

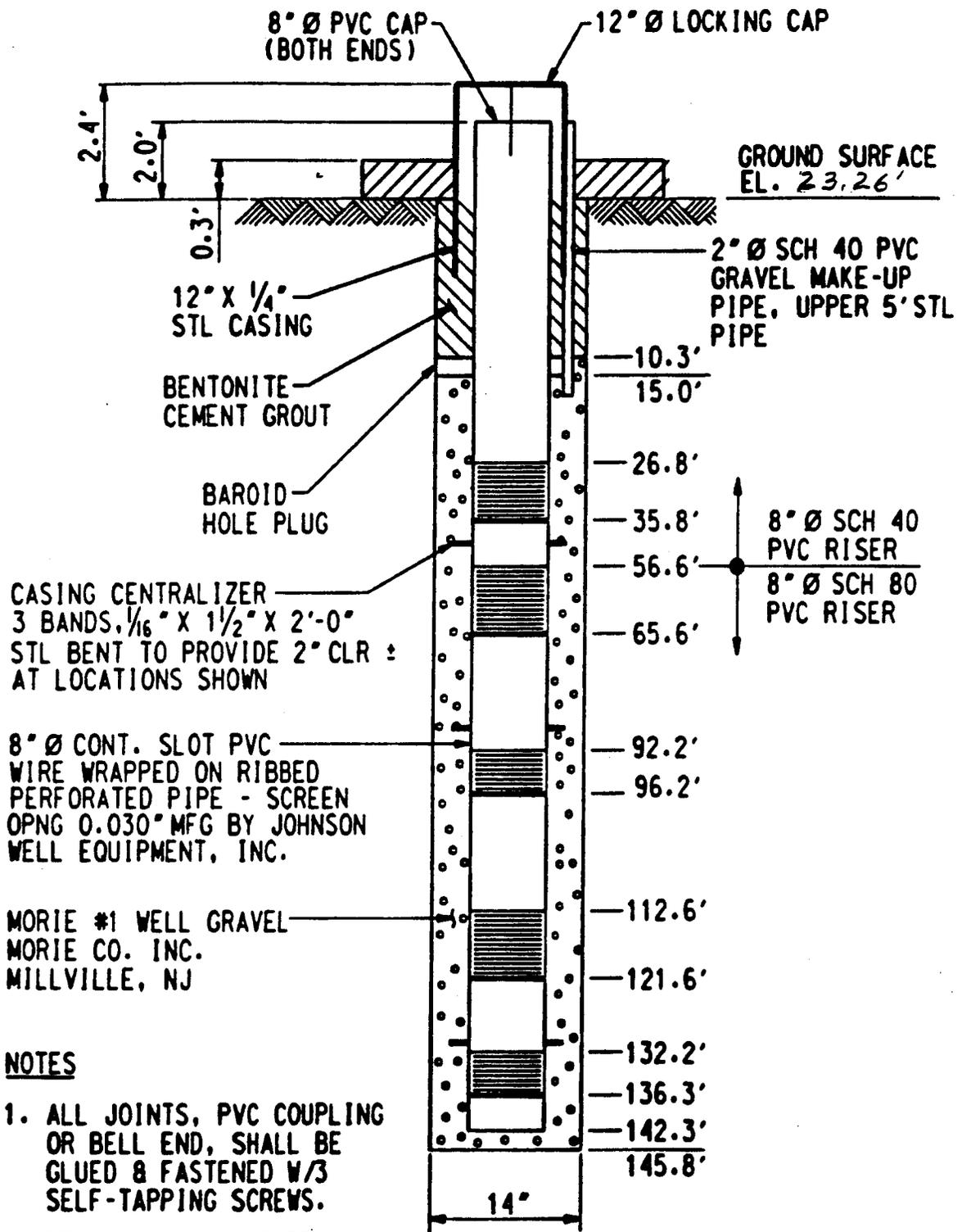
NOTE

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	CHKD	DES	APP	PROJ	APP
BECHTEL								
GAITHERSBURG, MARYLAND								
FLORIDA POWER & LIGHT COMPANY								
ON 170 MARTHIN CONDENSED CYCLE UNITS COAL GASIFICATION COMPATIBLE PROJECTS								
TEST WELL LOCATION PLAN								
FIGURE 4.1-1								
SCALE		19720		SK C 009				
1"=2000'								



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 10, 1989.

FLORIDA POWER & LIGHT
MARTIN CC/CG PROJECT
TEST WELL

BTW-2

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WELL LOG				PROJECT	JOB NO	SHEET NO	WELL NO
				FPL MARTIN CC/CG	19720	1 OF 4	BTW-2
SITE				COORDINATES		LOGGED BY	
				N1977089.12, E652258		Robert Blodniker	
BEGIN	COMPLETED	DRILLER	DRILL MAKE AND MODEL	HOLE SIZE	CASING DIAMETER/LENGTH	TOTAL DEPTH	
3/27/69	3/27/69	Drilling Services, Inc. David Spencer	Mobil B-40L	5 3/4"	8-12/144.3'	152.0'	
SCREEN DIAMETER/LENGTH/SLOT				EL TOP OF CASING	GROUND EL	DEPTH/EL GROUND WATER	
8-12/40-15 10/12/0.030"				25.24	23.26	SHALLOW	
ELEVATION	DEPTH	THICKNESS	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION			NOTES ON WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC
	0			0.0 - 5.0 ft. Dark gray-brown, fine-medium, SAND, subrounded-rounded, dominant quartz; little fines, silty; trace shells; trace organics.			Start drilling at 1305 hrs. using 5-3/4" dia. tricone bit. Drilling fluid Baroid Quik-Jel and water from BTW-1 obs b. Samples obtained at 5' intervals.
	5			5.0 - 10.0 ft. Gray, fine-medium, SAND, subrounded-rounded, trace coarse sand; little fines, silty; trace sand sized shell; trace organics.			
	10			10.0 - 12.5 ft. Same as 5.0 - 10.0 ft. except dark gray sandy clay lens 12.0 - 12.5 ft.			0 - 12.5' Drilling fluid dark gray. 0 - 40' Avg. drilling rate 1 ft./min.
	15			12.5 - 14.5 ft. Gray and tan, hard, SANDY LIMESTONE, fine-medium grained sand, well cemented with calcareous cement, little cemented shells.			
	15			14.5 - 16.0 ft. Void, partially filled with black SANDY CLAY, medium plastic, organic with roots and decaying vegetation.			12.5 - 14.5' Hard drilling - rig chatters.
	20			16.0 - 17.0 ft. Gray and tan, hard SANDY LIMESTONE, same as 12.5 - 14.5 ft.			
	20			17.0 - 20.0 ft. Light gray, hard, SANDY LIMESTONE and SHELLS, fine-coarse grained limestone, well cemented with calcareous cement; some tan shells to 1/4" in thin lenses.			14.5 - 16' Rapid penetration - possible void or cavity filled with black sandy clay. Heavy drilling fluid take, mix additional mud.
	25			20.0 - 25.0 ft. Tan, SHELLS and SHELL FRAGMENTS with gray limestone, shells sand sized to 1/2", most 1/8" - 1/4", little limestone fragments, hard moderately cemented; few gray-tan, clayey sand, sand fine-medium grained, most fine.			
	25			25.0 - 30.0 ft. Tan, SHELLS and SHELL FRAGMENTS, sand sized to 1/2", most 1/4" to 1/2"; little angular sandy limestone fragments to 3/8"; few light gray sandy clay.			17.5' Drilling smoother.
	30			30.0 - 35.0 ft. Tan SHELLS and SHELL FRAGMENTS, sand sized to 1/4", most 1/8" to 1/4"; with gray CLAYEY SAND, fine-medium sand, subrounded-rounded, quartz and fine black grains; little fines, clayey.			
	35						30' Run desander continuously to remove fines from drilling fluid.
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WELL LOG				PROJECT FPL MARTIN CC/CG	JOB NO 19720	SHEET NO 2 of 4	WELL NO BTW-2
ELEVATION	DEPTH	THICKNESS	SAMPLE	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	NOTES ON WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC	
	35				35.0 - 40.0 ft. Dark gray, fine-medium, SAND and CLAYEY SAND, sand subrounded-rounded, most fine, quartz with few fine black grains; clayey sand, fine-medium sand, little fines, clayey; few shells and shell fragments, sand and clayey sand in lenses.		
	40				40.0 - 45.0 ft. Dark greenish-gray, SANDY CLAY, sand very fine-fine in clay matrix, clay medium plastic, few sand sized shells.	40' Add drilling fluid - steady loss since 12.5 ft. 40 - 80' Avg. drilling rate 1.3 ft./min.	
	45				45.0 - 50.0 ft. Dark greenish-gray, SANDY CLAY, clay plastic; some fine-medium sand, most fine, with lenses of tan shells 1/8" to 3/16", reworked.		
	50				50.0 - 55.0 ft. Dark greenish-gray, SANDY CLAY, clay plastic; some sand, fine-medium, most fine; some tan shells, sand sized to 1/4", most 1/8", shells and sandy clay in lenses.		
	55				55.0 - 60.0 ft. Gray and tan SHELLS and SHELL FRAGMENTS, sand sized to 3/16", most 1/8 to 3/16"; little sandy limestone fragments, angular-subangular, weakly cemented; few very fine-fine sand; scattered greenish-gray clay balls.		
	60				60.0 - 65.0 ft. Gray and tan, SHELLS and SHELL FRAGMENTS, sand sized to 1/2", most 1/8" to 1/4"; little sandy limestone fragments, weakly cemented; little sand, fine-medium.		
	65				65.0 - 70.0 ft. Gray and tan, SHELLS and SHELL FRAGMENTS, sand sized to 1/8", most medium-coarse sand sized; some sand, fine-medium; few fines, clayey; trace sandy limestone fragments.		
	70				70.0 - 75.0 ft. Gray and tan, SHELLS and SHELL FRAGMENTS, same as 65.0 - 70.0 ft.		
	75						

BTW

WELL NO
BTW-2

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WELL LOG				PROJECT FPL MARTIN CC/CG	JOB NO 19720	SHEET NO 3 of 4	WELL NO BTW-2
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. Tan, SHELLS and SHELL FRAGMENTS, sand sized to 1/4", most coarse sand size to 1/8"; some sand, fine-medium, most fine, subrounded-rounded, quartz; trace fines, clayey.		
	80				80.0 - 85.0 ft. Light greenish-gray and tan, SHELLS and SHELL FRAGMENTS, sand sized to 1/8", slightly cemented; some sand, fine-medium, subrounded-rounded, quartz; little fines, clayey, calcareous, milky; few sandy limestone fragments, sand sized to 1/8", weakly cemented.	80 - 115' Avg. drilling rate 1.6 ft./min.	
	85				85.0 - 90.0 ft. Light greenish-gray and tan, SHELLS and SHELL FRAGMENTS, sand sized to 1/8"; some sand, fine-medium, subrounded-rounded, quartz; little fines, calcareous, milky, marly; few sandy limestone fragments, angular, weakly cemented.		
	90				90.0 - 95.0 ft. Light greenish-gray and tan, SHELLS and SHELL FRAGMENTS, sand sized to 1/4", weakly cemented; little sand, fine-medium, most fine, subrounded-rounded, quartz; little sandy limestone fragments, angular, weakly cemented; little fines, calcareous, milky, marly.		
	95				95.0 - 100.0 ft. Light greenish-gray and tan, SHELLS and SHELL FRAGMENTS, most shell fragments less than 1/8"; little sand, fine-medium, subrounded-rounded, quartz and sandy limestone fragments; little fines, calcareous, milky, marly.		
	100				100.0 - 105.0 ft. Light greenish-gray, fine-coarse, SAND, most fine-medium, subrounded-rounded, weakly cemented; little shells and shell fragments, tan, sand sized to 1/8"; little fines, calcareous, milky, marly; alternating hard and soft lenses.	100 - 105' Hard and soft layers, intermittent chatters.	
	105				105.0 - 110.0 ft. Light greenish-gray, fine-coarse, SAND, subrounded-rounded, weakly cemented into open angular fragments; little shells and shell fragments, tan; little fines, calcareous, milky, marly.		
	110				110.0 - 115.0 ft. Light greenish-gray, fine-coarse, SAND, weakly cemented into open angular fragments 1/16" to 3/16"; some shells and shell fragments, tan, sand sized; few fines, calcareous, milky, marly.		
	115						
BTE						WELL NO BTW-2	

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WELL LOG				PROJECT FPL MARTIN CC/CG	JOB NO 19720	SHEET NO 4 of 4	WELL NO BTW-2
ELEVATION	DEPTH	THICKNESS SAMPLE	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION	NOTES ON WATER LEVELS, WATER RETENTION, CHARACTER OF DRILLING, ETC		
	115			115.0 - 120.0 ft. Light greenish-gray, fine-coarse, SAND, weak to moderately cemented into open angular fragments 1/8" to 1/4"; some shells and shell fragments, tan, sand size to 1/4", weakly cemented; few fines, calcareous, milky, marly.			
	120			120.0 - 125.0 ft. Light greenish-gray, fine-coarse, SAND, weak to moderately cemented into open angular fragments to 1/8"; some shells and shell fragments, tan, sand size to 1/4"; little fines, calcareous, milky, marly.			120' Add drilling fluid.
	125			125.0 - 130.0 ft. Light greenish-gray, fine-medium, SAND, weak to moderately cemented into open angular fragments; some shells and shell fragments, sand sized to 1/4"; little fines, calcareous, milky, marly.			125 - 130' Rig chatters.
	130			130.0 - 134.0 ft. Light greenish-gray, fine-coarse, SAND, most fine-medium, weak to moderately cemented into open angular fragments; some shells and shell fragments, sand size to 1/2", most 1/8" to 3/8"; few fines, calcareous, milky, marly.			
	135			HAWTHORN GROUP			
	140			134.0 - 140.0 ft. Olive-green and tan, SHELLS and SANDY CLAY, shells sand size to 1/8"; sandy clay, sand fine-medium, fines medium plastic.			134 - 140' Rapid penetration. Drilling fluid color change to dark green.
	145			140.0 - 145.0 ft. Olive-green, SILTY CLAY, plastic, soft, trace fine sand.			
	150			145.0 - 150.0 ft. T.D. Olive-green, SILTY CLAY, plastic, soft, trace fine sand.			T. D. 150 ft. at 1515 hrs. Circulate hole and condition drilling fluid.
				Total depth of boring 150.0 ft. Hole geophysically logged by Florida Geophysical Logging on March 29, 1989. Hole left open for reaming to 14-in. and installation of test well.			3/29/89 Run drilling tools to bottom of hole in am. Circulate drilling fluid and remove cuttings, condition drilling fluid for geophysical logging.
BYE						WELL NO BTW-2	