Schlumberger

Company: North East Natural Energy LLC

Well: Boggess 17H

Field: Wildcat

County: Monongalia State: West Virginia

XL ROCK

GAMMA RAY

County:	Monongalia	Location:	Lat and Long:	Company:	North East Natural Energy LLC
Field:	Wildcat	Well:	Boggess 17H		

Location:

Lat and Long:		Elev.:	K.B.	1293.00 ft
39:40:12.6 N			G.L.	1268.00 ft
80:5:35.8 W			D.F.	1293.00 ft
Permanent Datum:	Ground Level	Elev.:		1268.00 f
Log Measured From:	Kelly Bushing	25.00 ft		above Perm.Datum
Drilling Measured From:	Kelly Bushing			

API Serial No.	Max.Hole Deviation	Township:	Latitude:
47-061-01812-00-00	0 deg	Core	39.687030 degrees

Logging Date			10-Apr-2019				
Run Number			1C				
Depth Driller			8400.00 ft				
Schlumberger Depth			8400.00 ft				
Bottom Log Interval			8000.00 ft				
Top Log Interval			7450.00 ft				
Casing Driller Size @ Depth			@				
Casing Schlumberger							
Bit Size			8.5 in				
Type Fluid In Hole			Water				
MUD	Density	Viscosity	10 lbm/gal				
	Fluid Loss	PH					
	Source of Sample		Active Tank				
RM @ Meas Temp			0.2 ohm.m	@ 68 degF			
RMF @ Meas Temp			0.15 ohm.m	@ 68 degF			
RMC @ Meas Temp							
Source RMF	RMC			Pressed			
RM @ BHT	RMF @ BHT		0.07 @ 212	0.05 @ 212			
Max Recorded Temperatures							
Circulation Stopped	Time		14-Apr-2019	23:00:00			
Logger on Bottom	Time		16-Apr-2019	07:12:00			
Unit Number	Location:		3703	Bradford, PA			
Recorded By			Mike Kornacki				
Witnessed By			BJ Varney				

Disclaimer

Contents

Operational Run Summary

Parameter (unit)	1C					
Date Log Started	10-Apr-2019					
Time Log Started	15:01:37					
Date Log Finished	16-Apr-2019					
Time Log Finished	18:34:26					
Top Log Interval (ft)	7450.00					
Bottom Log Interval (ft)	8000.00					
Total Depth (ft)						
Max Hole Deviation (deg)	0.00					
Azimuth of Max Deviation (deg)	0.00					
Bit Size (in)	8.500					
Logging Unit Number	3703					
Logging Unit Location	Bradford, PA					
Recorded By	Mike Kornacki					
Witnessed By	BJ Varney					
Service Order Number						

Remarks and Equipment Summary

1C: Toolstring

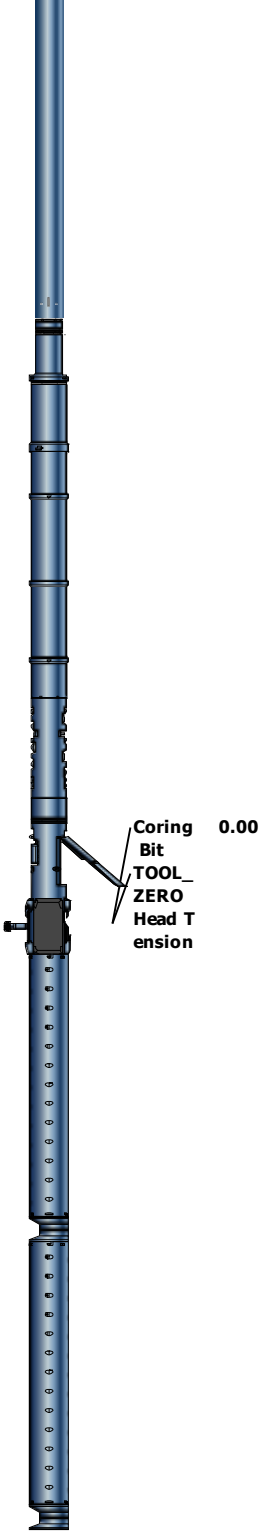
1C: Remarks

Thank you for choosing Schlumberger!

Crew: Morrone, Kornacki, Shirley

Tool ran per tool sketch

MCMU-EA
:529
StrainGau
ge
MRCM-AE
:373
CoringBit
Kinematic
Assembly
Electric C
oring Mo
tor
3 inch Kit
MCFU-DA
:516



Lengths are in ft
Maximum Outer Diameter = 6.400 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Depth Summary

	1C		
Depth Measuring Device			
Type	IDW-B		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Calibration Cable Type			
Wheel Correction 1	0		

Wheel Correction 2	0		

Tension Device

Type	CMTD-B/A		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Number of Calibration Points	0		

Logging Cable

Type	7-46A-XS		
Serial Number			
Length	11750.00 ft		
Conveyance Type	Wireline		
Rig Type	Land		

1C:Depth Control Parameters		Depth Control Remarks
Log Sequence	First Log In the Well	
Rig Up Length At Surface		
Rig Up Length At Bottom		
Rig Up Length Correction		
Stretch Correction		
Tool Zero Check At Surface		

MSCT General Core Summary Report

Run 1 : 1C
Toolstring: XL ROCK
Timestamps are in UTC-0500
Equipment: MSCT-E:MCEC-B File Code:MCEC-BA Serial Number:285

Marker Number	Core Number	Descent Number	Core Depth MD(ft)	Drill Start Time	Total Drilling Time(s)	Marker	Core Recovery	Remarks
0	0	1	-87.24	15:13:58 10-Apr-2019	105.47	Present	Not_Recovered	
0	0	1	-87.24	15:28:55 10-Apr-2019	26.37	Present	Not_Recovered	
0	0	1	-87.24	15:50:41 10-Apr-2019	571.84	Present	Not_Recovered	
0	0	1	-87.24	16:11:14 10-Apr-2019	333.57	Present	Not_Recovered	
0	0	1	11.46	04:11:45 16-Apr-2019	31.74		Not_Recovered	
0	0	1	11.46	04:30:01 16-Apr-2019	48.58		Not_Recovered	
0	0	1	3001.87	05:15:49 16-Apr-2019	36.74		Not_Recovered	
0	0	1	6001.84	05:38:42 16-Apr-2019	44.48		Not_Recovered	
1	1	1	8000.06	06:10:34 16-Apr-2019	813.25	Present	Recovered	
2	2	1	7995.08	06:29:16 16-Apr-2019	2036.35	Present	Not_Recovered	
3	3	1	7995.23	07:06:37 16-Apr-2019	2094.27	Present	Recovered	
4	4	1	7990.11	07:44:43 16-Apr-2019	3232.26	Present	Not_Recovered	
5	5	1	7986.05	08:42:20 16-Apr-2019	589.89	Present	Recovered	
6	6	1	7984.05	08:55:53 16-Apr-2019	473.92	Present	Recovered	
7	7	1	7982.06	09:06:55 16-Apr-2019	455.55	Present	Recovered	
8	8	1	7980.10	09:17:54 16-Apr-2019	438.98		Recovered	
9	9	1	7972.05	09:28:32 16-Apr-2019	395.71	Present	Recovered	
10	10	1	7970.10	09:40:12 16-Apr-2019	341.31	Present	Recovered	
11	11	1	7968.05	09:51:08 16-Apr-2019	543.62	Present	Recovered	
12	12	1	7962.13	10:03:45 16-Apr-2019	302.46	Present	Recovered	

13	13	1	7959.98	10:12:26 16-Apr-2019	323.26	Present	Recovered	
14	14	1	7956.93	10:21:38 16-Apr-2019	486.59	Present	Recovered	
15	15	1	7954.07	10:33:42 16-Apr-2019	344.77		Recovered	
16	16	1	7950.00	10:43:52 16-Apr-2019	290.50		Recovered	
17	17	1	7948.07	10:52:47 16-Apr-2019	368.45	Present	Recovered	
18	18	1	7944.07	11:03:18 16-Apr-2019	374.21	Present	Recovered	
19	19	1	7940.01	11:13:19 16-Apr-2019	341.76	Present	Recovered	
20	20	1	7938.02	11:22:32 16-Apr-2019	304.83		Recovered	
21	21	1	7935.96	11:30:56 16-Apr-2019	1704.90	Present	Recovered	
22	22	1	7924.05	12:03:59 16-Apr-2019	339.14	Present	Recovered	
23	23	1	7919.98	12:13:33 16-Apr-2019	257.60	Present	Recovered	
24	24	1	7907.98	12:21:47 16-Apr-2019	272.90	Present	Recovered	
25	25	1	7904.06	12:30:07 16-Apr-2019	356.93	Present	Recovered	
26	26	1	7900.04	12:40:45 16-Apr-2019	406.98		Recovered	
27	27	1	7897.06	12:57:00 16-Apr-2019	306.30		Recovered	
28	28	1	7894.98	13:05:40 16-Apr-2019	501.76	Present	Recovered	
29	29	1	7887.02	13:20:32 16-Apr-2019	521.54		Recovered	
30	30	1	7880.01	13:32:54 16-Apr-2019	389.63	Present	Recovered	
31	31	1	7872.06	13:44:11 16-Apr-2019	258.05		Recovered	
32	32	1	7869.97	13:53:51 16-Apr-2019	289.54	Present	Recovered	
33	33	1	7867.12	14:04:00 16-Apr-2019	289.73		Recovered	
34	34	1	7851.06	14:13:53 16-Apr-2019	255.68	Present	Recovered	
35	35	1	7840.05	14:22:10 16-Apr-2019	266.37		Recovered	
36	36	1	7820.07	14:30:38 16-Apr-2019	254.34	Present	Recovered	
37	37	1	7784.10	14:39:32 16-Apr-2019	267.78	Present	Recovered	
38	38	1	7772.13	14:49:13 16-Apr-2019	274.43	Present	Recovered	
39	39	1	7749.99	14:58:06 16-Apr-2019	281.73	Present	Recovered	
40	40	1	7710.11	15:15:41 16-Apr-2019	609.92	Present	Recovered	
41	41	1	7704.08	15:29:43 16-Apr-2019	496.32	Present	Recovered	
42	42	1	7699.98	15:41:06 16-Apr-2019	416.64		Recovered	
43	43	1	7688.09	15:51:37 16-Apr-2019	474.43		Recovered	
44	44	1	7679.02	16:04:45 16-Apr-2019	227.97	Present	Recovered	
45	45	1	7677.08	16:12:29 16-Apr-2019	328.32	Present	Recovered	
46	46	1	7675.04	16:22:31 16-Apr-2019	306.88	Present	Recovered	
47	47	1	7667.01	16:31:45 16-Apr-2019	476.16	Present	Recovered	
48	48	1	7665.02	16:45:43 16-Apr-2019	399.94	Present	Recovered	
49	49	1	7504.99	16:59:03 16-Apr-2019	278.21	Present	Recovered	
50	50	1	7488.01	17:09:57 16-Apr-2019	277.38		Recovered	
51	51	1	7450.06	17:19:18 16-Apr-2019	268.67	Present	Recovered	
52	52	1	7990.02	17:37:59 16-Apr-2019	511.81		Recovered	

Total 60 record(s)

Calibration Report

MSCT-E (Mechanical Sidewall Coring Tool - E) Calibration - Run 1C

Primary Equipment :

MCEC-BA MCEC-B 285

Kinematics Piston Position Calibration - Before Calibraion Coefficients

Before (Measured): 15:14:22 10-Apr-2019

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Kinematics Piston Position Gain		Before	1.0000	0.8000	1.0385	1.2000
Kinematics Piston Position Offset	in	Before	-0.4000	-2.0000	-1.1992	0

EDTC-B (Enhanced Digital Telemetry Cartridge - Version B) Calibration - Run 1C

Primary Equipment :

EDTC-B EDTC-B 9231

Calibration Parameter :

Calibration Parameter :

Plus Reference (Jig minus background reference) 165

EDTC-B Accelerometer Calibration - EDTC-B Accelerometer Calibration

Before:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
AZ Vertical Measurement - 0	ft/s2	Before	-----	-----	-----	-----	

EDTC-B Memory Data - EDTC-B Memory Data

Master (Manual Entry): 04:24:14 16-Apr-2019

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Initial PMT HV	V	Master			1395.000		
Accelerometer Serial Number		Master			144		
Accelerometer Coefficients - 0		Master	-----	-----	2.938E+000	-----	
Accelerometer Coefficients - 1		Master	-----	-----	2.077E-004	-----	
Accelerometer Coefficients - 2		Master	-----	-----	7.563E-007	-----	
Accelerometer Coefficients - 3		Master	-----	-----	-2.103E-008	-----	
Accelerometer Coefficients - 4		Master	-----	-----	5.623E-010	-----	
Accelerometer Coefficients - 5		Master	-----	-----	-4.367E-012	-----	
Accelerometer Coefficients - 6		Master	-----	-----	1.152E-014	-----	
Accelerometer Coefficients - 7		Master	-----	-----	-1.113E-003	-----	
Accelerometer Coefficients - 8		Master	-----	-----	2.612E-005	-----	
Accelerometer Coefficients - 9		Master	-----	-----	1.450E-007	-----	
Accelerometer Coefficients - 10		Master	-----	-----	-1.743E-009	-----	
Accelerometer Coefficients - 11		Master	-----	-----	3.857E-012	-----	
Gamma-Ray Detector Serial Number		Master			79427		

EDTC-B Gamma-Ray Calibration - Gamma Ray Coefficients

Before: After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Gain		Before	1.000	0.900	NOT DONE	1.100	
		After	-----	-----	-----	-----	
		After-Before	-----	-----	-----	-----	

EDTC-B Gamma-Ray Calibration - Gamma Ray Accumulations

Before: After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement - 0	gAPI	Before	-----	-----	-----	-----	
		After	-----	-----	-----	-----	
		After-Before	-----	-----	-----	-----	
RGR Plus Measurement	gAPI	Before			NOT DONE		
		After			NOT DONE		
		After-Before	-----	-----	-----	-----	

LEH-QT (Logging Equipment Head - QT, 3-3/8 inch 31 pin HPHT with Tension Sensor) Calibration - Run 1C

Primary Equipment :

Logging Equipment Head - QT, 3-3/8 inch 31 pin HPHT with Tension Sensor LEH-QT

HTEN Master Calibration - HTEN Master Calibration

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
HTEN Shop Gain		Master	1.000	0.800	NOT DONE	4.500	
HTEN Shop Offset	lbf	Master	0	-1000.000	NOT DONE	1000.000	

HTEN Before Calibration - HTEN Before Calibration

Before:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RHTE Zero Measurement - 0	lbf	Before	-----	-----	-----	-----	
RHTE Plus Measurement - 0	lbf	Before	-----	-----	-----	-----	
HTEN Gain - 0		Before	-----	-----	-----	-----	
HTEN Offset - 0	lbf	Before	-----	-----	-----	-----	

Company:	North East Natural Energy LLC
Well:	Boggess 17H
Field:	Wildcat
County:	Monongalia
State:	West Virginia

Schlumberger

XL ROCK

GAMMA RAY