

BORING LOG NO. B-19

CLIENT: **United States Army Corps of Engineers
Galveston, Texas**

PROJECT: **Contract W912HY-09-D-0021
Addicks and Barker Dams, TO-14**

BORING LOCATION: **N: 13842570.826
E: 3032376.515**

SITE: **Addicks and Barker Reservoirs
Houston, Texas**

Graphic Log	DESCRIPTION	DEPTH, FEET	SAMPLES							TESTS							
			USCS SYMBOL	TYPE	RECOVERY, IN	SPT, BLOWS/FT	CALIBRATED HAND PENETROM., TSF	TORVANE, TSF	MOISTURE CONTENT, %	DRY DENSITY, PCF	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	MINUS #200 SIEVE, %	COMPRESSIVE STRENGTH, TSF	FAILURE STRAIN, %	CONFINING PRESSURE, PSI
	Approx. Surface Elevation: 79.2 feet																
51.2	SILTY CLAYEY SAND light gray and tan, low plasticity, fine-grained, wet	28.0	SC-SM	ST	5				16		19	15	4	49			
49.2	SANDY SILT light gray and tan, medium dense, low plasticity, wet, with sand and clay seams	30.0	ML	SS	17	19			15		19	16	3	57			
45.2	SILTY SAND light gray and tan, loose, non-plastic, fine-grained, wet - with clay seams 30 to 32 feet	34.0	SM	ST	13		0.75		17								
43.2	SANDY LEAN CLAY light gray and tan, medium stiff, medium plasticity, moist, with sand seams and ferrous stains	36.0	CL	SS	6	7			16								
39.2	LEAN CLAY light gray and tan, very stiff, medium plasticity, moist	40.0		ST	20		2.5		20		41	16	25	96			
27.2	LEAN CLAY w/ SAND light gray and tan, very stiff to hard, low to medium plasticity, moist, with calcareous nodules - with silt seams 46 to 52 feet - with sand seams 48 to 50 feet	52.0	CL	ST	15		3.75		17		38	16	22	83			
				ST	14		4.5		17	113							
				ST	15		4.5		17		30	16	14	83			
				ST	5		3.25		19								
				SS	13	31			22								
				SS	12	26			23		23	15	8				

Continued Next Page

STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES. IN SITU, THE TRANSITION BETWEEN STRATA MAY BE MORE GRADUAL. REMARKS: **Dry augered to 22 feet; wet rotary thereafter.**

WATER LEVEL OBSERVATIONS			
▽ 20 ft	WD	▽ 18 ft	at 5 min
▽ 17.5 ft	at 10 min	▽ 17 ft	at 15 min



DATE DRILLED
6/7/2012

PROJECT NUMBER
92125125

Page 2 of 4

B-19

EXHIBIT A-45

BORING LOG NO. B-19

CLIENT: **United States Army Corps of Engineers
Galveston, Texas**

PROJECT: **Contract W912HY-09-D-0021
Addicks and Barker Dams, TO-14**

BORING LOCATION: **N: 13842570.826
E: 3032376.515**

SITE: **Addicks and Barker Reservoirs
Houston, Texas**

Graphic Log	DESCRIPTION	DEPTH, FEET	SAMPLES						TESTS							
			USCS SYMBOL	TYPE	RECOVERY, IN	SPT, BLOWS/FT	CALIBRATED HAND PENETROM., TSF	TORVANE, TSF	MOISTURE CONTENT, %	DRY DENSITY, PCF	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	MINUS #200 SIEVE, %	COMPRESSIVE STRENGTH, TSF	FAILURE STRAIN, %
Approx. Surface Elevation: 79.2 feet																
23.2	56.0	53	SM													
		54	SS	9	39											
		55	SS	7	50/6"			17				27				
		56	CL													
21.2	58.0	57	SS	5	32											
		58	SM													
19.2	60.0	59	SS	7	50/6"			25								
		60	CH													
		61	SS	8	17											
15.2	64.0	62	ST	20		1.0										
		63	CL													
		64	ST	9		3.5		16	37	15	22	96				
		65	ST	20		4.5										
		66	ST	8		3.75		21	108							
		67	ST	14		4.25		17		43	16	27	95			
		68	ST	15		4.5		16								
		69	ST	10		2.75										
		70	ST	10		4.25		25								
		71														
		72														
		73														
		74														
		75														
		76														
		77														
		78														

Continued Next Page

STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES. IN SITU, THE TRANSITION BETWEEN STRATA MAY BE MORE GRADUAL.

REMARKS: Dry augered to 22 feet; wet rotary thereafter.

WATER LEVEL OBSERVATIONS

▽ 20 ft	WD	▽ 18 ft	at 5 min
▽ 17.5 ft	at 10 min	▽ 17 ft	at 15 min



DATE DRILLED

6/7/2012

PROJECT NUMBER

92125125

Page 3 of 4

B-19

EXHIBIT A-45

BORING LOG NO. B-19

CLIENT: **United States Army Corps of Engineers
Galveston, Texas**

PROJECT: **Contract W912HY-09-D-0021
Addicks and Barker Dams, TO-14**

BORING LOCATION: **N: 13842570.826
E: 3032376.515**

SITE: **Addicks and Barker Reservoirs
Houston, Texas**

Graphic Log	DESCRIPTION	DEPTH, FEET	SAMPLES							TESTS							
			USCS SYMBOL	TYPE	RECOVERY, IN	SPT, BLOWS/FT	CALIBRATED HAND PENETROM., TSF	TORVANE, TSF	MOISTURE CONTENT, %	DRY DENSITY, PCF	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	MINUS #200 SIEVE, %	COMPRESSIVE STRENGTH, TSF	FAILURE STRAIN, %	CONFINING PRESSURE, PSI
	Approx. Surface Elevation: 79.2 feet																
	-0.8	80.0															
	FAT CLAY reddish brown, light gray, and tan, very stiff, high plasticity, moist, with ferrous stains		CH	ST	14		4.5										
				ST	5		4.25		22								
				ST	14		4.5										
				ST	10		3.0		26								
	- with calcareous nodules 86 to 90 feet - with silt pockets 86 to 96 feet			ST	12		4.5										
				ST	14		4.5		18	114							
	- with sand pockets 90 to 94 feet			ST	3		4.5										
				ST	9		3.75		16								
	- with calcareous nodules 92 to 96 feet			ST	7		4.5										
	-16.8	96.0															
	LEAN CLAY reddish brown and light gray, very stiff, medium plasticity, moist, with silt and sand pockets, calcareous nodules, and ferrous stains		CL	ST	11		4.5		16								
				ST	8		4.5										
	- with scattered gravel below 98 feet Boring terminated at 100 feet.	100.0															

STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES. IN SITU, THE TRANSITION BETWEEN STRATA MAY BE MORE GRADUAL.

REMARKS: Dry augered to 22 feet; wet rotary thereafter.

WATER LEVEL OBSERVATIONS			
▽ 20 ft	WD	▽ 18 ft	at 5 min
▽ 17.5 ft	at 10 min	▽ 17 ft	at 15 min



DATE DRILLED
6/7/2012

PROJECT NUMBER
92125125

Page 4 of 4

B-19

EXHIBIT A-45