



PROJECT NUMBER:

338884.FL

BORING NUMBER:

MW12D

SHEET 1 OF 7

SOIL BORING LOG

PROJECT : Progress Energy Florida - COLA Investigation, Levy County Site LOCATION : (1722919.4 N, 456622.6 E)

ELEVATION : 41.9 ft MSL (NGVD83)

DRILLING CONTRACTOR : Prosonic, Ocala, FL, Driller: N. Gamache

DRILLING EQUIPMENT AND METHOD : Rotosonic S/N SR116, sonic, 4" x 6"

ORIENTATION : Vertical

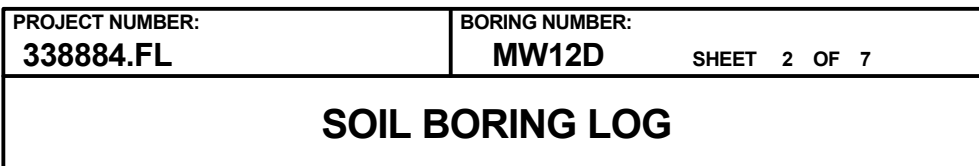
WATER LEVELS : ---

START : 2/12/2007

END : 2/13/2007

LOGGER : C. Sump

DEPTH BELOW EXISTING GRADE (ft)		INTERVAL (ft)		STANDARD PENETRATION TEST RESULTS		SOIL DESCRIPTION		SYMBOLIC LOG		COMMENTS	
		RECOVERY (in)		6"-6"-6" (N)		SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY				DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION	
		#TYPE									
41.9	0.0						Poorly Graded Sand (SP) 0.0-0.8' - black, (N1), moist, fine to medium grained, silica sand, high organic content				
		72.0	R1-SN				Poorly Graded Sand (SP) 0.8-2.0' - light gray to yellowish gray with dark yellowish gray/orange mottling, (N7, 5Y 8/1), fine to medium grained, silica sand Poorly Graded Sand (SP) 2.0-2.4' - dark brown, (5Y 3/1), high organic content Poorly Graded Sand (SP) 2.4-4.6' - light yellowish gray, (5Y 8/1), fine to medium grained, silica sand				
5 36.9	6.0						Poorly Graded Sand (SP) 4.6-38.2' - very light yellow gray with varigated grayish orange to dark yellowish orange zones, (5Y 8/1; 10 YR 7/4-6/6), moist, fine to medium silica sand 6.0-6.6' - moderate brown, (5YR 3/4), increased low plasticity fines				
10 31.9		120.0	R2-SN								
15 26.9	16.0										
20											





PROJECT NUMBER:

338884.FL

BORING NUMBER:

MW12D

SHEET 3 OF 7

SOIL BORING LOG

PROJECT : Progress Energy Florida - COLA Investigation, Levy County Site LOCATION : (1722919.4 N, 456622.6 E)

ELEVATION : 41.9 ft MSL (NGVD83)

DRILLING CONTRACTOR : Prosonic, Ocala, FL, Driller: N. Gamache

DRILLING EQUIPMENT AND METHOD : Rotasonic S/N SR116, sonic, 4" x 6"

ORIENTATION : Vertical

WATER LEVELS : ---

START : 2/12/2007

END : 2/13/2007

LOGGER : C. Sump

WATER LEVELS:		START: 2/2/2007		END: 2/2/2007		LOGGER: G. Camp		
DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)		STANDARD PENETRATION TEST RESULTS	SOIL DESCRIPTION		SYMBOLIC LOG	COMMENTS	
	RECOVERY (in)	#TYPE		SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY			DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION	
1.9								
		120.0	R5-SN					
45 -3.1		46.0						
50 -8.1		120.0	R6-SN					
55 -13.1		56.0		Interbedded Organic Soil And Poorly Graded Sand (OL-SP) 52.8-58.6' - brownish black, (5YR 2/1), medium plasticity, no HCl reaction, trace pyrite, SP: medium gray (N5), fine to medium silica sand, yellowish gray to pale olive (5Y 7/2, 10Y 6/2) medium grained lens at 56.5-56.7'				
60								



PROJECT NUMBER:

338884.FL

BORING NUMBER:

MW12D

SHEET 4 OF 7

SOIL BORING LOG

PROJECT : Progress Energy Florida - COLA Investigation, Levy County Site LOCATION : (1722919.4 N, 456622.6 E)

ELEVATION : 41.9 ft MSL (NGVD83)

DRILLING CONTRACTOR : Prosonic, Ocala, FL, Driller: N. Gamache

DRILLING EQUIPMENT AND METHOD : Rotasonic S/N SR116, sonic, 4" x 6"

ORIENTATION : Vertical

WATER LEVELS : ---

START : 2/12/2007

END : 2/13/2007

LOGGER : C. Sump

WATER LEVELS:		START: 2/2/2007		END: 2/2/2007		LOGGER: G. Camp	
DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)		STANDARD PENETRATION TEST RESULTS		SOIL DESCRIPTION	SYMBOLIC LOG	COMMENTS
	RECOVERY (in)	#TYPE	6"-6"-6" (N)	SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION		
-18.1		120.0	R7-SN		Silty Sand And Limestone (SM) 58.6-63.0' - yellowish gray to light olive gray, (5Y 7/2; 5Y 5/2), very fine grained, moderate HCl reaction, est. 10-15% fossiliferous limestone fragments, increasing with depth, all carbonate materials (0.25-1.0")		
65 -23.1	66.0				Silty Sand, Sandy Silt And Limestone (SM-ML) 63.0-73.5' - pale yellowish brown, (10YR 6/2), moderate to strong HCl reaction, sand and silt-sized carbonate materials, est. 10% gravel-sized limestone fragments, increasing with depth		
70 -28.1		90.0	R8-SN				
75 -33.1					Begin Rock Coring at 73.5 ft bgs See the next sheet for the rock core log		
80							



PROJECT NUMBER:

338884.FL

BORING NUMBER:

MW12D

SHEET 5 OF 7

ROCK CORE LOG

PROJECT : Progress Energy Florida - COLA Investigation, Levy County Site LOCATION : (1722919.4 N, 456622.6 E)

ELEVATION : 41.9 ft MSL (NGVD83)

DRILLING CONTRACTOR : Prosonic, Ocala, FL, Driller: N. Gamache

CORING EQUIPMENT AND METHOD : Rotosonic S/N SR116, sonic, 4" x 6"

ORIENTATION : Vertical

WATER LEVELS : ---

START : 2/12/2007

END : 2/13/2007

LOGGER : C. Sump

DEPTH AND ELEVATION BELOW SURFACE (ft)	CORE RUN LENGTH AND RECOVERY (%)	DISCONTINUITIES			SYMBOLIC LOG	LITHOLOGY	COMMENTS
		R Q D (%)	FRACTURES PER FOOT	DESCRIPTION			
				DEPTH, TYPE, ORIENTATION, ROUGHNESS, PLANARITY, INFILLING MATERIAL AND THICKNESS, SURFACE STAINING, AND TIGHTNESS			
75 -33.1	76.0	NA	NA	73.5-83.5' - NA		Limestone 73.5-74.2' - yellowish gray, (5 Y 7/2), fossiliferous limestone with small voids (1-3 mm), cavities (0.25-0.75"), and 1" thick clay/silt lenses	clay/silt may be drilling induced
		NA	NA			No Recovery 74.2-76.0'	
		NA	NA			Limestone Fragments 76.0-77.1' - grayish orange, (10YR 7/4), angular, limestone fragments (1.0-2.5"), hard rock, up to 10% surface voids	
		NA	NA			Limestone 77.1-77.9' - fossiliferous (more molds than casts) limestone with voids (1-3mm) and cavities up to 1/2" fragments	
		NA	NA			Limestone Fragments 77.9-79.4' - Same as 76.0-77.1'	
		NA	NA			Disaggregated Limestone 79.4-80.6' - pale yellowish brown, (10YR 6/2), strong HCl reaction, carbonate sandy silt with <5% gravel-sized (0.25-0.5") limestone fragments	Drilling induced breakage?
		NA	NA			Limestone 80.6-81.5' - grayish orange, (10YR 7/4), fossiliferous limestone with 60-70% surface voids (1-3mm) and 2-4in silt sized lenses between limestone segments	Drilling induced breakage?
		NA	NA	83.5-93.5' - NA		Disaggregated Limestone 81.5-83.0' - grayish orange, (10YR 7/4), strong HCl reaction, carbonate sandy silt with friable limestone fragments (0.25-0.75")	Drilling induced breakage?
		NA	NA			Limestone 83.0-84.6' - grayish orange, (10YR 7/4), moderate HCl reaction, fossiliferous limestone with 60-70% surface voids (1-3mm), 1" x 3" cavity	Drilling induced breakage?
		NA	NA			Disaggregated Limestone 84.6-85.0' - carbonate sandy silt with gravel-sized limestone fragments	
		NA	NA			No Recovery 85.0-86.0'	
		NA	NA			Limestone 86.0-86.7' - Same as 83.0-84.6'	
		NA	NA			Disaggregated Limestone 86.7-87.1' - yellowish brown, (10YR 4/2), moderate HCl reaction, carbonate clay and limestone fragments	Drilling induced breakage?
		NA	NA			Limestone 87.1-88.6' - yellowish gray, (5Y 7/2), limestone fragments with numerous dissolution cavities (0.25-1.0"), est. 40% surface voids	



PROJECT NUMBER:

338884.FL

BORING NUMBER:

MW12D

SHEET 6 OF 7

ROCK CORE LOG

PROJECT : Progress Energy Florida - COLA Investigation, Levy County Site LOCATION : (1722919.4 N, 456622.6 E)

ELEVATION : 41.9 ft MSL (NGVD83)

DRILLING CONTRACTOR : Prosonic, Ocala, FL, Driller: N. Gamache

CORING EQUIPMENT AND METHOD : Rotosonic S/N SR116, sonic, 4" x 6"

ORIENTATION : Vertical

WATER LEVELS : ---

START : 2/12/2007

END : 2/13/2007

LOGGER : C. Sump

DEPTH AND ELEVATION BELOW SURFACE (ft)	CORE RUN LENGTH AND RECOVERY (%)	DISCONTINUITIES			SYMBOLIC LOG	LITHOLOGY	COMMENTS
		R Q D (%)	FRACTURES PER FOOT	DESCRIPTION			
				DEPTH, TYPE, ORIENTATION, ROUGHNESS, PLANARITY, INFILLING MATERIAL AND THICKNESS, SURFACE STAINING, AND TIGHTNESS			
95 -53.1			NA	93.5-103.5' - NA		Lean Clay And Poorly Graded Sand (CL/SP) 88.6-89.2' - dusky brown, (5YR 2/2), clay grading to yellowish brown (10YR 5/4, fine to medium carbonate sand	
	96.0		NA			Limestone 89.2-91.5' - grayish orange, (10YR 7/4), moderate HCl reaction, fossiliferous, 50% of surface covered with 1-3mm voids	
			NA			Disaggregated Limestone 91.5-95.0' - light gray, moderate HCl reaction, fossiliferous limestone fragments and carbonate clay/silt and silty sand	
			NA			Limestone 95.0-95.5' - Same as 89.2-91.5'	
100 -58.1			NA			No Recovery 95.5-96.0'	
	R11-SN 10 ft 98%	NA	NA			Limestone 96.0-99.2' - grayish orange, (10YR 7/4), fossiliferous limestone with 5% cavities	
			NA			Limestone Fragments 99.2-111.7' - grayish orange, (10YR 7/4), strong HCl reaction, fossiliferous, 1-3" limestone fragments, silt and sand-sized carbonate materials	
			NA	103.5-113.5' - NA			
105 -63.1			NA				
	106.0		NA				
			NA				
			NA				
			NA				
110 -68.1			NA				
	R12-SN 10 ft 100%	NA	NA				
			NA				
			NA			Limestone 111.7-112.4' - fossiliferous limestone with clayey interbeds	



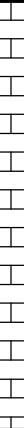
PROJECT NUMBER: 338884.FL	BORING NUMBER: MW12D
SHEET 7 OF 7	
ROCK CORE LOG	

PROJECT : Progress Energy Florida - COLA Investigation, Levy County Site LOCATION : (1722919.4 N, 456622.6 E)

ELEVATION : 41.9 ft MSL (NGVD83) DRILLING CONTRACTOR : Prosonic, Ocala, FL, Driller: N. Gamache

CORING EQUIPMENT AND METHOD : Rotosonic S/N SR116, sonic, 4" x 6" ORIENTATION : Vertical

WATER LEVELS : --- START : 2/12/2007 END : 2/13/2007 LOGGER : C. Sump

DEPTH AND ELEVATION BELOW SURFACE (ft)	CORE RUN, LENGTH, AND RECOVERY (%)	DISCONTINUITIES			SYMBOLIC LOG	LITHOLOGY	COMMENTS			
		R Q D (%)	FRACTURES PER FOOT	DESCRIPTION		ROCK TYPE, COLOR, MINERALOGY, TEXTURE, WEATHERING, HARDNESS, AND ROCK MASS CHARACTERISTICS	SIZE AND DEPTH OF CASING, FLUID LOSS, CORING RATE AND SMOOTHNESS, CAVING ROD DROPS, TEST RESULTS, ETC.			
				DEPTH, TYPE, ORIENTATION, ROUGHNESS, PLANARITY, INFILLING MATERIAL AND THICKNESS, SURFACE STAINING, AND TIGHTNESS						
115 -73.1	116.0		NA	113.5-120.0' - NA		Disaggregated Limestone 112.4-120.0' - strong HCl reaction, friable fragmented limestone with carbonate silty sand to sandy silt				
			NA							
			NA							
	R13-SN 4 ft 100%	NA	NA							
			NA							
			NA							
			NA							
120 -78.1	120.0				Bottom of Boring at 120.0 ft bgs on 2/13/2007					
125 -83.1										
130 -88.1										