Schnabel Engineering

Project Name: Constellation Generation Group C[illegible] Project
Calvert Cliffs Nuclear Power Plant (CCNPP)
Calvert County, Maryland

Project Number: 06120048.00

SUMMARY OF SOIL LABORATORY TEST RESULTS[1]

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)			
																					Total		Effective						
				Percent Passing No. 200	Percent Retained No. 4	LL	PL	PI	Oven Dried LL					Dry Unit Wt. (PCF)	Optium Moisture (%)	Dry	Soaked	Intact	Compacted	Test Type[5]	f deg.	C psi	f deg.	C psi	Failure Criterion[6]	Ccr	Cec	eo	Pp' tsf
B-407	98.5	SPT	SP-SM								30.8																		
B-407	108.5	SPT	ML	56.2	0.0						47.8																		
B-407	118.5	SPT	SM								34.2																		
B-407	123.0	SPT	MH								42.2																		
B-407	138.5	SPT	SM	43.5	0.0						49.2																		
B-407	143.5	SPT	MH			92	63	29			56.4																		
B-407	148.5	SPT	CH			81	45	45			43.1																		
B-407	158.5	SPT	MH								78.4																		
B-407	163.5	SPT	MH			120	50	70			62.7																		
B-407	168.5	SPT	MH			104	69	35			55.2																		
B-407	173.5	SPT	CH			102	37	65			53.7																		
B-407	178.5	SPT	CH			102	40	62			50.9																		
B-407	183.5	SPT	MH	59.1	0.0	154	97	57			82.2																		
B-407	188.5	SPT	SM								32.6																		
B-407	193.5	SPT	SM								31.6																		
B-407	198.5	SPT	SM	22.4	0.0						32.7																		
B-409	17.5	UD	Not yet available (Fugro)																										
B-409	35.0	UD	Not yet available (Fugro)																										
B-409	95.0	UD	Not yet available (Fugro)																										
B-411	2.5	SPT	SP-SM								6.8																		
B-411	7.5	SPT	CL								27.4																		
B-411	13.5	SPT	CH								31.0																		
B-411	23.5	UD	OH	95.0	0.0	61	19	42	44	1.0	37.9	118	2.67					X	-	Qu	Test Not Performed					0.050	0.260	1.51	4.9
B-411	33.5	SPT	ML			34	29	5			24.4																		
B-411	43.5	SPT	SM	15.0	0.0						24.0																		
B-411	53.5	SPT	CL			44	17	27			35.2																		
B-411	63.5	SPT	SP-SM	11.4	6.5						34.4																		
B-411	73.5	SPT	SP-SM								32.0																		
B-411	83.5	SPT	SP-SM								36.4																		
B-411	93.5	SPT	CL								31.6																		
B-411	103.5	SPT	ML			43	30	13			38.2																		
B-411	113.5	SPT	ML								40.4																		
B-411	123.5	SPT	MH			63	43	20			42.7																		
B-413	7.5	SPT	SP-SM	10.2	0.0						9.7																		
B-413	18.5	SPT	SP-SM	10.1	1.2						12.9																		
B-413	33.5	SPT	SP-SM	8.2	0.0						8.6																		
B-413	48.5	SPT	SM	31.5	0.0	NP	NP	NP			26.9																		

Schnabel Engineering

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 RESULTS[1]

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)			
																					Total		Effective						
				Percent Passing No. 200	Percent Retained No. 4	LL	PL	PI	Oven Dried LL					Dry Unit Wt. (PCF)	Optium Moisture (%)	Dry	Soaked	Intact	Compacted	Test Type[5]	f deg.	C psi	f' deg.	C' psi	Failure Criterion[6]	Ccr	Ccc	eo	Pp' tsf
B-413	53.5	SPT	MH			56	27	26			25.7																		
B-413	58.5	SPT	MH	70.5	0.0	58	29	29			27.5																		
B-413	73.0	UD	CH	97.5	0.0	51	15	36			35.5	103	2.73					X	-	UU	NA	10.6	NA	NA	Dev				
																		X	-	DS	NA	NA	31.4	6.4	NA	0.030	0.240	1.13	10.5
																		X	-	CIU-bar	Test Not Performed								
B-413	78.5	SPT	SM	34.6	0.0						26.1																		
B-413	83.5	SPT	SP-SM								21.0																		
B-413	98.5	SPT	SM	15.9	17.2						34.9																		
B-413	108.5	SPT	SP-SM	9.6	7.4						24.8																		
B-413	113.5	SPT	SM								26.3																		
B-413	118.5	SPT	SM	16.2	4.8						32.5																		
B-413	123.5	SPT	SM								35.1																		
B-413	128.5	SPT	SM								18.7																		
B-413	133.5	SPT	SM	28.8	3.8						24.8																		
B-413	138.5	SPT	SM								27.5																		
B-413	143.5	SPT	SM								32.1																		
B-413	148.5	SPT	SM	28.7	0.0						39.8																		
B-414	2.5	SPT	SP-SM								4.2																		
B-414	18.5	SPT	SP-SM								9.2																		
B-414	33.5	SPT	SP-SM								9.7																		
B-414	43.5	SPT	SM	22.1	2.4	NP	NP	NP			20.6																		
B-414	48.5	SPT	SM	33.5	0.0	NP	NP	NP			27.7																		
B-414	53.5	SPT	CL	60.4	0.0	42	23	19			28.0																		
B-414	58.0	UD	CH	84.9	0.0	58	19	39			33.2	117.1	2.71																
B-414	63.5	SPT	CH								38.3																		
B-414	68.0	UD	CH	96.8	0.1	51	15	36			36.7	103	2.78					X	-	Qu	NA	4.7	NA	NA	Dev	0.040	0.280	1.43	4
																		X	-	CIU-bar	10.4	13.2	20	10.2	PSR				
B-414	73.5	SPT	CL	52.8	0.0	39	20	19			22.9																		
B-414	78.5	SPT	ML								29.8																		
B-414	83.5	SPT	SM	16.6	0.0						19.0																		
B-414	93.5	SPT	SM	39.7	10.0						20.1																		
B-414	98.5	SPT	GM	19.6	40.9						13.5																		
B-415	5.0	SPT	SP-SM	5.8	0.3						3.6																		
B-415	13.5	SPT	SP	3.4	0.0						2.5																		
B-415	28.5	SPT	SP-SM	10.4	0.3						13.5																		
B-415	43.5	SPT	SM	31.1	0.2	26	22	4			28.2																		
B-415	58.5	SPT	CH	93.3	0.0	61	21	40			36.6																		

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

Project Number: 06120048.00

SUMMARY OF SOIL LABORATORY TEST RESULTS[1]

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)	Optium Moisture (%)	Dry	Soaked	Intact	Compacted	Test Type[5]	Total f deg.	Total C psi	Effective f' deg.	Effective C' psi	Failure Criterion[6]	Cer	Cec	eo	Pp' tsf
B-415	73.5	SPT	SM	47.8	0.0	40	30	10			26.3																		
B-415	83.5	SPT	SM	17.8	2.4						17.0																		
B-416	5.0	SPT	SP-SM								3.8																		
B-416	13.5	SPT	SM								13.0																		
B-416	28.5	SPT	CH	87.7	0.0	58	17	41			33.7																		
B-416	43.5	SPT	SC								25.6																		
B-416	58.5	SPT	SM	15.5	0.0						26.2																		
B-416	73.5	SPT	SP-SC								29.5																		
B-416	88.5	SPT	SC								33.5																		
B-418	2.5	SPT	SC								27.9																		
B-418	7.5	SPT	SM			NP	NP	NP			30.9																		
B-418	13.5	SPT	CL			49	22	27			32.7																		
B-418	23.5	SPT	SP-SM								25.2																		
B-418	33.5	SPT	SP-SM								28.4																		
B-418	43.5	SPT	SC								27.4																		
B-418	53.5	SPT	SP-SC								23.3																		
B-418	63.5	SPT	SM								32.1																		
B-418	73.5	SPT	SC								41.7																		
B-418	88.5	SPT	MH			76	49	27			49.8																		
B-418	98.5	SPT	CL			46	25	21			36.7																		
B-418	108.5	SPT	MH			55	38	17			39.8																		
B-418	123.5	SPT	CH			106	41	65			56.4																		
B-418	138.5	SPT	MH			103	63	40			64.4																		
B-418	148.5	SPT	CH			69	27	42			52.6																		
B-418	168.5	SPT	MH			76	49	27			57.3																		
B-418	183.5	SPT	MH			100	60	40			56.7																		
B-418	198.5	SPT	MH			109	71	38			66.5																		
B-420	0.0	SPT	CH			52	21	31			17.2																		
B-420	2.5	SPT	CH			68	23	45			28.6																		
B-420	5.0	SPT	CH	89.7	0.0	64	22	42			29.7																		
B-420	7.5	SPT	CH			71	19	52			38.3																		
B-420	13.5	SPT	CH	94.2	0.0	74	31	43			42.1																		
B-420	18.5	SPT	CH								28.6																		
B-420	23.5	SPT	ML			NP	NP	NP			24.4																		
B-420	33.5	SPT	SM								24.2																		
B-420	38.5	SPT	CL			30	19	11			20																		
B-420	43.5	SPT	SM	17.1	7.8						26.5																		

Schnabel Engineering

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 RESULTS[1]

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)			
																					Total		Effective						
				Percent Passing No. 200	Percent Retained No. 4	LL	PL	PI	Oven Dried LL					Dry Unit Wt. (PCF)	Optium Moisture (%)	Dry	Soaked	Intact	Compacted	Test Type[5]	f deg.	C psi	f deg.	C' psi	Failure Criterion[6]	Ccr	Cec	eo	Pp' tsf
B-420	48.5	SPT	SM								28.4																		
B-420	53.5	SPT	SM								28.0																		
B-420	58.5	SPT	SM								34.9																		
B-420	63.5	UD	SC	19.1	6.7	49	11	38			28.3	117	2.75					X	-	Qu	NA	16.0	NA	NA	Dev	0.010	0.130	1.26	1.1
																		X	-	DS	NA	NA	34.0	3.4	NA				
B-420	68.5	SPT	SM	20.7	28.9						16.8																		
B-420	73.5	SPT	SM								24.4																		
B-420	78.5	SPT	SM	39.5	2.2	48	32	15			26.2																		
B-420	83.5	SPT	MH			60	39	21			47.3																		
B-420	88.5	SPT	CH			90	35	55			55.3																		
B-420	93.5	SPT	CH								39.4																		
B-420	98.5	SPT	ML			49	30	19			34.8																		
B-420	103.5	SPT	SM	38.1	0.0	57	42	15			38.5																		
B-420	108.5	SPT	MH			80	51	29			46.4																		
B-420	113.5	SPT	CH			118	38	80			64.9																		
B-420	118.5	SPT	MH			65	40	25			41.6																		
B-420	123.5	SPT	CH			83	29	54			47.5																		
B-420	128.5	UD	OH	50.1	0.3	59	34	25	40		39.0	109	2.62					X	-	UU	Test Not Performed					Test Not Performed			
																		X	-	CIU-bar	15.4	21.3	29.1	13.2	PSR				
B-420	133.5	SPT	MH	76.6	0.0	147	75	72			73.4																		
B-420	138.5	SPT	MH			145	76	69			78.8																		
B-420	143.5	SPT	MH	75.4	0.0	107	56	51			58.9																		
B-420	148.5	SPT	MH	61.3	0.0	127	100	27			74.2																		
B-421	0.0	SPT	SP-SM								11.6																		
B-421	2.5	SPT	SP-SM								14.8																		
B-421	5.0	SPT	SC								11.9																		
B-421	7.5	SPT	SM	14.0	0.0						7.6																		
B-421	10.5	SPT	SP			NP	NP	NP			11.8																		
B-421	13.5	SPT	SP								9.2																		
B-421	18.5	SPT	SW-SM	10.1	0.0						9.4																		
B-421	23.5	SPT	SM			NP	NP	NP			11.0																		
B-421	28.5	SPT	SP-SM	11.4	1.8						15.6																		
B-421	38.5	SPT	SP-SM								17.3																		
B-421	43.5	SPT	MH								31.5																		
B-421	48.5	UD	CH	69.5	0.0	50	18	32			28.8	122.68	2.69																
B-421	53.5	SPT	CH								29.6																		
B-421	58.5	UD	CH	86.9	0.0	78	32	46			34.2	119.44	2.72																

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

Project Number: 06120048.00

SUMMARY OF SOIL LABORATORY TEST RESULTS[1]

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)			
																					Total		Effective						
				Percent Passing No. 200	Percent Retained No. 4	LL	PL	PI	Oven Dried LL					Dry Unit Wt. (PCF)	Optium Moisture (%)	Dry	Soaked	Intact	Compacted	Test Type[5]	f deg.	C psi	f deg.	C psi	Failure Criteron[6]	Cer	Cec	eo	Pp' tsf
B-421	63.5	SPT	CH								28.6																		
B-421	68.5	SPT	SM	33.1	0.3						22.2																		
B-421	73.5	SPT	SM								24.9																		
B-421	78.5	SPT	SM								19.7																		
B-421	83.5	SPT	SM								20.5																		
B-421	88.5	SPT	SM	14.5	11.4						26.0																		
B-421	93.5	SPT	SP-SC			NP	NP	NP			20.7																		
B-421	98.5	SPT	SP-SM								28.4																		
B-421	103.5	SPT	SM								26.0																		
B-421	108.5	SPT	SM	14.0	0.1	NP	NP	NP			26.1																		
B-421	113.5	SPT	SM	18.4	0.2						31.7																		
B-421	118.5	SPT	ML			NP	NP	NP			27.8																		
B-421	128.5	SPT	ML								22.0																		
B-421	133.5	SPT	SM	41.7	0.4						29.0																		
B-421	138.5	SPT	CH			53	25	28			38.5																		
B-421	143.5	SPT	SM								46.8																		
B-421	148.5	SPT	SM								47.4																		
B-423	2.5	SPT	SM	12.5	0.1						4.9																		
B-423	13.5	SPT	SM			NP	NP	NP			12.3																		
B-423	18.5	SPT	SM								10.4																		
B-423	23.5	SPT	SP-SM	11.8	0.0						16.6																		
B-423	28.5	SPT	SM								17.4																		
B-423	33.5	SPT	SM			NP	NP	NP			13.6																		
B-423	38.5	SPT	SC	36.9	0.0	43	15	28			43.9																		
B-423	43.5	SPT	CH	73.0	0.0	55	20	35			30.9																		
B-423	48.5	SPT	CH			61	16	45			36.6																		
B-423	53.5	SPT	CH	81.2	0.0	80	34	46			38.1																		
B-423	58.5	SPT	MH			78	45	33			33.8																		
B-423	63.5	SPT	ML			37	27	10			21.9																		
B-423	68.5	SPT	SM			NP	NP	NP			25.4																		
B-423	73.5	SPT	SM								22.8																		
B-423	78.5	SPT	ML	11.3	0.3						21.9																		
B-423	83.5	SPT	SM								25.6																		
B-423	88.5	SPT	SM								23.1																		
B-423	93.5	SPT	SM	13.0	1.1						29.8																		
B-423	98.5	SPT	SM								27.4																		

Schnabel Engineering

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 RESULTS[1]

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 f deg.	Total C psi	Effective f' deg.	Effective C' psi	Failure Criterion[6]	Cer	Cec	eo	Pp' tsf
B-423	103.5	UD	SP-SC	9.7	14.4	24	18	6			23.1	120	2.74					X	-	CIU-bar	14.1	32.5	27	11.4	PSR				
B-423	108.5	SPT	SP-SC								30.8							X	-	DS	Test Not Performed								
B-423	118.5	SPT	SM	19.6	13.9	NP	NP	NP			26.2																		
B-423	123.5	SPT	SM								33.9																		
B-423	128.5	SPT	SM	21.4	0.0						31.9																		
B-423	133.5	SPT	ML								37.1																		
B-423	138.5	SPT	SM	43.2	0.0						45.1																		
B-423	143.5	SPT	SM								38.9																		
B-423	148.5	SPT	SM	32.9	4.6						32.8																		
B-423	153.5	SPT	CL								44.9																		
B-423	158.5	UD	OH	87.6	0.0	74	18	56	49	1.3	44.9	108	2.70					X	-	UU	NA	16.6	NA	NA	Dev	0.010	0.310	1.46	11.5
B-423	163.5	SPT	MH								59.7																		
B-423	168.5	SPT	ML								41.0																		
B-423	173.5	SPT	SM								49.7																		
B-423	178.5	UD	SM	46.4	0.0	64	34	30			41.5	112	2.36					X	-	UU	NA	2.63	NA	NA	Dev	0.030	0.310	1.71	.7
B-423	183.5	SPT	SM								73.3																		
B-423	188.5	UD	MH	90.6	0.0	111	70	41			72.4	96	2.50					X	-	DS	NA	NA	18.5	23.0	NA				
B-423	193.5	SPT	MH								71.0																		
B-423	200.0	SPT	CL								45.3																		
B-425	0.0	SPT	SP-SM								13.7																		
B-425	3.5	SPT	SP-SM	7.9	0.0						7.3																		
B-425	5.0	SPT	SP-SM								2.5																		
B-425	8.5	SPT	SP-SM								10.8																		
B-425	10.0	SPT	SP-SM								14.2																		
B-425	13.5	SPT	SP-SM	6.5	0.4						16.4																		
B-425	20.0	SPT	SP-SM								11.1																		
B-425	25.0	SPT	SP-SM								11.6																		
B-425	30.0	SPT	SP-SM	11.3	0.2						15.2																		
B-425	35.0	SPT	SP-SM								12.0																		
B-425	40.0	SPT	SP-SM	7.4	0.9						14.9																		
B-425	45.0	SPT	SW-SM								13.7																		
B-425	50.0	SPT	SW-SM	10.1	10.9	28	17	11			12.1																		
B-425	55.0	SPT	CL			46	19	27			28.2																		
B-425	57.0	UD	CH	81.8	0.0	55	25	30			31.2	119.69	2.71																
B-425	60.0	SPT	CH			63	21	42			35.1																		
B-425	65.0	UD	CH	89.6	0.0	69	28	41			39.5	114.52	2.72																