

2801 YORKMONT ROAD, SUITE 100 □ CHARLOTTE, NC 28208
Telephone: (704) 357-8600 / Facsimile: (704) 357-8638

RECORD OF SPT ENERGY MEASUREMENT

GENERAL INFORMATION		DRILL RIG DATA	
PROJECT:	Exelon	MAKE:	CME
LOCATION:	Victoria, Texas	MODEL:	55 D
PROJECT NO.:	6468-07-1777	SERIAL NO.:	MHC 20
DATE:	1/25/2009	HAMMER TYPE:	Auto
WEATHER:	65°F Cloudy	ROPE CONDITION:	N/A
INSPECTOR:	JNH	ROD SIZE:	N3
DRILLING COMPANY:	MHC/EC	NO. OF SHEAVES:	N/A

BORING DATA

BORING NUMBER:	B3231		
DEPTH DRILLED:	VARIOUS		
TIME DRIVEN:	8:00 AM - 3:00 PM		
RIG OPERATOR:	P.D.H.S.		
HAMMER OPERATOR:	N/A		
PDA PAK SERIAL NO.:	3622L		
INSTR. ROD AREA:	1.43 IN ²		
ACCEL. SERIAL NOS.:	A3-4990 H4-41050		
STRAIN SERIAL NOS.:	146NW 1/3		

[illegible]

REMARKS:

[illegible]



GENERAL INFORMATION		DRILL RIG DATA	
PROJECT:	Exelon	MAKE:	CME
LOCATION:	Victoria, Texas	MODEL:	SSD
PROJECT NO.:	6468-07-1777	SERIAL NO.:	MEC 20
DATE:	2/20/2009	HAMMER TYPE:	Auto
WEATHER:	75°F Sunny	ROPE CONDITION:	N/A
INSPECTOR:	SNH	ROD SIZE:	N/A
DRILLING COMPANY:	MATTEC ATL	NO. OF SHEAVES:	NWJ

BORING DATA	
BORING NUMBER:	B3232
DEPTH DRILLED:	Variable

[illegible]

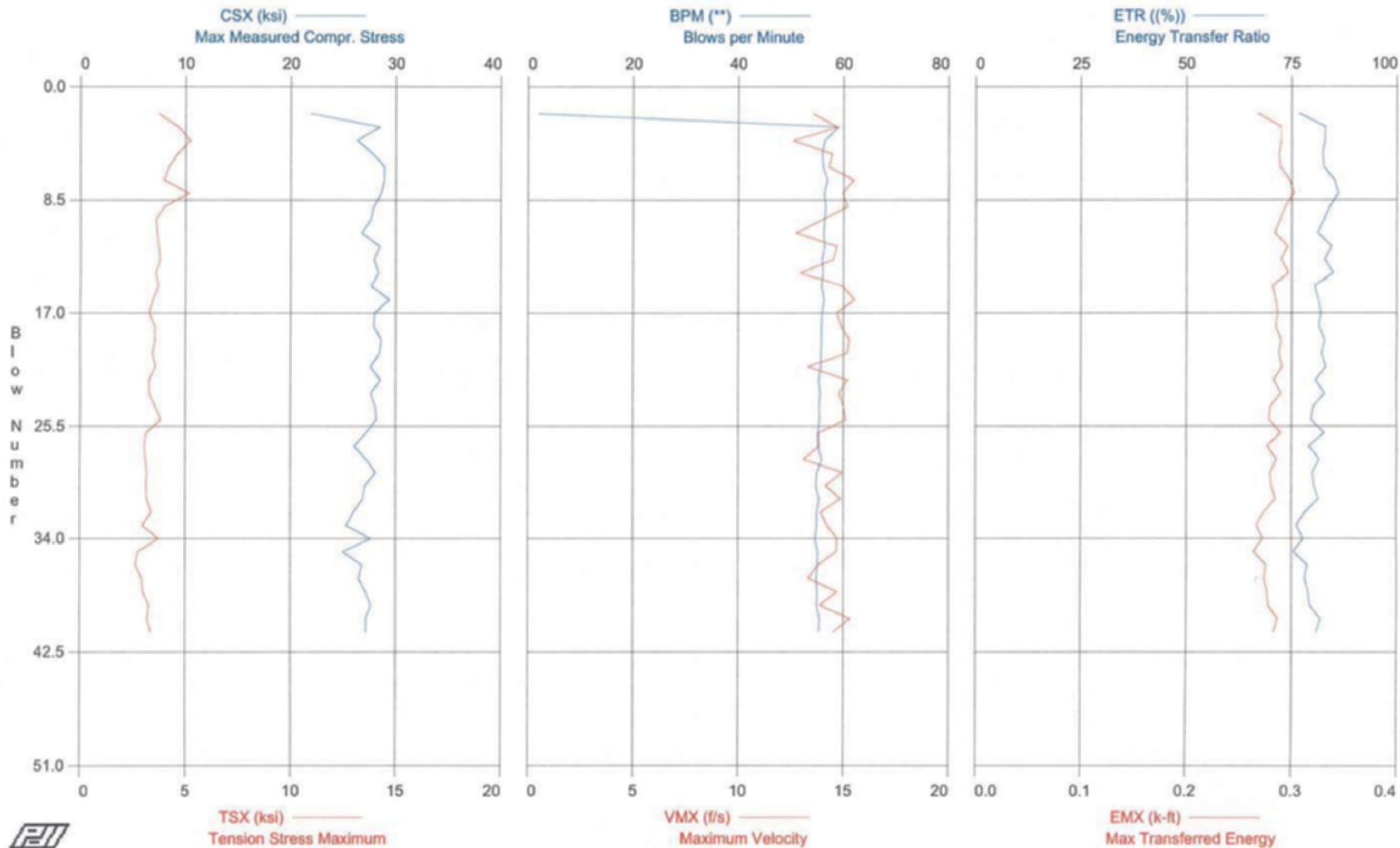
[illegible]

PDILOT Ver. 2008.2 - Printed: 25-Feb-2009

MACTEC Engineering and Consulting, Inc. - Case Method Results

Test date: 25-Jan-2009

EXELON VICTORIA - Boring B3231(318.5'-320' sample)



EXELON VICTORIA - Boring B3231(318.5'-320' sample)
OP: JNH

Hammer ID: MEC20; Driller: P.PITTS CME 55D (MACTEC)
Test date: 25-Jan-2009

AR: 1.43 in²
LE: 324.00 ft
WS: 16,807.9 t/s

SP: 0.492 k/ft³
EM: 30,000 ksi
JC: 0.70

CSX: Max Measured Compr. Stress
TSX: Tension Stress Maximum
VMX: Maximum Velocity
FMX: Maximum Force
FVP: Force/Velocity proportionality

BPM: Blows per Minute
EF2: Energy of F²
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

BL#	CSX ksi	TSX ksi	VMX ft/s	FMX kips	FVP []	BPM **	EF2 k-ft	ETR (%)	EMX k-ft
2	21.9	3.7	13.6	31	0.9	1.9	0.281	76.7	0.268
3	28.5	4.7	14.7	41	0.9	59.0	0.331	82.9	0.290
4	26.3	5.2	12.6	38	0.9	56.4	0.323	82.9	0.290
5	27.8	4.6	14.4	40	0.8	55.9	0.327	82.3	0.288
6	28.9	4.2	14.3	41	1.0	56.1	0.333	82.6	0.289
7	28.9	4.0	15.5	41	0.9	56.9	0.338	85.1	0.298
8	28.6	5.2	15.0	41	0.8	56.3	0.342	86.2	0.302
9	27.9	4.0	15.2	40	0.8	56.6	0.331	84.0	0.294
10	27.6	3.6	14.0	39	1.0	56.4	0.328	82.6	0.289
11	26.8	3.7	12.7	38	1.1	56.2	0.313	81.1	0.284
12	28.5	3.7	14.7	41	1.0	56.4	0.333	84.5	0.296
13	27.9	3.8	14.5	40	0.8	55.9	0.337	82.9	0.290
14	28.4	3.6	12.9	41	0.8	56.1	0.336	84.9	0.297
15	27.7	3.7	15.0	40	0.8	55.8	0.324	80.5	0.282
16	29.4	3.4	15.5	42	0.9	56.3	0.338	81.4	0.285
17	28.0	3.3	14.7	40	1.0	55.9	0.321	82.0	0.287
18	27.9	3.6	14.9	40	0.8	55.8	0.329	81.5	0.285
19	28.6	3.6	15.3	41	0.8	55.8	0.335	82.9	0.290
20	28.5	3.4	15.2	41	0.9	55.7	0.326	82.2	0.288
21	27.6	3.6	13.3	39	0.8	55.7	0.331	83.1	0.291
22	28.6	3.3	15.2	41	0.9	55.3	0.325	80.7	0.283
23	27.6	3.3	14.8	40	0.9	55.6	0.322	82.9	0.290
24	28.1	3.6	15.0	40	0.9	55.4	0.322	80.1	0.280
25	28.2	3.8	15.1	40	0.9	55.5	0.322	79.6	0.279
26	27.2	3.1	13.8	39	1.1	55.2	0.321	82.8	0.290
27	26.1	3.1	13.9	37	0.8	55.2	0.312	79.2	0.277
28	27.2	3.1	13.1	39	1.1	55.9	0.322	81.7	0.286
29	28.1	3.2	14.9	40	0.9	55.0	0.322	80.0	0.280
30	27.1	3.1	14.2	39	1.0	54.8	0.317	80.4	0.281
31	26.9	3.2	14.9	38	0.8	55.4	0.321	81.4	0.285
32	26.0	3.4	13.9	37	0.8	55.0	0.310	78.3	0.274
33	25.3	3.0	14.2	36	0.8	55.0	0.297	76.3	0.267
34	27.6	3.7	14.7	40	0.9	54.7	0.314	77.9	0.273
35	25.0	2.8	14.7	36	0.8	55.2	0.290	75.5	0.264
36	26.8	2.6	13.8	38	1.0	55.1	0.303	78.8	0.276
37	26.5	2.9	13.3	38	1.1	54.9	0.305	78.1	0.274
38	27.2	3.0	14.7	39	0.9	55.1	0.307	79.0	0.277
39	27.7	3.3	13.9	40	1.0	55.0	0.316	79.4	0.278
40	27.2	3.2	15.3	39	0.8	55.5	0.321	81.9	0.287
41	27.2	3.4	14.5	39	1.0	55.4	0.315	81.0	0.283
Average	27.4	3.6	14.4	39	0.9	54.4	0.321	81.2	0.284

Total number of blows analyzed: 40

Time Summary

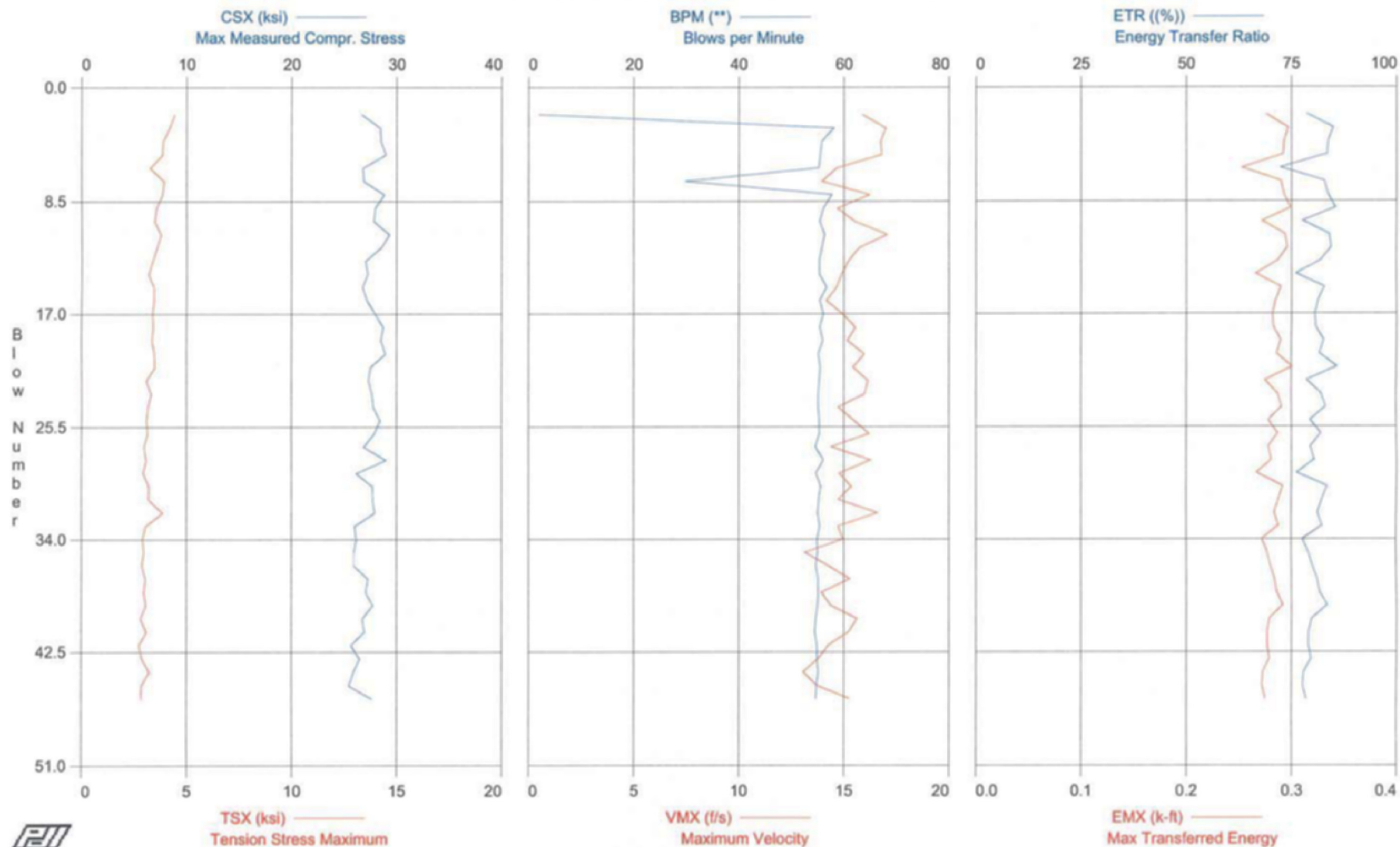
Drive 8:54:54 AM - 8:54:54 AM (1/25/2009) BN 1 - 1
 Stop 25 minutes 35 seconds 8:54:54 AM - 9:20:29 AM
 Drive 42 seconds 9:20:29 AM - 9:21:11 AM BN 2 - 41
 Total time [0:26:17] = (Driving [0:00:42] + Stop [0:25:35])

PDIPLOT Ver. 2008.2 - Printed: 25-Feb-2009

MACTEC Engineering and Consulting, Inc. - Case Method Results

Test date: 25-Jan-2009

EXELON COL VICTORIA - Boring B3231 (328.5'-330' sample)



EXELON COL VICTORIA - Boring B3231 (328.5'-330' sample)
OP: JNH

Hammer ID: MEC20; Driller: P.PITTS CME 55D (MACTEC)
Test date: 25-Jan-2009

AR: 1.43 in² SP: 0.492 k/ft³
LE: 334.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.70

CSX: Max Measured Compr. Stress BPM: Blows per Minute
TSX: Tension Stress Maximum EF2: Energy of F²
VMX: Maximum Velocity ETR: Energy Transfer Ratio
FMX: Maximum Force EMX: Max Transferred Energy
FVP: Force/Velocity proportionality

BL#	CSX ksi	TSX ksi	VMX f/s	FMX kips	FVP []	BPM **	EF2 k-ft	ETR (%)	EMX k-ft
2	26.7	4.4	15.9	38	0.8	1.9	0.293	78.7	0.276
3	28.5	4.2	17.0	41	0.8	58.1	0.333	85.0	0.297
4	28.5	3.9	16.7	41	0.8	55.8	0.327	83.7	0.293
5	29.0	3.8	16.8	41	0.8	55.5	0.337	83.5	0.292
6	26.8	3.3	14.7	38	0.8	55.2	0.291	72.4	0.253
7	26.9	3.9	14.0	38	0.8	29.8	0.329	82.8	0.290
8	28.8	3.8	16.2	41	0.8	57.7	0.336	83.7	0.293
9	27.9	3.6	14.7	40	0.8	56.1	0.342	85.5	0.299
10	27.8	3.5	15.5	40	0.8	55.4	0.313	77.6	0.272
11	29.3	3.8	17.1	42	0.8	56.3	0.341	84.0	0.294
12	28.5	3.6	15.7	41	0.8	55.8	0.336	84.5	0.296
13	27.1	3.4	15.2	39	0.8	55.3	0.323	81.9	0.287
14	27.3	3.2	14.9	39	0.8	55.3	0.303	76.0	0.266
15	26.8	3.4	14.7	38	0.8	56.7	0.325	82.8	0.290
16	27.2	3.5	14.2	39	0.8	55.4	0.325	81.4	0.285
17	28.0	3.4	14.9	40	0.8	56.1	0.323	80.6	0.282
18	28.7	3.4	15.5	41	0.8	55.4	0.330	80.8	0.283
19	28.5	3.4	15.2	41	0.8	56.0	0.335	82.7	0.290
20	28.9	3.5	16.0	41	0.8	55.1	0.331	81.7	0.286
21	27.5	3.5	15.4	39	0.8	55.5	0.336	85.9	0.301
22	27.3	3.1	16.2	39	0.8	55.3	0.318	78.7	0.275
23	27.6	3.3	16.0	40	0.8	55.1	0.328	82.1	0.287
24	27.8	3.2	14.7	40	1.0	55.1	0.327	83.2	0.291
25	28.4	3.1	15.5	41	0.8	55.3	0.324	79.5	0.278
26	27.9	3.2	16.2	40	0.8	55.3	0.327	82.0	0.287
27	26.9	3.0	14.4	38	1.0	54.6	0.311	79.5	0.278
28	29.0	3.1	16.3	41	0.8	56.1	0.331	80.4	0.281
29	26.1	2.9	14.8	37	0.8	54.7	0.303	76.3	0.267
30	27.7	3.2	15.3	40	0.8	55.6	0.331	83.5	0.292
31	27.7	3.2	14.7	40	0.8	55.2	0.331	82.4	0.288
32	27.9	3.9	16.6	40	0.8	55.0	0.330	81.3	0.284
33	26.0	3.1	14.7	37	1.0	55.4	0.325	82.4	0.288
34	26.2	2.9	14.9	37	0.9	54.9	0.307	77.7	0.272
35	25.9	3.0	13.1	37	0.8	55.0	0.315	79.1	0.277
36	25.9	2.9	14.2	37	1.0	54.7	0.315	80.0	0.280
37	27.3	3.1	15.3	39	0.8	55.1	0.325	81.1	0.284
38	27.1	3.0	13.9	39	1.1	55.1	0.329	81.7	0.286
39	27.7	3.1	14.4	40	0.8	55.0	0.337	83.5	0.292
40	26.7	2.8	15.6	38	0.8	54.7	0.318	79.8	0.279
41	26.9	3.1	15.2	39	0.8	54.5	0.318	79.1	0.277
42	25.6	2.7	14.3	37	1.0	54.9	0.307	79.1	0.277
43	26.5	2.9	13.8	38	0.8	54.9	0.317	79.7	0.279
44	25.9	3.2	13.1	37	1.1	55.1	0.310	77.9	0.273
45	25.4	2.9	13.7	36	1.0	54.8	0.307	77.7	0.272
46	27.6	2.8	15.3	39	0.9	54.7	0.319	78.5	0.275
Average	27.4	3.3	15.2	39	0.8	53.7	0.323	80.9	0.283

Total number of blows analyzed: 45

Time Summary

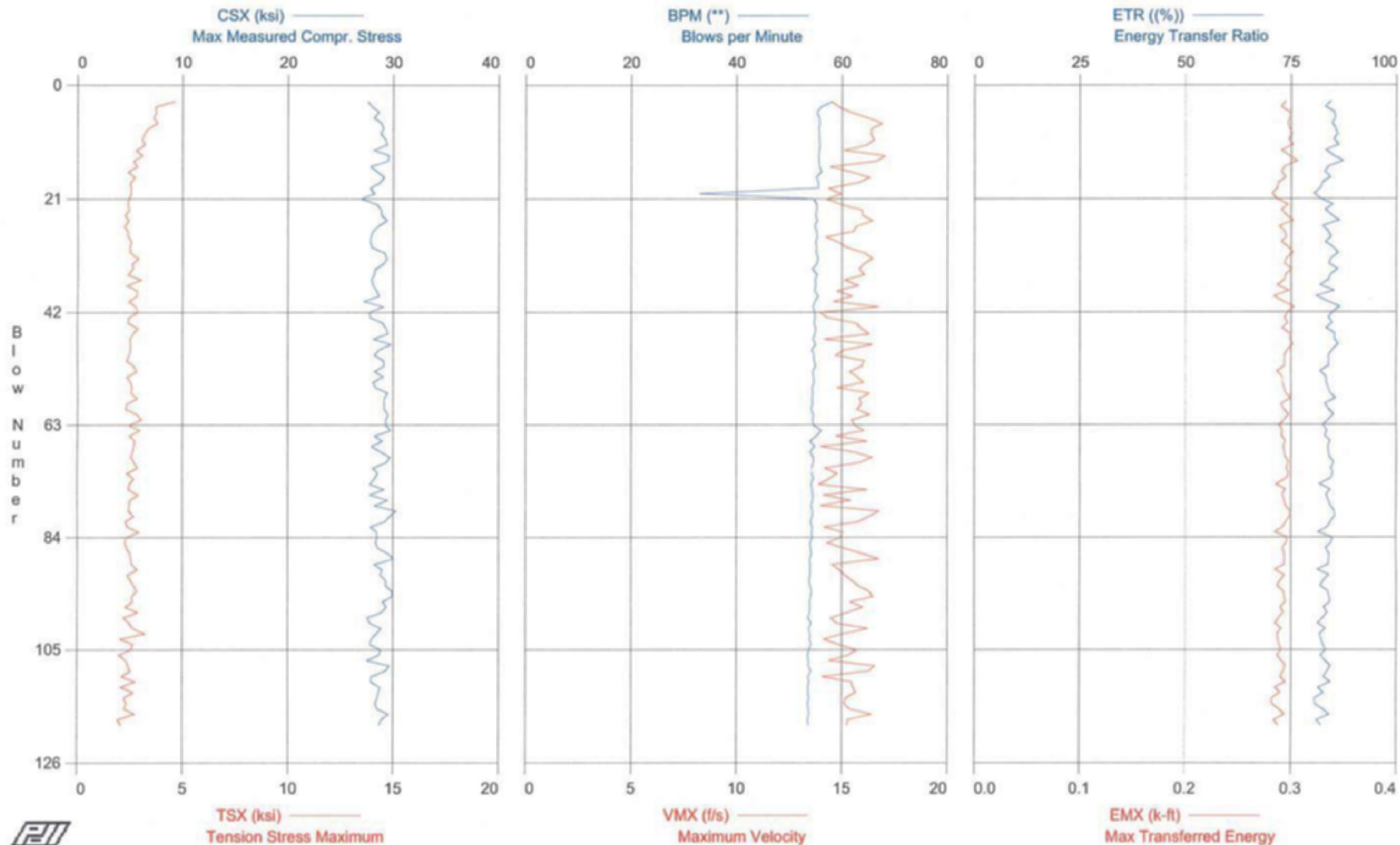
Drive 11:16:09 AM - 11:16:09 AM (1/25/2009) BN 1 - 1
 Stop 16 minutes 14 seconds 11:16:09 AM - 11:32:23 AM
 Drive 49 seconds 11:32:23 AM - 11:33:12 AM BN 2 - 46
 Total time [0:17:03] = (Driving [0:00:49] + Stop [0:16:14])

PDILOT Ver. 2008.2 - Printed: 8-Apr-2009

MACTEC Engineering and Consulting, Inc. - Case Method Results

Test date: 25-Jan-2009

EXELON VICTORIA - Boring B3231 (338.5'-339.4' sample)



EXELON VICTORIA - Boring B3231 (338.5'-339.4' sample)
OP: JNH

Hammer ID: MEC20; Driller: P.PITTS CME 55D (MACTEC)
Test date: 25-Jan-2009

AR: 1.43 in² SP: 0.492 k/ft³
LE: 344.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.70

CSX: Max Measured Compr. Stress BPM: Blows per Minute
TSX: Tension Stress Maximum EF2: Energy of F²
VMX: Maximum Velocity ETR: Energy Transfer Ratio
FMX: Maximum Force EMX: Max Transferred Energy
FVP: Force/Velocity proportionality

BL#	CSX ksi	TSX ksi	VMX f/s	FMX kips	FVP []	BPM **	EF2 k-ft	ETR (%)	EMX k-ft
3	27.5	4.6	14.5	39	1.1	58.2	0.322	84.4	0.295
4	28.0	3.7	14.9	40	0.8	56.0	0.320	83.2	0.291
5	28.6	3.7	15.4	41	0.8	55.2	0.329	85.3	0.299
6	28.2	3.6	16.2	40	0.9	55.7	0.333	85.5	0.299
7	28.9	3.8	16.9	41	0.9	55.8	0.333	84.9	0.297
8	29.1	3.4	16.4	42	0.8	55.6	0.331	85.6	0.299
9	28.8	3.2	16.4	41	0.8	55.7	0.331	86.1	0.301
10	29.3	3.1	16.5	42	0.8	55.7	0.335	85.2	0.298
11	29.4	3.2	16.2	42	0.8	55.8	0.339	86.3	0.302
12	28.1	2.8	15.1	40	1.0	55.7	0.325	83.2	0.291
13	29.6	3.1	17.0	42	0.8	55.6	0.338	85.0	0.298
14	29.5	2.7	16.6	42	0.9	55.6	0.340	87.4	0.306
15	27.8	2.9	14.4	40	1.1	55.7	0.325	83.9	0.294
16	28.4	2.4	15.4	41	0.9	56.1	0.323	83.0	0.291
17	29.1	2.7	16.3	42	0.8	55.1	0.329	84.3	0.295
18	28.8	2.5	15.7	41	0.9	55.5	0.319	82.4	0.288
19	27.8	2.6	14.3	40	0.8	55.5	0.322	82.0	0.287
20	28.2	2.6	14.9	40	1.0	32.9	0.317	80.5	0.282
21	27.0	2.4	14.3	39	1.0	54.6	0.317	82.1	0.287
22	28.4	2.4	15.0	41	0.8	55.2	0.330	84.9	0.297
23	28.9	2.5	16.0	41	0.8	55.2	0.323	83.2	0.291
24	28.9	2.3	16.0	41	0.8	55.0	0.326	84.6	0.296
25	29.4	2.4	16.5	42	0.9	55.3	0.337	86.4	0.302
26	28.6	2.2	15.7	41	0.8	54.8	0.321	82.5	0.289
27	28.1	2.4	15.6	40	0.9	55.2	0.323	83.9	0.294
28	27.9	2.4	14.2	40	0.8	55.3	0.327	84.5	0.296
29	27.8	2.6	14.8	40	1.0	55.0	0.326	83.2	0.291
30	28.0	2.5	15.2	40	1.0	55.2	0.329	85.1	0.298
31	29.2	2.5	16.1	42	0.9	55.1	0.334	86.2	0.302
32	29.4	2.9	16.5	42	0.8	55.5	0.332	84.5	0.296
33	29.1	2.6	16.0	42	0.8	55.2	0.328	84.0	0.294
34	28.3	2.6	15.8	40	1.0	54.4	0.339	86.1	0.301
35	28.2	2.4	16.1	40	0.9	55.3	0.325	84.4	0.295
36	27.9	3.0	15.1	40	1.0	54.9	0.320	83.9	0.294
37	28.1	2.4	15.8	40	0.8	55.0	0.315	81.9	0.287
38	28.4	2.8	14.8	41	0.8	54.8	0.332	85.3	0.298
39	28.7	2.8	15.5	41	0.9	55.5	0.316	81.0	0.284
40	27.2	2.4	14.6	39	1.0	54.9	0.321	83.5	0.292
41	29.1	2.8	16.7	42	0.9	54.5	0.338	86.5	0.303
42	27.8	2.9	14.0	40	1.1	54.8	0.330	84.9	0.297
43	27.8	2.4	14.3	40	1.1	54.9	0.326	83.9	0.294
44	29.0	2.4	15.6	41	0.8	54.7	0.333	84.8	0.297
45	29.3	2.9	15.9	42	0.8	55.0	0.327	83.3	0.292
46	29.5	2.6	16.3	42	0.8	54.9	0.333	85.4	0.299
47	28.1	2.5	14.2	40	0.8	54.5	0.332	85.3	0.299
48	29.8	2.5	16.4	43	0.8	55.0	0.339	86.2	0.302
49	28.7	2.5	15.1	41	0.8	54.3	0.331	84.9	0.297
50	28.2	2.5	14.7	40	1.0	54.7	0.328	84.0	0.294
51	29.1	2.3	16.1	42	0.9	54.7	0.327	84.1	0.294
52	29.1	2.7	16.0	42	0.8	55.0	0.326	84.0	0.294
53	28.2	2.8	15.4	40	0.8	54.5	0.315	81.9	0.287
54	29.0	2.4	15.7	42	0.9	54.6	0.327	83.4	0.292
55	28.1	2.5	16.0	40	0.9	54.7	0.319	83.5	0.292
56	28.3	2.6	14.8	40	0.8	54.4	0.328	83.9	0.294
57	29.5	2.6	16.3	42	0.8	54.5	0.334	84.3	0.295
58	29.2	2.9	15.8	42	0.8	54.4	0.334	85.7	0.300
59	29.2	2.4	15.9	42	0.8	54.5	0.327	83.2	0.291
60	29.2	2.3	15.7	42	0.9	54.2	0.330	83.9	0.293
61	29.5	2.9	16.3	42	0.9	54.6	0.334	85.2	0.298
62	29.3	3.1	15.5	42	0.9	54.5	0.329	84.0	0.294
63	29.3	2.5	15.6	42	0.9	54.6	0.327	82.6	0.289
64	29.7	3.0	16.0	43	0.8	56.1	0.330	83.5	0.292
65	28.3	2.5	14.7	40	1.0	55.2	0.327	83.1	0.291
66	28.9	2.7	16.2	41	0.9	54.0	0.330	84.3	0.295
67	27.9	2.7	14.0	40	1.1	54.8	0.329	83.8	0.293

EXELON VICTORIA - Boring B3231 (338.5'-339.4' sample)
OP: JNH

Hammer ID: MEC20; Driller: P.PITTS CME 55D (MACTEC)
Test date: 25-Jan-2009

BL#	CSX ksi	TSX ksi	VMX f/s	FMX kips	FVP []	BPM **	EF2 k-ft	ETR (%)	EMX k-ft
68	28.8	2.6	15.5	41	0.8	54.0	0.330	83.9	0.294
69	29.7	2.6	16.4	42	0.9	54.6	0.333	84.2	0.295
70	29.3	2.7	15.9	42	0.8	54.6	0.333	85.2	0.298
71	28.1	2.9	14.2	40	1.1	54.3	0.331	84.5	0.296
72	28.5	2.4	14.8	41	1.0	54.3	0.332	85.0	0.298
73	28.2	2.7	14.4	40	1.1	54.6	0.329	84.5	0.296
74	27.8	2.5	13.9	40	1.1	54.2	0.320	81.8	0.286
75	29.1	2.4	16.2	42	0.8	54.4	0.331	84.4	0.295
76	27.8	2.9	14.1	40	1.1	54.5	0.325	83.4	0.292
77	29.5	2.5	15.4	42	0.9	54.5	0.330	83.9	0.294
78	28.2	2.5	14.0	40	0.8	54.2	0.334	84.4	0.295
79	30.3	2.4	16.8	43	0.8	54.5	0.338	85.4	0.299
80	29.7	2.7	16.3	42	0.8	54.4	0.337	85.5	0.299
81	29.2	2.3	15.8	42	0.9	54.1	0.334	84.5	0.296
82	27.8	2.4	14.2	40	1.1	54.4	0.327	83.8	0.293
83	28.5	2.9	15.0	41	0.8	54.3	0.318	81.5	0.285
84	28.5	2.3	14.9	41	1.0	54.4	0.333	85.0	0.297
85	28.3	2.3	14.3	41	0.8	54.0	0.333	84.5	0.296
86	28.6	2.4	15.1	41	1.0	54.1	0.326	83.3	0.292
87	29.5	2.5	16.0	42	0.9	54.3	0.333	84.1	0.294
88	30.0	2.6	16.7	43	0.9	53.9	0.337	84.1	0.294
89	28.2	2.6	14.5	40	1.1	54.0	0.327	83.9	0.294
90	29.0	2.9	14.9	41	1.0	54.0	0.321	81.3	0.285
91	28.8	2.4	15.1	41	0.8	54.0	0.328	84.0	0.294
92	29.3	2.5	15.5	42	0.9	53.8	0.324	82.8	0.290
93	29.3	2.7	15.8	42	0.8	54.0	0.322	81.9	0.287
94	29.9	2.8	16.3	43	0.8	54.3	0.334	83.8	0.293
95	29.9	2.6	16.5	43	0.9	54.1	0.336	84.1	0.294
96	29.0	2.6	15.4	41	0.8	53.9	0.332	84.3	0.295
97	29.4	2.3	16.0	42	0.8	54.0	0.326	82.8	0.290
98	28.9	2.9	15.3	41	0.8	53.9	0.328	83.6	0.293
99	27.5	2.2	14.5	39	1.1	53.6	0.322	82.6	0.289
100	27.8	2.5	14.7	40	1.0	54.2	0.316	81.4	0.285
101	28.9	2.6	16.2	41	0.8	53.7	0.320	83.2	0.291
102	28.4	3.2	15.1	41	0.8	54.0	0.318	81.9	0.287
103	28.0	2.0	14.1	40	0.8	53.9	0.322	82.2	0.288
104	27.8	2.7	14.8	40	1.0	54.2	0.322	82.6	0.289
105	28.8	2.6	15.7	41	0.8	53.8	0.323	83.3	0.291
106	28.6	2.0	15.3	41	0.8	53.5	0.324	82.1	0.287
107	27.5	2.3	14.4	39	1.1	53.7	0.322	83.2	0.291
108	29.6	2.4	16.5	42	0.8	53.7	0.331	84.4	0.295
109	29.2	2.5	16.3	42	0.9	54.2	0.331	83.6	0.293
110	27.9	2.1	14.1	40	0.8	53.6	0.322	82.8	0.290
111	27.9	2.8	15.5	40	1.0	53.8	0.326	84.4	0.295
112	28.7	2.1	15.5	41	0.8	53.6	0.319	81.5	0.285
113	28.6	2.7	15.7	41	0.9	53.6	0.321	82.7	0.290
114	28.5	2.2	15.2	41	0.9	53.8	0.311	80.6	0.282
115	28.3	2.4	15.1	40	0.8	53.5	0.312	80.6	0.282
116	28.5	2.2	15.4	41	0.9	53.7	0.323	82.6	0.289
117	29.6	2.7	16.4	42	0.8	53.8	0.327	84.1	0.294
118	28.9	1.9	15.3	41	0.9	53.5	0.317	81.1	0.284
119	28.7	2.1	15.3	41	0.9	53.7	0.320	82.1	0.288
Average	28.7	2.6	15.5	41	0.9	54.4	0.327	83.8	0.293

Total number of blows analyzed: 117

Time Summary

Drive 12 minutes 7 seconds

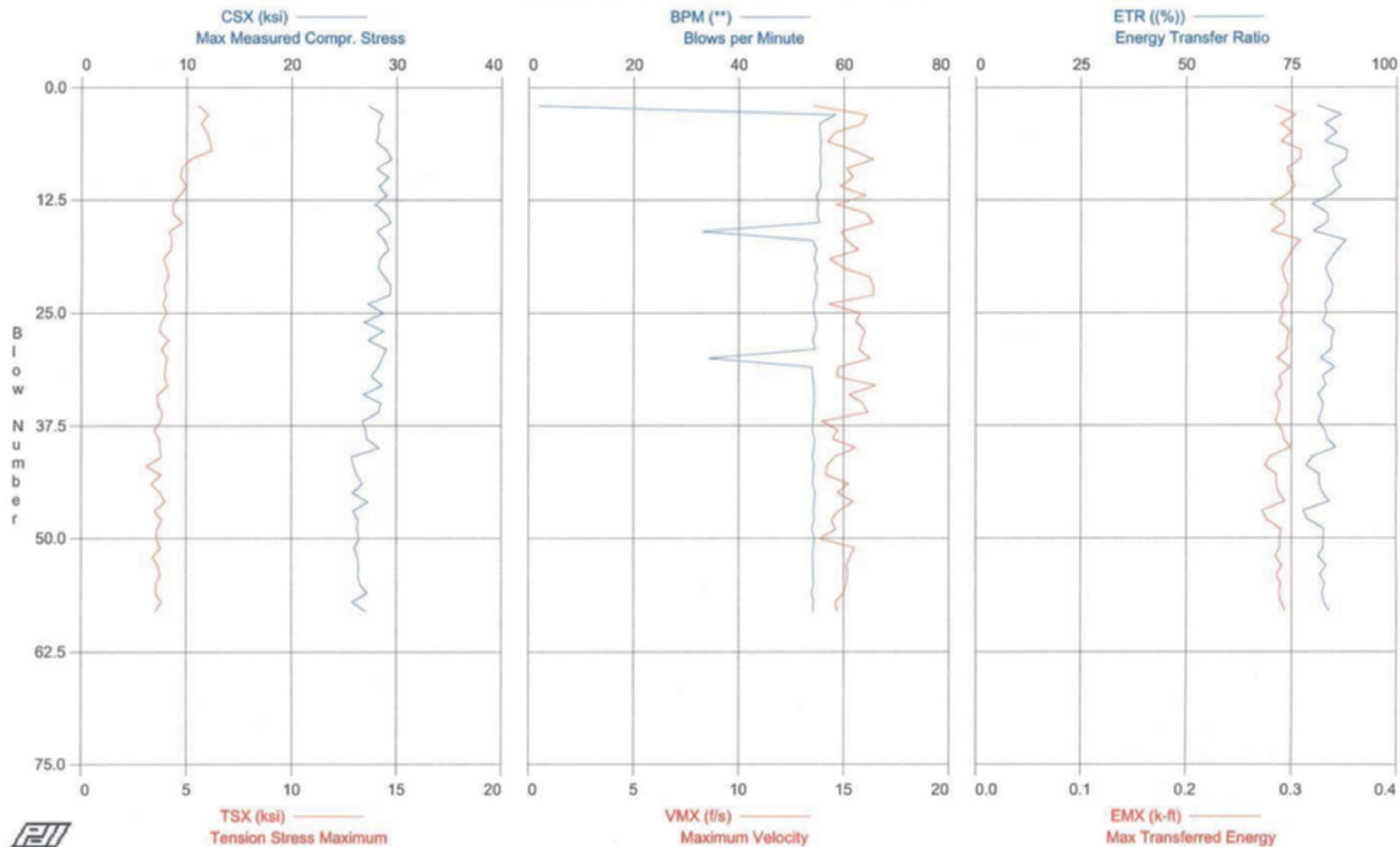
12:59:46 PM - 1:11:53 PM (1/25/2009) BN 1 - 119

PDILOT Ver. 2008.2 - Printed: 25-Feb-2009

MACTEC Engineering and Consulting, Inc. - Case Method Results

Test date: 25-Jan-2009

EXELON VICTORIA - Boring B3231 (348.5'-350' sample)



EXELON VICTORIA - Boring B3231 (348.5'-350' sample)
OP: JNH

Hammer ID: MEC20; Driller: P.PITTS CME 55D (MACTEC)
Test date: 25-Jan-2009

AR: 1.43 in² SP: 0.492 k/ft³
LE: 354.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.70

CSX: Max Measured Compr. Stress BPM: Blows per Minute
TSX: Tension Stress Maximum EF2: Energy of F²
VMX: Maximum Velocity ETR: Energy Transfer Ratio
FMX: Maximum Force EMX: Max Transferred Energy
FVP: Force/Velocity proportionality

BL#	CSX ksi	TSX ksi	VMX f/s	FMX kips	FVP []	BPM **	EF2 k-ft	ETR (%)	EMX k-ft
2	27.3	5.6	13.6	39	1.1	1.9	0.307	81.1	0.284
3	28.7	6.0	16.1	41	0.9	58.4	0.336	86.8	0.304
4	28.2	5.7	15.9	40	0.8	55.3	0.324	83.0	0.290
5	28.3	6.0	14.6	40	1.1	55.4	0.334	85.8	0.300
6	28.0	6.1	14.2	40	1.1	55.6	0.322	82.9	0.290
7	29.0	6.2	15.4	42	1.0	55.4	0.342	88.2	0.309
8	29.5	5.2	16.4	42	0.9	55.6	0.344	88.0	0.308
9	28.1	4.8	15.1	40	0.8	55.4	0.331	84.7	0.296
10	29.2	4.7	15.4	42	0.9	55.4	0.339	85.4	0.299
11	28.3	5.0	14.8	40	0.8	55.6	0.337	86.7	0.303
12	29.1	4.7	16.0	42	0.8	54.8	0.336	84.2	0.295
13	28.0	4.3	14.6	40	1.0	55.1	0.313	80.0	0.280
14	28.9	4.3	16.1	41	0.9	54.9	0.334	83.6	0.293
15	29.5	4.8	16.4	42	0.8	55.3	0.338	83.6	0.293
16	28.1	4.2	14.9	40	0.8	33.0	0.318	80.3	0.281
17	28.9	4.3	15.1	41	1.1	54.1	0.345	87.9	0.308
18	29.2	4.2	15.7	42	0.8	54.8	0.341	86.1	0.301
19	28.4	3.9	14.3	41	0.8	54.4	0.333	84.4	0.296
20	28.3	4.1	15.0	40	1.0	54.9	0.330	83.2	0.291
21	28.9	4.1	16.2	41	0.9	54.5	0.332	83.8	0.293
22	29.4	3.9	16.4	42	0.8	54.9	0.341	84.9	0.297
23	29.4	4.0	16.4	42	0.9	54.7	0.338	84.4	0.296
24	27.3	3.9	14.3	39	0.8	54.2	0.319	83.0	0.290
25	28.8	4.1	15.8	41	1.0	54.3	0.330	83.5	0.292
26	26.9	3.8	15.6	38	0.9	54.8	0.319	82.4	0.289
27	28.8	3.7	16.0	41	0.9	54.7	0.333	85.2	0.298
28	27.3	4.1	15.8	39	0.9	54.1	0.322	84.5	0.296
29	29.0	3.8	15.7	41	0.8	54.6	0.332	84.6	0.296
30	28.6	4.1	16.2	41	0.8	34.4	0.323	82.0	0.287
31	28.2	4.0	14.7	40	1.1	53.9	0.332	85.3	0.299
32	27.6	4.0	14.7	39	0.8	54.1	0.322	82.6	0.289
33	28.6	4.1	16.5	41	0.9	54.3	0.328	83.3	0.291
34	26.9	3.6	15.2	38	0.8	54.4	0.310	81.4	0.285
35	28.5	3.6	15.9	41	0.9	54.4	0.327	82.6	0.289
36	28.3	3.8	16.1	40	0.9	54.2	0.320	82.1	0.288
37	26.8	3.8	14.0	38	1.0	54.2	0.314	81.4	0.285
38	27.1	3.5	14.7	39	1.0	54.0	0.318	83.0	0.291
39	27.2	3.7	14.5	39	1.0	54.5	0.320	83.6	0.293
40	28.4	3.7	15.6	41	1.0	54.4	0.332	85.5	0.299
41	25.7	3.8	14.6	37	0.9	54.1	0.305	80.1	0.280
42	25.9	3.1	14.2	37	0.8	54.4	0.303	78.6	0.275
43	26.2	3.8	14.2	38	1.0	54.2	0.312	81.7	0.286
44	26.8	3.3	15.2	38	0.8	54.1	0.315	81.6	0.286
45	25.8	3.8	14.7	37	1.0	54.6	0.313	82.4	0.288
46	27.3	4.0	15.5	39	1.0	54.4	0.322	84.0	0.294
47	25.9	3.5	14.8	37	0.9	54.3	0.301	77.8	0.272
48	26.4	3.8	14.4	38	0.8	54.4	0.305	79.0	0.277
49	26.2	3.6	14.6	38	0.8	53.9	0.314	82.8	0.290
50	26.5	3.6	13.9	38	1.1	54.5	0.316	82.6	0.289
51	26.0	3.8	15.5	37	0.9	54.2	0.315	82.5	0.289
52	26.3	3.4	15.3	38	0.8	54.1	0.312	81.4	0.285
53	26.4	3.7	15.1	38	0.8	54.2	0.314	83.3	0.291
54	26.3	3.8	15.2	38	0.9	54.2	0.312	81.7	0.286
55	26.5	3.6	15.1	38	0.8	54.3	0.316	83.0	0.290
56	27.2	3.5	15.0	39	1.0	53.9	0.318	82.3	0.288
57	25.8	3.8	14.6	37	1.0	54.3	0.313	82.7	0.290
58	27.1	3.5	14.7	39	1.0	54.1	0.323	84.0	0.294
Average	27.7	4.2	15.2	40	0.9	53.0	0.324	83.3	0.291

Total number of blows analyzed: 57

Time Summary

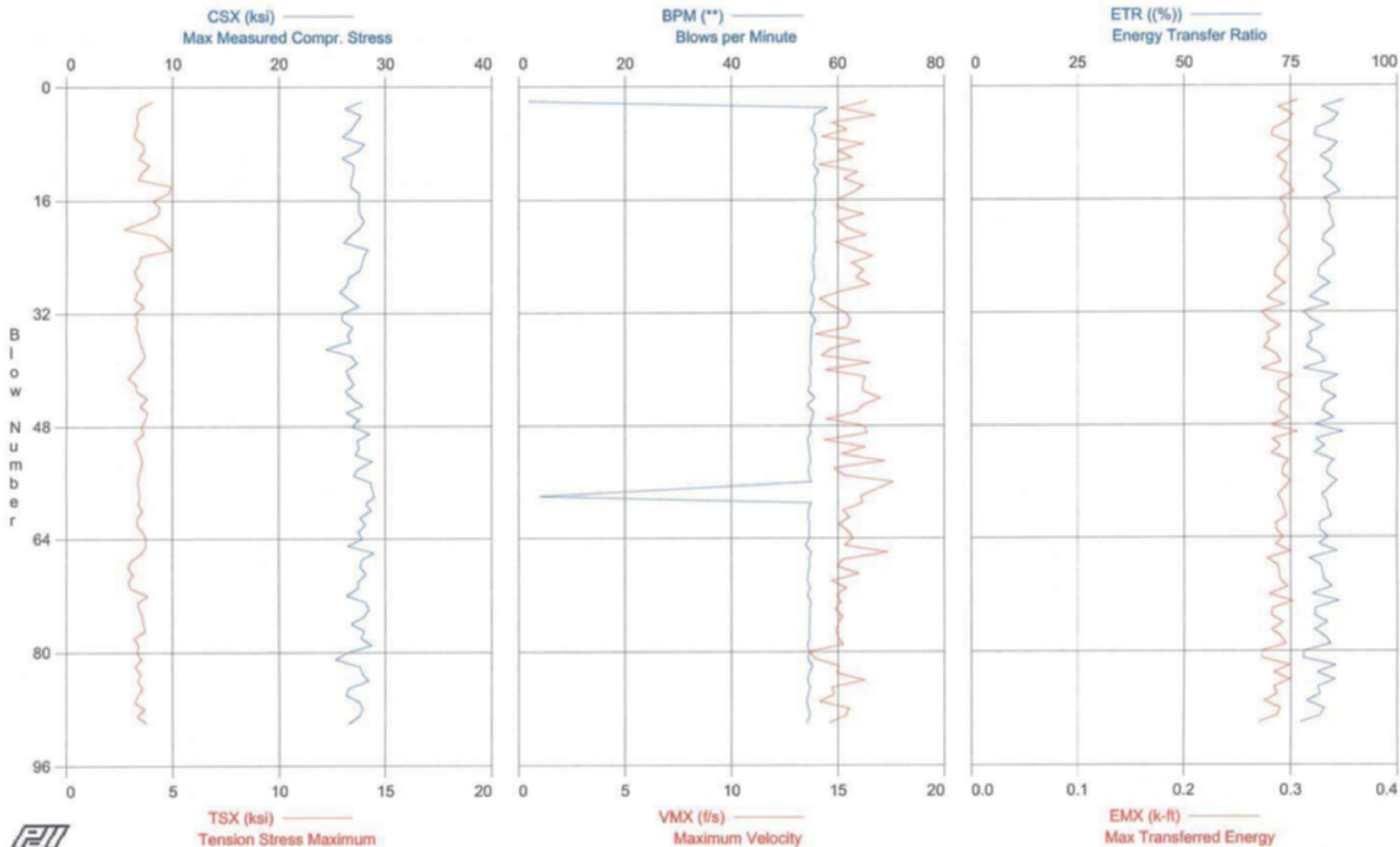
Drive 2:49:14 PM - 2:49:14 PM (1/25/2009) BN 1 - 1
Stop 24 minutes 2:49:14 PM - 3:13:14 PM
Drive 1 minute 3 seconds 3:13:14 PM - 3:14:17 PM BN 2 - 58
Total time [0:25:03] = (Driving [0:01:03] + Stop [0:24:00])

PDILOT Ver. 2008.2 - Printed: 8-Apr-2009

MACTEC Engineering and Consulting, Inc. - Case Method Results

Test date: 25-Jan-2009

EXELON VICTORIA - Boring B3231 (358.5'-358.8' sample)



EXELON VICTORIA - Boring B3231 (358.5'-358.8' sample)
OP: JNH

Hammer ID: MEC20; Driller: P.PITTS CME 55D (MACTEC)
Test date: 25-Jan-2009

AR: 1.43 in²
LE: 364.00 ft
WS: 16,807.9 f/s

SP: 0.492 k/ft³
EM: 30,000 ksi
JC: 0.70

CSX: Max Measured Compr. Stress
TSX: Tension Stress Maximum
VMX: Maximum Velocity
FMX: Maximum Force
FVP: Force/Velocity proportionality

BPM: Blows per Minute
EF2: Energy of F²
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

BL#	CSX ksi	TSX ksi	VMX f/s	FMX kips	FVP []	BPM **	EF2 k-ft	ETR (%)	EMX k-ft
2	27.8	4.0	16.4	40	0.8	1.9	0.322	87.6	0.307
3	26.2	3.4	15.1	38	0.9	58.0	0.305	82.4	0.288
4	27.7	3.3	16.7	40	0.9	55.6	0.323	86.2	0.302
5	27.2	3.4	14.7	39	1.0	55.6	0.317	84.9	0.297
6	26.8	3.3	15.4	38	0.8	55.1	0.301	81.1	0.284
7	26.0	3.2	14.3	37	1.0	55.8	0.299	80.6	0.282
8	28.0	3.6	16.2	40	0.8	56.0	0.321	85.9	0.301
9	27.4	3.6	15.0	39	0.8	55.5	0.314	84.5	0.296
10	26.0	3.4	15.7	37	0.9	55.8	0.301	82.0	0.287
11	27.0	3.9	14.1	39	0.8	55.4	0.310	84.7	0.296
12	27.0	3.6	15.9	39	0.9	56.4	0.314	84.4	0.295
13	26.8	3.4	15.3	38	1.0	55.5	0.305	82.8	0.290
14	26.7	4.9	16.2	38	0.9	55.8	0.315	85.0	0.298
15	27.6	4.8	15.7	39	1.0	55.9	0.321	86.5	0.303
16	27.5	4.1	15.0	39	0.8	55.7	0.308	82.9	0.290
17	27.5	4.4	15.0	39	0.8	55.8	0.312	84.3	0.295
18	27.6	4.3	16.2	39	0.9	55.3	0.315	84.0	0.294
19	28.0	3.7	15.0	40	0.8	55.8	0.313	84.8	0.297
20	27.6	2.7	15.4	39	1.0	55.6	0.312	85.1	0.298
21	26.7	4.2	16.3	38	0.9	55.7	0.309	83.0	0.291
22	26.1	4.6	14.9	37	1.0	55.6	0.304	82.6	0.289
23	28.4	5.0	15.8	41	0.8	55.8	0.317	84.8	0.297
24	28.0	3.5	16.6	40	0.9	55.4	0.318	85.3	0.298
25	27.8	3.4	15.6	40	0.8	55.3	0.310	83.0	0.291
26	27.6	3.2	16.2	39	0.8	55.4	0.305	81.6	0.286
27	26.6	3.3	15.9	38	0.9	55.6	0.305	81.5	0.285
28	26.4	3.6	16.5	38	0.9	55.2	0.315	84.3	0.295
29	25.7	3.3	15.1	37	1.0	55.0	0.297	81.5	0.285
30	26.6	3.2	14.2	38	1.1	55.5	0.293	79.5	0.278
31	27.5	3.7	14.7	39	0.8	55.2	0.310	84.0	0.294
32	26.0	3.2	15.4	37	0.9	54.8	0.289	77.9	0.273
33	25.9	3.4	15.6	37	0.9	55.8	0.297	79.7	0.279
34	26.9	3.3	15.4	39	0.8	55.1	0.301	82.9	0.290
35	26.5	3.4	13.9	38	0.8	55.1	0.292	79.5	0.278
36	26.7	3.5	16.1	38	0.9	54.9	0.299	80.0	0.280
37	24.4	3.6	14.7	35	0.9	54.9	0.286	78.7	0.275
38	26.8	3.7	14.2	38	0.8	54.9	0.300	82.1	0.287
39	27.4	3.5	16.5	39	0.8	55.0	0.310	83.2	0.291
40	26.3	3.2	14.4	38	0.8	54.7	0.284	78.1	0.273
41	26.6	2.9	16.3	38	0.9	54.9	0.316	86.2	0.302
42	27.1	3.3	16.2	39	0.8	54.9	0.304	82.2	0.288
43	26.3	3.3	16.2	38	0.8	54.4	0.295	82.5	0.289
44	27.0	3.8	17.0	39	0.8	55.7	0.312	85.7	0.300
45	27.9	3.5	16.2	40	0.8	54.3	0.308	83.3	0.291
46	26.3	3.8	15.9	38	0.9	55.4	0.302	82.6	0.289
47	27.6	3.7	14.5	39	0.8	55.2	0.309	85.1	0.298
48	26.9	3.5	16.3	38	0.8	54.7	0.300	80.7	0.282
49	28.5	3.6	16.4	41	1.0	54.9	0.321	87.3	0.306
50	27.4	3.2	14.3	39	0.8	54.3	0.297	81.0	0.283
51	27.5	3.4	16.3	39	0.9	54.6	0.305	82.9	0.290
52	27.2	3.5	15.2	39	0.8	54.7	0.289	80.6	0.282
53	28.8	3.6	17.2	41	0.8	54.9	0.317	85.1	0.298
54	27.5	3.5	14.8	39	0.8	54.5	0.304	83.8	0.293
55	27.0	3.4	15.3	39	1.0	54.6	0.304	83.5	0.292
56	28.6	3.4	17.6	41	0.8	55.0	0.320	85.9	0.300
58	29.0	3.5	16.1	41	0.8	3.9	0.313	82.4	0.288
59	28.2	3.4	16.2	40	0.9	55.0	0.314	83.5	0.292
60	28.6	3.6	15.2	41	0.8	54.5	0.307	83.9	0.294
61	27.6	3.4	15.5	39	1.0	54.4	0.314	84.6	0.296
62	28.1	3.3	15.1	40	0.8	54.7	0.303	81.8	0.286
63	27.5	3.6	15.5	39	0.8	54.6	0.301	82.0	0.287
64	27.8	3.8	15.7	40	0.8	54.7	0.308	83.8	0.293
65	26.5	3.7	15.3	38	0.9	53.9	0.299	81.7	0.286
66	28.9	3.6	17.4	41	0.8	55.0	0.319	85.9	0.300
67	27.8	3.1	15.2	40	0.8	54.6	0.294	79.4	0.278

EXELON VICTORIA - Boring B3231 (358.5'-358.8' sample)
OP: JNH

Hammer ID: MEC20; Driller: P.PITTS CME 55D (MACTEC)
Test date: 25-Jan-2009

BL#	CSX ksi	TSX ksi	VMX f/s	FMX kips	FVP []	BPM **	EF2 k-ft	ETR (%)	EMX k-ft
68	27.6	2.9	15.0	39	0.8	54.7	0.302	82.2	0.288
69	28.2	3.1	16.0	40	0.8	54.4	0.306	82.5	0.289
70	27.5	2.9	14.7	39	1.0	54.3	0.307	82.8	0.290
71	27.4	3.1	15.4	39	1.0	54.8	0.314	84.7	0.297
72	26.3	3.8	14.9	38	0.9	54.3	0.298	80.1	0.280
73	28.2	3.4	15.1	40	1.0	54.9	0.318	86.3	0.302
74	28.5	3.5	14.9	41	0.8	54.7	0.303	80.8	0.283
75	28.0	3.6	15.2	40	0.8	54.7	0.299	80.7	0.282
76	26.8	3.6	15.0	38	1.0	54.7	0.312	83.6	0.293
77	28.0	3.7	14.9	40	0.8	54.6	0.301	80.6	0.282
78	27.7	3.2	15.0	40	0.8	54.7	0.308	83.1	0.291
79	28.7	3.4	15.2	41	0.8	54.3	0.315	84.3	0.295
80	26.4	3.3	13.6	38	1.1	54.6	0.292	78.1	0.273
81	25.3	3.5	13.9	36	1.0	54.4	0.289	78.0	0.273
82	27.6	3.2	15.1	39	1.0	55.2	0.314	85.5	0.299
83	27.8	3.5	14.9	40	0.8	54.6	0.303	81.2	0.284
84	28.4	3.4	16.2	41	0.9	54.3	0.319	85.4	0.299
85	26.5	3.6	14.7	38	0.9	54.8	0.299	81.3	0.284
86	26.3	3.4	14.8	38	1.0	54.4	0.301	81.9	0.287
87	27.6	3.2	14.1	39	0.8	54.1	0.293	78.7	0.275
88	27.9	3.7	15.5	40	0.9	54.5	0.307	82.8	0.290
89	27.5	3.3	15.3	39	0.9	54.7	0.304	82.0	0.287
90	26.5	3.8	14.6	38	0.9	54.1	0.289	77.2	0.270
Average	27.3	3.5	15.4	39	0.9	53.8	0.306	82.8	0.290

Total number of blows analyzed: 88

Time Summary

Drive 10 minutes 2 seconds

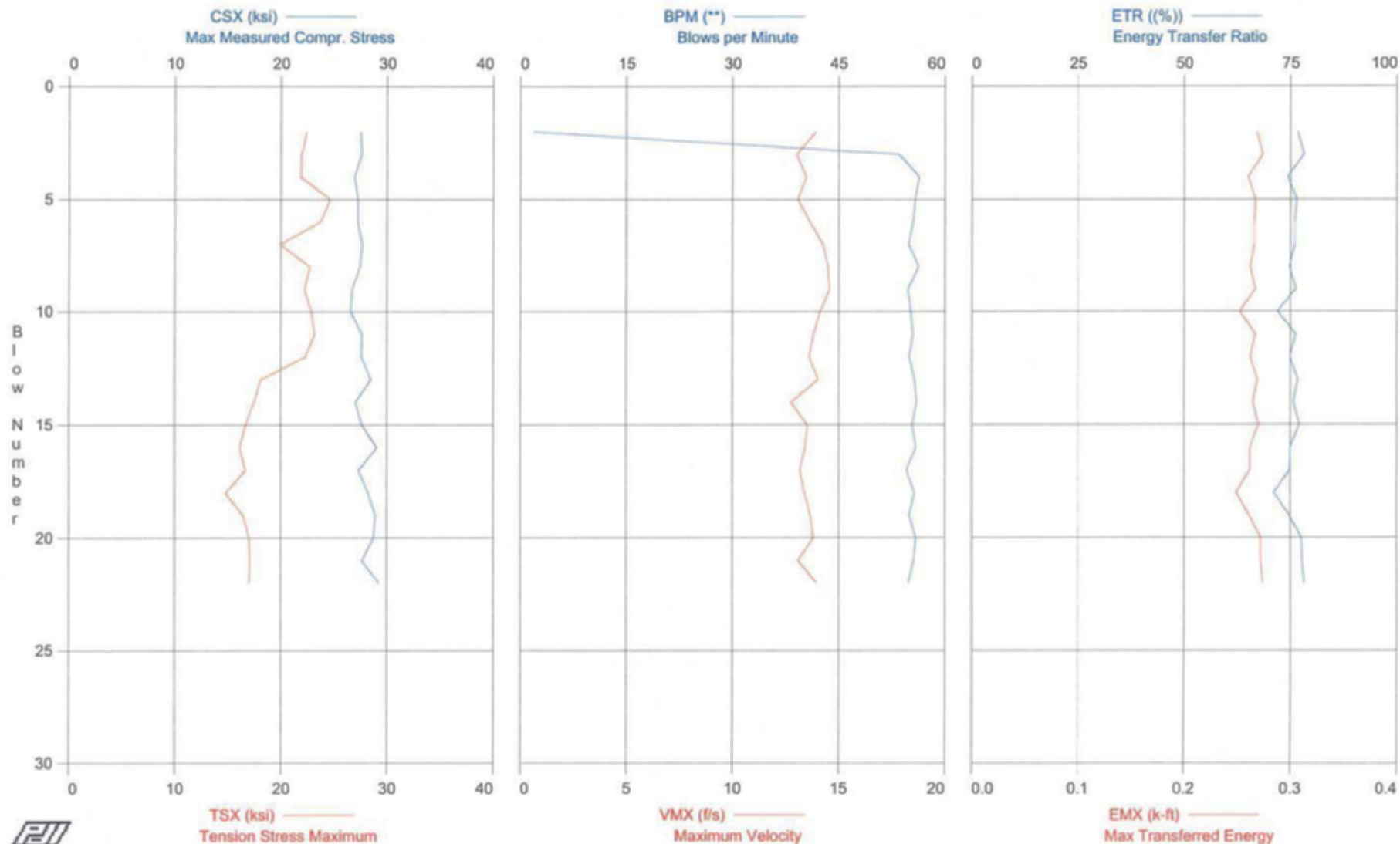
4:32:02 PM - 4:42:04 PM (1/25/2009) BN 1 - 90

PDILOT Ver. 2008.2 - Printed: 22-Apr-2009

MACTEC Engineering and Consulting, Inc. - Case Method Results

Test date: 28-Jan-2009

EXELON VICTORIA - Boring B3224 (38.6'-40.1' sample)



EXELON VICTORIA - Boring B3224 (38.6'-40.1' sample)
OP: JNH

Hammer ID: MEC20; Driller: P.PITTS CME55D (MACTEC)
Test date: 28-Jan-2009

AR: 1.43 in² SP: 0.492 k/ft³
LE: 44.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.70

CSX: Max Measured Compr. Stress BPM: Blows per Minute
TSX: Tension Stress Maximum EF2: Energy of F²
VMX: Maximum Velocity ETR: Energy Transfer Ratio
FMX: Maximum Force EMX: Max Transferred Energy
FVP: Force/Velocity proportionality

BL#	CSX ksi	TSX ksi	VMX f/s	FMX kips	FVP []	BPM **	EF2 k-ft	ETR (%)	EMX k-ft
2	27.5	22.4	13.9	39	0.9	1.9	0.337	76.7	0.268
3	27.6	21.9	13.0	39	0.8	53.5	0.359	78.2	0.274
4	26.9	21.9	13.5	39	0.8	56.4	0.346	74.3	0.260
5	27.3	24.6	13.1	39	1.0	55.8	0.336	76.4	0.267
6	27.2	23.7	13.6	39	0.8	55.5	0.347	76.0	0.266
7	27.6	19.9	14.3	40	0.8	54.9	0.347	76.0	0.266
8	27.4	22.7	14.5	39	0.8	56.3	0.336	74.7	0.262
9	26.7	22.2	14.6	38	0.7	54.8	0.334	76.3	0.267
10	26.6	22.9	14.1	38	0.8	55.2	0.329	71.9	0.252
11	27.6	23.1	13.8	40	0.8	55.5	0.341	76.2	0.267
12	27.6	22.3	13.6	39	0.9	55.0	0.334	74.9	0.262
13	28.5	18.1	14.0	41	0.9	55.7	0.351	76.7	0.269
14	27.0	17.5	12.8	39	0.8	56.0	0.347	75.7	0.265
15	27.6	16.7	13.5	40	0.8	55.4	0.347	77.1	0.270
16	29.0	16.1	13.4	42	1.0	55.9	0.349	74.9	0.262
17	27.3	16.7	13.2	39	0.8	54.6	0.337	74.9	0.262
18	28.2	14.8	13.4	40	0.9	55.7	0.335	71.1	0.249
19	28.9	16.5	13.7	41	0.9	55.0	0.347	74.7	0.261
20	28.7	17.0	13.8	41	0.9	55.9	0.352	77.6	0.272
21	27.6	17.1	13.1	40	0.8	55.6	0.350	77.8	0.272
22	29.2	17.0	14.0	42	1.0	54.9	0.354	78.2	0.274
Average	27.7	19.8	13.7	40	0.9	52.8	0.344	75.7	0.265

Total number of blows analyzed: 21

Time Summary

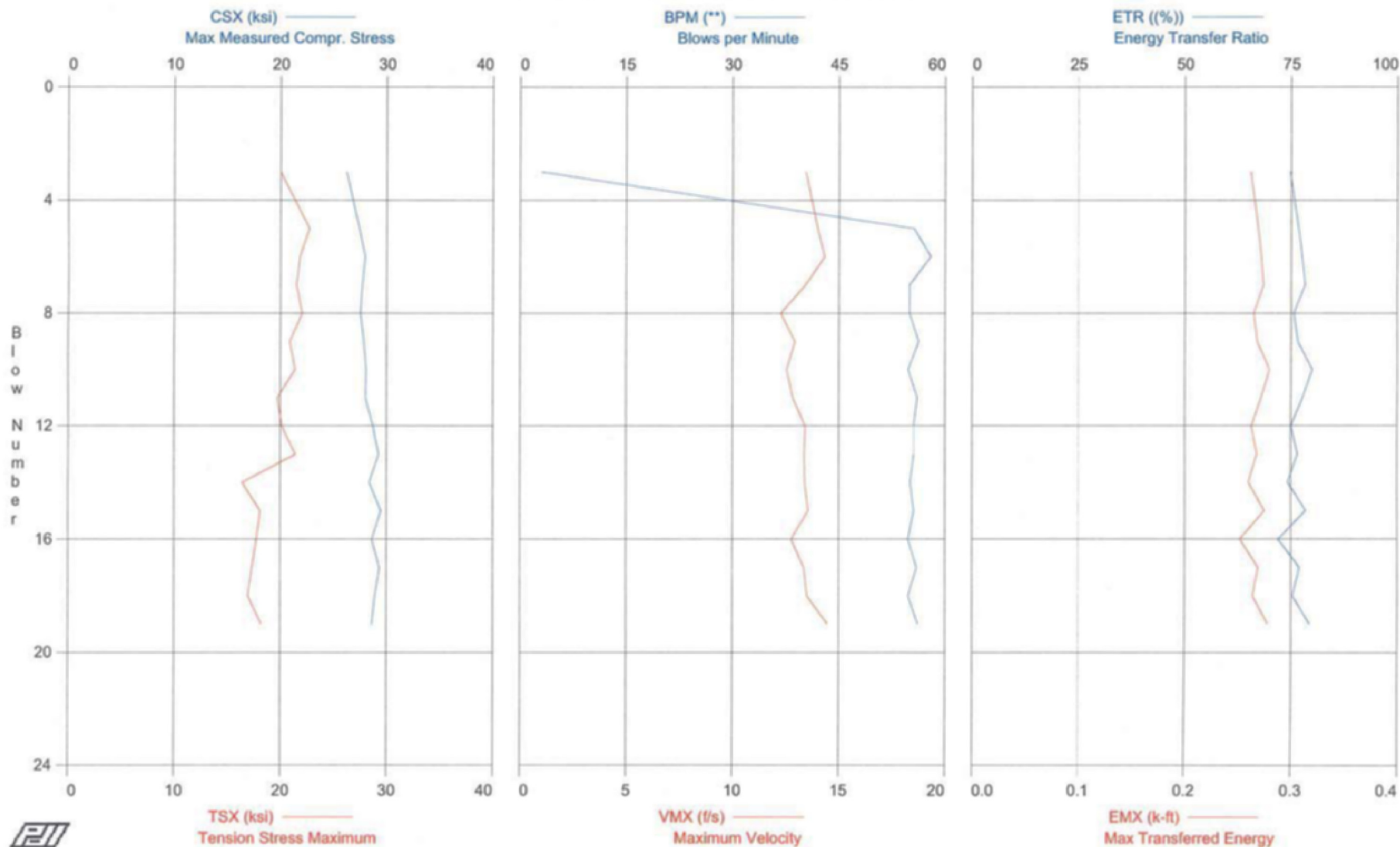
Drive 10:15:32 AM - 10:15:32 AM (1/28/2009) BN 1 - 1
Stop 22 minutes 8 seconds 10:15:32 AM - 10:37:40 AM
Drive 21 seconds 10:37:40 AM - 10:38:01 AM BN 2 - 22
Total time [0:22:29] = (Driving [0:00:21] + Stop [0:22:08])

PDILOT Ver. 2008.1 - Printed: 23-Mar-2009

MACTEC Engineering and Consulting, Inc. - Case Method Results

Test date: 28-Jan-2009

EXELON COL VICTORIA - Boring B3224 (43.5'-45' sample)



EXELON COL VICTORIA - Boring B3224 (43.5'-45' sample)
OP: JNH

Hammer ID: MEC20; Driller: P.PITTS CME55D (MACTEC)
Test date: 28-Jan-2009

AR: 1.43 in²
LE: 49.00 ft
WS: 16,807.9 f/s

SP: 0.492 k/ft³
EM: 30,000 ksi
JC: 0.70

CSX: Max Measured Compr. Stress
TSX: Tension Stress Maximum
VMX: Maximum Velocity
FMX: Maximum Force
FVP: Force/Velocity proportionality

BPM: Blows per Minute
EF2: Energy of F²
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

BL#	CSX ksi	TSX ksi	VMX f/s	FMX kips	FVP []	BPM **	EF2 k-ft	ETR (%)	EMX k-ft
3	26.2	20.0	13.4	37	1.0	3.0	0.331	74.8	0.262
5	27.4	22.7	14.0	39	0.8	55.6	0.346	76.7	0.269
6	28.0	21.8	14.3	40	0.8	58.0	0.356	77.6	0.272
7	27.7	21.5	13.4	40	0.8	55.0	0.361	78.3	0.274
8	27.5	22.0	12.3	39	0.8	55.0	0.351	75.7	0.265
9	27.9	20.9	12.9	40	1.1	56.3	0.345	76.6	0.268
10	28.1	21.4	12.6	40	1.2	54.8	0.360	80.0	0.280
11	28.0	19.7	12.8	40	0.8	56.1	0.363	77.8	0.272
12	28.7	20.2	13.4	41	1.0	55.6	0.347	75.0	0.263
13	29.3	21.4	13.4	42	1.0	55.6	0.361	76.6	0.268
14	28.4	16.4	13.4	41	1.0	55.1	0.339	74.3	0.260
15	29.5	18.1	13.6	42	1.0	55.6	0.360	78.5	0.275
16	28.6	17.8	12.8	41	1.0	54.8	0.339	72.0	0.252
17	29.3	17.3	13.4	42	1.1	56.0	0.360	77.0	0.269
18	28.9	17.0	13.5	41	1.0	54.8	0.346	75.4	0.264
19	28.6	18.2	14.5	41	0.9	56.2	0.353	79.4	0.278
Average	28.3	19.8	13.4	40	1.0	52.3	0.351	76.6	0.268

Total number of blows analyzed: 16

Time Summary

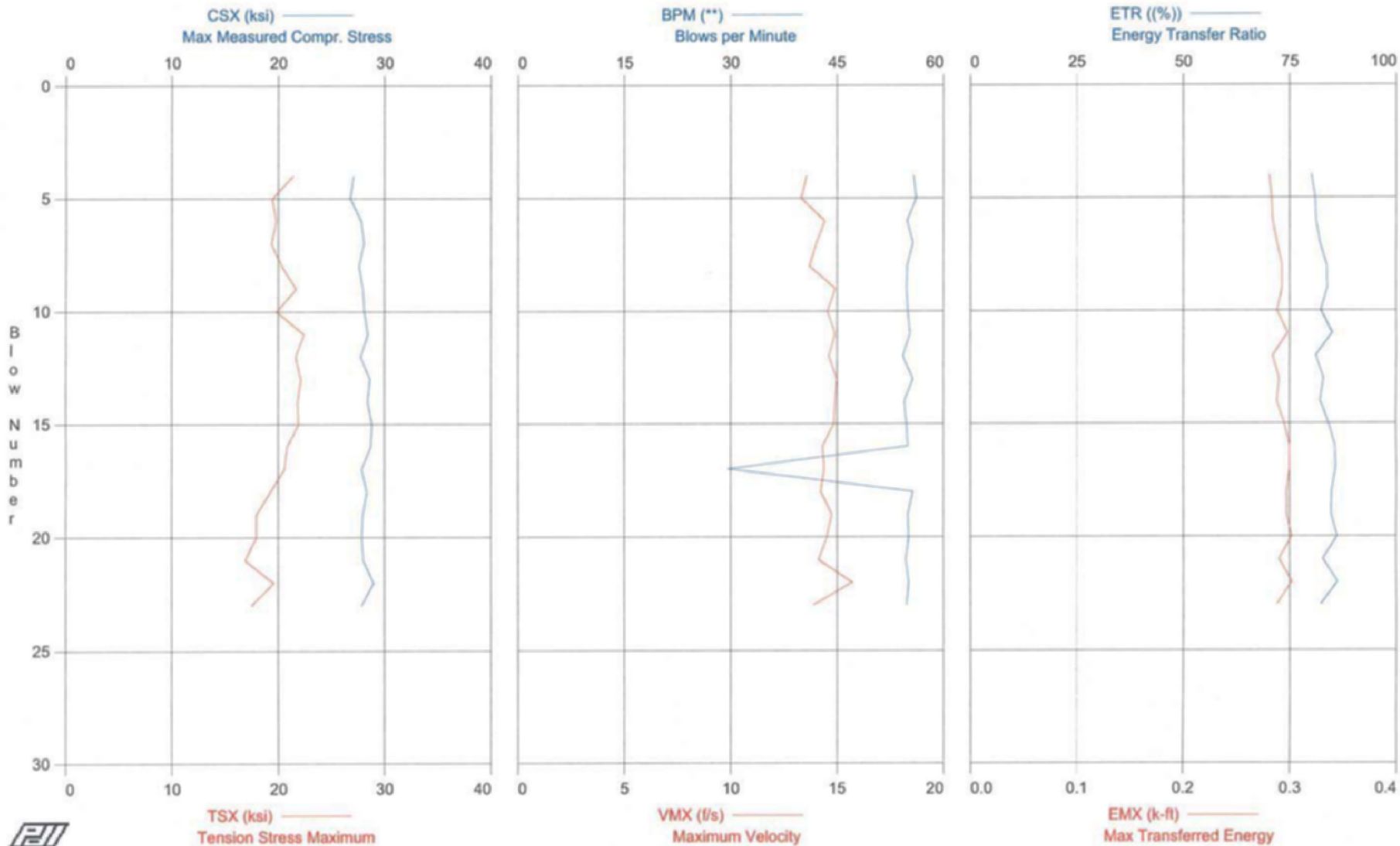
Drive 11:00:29 AM - 11:00:29 AM (1/28/2009) BN 1 - 1
Stop 11 minutes 56 seconds 11:00:29 AM - 11:12:25 AM
Drive 37 seconds 11:12:25 AM - 11:13:02 AM BN 2 - 19
Total time [0:12:33] = (Driving [0:00:37] + Stop [0:11:56])

PDILOT Ver. 2008.2 - Printed: 23-Feb-2009

MACTEC Engineering and Consulting, Inc. - Case Method Results

Test date: 28-Jan-2009

EXELON VICTORIA - Boring B3224 (53.5'-55')



EXELON VICTORIA - Boring B3224 (53.5'-55')
OP: JNH

Hammer ID: MEC20; Driller: P.PITTS CME 55D (MACTEC)
Test date: 28-Jan-2009

AR: 1.43 in²
LE: 59.00 ft
WS: 16,807.9 f/s

SP: 0.492 k/ft³
EM: 30,000 ksi
JC: 0.70

CSX: Max Measured Compr. Stress
TSX: Tension Stress Maximum
VMX: Maximum Velocity
FMX: Maximum Force
FVP: Force/Velocity proportionality

BPM: Blows per Minute
EF2: Energy of F²
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

BL#	CSX ksi	TSX ksi	VMX f/s	FMX kips	FVP []	BPM **	EF2 k-ft	ETR (%)	EMX k-ft
4	27.1	21.4	13.6	39	0.8	55.8	0.356	80.2	0.281
5	26.8	19.4	13.3	38	0.8	56.2	0.351	81.0	0.283
6	27.8	19.8	14.4	40	0.9	54.9	0.357	81.2	0.284
7	28.1	19.4	14.0	40	1.1	55.7	0.367	82.1	0.288
8	27.6	20.4	13.7	39	1.1	54.9	0.364	83.8	0.293
9	27.9	21.7	14.9	40	1.0	54.8	0.366	83.8	0.293
10	28.1	19.8	14.6	40	0.9	55.0	0.356	82.3	0.288
11	28.4	22.4	14.9	41	1.0	55.3	0.365	85.0	0.298
12	27.7	21.6	14.6	40	0.9	54.3	0.352	81.1	0.284
13	28.6	22.1	15.0	41	0.9	55.7	0.362	83.0	0.290
14	28.4	21.8	14.9	41	0.9	54.5	0.359	82.2	0.288
15	28.8	21.9	14.8	41	0.9	54.8	0.372	84.2	0.295
16	28.7	20.8	14.3	41	1.0	55.0	0.365	85.7	0.300
17	27.8	20.6	14.4	40	1.1	29.6	0.364	85.8	0.300
18	28.3	19.3	14.2	41	1.0	55.7	0.363	84.8	0.297
19	27.9	18.0	14.8	40	1.0	55.0	0.357	84.7	0.297
20	27.9	17.9	14.5	40	1.1	55.1	0.365	86.2	0.302
21	28.0	16.9	14.1	40	1.1	54.7	0.358	82.8	0.290
22	29.0	19.6	15.7	41	0.9	55.1	0.365	86.3	0.302
23	27.8	17.5	13.9	40	1.1	54.8	0.358	82.3	0.288
Average	28.0	20.1	14.4	40	1.0	53.8	0.361	83.4	0.292

Total number of blows analyzed: 20

Time Summary

Drive		12:11:51 PM - 12:11:51 PM (1/28/2009) BN 1 - 1
Stop	29 minutes 44 seconds	12:11:51 PM - 12:41:35 PM
Drive	28 seconds	12:41:35 PM - 12:42:03 PM BN 2 - 23

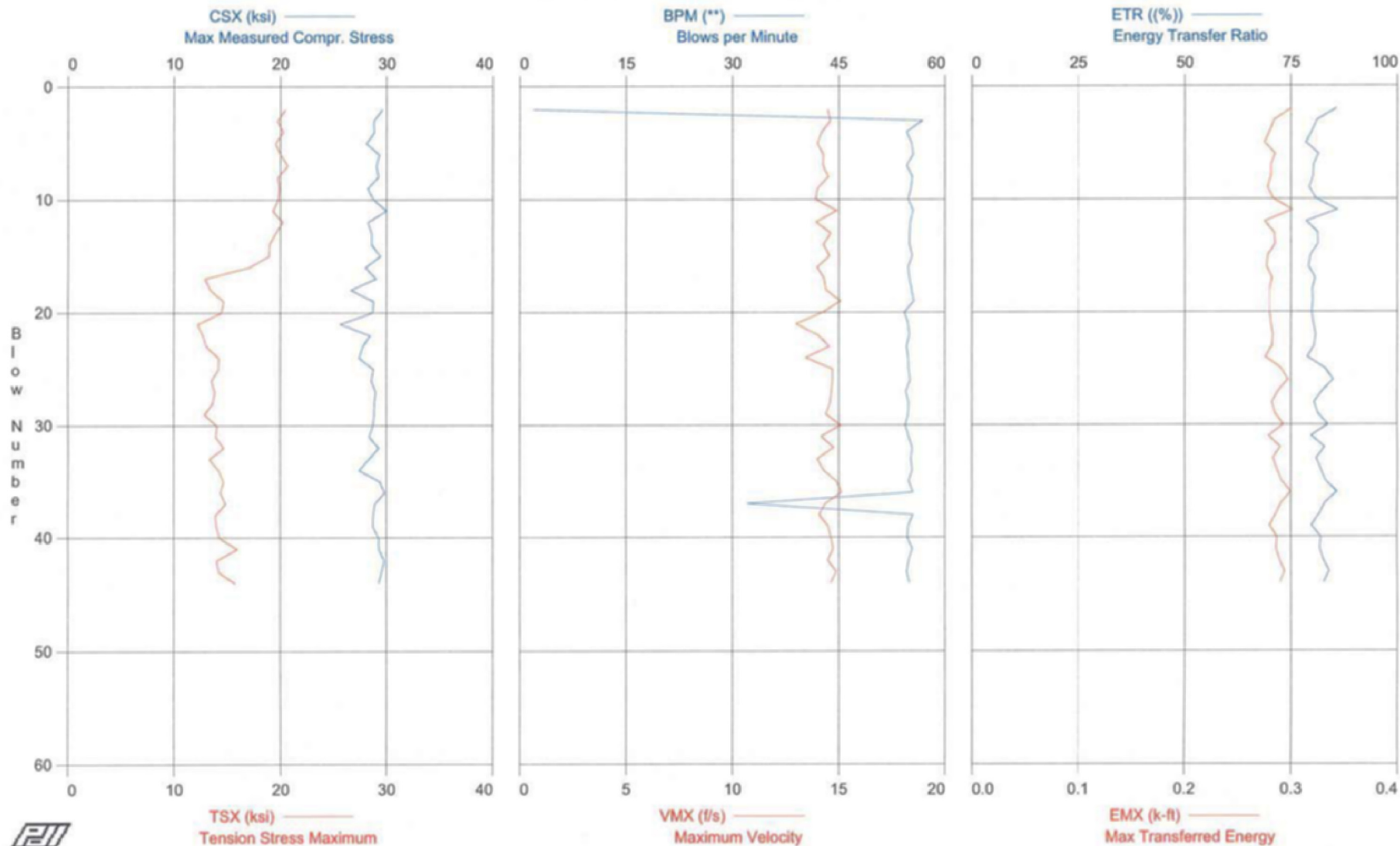
Total time [0:30:12] = (Driving [0:00:28] + Stop [0:29:44])

PDILOT Ver. 2008.1 - Printed: 23-Mar-2009

MACTEC Engineering and Consulting, Inc. - Case Method Results

Test date: 28-Jan-2009

EXELON VICTORIA - Boring B3224 (58.5'-60' sample)



EXELON VICTORIA - Boring B3224 (58.5'-60' sample)
OP: JNH

Hammer ID: MEC20; Driller: P.PITTS CME 55D (MACTEC)
Test date: 28-Jan-2009

AR: 1.43 in² SP: 0.492 k/ft³
LE: 64.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.70

CSX: Max Measured Compr. Stress BPM: Blows per Minute
TSX: Tension Stress Maximum EF2: Energy of F²
VMX: Maximum Velocity ETR: Energy Transfer Ratio
FMX: Maximum Force EMX: Max Transferred Energy
FVP: Force/Velocity proportionality

BL#	CSX ksi	TSX ksi	VMX f/s	FMX kips	FVP []	BPM **	EF2 k-ft	ETR (%)	EMX k-ft
2	29.6	20.4	14.5	42	1.0	1.9	0.372	85.6	0.300
3	28.8	19.7	14.6	41	0.9	56.8	0.354	81.1	0.284
4	28.9	20.2	14.2	41	1.0	54.6	0.347	79.9	0.280
5	28.1	19.5	14.0	40	0.8	55.3	0.341	78.5	0.275
6	29.3	20.0	14.3	42	1.0	55.5	0.357	81.5	0.285
7	29.0	20.7	14.3	42	0.9	54.6	0.350	80.3	0.281
8	29.2	19.8	14.5	42	0.9	55.4	0.349	80.2	0.281
9	28.2	19.9	14.0	40	0.8	55.2	0.337	79.3	0.278
10	28.8	19.8	13.9	41	1.1	54.8	0.345	80.8	0.283
11	30.0	19.3	14.9	43	1.0	55.5	0.366	85.9	0.301
12	28.2	20.2	13.9	40	0.8	55.1	0.341	78.6	0.275
13	28.6	19.5	14.6	41	1.0	55.0	0.350	81.3	0.284
14	28.6	19.0	14.3	41	0.8	55.0	0.350	81.3	0.285
15	29.4	18.9	14.6	42	0.9	55.4	0.347	79.5	0.278
16	28.0	17.1	14.0	40	0.8	54.8	0.341	79.1	0.277
17	29.0	12.9	14.3	41	1.0	55.0	0.346	80.7	0.282
18	26.6	13.4	14.4	38	0.9	55.3	0.324	80.0	0.280
19	28.8	14.7	15.1	41	0.9	55.6	0.341	80.1	0.280
20	28.7	14.4	14.2	41	0.9	54.3	0.345	79.9	0.280
21	25.6	12.2	13.0	37	0.8	54.8	0.328	80.3	0.281
22	28.4	12.7	14.0	41	0.9	55.0	0.342	80.8	0.283
23	27.7	13.1	14.6	40	0.9	54.6	0.341	80.5	0.282
24	27.4	14.2	13.5	39	0.8	54.8	0.338	78.9	0.276
25	28.8	14.2	14.7	41	1.0	54.9	0.350	83.1	0.291
26	28.6	13.5	14.7	41	0.8	55.1	0.363	85.0	0.297
27	29.0	13.9	14.7	41	0.9	54.5	0.356	82.4	0.288
28	28.9	13.7	14.6	41	1.0	54.9	0.343	80.5	0.282
29	28.9	12.9	14.4	41	0.9	54.8	0.352	81.3	0.285
30	28.7	14.1	15.1	41	0.8	54.4	0.362	83.7	0.293
31	28.4	14.0	14.2	41	0.9	54.9	0.340	79.7	0.279
32	29.3	14.7	14.8	42	1.0	55.4	0.357	82.9	0.290
33	28.3	13.3	14.0	41	0.8	55.2	0.354	81.0	0.283
34	27.4	14.2	14.3	39	1.0	55.4	0.347	82.0	0.287
35	29.4	14.7	14.9	42	0.9	54.9	0.359	83.1	0.291
36	29.8	14.4	15.1	43	1.0	55.5	0.371	85.8	0.300
37	28.9	14.9	14.4	41	1.1	32.1	0.356	83.1	0.291
38	28.8	13.9	14.1	41	1.1	55.5	0.351	81.7	0.286
39	28.7	14.0	14.5	41	0.9	54.8	0.342	79.9	0.280
40	29.3	14.3	14.6	42	0.9	54.7	0.352	82.0	0.287
41	29.3	16.0	14.7	42	1.0	55.4	0.356	81.8	0.286
42	29.8	14.0	14.5	43	1.0	54.9	0.355	82.6	0.289
43	29.5	14.2	14.9	42	1.0	54.6	0.362	84.0	0.294
44	29.2	15.8	14.6	42	0.8	55.0	0.358	82.7	0.290
Average	28.7	16.0	14.4	41	0.9	53.3	0.350	81.4	0.285

Total number of blows analyzed: 43

Time Summary

Drive 12:45:52 PM - 12:45:52 PM (1/28/2009) BN 1 - 1
Stop 1 hour 47 minutes 47 seconds 12:45:52 PM - 2:33:39 PM
Drive 46 seconds 2:33:39 PM - 2:34:25 PM BN 2 - 44
Total time [1:48:33] = (Driving [0:00:46] + Stop [1:47:47])

PDIPlot Ver. 2008.1 - Printed: 23-Mar-2009

MACTEC Engineering and Consulting, Inc. - Case Method Results

Test date: 28-Jan-2009

EXELON COL VICTORIA - Boring B3224 (64'-65.5' sample)

