

Legend

River/Stream/Creek/Canal

County Boundary

Courchesne Levee Reach

Enhanced Levee

New Flood Wall

New Levee

Proposed Borehole Location

Environmental

Standard

100' Depth



0 375 750

1 in = 750 feet



1950 N. Stemmons Fwy, Suite 6000
Dallas, TX 75207
Phone (214)741-7777

www.urscorp.com

Preliminary Borehole
Location Map

USIBWC
Geotechnical Analysis and
Engineering Evaluation of
Courchesne Reach

Date: 10/14/2010

Figure 1

LOG OF BORING NO. CB- 1

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10673656.35520; E 367451.95978

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT ²		PLASTICITY INDEX	% -200
						0.5	1.0		
			SURFACE ELEVATION: 3737.00 ft						
5			SILTY SAND (SM) loose, light brown, moist to vey moist - gray below 3 feet	8				NP	46
9				4					
10			SILTY CLAYEY GRAVEL with SAND (GC-GM) very dense, light brown, wet	50/6"				NP	22
15			CLAYEY GRAVEL (GC) very dense, light brown, wet	Ref/6"				6	17
20			POORLY-GRADED SAND with SILT (SP-SM) loose, gray, wet					9	21
25				4					
30			- gravelly at 20 feet	4				NP	6
35			POORLY-GRADED SAND (SP) medium dense, gray, wet	26					
40				17				NP	2
45				15					
50				16				NP	4
55			Boring Terminated						
60			NOTES: 1. Free water was observed during drilling operations at a depth of about 7 feet. 2. Backfilled with cement bentonite grout. 3. Mud rotary methods used after a depth of about 10 feet. 4. Ground surface elevations and updated boring coordinates were provided to us on Friday, January 14, 2011 by URS Corporation.						
65									
70									
75									
DEPTH DRILLED: 40.0 ft			DEPTH TO WATER: 7 ft			PROJ. No.: AEA10-052-00			
DATE DRILLED: 11/29/2010			DATE MEASURED: 11/29/2010			FIGURE: A-2			

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

LOG OF BORING NO. CB- 2

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10673963.93370; E 367674.37820

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT ²								PLASTICITY INDEX	% -200
						0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
			SURFACE ELEVATION: 3732.54 ft												
			SILTY SAND (SM) medium dense, light brown, slightly moist	12											
5			SANDY SILT (ML) loose, gray, moist to very moist	5										NP	64
4				4											
10			POORLY-GRADED SAND with SILT (SP-SM) loose, gray, moist to wet	8										NP	5
9				9											
15				4										NP	9
20				7											
25			WELL-GRADED GRAVEL with SILT and SAND (GW-GM) dense, gray, wet	40										NP	7
30			POORLY-GRADED SAND with SILT and GRAVEL (SP-SM) dense, gray, wet	48										NP	6
35			POORLY-GRADED SAND (SP) medium dense, gray, wet	12										NP	4
40			POORLY-GRADED GRAVEL with SILT and SAND (GP-GM) dense, brown, wet	33										NP	8
			Boring Terminated												
45			NOTES: 1. Free water was observed during drilling operations at a depth of about 6-1/2 feet. 2. Backfilled with cement bentonite grout. 3. Mud rotary methods used after a depth of about 10 feet. 4. Ground surface elevations and updated boring coordinates were provided to us on Friday, January 14, 2011 by URS Corporation.												
50															
55															
60															
65															
70															
75															
DEPTH DRILLED: 40.0 ft		DEPTH TO WATER: 6.5 ft		PROJ. No.: AEA10-052-00		DATE DRILLED: 11/29/2010		DATE MEASURED: 11/29/2010		FIGURE: A-3					

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

LOG OF BORING NO. CB- 3

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

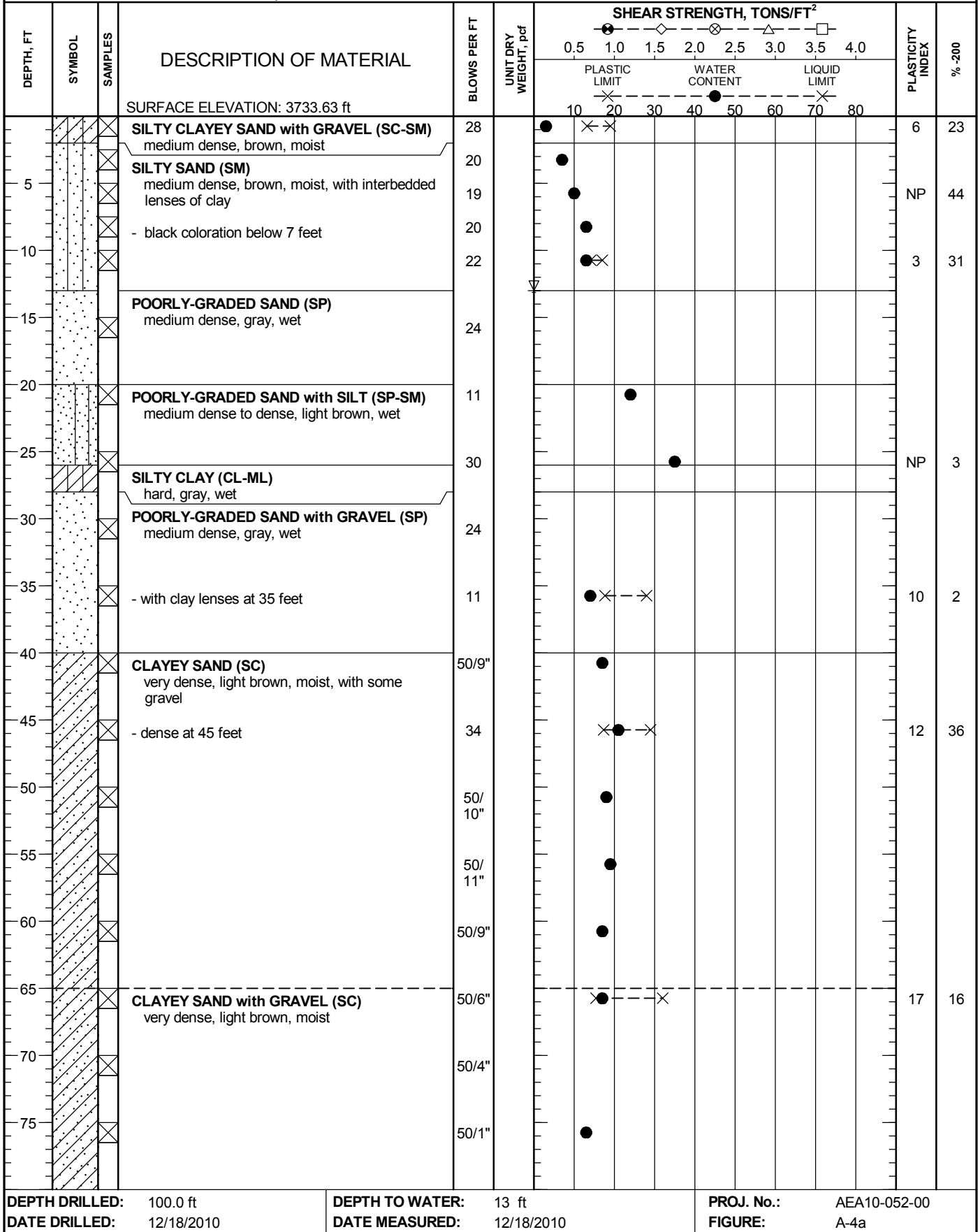
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10674172.38830; E 368020.80586



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 100.0 ft
DATE DRILLED: 12/18/2010

DEPTH TO WATER: 13 ft
DATE MEASURED: 12/18/2010

PROJ. No.: AEA10-052-00
FIGURE: A-4a

LOG OF BORING NO. CB- 3

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10674172.38830; E 368020.80586

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT ²										PLASTICITY INDEX	% -200
						0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
						PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
						10	20	30	40	50	60	70	80				
			SURFACE ELEVATION: 3733.63 ft														
			CLAYEY SAND with GRAVEL (SC) very dense, light brown, moist <i>(continued)</i>	Ref/1"													
85				Ref/1"													
90				Ref/1"													
95				50/2"										22	21		
100			SANDY LEAN CLAY (CL) hard, light brown, moist Boring Terminated	Ref/2"										18	61		
105			NOTES: 1. Free water was observed during drilling operations at a depth of about 13 feet. 2. Backfilled with cement bentonite grout. 3. Mud rotary methods used after a depth of about 15 feet. 4. Ground surface elevations and updated boring coordinates were provided to us on Friday, January 14, 2011 by URS Corporation.														
110																	
115																	
120																	
125																	
130																	
135																	
140																	
145																	
150																	
155																	
DEPTH DRILLED: 100.0 ft			DEPTH TO WATER: 13 ft			PROJ. No.: AEA10-052-00											
DATE DRILLED: 12/18/2010			DATE MEASURED: 12/18/2010			FIGURE: A-4b											

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

LOG OF BORING NO. CB- 4

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

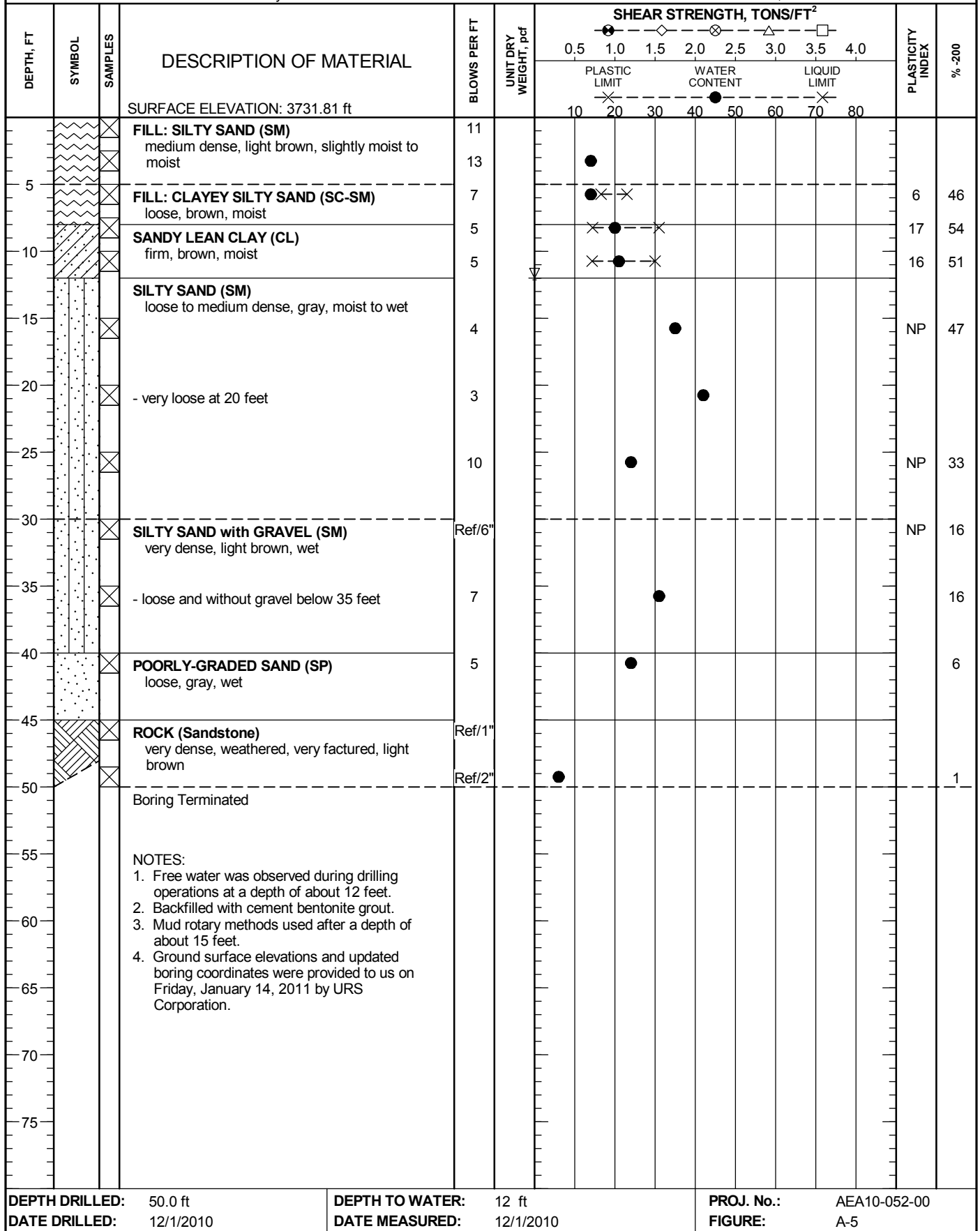
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10673623.64740; E 368887.85471



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 50.0 ft DEPTH TO WATER: 12 ft PROJ. No.: AEA10-052-00
DATE DRILLED: 12/1/2010 DATE MEASURED: 12/1/2010 FIGURE: A-5

LOG OF BORING NO. CB- 5

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10673224.96140; E 369327.75409

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT ²				PLASTICITY INDEX	% -200			
						0.5	1.0	1.5	2.0			2.5	3.0	3.5
SURFACE ELEVATION: 3731.00 ft														
5			SILTY CLAYEY SAND (SC-SM) medium dense, brown, moist	12							6	31		
			LEAN CLAY with SAND (CL) firm, brown, very moist	5								10	79	
			SANDY SILT (ML) very loose, dark brown, wet	2								NP	52	
			SILTY SAND (SM) very loose to medium dense, brown, wet	2										
			POORLY-GRADED SAND (SP) medium dense, brown, wet	17								NP	12	
10			POORLY-GRADED SAND (SP) medium dense, brown, wet	17										
25														
33														
27														
37												NP	4	
35			POORLY-GRADED SAND with SILT (SP-SM) very dense, brown, wet	50/ 11"										
40				50/9"							NP	5		
Boring Terminated														
45	<div>NOTES:</div> <div>1. Free water was observed during drilling operations at a depth of about 5-1/2 feet.</div> <div>2. Backfilled with cement bentonite grout.</div> <div>3. Mud rotary methods used after a depth of about 10 feet.</div> <div>4. Ground surface elevations and updated boring coordinates were provided to us on Friday, January 14, 2011 by URS Corporation.</div>													
50														
55														
60														
65														
70														
75														
DEPTH DRILLED: 40.0 ft			DEPTH TO WATER: 5.5 ft			PROJ. No.: AEA10-052-00								
DATE DRILLED: 11/29/2010			DATE MEASURED: 11/29/2010			FIGURE: A-6								

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

LOG OF BORING NO. CB-6

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

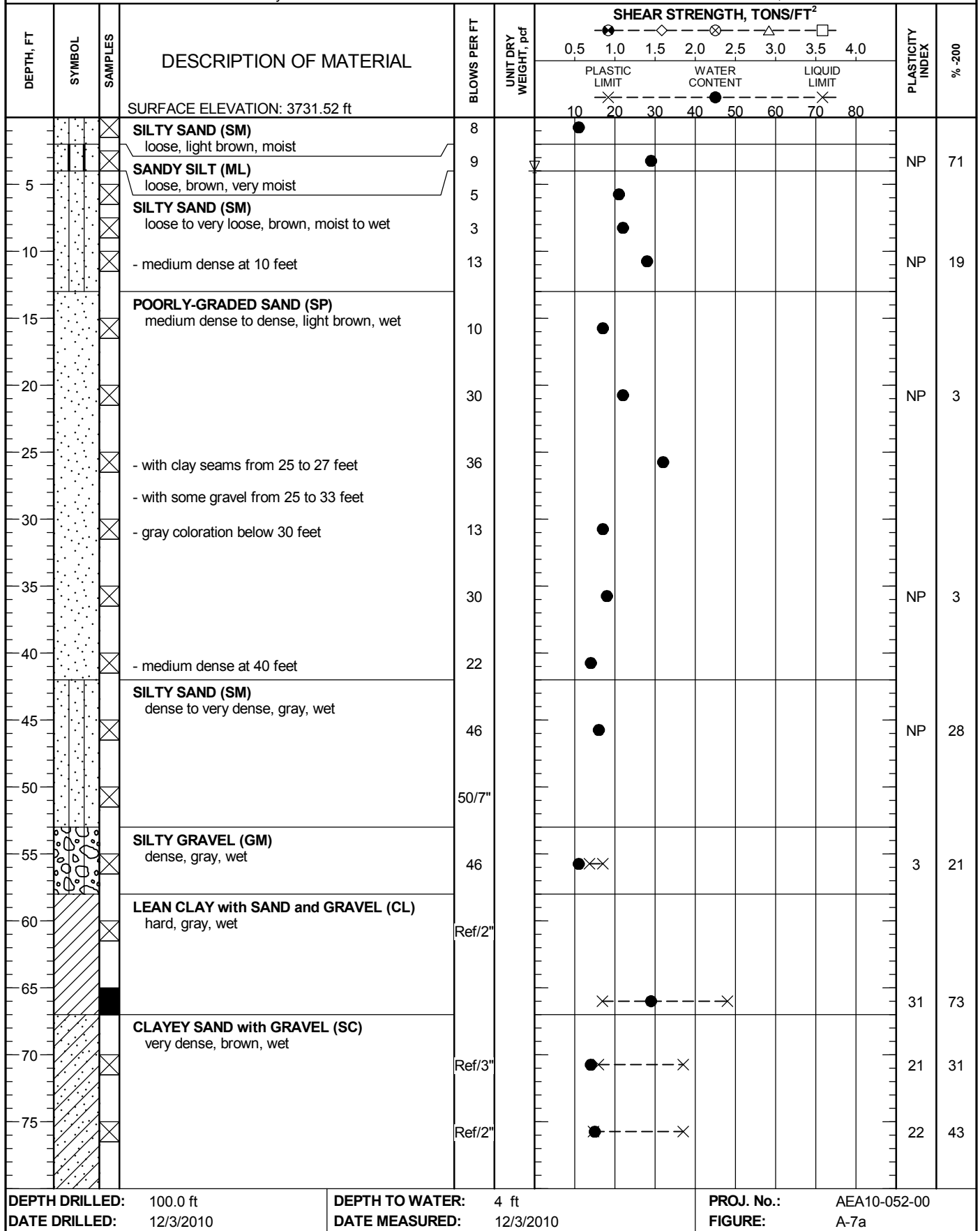
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10672588.36920; E 369978.54106



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 100.0 ft
DATE DRILLED: 12/3/2010

DEPTH TO WATER: 4 ft
DATE MEASURED: 12/3/2010

PROJ. No.: AEA10-052-00
FIGURE: A-7a

LOG OF BORING NO. CB- 6

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10672588.36920; E 369978.54106

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT ²										PLASTICITY INDEX	% -200
						0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
						PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
			SURFACE ELEVATION: 3731.52 ft														
			CLAYEY SAND with GRAVEL (SC) very dense, brown, wet (continued)	Ref/2"													
85				Ref/1"													
90				Ref/2"											21	40	
95				Ref/1"													
100				Ref/0"											20	30	
			Boring Terminated														
105			NOTES: 1. Free water was observed during drilling operations at a depth of about 4 feet. 2. Backfilled with cement bentonite grout. 3. Mud rotary methods used after a depth of about 10 feet. 4. Ground surface elevations and updated boring coordinates were provided to us on Friday, January 14, 2011 by URS Corporation.														
110																	
115																	
120																	
125																	
130																	
135																	
140																	
145																	
150																	
155																	

DEPTH DRILLED:	100.0 ft	DEPTH TO WATER:	4 ft	PROJ. No.:	AEA10-052-00
DATE DRILLED:	12/3/2010	DATE MEASURED:	12/3/2010	FIGURE:	A-7b

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 100.0 ft
DATE DRILLED: 12/3/2010

DEPTH TO WATER: 4 ft
DATE MEASURED: 12/3/2010

PROJ. No.: AEA10-052-00
FIGURE: A-7b

LOG OF BORING NO. CB- 7

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

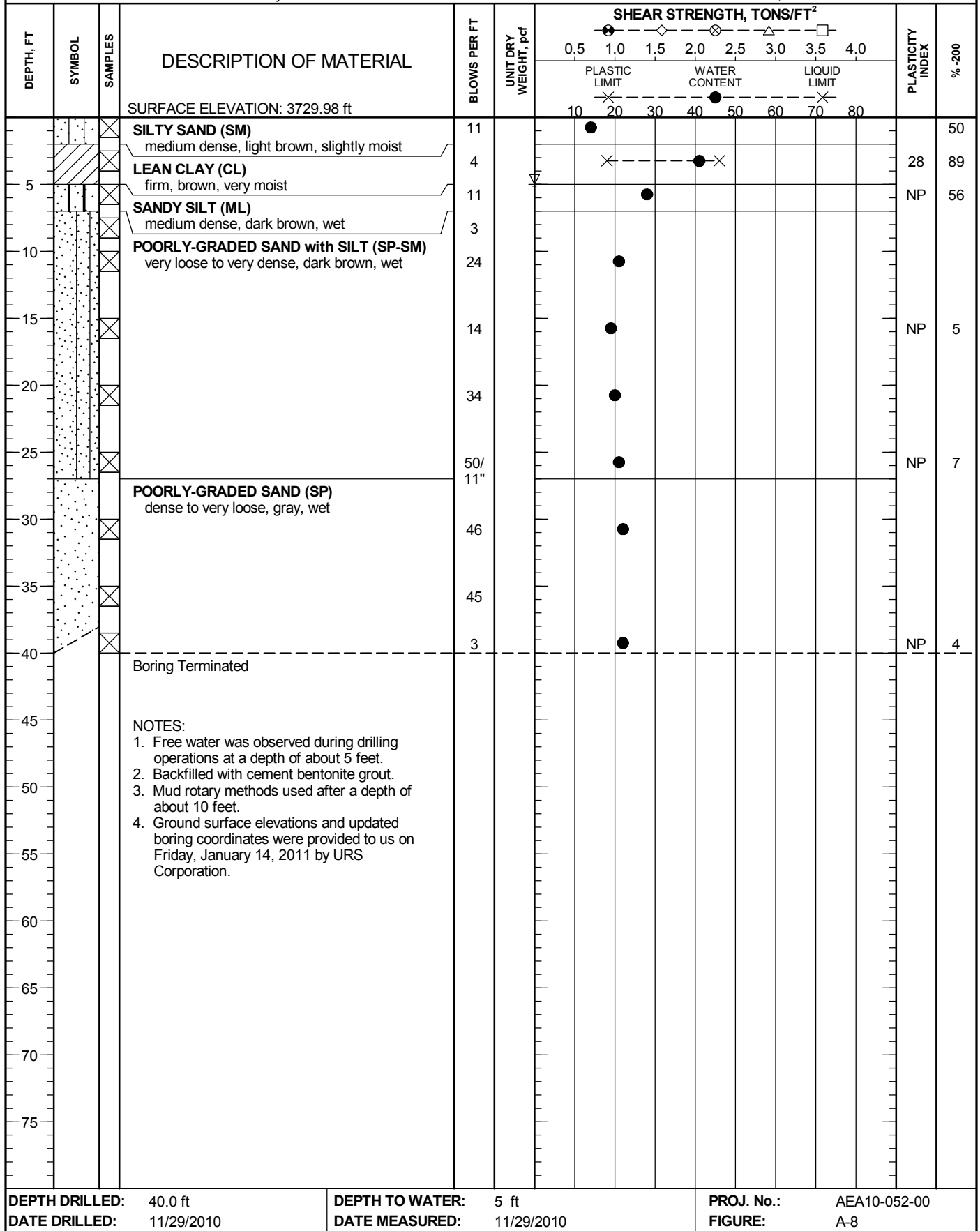
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10671736.68330; E 370639.89372



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 40.0 ft DEPTH TO WATER: 5 ft PROJ. No.: AEA10-052-00
DATE DRILLED: 11/29/2010 DATE MEASURED: 11/29/2010 FIGURE: A-8

LOG OF BORING NO. CB- 8

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10670970.01340; E 371042.96402

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT ²						PLASTICITY INDEX	% -200			
						PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT						
			SURFACE ELEVATION: 3729.01 ft			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0			
			SILTY CLAYEY SAND (SC-SM) medium dense, light brown, moist	13		10	20	30	40	50	60	70	80	4	21	
5			POORLY-GRADED SAND with SILT (SP-SM) medium dense to loose, brown, wet	14										NP	10	
			POORLY-GRADED SAND (SP) medium dense to very dense, light brown to brown, wet - very loose at 10 feet	12										NP	4	
10				3										NP		
15			- loose at 15 feet	6												
20				11										NP	4	
25				12												
30			- with interbedded seams of silt from 29 to 33 feet	50/ 11"										NP	6	
35				29												
40			Boring Terminated	50/ 10"										NP	4	
45			NOTES: 1. Free water was observed during drilling operations at a depth of about 4 feet. 2. Backfilled with cement bentonite grout. 3. Mud rotary methods used after a depth of about 10 feet. 4. Ground surface elevations and updated boring coordinates were provided to us on Friday, January 14, 2011 by URS Corporation.													
50																
55																
60																
65																
70																
75																
DEPTH DRILLED: 40.0 ft			DEPTH TO WATER: 4 ft			PROJ. No.: AEA10-052-00										
DATE DRILLED: 11/30/2010			DATE MEASURED: 11/30/2010			FIGURE: A-9										

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

LOG OF BORING NO. CB- 9

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

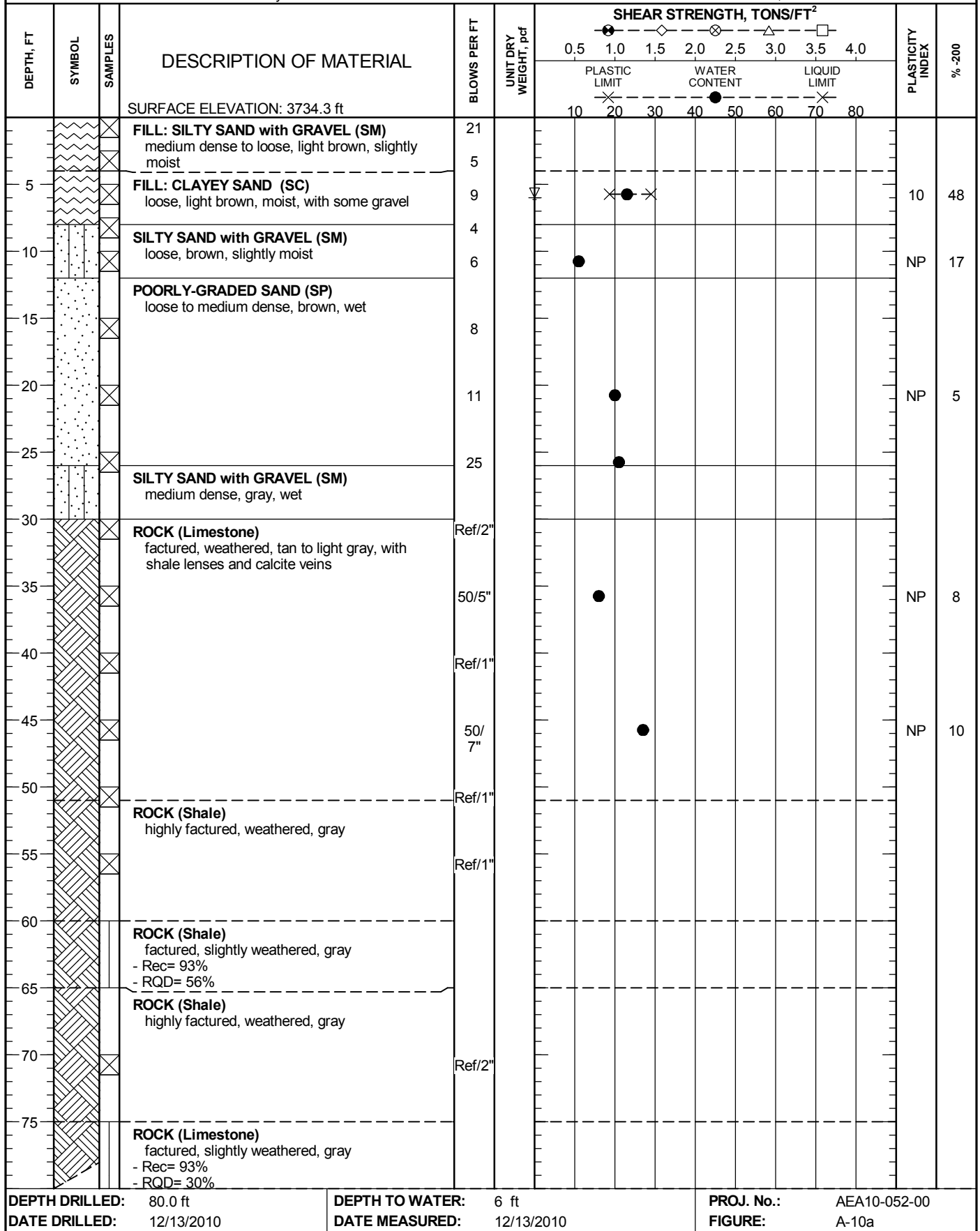
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10670306.90330; E 371290.08709



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 80.0 ft
DATE DRILLED: 12/13/2010

DEPTH TO WATER: 6 ft
DATE MEASURED: 12/13/2010

PROJ. No.: AEA10-052-00
FIGURE: A-10a

LOG OF BORING NO. CB- 9

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10670306.90330; E 371290.08709

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT ²				PLASTICITY INDEX	% -200	
						0.5	1.0	1.5	2.0			2.5
			SURFACE ELEVATION: 3734.3 ft			<div> <div> <div>●</div> <div>◆</div> <div>⊗</div> <div>△</div> <div>□</div> </div> <div> <div>PLASTIC LIMIT</div> <div>WATER CONTENT</div> <div>LIQUID LIMIT</div> </div> </div>						
85			Boring Terminated									
90			NOTES: 1. Free water was observed during drilling operations at a depth of about 6 feet. 2. Backfilled with cement bentonite grout. 3. Mud rotary methods used after a depth of about 10 feet. 4. Ground surface elevations and updated boring coordinates were provided to us on Friday, January 14, 2011 by URS Corporation.									
95												
100												
105												
110												
115												
120												
125												
130												
135												
140												
145												
150												
155												
DEPTH DRILLED: 80.0 ft			DEPTH TO WATER: 6 ft			PROJ. No.: AEA10-052-00						
DATE DRILLED: 12/13/2010			DATE MEASURED: 12/13/2010			FIGURE: A-10b						

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

LOG OF BORING NO. CB-10

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

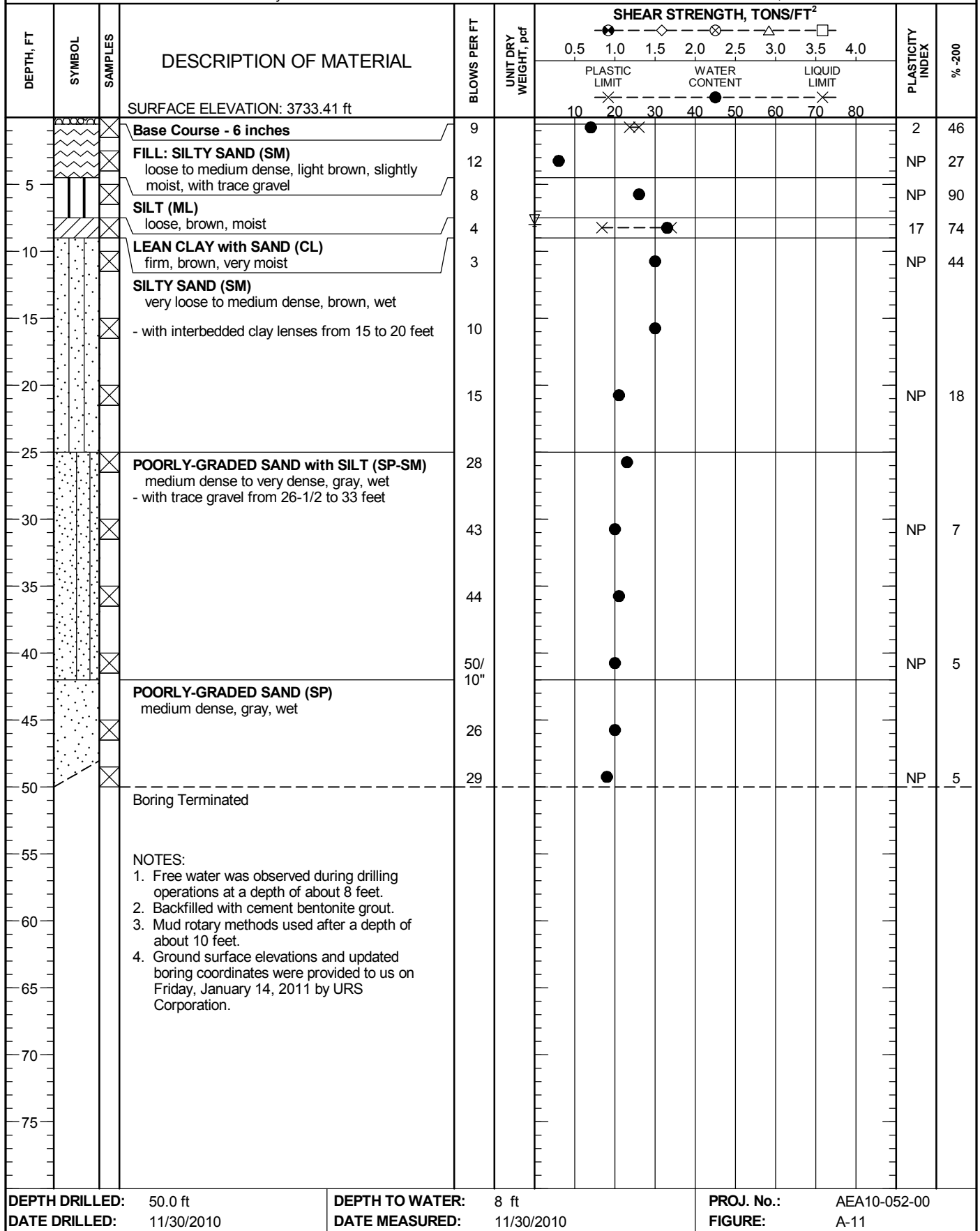
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10669721.49530; E 371584.94578



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 50.0 ft
DATE DRILLED: 11/30/2010

DEPTH TO WATER: 8 ft
DATE MEASURED: 11/30/2010

PROJ. No.: AEA10-052-00
FIGURE: A-11

LOG OF BORING NO. CB-11

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

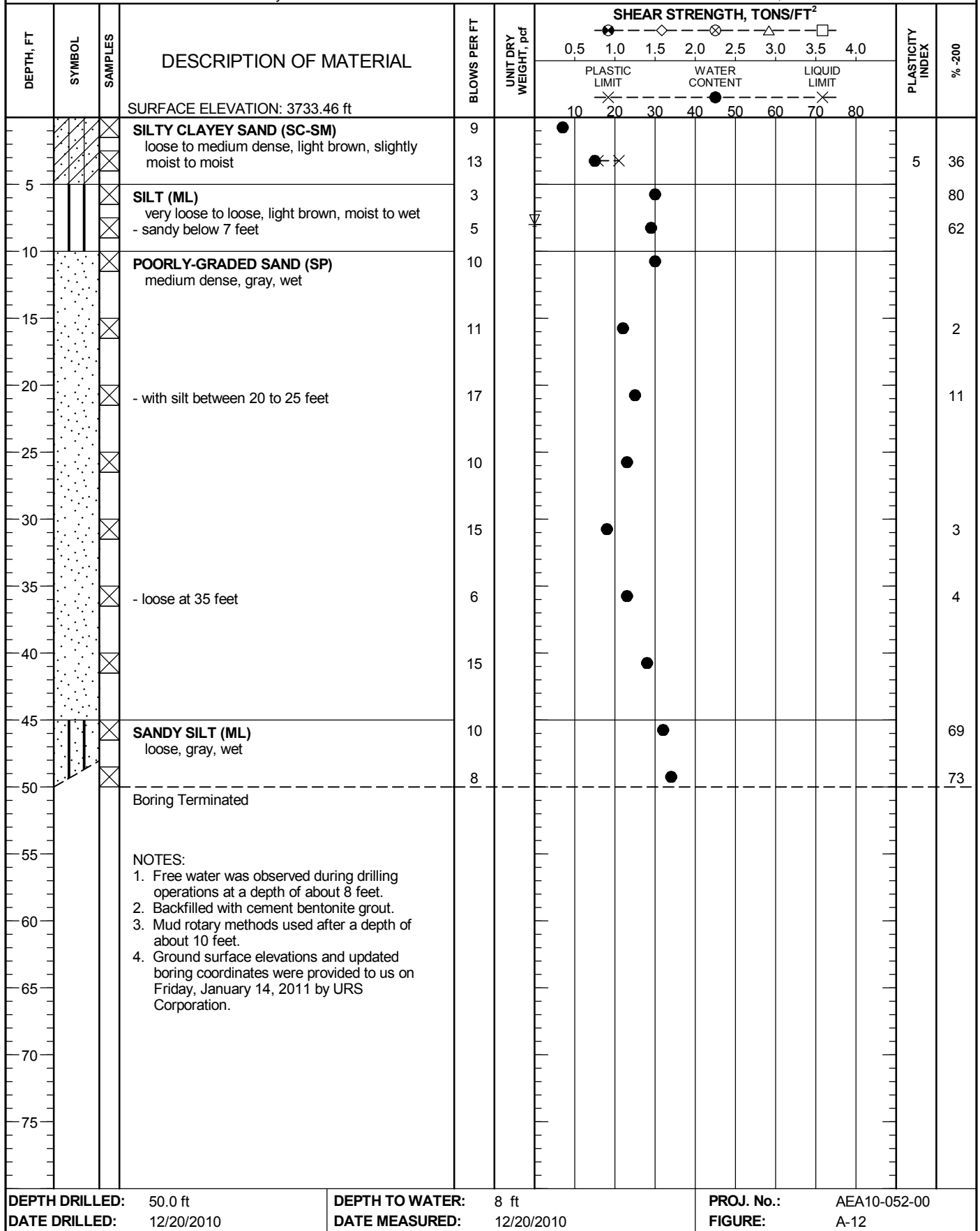
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10669221.12620; E 372259.15766



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 50.0 ft	DEPTH TO WATER: 8 ft	PROJ. No.: AEA10-052-00
DATE DRILLED: 12/20/2010	DATE MEASURED: 12/20/2010	FIGURE: A-12

LOG OF BORING NO. CB-12

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

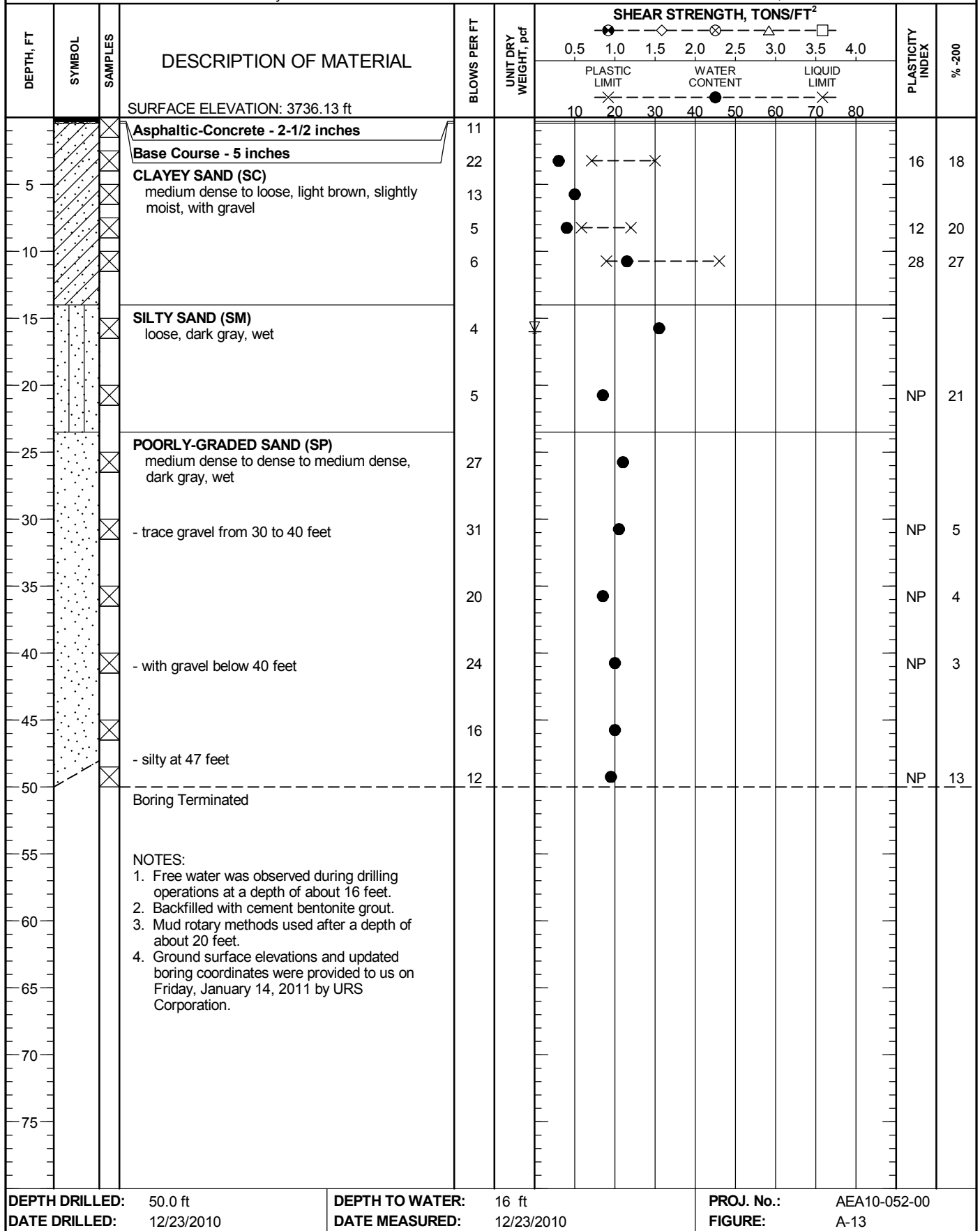
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10668972.04980; E 372654.50234



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 50.0 ft
DATE DRILLED: 12/23/2010

DEPTH TO WATER: 16 ft
DATE MEASURED: 12/23/2010

PROJ. No.: AEA10-052-00
FIGURE: A-13

LOG OF BORING NO. CB-13

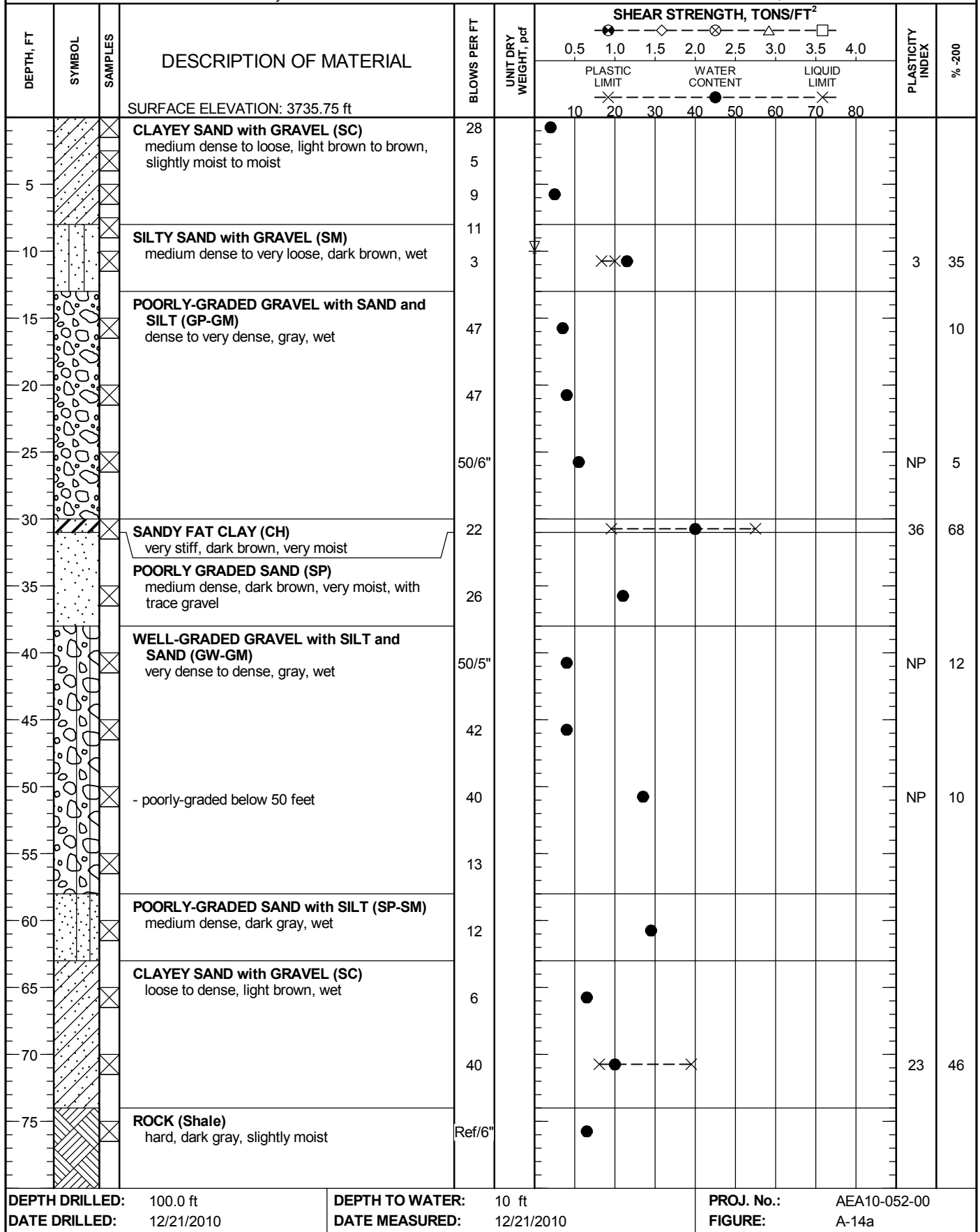
Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10668507.45220; E 373129.07877



DEPTH DRILLED: 100.0 ft
DATE DRILLED: 12/21/2010

DEPTH TO WATER: 10 ft
DATE MEASURED: 12/21/2010

PROJ. No.: AEA10-052-00
FIGURE: A-14a

LOG OF BORING NO. CB-13

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10668507.45220; E 373129.07877

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT ²						PLASTICITY INDEX	% -200			
						0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0										
						PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT						
			SURFACE ELEVATION: 3735.75 ft			10	20	30	40	50	60	70	80			
			ROCK (Shale) hard, dark gray, slightly moist (continued)	Ref/4"											19	36
85				50/4"											14	42
90				Ref/3"												
95				Ref/1"												
100			Boring Terminated	Ref/3"											20	32
105			NOTES: 1. Free water was observed during drilling operations at a depth of about 10 feet. 2. Backfilled with cement bentonite grout. 3. Mud rotary methods used after a depth of about 10 feet. 4. Ground surface elevations and updated boring coordinates were provided to us on Friday, January 14, 2011 by URS Corporation.													
110																
115																
120																
125																
130																
135																
140																
145																
150																
155																
DEPTH DRILLED: 100.0 ft			DEPTH TO WATER: 10 ft			PROJ. No.: AEA10-052-00										
DATE DRILLED: 12/21/2010			DATE MEASURED: 12/21/2010			FIGURE: A-14b										

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 100.0 ft	DEPTH TO WATER: 10 ft	PROJ. No.: AEA10-052-00
DATE DRILLED: 12/21/2010	DATE MEASURED: 12/21/2010	FIGURE: A-14b

LOG OF BORING NO. CB-14

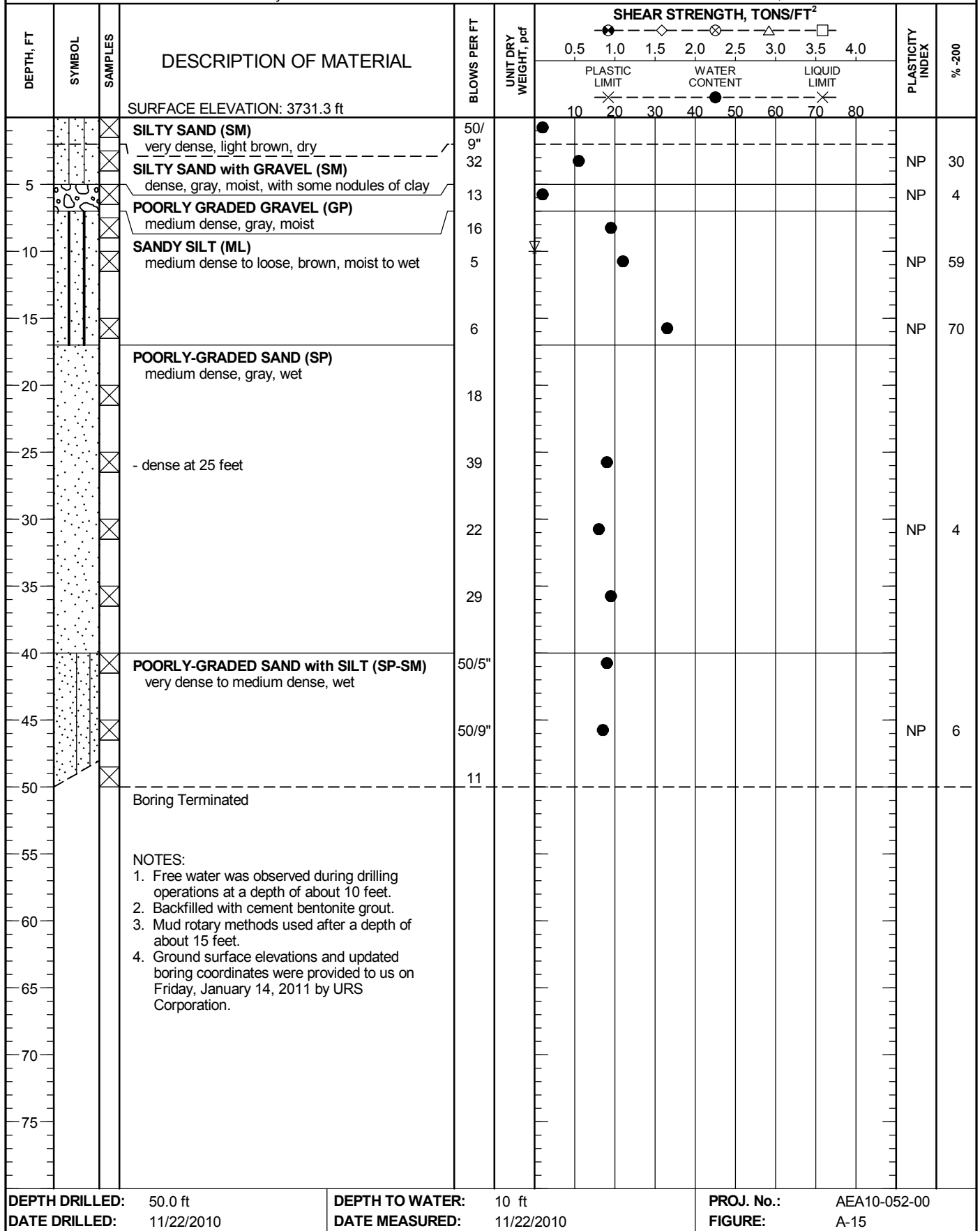
Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10667811.60450; E 373324.18892



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 50.0 ft
DATE DRILLED: 11/22/2010

DEPTH TO WATER: 10 ft
DATE MEASURED: 11/22/2010

PROJ. No.: AEA10-052-00
FIGURE: A-15

LOG OF BORING NO. CB-15

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10667122.85750; E 373235.02297

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT ²								PLASTICITY INDEX	% -200
						0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
			SURFACE ELEVATION: 3732.43 ft												
5			FILL: SILTY SAND with GRAVEL (SM) medium dense to loose, light brown to brown, slightly moist - black coloration, coal & traces of concrete from 5 to 9 feet	20										NP	34
10			POORLY-GRADED SAND (SP) medium dense to loose to medium dense, gray, moist to wet	13										NP	20
15				5											
20				8											
25			- dense at 25 feet	33										NP	4
30				17											
35			SILTY SAND (SM) dense, brown, wet	36										NP	14
40			POORLY-GRADED SAND (SP) dense, gray, wet	45											
45			- medium dense at 45 feet	25											
50			Boring Terminated	31										NP	5
55			NOTES: 1. Free water was observed during drilling operations at a depth of about 10 feet. 2. Backfilled with cement bentonite grout. 3. Mud rotary methods used after a depth of about 15 feet. 4. Ground surface elevations and updated boring coordinates were provided to us on Friday, January 14, 2011 by URS Corporation.												
60															
65															
70															
75															

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 50.0 ft
DATE DRILLED: 11/22/2010

DEPTH TO WATER: 10 ft
DATE MEASURED: 11/22/2010

PROJ. No.: AEA10-052-00
FIGURE: A-16

LOG OF BORING NO. CB-16

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico

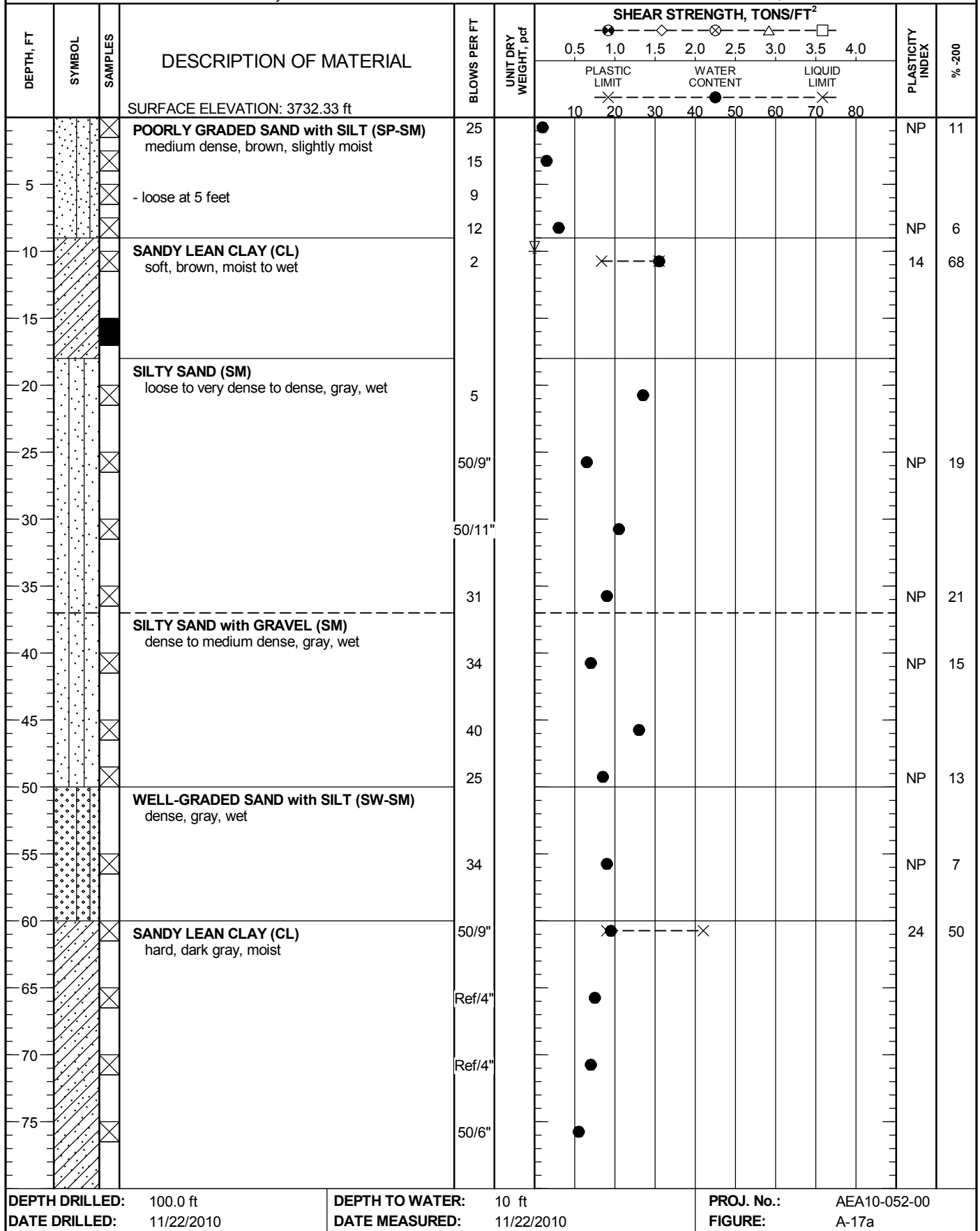
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10666620.30650; E 372992.53023



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 100.0 ft
DATE DRILLED: 11/22/2010

DEPTH TO WATER: 10 ft
DATE MEASURED: 11/22/2010

PROJ. No.: AEA10-052-00
FIGURE: A-17a

LOG OF BORING NO. CB-16

Courchesne / Nemexas Reach
El Paso, Texas / Sunland Park, New Mexico
Prime Contract No. IBM09D0008 - Task order No. IBM10TO43



DRILLING

METHOD: Hollow Stem and Mud Rotary

LOCATION: N 10666620.30650; E 372992.53023

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT ²						PLASTICITY INDEX	% -200			
						0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0										
						PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT						
			SURFACE ELEVATION: 3732.33 ft			10	20	30	40	50	60	70	80			
			CLAYEY SAND (SC) very dense, brown, moist	Ref/5"										16	26	
85				Ref/4"												
90				Ref/3"												
95				Ref/3"										17	31	
100			Boring Terminated	Ref/2"												
105			NOTES: 1. Free water was observed during drilling operations at a depth of about 10 feet. 2. Backfilled with cement bentonite grout. 3. Mud rotary methods used after a depth of about 15 feet. 4. Ground surface elevations and updated boring coordinates were provided to us on Friday, January 14, 2011 by URS Corporation.													
110																
115																
120																
125																
130																
135																
140																
145																
150																
155																
DEPTH DRILLED: 100.0 ft			DEPTH TO WATER: 10 ft			PROJ. No.: AEA10-052-00										
DATE DRILLED: 11/22/2010			DATE MEASURED: 11/22/2010			FIGURE: A-17b										

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT