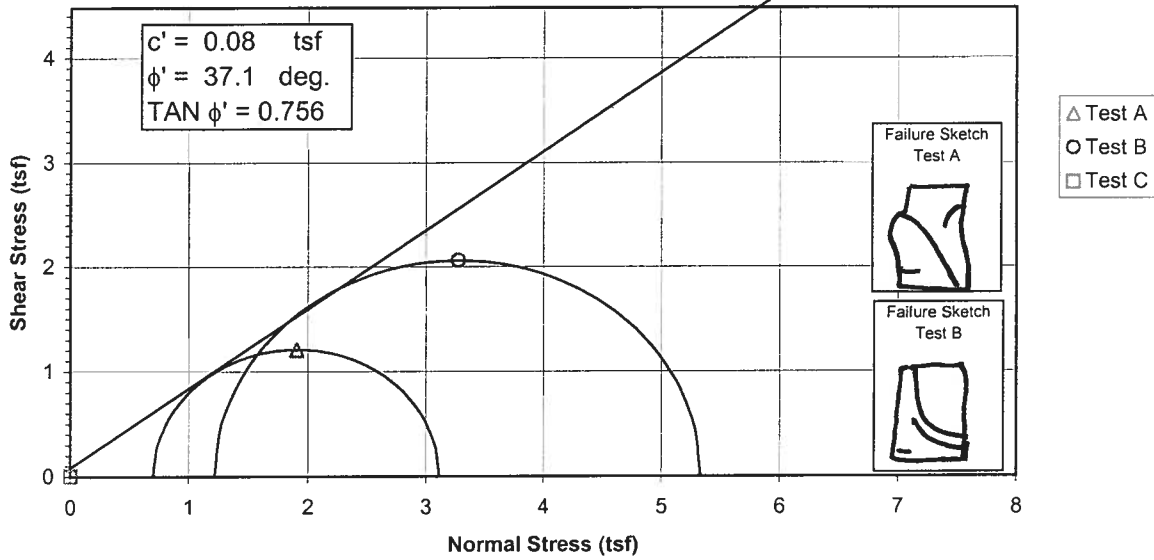


Specimen No.			A	B	C
Initial Data	Water content %	W_o	31.5	22.4	26.1
	Dry Density PCF	γ_{d_o}	89.4	104.8	97.9
	Saturation %	S_o	95.1	97.9	96.2
	Void Ratio	e_o	0.905	0.626	0.741
After Shear	Water content %	W_f	30.6	22.1	24.3
	Dry Density PCF	γ_{d_f}	92.8	106.3	102.5
	Saturation %	S_f	100.0	100.0	100.0
	Void Ratio	e_f	0.836	0.604	0.662
Final Back Pressure TSF		u_c	5.40	4.68	3.24
Minor Principal Stress TSF @ failure		σ_3^f	0.43	0.81	1.08
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$	1.34	2.33	2.88
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f	153.8	323.2	629.8
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$	n/a	n/a	n/a
Initial Diameter, in.		D_o	2.877	2.883	2.867
Initial Height, in.		H_o	6.018	6.053	6.031

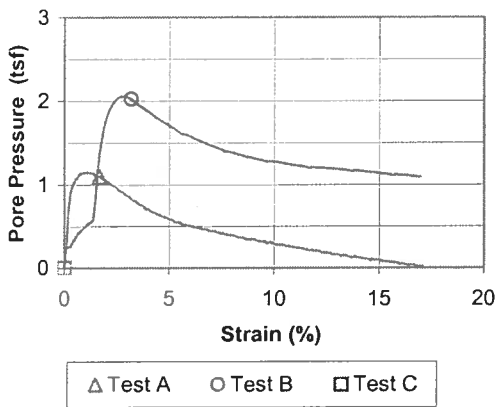
Controlled - Strain Test		Initial Height, in.		H_o	6.018	6.053	6.031
Description of Specimens Fat Clay (CH), red brown, moist, firm							
				Type of Specimen	Undisturbed	Type of test R	
LL	PL	PI	Gs	2.73	Project Widows Creek Fossil Plant (TVA)		
Remarks:							
				Boring No.	STN-101	Sample No.	562
				Depth Elev.	19.5'-20.0', 29.0'-29.5', 40.0'-40.5'		
				Laboratory	Stantec	Date	7-31-09
TRIAXIAL COMPRESSION TEST REPORT							

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain



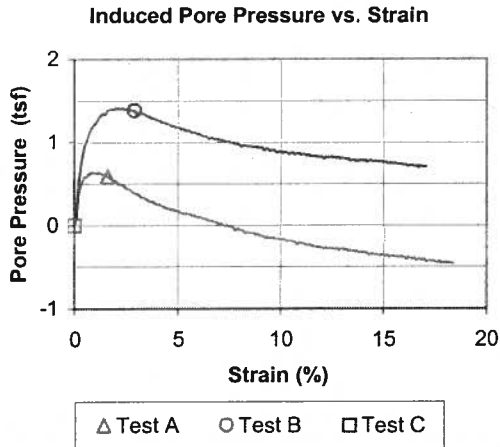
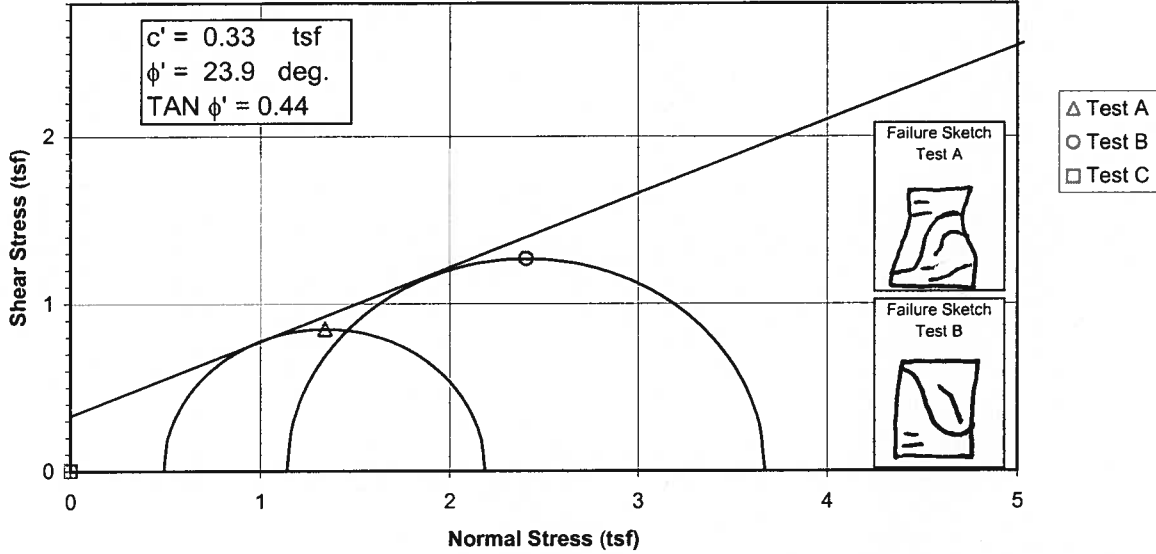
Specimen No.			A	B	C
Initial Data	Water content %	W_o	23.8	24.8	#####
	Dry Density PCF	γ_{d_o}	102.2	100.0	#####
	Saturation %	S_o	96.9	95.7	#####
	Void Ratio	e_o	0.674	0.711	#####
After Shear	Water content %	W_f	24.3	24.9	#####
	Dry Density PCF	γ_{d_f}	102.7	101.7	#####
	Saturation %	S_f	100.0	100.0	#####
	Void Ratio	e_f	0.666	0.681	#####
	Final Back Pressure TSF	u_c	4.68	3.24	0.00
Minor Principal Stress TSF @ failure		$\sigma_3'f$	0.70	1.22	0.00
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$	2.41	4.12	0.00
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f	44.7	21.5	0.0
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$	n/a	n/a	0.00
Initial Diameter, in.		D_o	2.880	2.889	#####
Initial Height, in.		H_o	6.024	6.017	#####

Controlled - Strain Test					
Description of Specimens Fat Clay (CH), brown, moist, firm					
			Type of Specimen	Undisturbed	Type of test
LL	PL	PI	Gs	2.74	Project
Remarks:			Widows Creek Fossil Plant (TVA)		
			Boring No.	STN-102	Sample No.
			Depth Elev. 29.0'-29.5', 40.0'-40.5'		
			Laboratory	Stantec	Date
			7-27-09		
TRIAXIAL COMPRESSION TEST REPORT					

KDG

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope

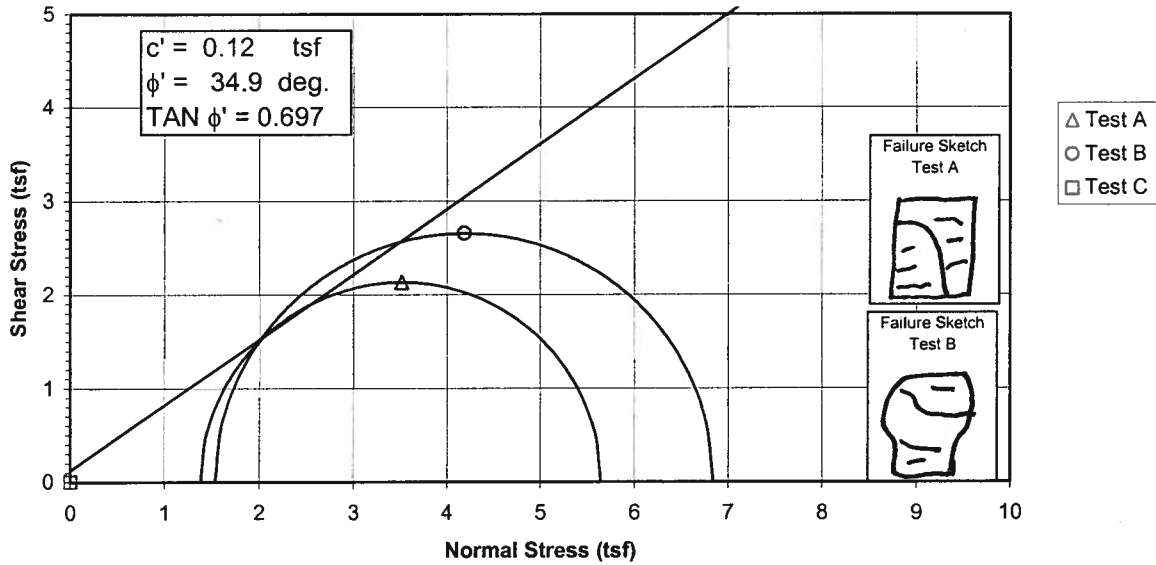


Specimen No.			A	B	C
Initial Data	Water content %	W_o	20.5	23.3	#####
	Dry Density PCF	γ_{d_o}	107.4	101.8	#####
	Saturation %	S_o	96.3	95.5	#####
	Void Ratio	e_o	0.576	0.662	#####
After Shear	Water content %	W_f	20.6	22.6	#####
	Dry Density PCF	γ_{d_f}	108.6	104.9	#####
	Saturation %	S_f	100.0	100.0	#####
	Void Ratio	e_f	0.557	0.613	#####
Final Back Pressure TSF		u_c	5.40	3.96	0.00
Minor Principal Stress TSF @ failure		$\sigma_3'f$	0.49	1.14	0.00
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1' - \sigma_3')_{max}$	1.70	2.53	0.00
Time to $(\sigma_1' - \sigma_3')_{max}$ min.		t_f	93.3	112.7	0.0
Ultimate Deviator Stress, t/sq ft		$(\sigma_1' - \sigma_3')_{ult}$	n/a	n/a	0.00
Initial Diameter, in.		D_o	2.881	2.872	#####
Initial Height, in.		H_o	6.041	6.031	#####

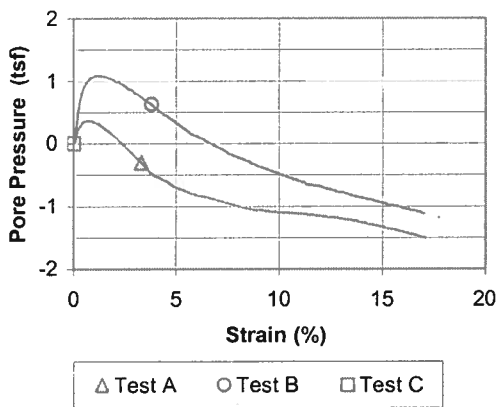
Controlled - Strain Test		Initial Height, in.		H_o	6.041	6.031	#####
Description of Specimens Lean Clay with Gravel (CL), brown, moist, firm							
				Type of Specimen	Undisturbed	Type of test R	
LL	PL	PI	Gs	2.71	Project Widows Creek Fossil Plant (TVA)		
Remarks:							
				Boring No.	STN-103	Sample No.	568
				Depth Elev.	19.5'-20.0', 29.0'-29.5'		
				Laboratory	Stantec	Date	8-7-09
TRIAXIAL COMPRESSION TEST REPORT							

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain

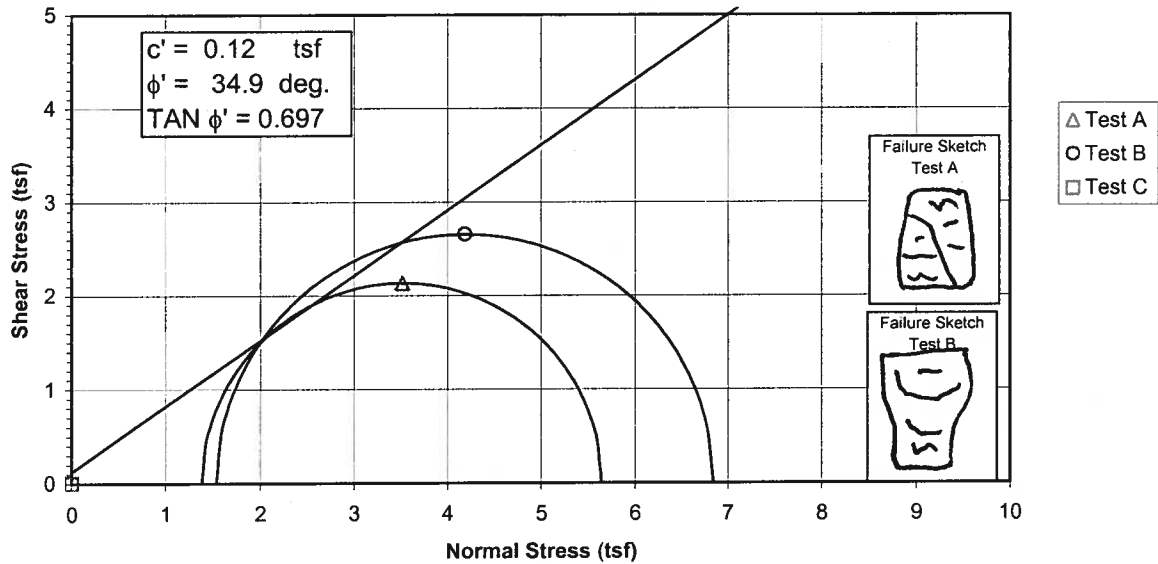


Specimen No.			A	B	C
Initial Data	Water content %	W_o	39.0	28.7	#####
	Dry Density PCF	γ_{d_o}	75.1	88.5	#####
	Saturation %	S_o	98.8	106.9	#####
	Void Ratio	e_o	0.904	0.616	#####
After Shear	Water content %	W_f	35.4	26.3	#####
	Dry Density PCF	γ_{d_f}	79.0	89.2	#####
	Saturation %	S_f	100.0	100.0	#####
	Void Ratio	e_f	0.810	0.603	#####
Final Back Pressure TSF		u_c	5.40	4.32	0.00
Minor Principal Stress TSF @ failure		σ_3^f	1.39	1.54	0.00
Maximum Deviator Stress (tsf) @ failure		$(\sigma_1 - \sigma_3)_{max}$	4.26	5.30	0.00
Time to $(\sigma_1 - \sigma_3)_{max}$ min.		t_f	5.0	6.0	0.0
Ultimate Deviator Stress, t/sq ft		$(\sigma_1 - \sigma_3)_{ult}$	n/a	n/a	0.00
Initial Diameter, in.		D_o	2.806	2.829	#####
Initial Height, in.		H_o	5.945	5.947	#####

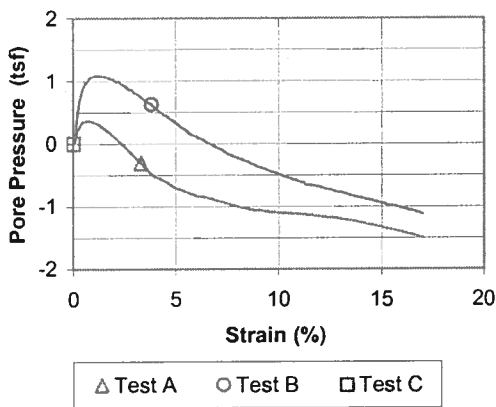
Controlled - Strain Test			
Description of Specimens Silt (ML), gray, moist, firm, fly ash			
		Type of Specimen Undisturbed	Type of test R
LL	PL	PI	Gs 2.29
Project Widows Creek Fossil Plant (TVA)			
Remarks:			
Boring No. STN-106		Sample No. 574	
Depth Elev. 24.0'-24.5', 24.6'-25.1'			
Laboratory Stantec		Date 8-7-09	
TRIAxIAL COMPRESSION TEST REPORT			

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain



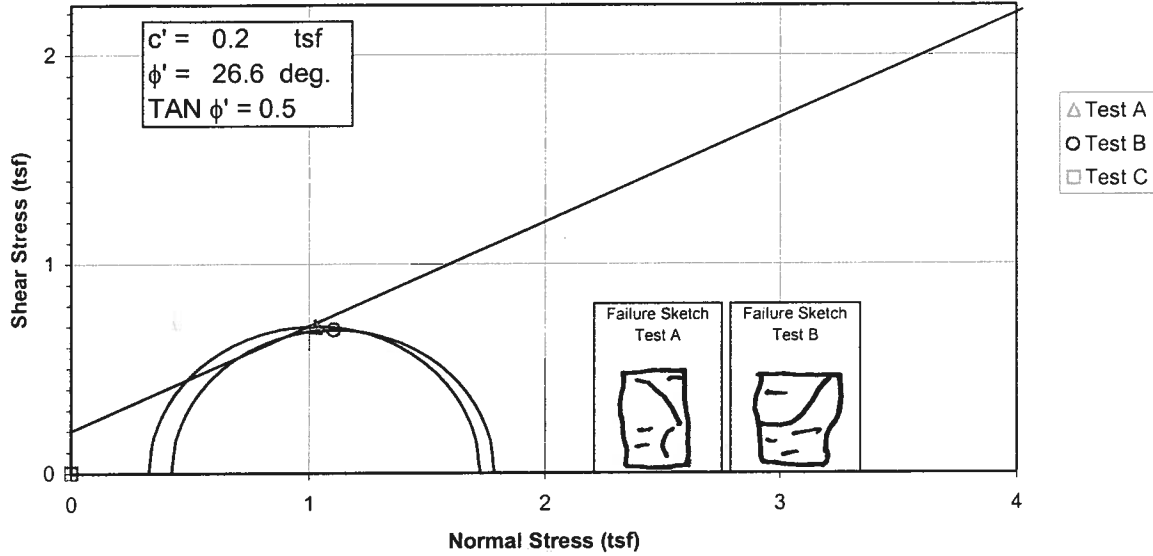
Specimen No.		A	B	C	
Initial Data	Water content %	W_o	39.0	28.7	#####
	Dry Density PCF	γ_{d_o}	75.1	88.5	#####
	Saturation %	S_o	98.8	106.9	#####
	Void Ratio	e_o	0.904	0.616	#####
After Shear	Water content %	W_f	35.4	26.3	#####
	Dry Density PCF	γ_{d_f}	79.0	89.2	#####
	Saturation %	S_f	100.0	100.0	#####
	Void Ratio	e_f	0.810	0.603	#####
	Final Back Pressure TSF	u_c	5.40	4.32	0.00
	Minor Principal Stress TSF @ failure	$\sigma_3'f$	1.39	1.54	0.00
	Maximum Deviator Stress (tsf) @ failure	$(\sigma_1' - \sigma_3')_{max}$	4.26	5.30	0.00
	Time to $(\sigma_1' - \sigma_3')_{max}$ min.	t_f	5.0	6.0	0.0
	Ultimate Deviator Stress, t/sq ft	$(\sigma_1' - \sigma_3')_{ult}$	n/a	n/a	0.00
	Initial Diameter, in.	D_o	2.806	2.829	#####
Controlled - Strain Test	Initial Height, in.	H_o	5.945	5.947	#####

Description of Specimens Silt (ML), gray, moist, firm, fly ash

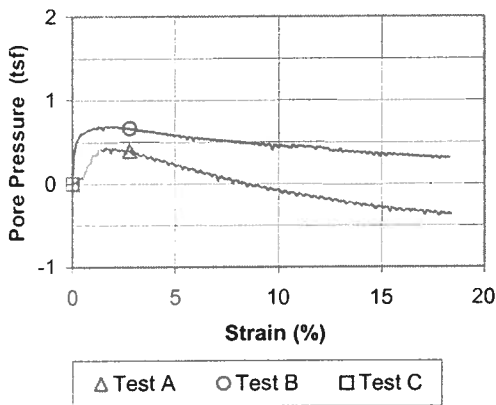
				Type of Specimen	Undisturbed	Type of test	R	
LL	PL	PI	Gs	2.29	Project			Widows Creek Fossil Plant (TVA)
Remarks:								
				Boring No.	STN-106	Sample No.	574	
				Depth Elev.	24.0'-24.5', 24.6'-25.1'			
				Laboratory	Stantec	Date	8-7-09	
TRIAxIAL COMPRESSION TEST REPORT								

Failure Criterion: Maximum Effective Principal Stress Ratio

Effective Strength Envelope



Induced Pore Pressure vs. Strain



Specimen No.		A	B	C
Initial Data	Water content %	W _o 24.9	24.8	#####
	Dry Density PCF	y _d 99.4	97.8	#####
	Saturation %	S _o 97.1	93.0	#####
	Void Ratio	e _o 0.690	0.717	#####
After Shear	Water content %	W _f 25.7	25.3	#####
	Dry Density PCF	y _d 99.3	99.9	#####
	Saturation %	S _f 100.0	100.0	#####
	Void Ratio	e _f 0.691	0.680	#####
Final Back Pressure TSF		u _c 5.76	5.40	0.00
Minor Principal Stress TSF @ failure		σ ₃ ' _f 0.33	0.42	0.00
Maximum Deviator Stress (tsf) @ failure		(σ ₁ '-σ ₃ ') _{max} 1.40	1.37	0.00
Time to (σ ₁ '-σ ₃ ') _{max} min.		t _f 70.3	86.8	0.0
Ultimate Deviator Stress, t/sq ft		(σ ₁ '-σ ₃ ') _{ult} n/a	n/a	0.00
Initial Diameter, in.		D _o 2.889	2.884	#####
Initial Height, in.		H _o 6.039	6.100	#####

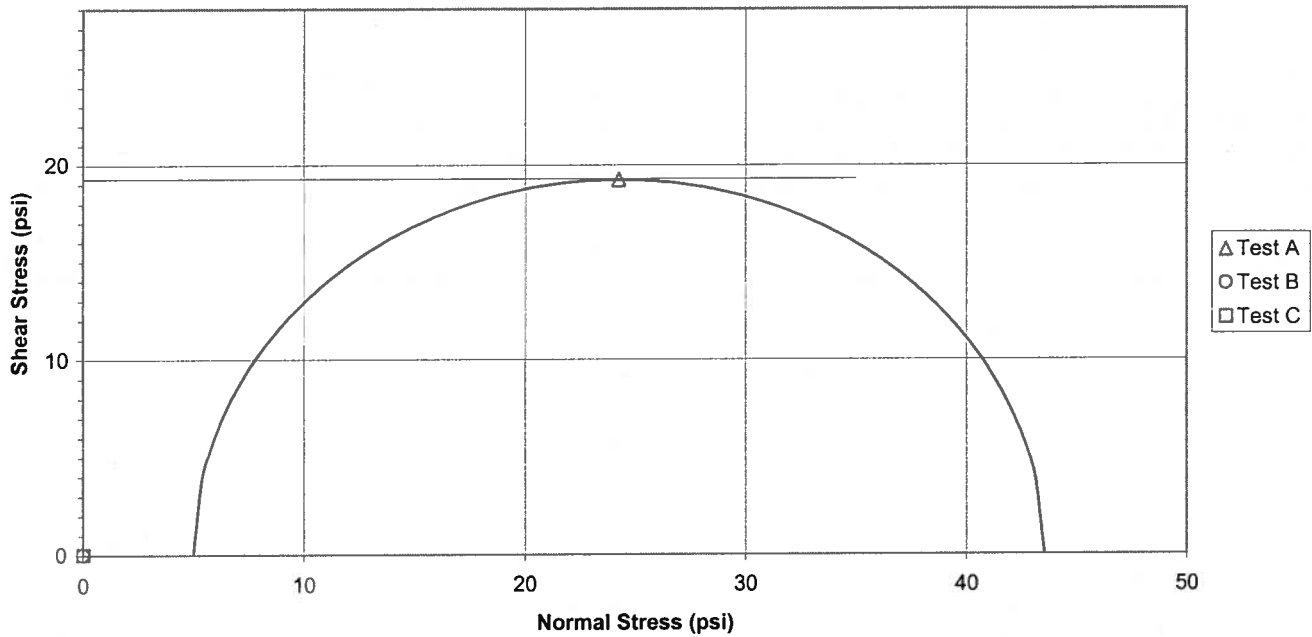
Controlled - Strain Test			
Description of Specimens Lean Clay (CL), brown, moist, firm			
		Type of Specimen Undisturbed	Type of test R
LL	PL	PI	Gs 2.69
Project		Widows Creek Fossil Plant -- TVA	
Remarks:			
Boring No.		SB-108	Sample No. 1
Depth Elev. 10.5'-11.0', 15.5'-16.0'			
Laboratory		Stantec	Date 7-8-09
TRIAXIAL COMPRESSION TEST REPORT			

Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-V-2, 5.6'-6.1'

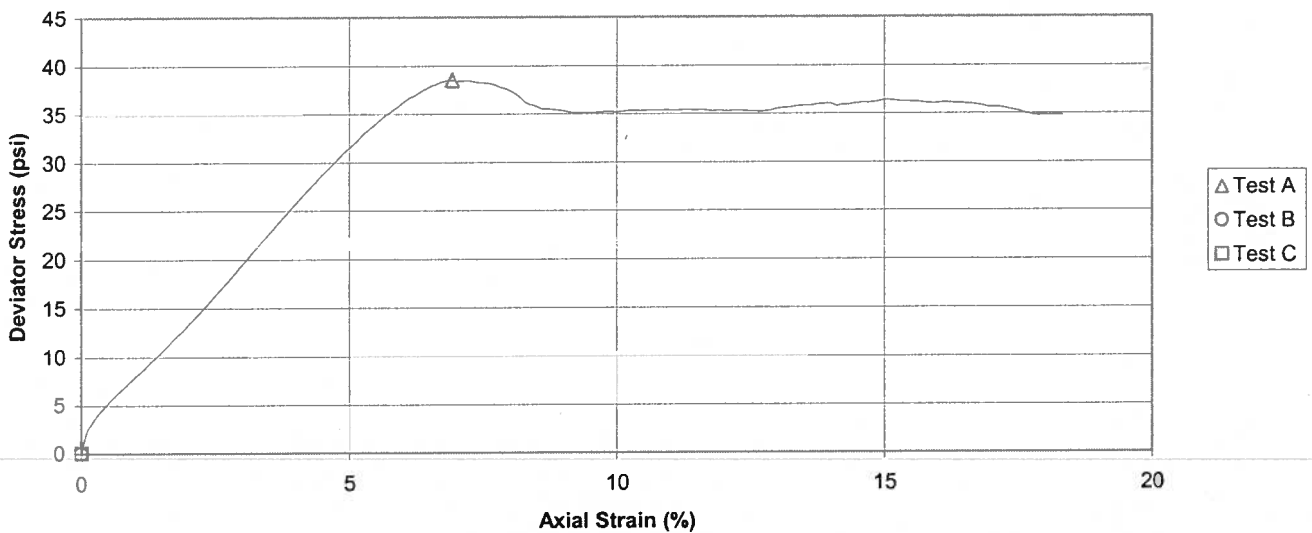
Project No. 175569036
 Test Number 1305B
 c = 19.3 psi

$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

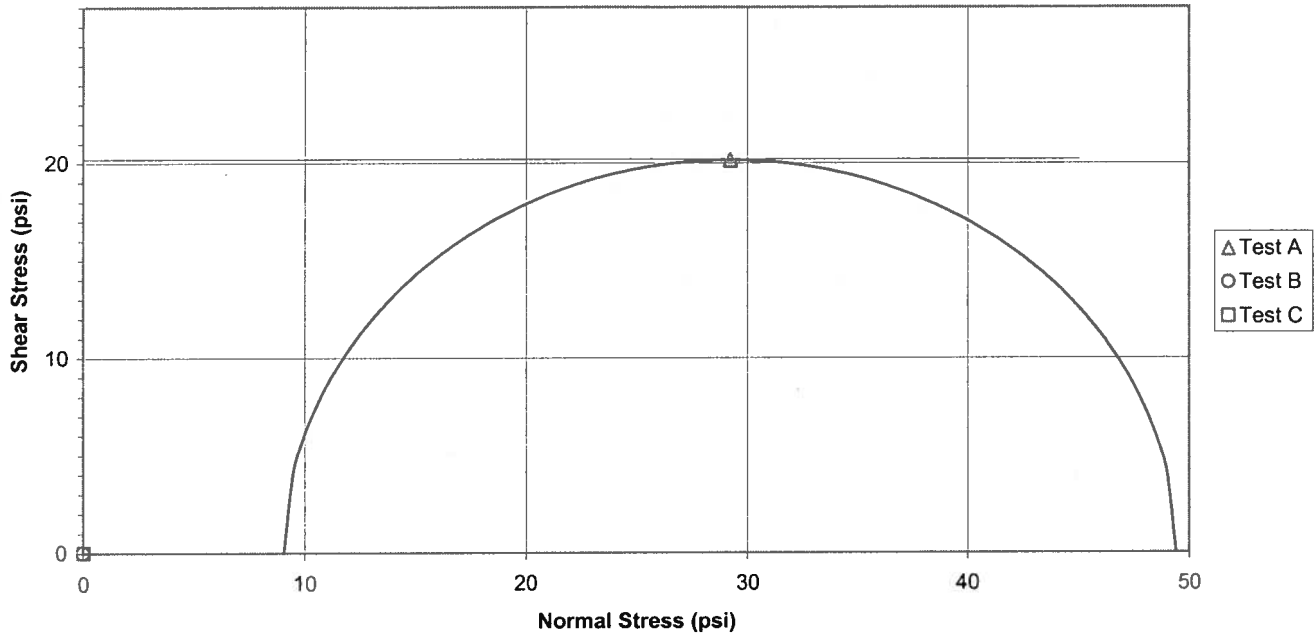


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-V-2, 15.0'-15.5'

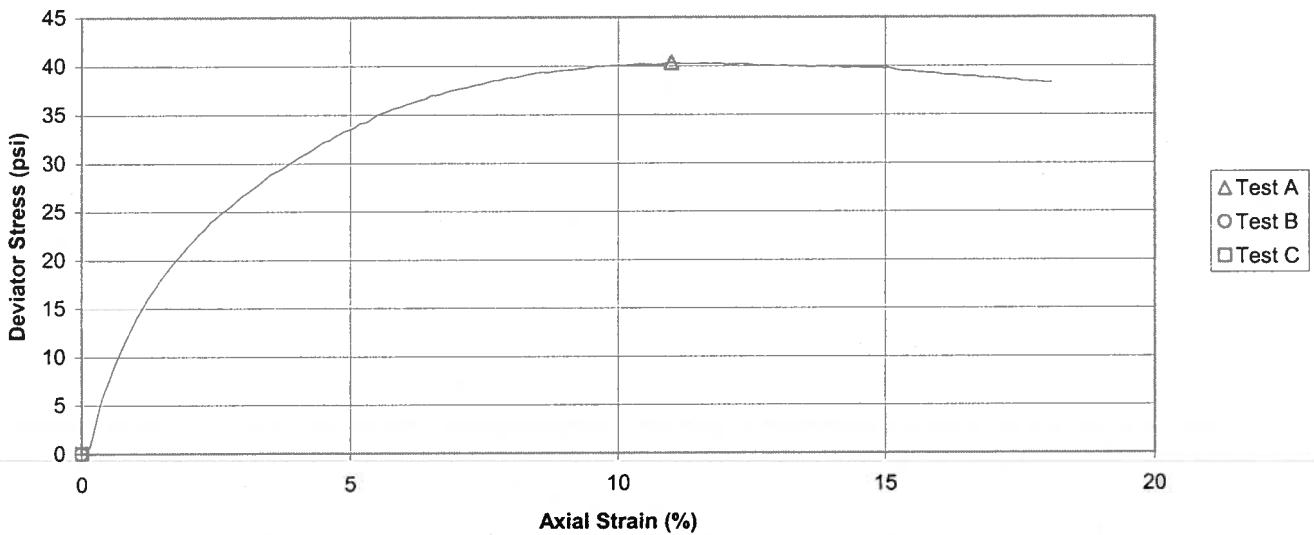
Project No. 175569036
 Test Number 1306A
 $c = 20.2$ psi

$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

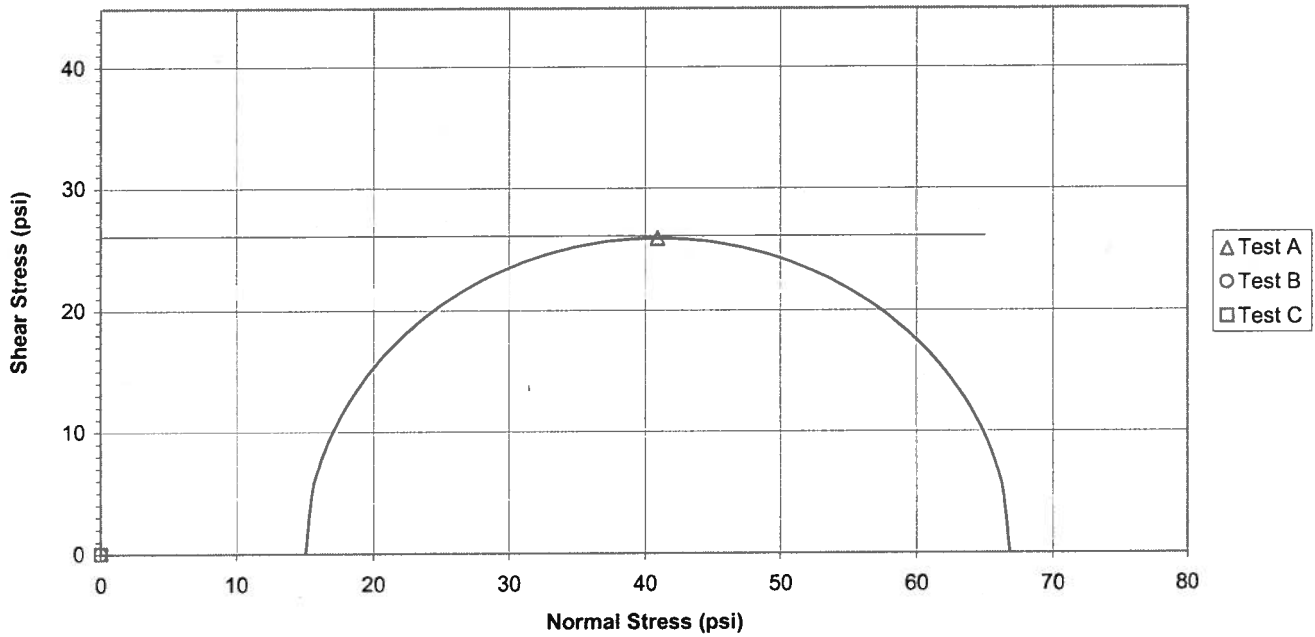


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-V-2, 25.0'-25.5'

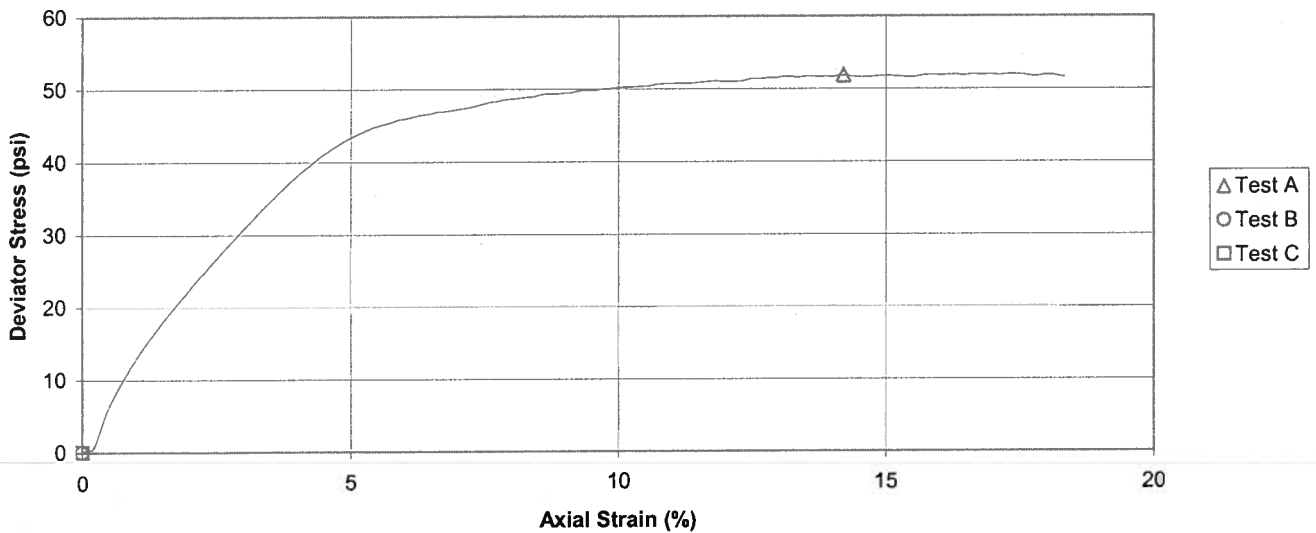
Project No. 175569036
 Test Number 1307A
 $c = 26.1$ psi

$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

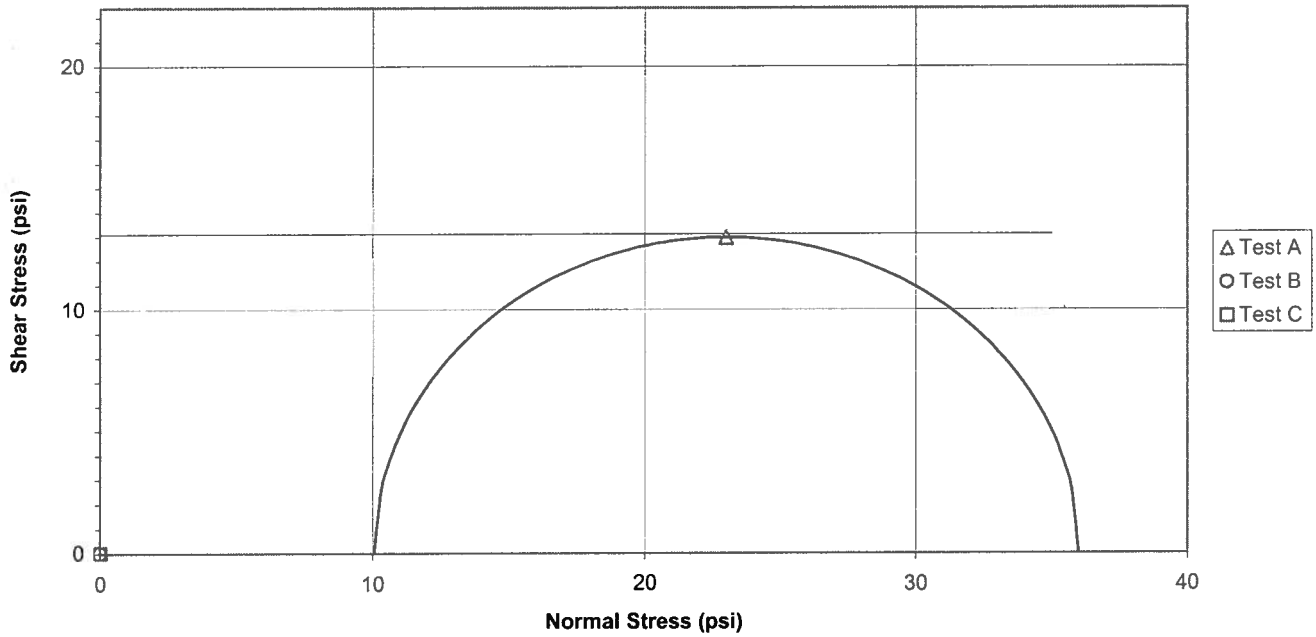


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-V-3, 15.6'-16.1'

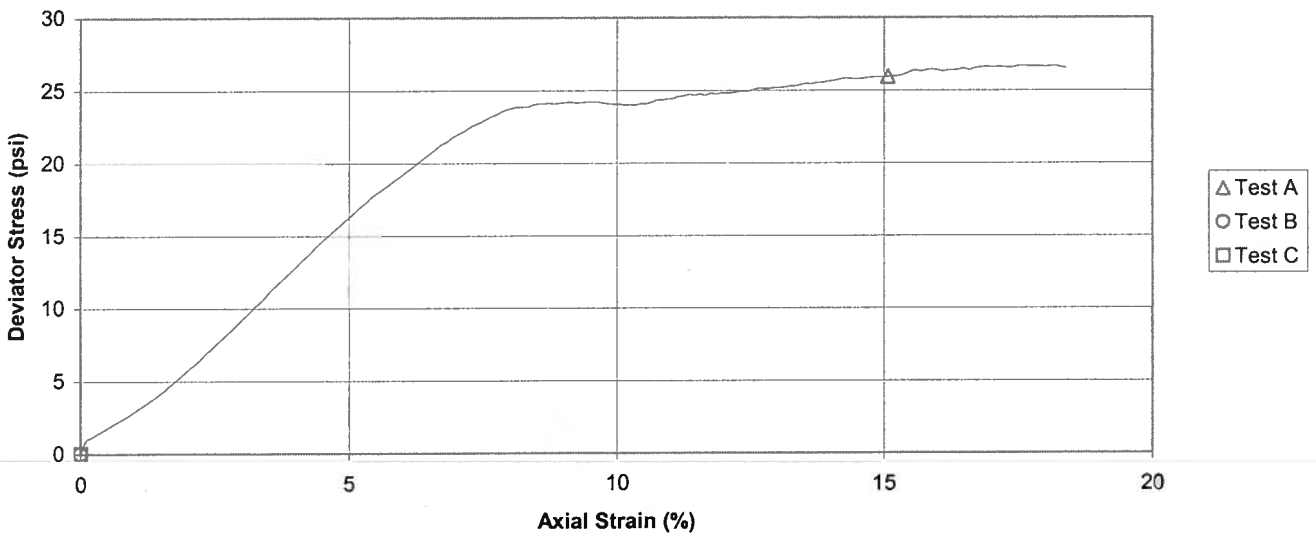
Project No. 175569036
 Test Number 1309B
 c = 13.1 psi

$\phi = 0.0 \text{ deg.}$
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

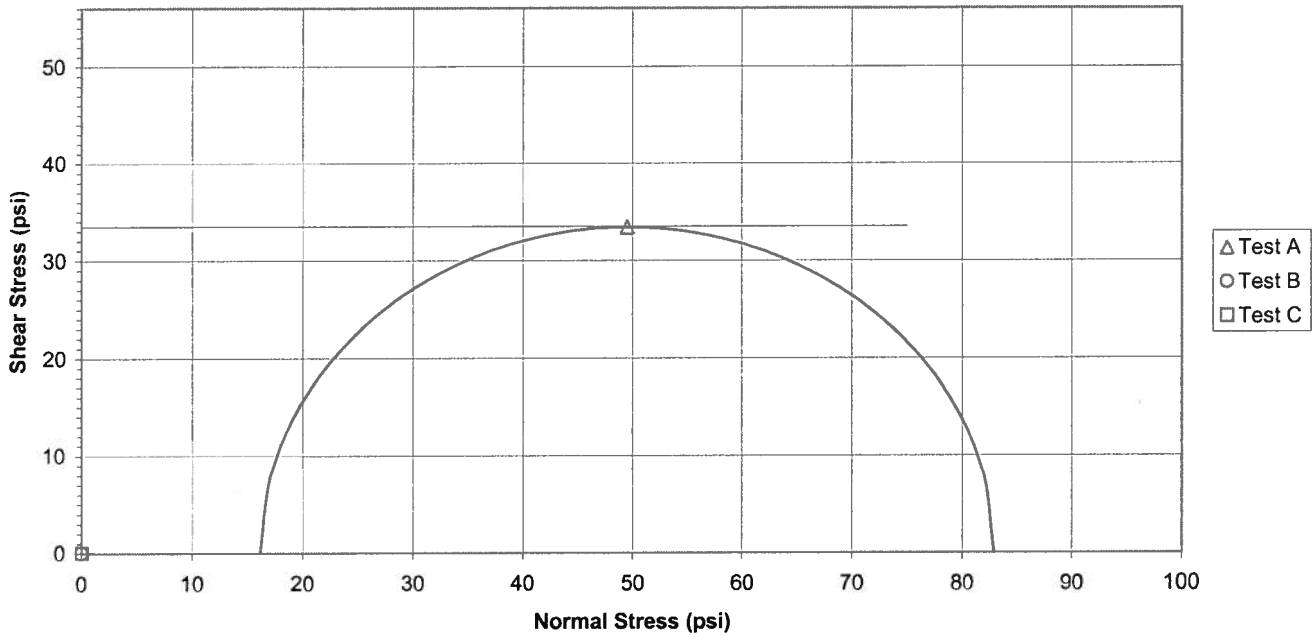


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-V-3, 25.0'-25.5'

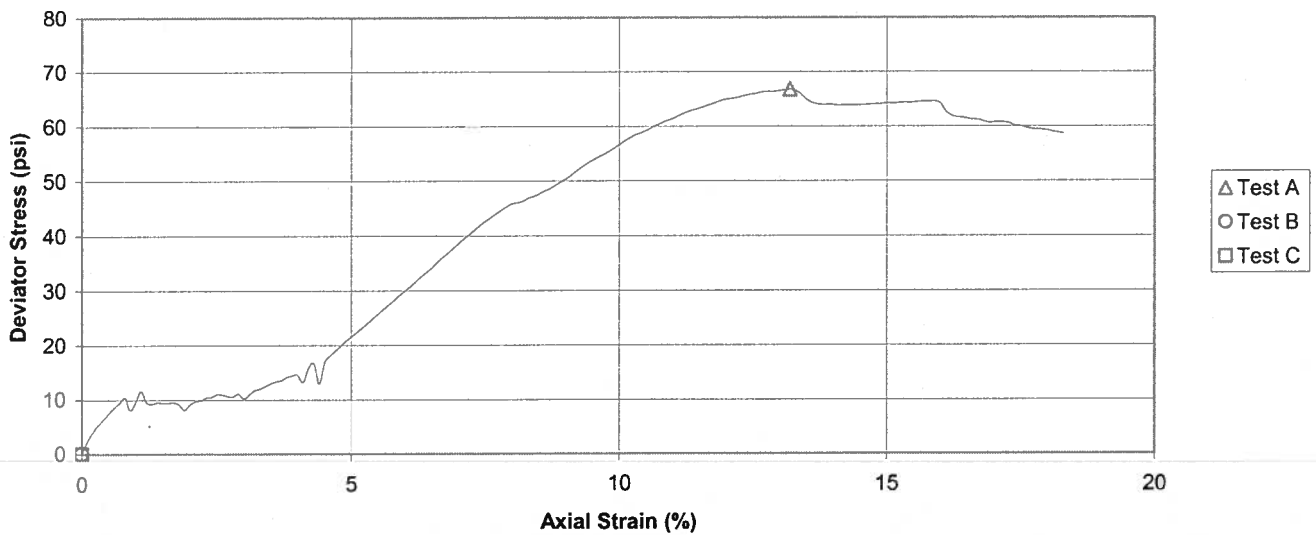
Project No. 175569036
 Test Number 1310A
 c = 33.5 psi

$\phi = 0.0 \text{ deg.}$
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

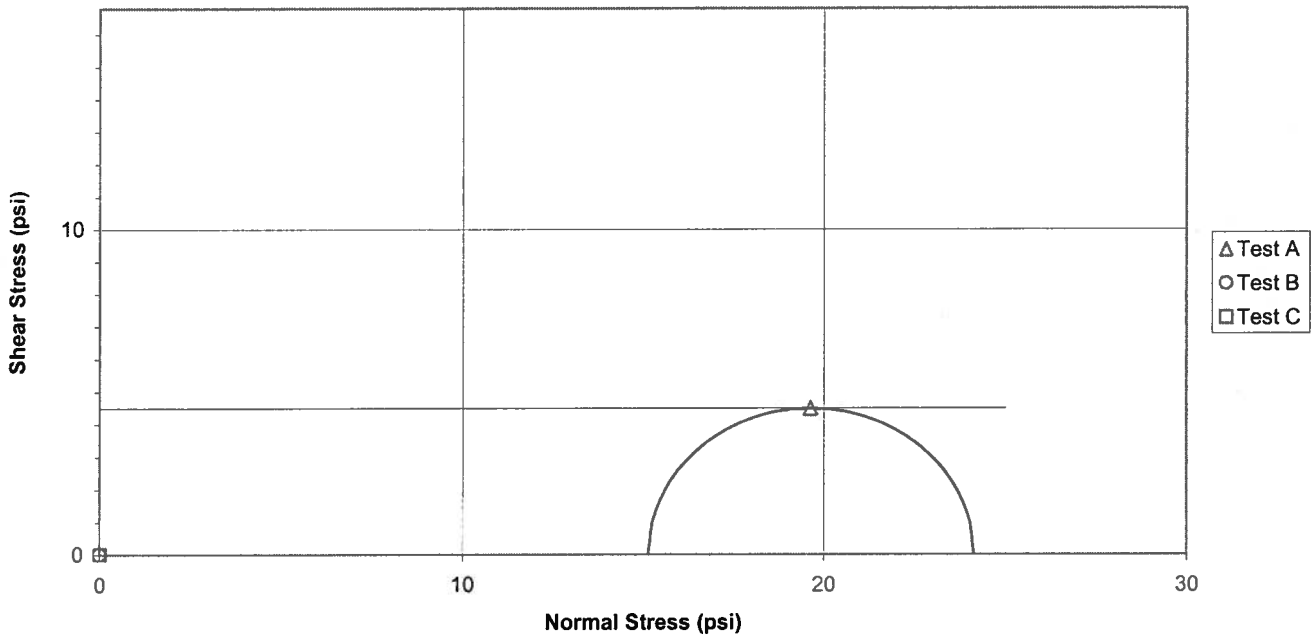


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-V-4, 20.0'-20.5'

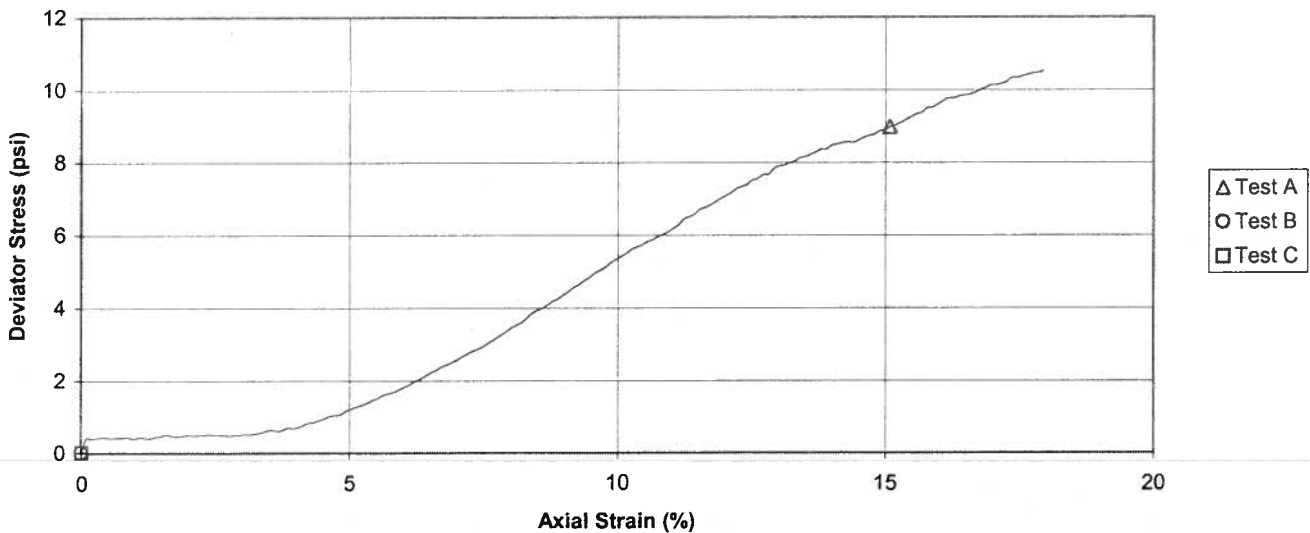
Project No. 175569036
 Test Number 1311
 c = 4.5 psi

$\phi = 0.0 \text{ deg.}$
 Failure Criterion: **Maximum Deviator Stress**

Mohr Failure Envelope



Deviator Stress vs. Axial Strain



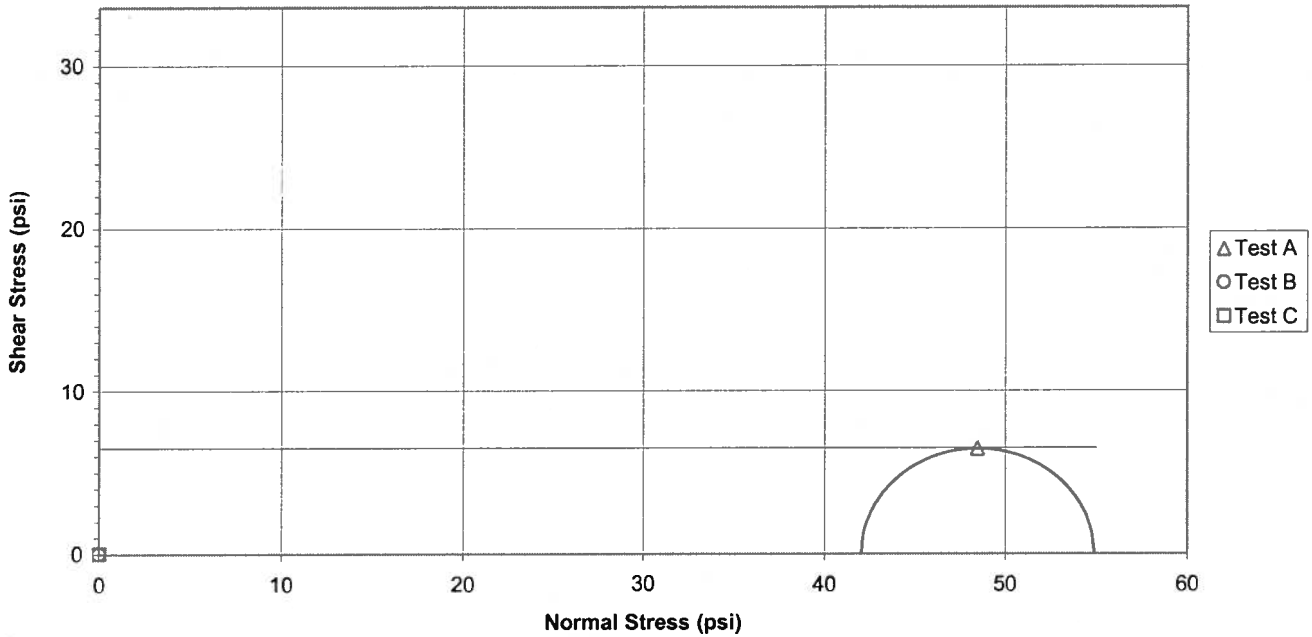
Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-V-4, 50.6'-51.1'

Project No. 175569036
 Test Number 1312B

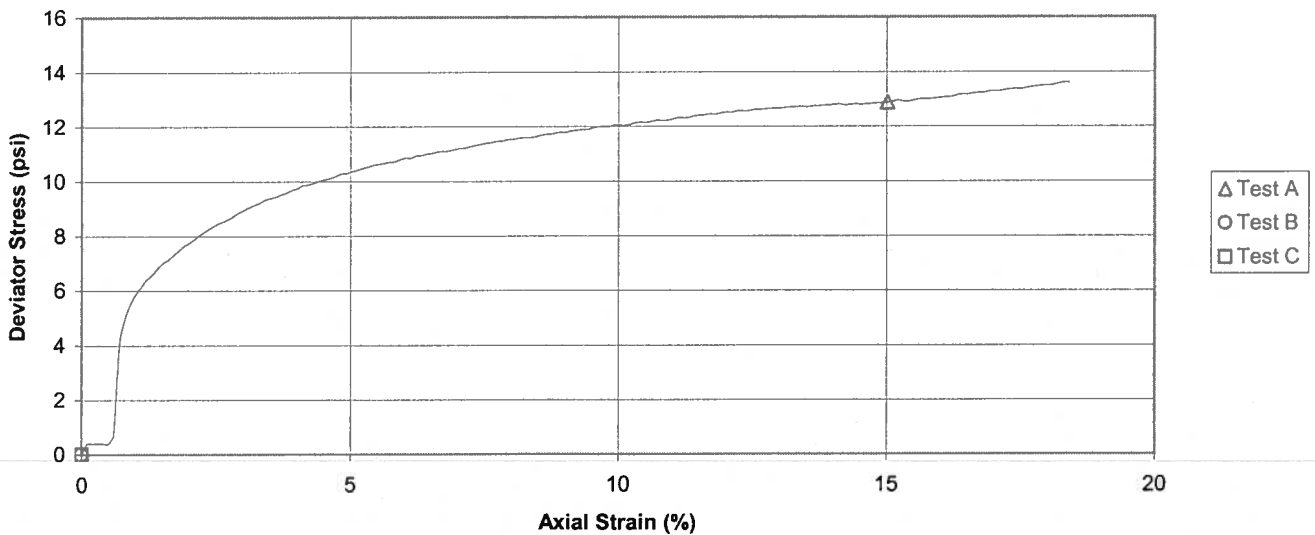
$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

c = 6.5 psi

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

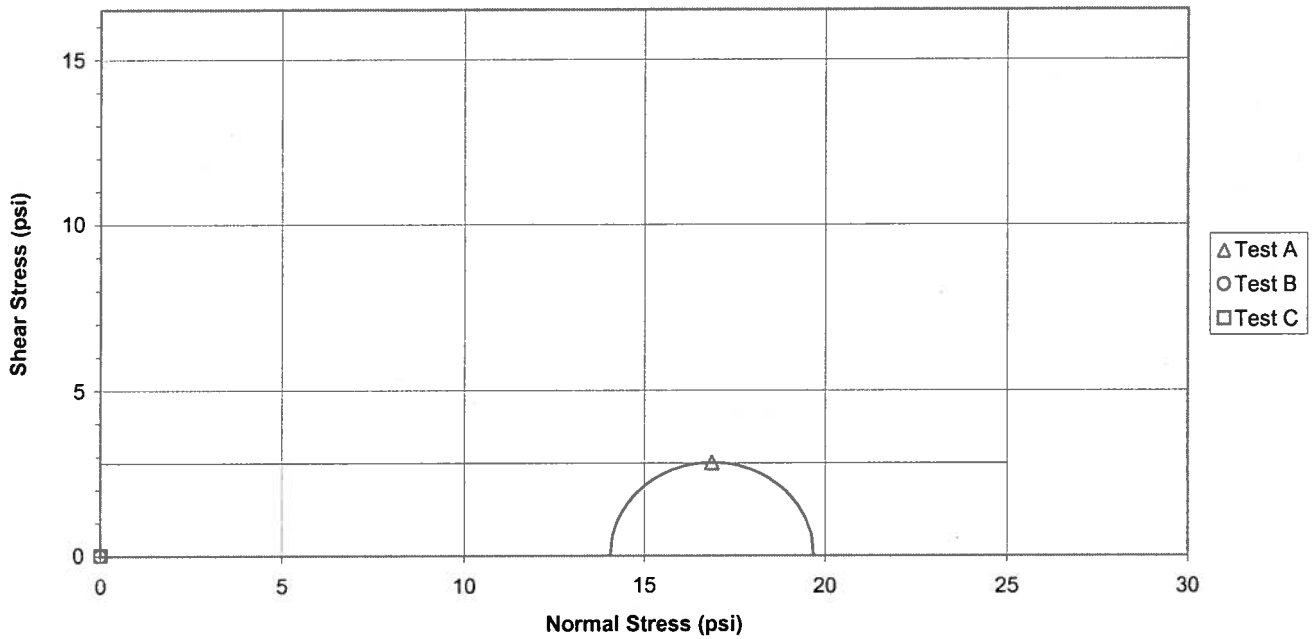


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-V-5, 20.0'-20.5'

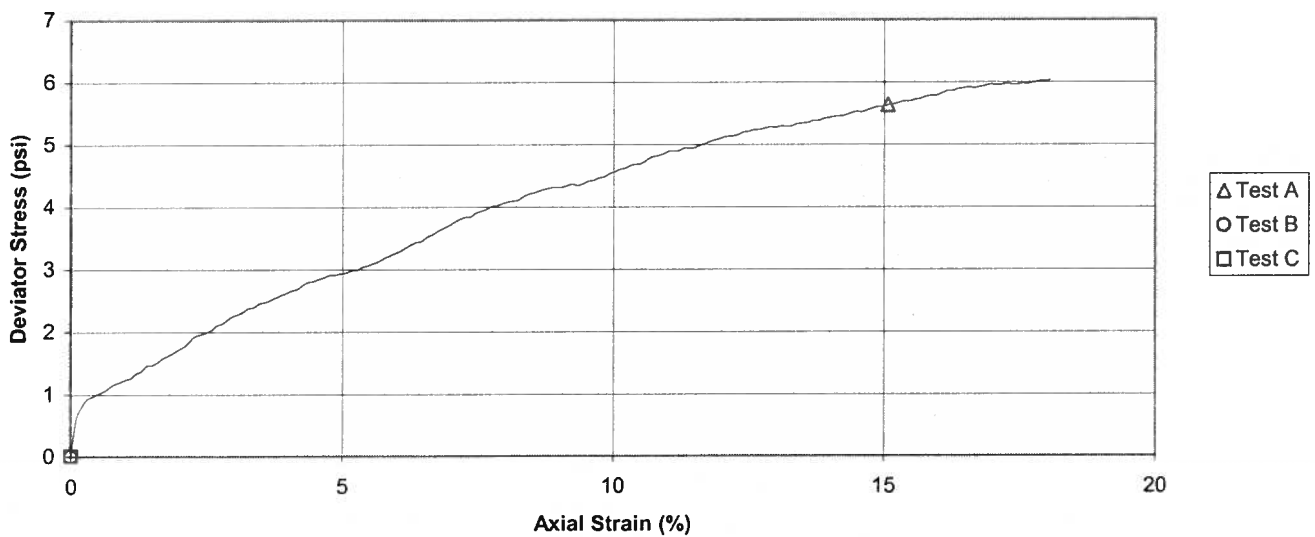
Project No. 175569036
 Test Number 1313A
 c = 2.8 psi

$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

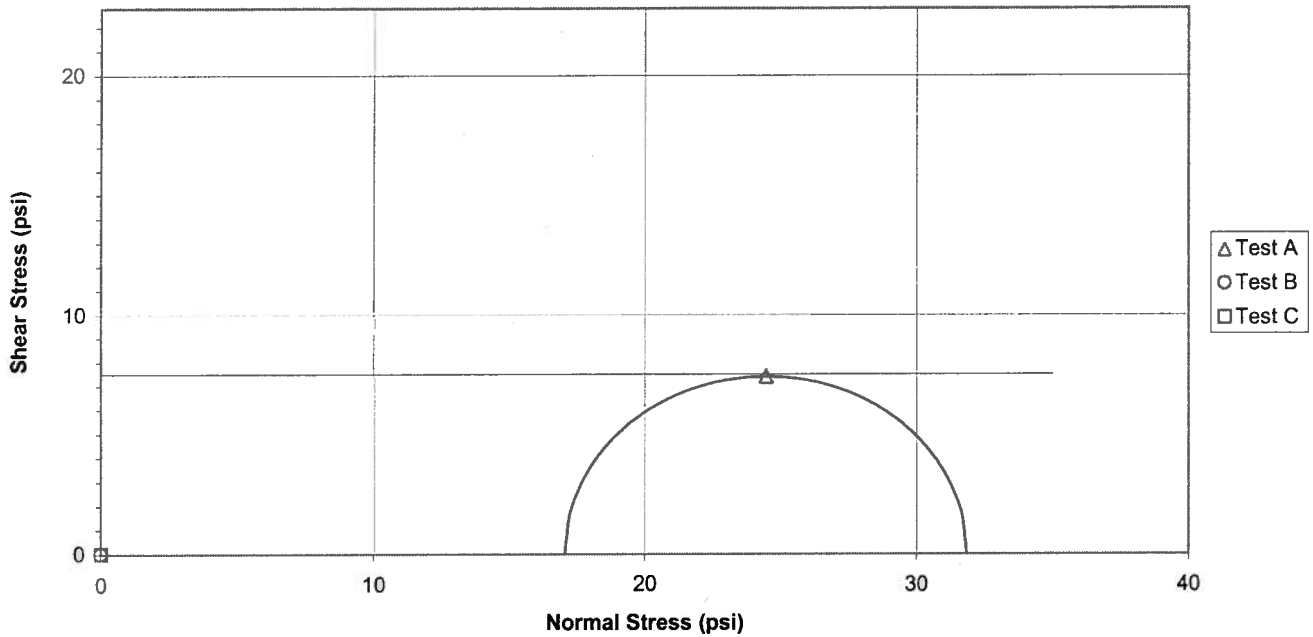


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-V-7, 20.0'-20.5'

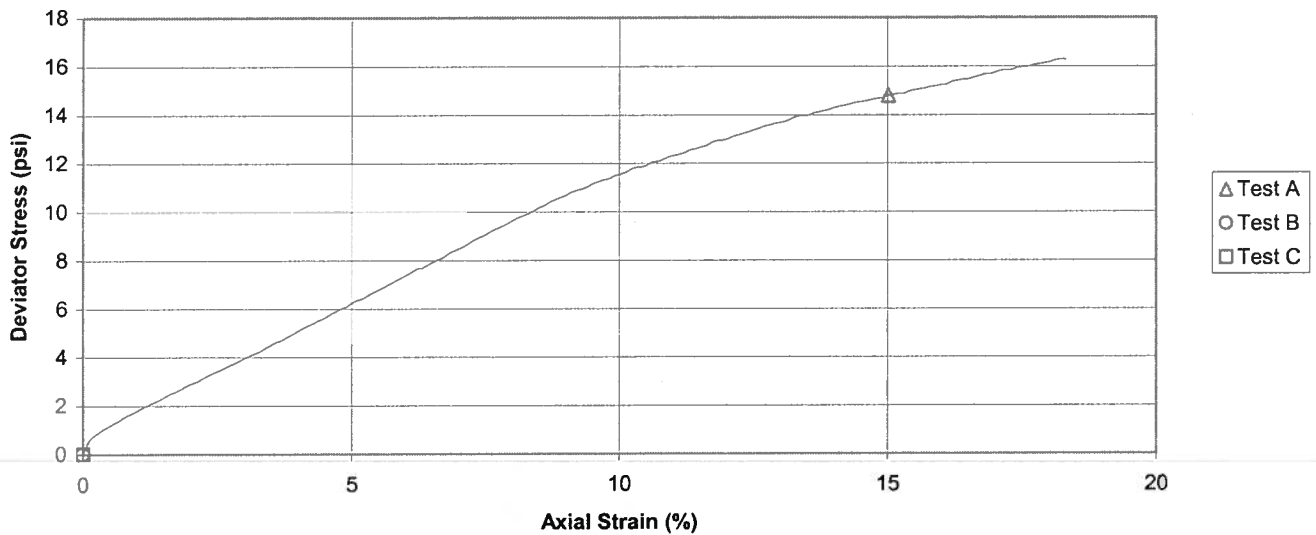
Project No. 175569036
 Test Number 1316
 c = 7.5 psi

$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



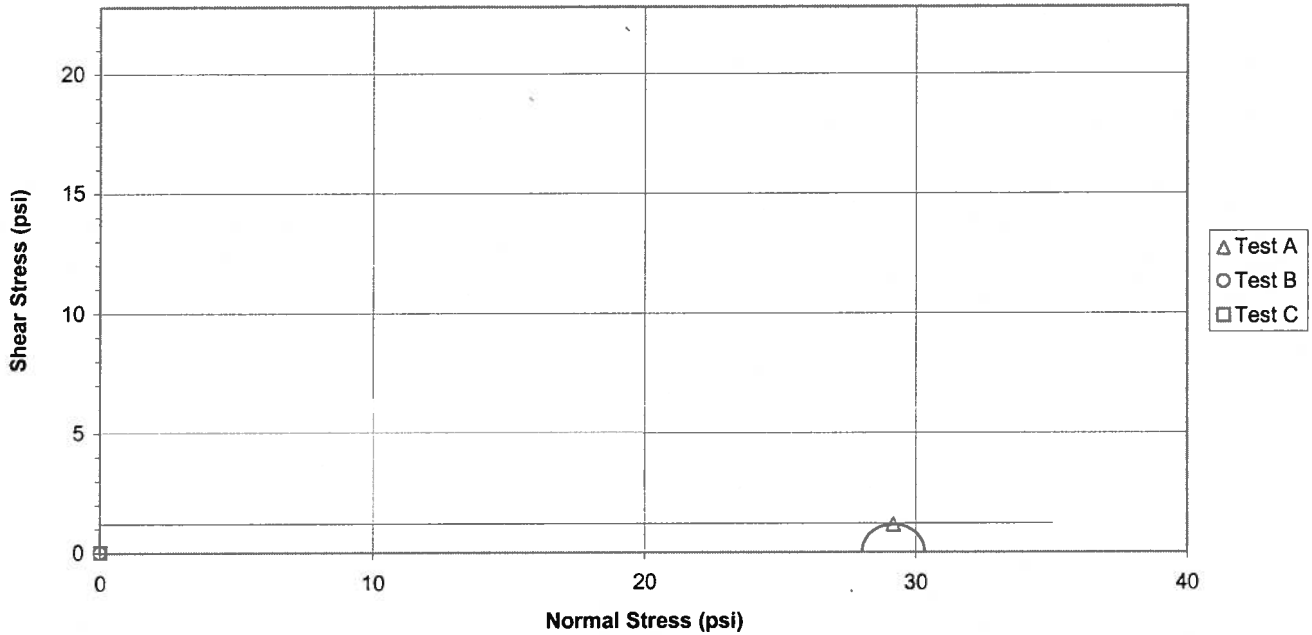
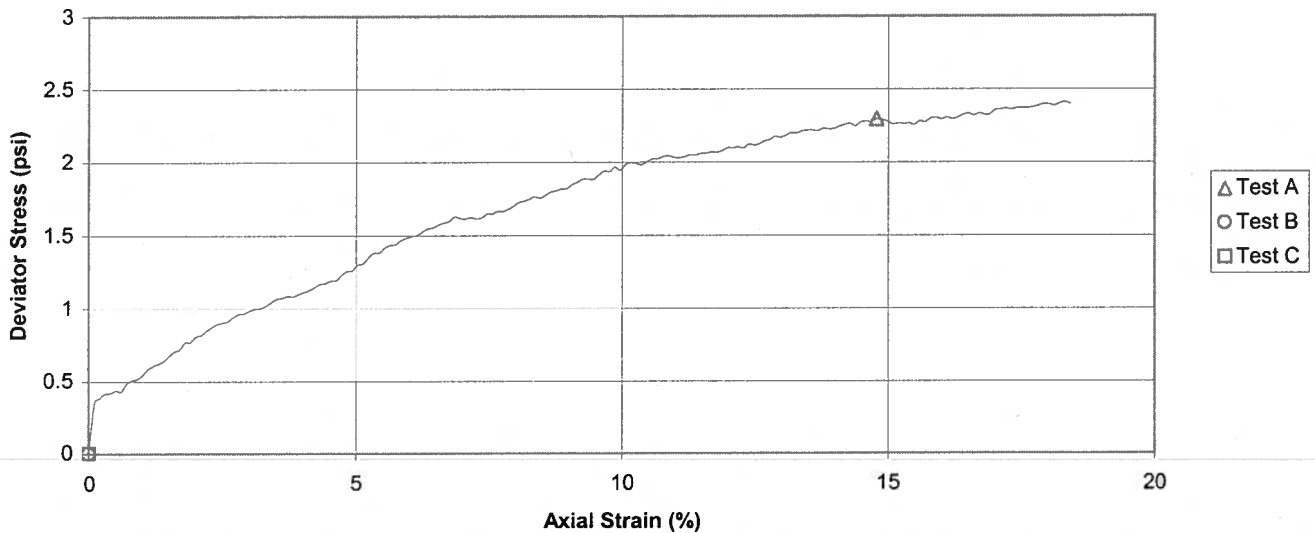
Deviator Stress vs. Axial Strain




Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-V-8, 45.0'-45.5'

Project No. 175569036
 Test Number 1317A
 c = 1.2 psi

$\phi = 0.0$ deg.
 Failure Criterion: **Maximum Deviator Stress**

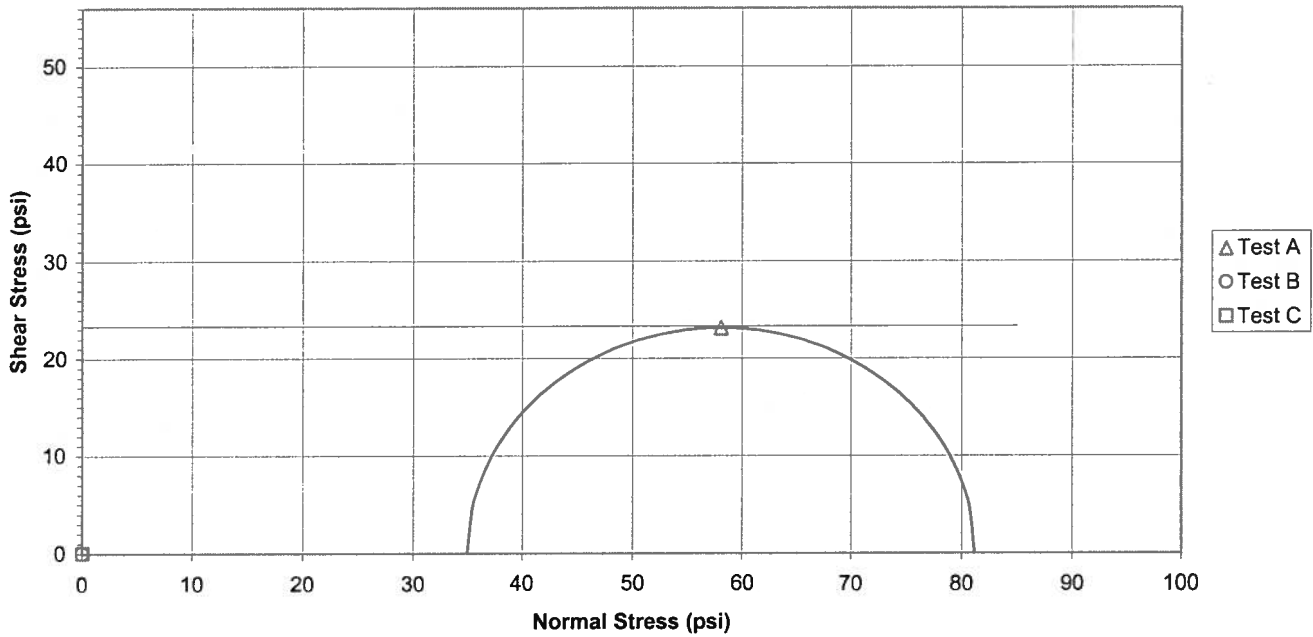
Mohr Failure Envelope

Deviator Stress vs. Axial Strain


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-V-8, 50.6'-51.1'

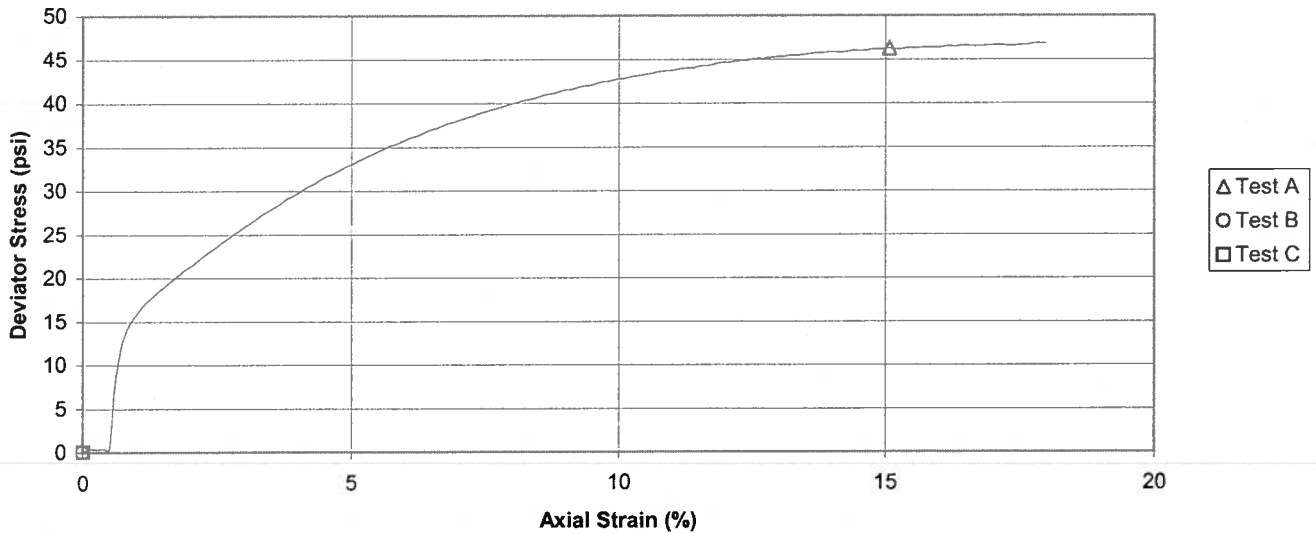
Project No. 175569036
 Test Number 1318B
 c = 23.3 psi

$\phi = 0.0 \text{ deg.}$
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain



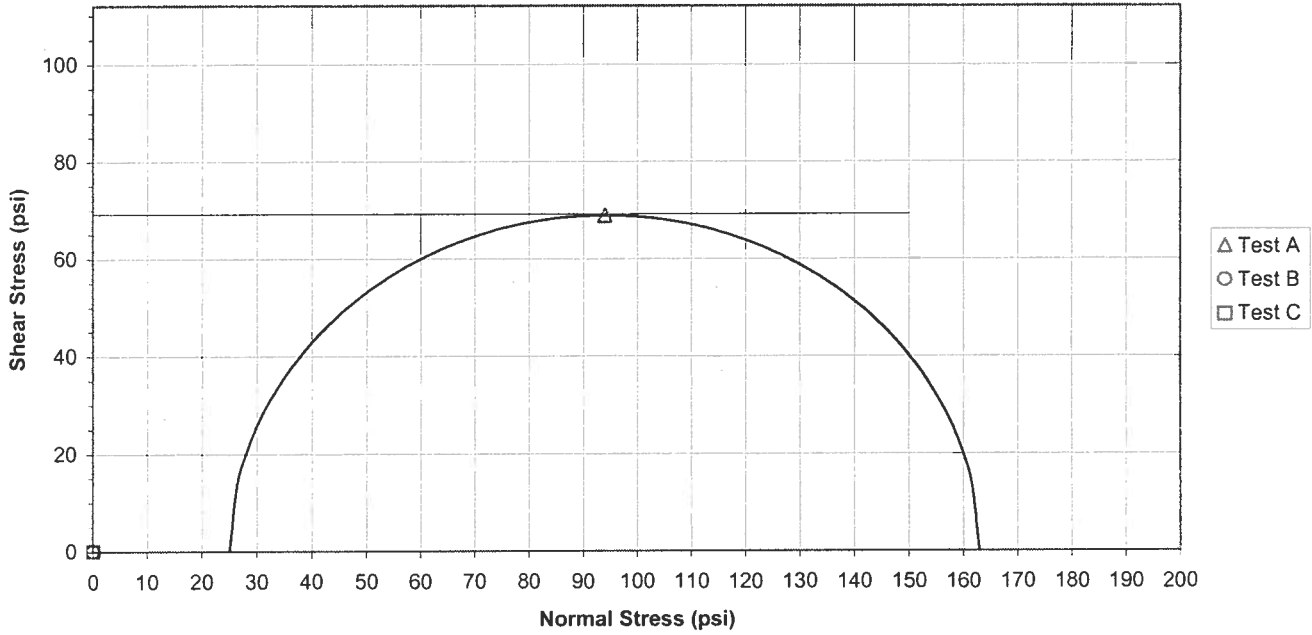
Project Widows Creek Fossil Plant (TVA)
 Sample ID SB-65, 32.4' - 32.9'

Project No. 175569036
 Test Number 360

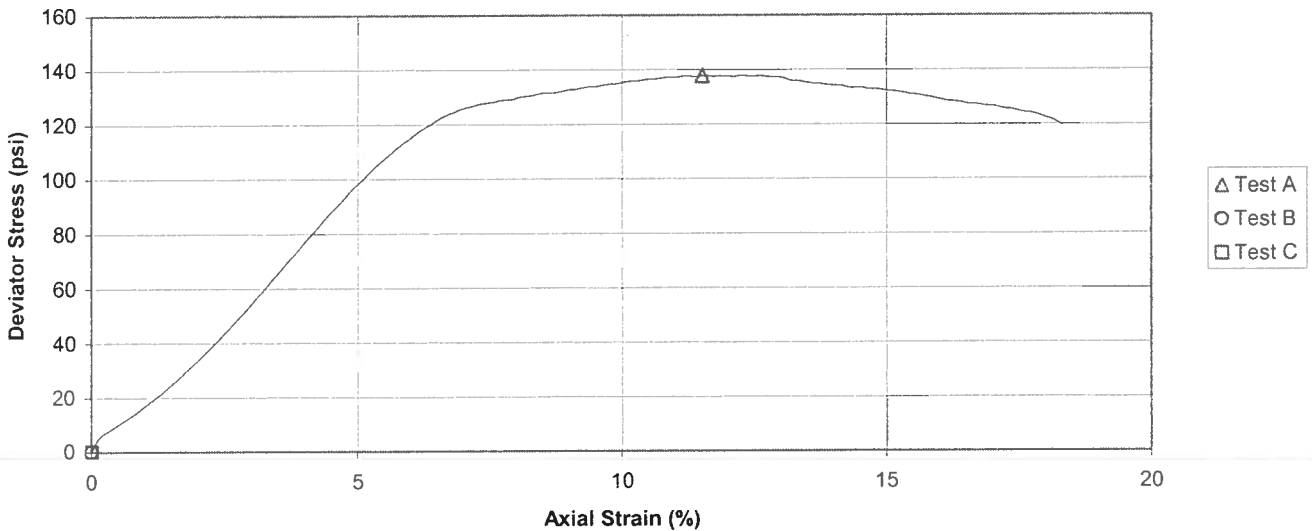
$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

$c = 69.2$ psi

Mohr Failure Envelope



Deviator Stress vs. Axial Strain



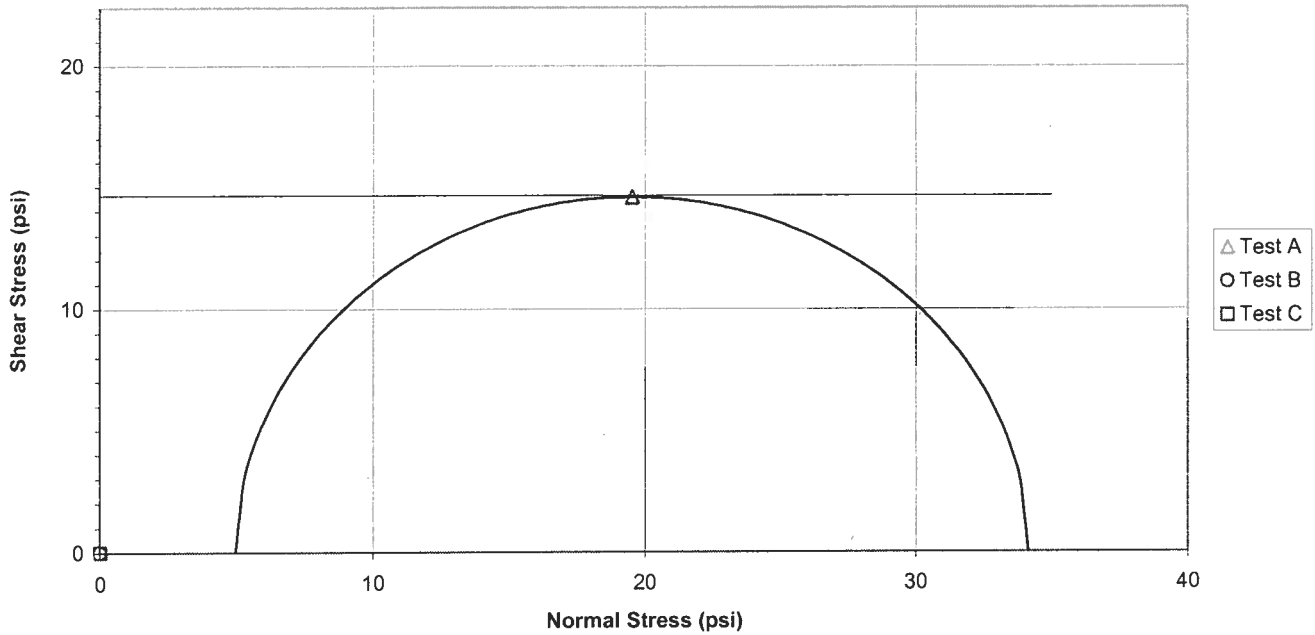

Project Widows Creek Fossil Plant (TVA)
 Sample ID SB-67, 9.0'-9.5'

Project No. 175569036
 Test Number 362

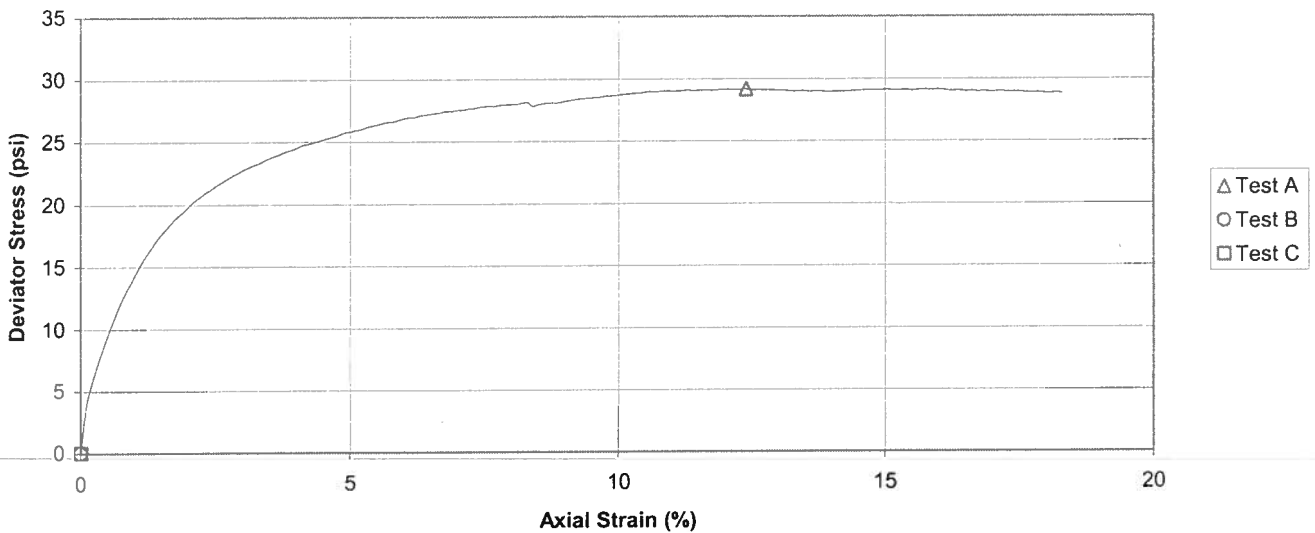
$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

$c = 14.7$ psi

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

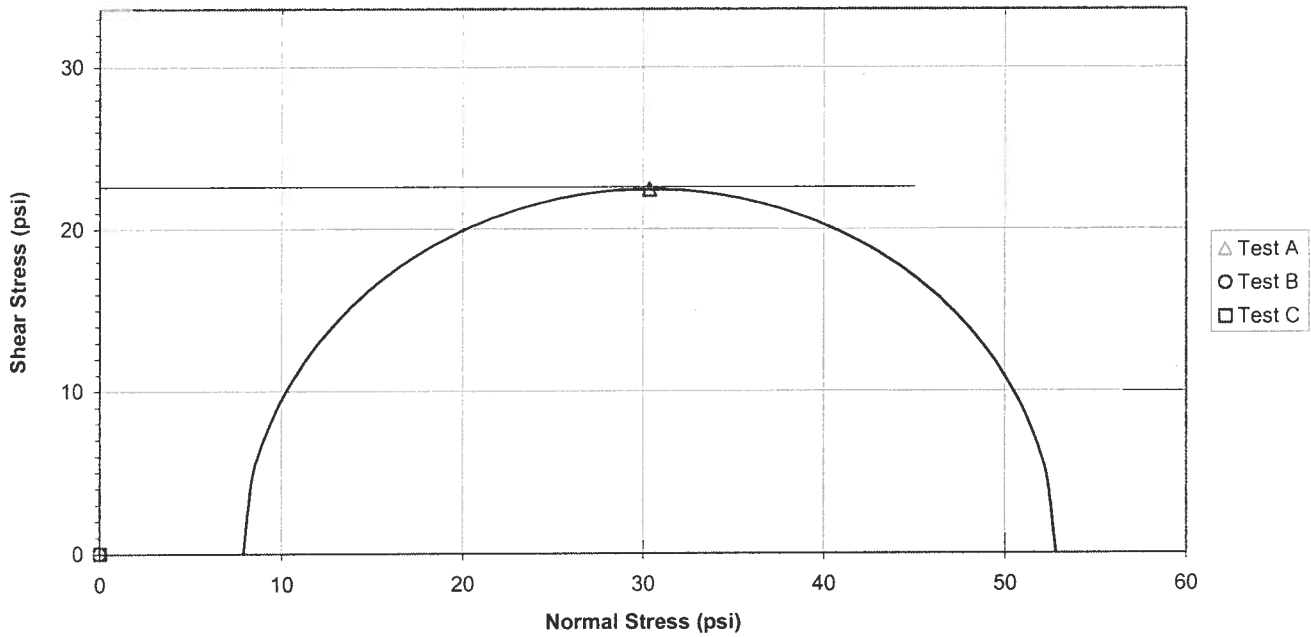


Project Widows Creek Fossil Plant (TVA)
 Sample ID SB-74, 9.0'-9.5'

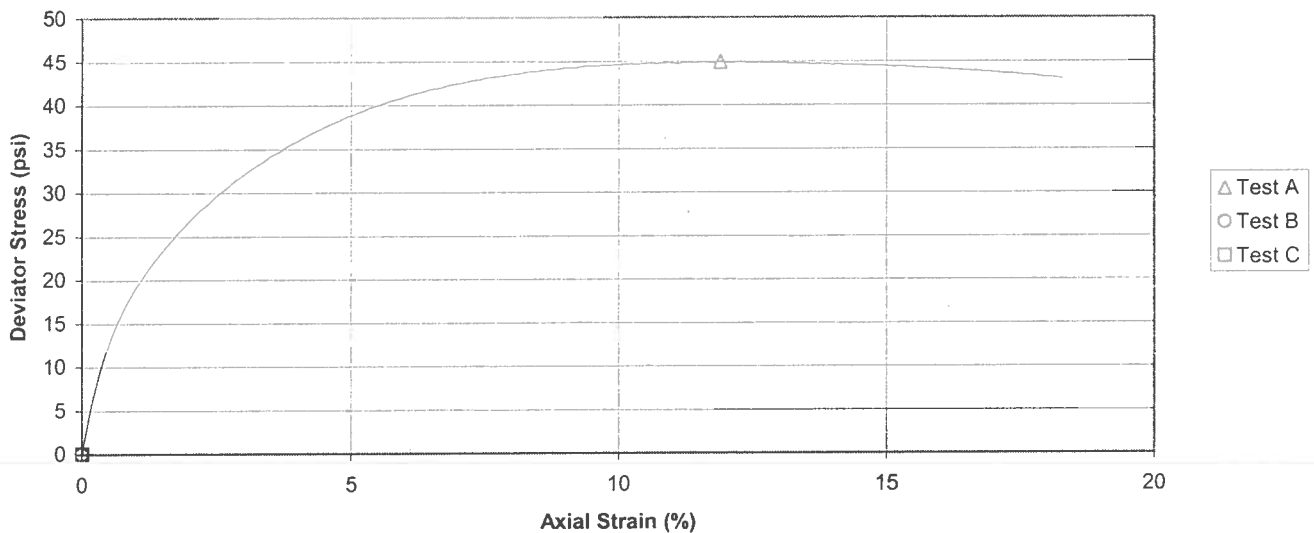
Project No. 175569036
 Test Number 578
 c = 22.6 psi

$\phi = 0.0 \text{ deg.}$
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

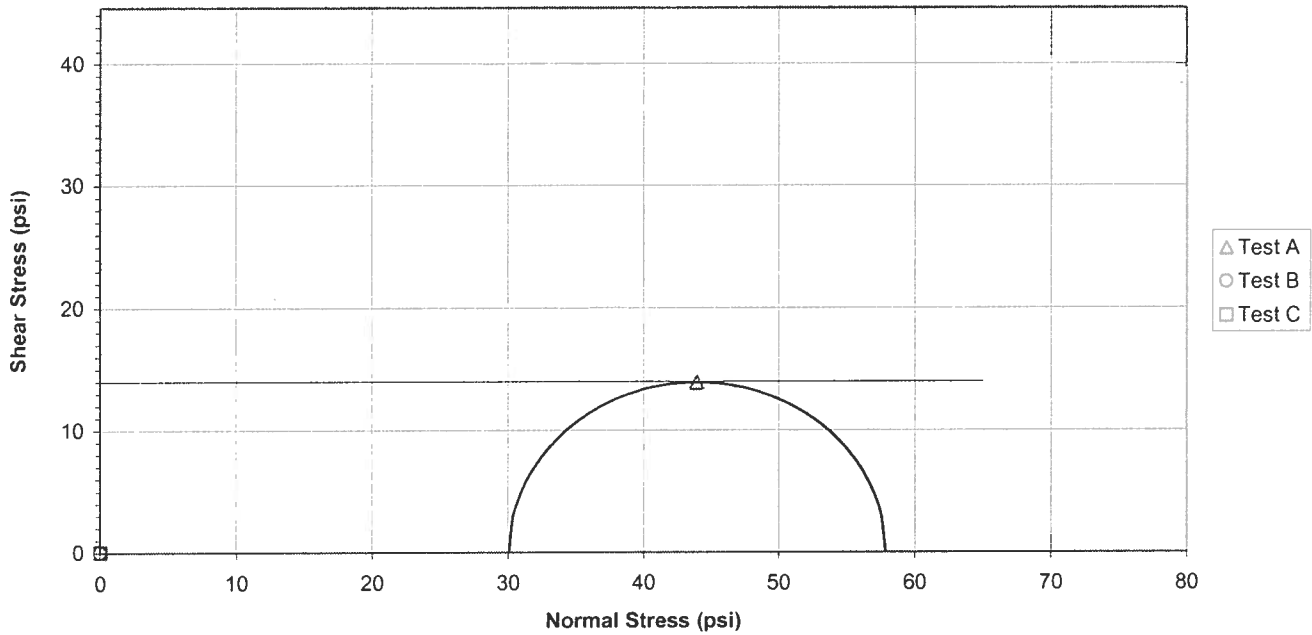
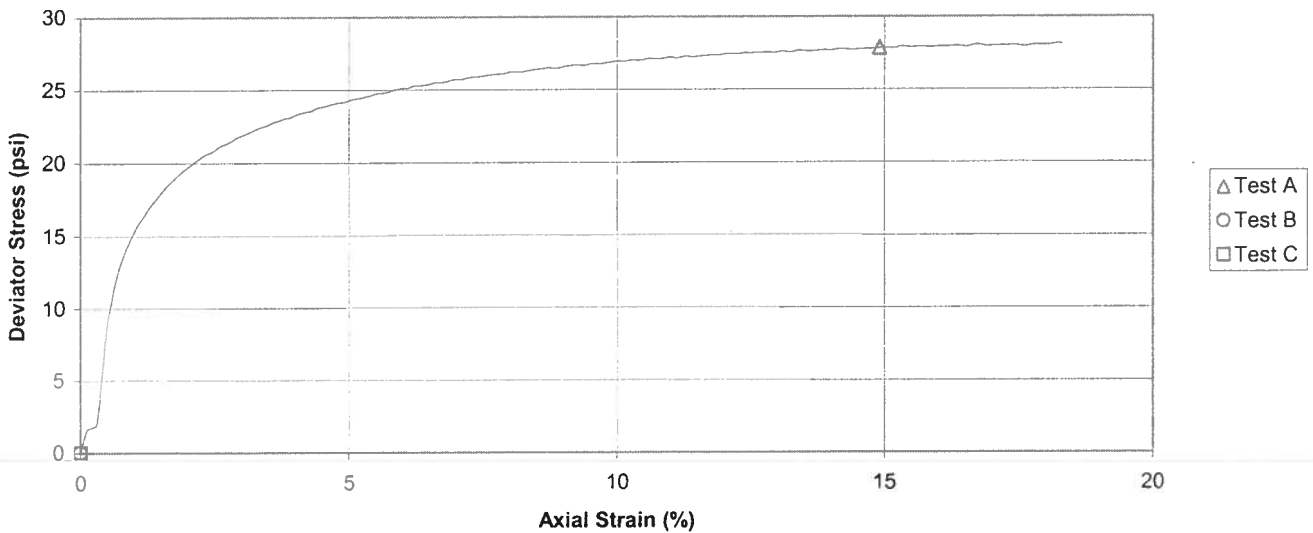



Project Widows Creek Fossil Plant (TVA)
 Sample ID SB-75, 35.0'-35.5'

Project No. 175569036
 Test Number 582

$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

$c = 14.0$ psi

Mohr Failure Envelope

Deviator Stress vs. Axial Strain


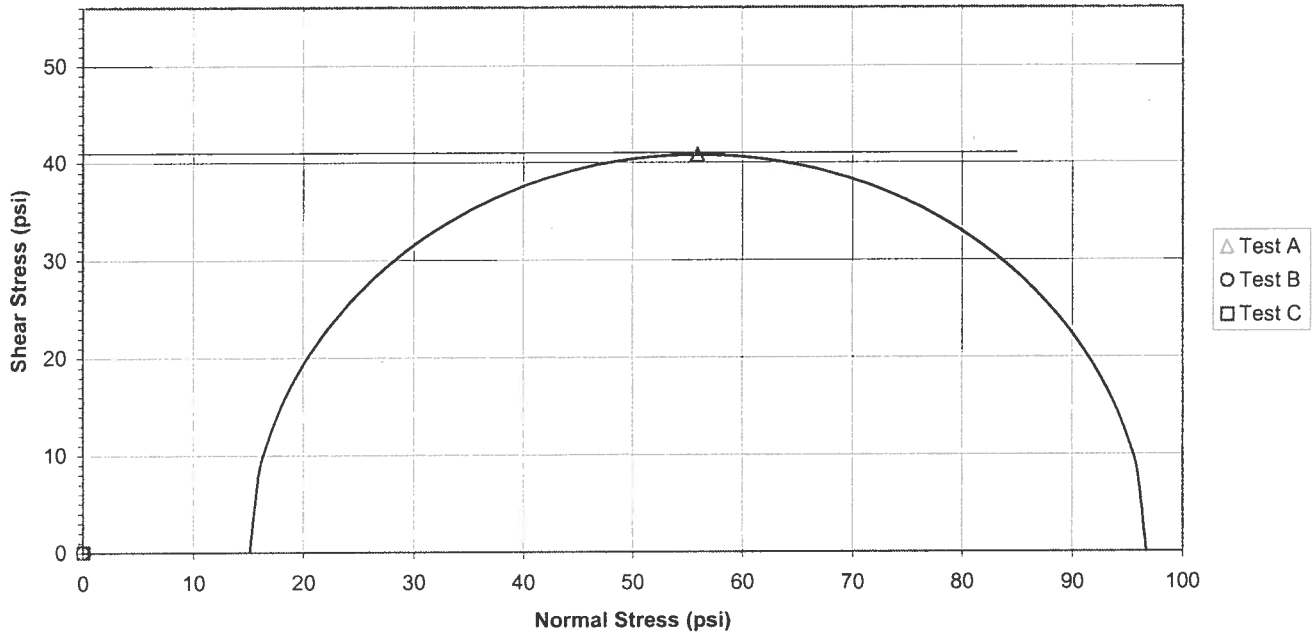
Project Widows Creek Fossil Plant (TVA)
 Sample ID SB-79, 15.6'-16.1'

Project No. 175569036
 Test Number 588B

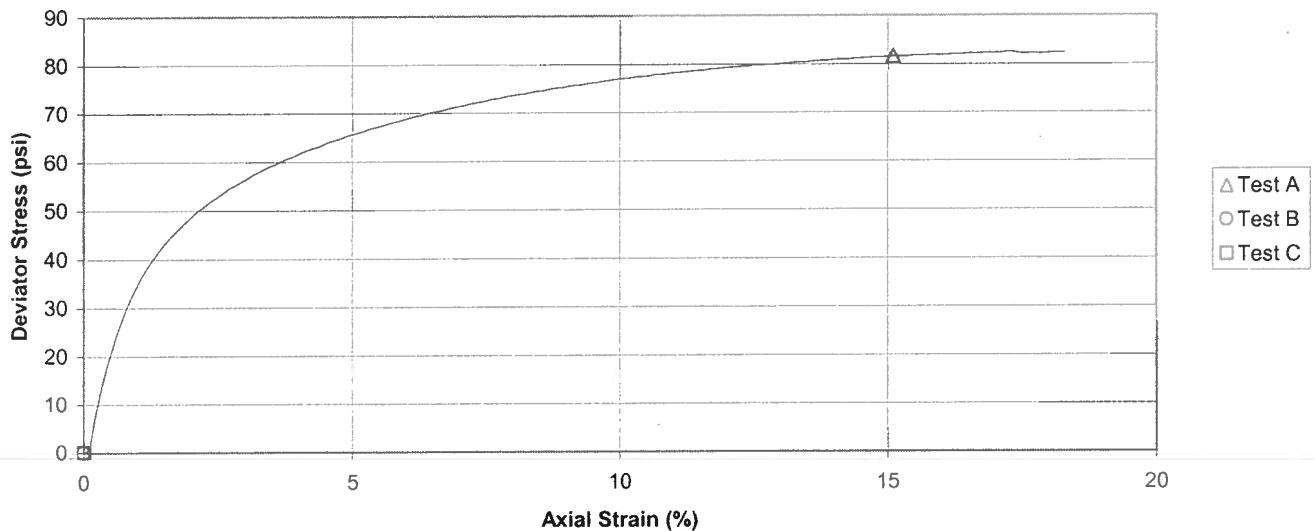
$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

$c = 41.0$ psi

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

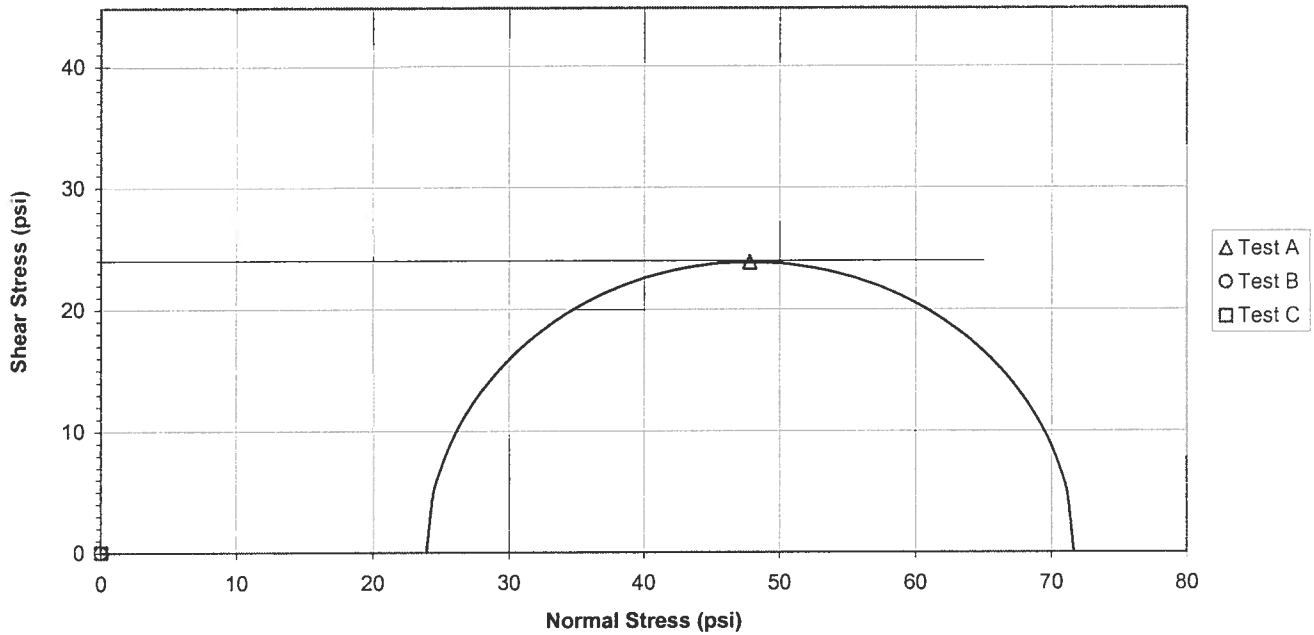


Project Widows Creek Fossil Plant -- TVA
 Sample ID SB-80, 36.3' - 36.8'

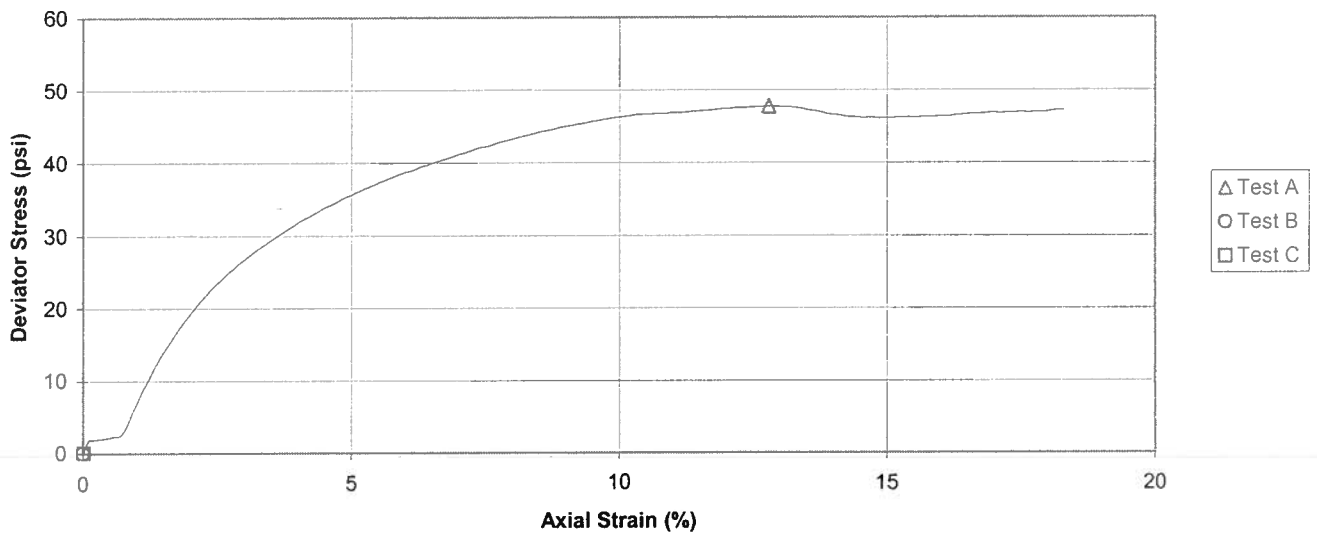
Project No. 175569036
 Test Number 387C
 $c = 24.0$ psi

$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

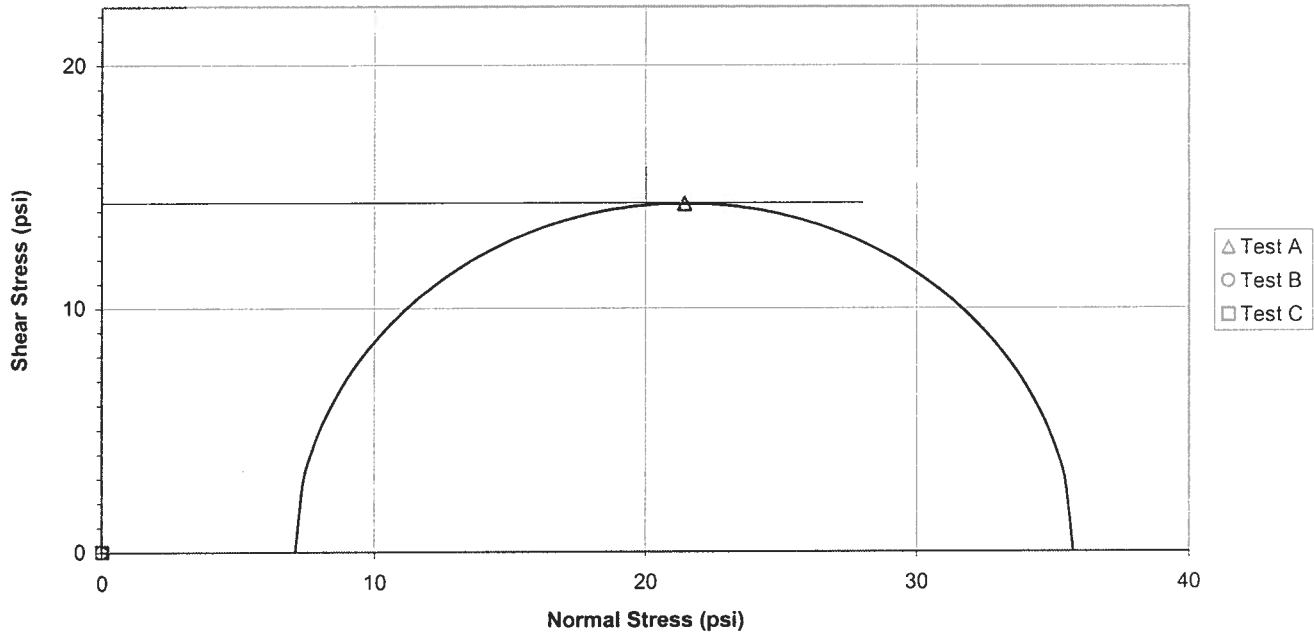



Project Widows Creek Fossil Plant -- TVA
 Sample ID SB-82, 7.5' - 8.0'

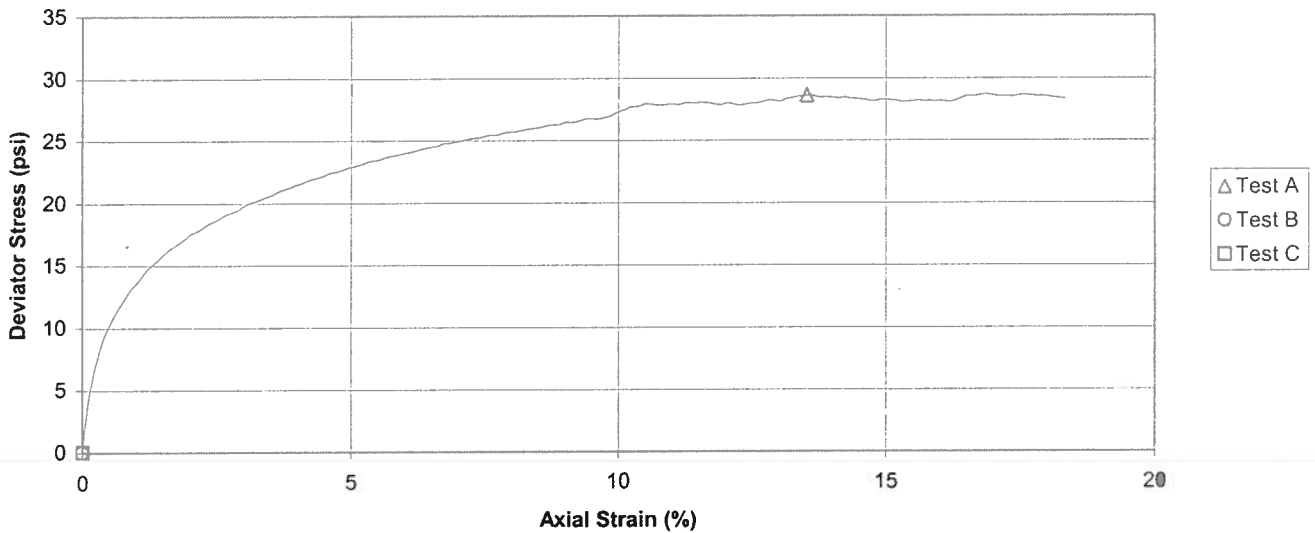
Project No. 175569036
 Test Number 389
 $c = 14.4$ psi

$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain



KOG

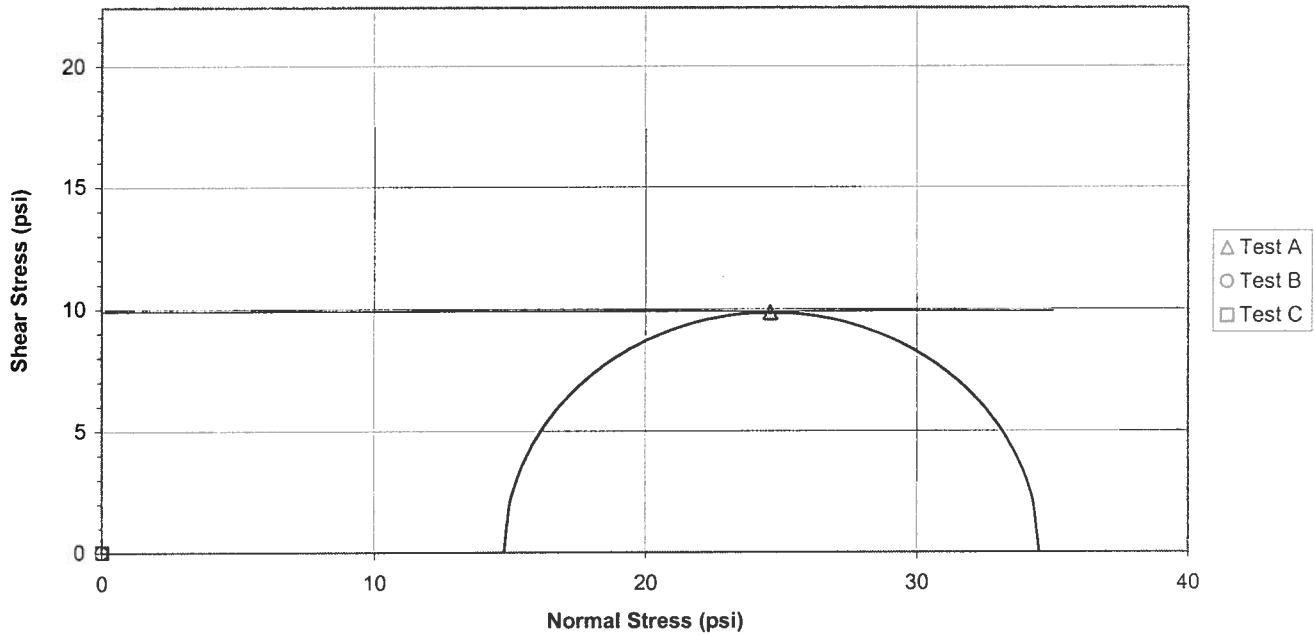
TLK

Project Widows Creek Fossil Plant -- TVA
 Sample ID SB-82, 20.0' - 20.5'

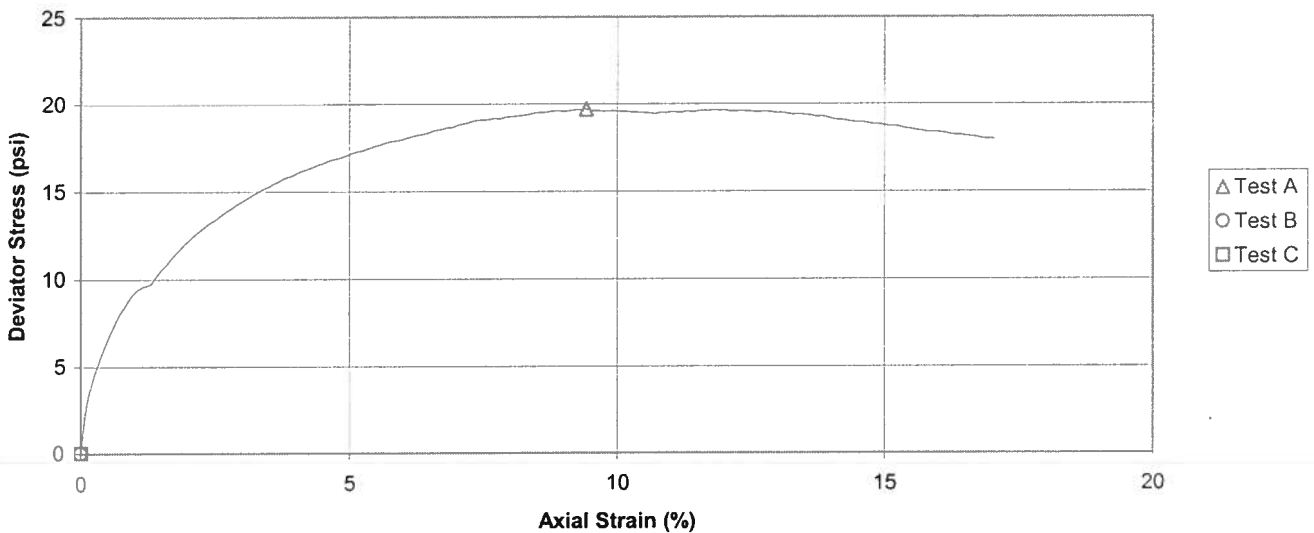
Project No. 175569036
 Test Number 390A
 c = 9.9 psi

$\phi = 0.0 \text{ deg.}$
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

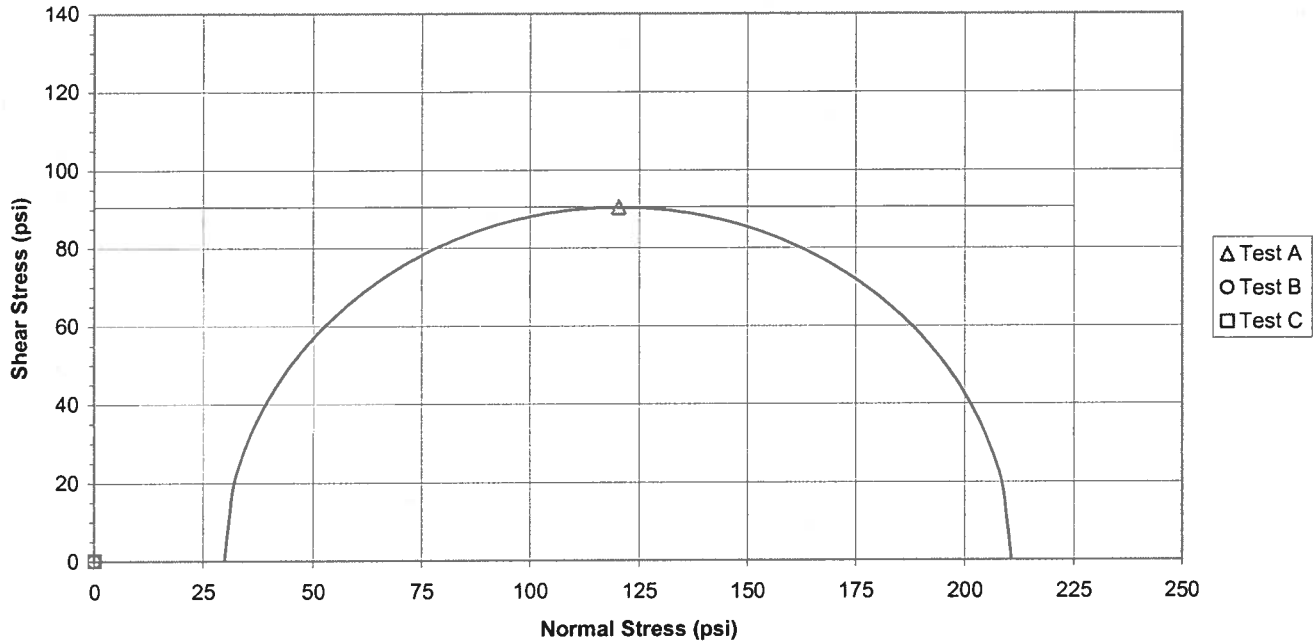


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-93, 30.6'-31.1'

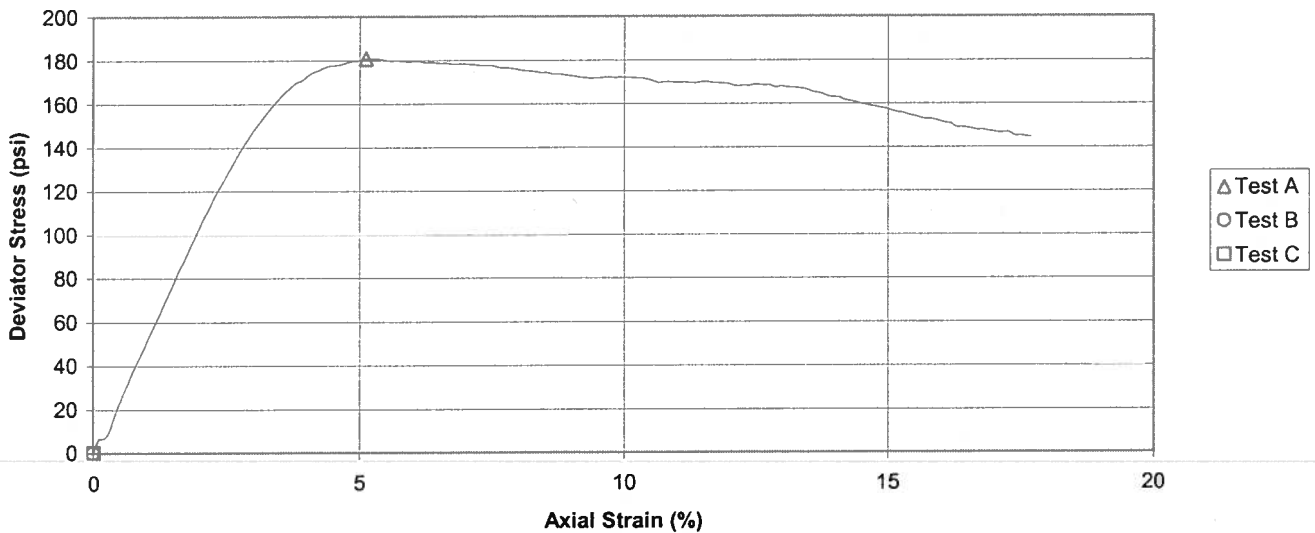
Project No. 175569036
 Test Number 1297B
 c = 90.5 psi

$\phi = 0.0 \text{ deg.}$
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

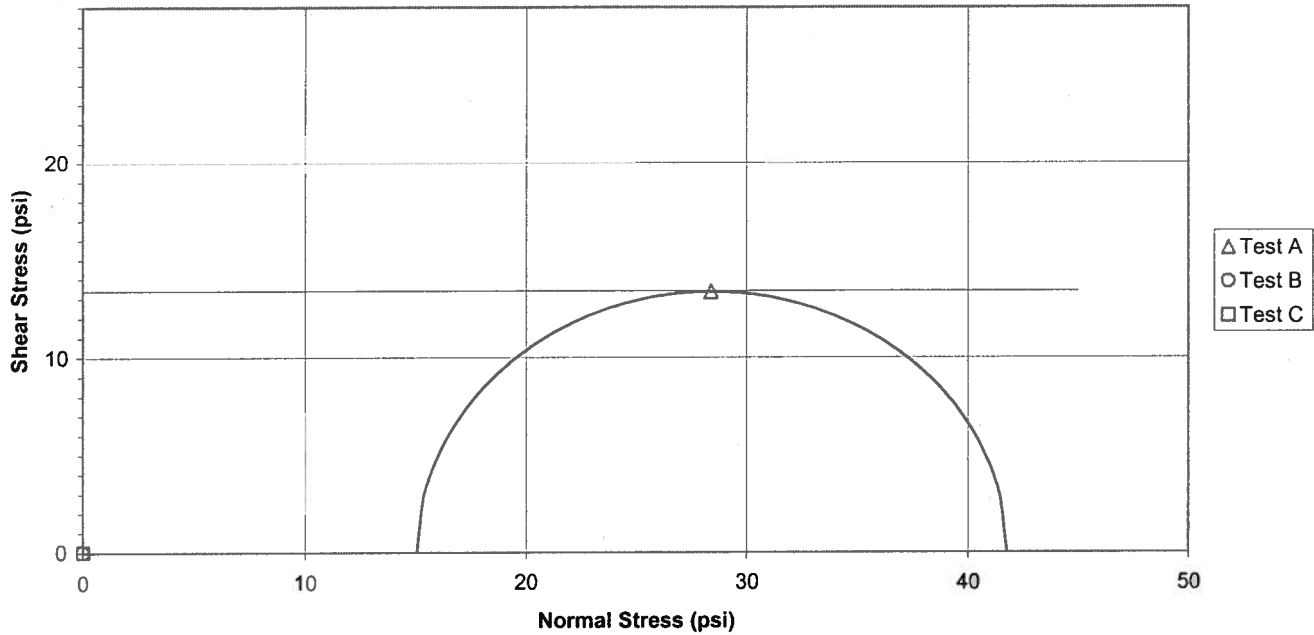


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-94, 15.6'-16.1'

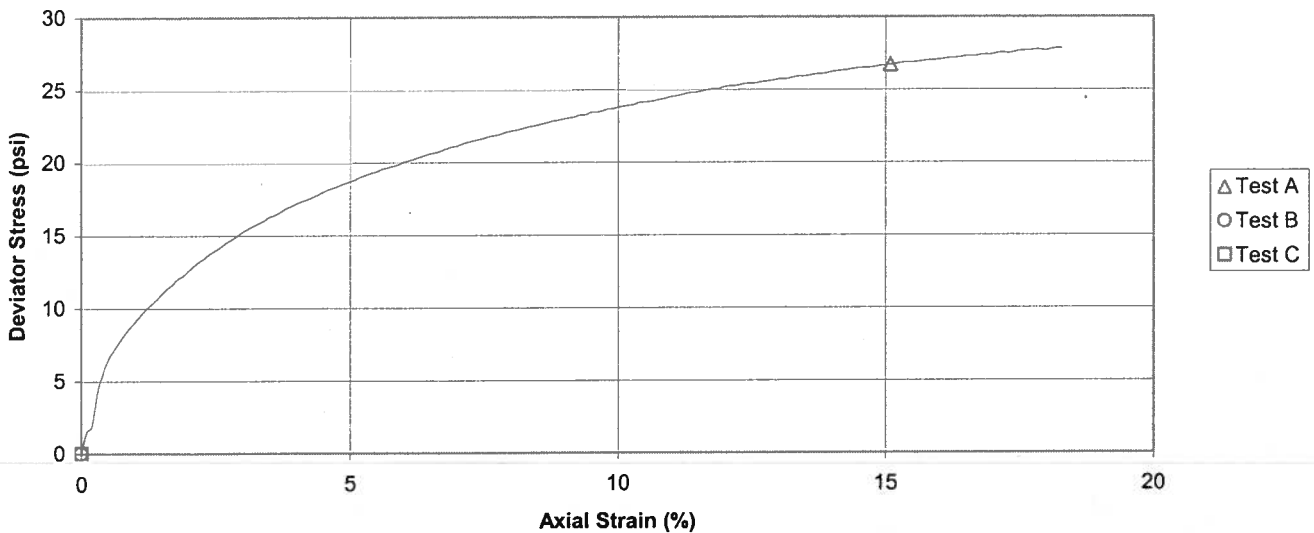
Project No. 175569036
 Test Number 1299B
 c = 13.4 psi

$\phi = 0.0 \text{ deg.}$
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

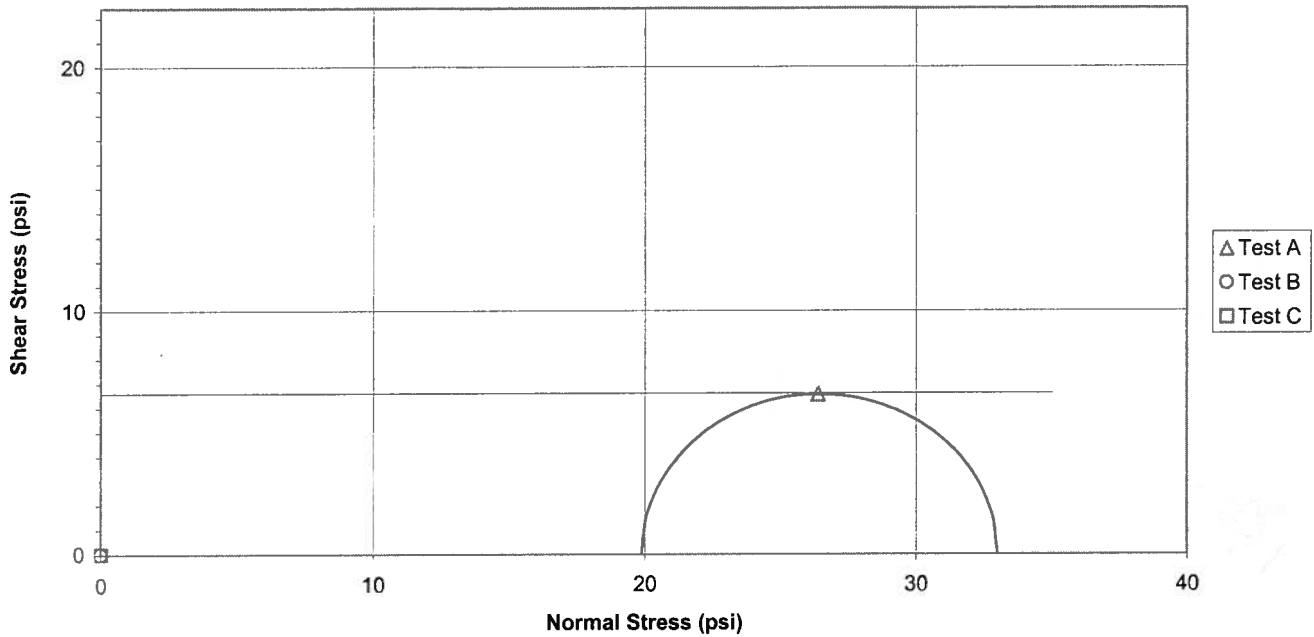


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-95, 26.0'-26.5'

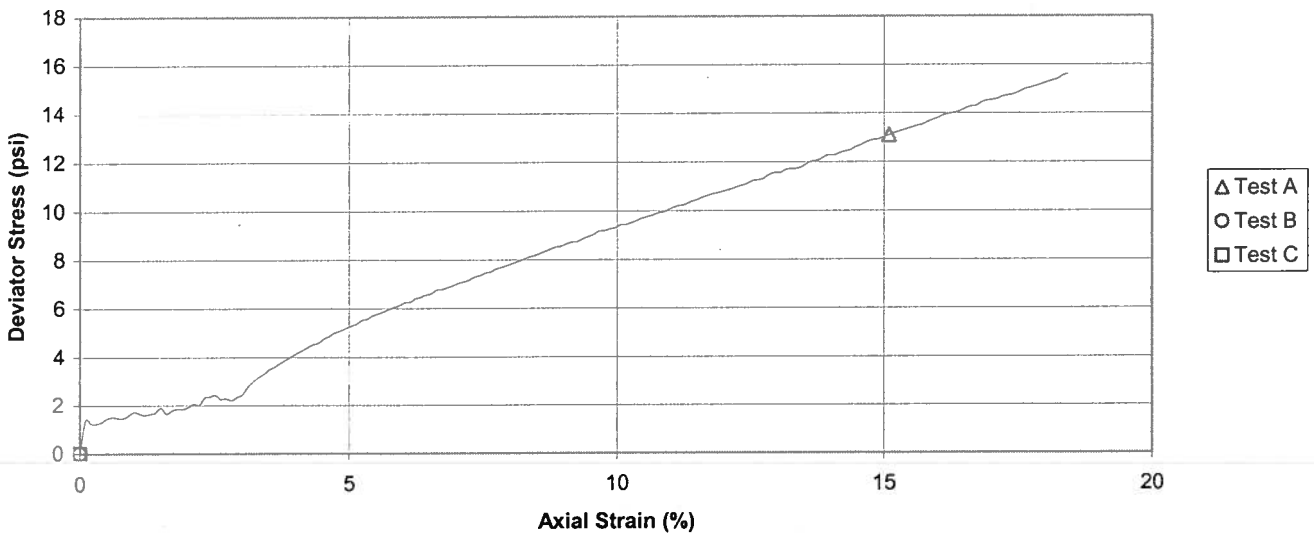
Project No. 175569036
 Test Number 1145A
 c = 6.6 psi

$\phi = 0.0 \text{ deg.}$
 Failure Criterion: **Maximum Deviator Stress**

Mohr Failure Envelope



Deviator Stress vs. Axial Strain



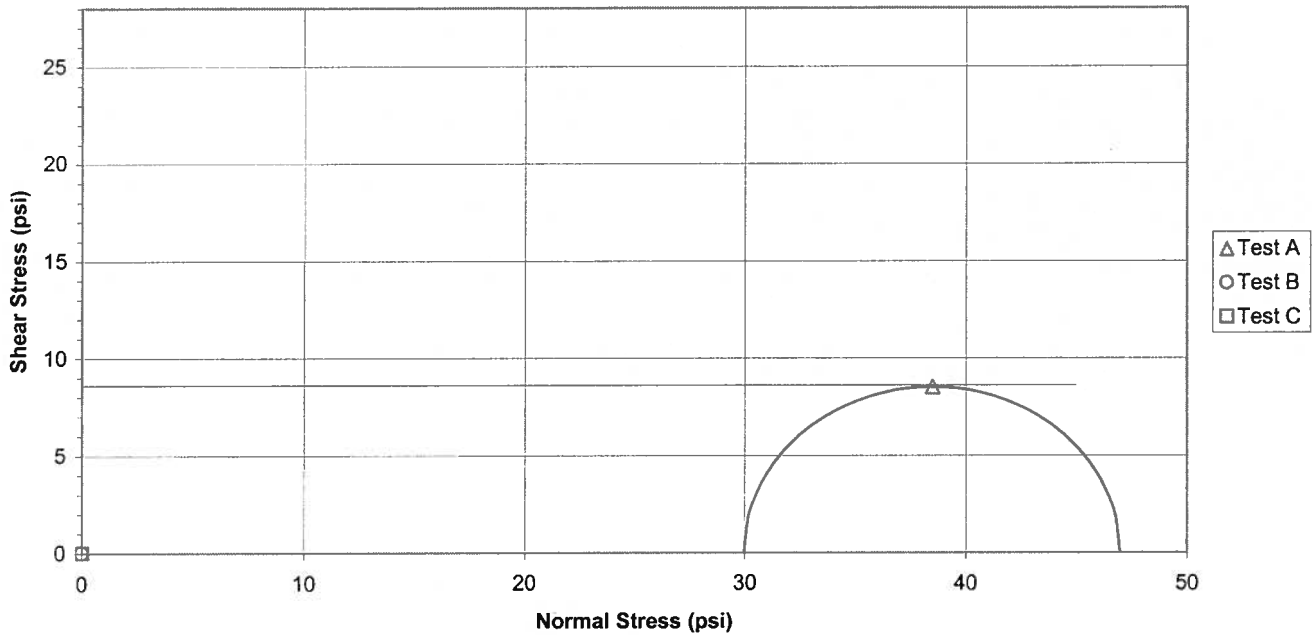
Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-96, 36.2'-36.7'

Project No. 175569036
 Test Number 1151C

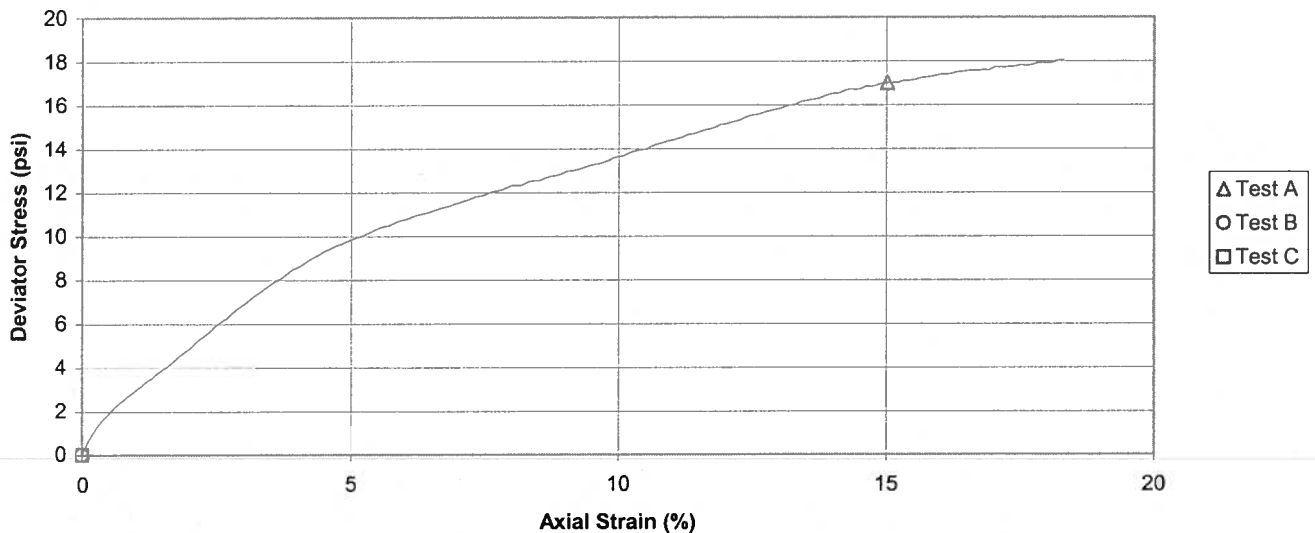
$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

$c = 8.6$ psi

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

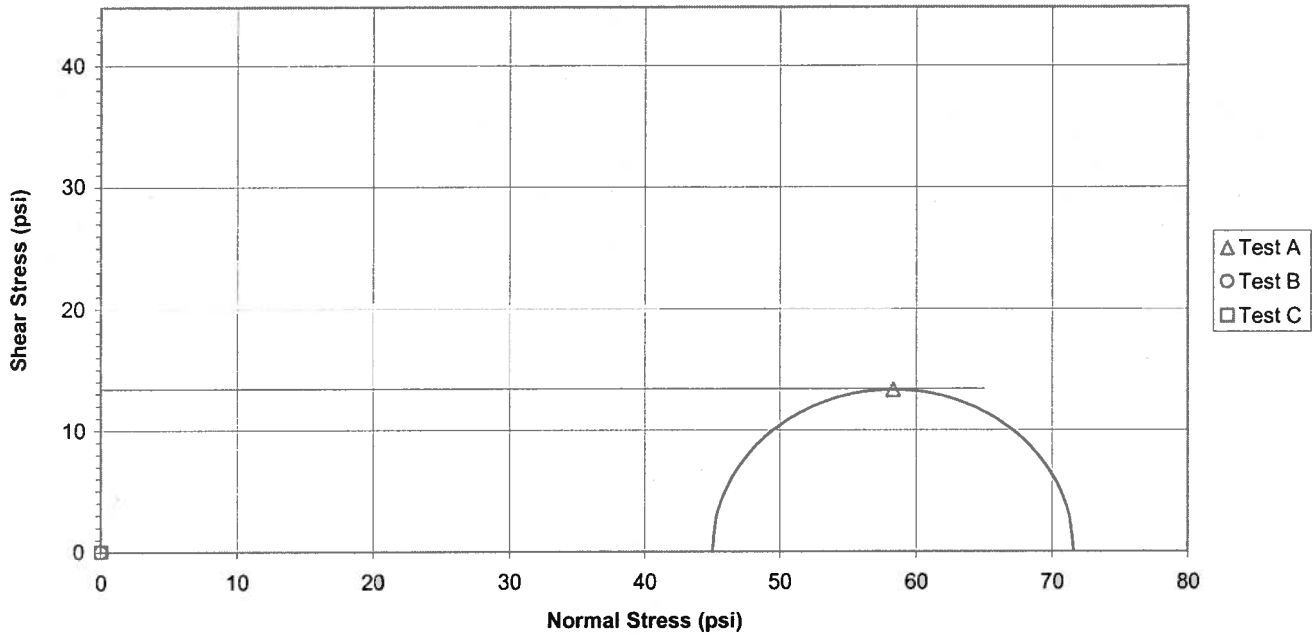
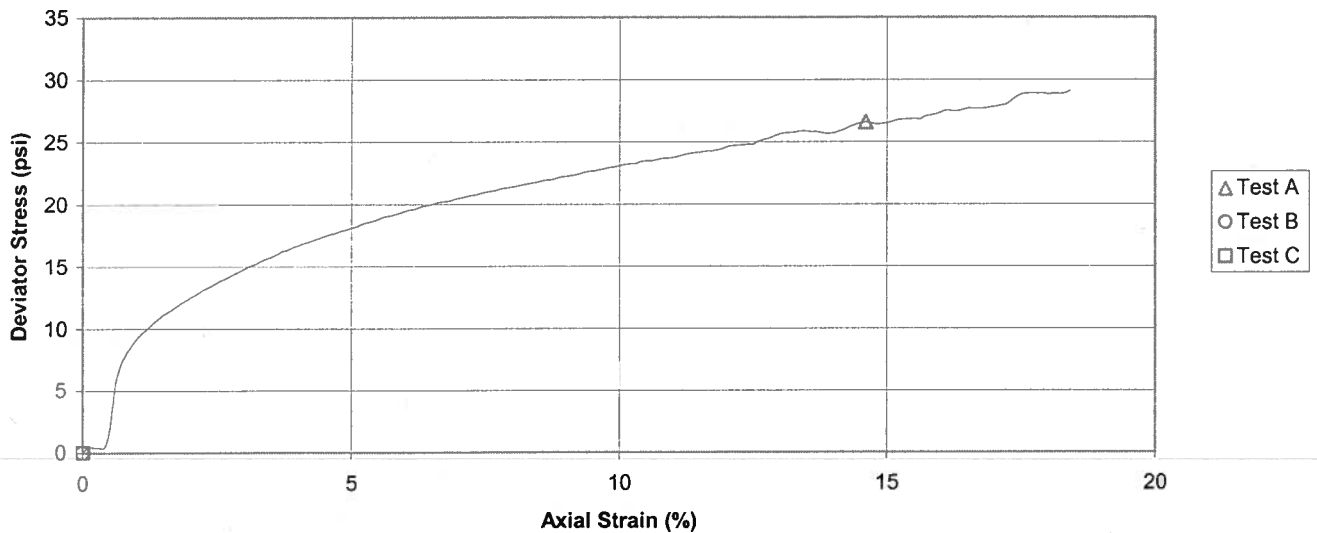


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-96, 53.9'-54.4'

Project No. 175569036
 Test Number 1152

$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

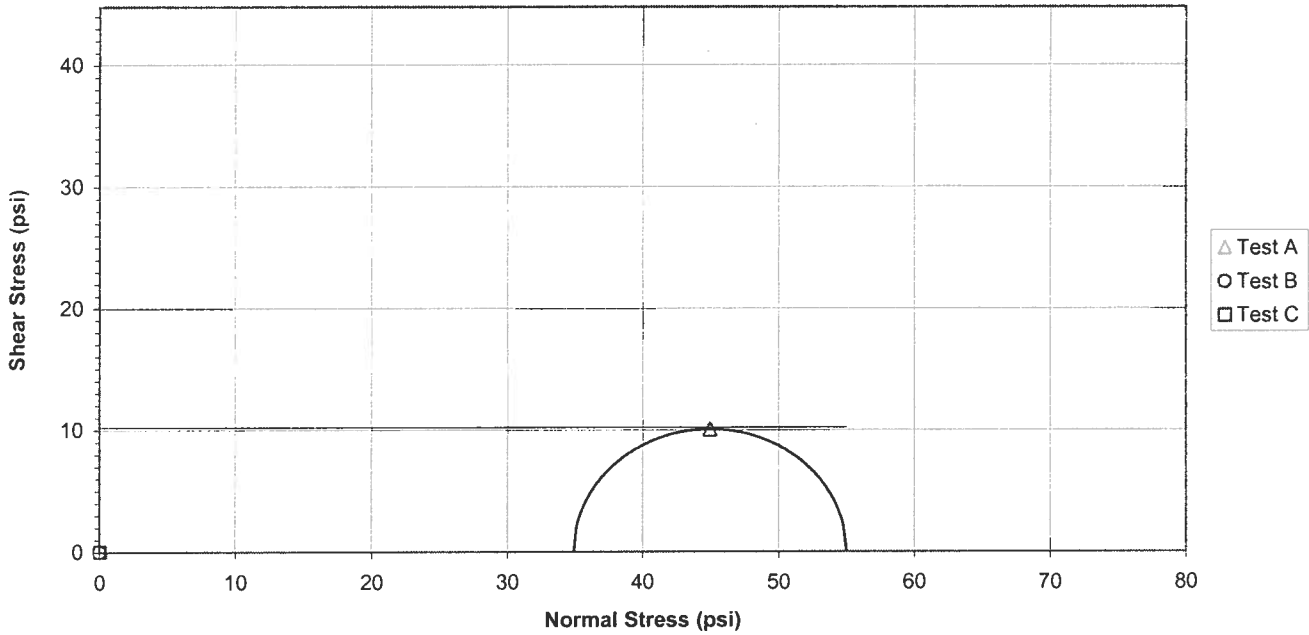
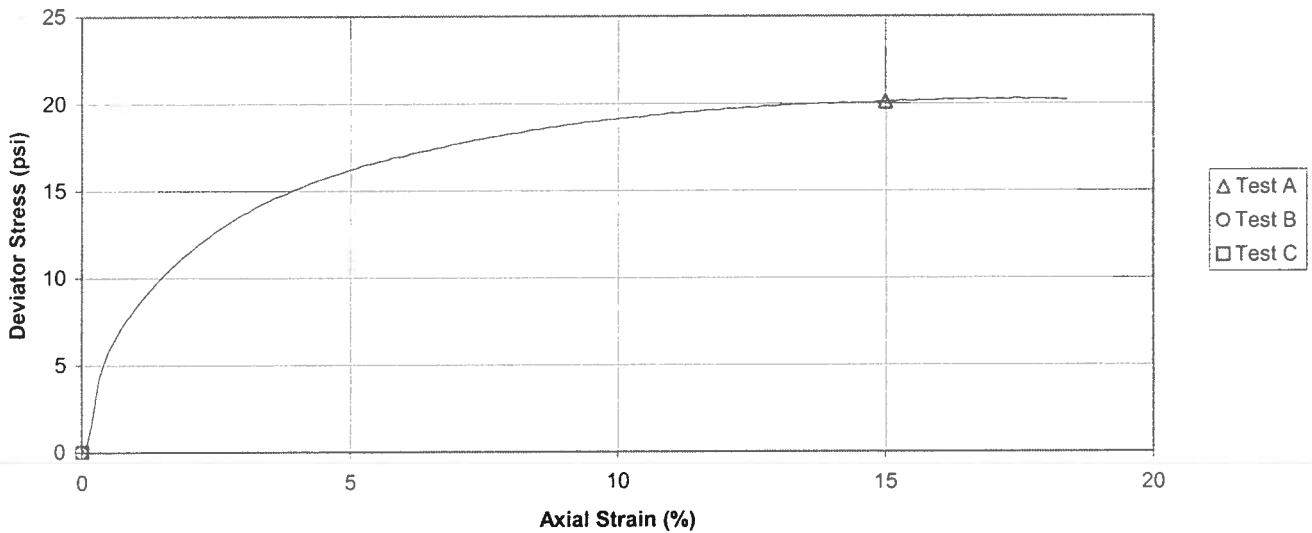
$c = 13.4$ psi

Mohr Failure Envelope

Deviator Stress vs. Axial Strain


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-100, 50.1'-50.6'

Project No. 175569036
 Test Number 561B
 c = 10.2 psi

Failure Criterion: $\phi = 0.0$ deg. Maximum Deviator Stress

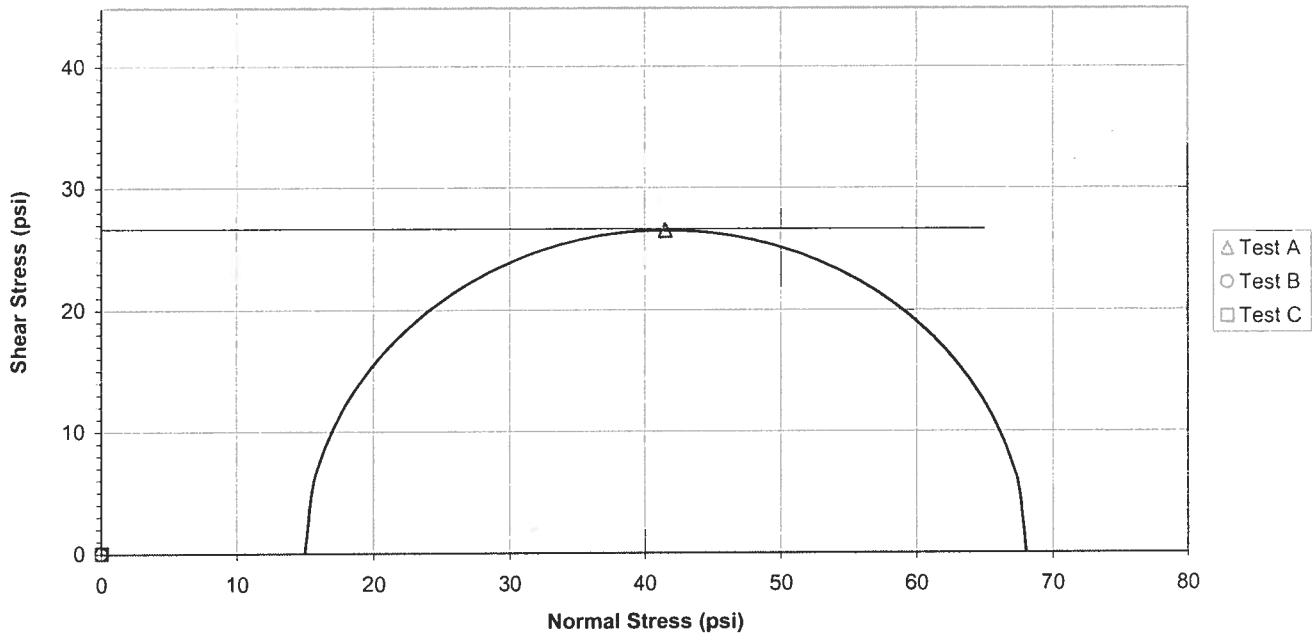
Mohr Failure Envelope

Deviator Stress vs. Axial Strain


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-102, 19.5'-20.0'

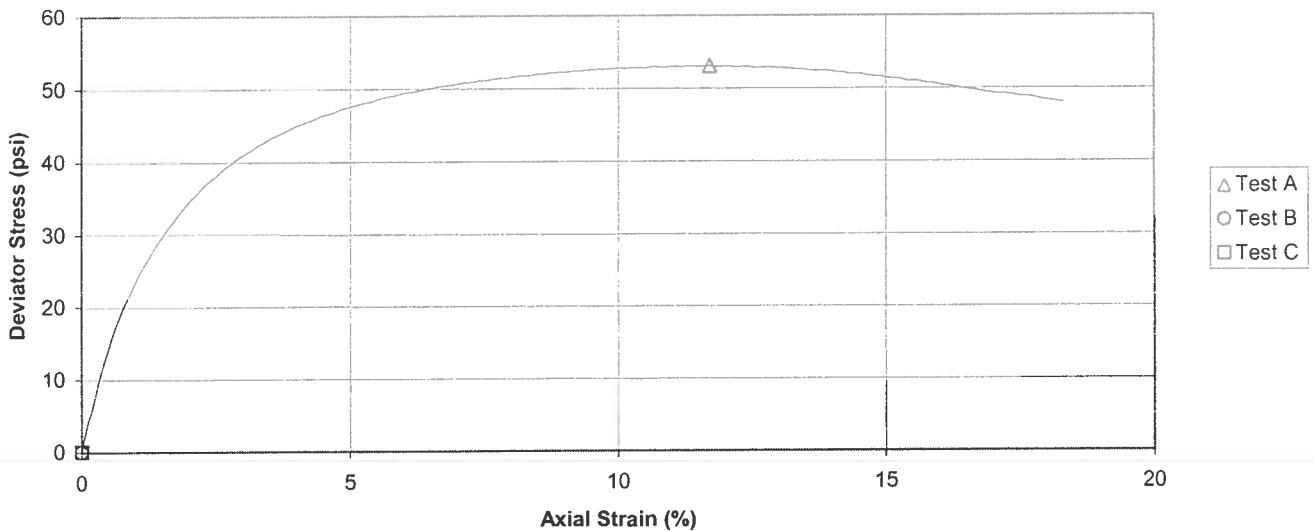
Project No. 175569036
 Test Number 565
 c = 26.7 psi

$\phi = 0.0 \text{ deg.}$
 Failure Criterion: **Maximum Deviator Stress**

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

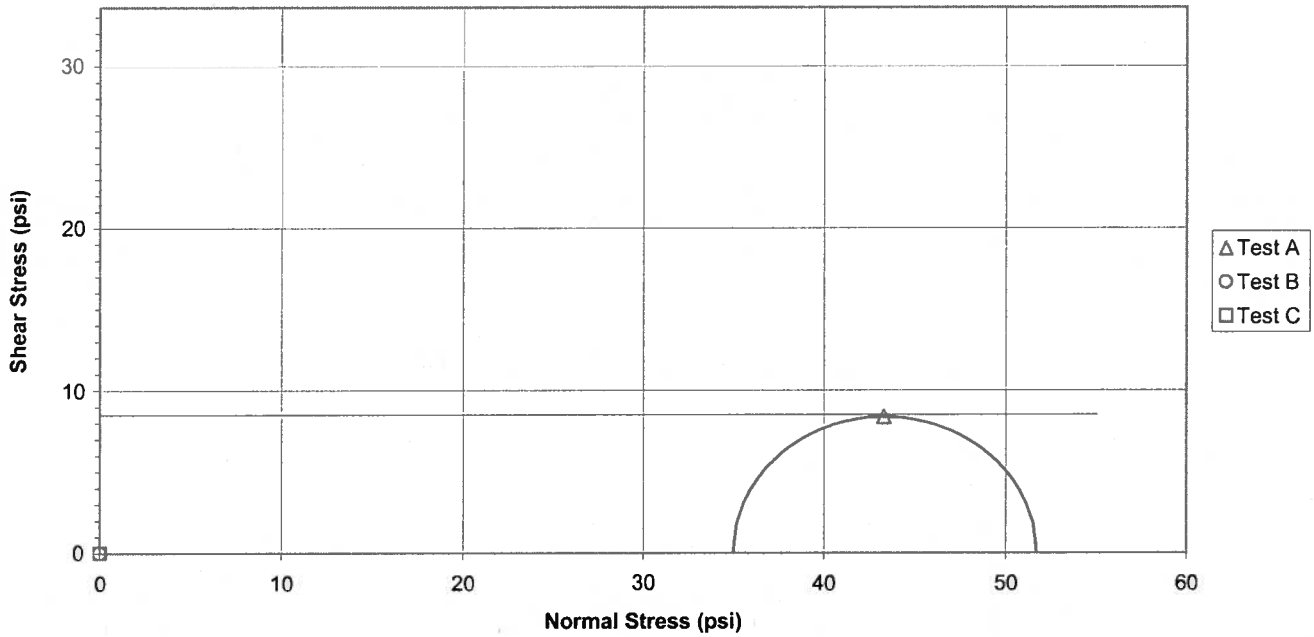


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-105, 39.5'-40.0'

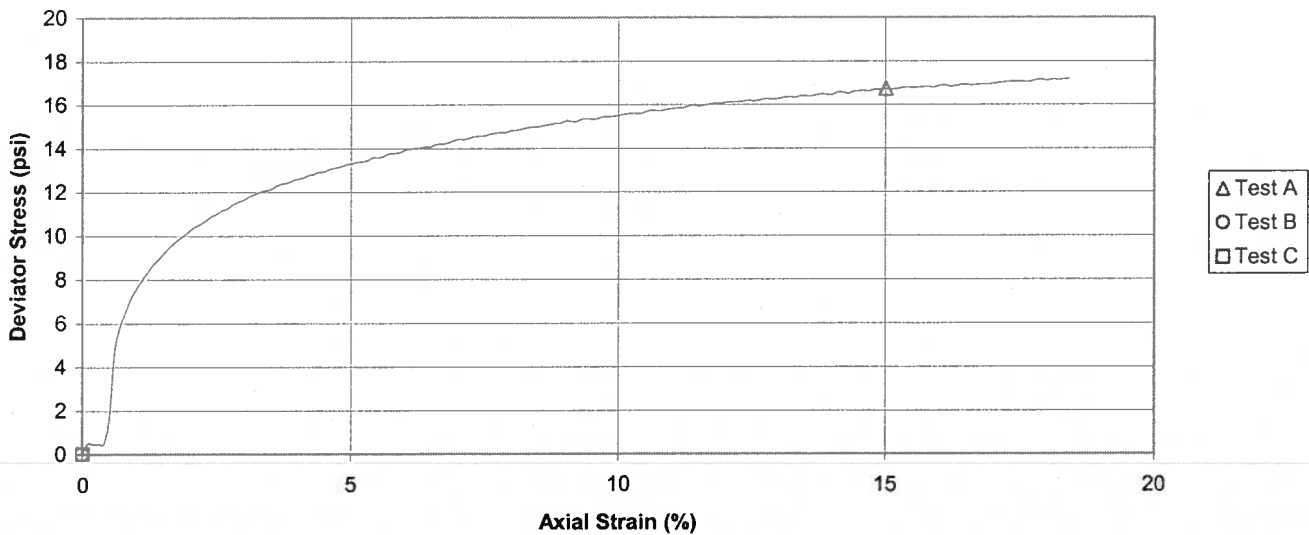
Project No. 175569036
 Test Number 1293
 c = 8.5 psi

$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



Deviator Stress vs. Axial Strain

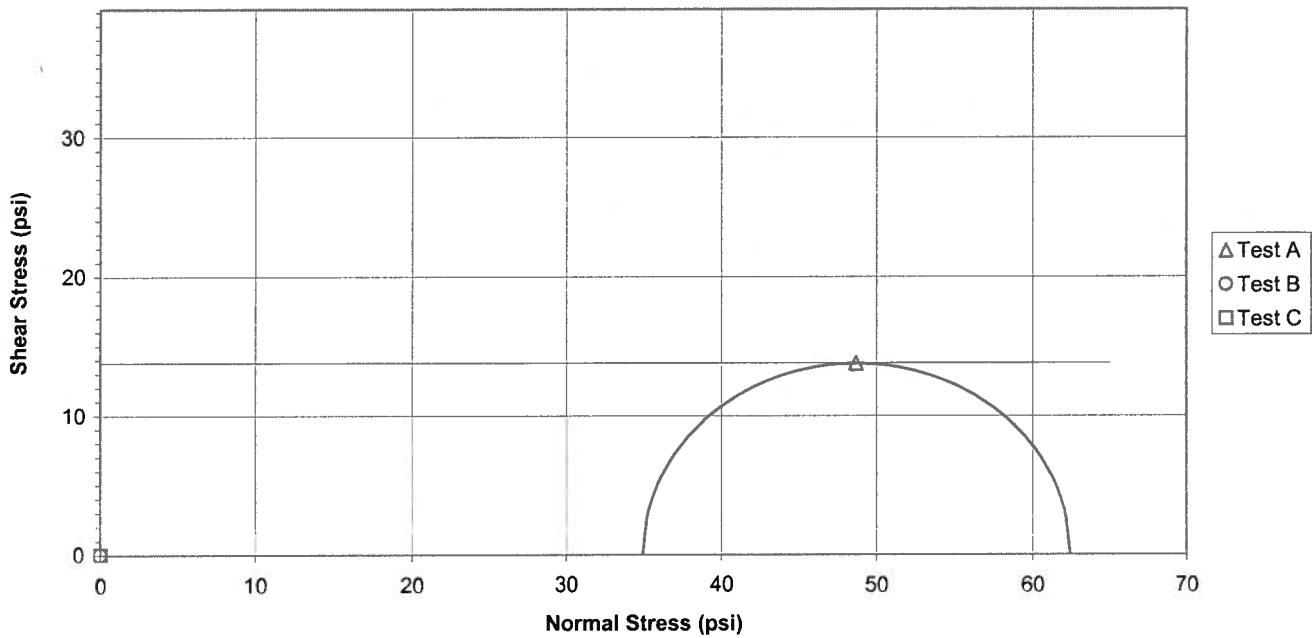


Project Widows Creek Fossil Plant (TVA)
 Sample ID STN-107, 40.1'-40.6'

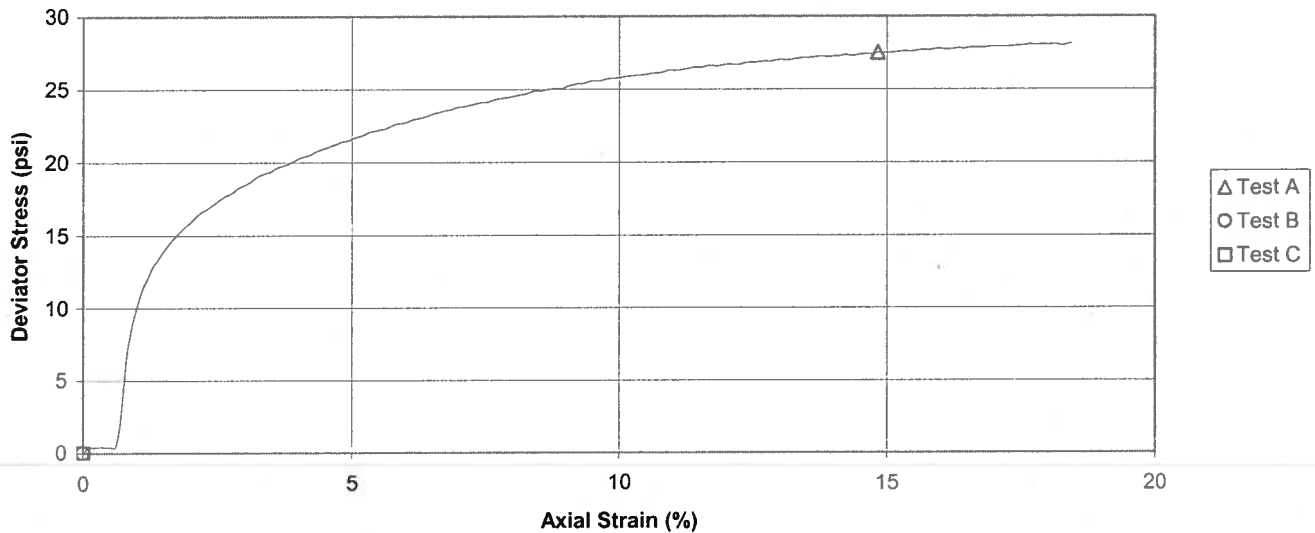
Project No. 175569036
 Test Number 1295B
 $c = 13.8 \text{ psi}$

$\phi = 0.0 \text{ deg.}$
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope



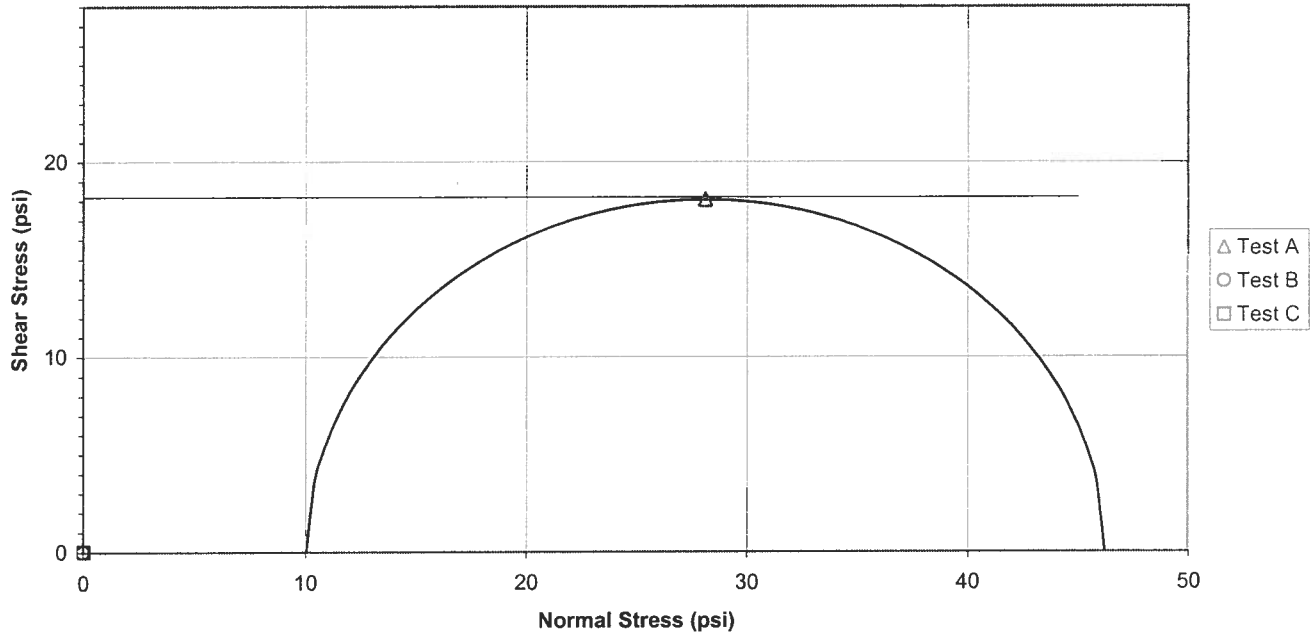
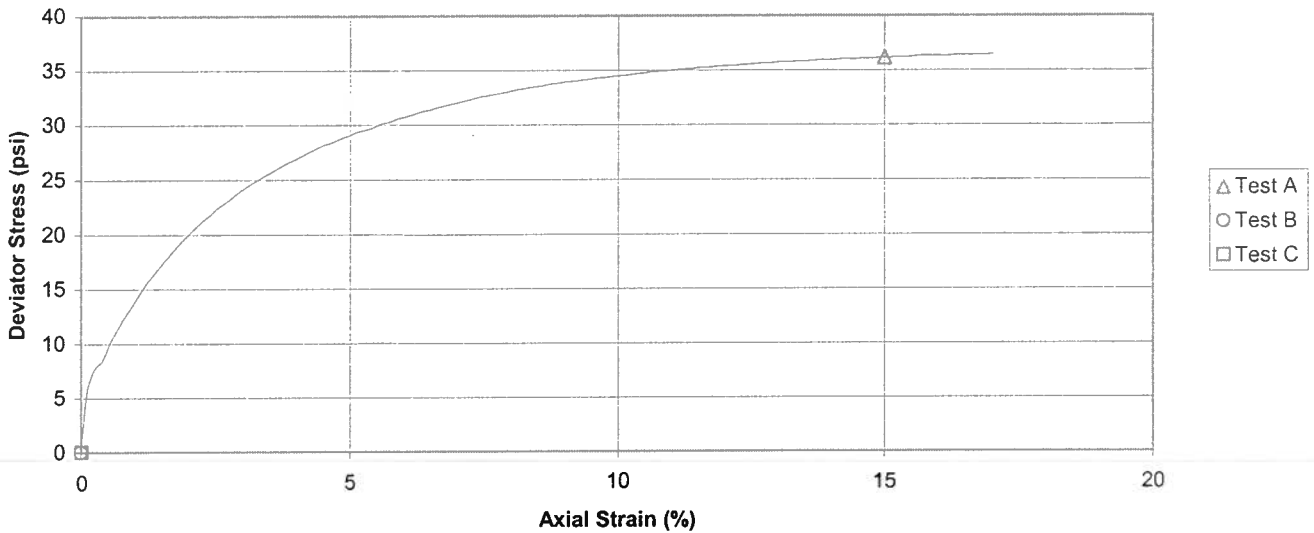
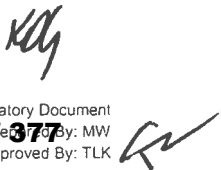
Deviator Stress vs. Axial Strain



Project Widows Creek Fossil Plant -- TVA
 Sample ID SB-108, 11.1' - 11.6'

Project No. 175569036
 Test Number 381B
 $c = 18.2$ psi

$\phi = 0.0$ deg.
 Failure Criterion: Maximum Deviator Stress

Mohr Failure Envelope

Deviator Stress vs. Axial Strain





Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

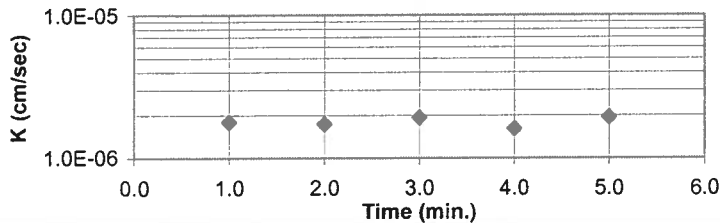
Project Name Widows Creek Fossil Plant (TVA) Project No. 175569036
 Source SB-67, 40.5'-42.5' Test ID 364A
 Visual Classification Silt (ML), (fly ash and gypsum), gray and black, wet, very soft Prepared By KDG
 Undisturbed XX Specific Gravity 2.84 ASTM D854-A Date 7-6-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was converted to Wet Density, this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor Hammer using 19 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside "Compacted". The specimen was trimmed from the bottom two layers.

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	1.3873	1.3365	1.3368	Chamber	75
Diameter (in.)	2.7850		2.7841	Influent	70
Moisture Content (%)	47.9		43.2	Effluent	65
Dry Unit Weight (pcf)	76.6		79.6	Applied Head Difference (psi)	5
Void Ratio	1.314		1.228	Back Pressure Saturated to (psi)	65
Degree of Saturation (%)	103.6		99.8	Maximum Effective Consolidation Stress (psi)	10
Trimmings MC (%)	55.9			Minimum Effective Consolidation Stress (psi)	5

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-7-09	13:24	73.0	17.78	6.98	0	---	---	---	---
7-7-09	13:25	73.0	17.64	7.13	6.00E+01	1.9E-08	1.9E-06	1.8E-08	1.8E-06
7-7-09	13:26	73.0	17.49	7.26	6.00E+01	1.8E-08	1.8E-06	1.7E-08	1.7E-06
7-7-09	13:27	73.0	17.35	7.43	6.00E+01	2.0E-08	2.0E-06	1.9E-08	1.9E-06
7-7-09	13:28	73.0	17.22	7.56	6.00E+01	1.7E-08	1.7E-06	1.6E-08	1.6E-06
7-7-09	13:29	73.0	17.07	7.72	6.00E+01	2.1E-08	2.1E-06	1.9E-08	1.9E-06

Corrected Permeability vs. Time



A gradient of approximately 99.5 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations) m/s 1.79E-08 cm/s 1.79E-06
 Average Hydraulic Conductivity @ 20° C (last run) m/s 1.79E-08 cm/s 1.79E-06

Reviewed by: KDG



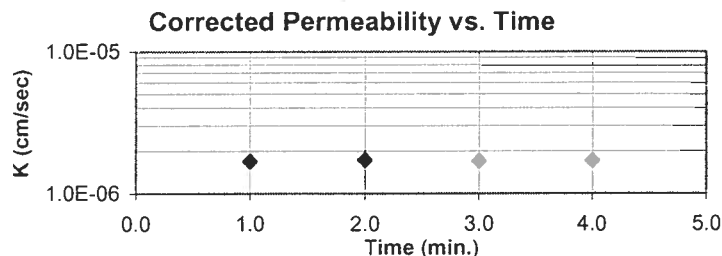
Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

Project Name Widows Creek Fossil Plant (TVA) Project No. 175569036
 Source SB-72, 18.0'-18.5' Test ID 577
 Visual Classification Poorly Graded Sand with Clay and Gravel (SP-SC), dark gray, moist, firm, bottom ash Prepared By KDG
 Undisturbed XX Specific Gravity 2.67 ASTM D854-A Date 7-20-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was converted to Wet Density, this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor Hammer using 25 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside "Compacted". The specimen was trimmed from the bottom two layers.

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	2.4595	2.4285	2.4300	Chamber	75
Diameter (in.)	2.7873		2.7392	Influent	70
Moisture Content (%)	17.1		18.7	Effluent	65
Dry Unit Weight (pcf)	105.0		110.1	Applied Head Difference (psi)	5
Void Ratio	0.587		0.514	Back Pressure Saturated to (psi)	65
Degree of Saturation (%)	77.7		97.2	Maximum Effective Consolidation Stress (psi)	10
Trimmings MC (%)	17.1			Minimum Effective Consolidation Stress (psi)	5

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-23-09	10:48	73.0	21.82	3.75	0	---	---	---	---
7-23-09	10:49	73.0	21.53	4.04	6.00E+01	1.8E-08	1.8E-06	1.7E-08	1.7E-06
7-23-09	10:50	73.0	21.24	4.34	6.00E+01	1.8E-08	1.8E-06	1.7E-08	1.7E-06
7-23-09	10:51	73.0	20.95	4.63	6.00E+01	1.8E-08	1.8E-06	1.7E-08	1.7E-06
7-23-09	10:52	73.0	20.66	4.92	6.00E+01	1.8E-08	1.8E-06	1.7E-08	1.7E-06



A gradient of approximately 56.1 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations) m/s 1.70E-08 cm/s 1.70E-06
 Average Hydraulic Conductivity @ 20° C (last run) m/s 1.70E-08 cm/s 1.70E-06

Reviewed by: KDG CW



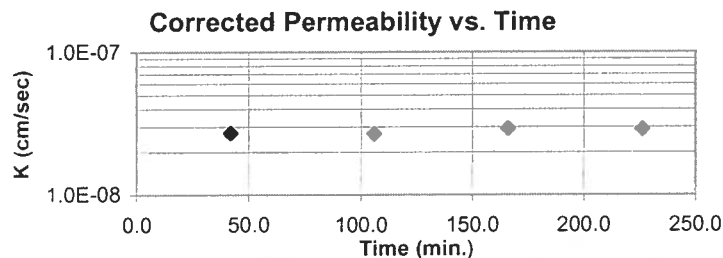
Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

Project Name Widows Creek Fossil Plant (TVA) Project No. 175569036
 Source SB-78, 10.5'-11.0' Test ID 585
 Visual Classification Fat Clay (CH), red brown, moist, firm Prepared By KDG
 Undisturbed XX Specific Gravity 2.73 ASTM D854-A Date 7-22-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was converted to Wet Density, this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor Hammer using 25 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside "Compacted". The specimen was trimmed from the bottom two layers.

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	2.4640	2.4553	2.4558	Chamber	75
Diameter (in.)	2.8033		2.8011	Influent	70
Moisture Content (%)	22.1		24.5	Effluent	65
Dry Unit Weight (pcf)	102.1		102.6	Applied Head Difference (psi)	5
Void Ratio	0.669		0.661	Back Pressure Saturated to (psi)	65
Degree of Saturation (%)	90.2		101.1	Maximum Effective Consolidation Stress (psi)	10
Trimmings MC (%)	26.2			Minimum Effective Consolidation Stress (psi)	5

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-27-09	10:02	72.0	22.22	3.53	0	---	---	---	---
7-27-09	10:44	72.0	22.02	3.73	2.52E+03	2.9E-10	2.9E-08	2.7E-10	2.7E-08
7-27-09	11:48	72.0	21.72	4.03	3.84E+03	2.8E-10	2.8E-08	2.7E-10	2.7E-08
7-27-09	12:48	72.0	21.41	4.33	3.60E+03	3.1E-10	3.1E-08	2.9E-10	2.9E-08
7-27-09	13:48	72.0	21.11	4.63	3.60E+03	3.0E-10	3.0E-08	2.9E-10	2.9E-08



A gradient of approximately 56 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations) m/s 2.79E-10 cm/s 2.79E-08
 Average Hydraulic Conductivity @ 20° C (last run) m/s 2.79E-10 cm/s 2.79E-08

Reviewed by: KDG



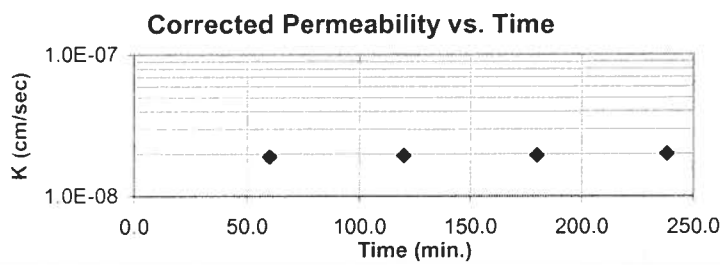
Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

Project Name Widows Creek Fossil Plant (TVA) Project No. 175569036
 Source SB-78, 36.5'-37.0' Test ID 587
 Visual Classification Lean Clay (CL), brown, moist, firm Prepared By KDG
 Undisturbed XX Specific Gravity 2.69 ASTM D854-A Date 7-22-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was converted to Wet Density, this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor Hammer using 19 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside "Compacted". The specimen was trimmed from the bottom two layers.

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	1.3940	1.3810	1.3814	Chamber	75
Diameter (in.)	2.8067		2.8039	Influent	70
Moisture Content (%)	22.1		22.8	Effluent	65
Dry Unit Weight (pcf)	104.0		105.2	Applied Head Difference (psi)	5
Void Ratio	0.614		0.597	Back Pressure Saturated to (psi)	65
Degree of Saturation (%)	96.9		102.9	Maximum Effective Consolidation Stress (psi)	10
Trimmings MC (%)	18.7			Minimum Effective Consolidation Stress (psi)	5

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-27-09	9:58	72.0	22.13	3.16	0	---	---	---	---
7-27-09	10:58	72.0	21.78	3.52	3.60E+03	2.0E-10	2.0E-08	1.9E-10	1.9E-08
7-27-09	11:58	72.0	21.42	3.88	3.60E+03	2.0E-10	2.0E-08	1.9E-10	1.9E-08
7-27-09	12:58	72.0	21.07	4.25	3.60E+03	2.0E-10	2.0E-08	1.9E-10	1.9E-08
7-27-09	13:56	72.0	20.72	4.61	3.48E+03	2.1E-10	2.1E-08	2.0E-10	2.0E-08



A gradient of approximately 99 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations) m/s 1.94E-10 cm/s 1.94E-08
 Average Hydraulic Conductivity @ 20° C (last run) m/s 1.94E-10 cm/s 1.94E-08

Reviewed by:



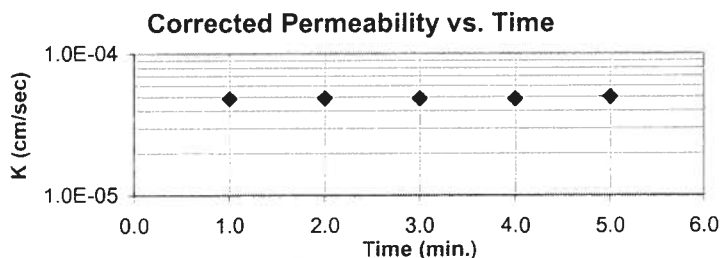
Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

Project Name Widows Creek Fossil Plant -- TVA Project No. 175569036
 Source SB-80, 28.0'-28.5' Test ID 385A
 Visual Classification Silt (ML), (fly ash), gray, moist, firm, pockets of clay Prepared By KDG
 Undisturbed XX Specific Gravity 2.17 ASTM D854-A Date 7-16-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was converted to Wet Density, this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor Hammer using 25 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside "Compacted". The specimen was trimmed from the bottom two layers.

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	2.4501	2.3824	2.3821	Chamber	70
Diameter (in.)	2.7893		2.7781	Influent	66
Moisture Content (%)	43.0		41.7	Effluent	65
Dry Unit Weight (pcf)	68.8		71.4	Applied Head Difference (psi)	1
Void Ratio	0.968		0.898	Back Pressure Saturated to (psi)	65
Degree of Saturation (%)	96.4		100.7	Maximum Effective Consolidation Stress (psi)	5
Trimmings MC (%)	46.4			Minimum Effective Consolidation Stress (psi)	4

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-16-09	12:55	73.0	21.61	3.32	0	---	---	---	---
7-16-09	12:56	73.0	21.16	3.73	6.00E+01	5.1E-07	5.1E-05	4.8E-07	4.8E-05
7-16-09	12:57	73.0	20.74	4.15	6.00E+01	5.2E-07	5.2E-05	4.8E-07	4.8E-05
7-16-09	12:58	73.0	20.33	4.55	6.00E+01	5.2E-07	5.2E-05	4.8E-07	4.8E-05
7-16-09	12:59	73.0	19.94	4.94	6.00E+01	5.1E-07	5.1E-05	4.8E-07	4.8E-05
7-16-09	13:00	73.0	19.56	5.34	6.00E+01	5.3E-07	5.3E-05	4.9E-07	4.9E-05



A gradient of approximately 56.3 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations) m/s 4.85E-07 cm/s 4.85E-05
 Average Hydraulic Conductivity @ 20° C (last run) m/s 4.84E-07 cm/s 4.84E-05

Reviewed by:



Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

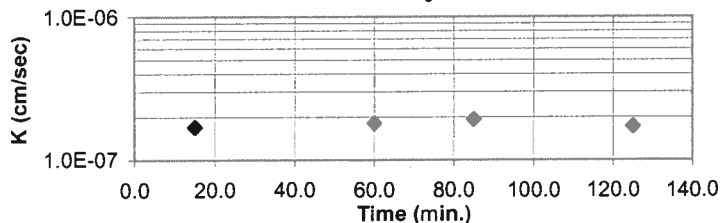
Project Name Widows Creek Fossil Plant (TVA) Project No. 175569036
 Source SB-89, 40.0'-42.0' Test ID 373B
 Visual Classification Gravelly Fat Clay (CH), brown gray, wet, very soft Prepared By KDG
 Undisturbed XX Specific Gravity 2.72 ASTM D854-A Date 7-6-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was converted to Wet Density, this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor Hammer using 25 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside "Compacted". The specimen was trimmed from the bottom two layers.

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	2.4074	2.2927	2.2928	Chamber _____ 75	
Diameter (in.)	2.7987		2.8080	Influent _____ 70	
Moisture Content (%)	16.7		14.9	Effluent _____ 65	Applied Head Difference (psi) _____ 5
Dry Unit Weight (pcf)	116.2		121.2		Back Pressure Saturated to (psi) _____ 65
Void Ratio	0.462		0.401		Maximum Effective Consolidation Stress (psi) _____ 10
Degree of Saturation (%)	98.4		101.1		Minimum Effective Consolidation Stress (psi) _____ 5
Trimmings MC (%)	20.1				

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-7-09	13:38	73.0	22.24	3.04	0	---	---	---	---
7-7-09	13:53	73.0	21.77	3.54	9.00E+02	1.8E-09	1.8E-07	1.7E-09	1.7E-07
7-7-09	14:38	73.0	20.29	5.11	2.70E+03	1.9E-09	1.9E-07	1.8E-09	1.8E-07
7-7-09	15:03	73.0	19.41	6.01	1.50E+03	2.1E-09	2.1E-07	1.9E-09	1.9E-07
7-7-09	15:43	73.0	18.15	7.24	2.40E+03	1.8E-09	1.8E-07	1.7E-09	1.7E-07

Corrected Permeability vs. Time



A gradient of approximately 57.3 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations) m/s 1.78E-09 cm/s 1.78E-07
 Average Hydraulic Conductivity @ 20° C (last run) m/s 1.78E-09 cm/s 1.78E-07

Reviewed by: _____



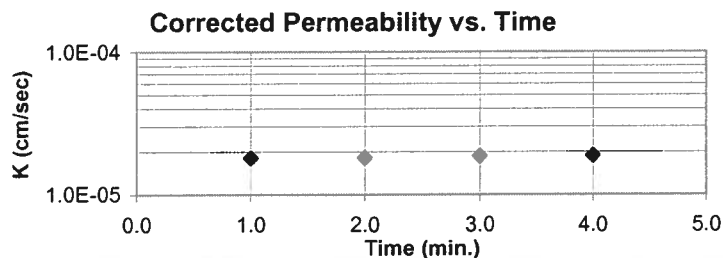
Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

Project Name Widows Creek Fossil Plant (TVA) Project No. 175569036
 Source SB-89, 40.0'-42.0' Test ID 373A
 Visual Classification Poorly Graded Sand with Silt (SP-SM), brown, moist, firm Prepared By KDG
 Undisturbed XX Specific Gravity 2.65 ASTM D854-A Date 7-6-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was converted to Wet Density, this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor Hammer using 25 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside "Compacted". The specimen was trimmed from the bottom two layers.

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	2.4194	2.3329	2.3334	Chamber	75
Diameter (in.)	2.8010		2.7787	Influent	70
Moisture Content (%)	18.6		18.2	Effluent	65
Dry Unit Weight (pcf)	105.8		111.5	Applied Head Difference (psi)	5
Void Ratio	0.564		0.484	Back Pressure Saturated to (psi)	65
Degree of Saturation (%)	87.4		99.6	Maximum Effective Consolidation Stress (psi)	10
Trimmings MC (%)	17.2			Minimum Effective Consolidation Stress (psi)	5

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-7-09	12:58	73.0	16.34	9.26	0	---	---	---	---
7-7-09	12:59	73.0	15.54	10.12	6.00E+01	1.9E-07	1.9E-05	1.8E-07	1.8E-05
7-7-09	13:00	73.0	14.70	10.93	6.00E+01	1.9E-07	1.9E-05	1.8E-07	1.8E-05
7-7-09	13:01	73.0	13.86	11.76	6.00E+01	2.0E-07	2.0E-05	1.9E-07	1.9E-05
7-7-09	13:02	73.0	13.00	12.56	6.00E+01	2.0E-07	2.0E-05	1.9E-07	1.9E-05



A gradient of approximately 57 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations)
 Average Hydraulic Conductivity @ 20° C (last run)

m/s 1.83E-07
 m/s 1.83E-07

cm/s 1.83E-05
 cm/s 1.83E-05

Reviewed by: KDG



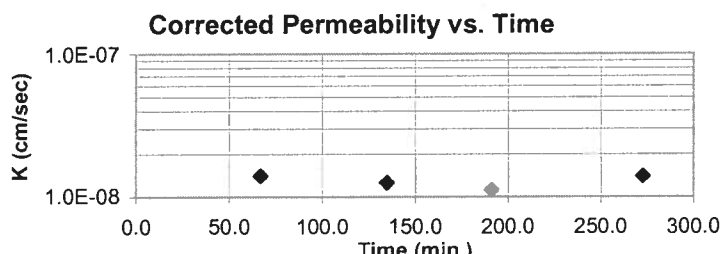
Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

Project Name Widows Creek Fossil Plant (TVA) Project No. 175569036
 Source SB-90, 10.0'-10.5' Test ID 375A
 Visual Classification Fat Clay with Sand (CH), red brown and brown, moist, firm Prepared By KDG
 Undisturbed XX Specific Gravity 2.71 ASTM D854-A Date 7-6-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was converted to Wet Density, this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor Hammer using 25 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside "Compacted". The specimen was trimmed from the bottom two layers.

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	2.4655	2.4396	2.4399	Chamber	75
Diameter (in.)	2.7973		2.7787	Influent	70
Moisture Content (%)	26.0		25.6	Effluent	65
Dry Unit Weight (pcf)	98.0		100.3	Applied Head Difference (psi)	5
Void Ratio	0.727		0.686	Back Pressure Saturated to (psi)	65
Degree of Saturation (%)	96.9		101.3	Maximum Effective Consolidation Stress (psi)	10
Trimmings MC (%)	26.8			Minimum Effective Consolidation Stress (psi)	5

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-9-09	8:11	73.0	22.13	2.99	0	---	---	---	---
7-9-09	9:18	73.0	21.97	3.16	4.02E+03	1.5E-10	1.5E-08	1.4E-10	1.4E-08
7-9-09	10:26	73.0	21.82	3.31	4.08E+03	1.3E-10	1.3E-08	1.3E-10	1.3E-08
7-9-09	11:22	73.0	21.71	3.42	3.36E+03	1.2E-10	1.2E-08	1.1E-10	1.1E-08
7-9-09	12:44	73.0	21.51	3.62	4.92E+03	1.5E-10	1.5E-08	1.4E-10	1.4E-08



A gradient of approximately 56 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations) m/s 1.29E-10 cm/s 1.29E-08
 Average Hydraulic Conductivity @ 20° C (last run) m/s 1.29E-10 cm/s 1.29E-08

Reviewed by:



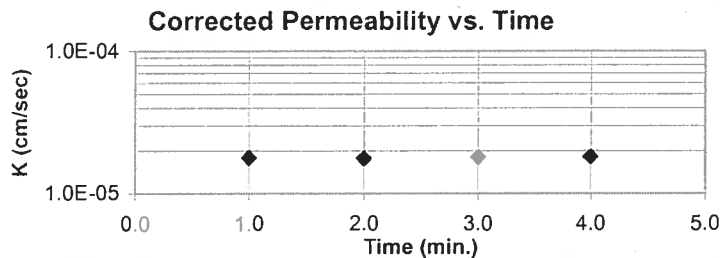
Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

Project Name Widows Creek Fossil Plant (TVA) Project No. 175569036
 Source STN-96, 35.6'-36.1' Test ID 1151B
 Visual Classification Sandy Silt (ML), gray, wet, very soft Prepared By KDG
 Undisturbed XX Specific Gravity 2.72 ASTM D854-A Date 7-23-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was converted to Wet Density, this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor Hammer using 19 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside "Compacted". The specimen was trimmed from the bottom two layers.

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	1.3830	1.3151	1.3156	Chamber	72
Diameter (in.)	2.8017		2.8119	Influent	67
Moisture Content (%)	27.5		24.4	Effluent	65
Dry Unit Weight (pcf)	97.1		101.3	Applied Head Difference (psi)	2
Void Ratio	0.750		0.676	Back Pressure Saturated to (psi)	65
Degree of Saturation (%)	99.8		98.0	Maximum Effective Consolidation Stress (psi)	7
Trimming MC (%)	23.8			Minimum Effective Consolidation Stress (psi)	5

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-27-09	13:53	72.0	14.66	10.73	0	---	---	---	---
7-27-09	13:54	72.0	14.07	11.31	6.00E+01	1.9E-07	1.9E-05	1.8E-07	1.8E-05
7-27-09	13:55	72.0	13.51	11.88	6.00E+01	1.8E-07	1.8E-05	1.8E-07	1.8E-05
7-27-09	13:56	72.0	12.93	12.44	6.00E+01	1.9E-07	1.9E-05	1.8E-07	1.8E-05
7-27-09	13:57	72.0	12.38	13.00	6.00E+01	1.9E-07	1.9E-05	1.8E-07	1.8E-05



A gradient of approximately 99.8 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations) m/s 1.78E-07 cm/s 1.78E-05
 Average Hydraulic Conductivity @ 20° C (last run) m/s 1.78E-07 cm/s 1.78E-05

Reviewed by:



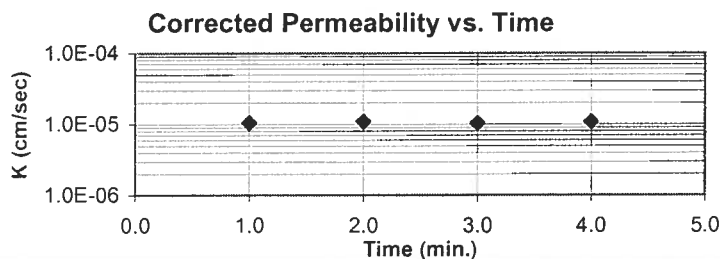
Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

Project Name Widows Creek Fossil Plant (TVA) Project No. 175569036
 Source STN-100, 49.5'-50.0' Test ID 561A
 Visual Classification Lean Clay (CL), brown, moist, firm Prepared By KDG
 Undisturbed XX Specific Gravity 2.68 ASTM D854-A Date 7-20-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was converted to Wet Density, this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor Hammer using 19 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside "Compacted". The specimen was trimmed from the bottom two layers.

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	1.3916	1.3738	1.3754	Chamber	75
Diameter (in.)	2.8017		2.7879	Influent	70
Moisture Content (%)	33.9		33.2	Effluent	65
Dry Unit Weight (pcf)	86.4		88.2	Applied Head Difference (psi)	5
Void Ratio	0.937		0.896	Back Pressure Saturated to (psi)	65
Degree of Saturation (%)	97.0		99.3	Maximum Effective Consolidation Stress (psi)	10
Trimming MC (%)	32.7			Minimum Effective Consolidation Stress (psi)	5

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-23-09	9:34	73.0	16.24	9.19	0	---	---	---	---
7-23-09	9:35	73.0	15.43	10.02	6.00E+01	1.1E-07	1.1E-05	1.0E-07	1.0E-05
7-23-09	9:36	73.0	14.56	10.84	6.00E+01	1.2E-07	1.2E-05	1.1E-07	1.1E-05
7-23-09	9:37	73.0	13.76	11.63	6.00E+01	1.1E-07	1.1E-05	1.0E-07	1.0E-05
7-23-09	9:38	73.0	12.95	12.45	6.00E+01	1.1E-07	1.1E-05	1.1E-07	1.1E-05



A gradient of approximately 99.2 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations) m/s 1.06E-07 cm/s 1.06E-05
 Average Hydraulic Conductivity @ 20° C (last run) m/s 1.06E-07 cm/s 1.06E-05

Reviewed by: KDG



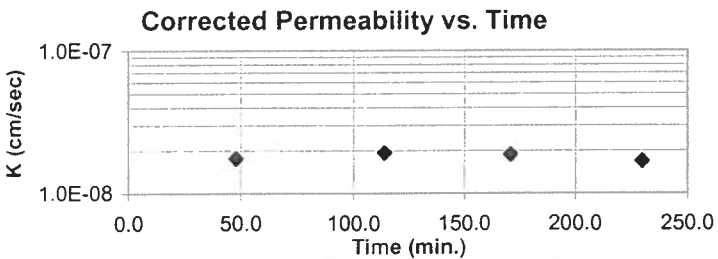
Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

Project Name Widows Creek Fossil Plant (TVA) Project No. 175569036
 Source STN-101, 40.6'-41.1' Test ID 564B
 Visual Classification Fat Clay (CH), red brown, moist, firm Prepared By KDG
 Undisturbed XX Specific Gravity 2.75 ASTM D854-A Date 7-20-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was converted to Wet Density, this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor Hammer using 19 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside "Compacted". The specimen was trimmed from the bottom two layers.

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	1.3969	1.3785	1.3802	Chamber	75
Diameter (in.)	2.8027		2.7832	Influent	70
Moisture Content (%)	27.5		27.7	Effluent	65
Dry Unit Weight (pcf)	95.8		98.3	Applied Head Difference (psi)	5
Void Ratio	0.792		0.747	Back Pressure Saturated to (psi)	65
Degree of Saturation (%)	95.5		102.1	Maximum Effective Consolidation Stress (psi)	10
Trimmings MC (%)	30.2			Minimum Effective Consolidation Stress (psi)	5

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-27-09	9:55	72.0	22.37	3.26	0	---	---	---	---
7-27-09	10:43	72.0	22.14	3.55	2.88E+03	1.9E-10	1.9E-08	1.8E-10	1.8E-08
7-27-09	11:49	72.0	21.80	3.99	3.96E+03	2.0E-10	2.0E-08	1.9E-10	1.9E-08
7-27-09	12:46	72.0	21.50	4.34	3.42E+03	2.0E-10	2.0E-08	1.9E-10	1.9E-08
7-27-09	13:45	72.0	21.20	4.64	3.54E+03	1.8E-10	1.8E-08	1.7E-10	1.7E-08



A gradient of approximately 98.8 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations) m/s 1.80E-10 cm/s 1.80E-08
 Average Hydraulic Conductivity @ 20° C (last run) m/s 1.80E-10 cm/s 1.80E-08

Reviewed by: KDG



Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter ASTM D 5084-03

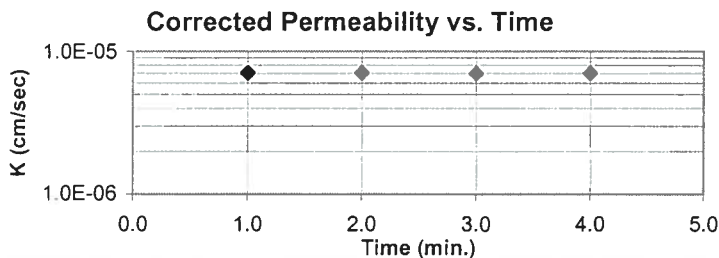
Project Name Widows Creek Fossil Plant (TVA) Project No. 175569036
 Source STN-106, 50.5'-51.0' Test ID 576
 Visual Classification Silt (ML), gray, wet, very soft, gypsum Prepared By KDG
 Undisturbed XX Specific Gravity 2.28 ASTM D854-A Date 7-20-09
 Maximum Dry Density (pcf) _____ Percent of Maximum _____
 Permeant: De-aired tap water
 Selection and Preparation Comments: _____

Specimens (if compacted) were compacted in a Proctor Mold as follows: The Maximum Dry Density was this mass was divided by 4 (layers) and 3 of the 4 layers were compacted into the mold using a Proctor 25 blows per layer. The density was varied by reducing the height of the drop by the amount listed beside. The specimen was trimmed from the bottom two layers.

Not dried
@ 40°C

	Initial Specimen Data	After Consolidation Data	After Test Data	Final Pressures (psi)	
Height (in.)	2.4478	2.1980	2.2013	Chamber	75
Diameter (in.)	2.8060		2.8805	Influent	70
Moisture Content (%)	41.8		37.1	Effluent	65
Dry Unit Weight (pcf)	73.3		77.3	Applied Head Difference (psi)	5
Void Ratio	0.943		0.841	Back Pressure Saturated to (psi)	65
Degree of Saturation (%)	101.0		100.5	Maximum Effective Consolidation Stress (psi)	10
Trimmings MC (%)	40.1			Minimum Effective Consolidation Stress (psi)	5

Date	Clock (24H:M)	Temp. °F	Bottom Head	Top Head	Test Time (sec)	Hydraulic Conductivity			
						k (m/s)	k (cm/s)	k @ 20° C (m/s)	k @ 20° C (cm/s)
7-23-09	10:22	73.0	18.52	7.26	0	---	---	---	---
7-23-09	10:23	73.0	18.14	7.63	6.00E+01	7.6E-08	7.6E-06	7.1E-08	7.1E-06
7-23-09	10:24	73.0	17.78	8.01	6.00E+01	7.5E-08	7.5E-06	7.1E-08	7.1E-06
7-23-09	10:25	73.0	17.43	8.39	6.00E+01	7.5E-08	7.5E-06	7.0E-08	7.0E-06
7-23-09	10:26	73.0	17.05	8.74	6.00E+01	7.5E-08	7.5E-06	7.0E-08	7.0E-06



A gradient of approximately 56.4 was used for this test. This gradient exceeds ASTM guidelines for maximum gradient, but was used to achieve the requestors desired test duration. Examination of the sample shows no signs of material loss or clogging that may affect test results.

Average Hydraulic Conductivity @ 20° C (last 4 determinations) m/s 7.05E-08 cm/s 7.05E-06
 Average Hydraulic Conductivity @ 20° C (last run) m/s 7.05E-08 cm/s 7.05E-06

Reviewed by: KDG