

SUMMARY OF SOIL LABORATORY TEST RESULTS¹

Boring / Test Pit No.	Sample Top Depth (ft.)	Sample Type ²	USCS Sample Class. (D 2487) ³	Sieve Results (D 422)		Atterberg Limits* (D 4318)				Organic Content (%)	Natural Moisture (%) (D 2216)	Moist Unit Weight (PCF)	Specific Gravity (D 854)	Moisture-Density Relationship (D 1557)		Bearing Ratio (D 1883)		Specimen		Shear Strength					Consolidation (D 2435)				
				Percent Passing No. 200	Percent Retained No. 4	LL	PL	PI	Oven Dried LL					Dry Unit Wt. (PCF)	Optimum Moisture (%)	Dry	Soaked	Intact	Compacted	Test Type ⁵	Total		Effective		Failure Criterion ⁶	C _{er}	C _{ec}	e _o	P _p /tsf
																					f deg.	C psi	f deg.	C psi					
B-320	48.5	UD	CH	81.5	0.0	59	19	40		34.4	114	2.74					X	-	UU	NA	12.7	NA	NA	Dev					
B-320	53.5	SPT	CH			69	24	45		34.9							X	-	DS	NA	NA	21.9	9.6	NA					
B-320	73.5	SPT	SM	15.3	5.0					18.8																			
B-320	93.5	SPT	SM	15.1	1.8					25.4																			
B-320	103.5	SPT	SM	16.8	0.0					29.2																			
B-320	113.5	SPT	CL			44	16	28		28.5																			
B-320	128.5	SPT	MH			50	30	20		34.1																			
B-320	148.5	SPT	SM	47.7	1.4					37.0																			
B-321	2.5	SPT	SC	31.0	0.9					9.7																			
B-321	5.0	SPT	SP-SM							7.4																			
B-321	7.5	SPT	CL							25.2																			
B-321	10.5	SPT	CH	65.9	0.0	55	20	35		36.2																			
B-321	13.5	SPT	SC							30.0																			
B-321	18.5	SPT	SC	35.3	0.0					29.7																			
B-321	23.5	UD	CL	99.7	0.0	45	18	27		26.2	117.8	2.79					X	-	UU	NA	32	NA	NA	Dev	0.009	0.306	1.03	19	
B-321	28.5	SPT	SM	43.6	0.0	47	29	18		27.0																			
B-321	33.5	SPT	SP-SM							30.9																			
B-321	38.5	SPT	SP-SM	9.0	1.5					27.1																			
B-321	43.5	SPT	SP-SM							26.0																			
B-321	48.5	SPT	MH	73.0	0.0					35.1																			
B-321	53.5	SPT	SM	14.3	8.6	NP	NP	NP		25.0																			
B-321	58.5	SPT	SM	18.6	5.1					22.4																			
B-321	63.5	SPT	SM							27.6																			
B-321	68.5	SPT	SM	16.0	0.2					28.4																			
B-321	73.5	UD	SM	15.3	0.0	NP	NP	NP		28.5	120.5	2.67					X	-	CU-bar	20	13.5	30	7	PSR	0.003	0.064	0.72	14.2	
B-321	78.5	SPT	SM							34.9																			
B-321	83.5	SPT	SM							20.6																			
B-321	88.5	SPT	SM	30.0	0.2					31.0																			
B-321	93.5	SPT	SC	32.2	1.0	59	26	33		36.9																			
B-321	98.5	SPT	SM	29.8	0.0					36.1																			
B-321	103.5	SPT	SM							58.2																			
B-321	108.5	SPT	SM							42.6																			
B-321	113.5	SPT	SM	36.3	0.0					34.6																			
B-321	118.5	SPT	SM							39.8																			
B-321	123.5	SPT	SM							43.1																			
B-321	128.5	SPT	MH	60.8	0.0					49.5																			



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Boring / Test Pit No.	Sample Top Depth (ft.)	Sample Type ²	USCS Sample Class. (D 2487) ³	Sieve Results (D 412)		Atterberg Limits ⁴ (D 4318)				Organic Content (%)	Natural Moisture (%) (D 2216)	Moist Unit Weight (PCF)	Specific Gravity (D 854)	Moisture-Density Relationship (D 1557)		Bearing Ratio (D 1883)		Specimen		Shear Strength					Consolidation (D 2435)															
				Percent Passing No. 200	Percent Retained No. 4	LL	PL	PI	Oven Dried LL					Dry Unit Wt. (PCF)	Optimum Moisture (%)	Dry	Soaked	Intact	Compacted	Test Type ⁵	Total		Effective		Failure Criterion ⁶	C _{cr}	C _{cc}	e ₀	P _p ' _{tsf}											
																					f deg	C psi	f deg	C' psi																
B-321	133.5	SPT	MH								42.3																													
B-321	138.5	SPT	MH								39.7																													
B-321	143.5	SPT	MH	84.6	0.0						60.2																													
B-321	148.5	SPT	MH								66.0																													
B-323	2.5	SPT	SP								5.0																													
B-323	7.5	SPT	SP-SM	8.2	1.1						13.0																													
B-323	13.5	SPT	SP-SM	8.4	0.0						16.2																													
B-323	18.5	SPT	SM			NP	NP	NP			11.9																													
B-323	28.5	SPT	SP								17.6																													
B-323	38.5	SPT	SP-SM	11.4	0.9						20.7																													
B-323	48.5	SPT	CH	51.6	0.0	50	17	33			28.1																													
B-323	58.5	SPT	CH	89.1	0.0	65	22	43			35.1																													
B-323	68.5	SPT	SC	32.8	0.0	46	24	22			29.0																													
B-323	83.5	UD	CL	72.7	0.0	42	20	22			36.2	117	2.76					X	-	UU	NA	40	NA	NA	Dev															
B-323	93.5	SPT	SM	27.9	6.8	NP	NP	NP			26.3																													
B-323	103.5	SPT	SP-SM	10.6	0.8	NP	NP	NP			28.6																													
B-323	113.5	SPT	SM	18.1	0.0						30.2																													
B-323	123.5	SPT	SM								19.4																													
B-323	133.5	SPT	SM	30.2	0.1						33.1																													
B-323	143.5	SPT	MH	52.1	0.0	73	38	35			48.3																													
B-323	153.5	SPT	ML			39	30	9			31.3																													
B-323	163.5	SPT	MH	63.3	0.0						54.2																													
B-323	173.5	SPT	CH	56.9	0.0	97	31	66			44.0																													
B-323	183.5	SPT	CH	94.0	0.0	124	33	91			68.3																													
B-323	193.5	SPT	CH	76.3	0.0	116	36	80			58.1																													
B-323	198.5	SPT	MH			97	62	35			32.9																													
B-326	5.0	SPT	SP-SM								8.2																													
B-326	13.5	SPT	SP-SM	10.5	0.0						12.2																													
B-326	23.5	SPT	SM	23.7	1.0						22.7																													
B-326	33.5	UD	CL	62.0	0.0	41	16	25			27.6	130	2.76					X	-	Qu	NA	11.9	NA	NA	Dev															
																		X	-	UU	NA	8.4	NA	NA	Dev															
B-326	43.5	UD	OH	89.3	0.0	63	22	41	45	0.4	33.9	111	2.70				X	-	Qu	NA	19.7	NA	NA	Dev																
																		X	-	DS	NA	NA	19.0	4.9	NA															
B-327	113.5	UD	CH	51.9	0.0	60	24	36			44.3	107	2.70																											
B-328	2.5	SPT	SP-SM	8.7	0.0	NP	NP	44			4.5																													
B-328	7.5	SPT	CH								30.0																													
B-328	10.5	SPT	CH			59	17	42			28.8																													

SUMMARY OF SOIL LABORATORY TEST RESULTS¹

Boring / Test Pit No.	Sample Top Depth (ft.)	Sample Type ²	USCS Sample Class. (D 2487) ³	Sieve Results (D 422)		Atterberg Limits ⁴ (D 4318)				Organic Content (%)	Natural Moisture (%) (D 2216)	Moist Unit Weight (PCF)	Specific Gravity (D 854)	Moisture-Density Relationship (D 1557)		Bearing Ratio (D 1883)		Specimen		Shear Strength					Consolidation (D 2435)			
				Percent Passing No. 200	Percent Retained No. 4	LL	PL	PI	Oven Dried LL					Dry Unit Wt. (PCF)	Optimum Moisture (%)	Dry	Soaked	Intact	Compacted	Test Type ⁵	Total		Effective		Failure Orientation ⁶	Ccr	Cec	eo
B-328	18.5	SPT	MH			64	36	28		35.1																		
B-328	23.5	SPT	CH			77	28	49		33.0																		
B-328	28.5	SPT	SC	42.6	0.1	40	23	19		30.5																		
B-328	33.5	SPT	SP-SM							18.2																		
B-328	38.5	SPT	SP-SM	7.8	0.0					22.6																		
B-328	43.5	SPT	SP-SM	10.8	4.2	NP	NP	NP		24.2																		
B-328	48.5	SPT	ML							25.8																		
B-328	53.5	SPT	SM	21.9	9.6					24.0																		
B-328	63.5	UD	OH	87.0	0.0	72	41	31	50	44.2	121	2.66					X	-	UU	Test Not Performed					<0.01	0.060	0.90	2.3
B-328	68.5	SPT	SM			NP	NP	NP		29.4																		
B-328	73.5	SPT	SM			NP	NP	NP		32.2																		
B-328	83.5	SPT	SM	18.6	15.7	NP	NP	NP		21.2																		
B-328	88.5	SPT	MH			47	31	16		34.0																		
B-328	98.5	SPT	MH			53	34	19		38.2																		
B-328	103.5	SPT	SM	30.6	0.0					62.7																		
B-328	113.5	SPT	MH							30.5																		
B-328	118.5	SPT	MH							44.7																		
B-328	123.5	UD	MH	82.6	0.0	72	45	27		45.6	102	2.76				X	-	CIU-bar	Test Not Performed					0.020	0.380	1.74	10.0	
B-328	133.5	SPT	MH	52.8	0.0	70	51	19		48.2																		
B-328	143.5	SPT	MH							59.3																		
B-328	148.5	SPT	MH			134	100	34		74.8																		
B-331	5.0	SPT	CL	66.9	0.0	43	15	28		20.2																		
B-331	18.5	UD	CH	97.1	0.0	57	23	34		30.8	111	2.71				X	-	Qu	NA	28.2	NA	NA	Dev					
B-331	33.5	SPT	SP-SM	8.3	0.8					21.9																		
B-331	43.5	SPT	SM	50.6	0.0					31.6																		
B-331	58.5	SPT	SM							26.6																		
B-331	73.5	SPT	SM							35.8																		
B-331	88.5	SPT	SM							32.7																		
B-333	2.5	SPT	SP-SM	6.9	0.4					6.2																		
B-333	7.5	SPT	SP-SM	5.3	0.1					4.8																		
B-333	23.5	SPT	CH	74.2	0.0	57	33	24		32.0																		
B-333	28.5	UD	CH	85.3	0.0	52	19	33		38.9	114	2.82				X	-	Qu	NA	10.4	NA	NA	Dev	0.021	0.316	1.15	9.3	
B-333	38.5	UD	CH	98.8	0.0	61	23	38		39.7	115	2.85				X	-	Qu	NA	20.7	NA	NA	Dev	0.009	0.240	1.10	15.2	
B-333	43.5	SPT	SM	38.8	0.0					26.1																		



Project Name: Constellation Generation Group COLA Project
 Calvert Cliffs Nuclear Power Plant (CCNPP)
 Calvert County, Maryland

Project Number: 06120048.00

SUMMARY OF SOIL LABORATORY TEST RESULTS¹

Boring / Test Pit No.	Sample Top Depth (ft.)	Sample Type ²	USCS Sample Class. (D 2487) ³	Sieve Results (D 422)		Atterberg Limits ⁴				Organic Content (%)	Natural Moisture (%) (D 2216)	Moist Unit Weight (PCF)	Specific Gravity (D 854)	Moisture-Density Relationship (D 1557)		Bearing Ratio (D 1883)		Specimen		Shear Strength					Consolidation (D 2435)				
				Percent Passing No. 200	Percent Retained No. 4	LL	PL	PI	Oven Dried LL					Dry Unit Wt. (PCF)	Optimum Moisture (%)	Dry	Soaked	Intact	Compacted	Test Type ³	Total		Effective		Failure Criterion ⁶	C _{er}	C _{ec}	e _o	P _p ' tsf
																					f deg.	c psi	f' deg.	c' psi					
B-333	48.5	UD	SC	20.0	2.0	34	13	21		25.2	Test Not Performed	2.73					X	-	Qu	Test Not Performed									
B-333	53.5	SPT	SM	13.4	1.6					20.9																			
B-333	58.5	SPT	SM							34.5																			
B-333	68.5	SPT	SM	23.2	20.4					19.3																			
B-333	78.5	SPT	SP-SM	10.8	5.7	NP	NP	NP		28.7																			
B-333	93.5	SPT	SM	23.7	23.3					16.1																			
B-334	0.0	SPT	SP-SM	11.2	0.0					9.6																			
B-334	5.0	SPT	SM	21.3	0.0					15.9																			
B-334	10.5	SPT	SM			NP	NP	NP		15.6																			
B-334	18.5	SPT	CL							31.3																			
B-334	23.0	UD	CH	79.0	0.0	51	16	35		35.3	119	2.7				X	-	UU	NA	10.1	NA	NA	Dev	0.020	0.220	1.12	5.3		
B-334	28.5	SPT	CH							42.5																			
B-334	33.0	UD	CL	95.0	0.0	47	13	34		32.6	115	2.71				X	-	UU	Test Not Performed					0.020	0.210	1.06	5.4		
B-334	43.5	SPT	SM							27.0																			
B-334	48.5	SPT	SM	26.2	0.0					27.2																			
B-334	53.5	SPT	SP-SM							21.4																			
B-334	63.5	SPT	GM	29.8	36.1	NP	NP	NP		19.0																			
B-334	73.5	SPT	SM	12.6	9.9					27.3																			
B-334	83.5	SPT	SM	13.8	0.1					28.0																			
B-334	98.5	SPT	SM	16.6	1.0					28.9																			
B-336	13.5	SPT	SC							11.4																			
B-336	28.5	SPT	CH							26.9																			
B-336	48.5	SPT	CL							25.9																			
B-336	58.5	SPT	SL							19.6																			
B-336	83.5	SPT	SM							27.3																			
B-336	98.5	SPT	SC							32.1																			
B-337	33.5	SPT	ML							29.0																			
B-337	48.5	SPT	SC							39.9																			
B-337	53.5	UD	SC	39.0	2.0	38	19	19		25.7	126	2.75				X	-	UU	NA	6.2	NA	NA	Dev						
B-337	73.5	SPT	SM							30.9																			
B-337	88.5	SPT	SM							21.0																			
B-339	5.0	SPT	SP	4.6	0.1					6.9																			
B-339	13.5	SPT	SM	12.1	10.8					19.9																			
B-339	28.5	SPT	CH			55	19	36		31.5																			
B-339	33.5	SPT	CH	62.7	0.0	62	21	41		27.0																			
B-339	38.5	SPT	CH			71	17	54		28.6																			

SUMMARY OF SOIL LABORATORY TEST RESULTS¹

Boring / Test Pit No.	Sample Top Depth (ft.)	Sample Type ²	USCS Sample Class. (D 2487) ³	Sieve Results (D 422)		Atterberg Limits ⁴ (D 4318)				Organic Content (%)	Natural Moisture (%) (D 2216)	Moist Unit Weight (PCF)	Specific Gravity (D 854)	Moisture-Density Relationship (D 1557)		Bearing Ratio (D 1883)		Specimen		Shear Strength					Consolidation (D 2435)																
				Percent Passing No. 200	Percent Retained No. 4	LL	PL	PI	Oven Dried LL					Dry Unit Wt (PCF)	Optimum Moisture (%)	Dry	Soaked	Intact	Compacted	Test Type	Total		Effective		Failure Criterion ⁵	Cer	Cec	eo	Pp' tsf												
																					f deg	C psi	f deg	C psi																	
																														Test Not Performed	Test Not Performed	Test Not Performed	Test Not Performed								
B-339	43.5	SPT	CH	86.9	0.0	60	22	38		31.0																															
B-339	48.5	SPT	CL			40	20	20		27.8																															
B-339	53.5	SPT	SM	33.7	0.0	48	30	18		30.8																															
B-339	58.5	SPT	SP-SM			NP	NP	NP		28.1																															
B-339	63.5	SPT	SC	15.5	9.9	49	21	28		25.0																															
B-339	68.5	SPT	MH			53	38	15		38.8																															
B-339	78.5	SPT	SM	23.6	18.6					16.6																															
B-339	83.5	SPT	SM							31.5																															
B-339	88.5	SPT	SP-SM	11.0	0.4					29.0																															
B-339	93.5	SPT	SP-SM							31.7																															
B-339	98.5	SPT	SP-SM							32.7																															
B-340	66.0	UD	Not yet available (Fugro)																																						
B-401	2.5	SPT	SM							3.6																															
B-401	10.5	SPT	CH	85.3	0.0	66	20	46		26.6																															
B-401	13.5	SPT	CH			62	20	42		34.2																															
B-401	18.5	SPT	MH			70	37	33		36.9																															
B-401	23.5	SPT	CL	52.1	0.0	47	28	49		27.9																															
B-401	33.5	SPT	SP							20.8																															
B-401	43.5	SPT	SM	21.2	13.1					21.4																															
B-401	53.5	SPT	SM							31.6																															
B-401	58.5	SPT	SM	13.1	4.3					25.0																															
B-401	78.5	SPT	SM							17.5																															
B-401	88.5	SPT	SM	38.3	0.5					35.3																															
B-401	98.5	UD	MH	64.8	0.0	78	48	30		50.5	117	2.70						X	-	UU	NA	19.6	NA	NA	Dev	Test Not Performed															
																		X	-	DS	Test Not Performed					Test Not Performed															
B-401	108.5	SPT	SM	34.2	1.9					35.6																															
B-401	113.5	SPT	CL							46.1																															
B-401	123.5	UD	MH	82.4	0.0	85	54	31		57.4	103	2.65						X	-	Qu	Test Not Performed					0.030	0.430	1.74	13												
																		X	-	UU	NA	72.3	NA	NA	Dev	Test Not Performed															
B-401	128.5	SPT	ML	56.6	0.0					43.8																															
B-401	138.5	UD	Not yet available (Fugro)																																						
B-401	143.5	SPT	MH			142	104	38		77.1																															
B-401	148.5	SPT	MH	86.6	0.0	150	89	61		72.7																															
B-401	153.5	SPT	MH			142	93	49		68.8																															
B-401	158.5	UD	MH	59.2	0.0	81	54	27		49.9	105	2.65						X	-	Qu	Test Not Performed					0.030	0.350	1.56	14												
																		X	-	UU	Test Not Performed																				
B-401	168.5	SPT	MH	71.8	0.0	103	52	51		53.9																															



Project Name: Constellation Generation Group COLA Project
 Calvert Cliffs Nuclear Power Plant (CCNPP)
 Calvert County, Maryland

Project Number: 06120048.00

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Boring / Test Pit No.	Sample Top Depth (ft.)	Sample Type ²	USCS Sample Class. (D 2487) ³	Sieve Results (D 422)		Atterberg Limits ⁴ (D 4318)				Organic Content (%)	Natural Moisture (%) (D 2216)	Moist Unit Weight (PCF)	Specific Gravity (D 854)	Moisture-Density Relationship (D 1557)		Bearing Ratio (D 1883)		Specimen		Shear Strength						Consolidation (D 2435)										
				Percent Passing No. 200	Percent Retained No. 4	LL	PL	PI	Oven Dried LL					Dry Unit Wt. (PCF)	Optimum Moisture (%)	Dry	Soaked	Intact	Compacted	Test Type ⁵	Total		Effective		Failure Criterion ⁶	C _{cr}	C _{cc}	e ₀	P _p ' tsf							
																					f deg	C psi	f deg	C psi												
B-401	173.5	UD	CH	98.2	0.0	57	17	40		33.7	95	2.76							X	-	UU	Test Not Performed				0.040	0.540	2.80	11							
B-401	183.5	SPT	SM	32.2	0.0					31.2									X	-	DS	NA	NA	18.9	32.5	NA										
B-401	193.5	SPT	ML							49.2																										
B-401	198.5	UD	Not yet available (Fugro)																																	
B-401	203.5	SPT	MH			94	69	25		58.4																										
B-401	208.5	SPT	MH	64.5	0.0	113	74	39		62.7																										
B-401	213.5	UD	Not yet available (Fugro)																																	
B-401	218.5	SPT	MH	64.6	0.0					77.4																										
B-401	228.5	UD	Not yet available (Fugro)																																	
B-401	238.5	SPT	MH							122.5																										
B-401	243.5	UD	MH	98.7	0.0	140	65	75		96.2	86.0	2.36																				0.006	0.519	2.41	18.3	
B-401	248.5	SPT	MH			218	100	118		122.8																										
B-401	258.5	SPT	MH							130.2																										
B-401	268.5	SPT	SM	43.0	0.0					63.5																										
B-401	281.5	SPT	MH			76	42	34		30.2																										
B-401	293.5	SPT	SC							20.7																										
B-401	307.5	SPT	SM	16.3	0	57	42	15		27.4																										
B-401	318.5	SPT	CH			58	28	30		28.9																										
B-401	338.5	SPT	ML							25.3																										
B-401	368.5	SPT	SP-SM	11.7	0.0					36.9																										
B-401	400.0	SPT	SM	18.2	0.0					33.1																										
B-404	52.0	UD	Not yet available (Fugro)																																	
B-404	83.5	UD	Not yet available (Fugro)																																	
B-406	63.5	UD	OH	90.1	0.0	63	19	44	41	1.6	36.1	122.0	2.74						X	-	Qu	NA	20	NA	NA	Dev	0.04	0.3	1.17	10.5						
B-407	2.5	SPT	ML			NP	NP	NP		4.8									X	-	UU	NA	8.2	NA	NA	Dev										
B-407	10.5	SPT	SP-SM							12.3																										
B-407	18.5	SPT	SM	30.4	0.0					24.9																										
B-407	28.5	SPT	MH							35.1																										
B-407	33.5	SPT	MH	96.0	0.0	77	43	34		39.4																										
B-407	43.5	SPT	SM	17.4	1.6					23.3																										
B-407	63.5	SPT	SM							28.1																										
B-407	68.5	SPT	SM	11.4	6.0					30.0																										
B-407	73.5	SPT	SM							27.3																										
B-407	83.5	SPT	SM	14.8	12.5					38.3																										
B-407	88.5	SPT	SM							12.4																										