

LOG OF BORING NO. BME-25

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 Fax: 817-563-1224

Depth, feet	Samples	Symbol / USCS	Location: E 2394200.006 N 13902399.988	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
			Surface El.: 547.86 ft. msl Completion Depth: 89.0 ft. Date Boring Started: 9/11/13 Date Boring Completed: 9/11/13							
			MATERIAL DESCRIPTION							
			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH) <i>(continued)</i>							
			494.86							
			CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)	4.5+						
55	S26									
60	S27			4.5+						
65	S28			4.5+						
70	S29			4.5+						
75	S30			4.5+						
80	U31			4.5+						
85	U32			4.5+						
90	U33		458.86	4.5+						

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed prior to introduction of drilling fluid at approximately 55'.



BME LOG FORMATED FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF BORING NO. BME-26

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
1700 Robert Road, Suite 100
Mansfield, TX 76063
Phone: 817-563-1144
Fax: 817-563-1224

Depth, feet	Samples	Symbol / USCS	Location: E 2394800.006 N 13902399.962	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
			Surface El.: 532.72 ft. msl Completion Depth: 48.0 ft. Date Boring Started: 8/31/13 Date Boring Completed: 8/31/13							
			MATERIAL DESCRIPTION							
A1			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)							
U2										
5	U3			526.72	4.5+					
U4			CLAY, SILTY, tan, hard, w/ferrous stains, moist, (CH)		4.5+					
U5					4.5+					
10	U6				4.5+					
U7					4.5+					
15	U8				4.5+					
U9				514.72	4.5+					
U10			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH)		4.5+					
20	U11				4.5+					
U12					4.5+					
25	U13				4.5+					
U14					4.5+					
U15					4.5+					
30	U16				4.5+					
U17					4.5+					
35	U18				4.5+					
U19					4.5+					
40	U20				4.5+					
U21					4.5+					
45	U22			489.72	4.5+					
U23			CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)		4.5+					
U24				484.72	4.5+					
50										
			Drilling Contractor: H/ET Drilling Method: Wet Rotary Sampling Method: Thin Wall Tube/Split Barrel Geologist/Engineer: S. Stamoulis Project No.: 129.06.102	Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed during the drilling of this boring and no water was introduced during drilling.						



LOG OF BORING NO. BME-27

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 Fax: 817-563-1224

Depth, feet		Samples	Symbol / USCS	Location: E 2393000.019 N 13901899.990	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	
				Surface El.: 549.95 ft. msl Completion Depth: 92.0 ft. Date Boring Started: 8/20/13 Date Boring Completed: 8/21/13								
				MATERIAL DESCRIPTION								
A1				CLAY, SILTY, dark brown, very stiff to hard, w/pebbles and cobbles, dry, (CH)								
A2												
5 U3				CLAY, SILTY, tan and brown, hard, limonitic, w/ferrous stains, moist, (CH)	544.95	4.5+						
U4						4.5+						
U5						4.5+	23.5		72	25	47	93
10 U6					537.95	4.5+						
U7				CLAY, SILTY, gray and tan mottled, hard, limonitic, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH)		4.5+						
15 U8						4.5+						
U9						4.5+						
20 U10						4.5+	24.9		67	24	43	99
U11						4.5+						
U12						4.5+						
25 U13												
S14						4.5+						
S15						4.5+						
30 S16						4.5+						
S17						4.5+						
35 S18						4.5+						
S19						4.5+	26.3		74	28	46	100
40 S20						4.5+						
S21						4.5+						
S22						4.5+						
45 S23						4.5+	25.5		73	28	45	99
S24						4.5+						
50 S25					CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)	501.95						
Drilling Contractor: H/ET Drilling Method: Wet Rotary Sampling Method: Thin Wall Tube/Split Barrel Geologist/Engineer: S. Stamoulis Project No.: 129.06.102				Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed prior to introduction of drilling fluid at approximately 55'. 								

BME LOG FORMATED FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF BORING NO. BME-27

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 Fax: 817-563-1224

Depth, feet	Samples	Symbol / USCS	Location: E 2393000.019 N 13901899.990	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
			Surface El.: 549.95 ft. msl Completion Depth: 92.0 ft. Date Boring Started: 8/20/13 Date Boring Completed: 8/21/13							
MATERIAL DESCRIPTION										
55	S26		CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH) (continued) - w/silt partings	4.5+						
	S27			4.5+	25.5		80	27	53	99
60	S28		- w/silt partings	4.5+						
65	S29			4.5+						
70	S30			4.5+						
75	S31			4.5+	25.3		80	31	49	97
80	S32			4.5+						
85	S33			4.5+	24.4		71	27	44	98
90	S34			4.5+						
95	S35			4.5+						
			457.95							

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed prior to introduction of drilling fluid at approximately 55'.



LOG OF BORING NO. BME-28

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
1700 Robert Road, Suite 100
Mansfield, TX 76063
Phone: 817-563-1144
Fax: 817-563-1224

Depth, feet	Samples	Symbol / USCS	Location: E 2393600.016 N 13901900.011	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
			Surface El.: 554.73 ft. msl Completion Depth: 96.0 ft. Date Boring Started: 8/19/13 Date Boring Completed: 8/20/13							
			MATERIAL DESCRIPTION							
	A1		CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)							
	A2									
	5	A3	CLAY, SILTY, tan and brown, hard, w/ferrous stains and calcareous nodules, moist, (CH)	550.73						
		U4		4.5+						
		U5	- w/silt partings	4.5+	15.6		52	23	29	83
	10	U6		4.5+						
		U7		4.5+	16.1		49	24	25	89
	15	U8		4.5+						
		U9	CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH)	538.73						
		U10		4.5+	20.0		60	26	34	82
	20	U11								
		U12								
	25	S13		4.5+						
		S14		4.5+						
		S15		4.5+						
	30	S16		4.5+						
		S17	- limonitic	4.5+	22.3		76	30	46	97
	35	S18		4.5+						
		S19		4.5+						
		S20		4.5+	25.1		72	25	47	96
	40									
		S21	CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)	511.73						
	45			4.5+	27.9		69	26	43	95
		S22								
	50			4.5+						
Drilling Contractor: H/ET Drilling Method: Wet Rotary Sampling Method: Thin Wall Tube/Split Barrel Geologist/Engineer: S. Stamoulis Project No.: 129.06.102			Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed prior to the introduction of drilling fluids at approximately 55'. 							

BME LOG FORMATED FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF BORING NO. BME-28

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 Fax: 817-563-1224

Location: **E 2393600.016 N 13901900.011**

Surface El.: **554.73 ft. msl**
 Completion Depth: **96.0 ft.**
 Date Boring Started: **8/19/13**
 Date Boring Completed: **8/20/13**

MATERIAL DESCRIPTION

CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)
 (continued)

Depth, feet	Samples	Symbol / USCS	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
55	S23		4.5+	22.8		69	28	41	100
60	S24		4.5+						
65	S25		4.5+						
70	S26		4.5+	23.6		59	23	36	99
75	S27		4.5+						
80	S28		4.5+						
85	S29		4.5+						
90	S30		4.5+						
95	S31		4.5+	25.6		78	29	49	99
			458.73						

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed prior to the introduction of drilling fluids at approximately 55'.



BME LOG FORMATED FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF BORING NO. BME-29

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 Fax: 817-563-1224

Location: **E 2394199.983 N 13901900.027**

Surface El.: **536.92 ft. msl**
 Completion Depth: **54.0 ft.**
 Date Boring Started: **9/3/13**
 Date Boring Completed: **9/3/13**

MATERIAL DESCRIPTION

Depth, feet	Samples	Symbol / USCS	Location	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
	A1		CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)	534.92						
	U2		CLAY, SILTY, tan and brown, hard, limonitic, w/ferrous stains and calcareous nodules, moist, (CH)	4.5+						
5	U3			4.5+						
	U4			4.5+						
	U5			4.5+						
10	U6		CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH)	526.92						
	U7			4.5+	13.4	109.4	48	26	22	91
15	U8			4.5+						
	U9			4.5+						
	U10			4.5+						
20	U11			4.5+	18.7	105.1	73	26	47	100
	U12			4.5+						
25	U13			4.5+						
	U14			4.5+						
	S15			4.5+						
30	S16			4.5+						
	S17			4.5+						
35	S18		- limonitic	4.5+						
	S19			4.5+						
	S20			4.5+						
40	S21			4.5+						
	S22			4.5+						
45	S23			4.5+	21.4	117.1	59	26	33	86
	U24			4.5+						
	U25		CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)	488.92						

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed during the drilling of this boring and no water was introduced during drilling.



BME LOG FORMATED FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF BORING NO. BME-29

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
1700 Robert Road, Suite 100
Mansfield, TX 76063
Phone: 817-563-1144
Fax: 817-563-1224

Depth, feet	Samples	Symbol / USCS	Location: E 2394199.983 N 13901900.027	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
			Surface El.: 536.92 ft. msl Completion Depth: 54.0 ft. Date Boring Started: 9/3/13 Date Boring Completed: 9/3/13							
			MATERIAL DESCRIPTION							
	U26		CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH) (continued)	4.5+						
	S27			4.5+						
55										
60										
65										
70										
75										
80										
85										
90										
95										
100										

Drilling Contractor: **H/ET**
Drilling Method: **Wet Rotary**
Sampling Method: **Thin Wall Tube/Split Barrel**
Geologist/Engineer: **S. Stamoulis**
Project No.: **129.06.102**

Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed during the drilling of this boring and no water was introduced during drilling.



BME LOG FORMATED FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF BORING NO. BME-30

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
1700 Robert Road, Suite 100
Mansfield, TX 76063
Phone: 817-563-1144
Fax: 817-563-1224

Depth, feet	Samples	Symbol / USCS	Location: E 2394799.988 N 13901899.990	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
Surface El.: 525.19 ft. msl Completion Depth: 70.0 ft. Date Boring Started: 9/4/13 Date Boring Completed: 9/4/13				MATERIAL DESCRIPTION						
	A1		CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)							
	U2			4.5+						
5	U3		CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH)	521.19						
	U4			4.5+						
	U5			4.5+						
10	U6			4.5+						
	U7			4.5+						
15	U8			4.5+						
	U9			4.5+	14.6	109.6	56	23	33	94
	U10			4.5+						
20	U11			4.5+						
	U12			4.5+						
25	U13			4.5+						
	U14			4.5+						
	U15			4.5+						
30	U16			4.5+						
	U17			4.5+						
35	U18			4.5+						
	U19			4.5+						
	U20			4.5+						
40	U21			4.5+						
	U22			4.5+						
45	S23			4.5+						
	S24			4.5+						
	S25		CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)	477.19						

Drilling Contractor: **H/ET**
Drilling Method: **Wet Rotary**
Sampling Method: **Thin Wall Tube/Split Barrel**
Geologist/Engineer: **S. Stamoulis**
Project No.: **129.06.102**

Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed during the drilling of this boring and no water was introduced during drilling.



BME LOG FORMED FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF BORING NO. BME-30

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 Fax: 817-563-1224

Location: **E 2394799.988 N 13901899.990**

Surface El.: **525.19 ft. msl**
 Completion Depth: **70.0 ft.**
 Date Boring Started: **9/4/13**
 Date Boring Completed: **9/4/13**

MATERIAL DESCRIPTION

CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)
 (continued)

Hand Penetrometer, tsf
 Moisture Content, %
 Unit Dry Weight, lb/cu ft.
 Liquid Limit
 Plastic Limit
 Plasticity Index
 % Passing No. 200 Sieve

Depth, feet
 55
 60
 65
 70
 75
 80
 85
 90
 95
 100

S26
 S27
 S28
 S29

4.5+
 4.5+
 4.5+
 4.5+
 455.19

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed during the drilling of this boring and no water was introduced during drilling.



BME LOG FORMATED FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF BORING NO. BME-31

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
1700 Robert Road, Suite 100
Mansfield, TX 76063
Phone: 817-563-1144
Fax: 817-563-1224

Depth, feet	Samples	Symbol / USCS	Location: E 2393600.012 N 13901300.002	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
			Surface El.: 543.25 ft. msl Completion Depth: 85.0 ft. Date Boring Started: 9/6/13 Date Boring Completed: 9/6/13							
			MATERIAL DESCRIPTION							
	A1		CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)	541.25						
	U2		CLAY, SILTY, tan and brown, hard, w/ferrous stains and calcareous nodules, moist, (CH)	4.5+						
5	U3			4.5+						
	U4			4.5+						
	U5			4.5+						
10	U6			4.5+						
	U7			4.5+						
15	U8			4.5+						
	U9			4.5+						
	U10		CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH)	525.25						
20	U11			4.5+						
	U12			4.5+	15.7	97.1	46	26	20	84
25	U13			4.5+						
	S14			4.5+						
	S15			4.5+						
30	S16			4.5+						
	S17			4.5+						
35	S18			4.5+						
	S19		- w/silt partings	4.5+						
	S20			4.5+						
40	S21			4.5+						
	S22			4.5+						
45	S23			4.5+						
	S24			4.5+						
	S25			4.5+						

Drilling Contractor: **H/ET**
Drilling Method: **Wet Rotary**
Sampling Method: **Thin Wall Tube/Split Barrel**
Geologist/Engineer: **S. Stamoulis**
Project No.: **129.06.102**

Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed prior to the introduction of drilling fluid at approximately 55'.



BME LOG FORM FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF BORING NO. BME-31

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
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Phone: 817-563-1144
Fax: 817-563-1224

Depth, feet	Samples	Symbol / USCS	Location: E 2393600.012 N 13901300.002	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
Surface El.: 543.25 ft. msl Completion Depth: 85.0 ft. Date Boring Started: 9/6/13 Date Boring Completed: 9/6/13										
MATERIAL DESCRIPTION										
			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH) <i>(continued)</i>	491.25						
			CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)							
55	S26			4.5+						
60	S27			4.5+						
65	S28			4.5+						
70	S29			4.5+						
75	S30			4.5+						
80	S31			4.5+						
85	S32			4.5+						
85.25				458.25						
90										
95										
100										

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Remarks: Borehole grouted upon completion. Where a split barrel sampler was used to obtain the sample, the standard penetration test was not performed because the soils are cohesive. Groundwater was not observed prior to the introduction of drilling fluid at approximately 55'.



BME LOG FORMATED FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF BORING NO. BME-32

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
1700 Robert Road, Suite 100
Mansfield, TX 76063
Phone: 817-563-1144
Fax: 817-563-1224

Depth, feet	Samples	Symbol / USCS	Location: E 2394199.984 N 13901299.985	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
			Surface El.: 526.12 ft. msl Completion Depth: 67.0 ft. Date Boring Started: 8/28/13 Date Boring Completed: 8/29/13							
			MATERIAL DESCRIPTION							
	A1		CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)							
	U2									
			522.12							
5	U3		CLAY, SILTY, tan and brown, hard, limonitic, w/ferrous stains and calcareous nodules, moist, (CH)	4.5+						
	U4			4.5+						
	U5			4.5+	15.2		54	20	34	78
10	U6		CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and calcareous nodules, slightly blocky, moist, (CH)	4.5+						
	U7			4.5+						
	U8			4.5+						
15	U9			4.5+						
	U10			4.5+	17.8		59	25	34	96
	U11			4.5+						
	U12		- w/silt partings	4.5+						
25	U13			4.5+						
	U14			4.5+						
	U15			4.5+						
30	U16			4.5+	23.5		61	27	34	96
	U17			4.5+						
35	U18			4.5+						
	U19			4.5+						
	U20			4.5+						
40	U21			4.5+						
	U22			4.5+	23.7		57	26	31	98
45	U23			4.5+						
	U24			4.5+						
	U25		CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)	4.5+	22.7		57	24	33	95
50			478.12							
Drilling Contractor: H/ET Drilling Method: Wet Rotary Sampling Method: Thin Wall Tube Geologist/Engineer: S. Stamoulis Project No.: 129.06.102			Remarks: Borehole grouted upon completion. Groundwater was not observed during the drilling of the boring and no water was introduced during drilling.							



BME LOG FORMATED FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF BORING NO. BME-32

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs and Mathews Environmental
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 Fax: 817-563-1224

Depth, feet	Samples	Symbol / USCS	Location: E 2394199.984 N 13901299.985	Hand Penetrometer, tsf	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve
			Surface El.: 526.12 ft. msl Completion Depth: 67.0 ft. Date Boring Started: 8/28/13 Date Boring Completed: 8/29/13							
			MATERIAL DESCRIPTION							
			CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH) (continued)							
55	U26			4.5+						
60	U27			4.5+						
65	U28		459.12	4.5+	21.4		68	27	41	99
70										
75										
80										
85										
90										
95										
100										
Drilling Contractor: H/ET Drilling Method: Wet Rotary Sampling Method: Thin Wall Tube Geologist/Engineer: S. Stamoulis Project No.: 129.06.102				Remarks: Borehole grouted upon completion. Groundwater was not observed during the drilling of the boring and no water was introduced during drilling.						

BME LOG FORMATED FOR 130 EP 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 1/10/14

LOG OF PIEZOMETER NO. P1

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2392400.016 N 13905309.997	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 581.84 ft. msl Surface El.: 577.91 ft. msl Completion Depth: 51.0 ft. Date Boring Started: 9/27/13 Date Boring Completed: 9/27/13										
			MATERIAL DESCRIPTION										
5			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)										
10			CLAY, SILTY, tan and brown, hard, w/ferrous stains and calcareous nodules, moist, (CH)										
15													
20													
25													
30			- w/silt partings										
35			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH)										
40													
45													
50													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date _____ Depth _____

Remarks:



LOG OF PIEZOMETER NO. P1

PAGE 1 OF 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

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Technically Complete October 28, 2014

LOG OF PIEZOMETER NO. P1

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2392400.016 N 13905309.997	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 581.84 ft. msl Surface El.: 577.91 ft. msl Completion Depth: 51.0 ft. Date Boring Started: 9/27/13 Date Boring Completed: 9/27/13										
			MATERIAL DESCRIPTION CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH) (continued)										
55													
60													
65													
70													
75													
80													
85													
90													
95													
100													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date _____ Depth _____

Remarks:



LOG OF PIEZOMETER NO. P1

PAGE 2 OF 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-83

Technically Complete October 28, 2014

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P4

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2394200.016 N 13905399.991	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 582.68 ft. msl Surface El.: 572.13 ft. msl Completion Depth: 60.5 ft. Date Boring Started: 9/26/13 Date Boring Completed: 9/26/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)	570.13									
			CLAY, SILTY, tan and brown, hard, w/ferrous stains and calcareous nodules, moist, (CH)										
5													
10													
15			- w/trace gypsum										
20													
25			- w/trace gypsum										
30			- w/trace gypsum										
35			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH)	538.13									
40													
45													
50													

Drilling Contractor: **H/ET**

Drilling Method: **Wet Rotary**

Sampling Method: **Thin Wall Tube**

Geologist/Engineer: **S. Stamoulis**

Project No.: **129.06.102**

Groundwater Observations

Date	Depth

Remarks:

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14



LOG OF PIEZOMETER NO. P4

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2394200.016 N 13905399.991	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 582.68 ft. msl Surface El.: 572.13 ft. msl Completion Depth: 60.5 ft. Date Boring Started: 9/26/13 Date Boring Completed: 9/26/13										
			MATERIAL DESCRIPTION										
55			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH) (continued)										
60				511.63									
65													
70													
75													
80													
85													
90													
95													
100													
Drilling Contractor: H/ET Drilling Method: Wet Rotary Sampling Method: Thin Wall Tube Geologist/Engineer: S. Stamoulis Project No.: 129.06.102			Groundwater Observations Date _____ Depth _____ _____ _____		Remarks: 								

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P4
 PAGE 2 OF 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-85
 Technically Complete October 28, 2014

LOG OF PIEZOMETER NO. P4-S

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2394200.016 N 13905399.991	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 581.69 ft. msl Surface El.: 572.13 ft. msl Completion Depth: 35.5 ft. Date Boring Started: 9/26/13 Date Boring Completed: 9/26/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)	570.13									
			CLAY, SILTY, tan and brown, hard, w/ferrous stains and calcareous nodules, moist, (CH)										
5													
10													
15			- w/trace gypsum										
20													
25			- w/trace gypsum										
30			- w/trace gypsum										
35			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH)	538.13 536.63									
40													
45													
50													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date _____ Depth _____

Remarks:



LOG OF PIEZOMETER NO. P4-S

PAGE 1 OF 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-86

Technically Complete October 28, 2014

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P7

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2392999.981 N 13904800.029	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 589.07 ft. msl Surface El.: 585.95 ft. msl Completion Depth: 60.5 ft. Date Boring Started: 9/28/13 Date Boring Completed: 9/28/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)										
5			CLAY, SILTY, tan and brown, hard, w/ferrous stains, calcareous nodules and traces of gypsum, moist, (CH)										
10													
15													
20													
25													
30													
35			- w/silt partings										
40													
45			- w/small shell fragments										
50													
Drilling Contractor: H/ET Drilling Method: Wet Rotary Sampling Method: Thin Wall Tube Geologist/Engineer: S. Stamoulis Project No.: 129.06.102			Groundwater Observations Date _____ Depth _____		Remarks:								

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P7

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2392999.981 N 13904800.029	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 589.07 ft. msl Surface El.: 585.95 ft. msl Completion Depth: 60.5 ft. Date Boring Started: 9/28/13 Date Boring Completed: 9/28/13										
			MATERIAL DESCRIPTION										
55			CLAY, SILTY, tan and brown, hard, w/ferrous stains, calcareous nodules and traces of gypsum, moist, (CH) (continued)										
60			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH)										
65													
70													
75													
80													
85													
90													
95													
100													
Drilling Contractor: H/ET Drilling Method: Wet Rotary Sampling Method: Thin Wall Tube Geologist/Engineer: S. Stamoulis Project No.: 129.06.102			Groundwater Observations Date _____ Depth _____		Remarks: _____								



LOG OF PIEZOMETER NO. P7

PAGE 2 OF 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-88

Technically Complete October 28, 2014

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P7-S

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2392999.981 N 13904800.029	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 589.06 ft. msl Surface El.: 585.95 ft. msl Completion Depth: 35.5 ft. Date Boring Started: 9/28/13 Date Boring Completed: 9/28/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)										
5			CLAY, SILTY, tan and brown, hard, w/ferrous stains, calcareous nodules and traces of gypsum, moist, (CH)										
10													
15													
20													
25													
30													
35			- w/silt partings										
40													
45													
50													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date _____ Depth _____

Remarks:



LOG OF PIEZOMETER NO. P7-S

PAGE 1 OF 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-89

Technically Complete October 28, 2014

LOG OF PIEZOMETER NO. P9

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2394199.986 N 13904799.985	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 572.13 ft. msl Surface El.: 569.19 ft. msl Completion Depth: 48.5 ft. Date Boring Started: 9/27/13 Date Boring Completed: 9/27/13										
			MATERIAL DESCRIPTION										
5			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)										
10			CLAY, SILTY, tan and brown, hard, w/ferrous stains, moist, (CH)										
15													
20													
25			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH)										
30													
35													
40													
45													
50													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date _____ Depth _____

Remarks:



BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P9

PAGE 1 OF 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-90

Technically Complete October 28, 2014

LOG OF PIEZOMETER NO. P14

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2394199.984 N 13904200.027	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 567.32 ft. msl Surface El.: 560.99 ft. msl Completion Depth: 86.5 ft. Date Boring Started: 9/28/13 Date Boring Completed: 9/28/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)										
5			CLAY, SILTY, tan and brown, hard, w/ferrous stains and calcareous nodules, moist, (CH)										
10													
15													
20													
25			CLAY, SILTY, gray and tan mottled, hard, limonitic, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH)										
30													
35													
40													
45													
50													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date Depth

Remarks:



LOG OF PIEZOMETER NO. P14

PAGE 1 OF 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

Continued Next Page

E2-91

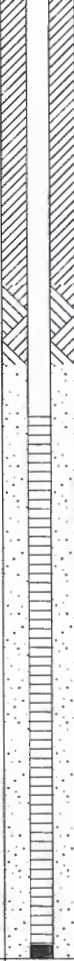
Technically Complete October 28, 2014

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P14

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2394199.984 N 13904200.027	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 567.32 ft. msl Surface El.: 560.99 ft. msl Completion Depth: 86.5 ft. Date Boring Started: 9/28/13 Date Boring Completed: 9/28/13										
			MATERIAL DESCRIPTION										
55			CLAY, SILTY, gray and tan mottled, hard, limonitic, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH) <i>(continued)</i>										
60			CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)										
65													
70													
75													
80													
85													
90													
95													
100													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date _____ Depth _____

Remarks:



LOG OF PIEZOMETER NO. P14

PAGE 2 OF 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-92

Technically Complete October 28, 2014

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P16

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2393000.008 N 13903599.989	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 579.48 ft. msl Surface El.: 576.02 ft. msl Completion Depth: 55.5 ft. Date Boring Started: 10/2/13 Date Boring Completed: 10/2/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)	574.02									
5			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH)										
10													
15													
20													
25													
30			- limonitic										
35													
40			- w/silt partings										
45													
50													
Drilling Contractor: H/ET Drilling Method: Wet Rotary Sampling Method: Thin Wall Tube Geologist/Engineer: S. Stamoulis Project No.: 129.06.102			Groundwater Observations Date _____ Depth _____		Remarks: 								



Continued Next Page

LOG OF PIEZOMETER NO. P16

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2393000.008 N 13903599.989	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 579.48 ft. msl Surface El.: 576.02 ft. msl Completion Depth: 55.5 ft. Date Boring Started: 10/2/13 Date Boring Completed: 10/2/13										
			MATERIAL DESCRIPTION										
55			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH) (continued)										
520.52													
60													
65													
70													
75													
80													
85													
90													
95													
100													
Drilling Contractor: H/ET Drilling Method: Wet Rotary Sampling Method: Thin Wall Tube Geologist/Engineer: S. Stamoulis Project No.: 129.06.102			Groundwater Observations Date: _____ Depth: _____ _____ _____		Remarks: _____ _____ _____								

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P16

PAGE 2 OF 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-94
 Technically Complete October 28, 2014

LOG OF PIEZOMETER NO. P18

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2392400.021 N 13902999.987	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 571.12 ft. msl Surface El.: 568.07 ft. msl Completion Depth: 40.5 ft. Date Boring Started: 9/26/13 Date Boring Completed: 9/26/13										
			MATERIAL DESCRIPTION										
5			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)										
10			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and calcareous nodules, slightly blocky, moist, (CH)										
15													
20													
25			- limonitic										
30													
35													
40			CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)										
45													
50													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date Depth

Remarks:



LOG OF PIEZOMETER NO. P18

PAGE 1 OF 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-95

Technically Complete October 28, 2014

LOG OF PIEZOMETER NO. P19-S

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2393000.007 N 13902999.992	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 576.86 ft. msl Surface El.: 573.41 ft. msl Completion Depth: 30.5 ft. Date Boring Started: 10/3/13 Date Boring Completed: 10/3/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)										
5	CLAY, SILTY, tan and brown, hard, w/ferrous stains and calcareous nodules, moist, (CH)												
10	CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH)												
15													
20													
25													
30			- limonitic										
35													
40													
45													
50													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date	Depth

Remarks:



BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P19-S

PAGE 1 OF 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-96

Technically Complete October 28, 2014

LOG OF PIEZOMETER NO. P22-S

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2392400.022 N 13902399.994	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 559.89 ft. msl Surface El.: 555.51 ft. msl Completion Depth: 40.5 ft. Date Boring Started: 10/3/13 Date Boring Completed: 10/3/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)										
5			CLAY, SILTY, tan and brown, hard, w/ferrous stains and calcareous nodules, moist, (CH)										
10													
15													
20			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH)										
25			- w/silt partings										
30													
35			- limonitic										
40			- w/silt partings										
45													
50													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date _____ Depth _____

Remarks:



LOG OF PIEZOMETER NO. P22-S

PAGE 1 OF 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-97

Technically Complete October 28, 2014

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P24-S

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2393600.026 N 13902399.965	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 564.19 ft. msl Surface El.: 561.86 ft. msl Completion Depth: 41.0 ft. Date Boring Started: 10/3/13 Date Boring Completed: 10/3/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles and cobbles, dry, (CH)										
5			CLAY, SILTY, tan and brown, hard, w/ferrous stains and calcareous nodules, moist, (CH)										
10			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH)										
15													
20													
25													
30			- slickensides										
35													
40			- w/silt partings										
45													
50													

Drilling Contractor: **H/ET**

Drilling Method: **Wet Rotary**

Sampling Method: **Thin Wall Tube**

Geologist/Engineer: **S. Stamoulis**

Project No.: **129.06.102**

Groundwater Observations

Date	Depth

Remarks:



LOG OF PIEZOMETER NO. P24-S

PAGE 1 OF 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-98

Technically Complete October 28, 2014

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P26

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2394800.006 N 13902399.962	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 536.15 ft. msl Surface El.: 532.72 ft. msl Completion Depth: 43.5 ft. Date Boring Started: 10/3/13 Date Boring Completed: 10/3/13										
			MATERIAL DESCRIPTION										
5			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)										
10			CLAY, SILTY, tan, hard, w/ferrous stains, moist, (CH)										
15													
20			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH)										
25													
30													
35													
40													
45													
48.92			CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)										
49.72													
50													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date _____ Depth _____

Remarks:



LOG OF PIEZOMETER NO. P26

LOG OF PIEZOMETER NO. P27

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2393000.019 N 13901899.990	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 553.92 ft. msl Surface El.: 549.95 ft. msl Completion Depth: 48.0 ft. Date Boring Started: 9/27/13 Date Boring Completed: 9/27/13										
			MATERIAL DESCRIPTION										
5			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles and cobbles, dry, (CH)										
10			CLAY, SILTY, tan and brown, hard, limonitic, w/ferrous stains, moist, (CH)										
15			CLAY, SILTY, gray and tan mottled, hard, limonitic, w/ferrous stains and traces of gypsum, slightly blocky, moist, (CH)										
20													
25													
30													
35													
40													
45													
50													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date _____ Depth _____

Remarks:



LOG OF PIEZOMETER NO. P27

PAGE 1 OF 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-100

Technically Complete October 28, 2014

LOG OF PIEZOMETER NO. P28

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2393600.016 N 13901900.011	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 558.79 ft. msl Surface El.: 554.73 ft. msl Completion Depth: 47.5 ft. Date Boring Started: 9/27/13 Date Boring Completed: 9/27/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)										
5			CLAY, SILTY, tan and brown, hard, w/ferrous stains and calcareous nodules, moist, (CH)										
10			- w/silt partings										
15			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH)										
20													
25													
30													
35			- limonitic										
40													
45			CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)										
50													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations

Date _____ Depth _____

Remarks:



LOG OF PIEZOMETER NO. P28

PAGE 1 OF 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-101

Technically Complete October 28, 2014

LOG OF PIEZOMETER NO. P31

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2393600.012 N 13901300.002	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 546.34 ft. msl Surface El.: 543.25 ft. msl Completion Depth: 80.5 ft. Date Boring Started: 10/4/13 Date Boring Completed: 10/4/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)	541.25									
5			CLAY, SILTY, tan and brown, hard, w/ferrous stains and calcareous nodules, moist, (CH)										
10													
15													
20			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH)	525.25									
25													
30													
35													
40			- w/silt partings										
45													
50													
Drilling Contractor: H/ET Drilling Method: Wet Rotary Sampling Method: Thin Wall Tube/Split Barrel Geologist/Engineer: S. Stamoulis Project No.: 129.06.102			Groundwater Observations Date: _____ Depth: _____		Remarks:								

BME LOG 130 ENVIRONMENTAL PARK.GPJ B&M DATA TEMPLATE.GDT 5/21/14

LOG OF PIEZOMETER NO. P31

Continued Next Page

LOG OF PIEZOMETER NO. P31

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2393600.012 N 13901300.002	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 546.34 ft. msl Surface El.: 543.25 ft. msl Completion Depth: 80.5 ft. Date Boring Started: 10/4/13 Date Boring Completed: 10/4/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains, slightly blocky, moist, (CH) <i>(continued)</i>	491.25									
			CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)										
55													
60													
65													
70													
75													
80				462.75									
85													
90													
95													
100													

Drilling Contractor: **H/ET**
 Drilling Method: **Wet Rotary**
 Sampling Method: **Thin Wall Tube/Split Barrel**
 Geologist/Engineer: **S. Stamoulis**
 Project No.: **129.06.102**

Groundwater Observations	
Date	Depth

Remarks:



LOG OF PIEZOMETER NO. P32

Project Description: **130 Environmental Park**
Lockhart, Texas

Biggs & Mathews Environmental, Inc.
 1700 Robert Road, Suite 100
 Mansfield, TX 76063
 Phone: 817-563-1144
 www.biggsandmathews.com

Depth, feet	Samples	Symbol / USCS	Location: E 2394199.984 N 13901299.985	Piezometer Construction Details	Hand Penetrometer, tsf	Penetration Blows/Foot	Moisture Content, %	Unit Dry Weight, lb/cu ft.	Liquid Limit	Plastic Limit	Plasticity Index	% Passing No. 200 Sieve	Unc. Compressive Strength, tsf
			Top of Casing El.: 529.70 ft. msl Surface El.: 526.12 ft. msl Completion Depth: 49.0 ft. Date Boring Started: 10/4/13 Date Boring Completed: 10/4/13										
			MATERIAL DESCRIPTION										
			CLAY, SILTY, dark brown, very stiff to hard, w/pebbles, dry, (CH)										
5			CLAY, SILTY, tan and brown, hard, limonitic, w/ferrous stains and calcareous nodules, moist, (CH)										
10			CLAY, SILTY, gray and tan mottled, hard, w/ferrous stains and calcareous nodules, slightly blocky, moist, (CH)										
15													
20													
25			- w/silt partings										
30													
35													
40													
45													
50			CLAY, SILTY, dark gray, hard, w/small shell fragments, moist, (CH)										

Drilling Contractor: **H/ET**

Drilling Method: **Wet Rotary**

Sampling Method: **Thin Wall Tube**

Geologist/Engineer: **S. Stamoulis**

Project No.: **129.06.102**

Groundwater Observations

Date	Depth

Remarks:



LOG OF PIEZOMETER NO. P32

PAGE 1 OF 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.
 LOGS ARE NOT INTENDED TO BE USED SEPARATELY FROM THE ORIGINAL REPORT.

E2-104
 Technically Complete October 28, 2014

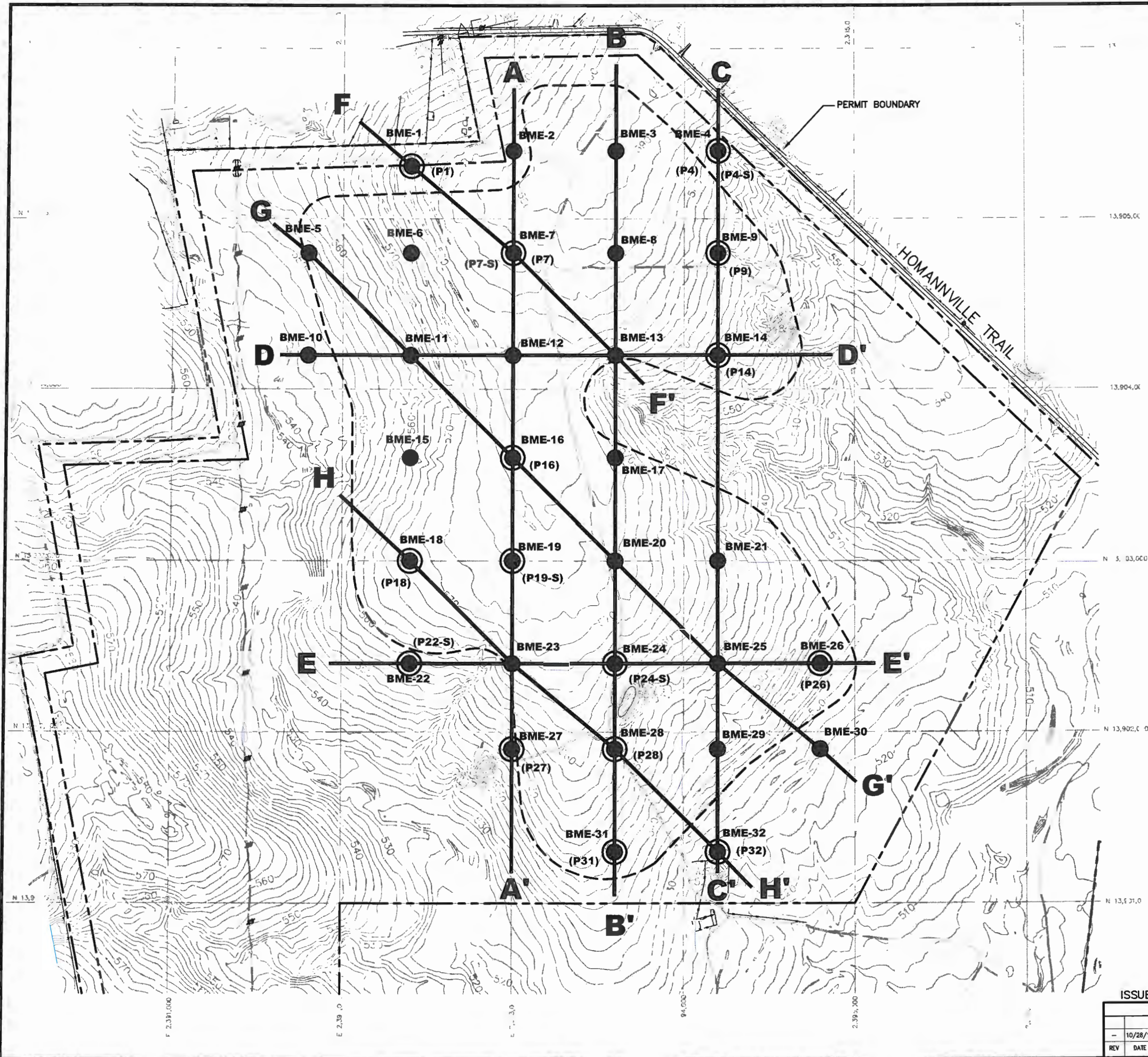
APPENDIX E3

SITE GEOLOGIC DATA

Geologic Cross Section Location Map	E3-1
Geologic Cross Section A-A'	E3-2
Geologic Cross Section B-B'	E3-3
Geologic Cross Section C-C'	E3-4
Geologic Cross Section D-D'	E3-5
Geologic Cross Section E-E'	E3-6
Geologic Cross Section F-F'	E3-7
Geologic Cross Section G-G'	E3-8
Geologic Cross Section H-H'	E3-9
Structure Map – Top of Stratum III – Dark Gray Clay (unweathered)	E3-10

Technically Complete October 28, 2014

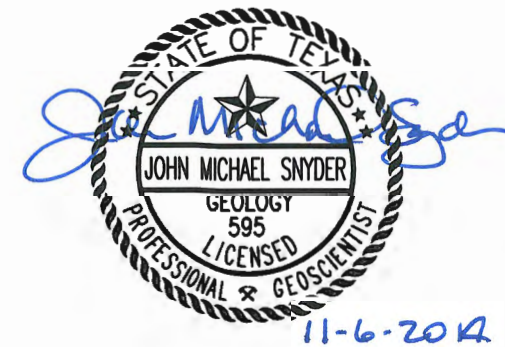
J:\129\06 130 Park\101\AHE\E3_1_SecLoc.dwg Layout: E31 User: scundiff



- LEGEND**
- PROPERTY BOUNDARY
 - FACILITY BOUNDARY
 - LANDFILL FOOTPRINT
 - EXISTING 2' CONTOUR
 - BORING
 - BME-12
 - BME-9 P-9 BORING AND PIEZOMETER

NOTES:

1. CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SERVICE FROM AERIAL PHOTOGRAPHY FLOWN MAY 13, 2013. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83). ELEVATIONS ARE RELATIVE TO NAVD88 - GEOID 12A.



**GEOLOGIC CROSS SECTION
LOCATION MAP**

**130 ENVIRONMENTAL PARK, LLC
130 ENVIRONMENTAL PARK
TYPE I PERMIT APPLICATION**



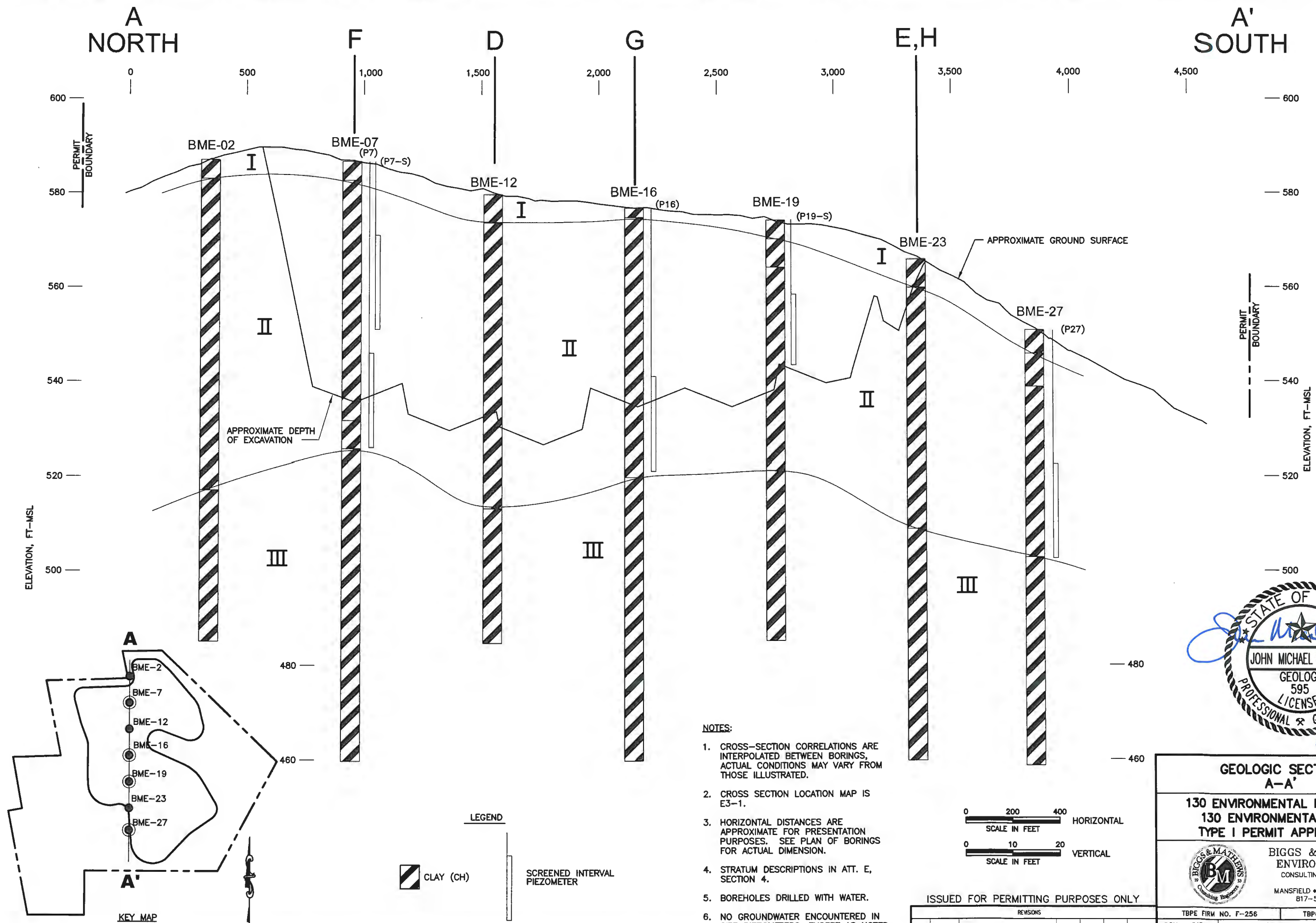
**BIGGS & MATHEWS
ENVIRONMENTAL
CONSULTING ENGINEERS**
MANSFIELD • WICHITA FALLS
817-583-1144

ISSUED FOR PERMITTING PURPOSES ONLY

REVISIONS						TBPE FIRM NO. F-256		TBPG FIRM NO. 50222	
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	DSN. JMS	DATE : 10/13	DRAWING	
-	10/28/14	TECHNICALLY COMPLETE	GLW	ESF	JMS	DWN. GLW	SCALE : GRAPHIC		
						CHK. JMS	DWG : E3_1_SecLoc.dwg		

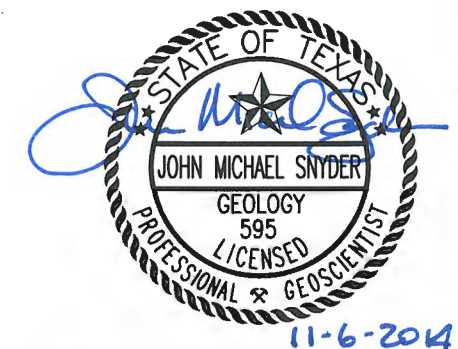
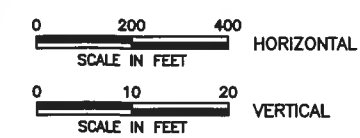
E3-1

J:\129\06 130 Park\101\AttE\GeoSections.dwg Layout: A-A' User: scundiff



NOTES:

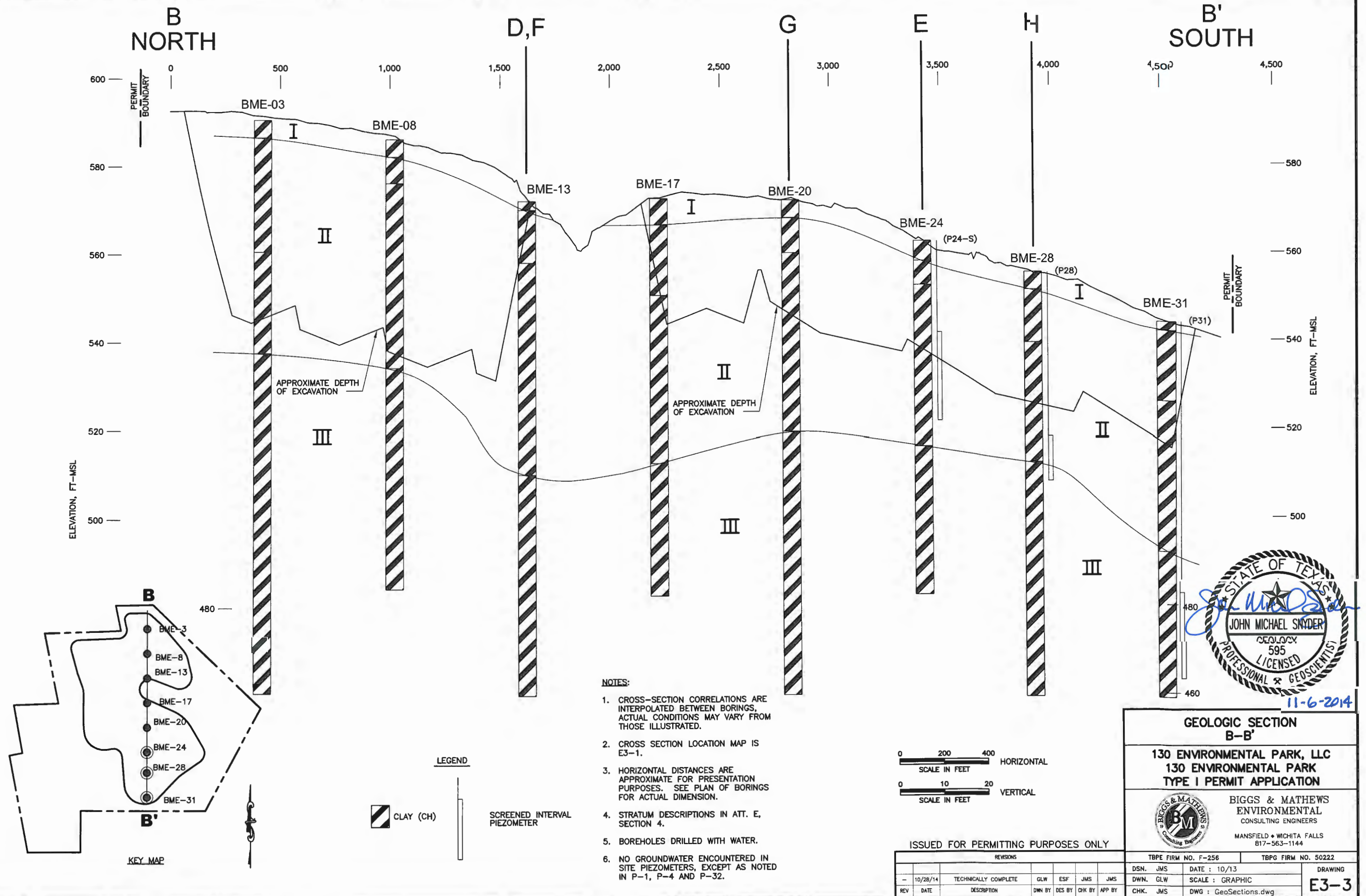
1. CROSS-SECTION CORRELATIONS ARE INTERPOLATED BETWEEN BORINGS. ACTUAL CONDITIONS MAY VARY FROM THOSE ILLUSTRATED.
2. CROSS SECTION LOCATION MAP IS E3-1.
3. HORIZONTAL DISTANCES ARE APPROXIMATE FOR PRESENTATION PURPOSES. SEE PLAN OF BORINGS FOR ACTUAL DIMENSION.
4. STRATUM DESCRIPTIONS IN ATT. E, SECTION 4.
5. BOREHOLES DRILLED WITH WATER.
6. NO GROUNDWATER ENCOUNTERED IN SITE PIEZOMETERS, EXCEPT AS NOTED IN P-1, P-4 AND P-32.



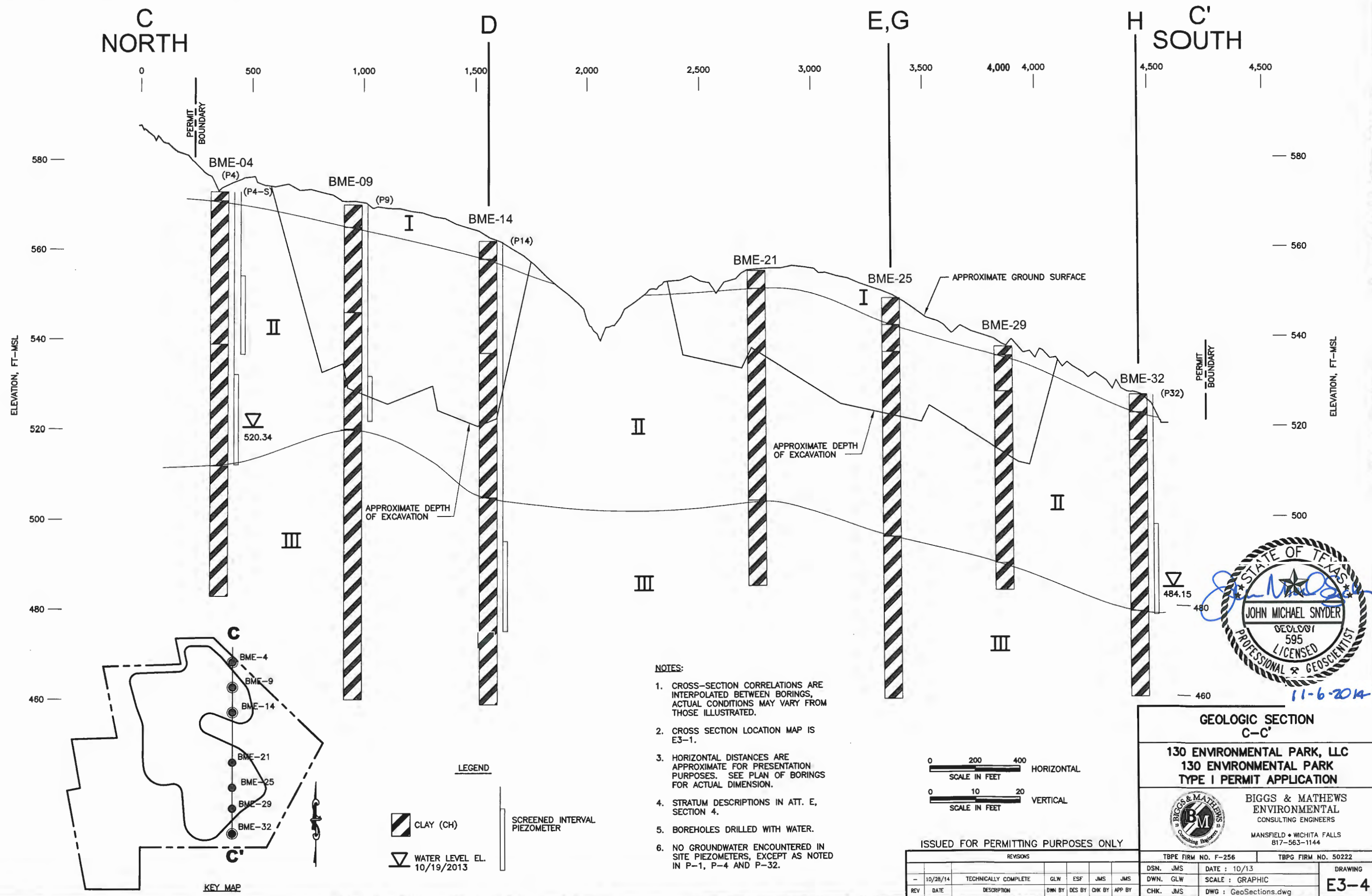
GEOLOGIC SECTION A-A'			
130 ENVIRONMENTAL PARK, LLC 130 ENVIRONMENTAL PARK TYPE I PERMIT APPLICATION			
		BIGGS & MATHEWS ENVIRONMENTAL CONSULTING ENGINEERS MANSFIELD • WICHITA FALLS 817-563-1144	
ISSUED FOR PERMITTING PURPOSES ONLY		TBPE FIRM NO. F-256 TBPG FIRM NO. 50222	
DSN. JMS	DATE : 10/13	DRAWING	
DWN. GLW	SCALE : GRAPHIC	E3-2	
CHK. JMS	DWG : GeoSections.dwg		

REVISIONS							
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY	
-	10/28/14	TECHNICALLY COMPLETE	GLW	ESF	JMS	JMS	

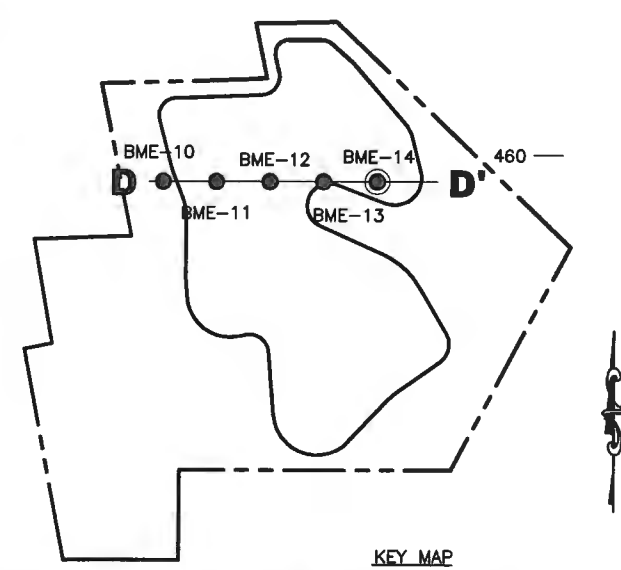
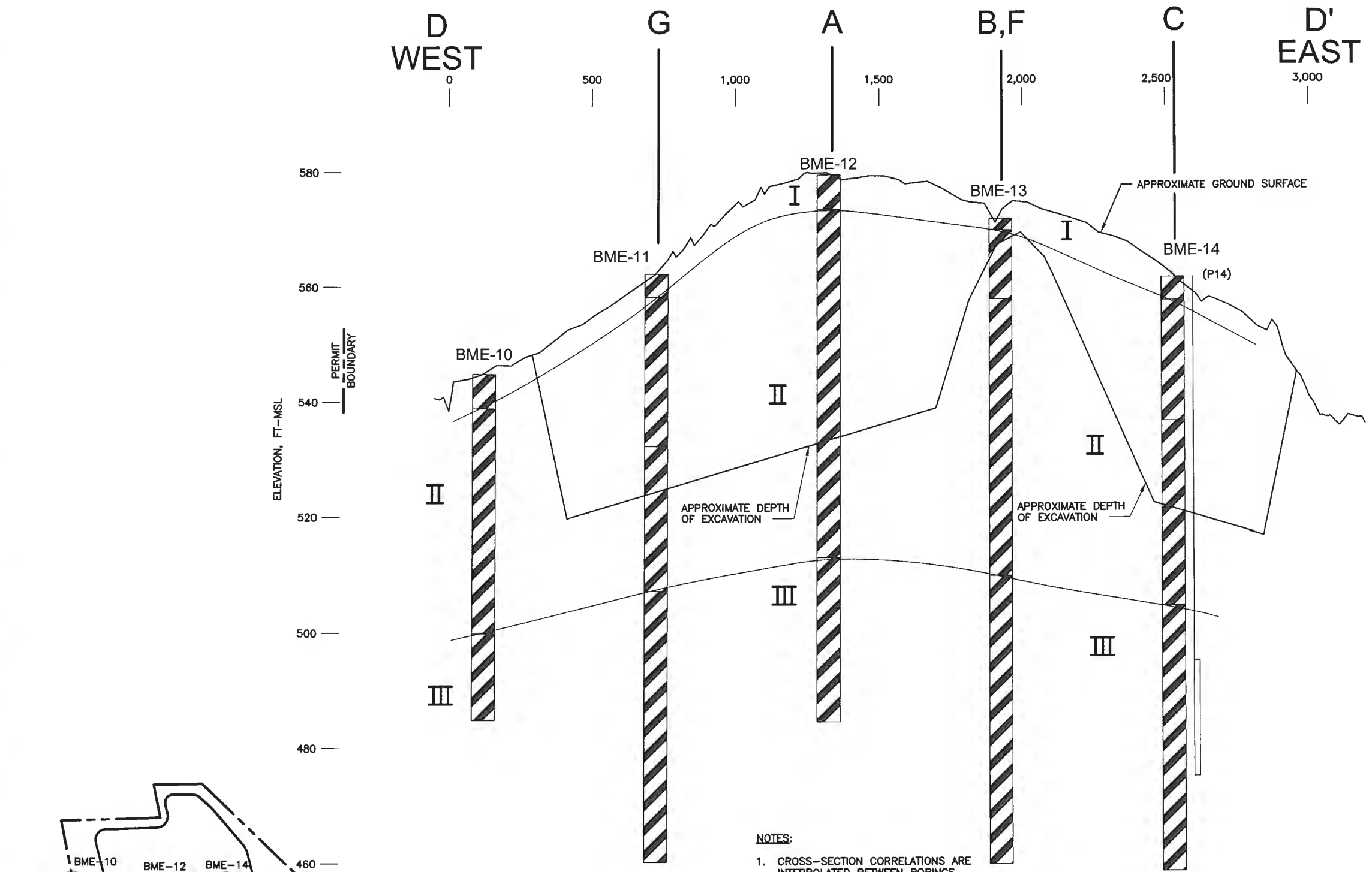
J:\129\06 130 Park\101\AttE\GeoSections.dwg Layout: B-B' User: scundiff



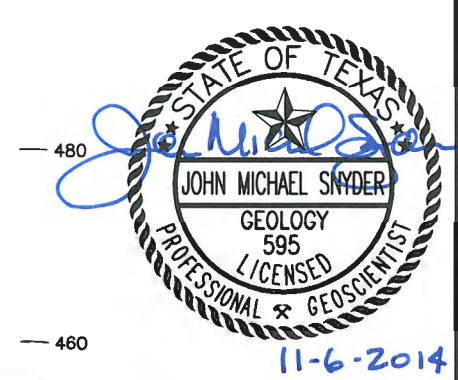
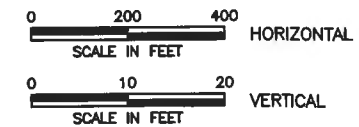
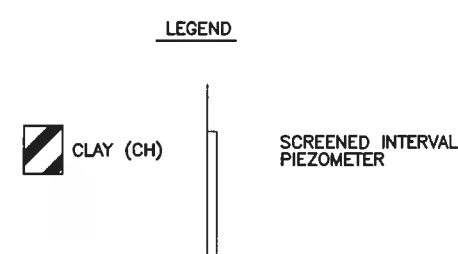
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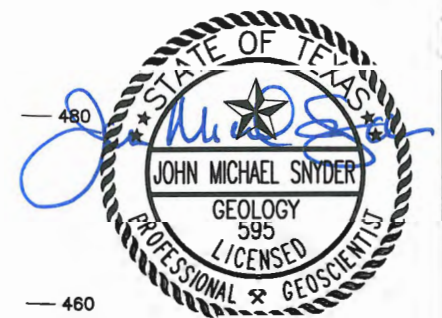
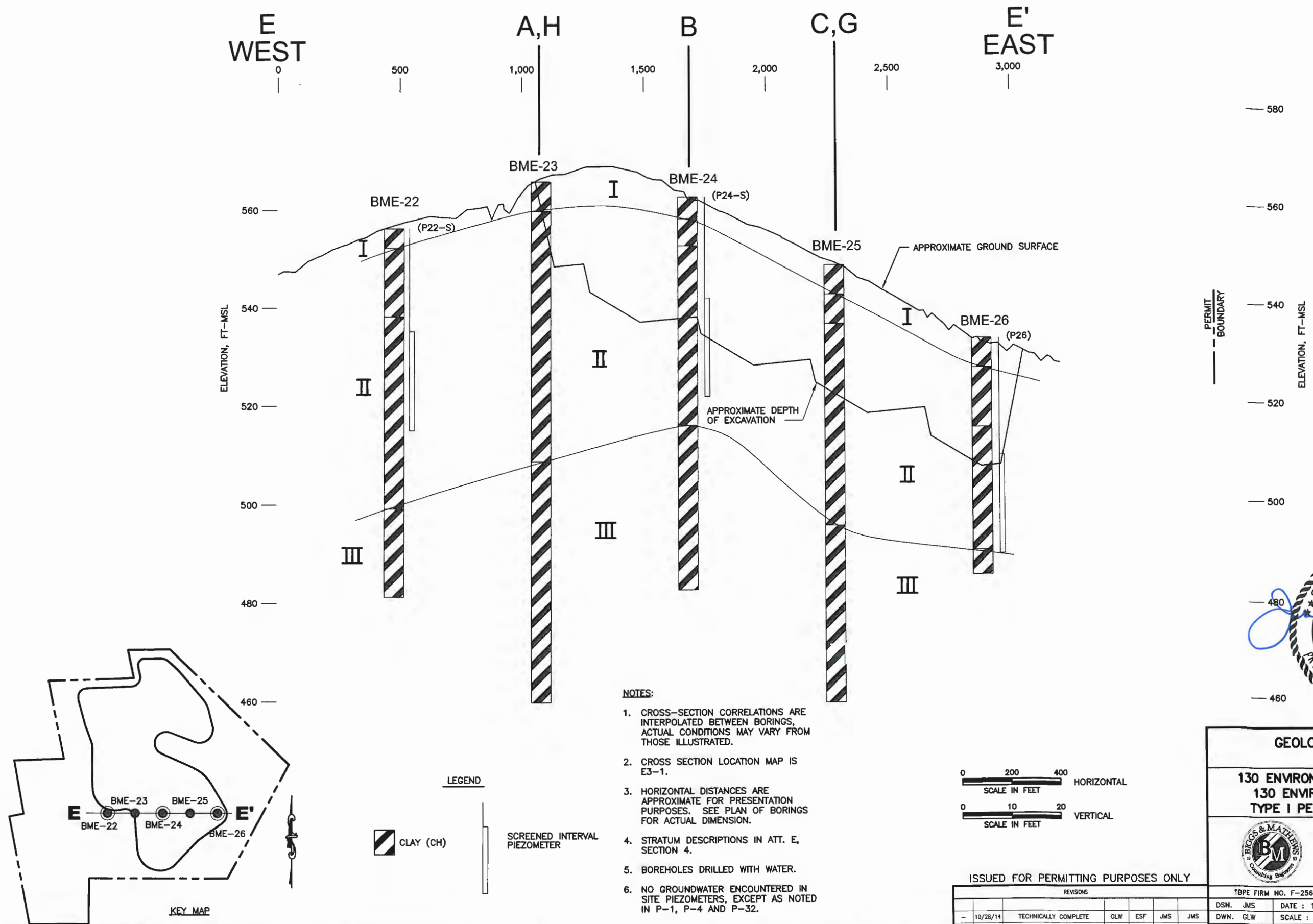


- NOTES:
1. CROSS-SECTION CORRELATIONS ARE INTERPOLATED BETWEEN BORINGS, ACTUAL CONDITIONS MAY VARY FROM THOSE ILLUSTRATED.
 2. CROSS SECTION LOCATION MAP IS E3-1.
 3. HORIZONTAL DISTANCES ARE APPROXIMATE FOR PRESENTATION PURPOSES. SEE PLAN OF BORINGS FOR ACTUAL DIMENSION.
 4. STRATUM DESCRIPTIONS IN ATT. E, SECTION 4.
 5. BOREHOLES DRILLED WITH WATER.
 6. NO GROUNDWATER ENCOUNTERED IN SITE PIEZOMETERS, EXCEPT AS NOTED IN P-1, P-4 AND P-32.



GEOLOGIC SECTION D-D'			
130 ENVIRONMENTAL PARK, LLC 130 ENVIRONMENTAL PARK TYPE I PERMIT APPLICATION			
		BIGGS & MATHEWS ENVIRONMENTAL CONSULTING ENGINEERS MANSFIELD • WICHITA FALLS 817-563-1144	
ISSUED FOR PERMITTING PURPOSES ONLY			
REVISIONS		TBPE FIRM NO. F-256	TBPG FIRM NO. 50222
DSN.	JMS	DATE : 10/13	DRAWING
DWN.	GLW	SCALE : GRAPHIC	E3-5
CHK.	JMS	DWG : GeoSections.dwg	

J:\129\06 130 Park\101\AttE\GeoSections.dwg Layout: E-E' User: scundiff



GEOLOGIC SECTION E-E'

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817-563-1144

11-6-2014

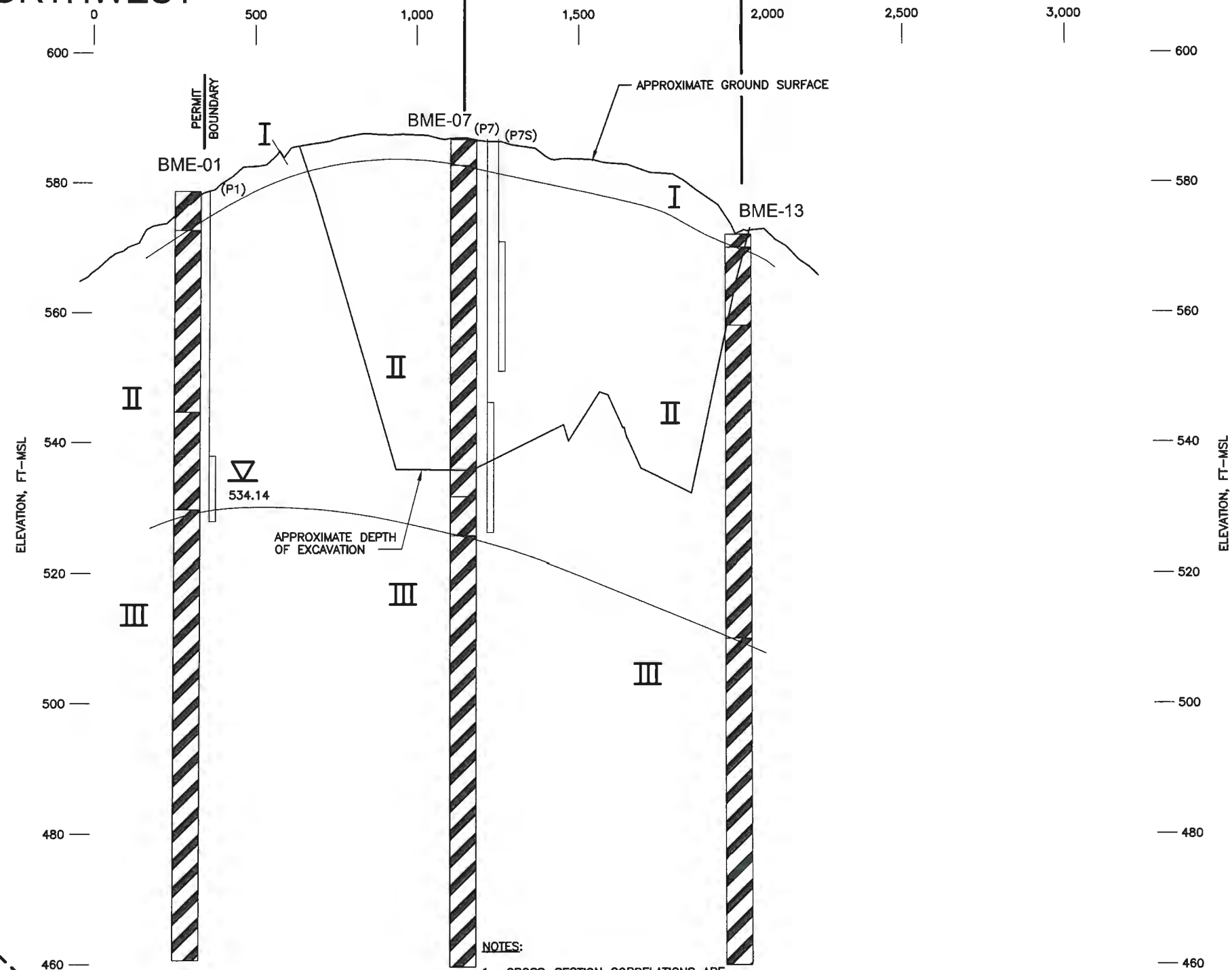
J:\129\06 130 Park\101\AttE\GeoSections.dwg Layout: F-F' User: scundiff

F
NORTHWEST

A

B,D

F'
SOUTHEAST



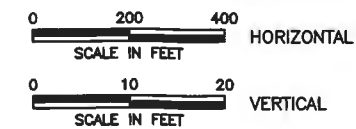
NOTES:

1. CROSS-SECTION CORRELATIONS ARE INTERPOLATED BETWEEN BORINGS, ACTUAL CONDITIONS MAY VARY FROM THOSE ILLUSTRATED.
2. CROSS SECTION LOCATION MAP IS E3-1.
3. HORIZONTAL DISTANCES ARE APPROXIMATE FOR PRESENTATION PURPOSES. SEE PLAN OF BORINGS FOR ACTUAL DIMENSION.
4. STRATUM DESCRIPTIONS IN ATT. E, SECTION 4.
5. BOREHOLES DRILLED WITH WATER.
6. NO GROUNDWATER ENCOUNTERED IN SITE PIEZOMETERS, EXCEPT AS NOTED IN P-1, P-4 AND P-32.

LEGEND

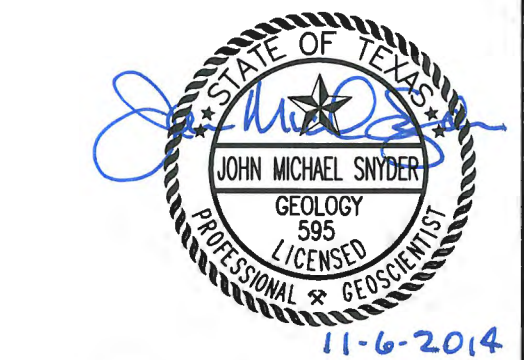


SCREENED INTERVAL
PIEZOMETER



ISSUED FOR PERMITTING PURPOSES ONLY

REVISIONS						
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
-	10/28/14	TECHNICALLY COMPLETE	GLW	ESF	JMS	JMS



GEOLOGIC SECTION
F-F'

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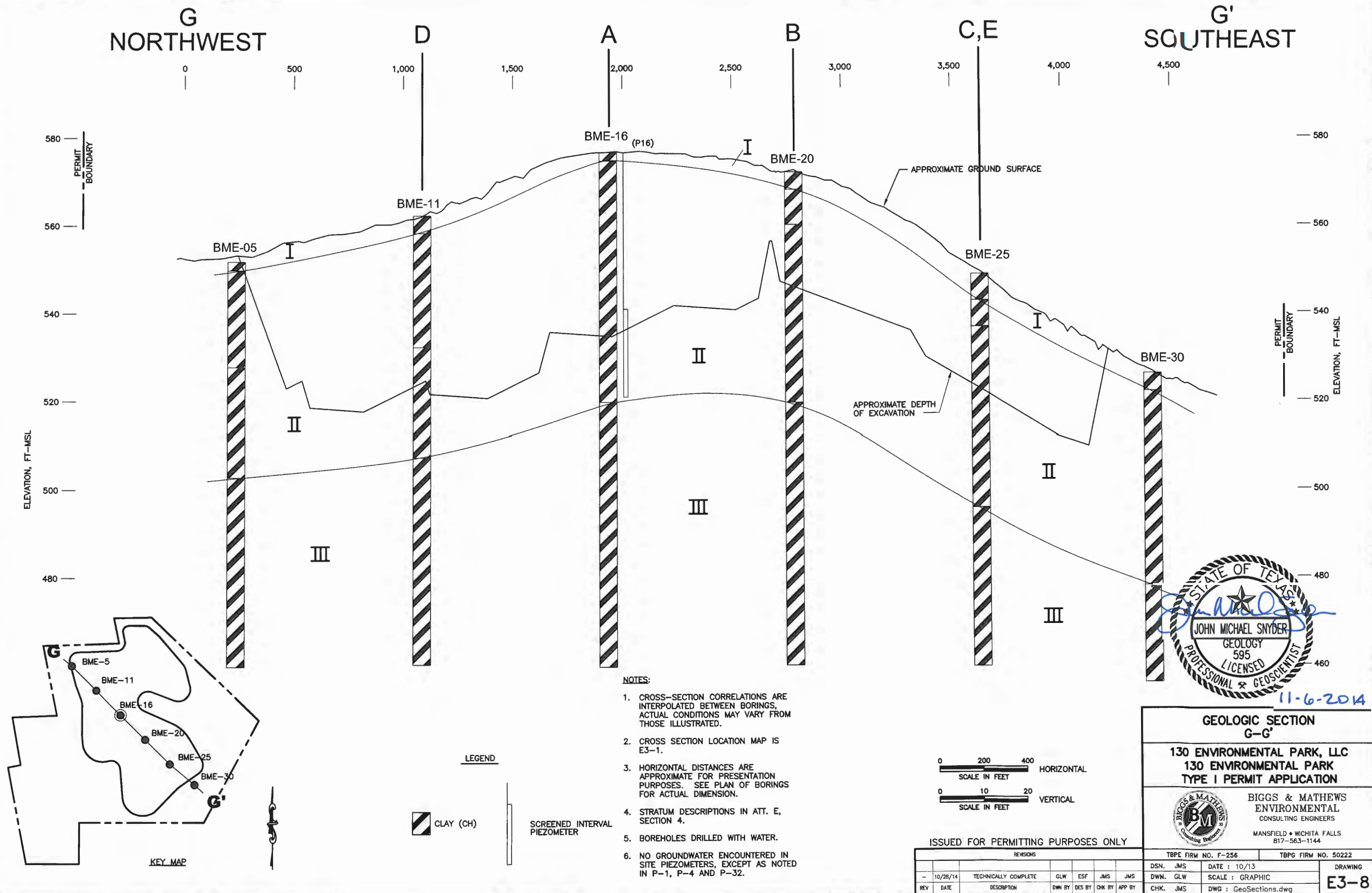


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ENVIRONMENTAL
CONSULTING ENGINEERS

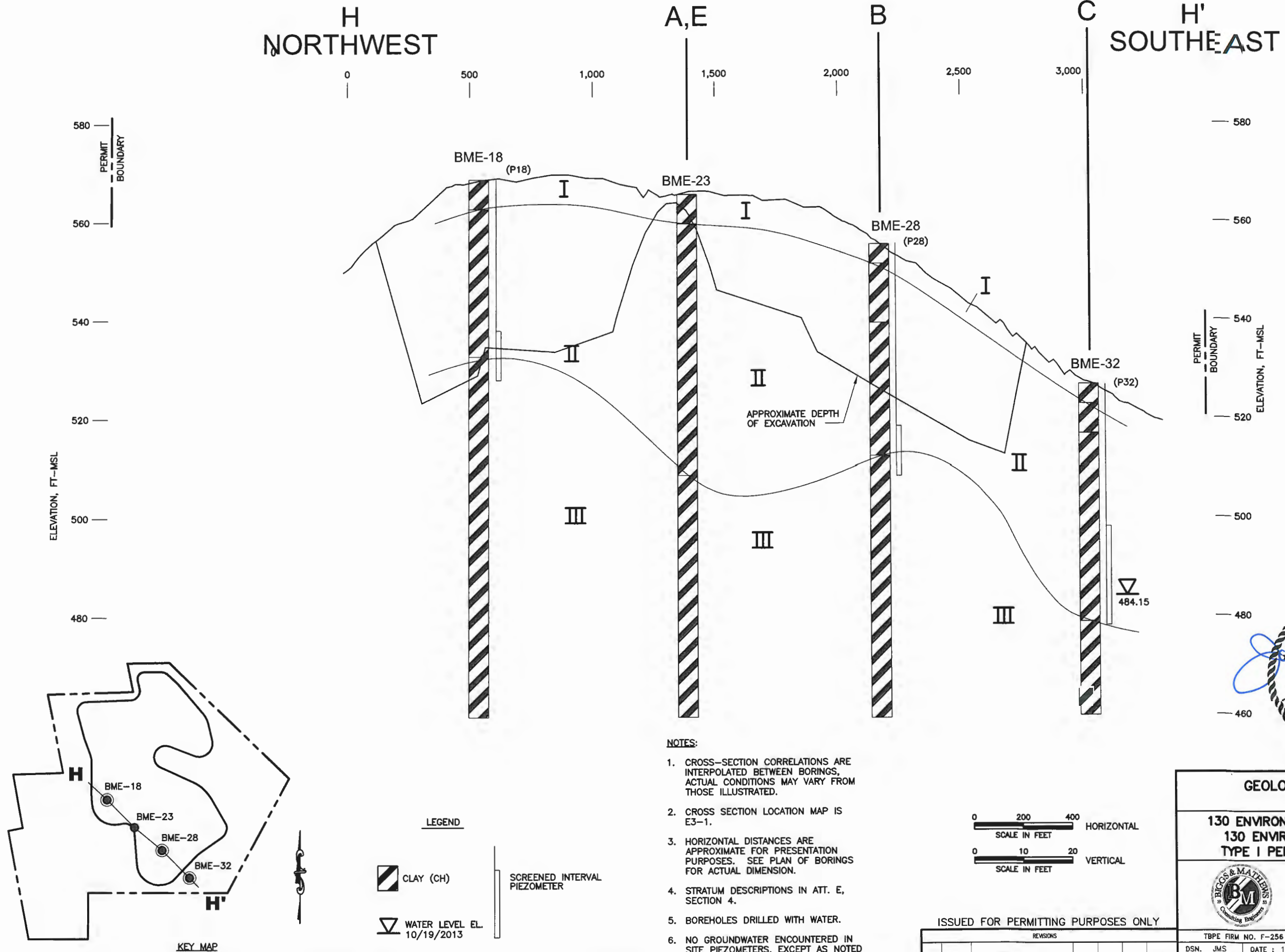
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TBPE FIRM NO. F-256		TBPG FIRM NO. 50222	
DSN. JMS	DATE : 10/13	DRAWING	
DWN. GLW	SCALE : GRAPHIC	E3-7	
CHK. JMS	DWG : GeoSections.dwg		

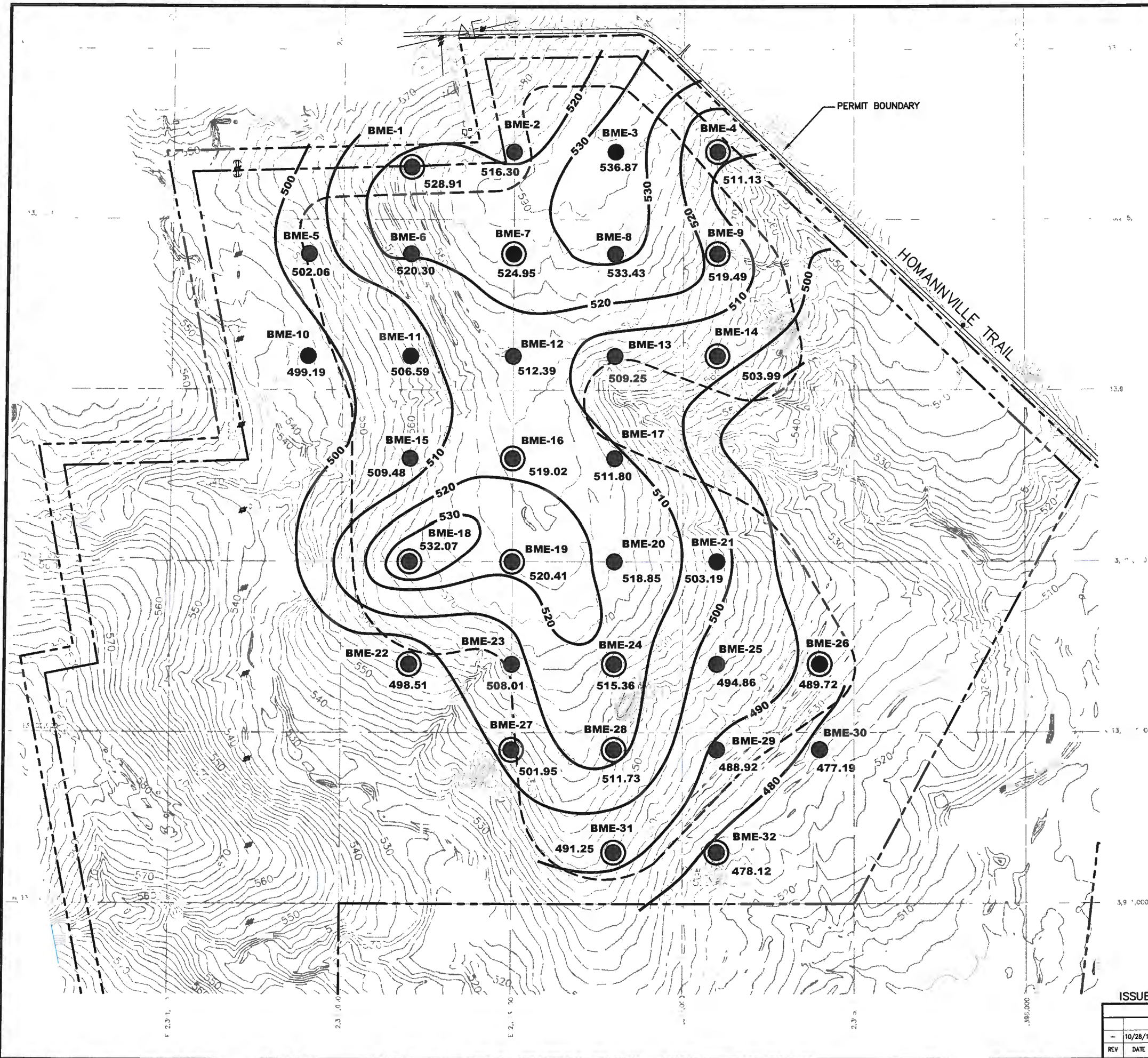
J:\129\06 130 Park\101\AttE\GeoSections.dwg Layout: G-G' User: scundiff



J:\129\06 130 Park\101\AttE\GeoSections.dwg Layout: H-H' User: scundiff



J:\129\06 130 Park\101\Atte\E3_10_TopDarkCl.dwg Layout: E3-10 User: scundiff



- LEGEND**
- PROPERTY BOUNDARY
 - FACILITY BOUNDARY
 - LANDFILL FOOTPRINT
 - 2' CONTOUR INTERVAL
 - BORING
 - BORING AND PIEZOMETER
 - 500 TOP OF DARK GRAY CLAY 10' CONTOUR (STRATUM 3)

NOTES:

1. CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SERVICE FROM AERIAL PHOTOGRAPHY FLOWN MAY 13, 2013. HORIZONTAL DATUM IS TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83). ELEVATIONS ARE RELATIVE TO NAVD88 - GEOID 12A.



STRUCTURE MAP
TOP OF STRATUM III-DARK GRAY CLAY
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REVISIONS							TBPE FIRM NO. F-256		TBPG FIRM NO. 50222		FIGURE E3-10	
DSN.	JMS	DATE : 10/13					DSN.	JMS	DATE : 10/13			
DWN.	GLW	SCALE : GRAPHIC					DWN.	GLW	SCALE : GRAPHIC			
CHK.	ESF	DWG : E3_10_TopDarkCl.dwg					CHK.	ESF	DWG : E3_10_TopDarkCl.dwg			
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY						
-	10/28/14	TECHNICALLY COMPLETE	GLW	ESF	JMS	JMS						

APPENDIX E4

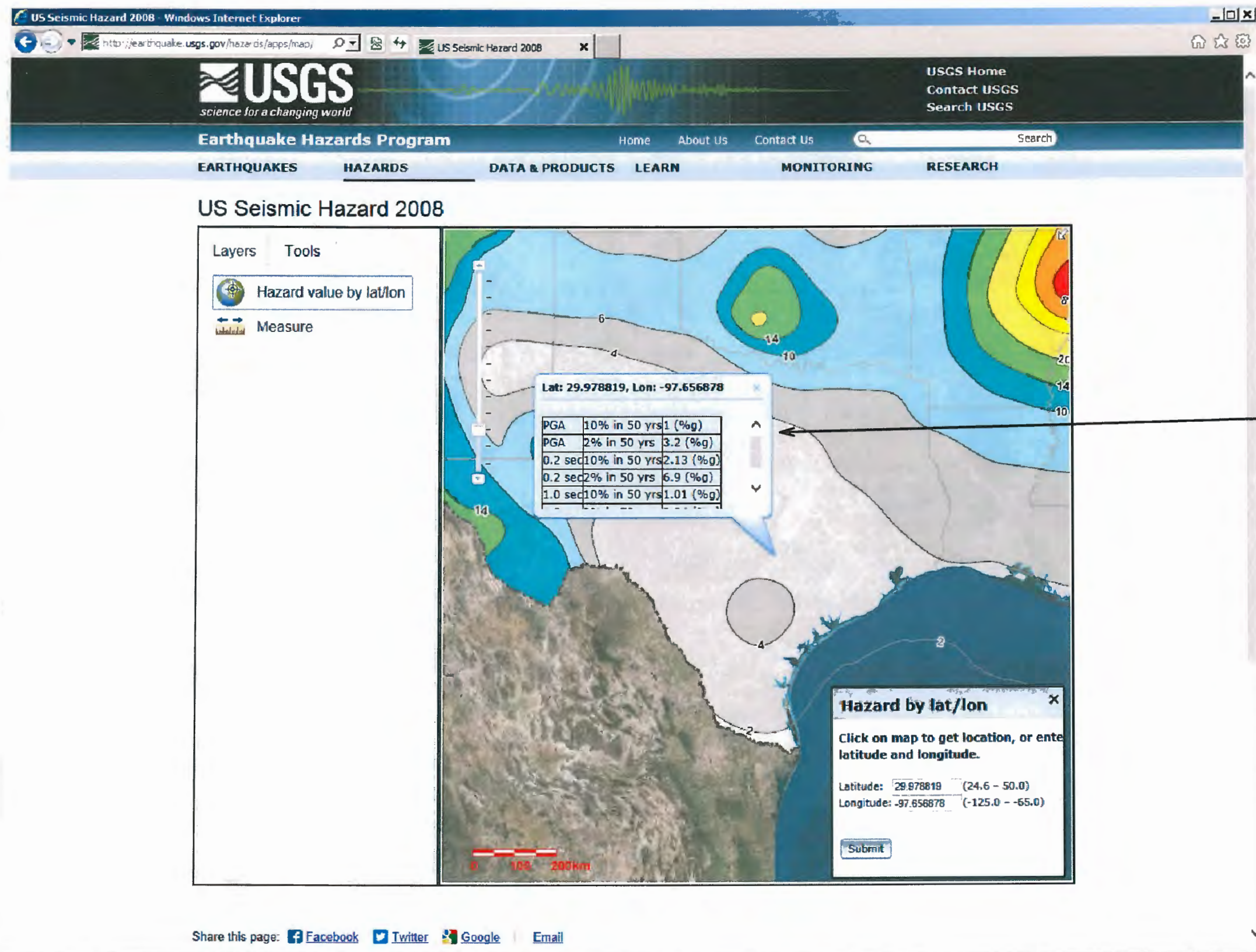
FAULT AND SEISMIC DATA

Seismic Impact Zone Map
Locations of Oil and Gas Wells

E4-1
E4-2

Technically Complete October 28, 2014

J:\129\06 130 Park\101\ATE\E4_1_Seisimp.dwg Layout: IIA10 User: scundiff



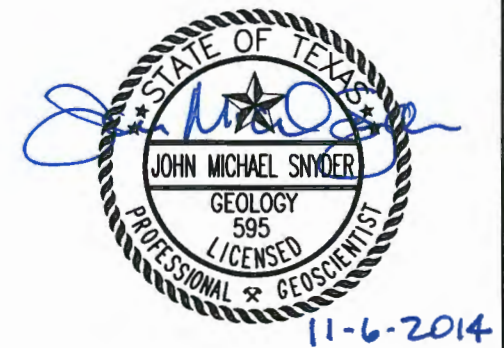
Not To Scale

LEGEND

4

CONTOURS OF PEAK GROUND ACCELERATION (PGA) IN UNITS OF PERCENT OF GRAVITY (%g)

NOTE: THE FACILITY LIES IN AN AREA WHERE THE PGA, WITH A 2% PROBABILITY OF BEING EXCEEDED IN 50 YEARS (EQUIVALENT TO A 10% PROBABILITY IN 250 YEARS), IS LESS THAN 10% OF GRAVITY (LESS THAN 0.1g).



SEISMIC IMPACT ZONE

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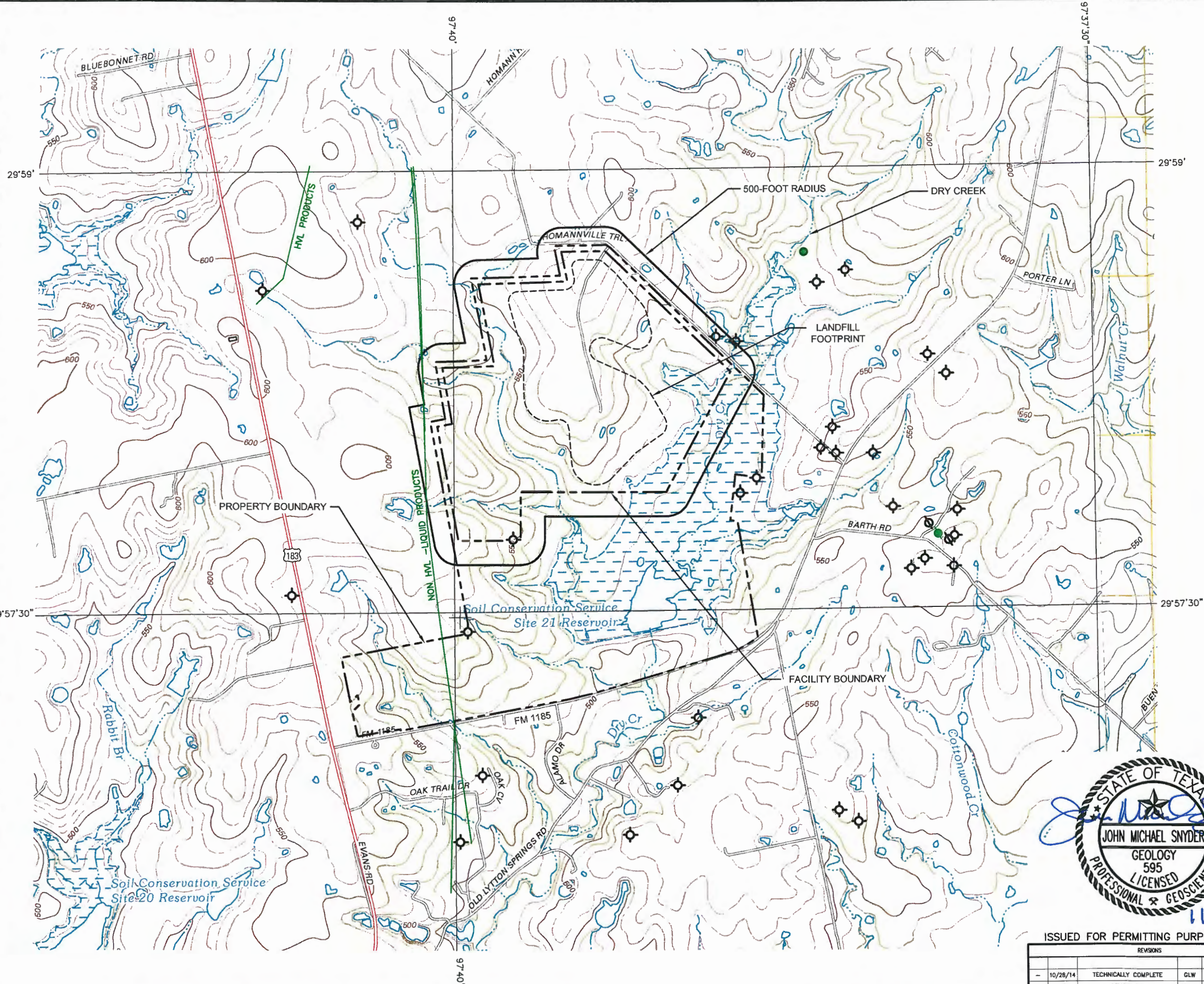
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REVISIONS							TBPE FIRM NO. F-256		TBPG FIRM NO. 50222	
							DSN. JMS	DATE : 11/13	DRAWING E4-1	
-	10/28/14	TECHNICALLY COMPLETE	SRC	JMS	JMS	JMS	DWN. GLW	SCALE : GRAPHIC		
REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY	CHK. ESF	DWG : E4_1_SeisImp.dwg		

Source: USGS Lower 48 States, 2008 Interactive Map (<http://earthquake.usgs.gov/hazards/apps/map/>) on June 12 2014.

J:\129\06 130 Park\101\AHE\E4_2_Oil-GWells.dwg Layout: E4.2 User: scundiff



- LEGEND**
- PROPERTY BOUNDARY
 - FACILITY BOUNDARY
 - LANDFILL FOOTPRINT
 - 500 FOOT RADIUS
 - ⊕ DRY HOLE
 - ⊗ CANCELLED LOCATION
 - OIL WELL
 - PLUGGED OIL WELL
 - UNDERGROUND PIPELINE

- NOTES:**
1. TOPOGRAPHIC BASE MAP IS US TOPO 2013 OF 7.5 MINUTE QUADRANGLE LOCKHART NORTH, TX. AND 7.5 MINUTE QUADRANGLE DALE, TX. DOWNLOADED FROM USGS WEBSITE ON JUNE 21, 2013. IMAGRY DATED MAY 2010.
 2. OIL AND GAS WELL LOCATIONS OBTAINED FROM RAILROAD COMMISSION ONLINE VIEWER DATED JUNE 20, 2103.
 3. BOUNDARY, LANDFILL FOOTPRINT, AND 500 FOOT RADIUS LINES ARE APPROXIMATE.
 4. THERE ARE NO PRODUCING WELLS WITHIN 500 FEET OF THE FACILITY BOUNDARY OR WITHIN THE FACILITY BOUNDARY.
 5. THERE ARE 3 DRY HOLES LOCATED WITHIN 500 FEET OF THE FACILITY BOUNDARY.



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REVISIONS						TBPE FIRM NO. F-256		TBPG FIRM NO. 50222	
DSN.	JMS	DATE :	1/14			DRAWING			
DWN.	GLW	SCALE :	GRAPHIC						
CHK.	JMS	DWG :	E4_2_Oil-GWells.dwg						

LOCATIONS OF OIL AND GAS WELLS

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