

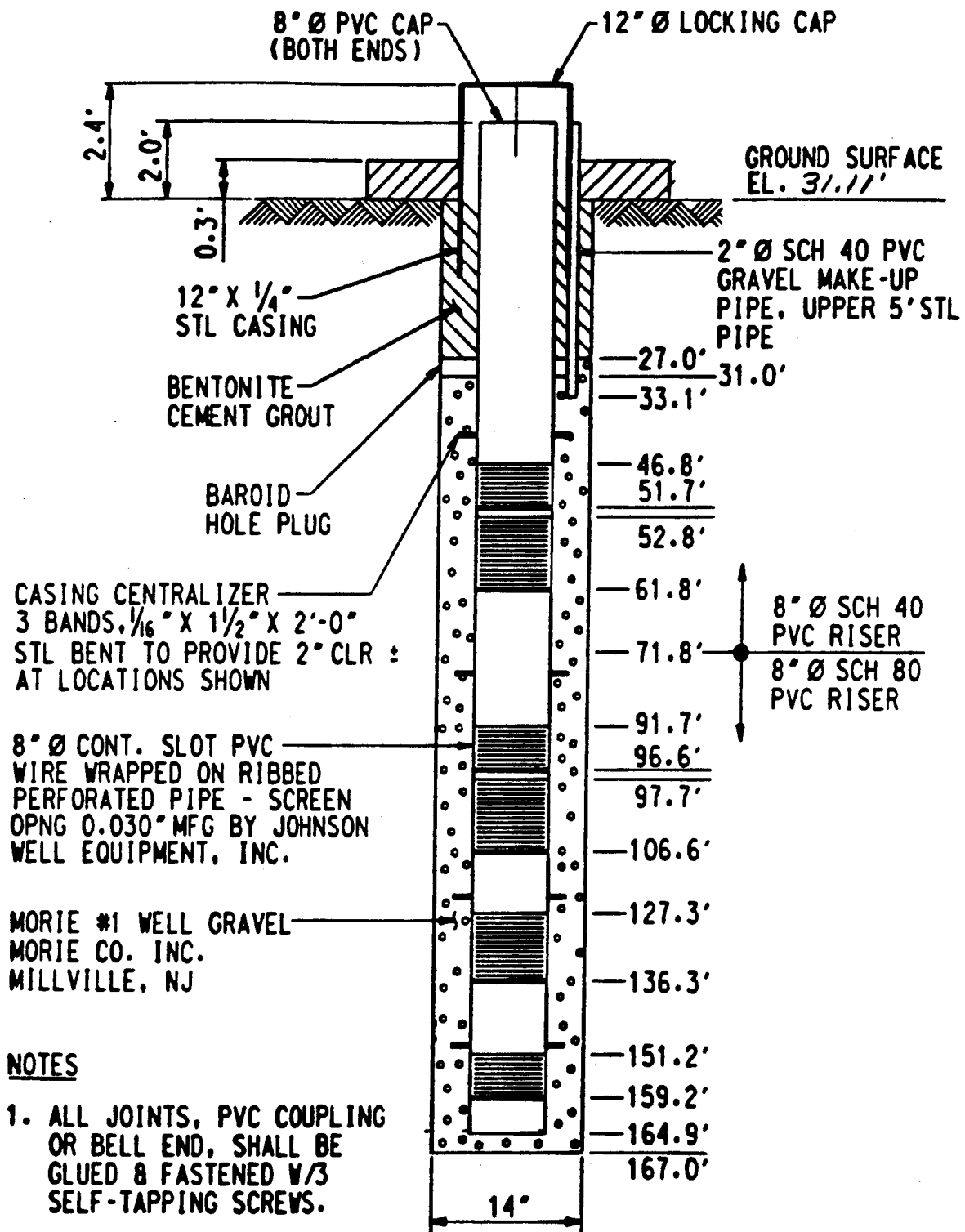
# NOTE

1. DRAWING IS PRODUCED FROM U S  
GEOLOGICAL SURVEY MAP.

# LEGEND

- ◆ TEST WELL AND OBS WELL
- ◆ EXPLORATORY BORING COMPLETED AS  
OBSERVATION WELL
- EXISTING MARTIN PLANT PRODUCTION  
WELL
- FLORIDAN AQUIFER TEST WELL

NO.	DATE	REVISIONS	BY	CHK	DES	APP	APP
<b>BECHTEL</b> GAS THERMOPHILIC, MARTEL AND <b>FLORIDA POWER &amp; LIGHT COMPANY</b> OF 100 MORTON COMBINED CYCLE UNITS COAL GASIFICATION COMPATIBLE PROJECTS							
<b>TEST WELL LOCATION PLAN</b> FIGURE 4.1-1							
SCALE		1"=2000'		19720		SK C 009	



#### NOTES

1. ALL JOINTS, PVC COUPLING OR BELL END, SHALL BE GLUED & FASTENED W/3 SELF-TAPPING SCREWS.
2. DEPTHS SHOWN ARE BELOW GROUND SURFACE.
3. WELL INSTALLED APRIL 5, 1989.

FOR INFORMATION ONLY

**PRELIMINARY**

FLORIDA POWER & LIGHT  
MARTIN CC/CG PROJECT  
TEST WELL

**BTW-3**



# FOR INFORMATION ONLY

WELL LOG				PROJECT		JOB NO	SHEET NO	WELL NO	
				FPL MARTIN CC/CG		19720	1 OF 5	BTW-3	
SITE				COORDINATES		LOGGED BY			
				N1995507.32 E643646.01		Robert Blodnikar			
BEGIN	COMPLETED	DRILLER	DRILL WARE AND MODEL		HOLE SIZE	CASING DIAMETER/LENGTH	TOTAL DEPTH		
3/24/87	3/24/89	Drilling Services, Inc. David Spencer	Mobil B-40L		5 3/4"		170.0'		
SCREEN DIAMETER/LENGTH/SLOT				EL TOP OF CASING	GROUND EL	DEPTH/EL GROUND WATER		AQUIFER	
				33.11	31.11			SHALLOW	
ELEVATION	DEPTH	THICKNESS	SAMPLE	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION				NOTES ON WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC
	0				0.0 - 5.0 ft. Light brown, fine-medium, SAND, subrounded-rounded, mainly quartz; trace roots; little fines, silty.				Start drilling at 0750 hrs. using 5-3/4" dia. tricone bit. Drilling fluid Baroid Quik-Jel and water from BTW-1 obs a. Samples obtained from returns at 5' intervals. Desander run periodically to clean drilling fluid.  0 - 95' Avg. drilling rate 1.6 ft./min.  0 - 31' Smooth easy drilling.
	5				5.0 - 10.0 ft. Light reddish-brown, fine-medium, SAND, subrounded-rounded, mainly quartz, trace feldspar; little fines, silty.				
	10				10.0 - 15.0 ft. Light gray-tan, fine-coarse, SAND, most fine, subangular-subrounded; little fines, silty.				
	15				15.0 - 20.0 ft. Light gray-tan, fine-medium, SAND, subrounded-rounded, mainly quartz with trace very fine black grains; little fines, silty.				
	20				20.0 - 25.0 ft. Tan, fine-medium, SAND, most fine, subrounded-rounded, mainly quartz with trace very fine black grains; trace fines.				
	25				25.0 - 31.0 ft. Grayish-tan, fine-medium, SAND, most fine, subrounded-rounded, mainly quartz with trace very fine black grains.				31 - 32.5' Hard drilling, some fluid loss, thicken drilling fluid.
	30				31.0 - 32.5 ft. Gray, SANDY LIMESTONE, medium-hard to hard, fine grained, sandy, quartz sand with calcareous cement; with thin lenses of shells and shell fragments. 32.5 - 40.0 ft. Tan, SHELLS and shell fragments, shells to 1/8", little light gray sandy limestone fragments; trace sand, fine.				
	35								
SITE								WELL NO BTW-3	

# PRELIMINARY



## FOR INFORMATION ONLY

WELL LOG				PROJECT FPL MARTIN CC/CG	JOB NO 19720	SHEET NO 2 OF 5	WELL NO BTW-3
ELEVATION	DEPTH	THICKNESS	SAMPLE GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	NOTES ON WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC		
	35						
	40			40.0 - 45.0 ft. Tan and black, SHELLS and shell fragments, shells 1/8 - 1/2", little light gray sandy limestone fragments, subangular, trace fine sand.			
	45			45.0 - 50.0 ft. Tan and black, SHELLS and shell fragments, shells 1/8 - 5/8", few light gray sandy limestone fragments, subangular, trace gray fine-medium sand.			
	50			50.0 - 55.0 ft. Tan and black, SHELLS and shell fragments, shells 3/8 - 3/4", little light gray sandy limestone fragments, subangular, trace gray fine-medium sand.			
	55			55.0 - 60.0 ft. Gray, fine-medium, SAND and SHELLS, sand subrounded-rounded, quartz with trace fine black grains, shells tan to 3/8"; trace fines, silty.			
	60			60.0 - 65.0 ft. Tan and black, SHELLS and shell fragments, shells to 1/8", little light gray sandy limestone fragments, subangular; little gray fine sand; little fines, silty.			
	65			65.0 - 70.0 ft. Tan and black, SHELLS and shell fragments, shells to 3/16", little gray sandy limestone fragments, subangular-subrounded, little fine sand, rounded; little fines, silty.			
	70			70.0 - 75.0 ft. Tan, gray and black, SHELLS and shell fragments, shells to 1/8" most finer, little gray sandy limestone fragments, subrounded, little fine sand; little fines, silty.			
	75						
DATE						WELL NO BTW-3	

# FOR INFORMATION ONLY



WELL LOG				PROJECT FPL MARTIN CC/CG	JOB NO. 19720	SHEET NO. 3 of 5	WELL NO. BTW-3
ELEVATION	DEPTH	THICKNESS	SAMPLE GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	NOTES ON WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC		
	75			75.0 - 80.0 ft. Gray and tan, SHELLS and shell fragments, shells to 1/8", most finer, few angular-subrounded sandy limestone fragments, few fine gray subrounded-rounded sand, trace gray sandy clay.			
	80			80.0 - 85.0 ft. Tan, SHELLS and shell fragments, shells to 1/8", little gray fine sand, little gray sandy clay in lenses, trace sandy limestone fragments.			
	85			85.0 - 90.0 ft. Tan and gray, SHELLS and SAND, shells to 1/8", sand fine-medium, subrounded-rounded, quartz, some shells weakly cemented little gray sandy clay in lenses.			
	90			90.0 - 95.0 ft. Tan and gray, SHELLS and SAND, shells to 3/16", slight increase in shell content; sand, fine-medium, subangular-subrounded, little gray clayey sand in lenses.			
	95			95.0 - 100.0 ft. Same as 90.0 - 100.0 except coarser.	93' Slightly harder.		
	100			100.0 - 105.0 ft. Tan and gray, SHELLS and SAND, shells to 1/8"; sand, fine-medium, subrounded-rounded; little gray sandy clay and clay in lenses.	100 - 110' Chatters		
	105			105.0 - 110.0 ft. Tan and gray, SAND and SHELLS, sand, fine-medium, subrounded-rounded, quartz, slight increase in sand content; shells to 1/8"; little fines, clayey.			
	110			110.0 - 115.0 ft. Slight greenish-gray, fine, SAND and tan SHELLS and shell fragments, shells to 3/16", increase in fines and fine sand, little sandy clay in lenses.	110' Softer, easier Drilling.		
	115						
SITE					WELL NO. BTW-3		



# FOR INFORMATION ONLY

WELL LOG				PROJECT FPL MARTIN CC/CG	JOB NO 19720	SHEET NO 4 of 5	WELL NO BTW-3
ELEVATION	DEPTH	THICKNESS	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	NOTES ON WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC		
	115			115.0 - 120.0 ft. Gray, fine-medium, SAND and tan SHELLS, with some gray clayey sand, shells to 1/8" size, slightly milky.			
	120			120.0 - 125.0 ft. Gray, fine-medium, SAND and tan SHELLS, shells to 1/8", little gray clayey sand and gray clay, slight greenish cast, slightly milky.			
	125			125.0 - 130.0 ft. Light greenish-gray, CLAYEY SAND and tan and black SHELLS, shells and shell fragments to 1/8", little fine-medium sand.			
	130			<b>TANIANI FORMATION</b>	130 - 135' Very soft.		
	135			130.0 - 135.0 ft. Greenish-gray, fine-medium SAND and tan SANDY LIMESTONE fragments, limestone fragments angular, moderately cemented, slightly phosphatic, little shell fragments, little gray clayey sand.			
	140			135.0 - 140.0 ft. Greenish-gray, fine-medium, SAND, weakly cemented, little shells and shell fragments, little gray clayey sand, milky.	135 - 140' Add water and mix drilling fluid.		
	145			140.0 - 145.0 ft. Greenish-gray, fine-medium, SAND, weakly cemented; little shells and shell fragments; little sandy limestone fragments, angular to subrounded, most angular to 1/16"; mixed hard and soft layers in the interval.			
	150			145.0 - 150.0 ft. Same as 140.0 - 145.0 ft., slight increase in shell content.			
	155			150.0 - 155.0 ft. Very light greenish-gray, angular, SANDY LIMESTONE fragments, with weakly cemented shells and shell fragments, very milky, marly.			
SITE					WELL NO BTW-3		

**PRELIMINARY**



# FOR INFORMATION ONLY

WELL LOG				PROJECT	JOB NO.	SHEET NO.	WELL NO.
				FPL MARTIN CC/CG	19720	5 of 5	BTW-3
ELEVATION	DEPTH	THICKNESS	SAMPLE GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	NOTES ON WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC		
	155				155 - 157' Intermittent chatters - hard and soft layers. 157 - 170' very soft - color change of drill fluid to olive green.		
	160			<b>HAWTHORN GROUP</b>  158.0 - 160.0 ft. Olive-green, angular, <b>SHELL</b> and weakly cemented shell and <b>SANDY LIMESTONE</b> , with olive-green <b>CLAYEY SAND</b> , limestone in angular-subangular fragments, shells white to light tan.  160.0 - 165.0 ft. Olive-green, <b>SANDY CLAY</b> , with little light tan shells and shell fragments, trace fine sandy limestone fragments, soft.  165.0 - 170.0 ft. T.D. Olive-green, soft, <b>CLAY</b> , plastic, with little sand, fine, and few small shell fragments.			
	170			Total Depth of hole 170.0 ft. Completed on March 24, 1989. Hole geophysically logged on March 24, 1989 by Florida Geophysical Surveys. Pilot hole left open for enlargement to 14-in. dia.			
	175				T. D. 170 feet at 1015 hrs. Circulate hole and condition drilling fluid for geophysical logging.		
	180						
	185						
	190						
	195						
DATE					WELL NO BTW-3		