MACTEC

Vogtle Units 3 & 4 Engineered Fill Below Grade Test Pad Phase 1

Attachment D
Geotechnical Boring Logs and SPT Energy Test Report

Volume 1 of 1

Job No. 6141-06-0286

MACTEC ENGINEERING AND CONSULTING, INC.

March 14, 2008

MACTEC

March 14, 2008

Mr. Tom McCallum
Georgia Power Company
C/O Southern Nuclear Operating Company, Inc.
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Phone: (205) 992-6697
e-mail: tomccall@southernco.com

Subject: **Geotechnical Data Report Attachment D – Geotechnical Boring Logs and STP Energy Measurements**
Vogtle Units 3 & 4 Engineered Fill Below Grade Test Pad
Phase 1
Vogtle Electric Generating Plant
Burke County, Georgia
MACTEC Project Number 6141-06-0286

Dear Mr. McCallum:

MACTEC Engineering & Consulting, Inc. is pleased to submit Attachment D of the Final Data Report for the geotechnical exploration and laboratory testing for the Vogtle Units 3 & 4 Engineered Fill Below Grade Test Pad located adjacent to the existing Vogtle Electric Generating Plant near Waynesboro, Burke County, Georgia.

It has been a pleasure to perform the work described in the attached report. If you have any questions, or if we may be of further service, we hope that you will contact us at your convenience.

Sincerely,

MACTEC ENGINEERING & CONSULTING, INC.

Matthew F. Cooke
Senior Geologist
Site Superintendent
Registered, Georgia 1887

For Matthew F Cooke with permission

Wm. Allen Lancaster
Project Manager
Civil Engineer
Registered, Georgia 7075

Stephen E. Woodham, E.I.T
Project Geotechnical Engineer

Pieter J. DePree
Principal Geotechnical Engineer
Registered Georgia 19637

DCN VG 441
Revision 0, 3/14/08

ATTACHMENT D

This Attachment is one of a number of attachments that are part of the following report which was prepared by MACTEC Engineering & Consulting Inc.:

Geotechnical Data Report
Vogtle Units 3 & 4 Engineered Fill Below Grade Test Pad
Phase 1
Vogtle Electric Generating Plant
Burke County, Georgia
Subsurface Investigation and Laboratory Testing
SNC Subcontract No. 7074425
MACTEC Job No. 6141-06-0286

For background and a description of scope of work contained in the report, please refer to the above referenced report. The report was addressed as follows:

Mr. Tom McCallum
Georgia Power Company
C/O Southern Nuclear Operating Company, Inc.
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Phone: (205) 992-6697
e-mail: tomccall@southernco.com

The following list shows other Attachments to the above report and their included information:

Test Pad Specifications and Work Procedures…….……See Attachment A

Survey Report (Patterson and Dewar)..……See Attachment B

Laboratory Test Data Sheets…… ……See Attachment C

Geophysical Testing Report ……..…….See Attachment E

ATTACHMENT D

Geotechnical Boring Logs and SPT Energy Test Report

Volume 1 of 1

MACTEC

GEOTECHNICAL LOG

PROJECT	JOB NO.	SHEET NO.	HOLE NO.
Vogtle Units 3 & 4 COL-Test Pad	6141-06-0286	1 OF 1	CHB-1

LOGGED BY	COORDINATES	BEGUN	COMPLETED
S. Woodham	N 8378.6 E 6973.9	1/16/2008	1/16/2008

DRILLER	DRILL MAKE AND MODEL	HOLE DIAMETER	HAMMER SERIAL NUMBER	TOTAL DEPTH
Phillip Pitts-MACTEC	CME-55	3 Inches	219505	40.0

GROUND EL.	DEPTH/EL. GROUND WATER	SITE:
245.1	▽ / ▼ /	Vogtle Electric Generating Plant - Waynesboro, GA

▲ N-VALUE (SPT) ○ WATER CONTENT % + ATT. LIMITS % □ FINES %

20 40 60 80

SAMP. TYPE AND NO.	SAMPLE	N-COUNT 1st 6" 2nd 6" 3rd 6" 4th 6"	RECOVERY (in)	ELEVATION IN FEET	DEPTH IN FT	GRAPHICS	DESCRIPTION AND CLASSIFICATION (* = field classification adjusted based on laboratory testing data and/or re-examination of sample by field geologist/engineer)	NOTES ON: WATER LEVELS, CHARACTER OF DRILLING AND LABORATORY TESTING
				245.1				
SS 1		2-4-6	15				SAND, silty (SM) - Yellowish red (5YR, 5/8), moist, loose, fine to medium grained, poorly graded, 15% fines	Hollow Stem Auger to 4.0 feet. Switched to Mud Rotary 3" Tri-Cone at 4.0 feet.
SS 2		5-9-9	18				SAA, except medium dense	
SS 3		8-17-20	18		5		*SAND, silty (SM) - Yellowish red (5YR), moist, dense, fine to medium, poorly graded	
SS 4		8-18-22	13				SAND, silty (SM) - Red (2.5YR, 5/8), moist, dense, fine to medium, poorly graded, 15% fines	
SS 5		10-15-17	15				SAA	
SS 6		9-17-16	12		10		SAA, except yellowish red (5YR, 5/6)	
SS 7		10-13-13	14				SAND, silty (SM) - Red (2.5YR, 5/8), moist, medium dense, fine to medium grained, poorly graded	
SS 8		22-18-19	14		15		SAA, except red (2.5YR, 5/6)	
SS 9		8-11-20	12				SAND, silty (SM) - Red (2.5YR, 5/6), moist, dense, fine to medium, poorly graded, 15% fines	
SS 10		10-15-16	14				SAA, except red (2.5YR, 5/8)	
SS 11		9-18-18	14	225.1	20			Estimated bottom of Test Pad at 20 feet
				222.6			SAA	
SS 12		9-12-13	15		25		*SAND, clayey (SC) - Yellowish red (5YR, 5/8), moist, medium dense, fine to medium grained, poorly graded, 20% fines	
SS 13		7-9-9	15		30		SAA, except fine grained	
				213.3				
SS 14		7-8-10	6		35		SAND, silty (SM) - Strong brown (7.5YR, 5/6), moist, medium dense, fine to medium grained, poorly graded, 15% fines, some clay laminations	
SS 15		4-6-8	14	205.1	40		*SAND, silty (SM) - Yellowish brown (10YR, 5/6), moist, medium dense, fine to medium grained, poorly graded, clay in laminations or pockets	End Drilling 1/16/08 Drilling Fluid level at ground surface Begin Drilling 1/17/08 Borehole caved to 13 feet
							Boring Terminated at 40 feet. Borehole reamed with 6 7/8" Tri-Cone Bit. Installed and grouted 3" O.D. Sched. 40 PVC Casing for Cross-Hole Seismic Testing.	

PREPARED BY: S. WOODHAM 1/25/08	SITE	HOLE NO.
REVIEWED BY: M. COOKE 1/29/08	Vogtle Units 3 & 4 COL-Test Pad Final Log	CHB-1

MACTEC

GEOTECHNICAL LOG

PROJECT	JOB NO.	SHEET NO.	HOLE NO.
Vogtle Units 3 & 4 COL-Test Pad	6141-06-0286	1 OF 1	CHB-2

LOGGED BY	COORDINATES	BEGUN	COMPLETED
S. Woodham	N 8371.5 E 6973.5	1/17/2008	1/18/2008

DRILLER	DRILL MAKE AND MODEL	HOLE DIAMETER	HAMMER SERIAL NUMBER	TOTAL DEPTH
Phillip Pitts-MACTEC	CME-55	3 Inches	219505	40.0

GROUND EL.	DEPTH/EL. GROUND WATER	SITE:
245.0	▽ / ▼ /	Vogtle Electric Generating Plant - Waynesboro, GA

▲ N-VALUE (SPT) ○ WATER CONTENT % + ATT. LIMITS % □ FINES %

20 40 60 80

SAMP. TYPE AND NO.	N-COUNT 1st 6" 2nd 6" 3rd 6" 4th 6"	RECOVERY (in)	ELEVATION IN FEET	DEPTH IN FT	DESCRIPTION AND CLASSIFICATION (* = field classification adjusted based on laboratory testing data and/or re-examination of sample by field geologist/engineer)	NOTES ON: WATER LEVELS, CHARACTER OF DRILLING AND LABORATORY TESTING
			245.0			
SS 1	2-4-6	17			SAND, with silt (SP-SM) - Reddish yellow (7.5YR, 6/8), moist, loose, fine to medium grained, poorly graded, 10% fines	Hollow Stem Auger to 4.0 feet. Switched to Mud Rotary 3" Tri-Cone at 4.0 feet. End Drilling 1/17/08 Drilling Fluid at ground surface. Begin Drilling 1/18/08 Borehole Dry
SS 2	7-10-10	18			SAND, with silt (SP-SM) - Yellowish red (5YR, 5/8), moist, medium dense, fine to medium, poorly graded	
SS 3	4-12-15	18	239.2	5	SAND, with silt (SP-SM) - Reddish yellow (7.5YR, 6/6), moist, medium dense, fine to medium grained, poorly graded, 10% fines	
SS 4	9-16-19	15			SAND, silty (SM) - Red (2.5YR, 5/8), moist, dense, fine to medium grained, poorly graded, 15% fines	
SS 5	9-13-15	15			SAA, except medium dense	
SS 6	9-15-22	13		10	SAND, silty (SM) - Red (2.5YR, 5/8), moist, dense, fine to medium grained, poorly graded, 15% fines	
SS 7	12-11-14	12.5			SAA, except medium dense	
SS 8	11-14-20	14		15	SAND, silty (SM) - Red (2.5YR 5/8), moist, dense, fine to medium grained, poorly graded	
SS 9	8-12-18	12			SAND, silty (SM) - Red (2.5YR, 4/8), moist, medium dense, fine to medium grained, poorly graded, 15% fines	
SS 10	11-18-22	15			SAND, silty (SM) - Red (2.5YR, 5/8), moist, dense, fine to medium grained, poorly graded, 15% fines	
SS 11	10-15-19	14	225.0	20	SAA, with zones of clayey sand in middle of sample	Estimated bottom of Test Pad at 20 feet
SS 12	6-10-14	8		25	SAND, silty (SM) - Red (2.5YR, 5/8), moist, medium dense, fine to medium grained, poorly graded, 20% fines	
			218.3			
SS 13	6-9-10	12		30	*SAND, clayey (SC) - Yellowish red (5YR, 5/8), moist, medium dense, fine to coarse, poorly graded	
			213.3			
SS 14	6-10-15	8.5		35	SAND, with silt (SP-SM) - Reddish yellow (7.5YR, 6/6), moist to wet, medium dense, fine to medium with some coarse, poorly graded, 10% fines, contains gray clay laminations	
			208.3			
SS 15	4-5-8	14	205.0	40	*SAND, clayey (SC) - Brownish yellow (10YR, 6/6), moist, medium dense, fine to medium grained, poorly graded	End Drilling 1/18/08 Drilling Fluid at ground surface.
					Boring Terminated at 40 feet. Borehole reamed with 6 7/8" Tri-Cone Bit. Installed and grouted 3" O.D. Sched. 40 PVC Casing for Cross-Hole Seismic Testing.	

PREPARED BY: S. WOODHAM 1/25/08	SITE	HOLE NO.
REVIEWED BY: M. COOKE 1/29/08	Vogtle Units 3 & 4 COL-Test Pad Final Log	CHB-2

MACTEC

GEOTECHNICAL LOG

PROJECT	JOB NO.	SHEET NO.	HOLE NO.
Vogtle Units 3 & 4 COL-Test Pad	6141-06-0286	1 OF 1	CHB-3

LOGGED BY	COORDINATES	BEGUN	COMPLETED
S. Woodham	N 8364.8 E 6973.7	1/15/2008	1/15/2008

DRILLER	DRILL MAKE AND MODEL	HOLE DIAMETER	HAMMER SERIAL NUMBER	TOTAL DEPTH
Phillip Pitts-MACTEC	CME-55	3 Inches	219505	40.0

GROUND EL.	DEPTH/EL. GROUND WATER	SITE:
245.0	▽ / ▼ /	Vogtle Electric Generating Plant - Waynesboro, GA

▲ N-VALUE (SPT)
○ WATER CONTENT %
+ ATT. LIMITS %
□ FINES %
20 40 60 80

SAMP. TYPE AND NO.	N-COUNT 1st 6" 2nd 6" 3rd 6" 4th 6"	RECOVERY (in)	ELEVATION IN FEET	DEPTH IN FT	DESCRIPTION AND CLASSIFICATION (* = field classification adjusted based on laboratory testing data and/or re-examination of sample by field geologist/engineer)	NOTES ON: WATER LEVELS, CHARACTER OF DRILLING AND LABORATORY TESTING
			245.0			
SS 1	2-3-5-7	20			SAND, silty (SM) - Yellowish red (5YR, 5/8), moist, medium dense, medium to coarse grained, poorly graded, 15% fines	Begin Mud Rotary 3" Tri-Cone at 0 feet. SPT Energy Testing Performed 1/15/08 See SPT Energy Test Report Borehole not cleaned out prior to SS-3
SS 2	2-9-11-12	23			SAND, silty (SM) - Yellowish red (5YR, 5/8), moist, loose, fine to medium grained, poorly graded	
			241.0			
SS 3	12-20-24	15		5	SAND, with silt (SP-SM) - Yellowish red (5YR, 5/8), moist, dense, fine to medium, poorly graded, 10% fines	
			239.2			
SS 4	13-19-22	15			SAND, silty (SM) - Red (2.5YR, 5/8), moist, dense, fine to medium, poorly graded, 15% fines	
SS 5	10-12-15	14			SAND, silty (SM) - Yellowish red (5YR, 5/8), moist, medium dense, medium to coarse grained, poorly graded	
SS 6	19-18-19	14		10	SAND, silty (SM) - Red (2.5YR, 4/8), moist, dense, fine to medium, poorly graded, 15% fines	
SS 7	10-12-14	14			SAA, except medium dense	
SS 8	16-19-17	17			SAND, silty (SM) - Red (2.5YR, 5/6), moist, dense, fine to medium, poorly graded, 15% fines	
				15		
SS 9	11-16-20	11			SAA, except yellowish red (2.5YR, 5/8)	
SS 10	16-18-25	14			SAA, except red (2.5YR, 5/8)	
SS 11	14-14-15	13	225.0	20		Estimated bottom of Test Pad at 20 feet
					SAND, silty (SM) - Red (2.5YR, 5/8), moist, medium dense, fine to medium grained, poorly graded	
SS 12	9-13-15	14			SAA, except yellowish red (5YR, 5/8)	
				25		
			218.3			
SS 13	8-10-10	11			SAND, clayey (SC) - Reddish yellow (7.5YR, 6/6), moist, medium dense, medium grained, poorly graded	
				30		
			213.3			
SS 14	8-10-10	12			SAND, with silt (SP-SM) - Yellow (10YR, 7/8), moist, medium dense, fine to medium grained, poorly graded, 10% fines, contains clay pockets and laminations	
				35		
SS 15	4-6-7	14			SAA	End Drilling 1/15/08 Drilling Fluid Level at ground surface
			205.0	40		
					Boring Terminated at 40 feet. Borehole reamed with 6 7/8" Tri-Cone Bit. Installed and grouted 3" O.D. Sched. 40 PVC Casing for Cross-Hole Seismic Testing.	

PREPARED BY: S. WOODHAM 1/25/08	SITE	HOLE NO.
REVIEWED BY: M. COOKE 1/29/08	Vogtle Units 3 & 4 COL-Test Pad Final Log	CHB-3

MACTEC

GEOTECHNICAL LOG

PROJECT	JOB NO.	SHEET NO.	HOLE NO.
Vogtle Units 3 & 4 COL-Test Pad	6141-06-0286	1 OF 1	CHB-4

LOGGED BY	COORDINATES	BEGUN	COMPLETED
S. Woodham	N 8371.6 E 6964.0	1/17/2008	1/18/2008

DRILLER	DRILL MAKE AND MODEL	HOLE DIAMETER	HAMMER SERIAL NUMBER	TOTAL DEPTH
Phillip Pitts-MACTEC	CME-55	6 Inches	219505	19.5

GROUND EL.	DEPTH/EL. GROUND WATER	SITE:
245.0	▽ / ▼ /	Vogtle Electric Generating Plant - Waynesboro, GA

▲ N-VALUE (SPT) ○ WATER CONTENT % + ATT. LIMITS % □ FINES %

20 40 60 80

SAMP. TYPE AND NO.	SAMPLE	N-COUNT 1st 6" 2nd 6" 3rd 6" 4th 6"	RECOVERY (in)	ELEVATION IN FEET	DEPTH IN FT	GRAPHICS	DESCRIPTION AND CLASSIFICATION (* = field classification adjusted based on laboratory testing data and/or re-examination of sample by field geologist/engineer)	NOTES ON: WATER LEVELS, CHARACTER OF DRILLING AND LABORATORY TESTING
				245.0				
SS 1		2-3-5	16				SAND, silty (SM) - Yellowish red (5YR, 5/8), moist, loose, fine to medium, poorly graded, 15% fines	Begin 3.25 I.D. Hollow Stem Augers at 0 feet.
SS 2		3-8-10	17				SAA, except medium dense	
				241.2				
SS 3		8-12-15	17		5		SAND, with silt (SP-SM) - Reddish yellow (7.5YR, 6/6), moist, medium dense, fine to medium grained, poorly graded, 10% fines	
				239.2				
SS 4		7-14-14	16				SAND, silty (SM) - Red (2.5YR, 5/8), moist, medium dense, fine to medium grained, poorly graded, 15% fines	
SS 5		8-12-15	18				SAA	
SS 6		10-12-12	17		10		SAA, some small gravel observed at 10.5'	
SS 7		6-11-13	18				SAA	
SS 8		5-15-15	17		15		SAA	
SS 9		32-27-18	18				SAA, except dense	
SS 10		8-12-13	17				SAND, silty (SM) - Red (2.5YR, 5/8), moist, medium dense, fine to medium grained, poorly graded, 15% fines	
				225.5			Boring Terminated at 19.5 feet. Installed 2" O.D. Sched. 40 PVC Observation Pipe with filter pack and bentonite seal.	

PREPARED BY: S. WOODHAM 1/25/08	SITE	HOLE NO.
REVIEWED BY: M. COOKE 1/29/08	Vogtle Units 3 & 4 COL-Test Pad Final Log	CHB-4

February 9, 2008

Memorandum to File DCN VGCOL 349
From: Steve Kiser
Reviewed By: Pieter Depree

Subject: **Report of SPT Energy – MACTEC Atlanta CME 55 Truck**
Hammer Serial No. 219505 Automatic Hammer
WORK INSTRUCTION VGCOL 349
Plant Vogtle COL Test Pad Project
Burke County, Georgia
MACTEC Project No. 6141-06-0286

Steve Kiser, of MACTEC Engineering and Consulting, Inc. (MACTEC), performed energy measurements on the drill rig at the subject site per the referenced Work Instructions. This memorandum summarizes the field testing activities and presents the results of the energy measurements.

SPT Energy Field Measurements

SPT energy measurements were made on January 15, 2008, during drilling of Boring CHB-3 at the referenced site. The testing was performed under sunny skies and windy conditions, and a temperature of about 50 degrees Fahrenheit. The boring was drilled with personnel and equipment from the Atlanta office of MACTEC. The drilling equipment consisted of a CME 55 model truck-mounted drill rig with an SPT automatic hammer. The drilling tools consisted of N3-sized drilling rods and a 2-foot long split tube sampler. Mud rotary drilling techniques were used to advance the boring below a depth of about 5 feet. The drill rig operator during sampling was Mr. Phillip Pitts. Energy measurements were recorded during sampling at the depth intervals shown in Table 1.

The energy measurements were performed with a Pile Driving Analyzer (PDA) model PAX (Serial No. 3622L), and calibrated accelerometers (Serial Nos. P5953 and P5992) and strain gages (Serial Nos. NW #146/1 and NW#146/2). An NW-sized steel drill rod, 2 feet long and instrumented with dedicated strain gages, was inserted at the top of the drill rod string immediately below the SPT hammer. The inserted rod was also instrumented with two piezoresistive accelerometers that were bolted to the outside of the rod. The instrumented rod insert had a cross-sectional area of approximately 1.49 square inches and an outside diameter of approximately 2.625 inches at the gage location. The drill rods included in the drill rod string were hollow rods in 5 to 10 foot long sections, with an outside and inside diameter of approximately 2.625 and 2.25 inches, respectively. The recommended operation rate of the hammer is not known. Due to the closed hammer system, the hammer lubrication condition and anvil dimensions could not be observed.

Calibration Records

The calibration records for all the above are filed in DCN VGCOL-345.

22 Pages Total

TABLE 1
SUMMARY OF SPT ENERGY MEASUREMENTS (ASTM D4633-05)
Plant Vogtle COL Test Pad Project
Burke County, Georgia
MACTEC Project No. 6141-06-0286

Hammer Serial No. / Rig	Rig Owner	Rig Operator	Boring No. Tested	Rod Size	Date Tested	Sample Depth (feet)	SPT Blow Count (blows per six inches)	No. of Blows Analyzed	Average Measured Energy (Average EFV) (ft-lbs)[a]	Energy Transfer Ratio (%)[b] (Average ETR)
219505 / (CME 55 Truck)	MACTEC Atlanta	Phillip Pitts	CHB-3	N3	1/15/2008	6.0 - 7.5	13 - 19 - 22	54	290	82.9%
						8.0 - 9.5	10 - 12 - 15	37	296	84.6%
						10.0 - 11.5	19 - 18 - 19	54	278	79.4%
						14.0 - 15.5	16 - 19 - 17	52	274	78.3%
						18.0 - 19.5	16 - 18 - 25	59	265	75.7%
						23.5 - 25.0	9 - 13 - 15	34	284	81.1%
						28.5 - 30.0	8 - 10 - 10	27	282	80.6%
						33.5 - 35.0	8 - 10 - 10	29	296	84.6%
								Average for Rig:	**281.4**	**80.4%**

[a]Measured Energy is energy based on the EFV method, as outlined in ASTM D4633-05, for each blow recorded by the PDA. In some cases, the initial and final one to two blows produced poor quality data, and were not used to calculate the Average Measured Energy.

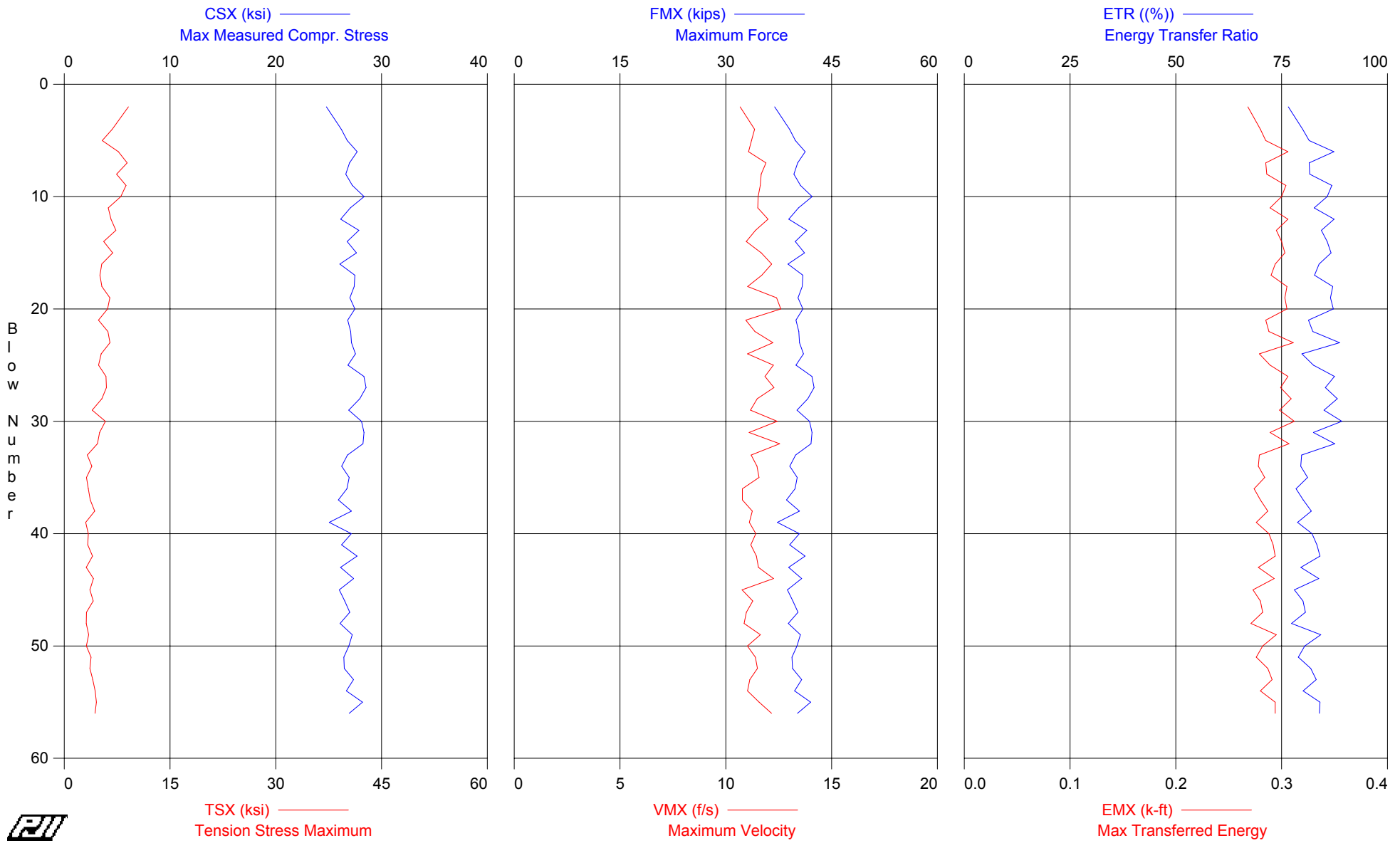
EFV = EMX * 1000 lbs/kip, where EMX equals the maximum transferred energy measured by the PDA (see attached PDA data).

[b]Energy Transfer Ratio is the Measured Energy divided by the theoretical SPT energy of 350 foot-pounds (140 pound hammer falling 2.5 feet).

The average ETR values may differ slightly and insignificantly from those in the PDIPLOT tables due to roundoff.

Prepared By:	Date: 3-12-08	Checked By:	Date: 3-13-08

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 6' - 7.5' Sample



PLANT VOGTLE COL TEST PAD - Boring CHB-3; 6' - 7.5' Sample
HAMMER ID: 219505; CME 55 (MACTEC Atlanta; Pitts)
OP: SEK
Test date: 15-Jan-2008

AR: 1.49 in^2
LE: 12.00 ft
WS: 16,807.9 f/s
SP: 0.492 k/ft3
EM: 30,000.0 ksi
JC: 0.70

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
TSX: Tension Stress Maximum
FMX: Maximum Force
VMX: Maximum Velocity
FVP: Force/Velocity proportionality
EF2: Energy of F^2
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

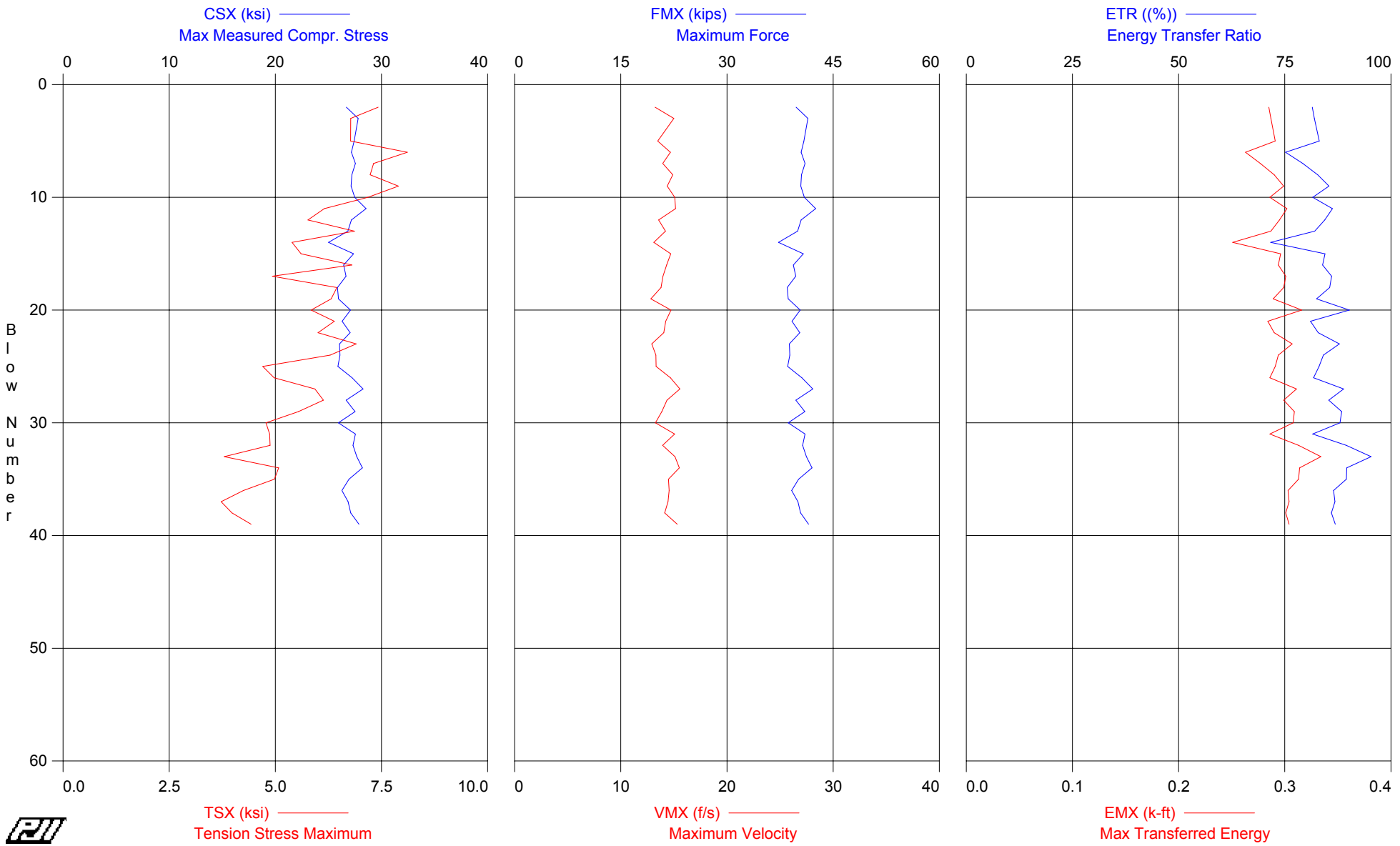
BL#	depth	CSX	CSI	TSX	FMX	VMX	FVP	EF2	ETR	EMX
	ft	ksi	ksi	ksi	kips	f/s	[]	k-ft	(%)	k-ft
2	0.00	24.8	25.1	9.1	37	10.7	1.19	0.253	77	0.268
4	0.00	26.2	26.5	6.8	39	11.4	1.25	0.270	80	0.280
5	0.00	26.8	26.8	5.4	40	11.2	1.35	0.267	82	0.285
6	0.00	27.7	27.8	7.7	41	11.1	1.20	0.289	87	0.306
7	0.00	27.0	27.4	8.9	40	11.9	1.26	0.284	82	0.285
8	0.00	26.6	26.9	7.4	40	11.7	1.28	0.279	82	0.286
9	0.00	27.2	27.6	8.8	41	11.6	1.31	0.297	87	0.304
10	0.00	28.4	28.5	8.0	42	11.5	1.38	0.289	86	0.300
11	0.00	27.0	27.3	6.3	40	11.5	1.19	0.280	83	0.289
12	0.00	26.1	26.3	6.6	39	12.0	1.21	0.286	87	0.306
13	0.00	27.8	28.1	7.3	41	11.4	1.36	0.292	84	0.295
14	0.00	26.7	26.8	5.6	40	11.0	1.24	0.279	86	0.300
15	0.00	27.6	28.0	6.9	41	11.7	1.19	0.293	87	0.303
16	0.00	26.1	26.4	5.3	39	12.2	1.19	0.277	84	0.294
17	0.00	27.5	27.7	5.1	41	11.7	1.31	0.275	83	0.290
18	0.00	27.4	27.5	5.3	41	11.0	1.39	0.285	87	0.305
19	0.00	27.0	27.4	6.5	40	12.4	1.23	0.288	87	0.303
20	0.00	27.5	27.8	6.1	41	12.6	1.20	0.294	87	0.305
21	0.00	26.8	26.8	4.9	40	10.9	1.26	0.279	81	0.285
22	0.00	27.1	27.3	6.2	40	11.4	1.33	0.285	82	0.288
23	0.00	27.2	27.5	6.5	40	12.2	1.25	0.285	89	0.311
24	0.00	27.5	27.7	5.2	41	11.0	1.20	0.280	80	0.279
25	0.00	26.8	27.2	4.9	40	12.3	1.22	0.282	82	0.289
26	0.00	28.3	28.5	5.9	42	11.9	1.18	0.301	87	0.306
27	0.00	28.5	28.8	6.0	43	12.3	1.30	0.292	85	0.299
28	0.00	27.9	28.1	5.3	42	11.5	1.37	0.294	88	0.309
29	0.00	26.9	27.0	4.0	40	11.2	1.24	0.288	85	0.298
30	0.00	28.1	28.5	5.8	42	12.4	1.22	0.306	89	0.312
31	0.00	28.3	28.6	5.0	42	11.1	1.42	0.292	82	0.289
32	0.00	28.2	28.7	4.7	42	12.5	1.19	0.300	88	0.307
33	0.00	26.8	26.9	3.3	40	11.2	1.34	0.262	80	0.279
34	0.00	26.2	26.5	3.9	39	11.5	1.27	0.273	80	0.278
35	0.00	26.9	27.1	3.2	40	11.6	1.31	0.269	81	0.284
36	0.00	26.7	26.9	3.4	40	10.8	1.26	0.275	78	0.274
37	0.00	25.9	25.9	3.7	39	10.8	1.22	0.270	80	0.280
38	0.00	27.2	27.4	4.3	40	11.3	1.35	0.289	82	0.287
39	0.00	25.0	25.1	3.0	37	11.1	1.19	0.262	79	0.276
40	0.00	27.1	27.5	3.4	40	11.4	1.17	0.284	82	0.288
41	0.00	26.2	26.3	3.3	39	11.2	1.23	0.280	83	0.292
42	0.00	27.7	27.9	4.0	41	11.4	1.35	0.294	84	0.294
43	0.00	26.1	26.4	3.1	39	11.5	1.27	0.270	80	0.278
44	0.00	27.4	27.7	4.1	41	12.3	1.26	0.289	84	0.293
45	0.00	26.0	26.2	3.6	39	10.8	1.19	0.267	78	0.273
46	0.00	26.5	26.7	4.1	40	11.3	1.31	0.276	80	0.280
47	0.00	27.0	27.3	3.1	40	11.0	1.16	0.283	81	0.282
48	0.00	26.1	26.2	3.1	39	10.9	1.23	0.265	77	0.271
49	0.00	27.2	27.4	3.5	41	11.6	1.15	0.286	84	0.295
50	0.00	26.9	27.1	3.1	40	11.0	1.25	0.283	80	0.282
51	0.00	26.4	26.7	3.8	39	11.4	1.29	0.273	79	0.276
52	0.00	26.5	26.7	3.7	39	11.5	1.19	0.281	82	0.287
53	0.00	27.4	27.5	4.0	41	11.1	1.28	0.291	83	0.291
54	0.00	26.7	26.7	4.4	40	11.0	1.28	0.279	80	0.280
55	0.00	28.2	28.4	4.6	42	11.6	1.36	0.297	84	0.294
56	0.00	26.9	27.5	4.4	40	12.2	1.20	0.289	84	0.294
	Average	27.0	27.2	5.1	40	11.5	1.26	0.282	83	0.290

Total number of blows analyzed: 54

Time Summary

Drive 1 minute 6 seconds 1:12:10 PM - 1:13:16 PM (1/15/2008) BN 2 - 56

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 8' - 9.5' Sample



Case Method Results PDIPLOT Ver. 2008.1 - Printed: 29-Jan-2008

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 8' - 9.5' Sample HAMMER ID: 219505; CME 55 (MACTEC Atlanta; Pitts)
OP: SEK Test date: 15-Jan-2008

AR: 1.49 in^2 SP: 0.492 k/ft3
LE: 12.00 ft EM: 30,000.0 ksi
WS: 16,807.9 f/s JC: 0.70

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
TSX: Tension Stress Maximum
FMX: Maximum Force
VMX: Maximum Velocity
FVP: Force/Velocity proportionality
EF2: Energy of F^2
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

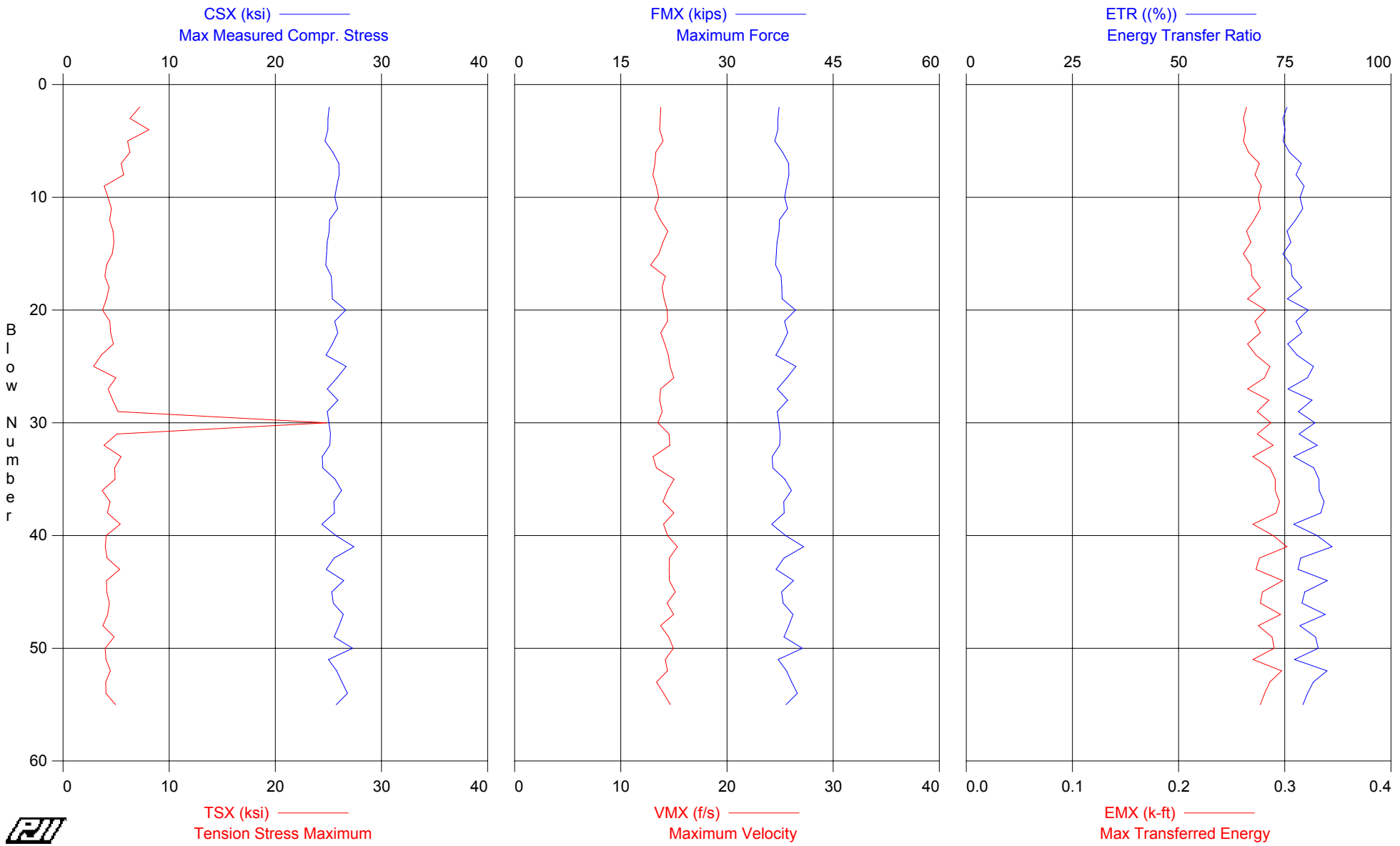
BL#	depth	CSX	CSI	TSX	FMX	VMX	FVP	EF2	ETR	EMX
	ft	ksi	ksi	ksi	kips	f/s	[]	k-ft	(%)	k-ft
2	0.00	26.7	26.9	7.4	40	13.2	0.66	0.260	81	0.285
3	0.00	27.8	27.9	6.8	41	15.0	0.70	0.269	82	0.287
5	0.00	27.4	28.0	6.8	41	13.5	0.97	0.283	83	0.291
6	0.00	27.2	27.3	8.1	40	14.7	0.76	0.264	75	0.263
7	0.00	27.5	28.0	7.3	41	14.0	0.67	0.268	79	0.277
8	0.00	27.2	27.3	7.2	41	14.9	0.76	0.280	83	0.290
9	0.00	27.1	27.8	7.9	40	14.4	0.89	0.290	85	0.299
10	0.00	27.5	27.7	7.2	41	15.1	0.71	0.265	82	0.286
11	0.00	28.5	28.9	6.2	43	15.2	0.66	0.282	86	0.302
12	0.00	27.2	27.8	5.8	40	13.6	0.68	0.284	84	0.295
13	0.00	26.8	27.0	6.9	40	14.2	0.80	0.265	82	0.287
14	0.00	25.0	25.5	5.4	37	13.1	0.65	0.227	72	0.251
15	0.00	27.4	27.6	5.6	41	14.7	0.69	0.269	84	0.296
16	0.00	26.4	26.6	6.8	39	14.3	0.77	0.267	84	0.294
17	0.00	26.7	27.2	4.9	40	14.0	0.64	0.271	86	0.301
18	0.00	25.9	26.5	6.4	39	13.8	0.84	0.274	86	0.299
19	0.00	25.9	26.7	6.3	39	12.8	0.92	0.266	82	0.289
20	0.00	27.1	27.3	5.8	40	14.7	0.70	0.273	90	0.316
21	0.00	26.3	26.5	6.4	39	14.2	0.71	0.262	81	0.284
22	0.00	27.0	27.4	6.0	40	14.0	0.67	0.275	83	0.290
23	0.00	26.0	26.6	6.9	39	12.9	0.93	0.266	88	0.307
24	0.00	26.1	26.7	6.3	39	13.3	0.91	0.271	84	0.294
25	0.00	25.9	26.5	4.7	39	13.3	0.86	0.269	83	0.291
26	0.00	27.2	27.4	5.0	41	14.7	0.68	0.272	82	0.286
27	0.00	28.3	28.4	5.9	42	15.6	0.69	0.283	89	0.311
28	0.00	26.7	26.9	6.1	40	14.4	0.76	0.271	85	0.299
29	0.00	27.5	28.1	5.5	41	13.9	0.91	0.291	88	0.309
30	0.00	25.9	26.6	4.8	39	13.3	0.62	0.267	88	0.308
31	0.00	27.5	27.6	4.9	41	15.1	0.68	0.268	82	0.286
32	0.00	27.3	27.9	4.9	41	13.9	0.89	0.285	89	0.313
33	0.00	27.7	28.0	3.8	41	15.1	0.63	0.283	95	0.334
34	0.00	28.2	28.2	5.1	42	15.5	0.72	0.285	90	0.314
35	0.00	26.9	27.1	5.0	40	14.5	0.85	0.287	90	0.313
36	0.00	26.3	26.7	4.2	39	14.5	0.85	0.275	86	0.303
37	0.00	26.9	27.0	3.7	40	14.4	0.69	0.264	87	0.304
38	0.00	27.1	27.6	4.0	40	14.1	0.89	0.276	86	0.301
39	0.00	27.9	27.9	4.4	42	15.3	0.71	0.277	87	0.304
	Average	27.0	27.3	5.8	40	14.2	0.76	0.273	85	0.296

Total number of blows analyzed: 37

Time Summary

Drive 1 minute 1 second 1:29:56 PM - 1:30:57 PM (1/15/2008) BN 1 - 39

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 10' - 11.5' Sample



Case Method Results PDIPLOT Ver. 2008.1 - Printed: 29-Jan-2008

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 10' - 11.5' Sample HAMMER ID: 219505; CME 55 (MACTEC Atlanta; Pitts)
OP: SEK Test date: 15-Jan-2008

AR: 1.49 in^2 SP: 0.492 k/ft3
LE: 14.00 ft EM: 30,000.0 ksi
WS: 16,807.9 f/s JC: 0.70

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
TSX: Tension Stress Maximum
FMX: Maximum Force
VMX: Maximum Velocity
FVP: Force/Velocity proportionality
EF2: Energy of F^2
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

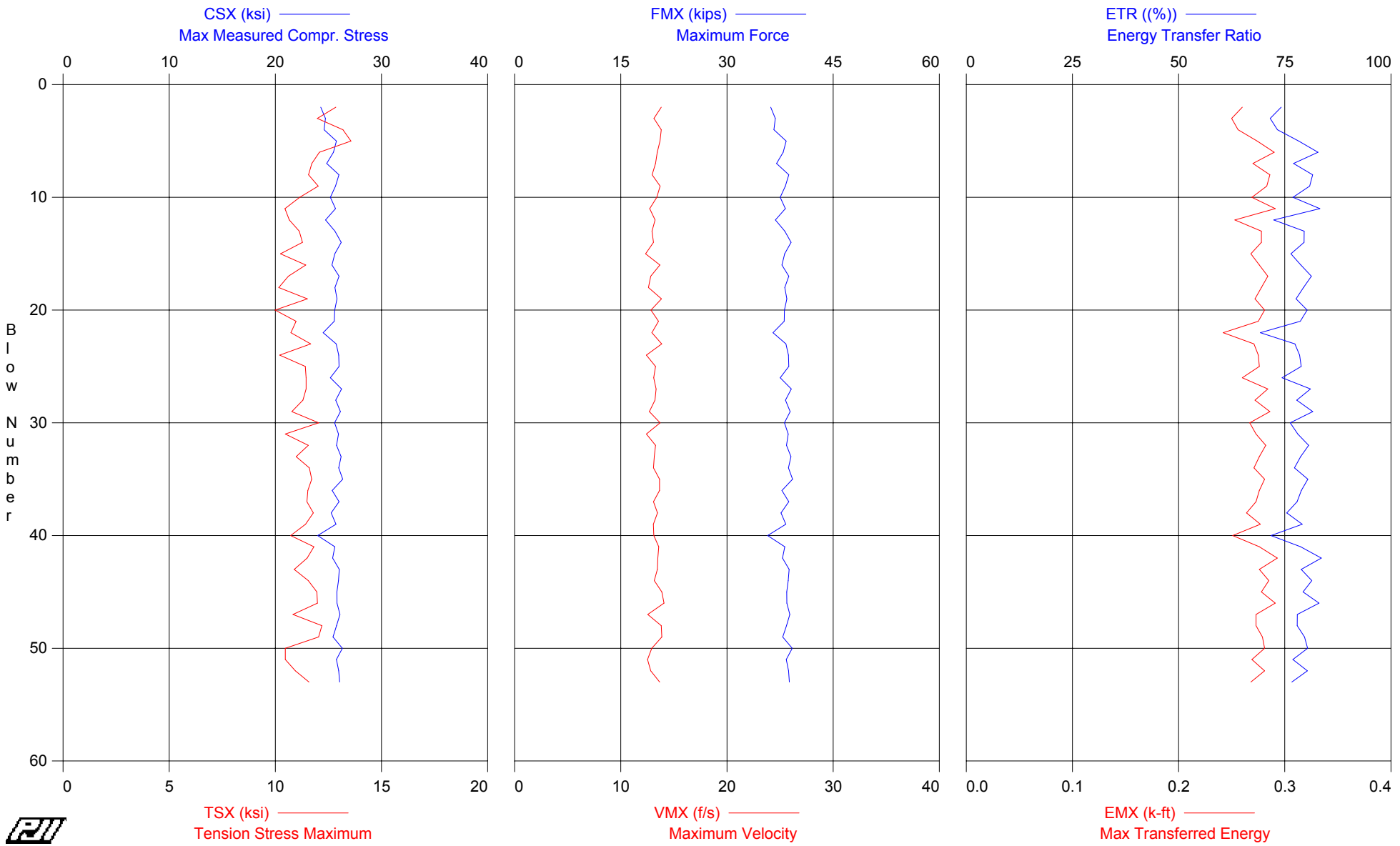
BL#	depth	CSX	CSI	TSX	FMX	VMX	FVP	EF2	ETR	EMX
	ft	ksi	ksi	ksi	kips	f/s	[]	k-ft	(%)	k-ft
2	0.00	25.1	25.4	7.2	37	13.8	0.78	0.245	76	0.264
3	0.00	25.0	25.2	6.3	37	13.7	0.87	0.261	75	0.261
4	0.00	25.0	25.4	8.1	37	13.7	0.77	0.253	75	0.263
5	0.00	24.7	24.8	6.1	37	14.0	0.82	0.249	75	0.261
6	0.00	25.4	26.0	6.3	38	13.3	0.76	0.255	76	0.266
7	0.00	26.0	26.5	5.5	39	13.2	0.96	0.269	79	0.276
8	0.00	26.0	26.5	5.7	39	13.0	0.74	0.268	78	0.272
9	0.00	25.8	26.3	3.9	38	13.4	0.93	0.268	80	0.278
10	0.00	25.6	26.0	4.2	38	13.6	0.91	0.268	79	0.275
11	0.00	25.9	26.3	4.6	39	13.2	0.75	0.263	79	0.277
12	0.00	25.1	25.6	4.4	37	13.7	0.91	0.254	78	0.271
13	0.00	25.1	25.3	4.7	37	14.4	0.77	0.250	76	0.264
14	0.00	24.9	25.1	4.8	37	14.0	0.79	0.250	76	0.268
15	0.00	24.8	25.4	4.6	37	13.6	0.73	0.248	75	0.261
16	0.00	24.8	25.1	4.1	37	12.8	0.94	0.258	76	0.268
17	0.00	25.3	25.5	3.9	38	14.2	0.84	0.258	77	0.269
18	0.00	25.3	25.5	4.3	38	13.9	0.85	0.264	79	0.277
19	0.00	25.4	25.6	4.1	38	14.1	0.85	0.257	76	0.265
20	0.00	26.6	26.9	3.7	40	14.4	0.72	0.272	81	0.282
21	0.00	25.6	25.7	4.4	38	14.4	0.80	0.269	78	0.272
22	0.00	25.9	26.2	4.5	39	13.8	0.74	0.270	79	0.277
23	0.00	25.4	25.6	4.7	38	14.1	0.79	0.254	76	0.265
24	0.00	24.8	24.9	3.6	37	14.5	0.81	0.256	78	0.273
25	0.00	26.7	26.8	2.9	40	14.6	0.69	0.274	82	0.286
26	0.00	25.8	25.9	5.0	38	15.0	0.76	0.264	80	0.281
27	0.00	24.9	25.5	4.2	37	13.8	0.87	0.260	76	0.265
28	0.00	25.9	26.2	4.7	39	13.7	0.76	0.264	81	0.285
29	0.00	24.9	25.3	5.2	37	13.9	0.73	0.251	78	0.274
30	0.00	25.0	25.7	24.8	37	13.5	0.92	0.258	82	0.287
31	0.00	25.2	25.5	5.1	38	14.5	0.71	0.249	78	0.274
32	0.00	25.1	25.3	3.9	37	14.6	0.81	0.258	83	0.289
33	0.00	24.4	25.0	5.5	36	13.0	0.67	0.250	77	0.270
34	0.00	24.5	25.1	4.9	36	13.3	0.88	0.255	82	0.286
35	0.00	25.6	25.7	4.9	38	15.0	0.73	0.264	83	0.291
36	0.00	26.2	26.7	3.7	39	14.4	0.86	0.273	83	0.291
37	0.00	25.5	26.0	4.4	38	14.0	0.69	0.272	84	0.295
38	0.00	25.6	25.7	4.2	38	15.0	0.76	0.270	84	0.292
39	0.00	24.4	24.8	5.4	36	14.0	0.73	0.238	77	0.270
40	0.00	25.7	26.2	4.1	38	14.4	0.86	0.271	83	0.289
41	0.00	27.4	27.4	4.0	41	15.3	0.73	0.289	86	0.302
42	0.00	25.5	25.6	4.2	38	14.6	0.78	0.266	79	0.276
43	0.00	24.8	25.1	5.3	37	14.6	0.71	0.246	78	0.273
44	0.00	26.4	27.0	4.1	39	14.6	0.67	0.272	85	0.298
45	0.00	25.3	25.4	4.1	38	15.1	0.77	0.265	80	0.279
46	0.00	25.5	25.8	4.4	38	14.4	0.82	0.268	79	0.277
47	0.00	26.4	26.7	4.2	39	15.0	0.79	0.281	85	0.296
48	0.00	26.0	26.3	3.8	39	13.7	0.71	0.266	79	0.275
49	0.00	25.5	26.0	4.8	38	14.5	0.69	0.262	82	0.288
50	0.00	27.3	27.4	4.0	41	15.0	0.73	0.285	83	0.290
51	0.00	25.0	25.0	4.0	37	14.2	0.77	0.260	77	0.270
52	0.00	25.8	25.8	4.5	38	14.4	0.83	0.269	85	0.297
53	0.00	26.3	26.9	4.0	39	13.4	0.67	0.278	82	0.286
54	0.00	26.8	27.4	4.1	40	14.0	0.86	0.278	80	0.281
55	0.00	25.7	26.0	4.9	38	14.7	0.72	0.258	79	0.277
	Average	25.5	25.9	5.0	38	14.1	0.79	0.262	79	0.278

Total number of blows analyzed: 54

Time Summary

Drive 2 minutes 15 seconds 1:59:17 PM - 2:01:32 PM (1/15/2008) BN 1 - 55

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 14' - 15.5' Sample



Case Method Results PDIPLOT Ver. 2008.1 - Printed: 29-Jan-2008

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 14' - 15.5' Sample HAMMER ID: 219505; CME 55 (MACTEC Atlanta; Pitts)
OP: SEK Test date: 15-Jan-2008

AR: 1.49 in^2 SP: 0.492 k/ft3
LE: 18.00 ft EM: 30,000.0 ksi
WS: 16,807.9 f/s JC: 0.70

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
TSX: Tension Stress Maximum
FMX: Maximum Force
VMX: Maximum Velocity
FVP: Force/Velocity proportionality
EF2: Energy of F^2
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

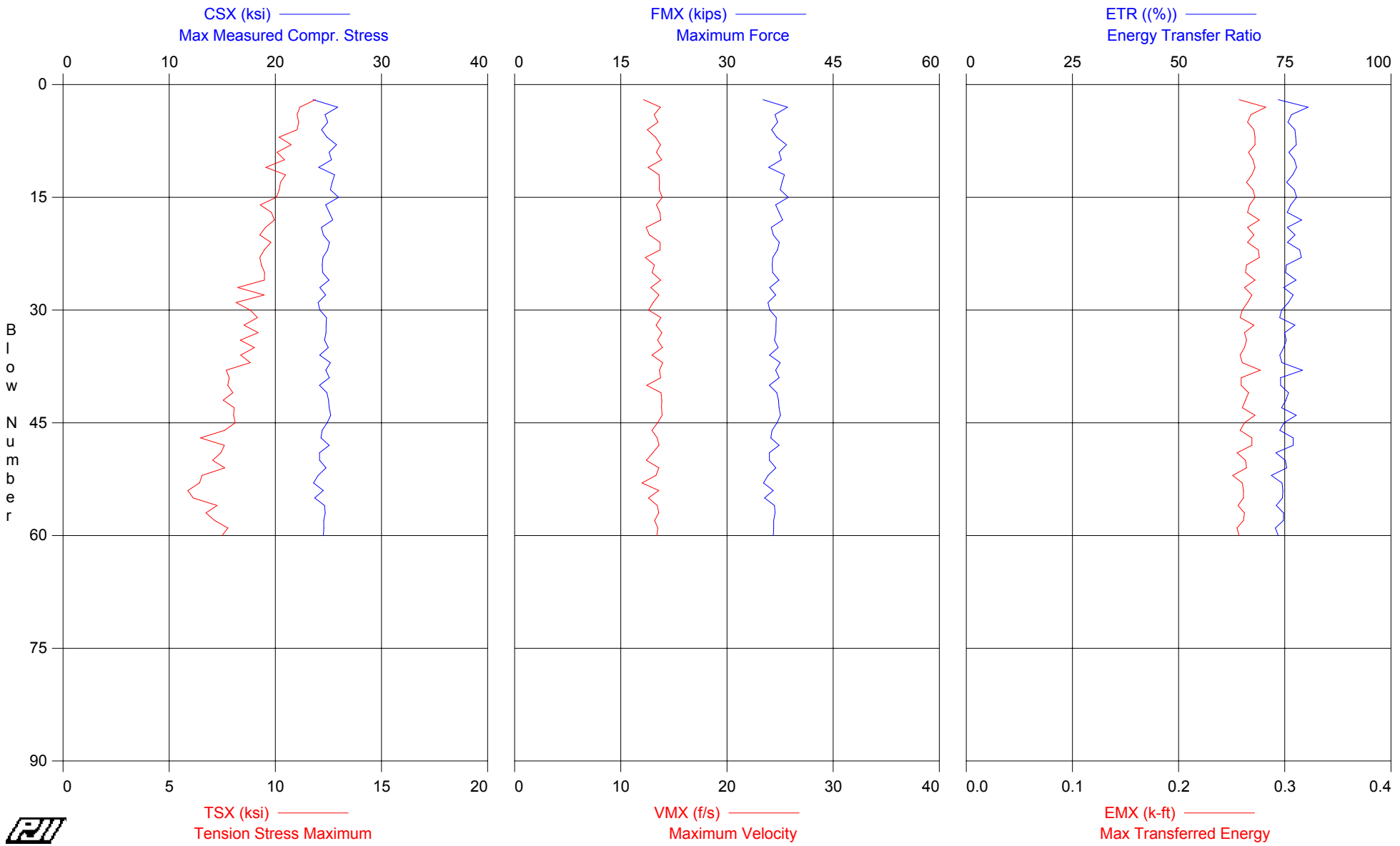
BL#	depth	CSX	CSI	TSX	FMX	VMX	FVP	EF2	ETR	EMX
	ft	ksi	ksi	ksi	kips	f/s	[]	k-ft	(%)	k-ft
2	0.00	24.3	24.6	12.9	36	13.8	0.74	0.246	74	0.260
3	0.00	24.7	25.3	12.0	37	13.1	1.00	0.263	72	0.250
4	0.00	24.6	25.2	13.2	37	13.8	0.91	0.264	73	0.256
5	0.00	25.7	26.0	13.6	38	13.7	0.82	0.277	78	0.274
6	0.00	25.5	26.2	12.1	38	13.4	0.93	0.280	83	0.290
7	0.00	24.8	25.5	11.7	37	13.3	0.90	0.268	77	0.270
8	0.00	26.0	26.6	11.6	39	13.0	0.79	0.280	82	0.286
9	0.00	25.7	25.8	12.0	38	13.7	0.83	0.276	81	0.283
10	0.00	25.2	25.2	11.1	38	13.4	0.84	0.268	77	0.269
11	0.00	25.7	26.3	10.5	38	12.7	0.78	0.279	83	0.291
12	0.00	24.7	24.8	10.7	37	13.2	0.87	0.260	72	0.253
13	0.00	25.6	26.2	11.1	38	12.9	0.80	0.271	80	0.278
14	0.00	26.2	26.7	11.3	39	13.1	0.80	0.284	80	0.278
15	0.00	25.6	26.2	10.2	38	12.3	0.79	0.273	76	0.268
16	0.00	25.3	25.4	11.4	38	13.7	0.86	0.271	79	0.276
17	0.00	26.0	26.5	10.6	39	12.8	0.79	0.278	81	0.284
18	0.00	25.6	26.0	10.2	38	12.6	0.80	0.275	79	0.278
19	0.00	25.8	25.9	11.5	38	13.8	0.85	0.279	78	0.272
20	0.00	25.6	26.2	10.0	38	12.8	0.97	0.276	80	0.281
21	0.00	25.6	26.1	11.0	38	13.6	0.90	0.284	79	0.275
22	0.00	24.5	24.6	10.7	37	12.9	0.83	0.252	69	0.242
23	0.00	25.7	25.8	11.7	38	13.8	0.85	0.278	77	0.271
24	0.00	26.0	26.5	10.2	39	12.4	1.03	0.278	78	0.275
25	0.00	26.0	26.7	11.4	39	13.3	0.95	0.285	79	0.276
26	0.00	25.2	25.4	11.4	38	13.1	0.82	0.263	74	0.260
27	0.00	26.2	26.6	11.5	39	13.3	0.81	0.283	81	0.284
28	0.00	25.7	26.3	11.3	38	13.2	0.95	0.277	78	0.272
29	0.00	26.1	26.7	10.8	39	12.7	1.01	0.283	82	0.286
30	0.00	25.6	25.7	12.0	38	13.7	0.84	0.273	76	0.267
31	0.00	25.9	26.5	10.5	39	12.4	0.77	0.278	78	0.273
32	0.00	25.8	26.4	11.5	38	13.3	0.93	0.281	81	0.282
33	0.00	26.2	26.6	11.0	39	13.2	0.80	0.280	79	0.276
34	0.00	26.0	26.6	11.6	39	13.1	0.96	0.281	77	0.271
35	0.00	26.4	26.7	11.7	39	13.6	0.81	0.285	80	0.281
36	0.00	25.4	25.4	11.5	38	13.7	0.85	0.273	79	0.276
37	0.00	26.0	26.6	11.5	39	13.1	0.96	0.280	78	0.273
38	0.00	25.3	25.3	11.8	38	13.5	0.84	0.268	75	0.264
39	0.00	25.7	26.3	11.4	38	13.1	0.96	0.276	79	0.277
40	0.00	24.0	24.1	10.7	36	13.1	0.89	0.203	72	0.251
41	0.00	25.6	25.8	11.8	38	13.6	0.87	0.276	79	0.276
42	0.00	25.4	25.9	11.5	38	13.5	0.91	0.281	84	0.293
43	0.00	26.0	26.3	10.9	39	13.4	0.80	0.278	79	0.276
44	0.00	25.9	26.5	11.5	39	13.1	0.95	0.284	81	0.285
45	0.00	25.8	26.0	12.0	38	13.9	0.83	0.277	79	0.278
46	0.00	25.8	26.0	12.0	38	14.1	0.83	0.277	83	0.291
47	0.00	26.1	26.6	10.8	39	12.5	1.02	0.278	78	0.273
48	0.00	25.8	25.9	12.2	38	13.8	0.85	0.278	78	0.273
49	0.00	25.4	25.9	12.0	38	13.9	0.87	0.276	80	0.279
50	0.00	26.3	26.8	10.5	39	12.9	0.78	0.283	80	0.281
51	0.00	25.8	26.3	10.5	38	12.5	0.79	0.273	77	0.269
52	0.00	26.0	26.6	10.9	39	12.8	0.99	0.282	80	0.281
53	0.00	26.1	26.3	11.6	39	13.7	0.82	0.279	77	0.268
	Average	25.6	26.0	11.4	38	13.2	0.87	0.274	78	0.274

Total number of blows analyzed: 52

Time Summary

Drive 1 minute 44 seconds 2:36:07 PM - 2:37:51 PM (1/15/2008) BN 1 - 53

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 18' - 19.5' Sample



Case Method Results PDIPLOT Ver. 2008.1 - Printed: 29-Jan-2008

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 18' - 19.5' Sample HAMMER ID: 219505; CME 55 (MACTEC Atlanta; Pitts)
OP: SEK Test date: 15-Jan-2008

AR: 1.49 in^2 SP: 0.492 k/ft3
LE: 22.00 ft EM: 30,000.0 ksi
WS: 16,807.9 f/s JC: 0.70

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
TSX: Tension Stress Maximum
FMX: Maximum Force
VMX: Maximum Velocity
FVP: Force/Velocity proportionality
EF2: Energy of F^2
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

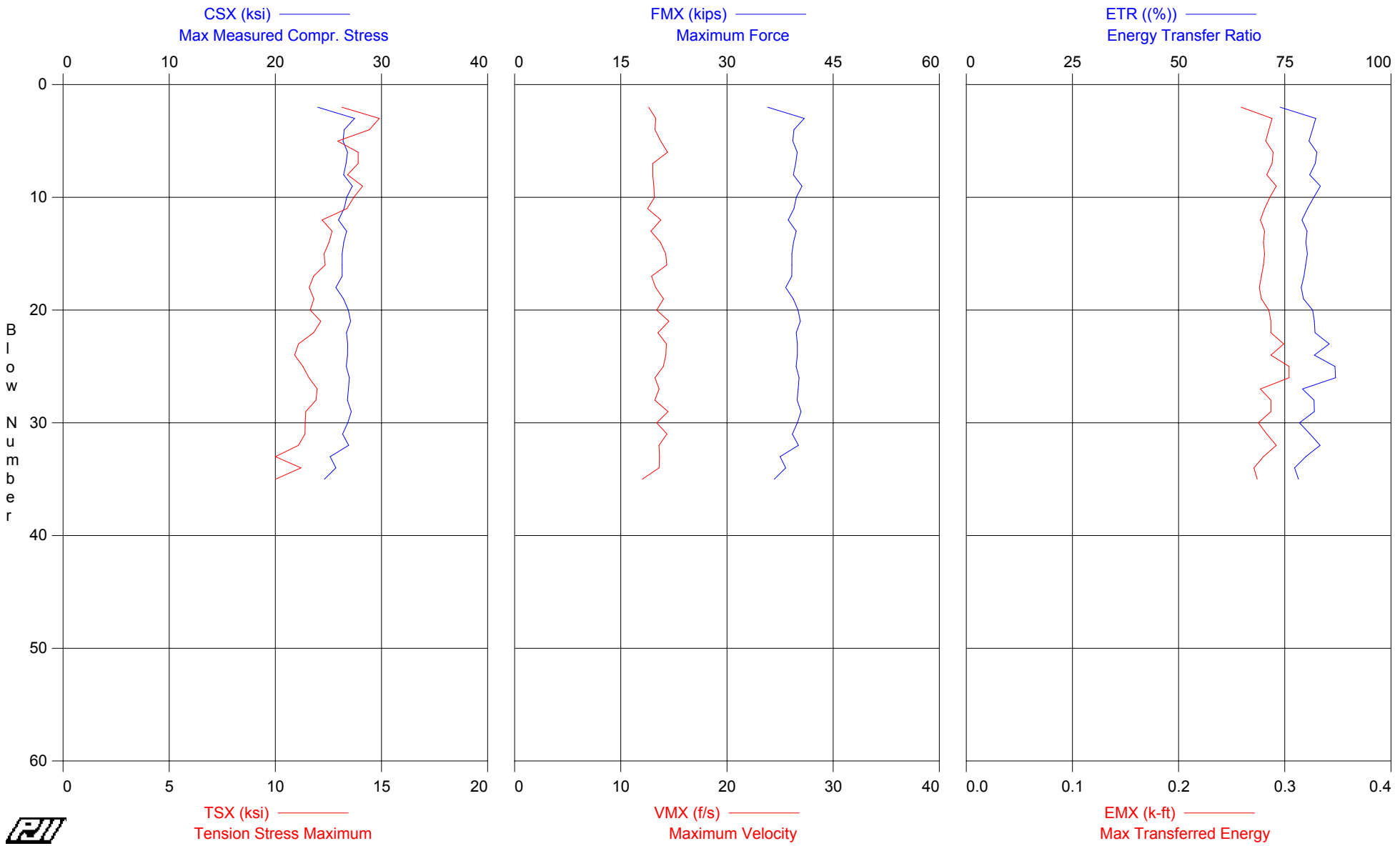
BL#	depth	CSX	CSI	TSX	FMX	VMX	FVP	EF2	ETR	EMX
	ft	ksi	ksi	ksi	kips	f/s	[]	k-ft	(%)	k-ft
2	0.00	23.5	24.2	11.9	35	12.1	0.91	0.253	73	0.257
3	0.00	25.9	26.0	11.2	39	13.7	0.77	0.268	80	0.282
4	0.00	24.7	24.8	11.0	37	13.1	0.86	0.263	77	0.268
5	0.00	24.9	25.2	11.1	37	13.5	0.78	0.261	76	0.265
6	0.00	24.4	24.8	11.0	36	12.5	0.95	0.271	77	0.271
7	0.00	24.9	24.9	10.2	37	13.3	0.75	0.266	78	0.272
8	0.00	25.8	25.9	10.7	38	13.7	0.78	0.270	78	0.272
9	0.00	25.1	25.1	10.1	37	13.4	0.82	0.261	76	0.266
10	0.00	25.3	25.4	10.4	38	13.8	0.77	0.265	77	0.270
11	0.00	24.1	24.3	9.6	36	12.6	0.75	0.268	78	0.272
12	0.00	25.6	25.6	10.5	38	13.6	0.81	0.268	77	0.269
13	0.00	25.4	25.5	10.2	38	13.7	0.78	0.264	75	0.264
14	0.00	25.2	25.2	10.2	38	13.6	0.76	0.271	77	0.270
15	0.00	26.0	26.0	10.1	39	13.9	0.78	0.271	78	0.272
16	0.00	24.7	24.9	9.3	37	13.4	0.76	0.265	76	0.267
17	0.00	25.1	25.1	9.8	37	13.7	0.81	0.263	76	0.265
18	0.00	25.4	25.5	10.0	38	13.8	0.80	0.270	79	0.276
19	0.00	24.3	24.5	9.5	36	12.4	0.75	0.266	76	0.265
20	0.00	24.5	24.7	9.3	37	12.7	0.76	0.272	77	0.271
21	0.00	25.1	25.2	9.8	37	13.7	0.77	0.267	76	0.265
22	0.00	24.9	25.0	9.5	37	13.7	0.76	0.268	79	0.275
23	0.00	24.5	24.8	9.3	36	12.3	0.73	0.271	79	0.276
24	0.00	24.4	24.6	9.3	36	13.2	0.77	0.263	75	0.264
25	0.00	24.5	24.8	9.5	36	12.9	0.76	0.266	75	0.263
26	0.00	25.1	25.1	9.5	37	13.8	0.78	0.267	78	0.272
27	0.00	24.2	24.6	8.2	36	12.8	0.90	0.261	75	0.262
28	0.00	24.7	24.8	9.5	37	13.6	0.77	0.264	77	0.269
29	0.00	24.0	24.1	8.1	36	13.0	0.77	0.265	76	0.265
30	0.00	24.2	24.4	8.8	36	12.6	0.76	0.263	74	0.260
31	0.00	24.8	24.9	9.2	37	13.8	0.77	0.262	74	0.258
32	0.00	24.8	24.8	8.5	37	13.3	0.76	0.265	77	0.271
33	0.00	24.8	24.9	9.2	37	13.9	0.79	0.260	75	0.262
34	0.00	24.6	24.8	8.4	37	13.5	0.85	0.263	75	0.264
35	0.00	25.0	25.0	9.0	37	13.9	0.82	0.266	75	0.262
36	0.00	24.2	24.5	8.4	36	12.9	0.91	0.264	74	0.258
37	0.00	25.2	25.4	8.8	38	13.9	0.79	0.266	74	0.260
38	0.00	24.8	24.9	7.7	37	13.6	0.78	0.268	79	0.277
39	0.00	25.1	25.1	7.8	37	13.8	0.83	0.268	74	0.259
40	0.00	24.2	24.4	7.8	36	12.4	0.76	0.263	74	0.259
41	0.00	24.9	24.9	8.0	37	13.8	0.81	0.266	76	0.266
42	0.00	25.0	25.0	7.5	37	13.9	0.82	0.267	75	0.263
43	0.00	25.1	25.1	8.1	37	13.8	0.82	0.267	74	0.260
44	0.00	25.2	25.3	8.0	38	13.9	0.78	0.272	78	0.272
45	0.00	24.9	25.1	8.1	37	13.5	0.86	0.267	75	0.262
46	0.00	24.4	24.8	7.6	36	12.9	0.91	0.266	74	0.258
47	0.00	24.3	24.4	6.5	36	13.4	0.78	0.263	77	0.269
48	0.00	25.1	25.2	7.6	37	13.6	0.83	0.267	77	0.269
49	0.00	24.2	24.2	7.4	36	13.0	0.78	0.257	73	0.255
50	0.00	24.2	24.2	7.0	36	12.4	0.77	0.263	75	0.263
51	0.00	24.8	24.9	7.6	37	13.6	0.78	0.264	75	0.264
52	0.00	24.0	24.1	6.5	36	13.3	0.84	0.252	72	0.251
53	0.00	23.6	23.7	6.4	35	12.0	0.99	0.259	74	0.260
54	0.00	24.5	24.6	5.9	37	13.6	0.80	0.263	75	0.261
55	0.00	23.7	24.1	6.1	35	12.6	0.89	0.257	74	0.261
56	0.00	24.6	24.6	7.3	37	13.4	0.80	0.261	73	0.256
57	0.00	24.7	24.8	6.7	37	13.6	0.80	0.263	75	0.262
58	0.00	24.6	24.8	7.1	37	13.2	0.87	0.265	75	0.261
59	0.00	24.6	24.6	7.8	37	13.5	0.81	0.259	73	0.255
60	0.00	24.5	24.6	7.5	37	13.4	0.84	0.263	73	0.257
	Average	24.7	24.9	8.8	37	13.3	0.81	0.265	76	0.265

Total number of blows analyzed: 59

Time Summary

Drive 2 minutes 24 seconds 2:57:13 PM - 2:59:37 PM (1/15/2008) BN 1 - 60

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 23.5' - 25' Sample



Case Method Results PDIPLOT Ver. 2008.1 - Printed: 29-Jan-2008

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 23.5' - 25' Sample HAMMER ID: 219505; CME 55 (MACTEC Atlanta; Pitts)
OP: SEK Test date: 15-Jan-2008

AR: 1.49 in^2 SP: 0.492 k/ft3
LE: 29.00 ft EM: 30,000.0 ksi
WS: 16,807.9 f/s JC: 0.70

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
TSX: Tension Stress Maximum
FMX: Maximum Force
VMX: Maximum Velocity
FVP: Force/Velocity proportionality
EF2: Energy of F^2
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

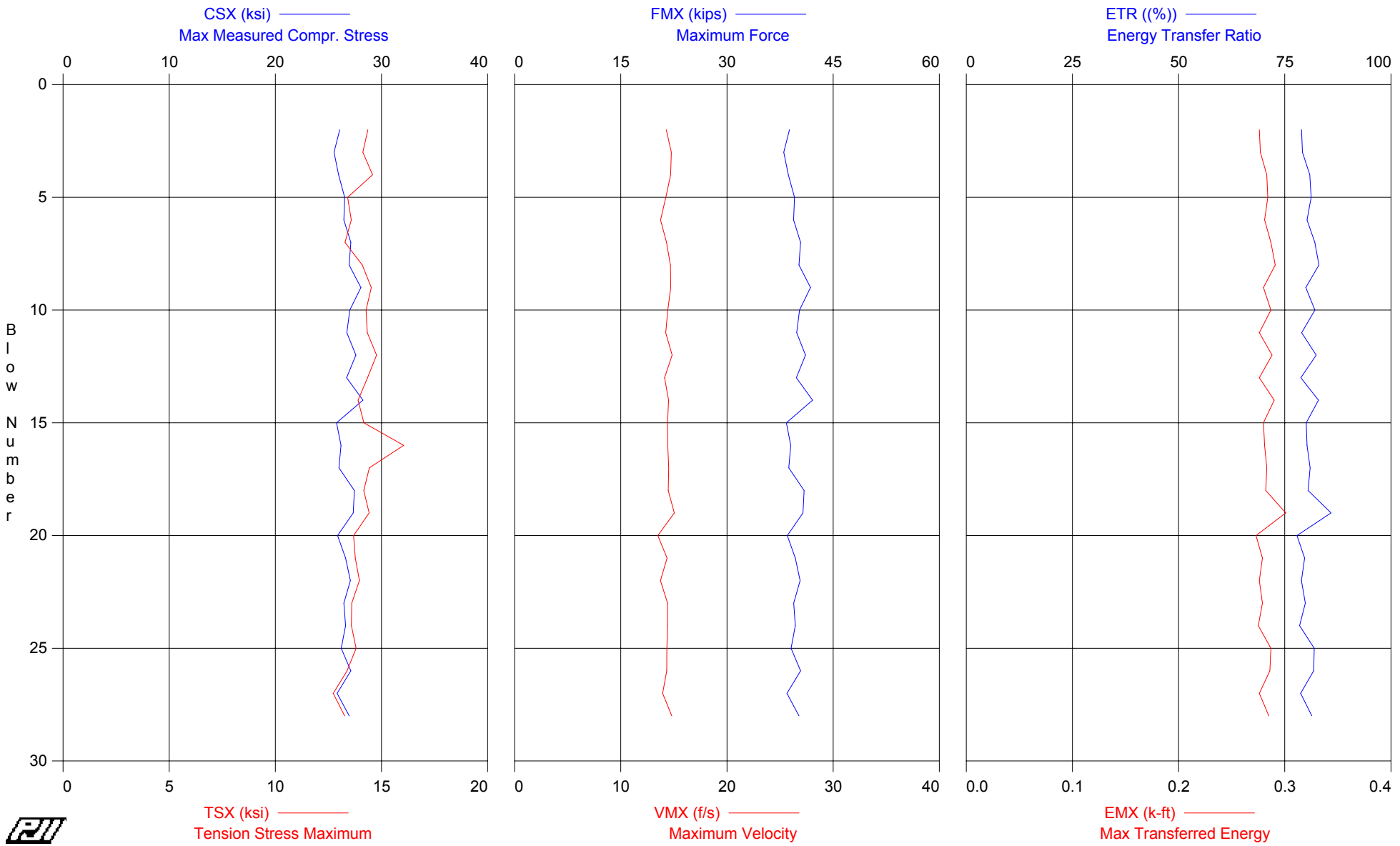
BL#	depth	CSX	CSI	TSX	FMX	VMX	FVP	EF2	ETR	EMX
	ft	ksi	ksi	ksi	kips	f/s	[]	k-ft	(%)	k-ft
2	0.00	24.0	24.0	13.1	36	12.6	0.78	0.269	74	0.259
3	0.00	27.5	28.0	14.9	41	13.3	0.75	0.310	82	0.288
4	0.00	26.5	26.9	14.4	39	13.2	0.78	0.301	82	0.285
5	0.00	26.4	26.7	12.9	39	13.8	0.84	0.293	81	0.282
6	0.00	26.8	26.9	13.9	40	14.4	0.85	0.310	83	0.289
7	0.00	26.7	27.2	13.9	40	13.0	0.79	0.306	82	0.288
8	0.00	26.4	27.0	13.4	39	13.0	1.01	0.307	81	0.283
9	0.00	27.2	27.7	14.1	41	13.1	0.77	0.315	83	0.292
10	0.00	26.7	27.2	13.7	40	13.2	0.79	0.307	82	0.286
11	0.00	26.5	27.0	13.4	39	12.5	0.78	0.301	80	0.281
12	0.00	26.0	26.5	12.2	39	13.8	0.93	0.299	79	0.277
13	0.00	26.7	27.2	12.7	40	12.8	0.81	0.310	80	0.281
14	0.00	26.4	26.7	12.5	39	13.7	0.82	0.303	80	0.280
15	0.00	26.3	26.4	12.3	39	14.2	0.83	0.303	80	0.281
16	0.00	26.3	26.5	12.3	39	14.3	0.83	0.301	80	0.280
17	0.00	26.3	26.9	11.8	39	12.9	1.03	0.302	80	0.278
18	0.00	25.7	26.3	11.6	38	13.3	0.98	0.301	79	0.276
19	0.00	26.4	26.5	11.8	39	14.0	0.83	0.301	79	0.278
20	0.00	26.9	27.6	11.6	40	13.4	1.00	0.313	82	0.285
21	0.00	27.1	27.2	12.1	40	14.5	0.84	0.317	82	0.287
22	0.00	26.7	27.3	11.8	40	13.5	0.93	0.308	82	0.287
23	0.00	26.8	27.2	11.1	40	14.3	0.82	0.299	85	0.299
24	0.00	26.8	27.1	10.9	40	14.2	0.82	0.305	82	0.287
25	0.00	26.7	27.0	11.3	40	14.0	0.90	0.313	87	0.304
26	0.00	27.0	27.3	11.6	40	13.2	0.77	0.312	87	0.304
27	0.00	26.9	27.3	12.0	40	13.6	0.81	0.307	79	0.277
28	0.00	26.8	27.4	11.9	40	13.2	0.78	0.305	82	0.287
29	0.00	27.2	27.2	11.4	40	14.5	0.83	0.311	82	0.287
30	0.00	26.8	27.3	11.4	40	13.4	0.79	0.304	78	0.275
31	0.00	26.3	26.4	11.4	39	14.3	0.85	0.304	81	0.283
32	0.00	26.9	27.2	11.1	40	13.6	0.77	0.307	83	0.292
33	0.00	25.2	25.4	10.0	38	13.6	0.83	0.287	80	0.280
34	0.00	25.7	26.0	11.2	38	13.6	0.89	0.292	77	0.271
35	0.00	24.6	24.9	10.0	37	12.0	1.03	0.282	78	0.274
	Average	26.4	26.8	12.2	39	13.5	0.85	0.303	81	0.284

Total number of blows analyzed: 34

Time Summary

Drive 1 minute 52 seconds 3:22:53 PM - 3:24:45 PM (1/15/2008) BN 1 - 35

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 28.5' - 30' Sample



PLANT VOGTLE COL TEST PAD - Boring CHB-3; 28.5' - 30' Sample
HAMMER ID: 219505; CME 55 (MACTEC Atlanta; Pitts)
OP: SEK
Test date: 15-Jan-2008

AR: 1.49 in^2
LE: 34.00 ft
WS: 16,807.9 f/s
SP: 0.492 k/ft3
EM: 30,000.0 ksi
JC: 0.70

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
TSX: Tension Stress Maximum
FMX: Maximum Force
VMX: Maximum Velocity
FVP: Force/Velocity proportionality
EF2: Energy of F^2
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

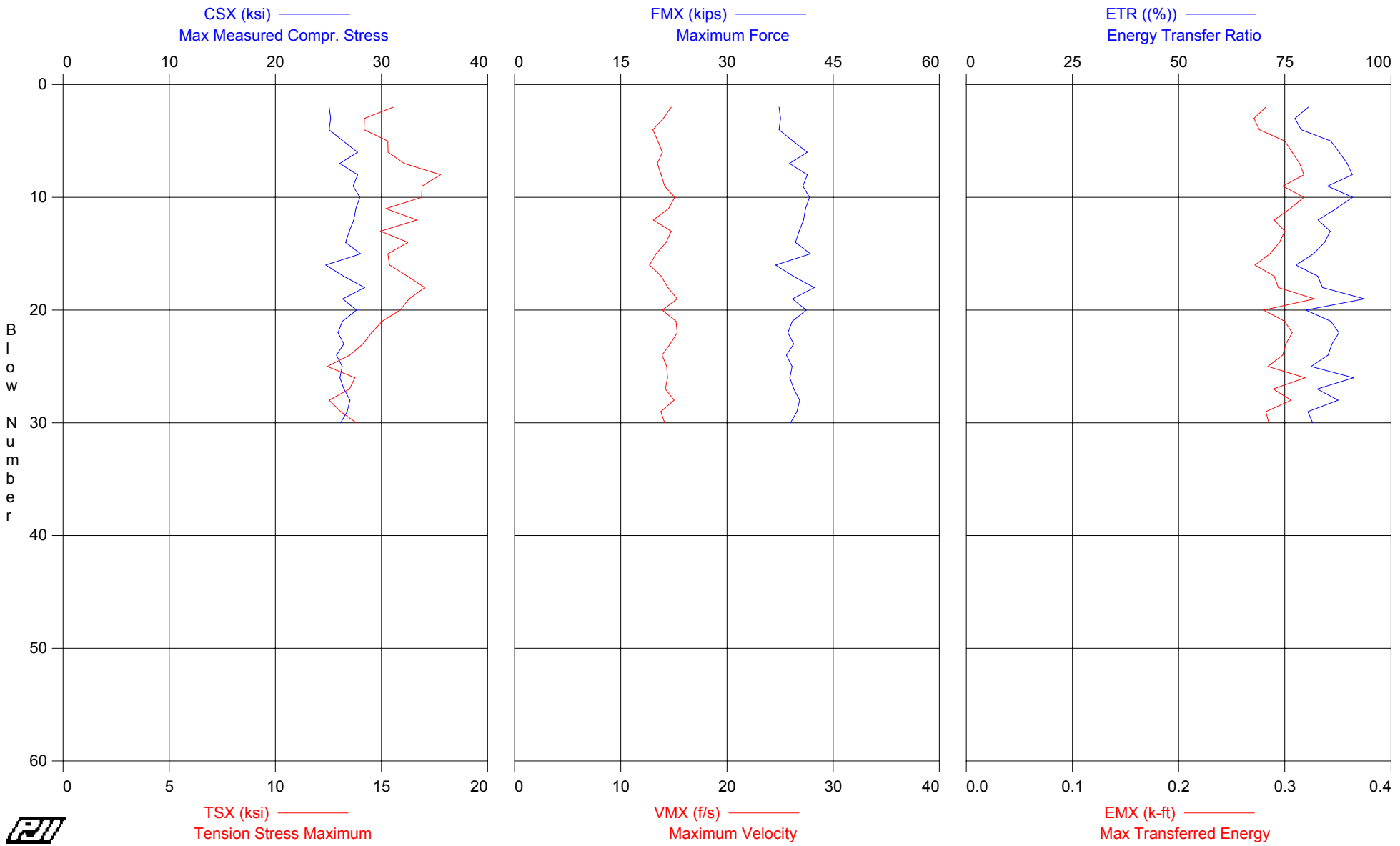
BL#	depth	CSX	CSI	TSX	FMX	VMX	FVP	EF2	ETR	EMX
	ft	ksi	ksi	ksi	kips	f/s	[]	k-ft	(%)	k-ft
2	0.00	26.1	26.1	14.4	39	14.3	0.81	0.288	79	0.276
3	0.00	25.5	26.2	14.1	38	14.8	0.71	0.288	79	0.277
4	0.00	26.0	26.6	14.6	39	14.7	0.88	0.297	81	0.283
5	0.00	26.5	27.2	13.4	40	14.2	0.72	0.294	81	0.284
6	0.00	26.5	26.5	13.6	39	13.7	0.82	0.297	80	0.281
7	0.00	27.1	27.8	13.3	40	14.3	0.73	0.300	82	0.287
8	0.00	27.0	27.4	14.1	40	14.7	0.86	0.308	83	0.291
9	0.00	28.1	28.2	14.5	42	14.7	0.82	0.306	80	0.280
10	0.00	27.0	27.7	14.3	40	14.4	0.72	0.297	82	0.287
11	0.00	26.7	26.8	14.3	40	14.2	0.81	0.299	79	0.276
12	0.00	27.6	28.2	14.8	41	14.8	0.69	0.300	82	0.288
13	0.00	26.7	26.8	14.3	40	14.1	0.79	0.293	79	0.276
14	0.00	28.3	28.5	13.9	42	14.5	0.73	0.304	83	0.290
15	0.00	25.8	26.4	14.2	38	14.4	0.87	0.291	80	0.280
16	0.00	26.2	26.8	16.0	39	14.4	0.89	0.296	80	0.281
17	0.00	26.0	26.5	14.4	39	14.5	0.85	0.297	81	0.283
18	0.00	27.4	27.8	14.2	41	14.5	0.74	0.300	81	0.282
19	0.00	27.3	27.5	14.4	41	15.0	0.79	0.306	86	0.301
20	0.00	25.9	26.5	13.7	39	13.5	0.89	0.289	78	0.273
21	0.00	26.6	26.7	13.8	40	14.4	0.80	0.299	80	0.279
22	0.00	27.1	27.6	14.0	40	13.7	0.75	0.296	79	0.276
23	0.00	26.5	26.5	13.6	39	14.4	0.81	0.298	80	0.279
24	0.00	26.6	26.7	13.6	40	14.4	0.79	0.293	78	0.275
25	0.00	26.2	26.4	13.8	39	14.3	0.85	0.300	82	0.287
26	0.00	27.1	27.5	13.4	40	14.3	0.76	0.297	82	0.286
27	0.00	25.8	26.3	12.7	38	13.9	0.87	0.291	79	0.276
28	0.00	27.0	27.0	13.3	40	14.8	0.79	0.300	81	0.285
	Average	26.7	27.0	14.0	40	14.4	0.80	0.297	81	0.282

Total number of blows analyzed: 27

Time Summary

Drive 50 seconds 3:38:39 PM - 3:39:29 PM (1/15/2008) BN 1 - 28

PLANT VOGTLE COL TEST PAD - Boring CHB-3; 33.5' - 35' Sample



PLANT VOGTLE COL TEST PAD - Boring CHB-3; 33.5' - 35' Sample
HAMMER ID: 219505; CME 55 (MACTEC Atlanta; Pitts)
OP: SEK
Test date: 15-Jan-2008

AR: 1.49 in^2
LE: 39.00 ft
WS: 16,807.9 f/s
SP: 0.492 k/ft3
EM: 30,000.0 ksi
JC: 0.70

CSX: Max Measured Compr. Stress
CSI: Max F1 or F2 Compr. Stress
TSX: Tension Stress Maximum
FMX: Maximum Force
VMX: Maximum Velocity
FVP: Force/Velocity proportionality
EF2: Energy of F^2
ETR: Energy Transfer Ratio
EMX: Max Transferred Energy

BL#	depth	CSX	CSI	TSX	FMX	VMX	FVP	EF2	ETR	EMX
	ft	ksi	ksi	ksi	kips	f/s	[]	k-ft	(%)	k-ft
2	0.00	25.1	25.7	15.6	37	14.7	0.74	0.291	81	0.282
3	0.00	25.2	25.3	14.2	38	14.0	0.78	0.286	77	0.271
4	0.00	25.1	25.9	14.2	37	13.0	0.74	0.295	79	0.276
5	0.00	26.4	26.8	15.3	39	13.5	0.95	0.325	86	0.300
6	0.00	27.7	27.9	15.3	41	13.9	0.90	0.328	88	0.307
7	0.00	26.1	27.0	16.1	39	13.4	0.97	0.319	90	0.314
8	0.00	27.8	28.7	17.8	41	13.8	0.73	0.327	91	0.318
9	0.00	27.3	28.1	16.9	41	14.1	0.76	0.322	85	0.298
10	0.00	28.0	28.1	16.9	42	15.1	0.79	0.321	91	0.318
11	0.00	27.6	27.9	15.2	41	14.5	0.78	0.320	87	0.305
12	0.00	27.4	28.4	16.7	41	13.1	0.96	0.324	83	0.290
13	0.00	27.0	27.2	15.0	40	14.8	0.79	0.315	86	0.300
14	0.00	26.6	26.8	16.2	40	14.3	0.82	0.308	84	0.295
15	0.00	28.0	28.6	15.3	42	13.3	0.74	0.320	82	0.286
16	0.00	24.8	25.3	15.4	37	12.7	0.75	0.290	78	0.272
17	0.00	26.4	26.6	16.2	39	13.8	0.75	0.312	83	0.290
18	0.00	28.4	28.6	17.0	42	14.4	0.75	0.326	84	0.294
19	0.00	26.3	27.2	16.3	39	15.3	0.74	0.318	94	0.328
20	0.00	27.7	27.7	15.9	41	13.9	0.76	0.308	80	0.280
21	0.00	26.3	26.4	15.0	39	15.2	0.76	0.301	86	0.300
22	0.00	25.9	26.8	14.5	39	15.3	0.94	0.301	88	0.307
23	0.00	26.5	26.6	14.1	39	14.7	0.77	0.306	86	0.301
24	0.00	25.8	26.5	13.5	38	13.9	0.74	0.304	85	0.298
25	0.00	26.3	26.5	12.4	39	14.3	0.80	0.299	81	0.284
26	0.00	26.1	26.8	13.8	39	14.4	0.76	0.305	91	0.319
27	0.00	26.5	26.6	13.5	39	14.2	0.80	0.301	83	0.289
28	0.00	27.0	27.3	12.5	40	15.0	0.79	0.314	88	0.306
29	0.00	26.8	27.2	13.1	40	13.8	0.77	0.303	80	0.282
30	0.00	26.2	26.3	13.8	39	14.1	0.82	0.302	82	0.285
	Average	26.6	27.1	15.1	40	14.2	0.80	0.310	85	0.296

Total number of blows analyzed: 29

Time Summary

Drive 1 minute 14 seconds 4:01:40 PM - 4:02:54 PM (1/15/2008) BN 1 - 30