

# LITHOLOGY STRIP LOG

## WellSight Systems

Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: Hund No. 1-9  
Location: 1482' FSL, 1873' FEL of Section 9-14S-31W Gove County, KS  
License Number: API: 15-063-21890 Region: Wildcat  
Spud Date: 2-17-11 Drilling Completed: 2-27-11  
Surface Coordinates: 1482' FSL, 1873' FEL of 26-12S-32W

Bottom Hole Coordinates: Vertical hole

Ground Elevation (ft): 2946' K.B. Elevation (ft): 2951'  
Logged Interval (ft): 3600' To: RTD Total Depth (ft): 4690'  
Formation: Mississippian at RTD  
Type of Drilling Fluid: Chemical

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

### OPERATOR

Company: Grand Mesa Operating Company  
Address: 1700 N. Waterfront Parkway  
Bldg. 600  
Wichita, KS 67206-5514

### GEOLOGIST

Name: Macklin M. Armstrong, P.G.  
Company:  
Address: 5140 North Valentine Road  
Wichita, Kansas 67219  
316-209-5047

### COMMENTS

Contractor: Murfin Drilling Company Rig #24  
Pusher: Tony Martin

Surface Casing: 8 5/8" 23# set at 220'  
Production Casing: 5 1/2" 15.5# at 4685'

Mud by: MudCo - Reid Atkins was the engineer

DST's by: Eagle Testing - David Nichols was the tester

Logs by: Weatherford (DIL, CN-CD, ML)

Deviation Surveys: 1/4 deg. at 222'; 1/2 deg. at 2799'; 1/8 deg. at 3611'; 3/4 deg. at 4020'; 1/4 deg. at 4690'

Formation	Sample	Log	Datum	**
Anhydrite	2435	2433	+518	+3
B/Anhydrite	2457	2455	+496	+2
Queen Hill	3910	3906	-955	+8
Heebner	3972	3969	-1018	+5
Toronto	3992	3990	-1039	+5
Lansing	4012	4007	-1056	+6
Muncie Creek	4162	4162	-1211	+1
Stark	4257	4254	-1303	-3
Hushpuckney	4294	4291	-1340	-2
B/Kansas City	4342	4340	-1389	+1
Marmaton	4362	4360	-1400	-1

Marmaton	4332	4338	-1488	-1
Pawnee	4425	4422	-1471	-1
Fort Scott	4451	4449	-1498	-2
Cherokee Sh	4534	4530	-1579	+3
Johnson Zone	4578	4575	-1624	+1
Morrow Sh	4601	4595	-1644	+10
Morrow Sand	4611	4609	-1658	
Mississippi	4645	4642	-1691	-16
Total Depth	4690	4688	-1737	

\*\* Structural Position to Grand Mesa Operating Company's Hess No. 1-16, 2004' FNL & 1141' FWL, Sec 16 T14S R31W, Gove County, Kansas

Bit #	Size	MFG	Type	Depth Out	Footage Cut	Hours on bit
1	12 1/4"		RDS	222'	222'	2 3/8
2	7 7/8"	Smith	MI616	3611'	3389'	50 1/2
3	7 7/8"	Smith	F-27I	4604'	993'	55 1/2
4	7 7/8"	Smith	F-27I	4690'	86'	6 1/2

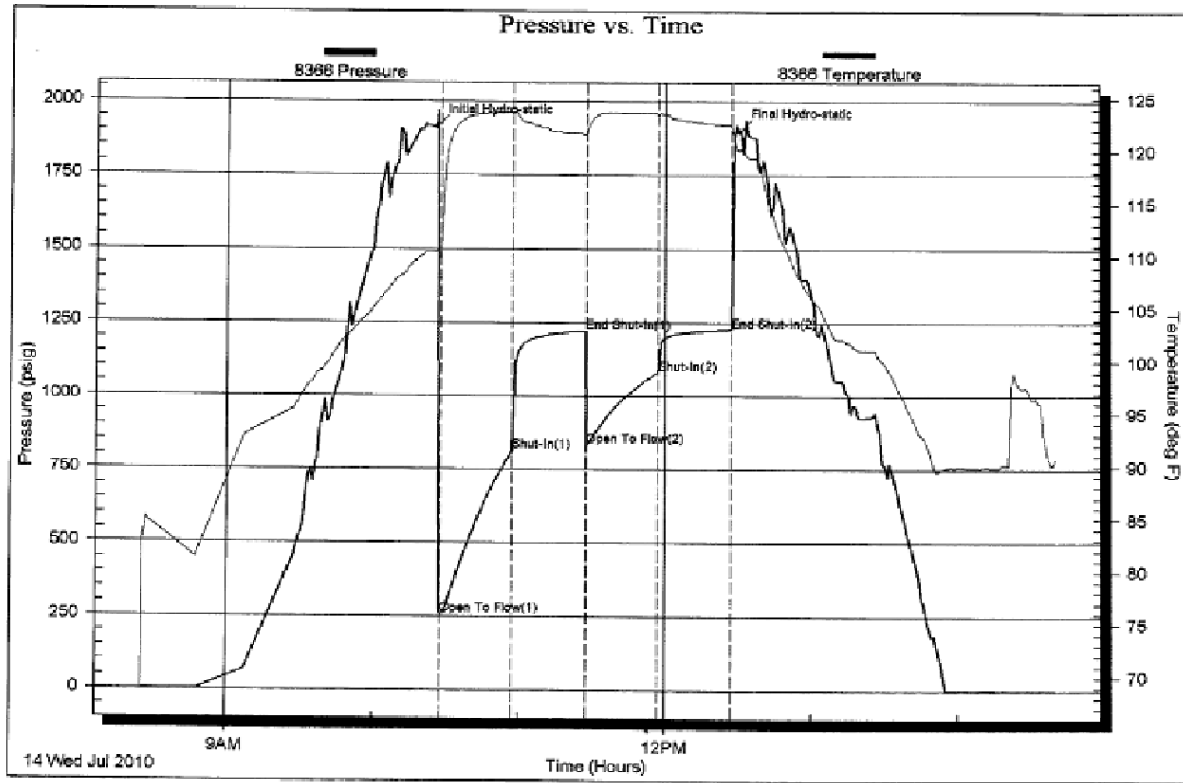
### FORMATION TOPS AND STRUCTURAL COMPARISON

FORMATION	SAMPLE TOPS		LOG TOPS		COMPARISON WELL Slawson Exploration Honeyman #1 27-12-32W
	Depth	Datum	Depth	Datum	
Stone Corral	2506'	+491	2504'	+493	+6'
B/Stone Corral	2532'	+465	2528'	+469	+6'
Heebner Shale	3968'	-971	3971'	-974	-5'
Lansing	4010'	-1013	4010'	-1013	-2'
Muncie Creek Shale	4160'	-1163	4158'	-1161	-5'
Stark Shale	4241'	-1244	4241'	-1244	-3'
Hushpuckney Shale	4281'	-1284	4278'	-1281	-6'
Marmaton	4338'	-1341	4338'	-1341	+1'
Upper Fort Scott	4448'	-1451	4448'	-1451	+2'
Little Osage Shale	4469'	-1472	4470'	-1473	-4'
Excello Shale	4498'	-1501	4497'	-1500	-7'
Johnson Zone	4568'	-1571	4568'	-1571	+3'
Morrow	4591'	-1594	4590'	-1593	+7'
Mississippian	4611'	-1614	4610'	-1613	+25'
RTD	4730'	-1733			
LTD			4729'	-1732	

### DRILL STEM TESTS

DST No. 1 Lansing "A"  
Interval: 3992'-4028'  
Times: 30-30-30-30  
Recovery: 225' MCW w/trace oil (61w, 39m);  
1940' fluid circ. out (dropped bar); 120'  
SMCW (97w, 3m) chl. 32K  
FP: 256-813/833-1081 SIP: 1222-1227  
HP: 1913-1900 BHT: 122 deg. F

IFP: strong blow, B.O.B. in 1 minute  
ISIP: no return  
FFP: strong blow, B.O.B. in 2 minutes  
FSIP: no return



## DRILL STEM TESTS

DST No. 2 Lansing "C"

Interval: 4049'-4068'

Times: 30-45-45-60

Recovery: 45' SO&MCW (76w, 23m, 1o); 60'

MCW w/trace oil (79w, 21m); 1190' fluid circ.

out (dropped bar); 120' SMCW w/trace oil (95w, 5m), chl 29K

FP: 41-373/379-674 SIP: 1267-1264

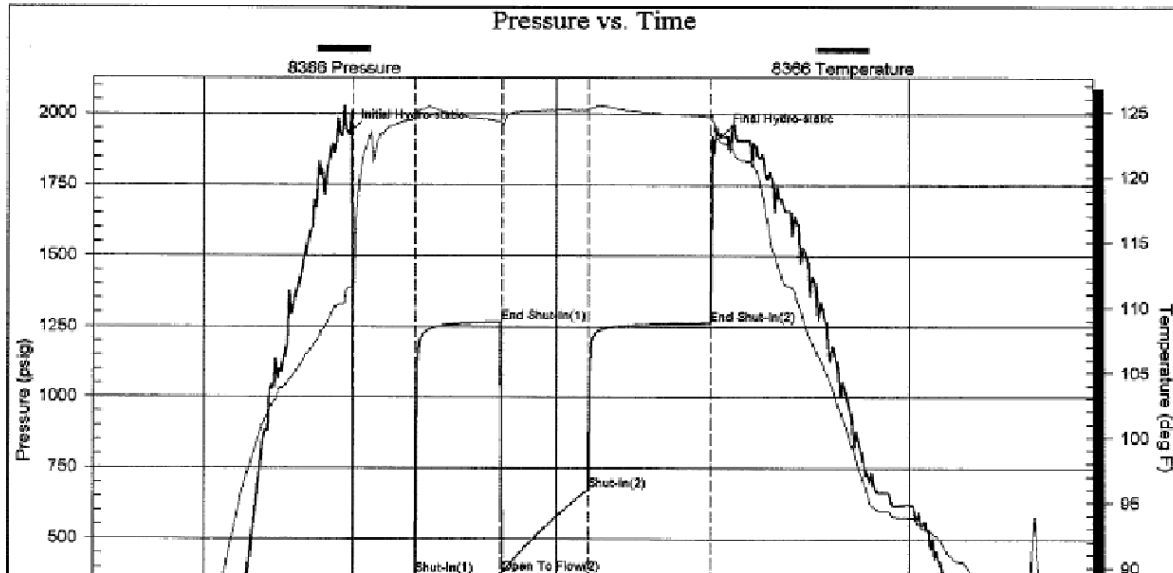
HP: 1933-1922 BHT: 125 deg. F

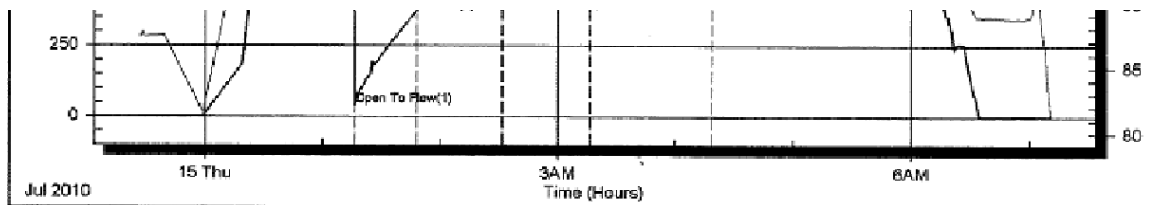
IFP: fair to strong, B.O.B. in 4 1/4 minutes

ISIP: no return

FFP: fair blow, B.O.B. in 6 minutes

FSIP: no return



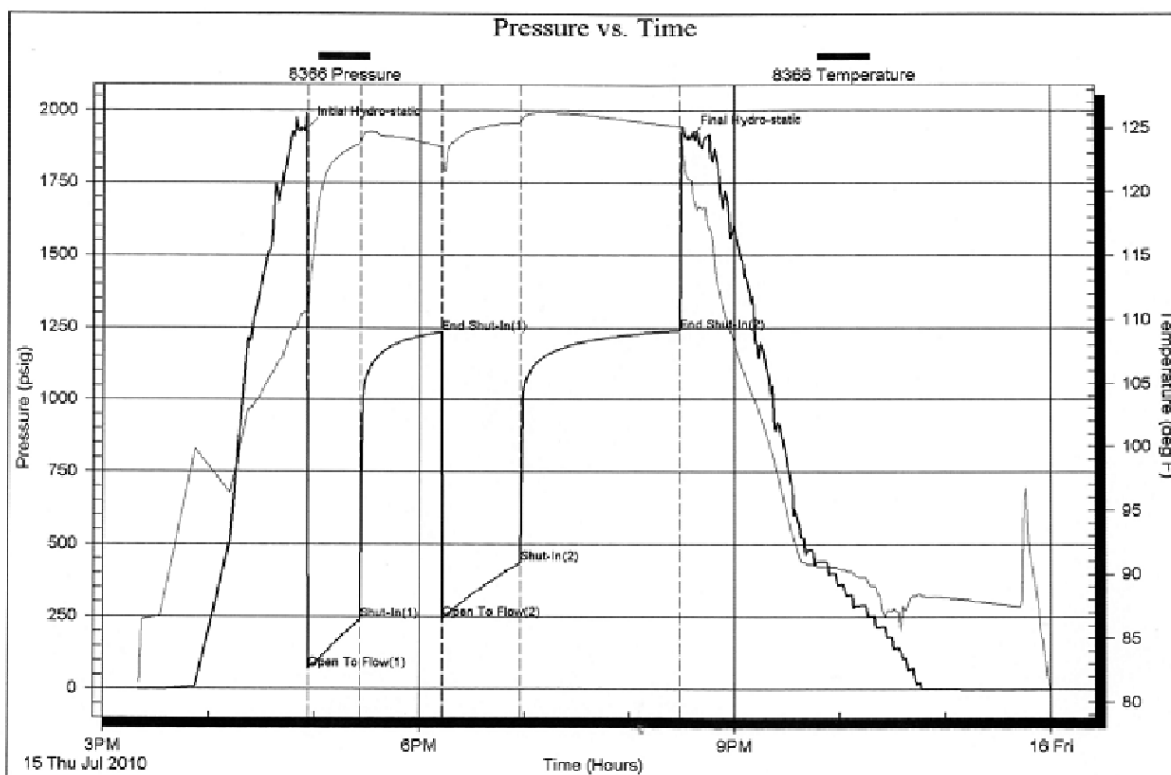


## DRILL STEM TESTS

**DST No. 3 Lansing "E"**  
 Interval: 4072'-4100'  
 Times: 30-45-45-90  
 Recovery: 880' GIP; 970' CGO (39g, 58o, 3m); 75' GW&MCO (30g, 50o, 7w, 13m); 120' GW&MCO (11g, 36o, 23w, 30m)  
 FP: 70-238/244-436 SIP: 1234-1239  
 HP: 1933-1905 BHT: 125 deg. F

**IFP:** strong blow, B.O.B. in 3 1/2 minutes  
**ISIP:** blowback built to B.O.B. in 16 minutes, slowly died back at 35 minute mark  
**FFP:** fair to strong, B.O.B. in 6 minutes  
**FSIP:** blowback built to 4 1/2", died back at 50 minute mark, dead in 66 minutes

Serial #: 8368      Inside      Grand Mesa Operating Co.      26/12s/32w Logan KS      DST Test Number: 3



## DRILL STEM TESTS

**DST No. 4 Lansing "H"**  
 Interval: 4144'-4210'  
 Times: 30-30-30-30  
 Recovery: 20' M w/trace oil; 120' MCW (59w, 41m) chl 20K

**IFP:** weak blow bldg to 3 1/2 inches  
**ISIP:** no return  
**FFP:** no blow until 3 1/2 minutes, weak bldg to 1 3/4 inches  
**FSIP:** no return

4 min, 0 in 20K

ISIP: no return

FP: 19-63/67-81 SIP: 1142-1073

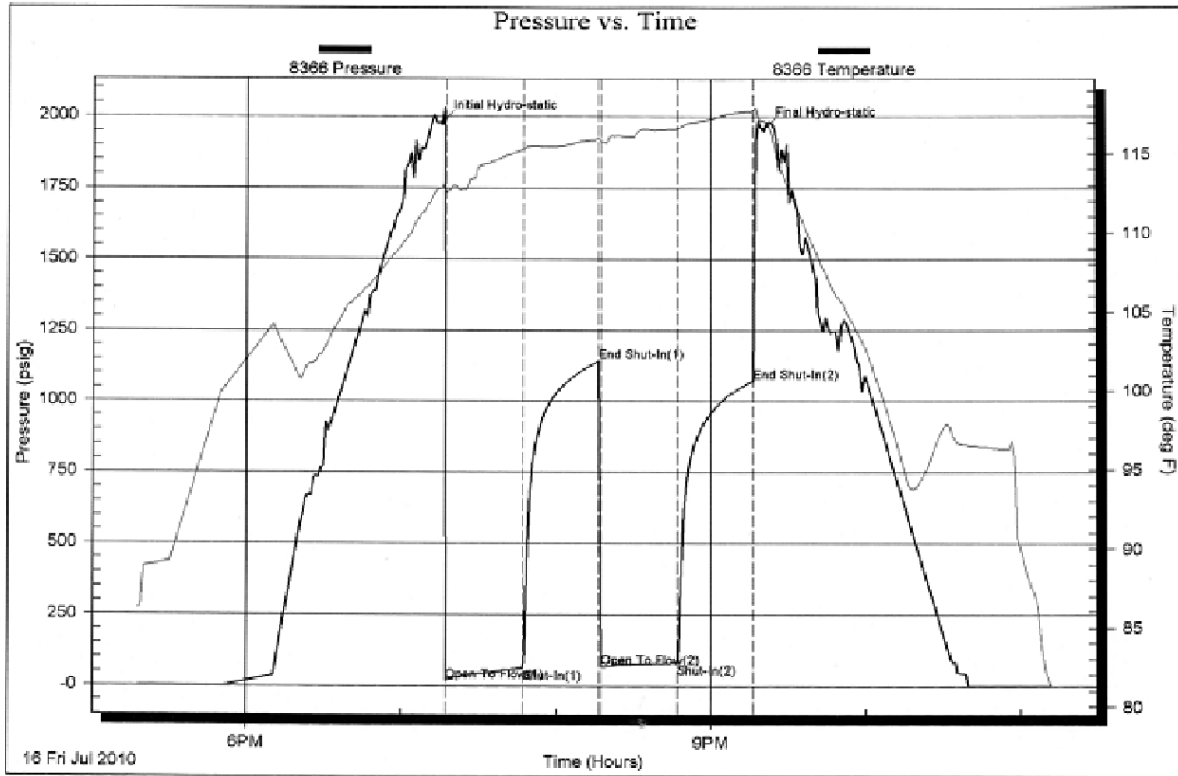
HP: 1978-1955 BHT: 118 deg. F

Serial #: 8366

Inside Grand Mesa Operating Co.

26/12s/32w Logan KS

DST Test Number: 4



## DRILL STEM TESTS

DST No. 5 Lansing "I and "J"

Interval: 4202'-4241'

Times: 30-30-30-30

Recovery: 95' MCW w/trace oil (72w, 28m);

1000' MCW (reversed out); 120' MCW w/trace

oil (89w, 11m) chl 38K

FP: 51-363/368-583 SIP: 1294-1285

HP: 2018-2008 BHT: 126 deg. F

IFP: strong blow bldg to B.O.B. in 4 1/2 minutes

ISIP: no return

FFP: fair to strong blow bldg. to B.O.B. in 5 1/2 minutes

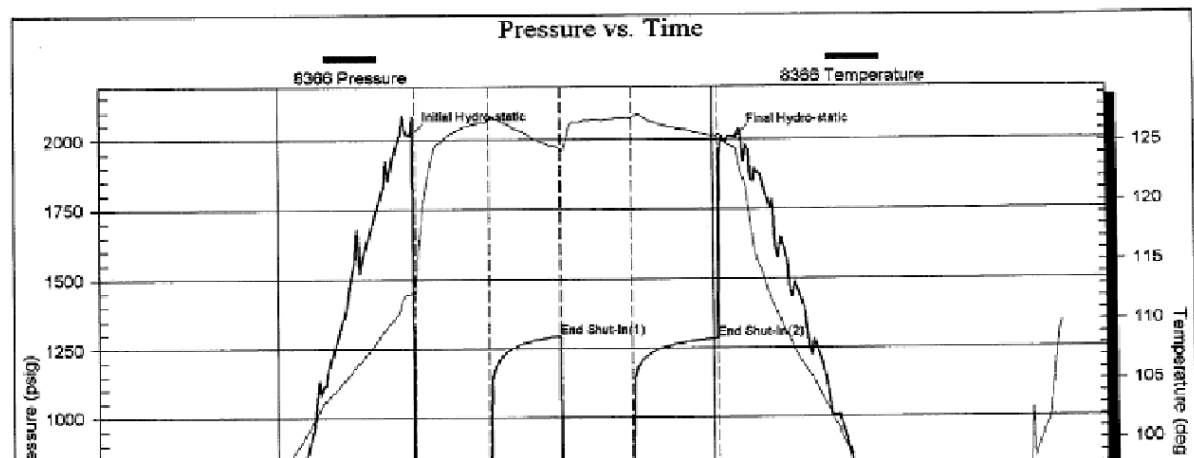
FSIP: no return

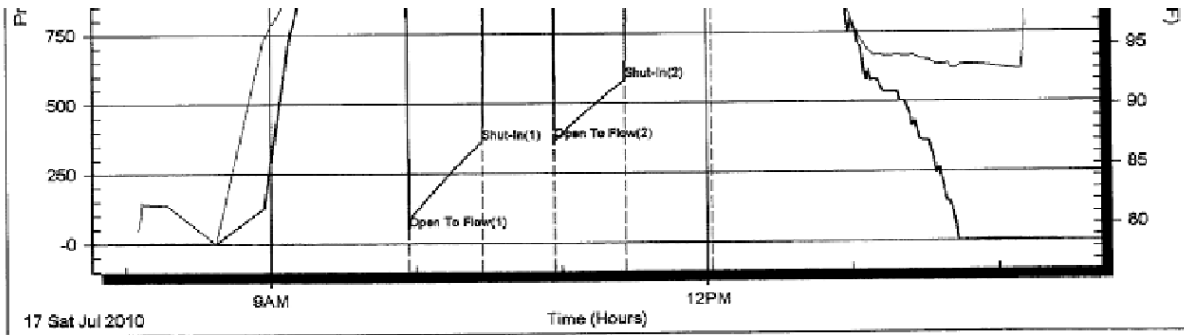
Serial #: 8366

Inside Grand Mesa Operating Co.

26/12s/32w Logan KS

DST Test Number: 5





## DRILL STEM TESTS

DST No. 6 Lansing "K"  
 Interval: 4242'-4274'  
 Times: 30-45-45-90  
 Recovery: 905' GIP; 40' CGO (30g, 69o, 1m); 565' GW&MCO (36g, 56o, 7w, 1m); 375' GO&MCW (26g, 23o, 42w, 9m); 700' W w/trace oil, chl 52K; total fluid 1680'  
 FP: 95-415/427-733 SIP: 1293-1290  
 HP: 2033-2031 BHT: 126 deg. F

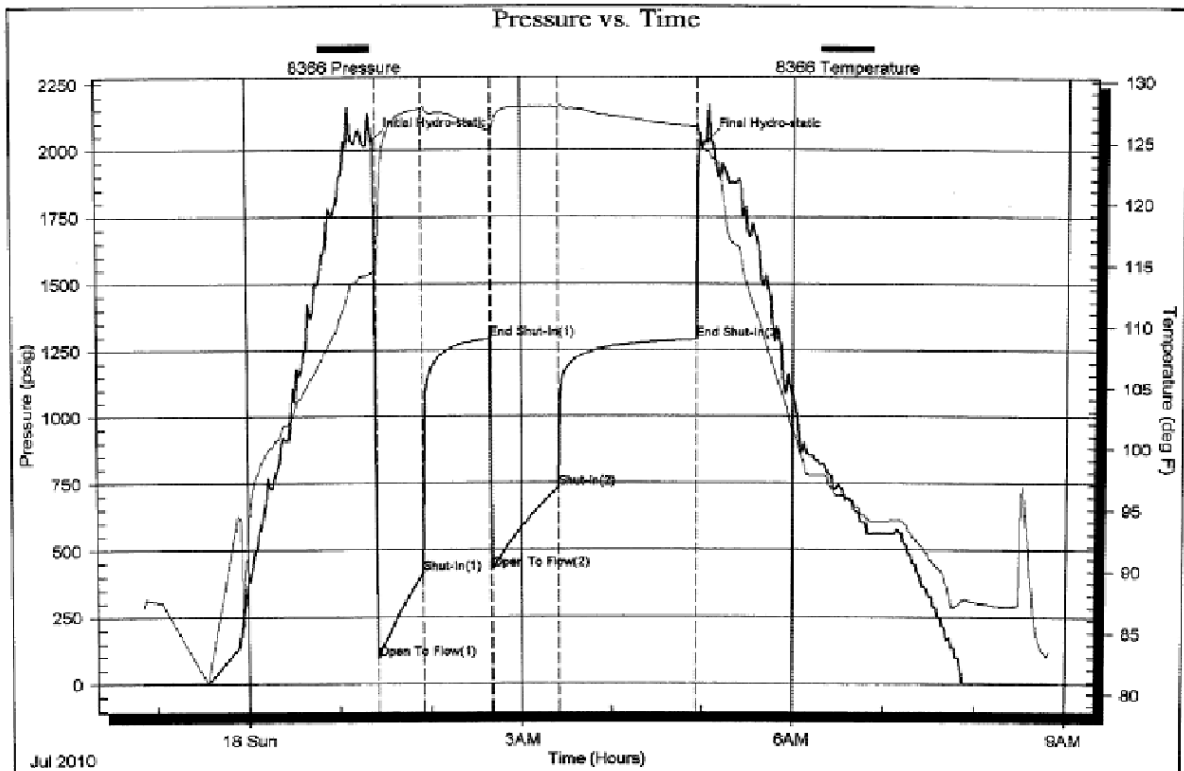
IFP: strong blow, B.O.B. in 2 min. and 20 sec.  
 ISIP: slowly built to 5 1/2"  
 FFP: strong blow, B.O.B. in 3 1/4 minutes  
 FSIP: built to B.O.B. in 35 minutes

Serial #: 8366

Inside Grand Mesa Operating Co.

26/12s/32w Logan K5

DST Test Number: 8




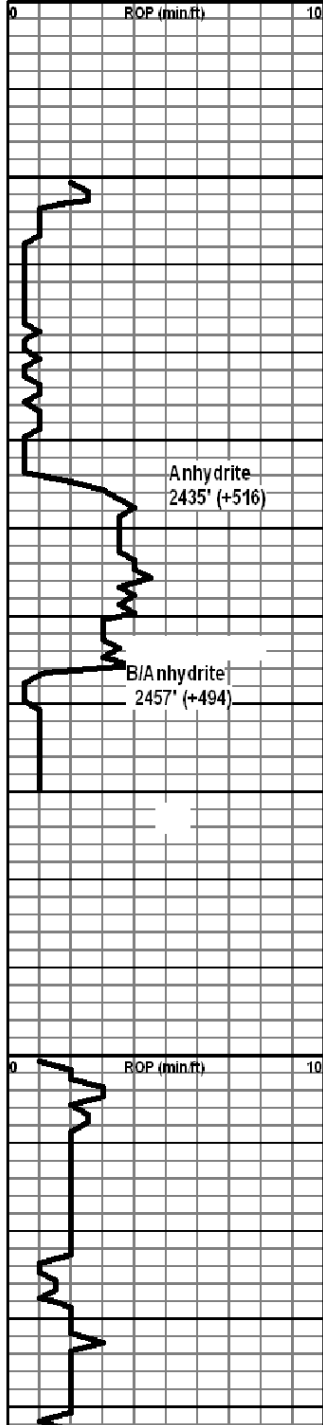
## DRILL STEM TESTS

DST No. 7 Cherokee  
 Interval: 4528'-4570'

IFP: surface blow, died in 12 minutes  
 ISIP: no return

Times: 30-20-0-0  
 Recovery: 2' SOCM (50, 95m)  
 FP: 17-18 SIP: 41  
 HP: 2200-2174 BHT: 117 deg. F

FFP: not taken  
 FSIP: not taken

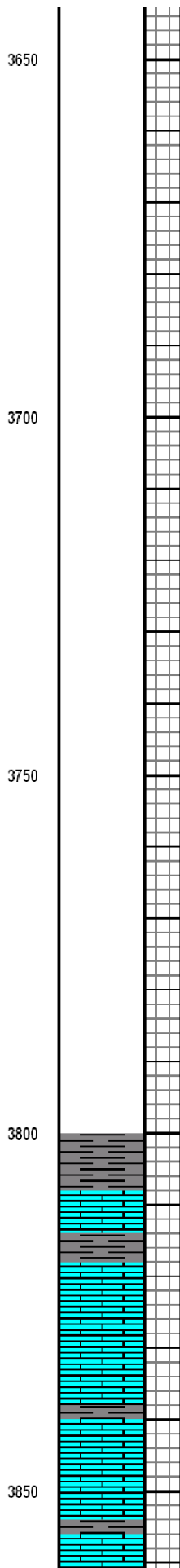
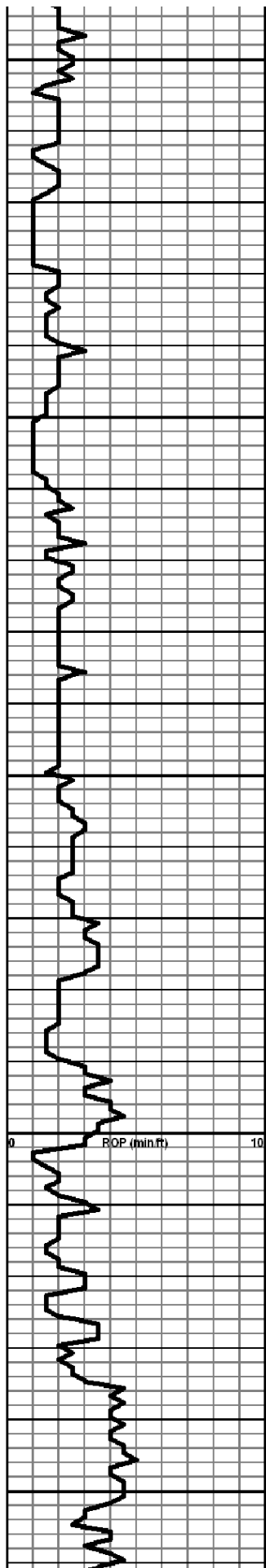
<p>Curve Track 1</p> <p>ROP (min/ft) </p>	Depth	Lithology	SSO, 15ft @ 100g	Geological Descriptions	Remarks
 <p>Anhydrite 2435' (+516)</p> <p>B/Anhydrite 2457' (+494)</p>	<p>2400</p> <p>2450</p> <p>3600</p>			<p>Morning Report Depth/Activity at 7 a.m.</p> <p>Spud at 10:30 am on 2-17-2011</p> <p>2-18 Drilling at 830'</p> <p>2-19 Drilling at 2650'</p> <p>2-20 Drilling at 3611'</p> <p>2-21 Cir for Slips 1 at 4020'</p> <p>2-22 DST No. 2 at 4100'</p> <p>2-23 DST No. 3 at 4194'</p> <p>2-24 DST No. 4 at 4330'</p> <p>2-25 Drilling at 4568'</p> <p>2-26 Drilling at 4650'</p> <p>2-27 Set 5 1/2" Casing</p>	<p>Bit Trip at 3611"</p> <p>Pipe Strap at 3611' 1.17' long</p> <p>Mud Program: Mud Co/Service Mud, Inc.: Chemical Premix</p> <p>Sample Cuttings: KGS Well Sample Library</p>

Testing: Eagle Testing

Deviation:  
222' - 1/4  
2799' - 1/2  
3611' - 1/8  
4020' - 3/4  
4690' - 1/4

Electric Logs:  
Weatherford:  
DIL-GR-SP  
CN/CDL-GR-PE  
MICRO LOG

Geologist on Location at  
3731' at 2:22 p.m. on  
2-20-11



Sh-gry/dk gry

Ls-gry fxlh mhd fos trc xln por

Sh-gry/dk gry

Ls-lt gry fxlh mhd/dns no por

Ls-lt gry fxlh mhd trc xln por

Ls-lt gry fxlh dns no por with some chit-tan/lt gry fsh opac

Ls-lt gry f mxln mhd trc xln por with some chit-AA

Ls-lt gry/gry fxlh dns no por

Sh-gry/dk gry

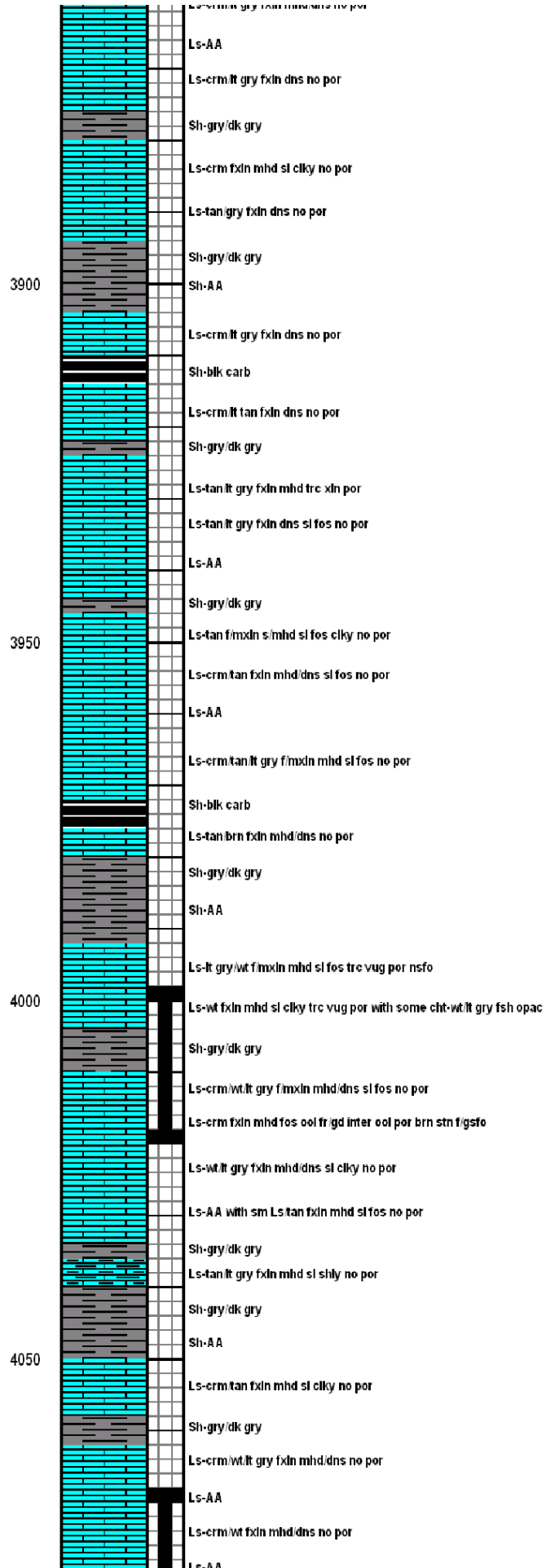
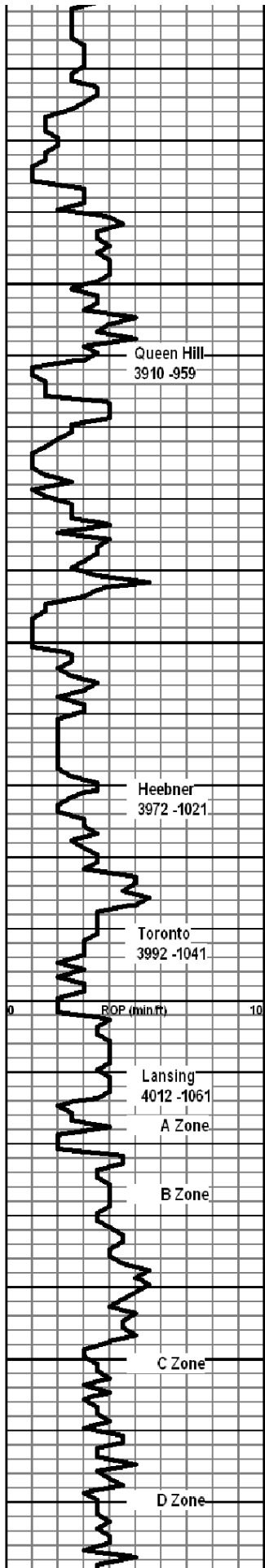
Ls-lt gry/gry fxlh dns no por with some chit-lt gry fsh opac

Ls-AA

Sh-gry/dk gry

Ls-lt gry fxlh mhd/dns no por





DST NO. 1  
3998' to 4020'

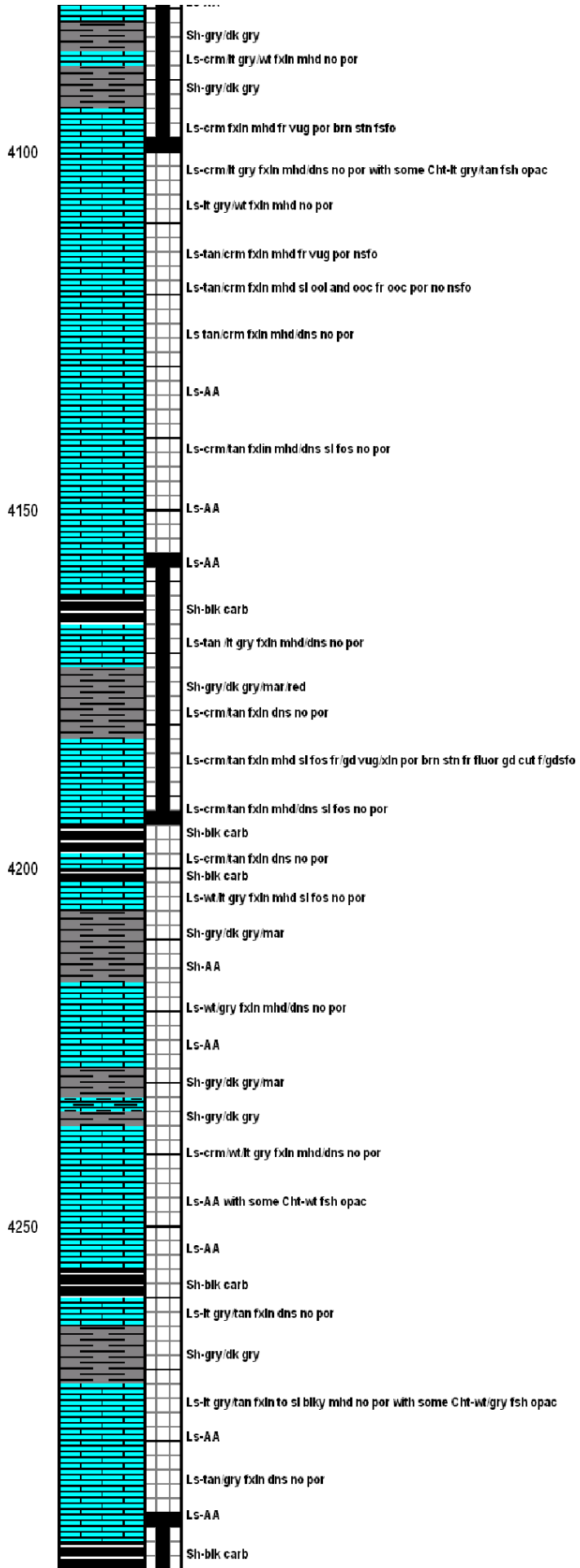
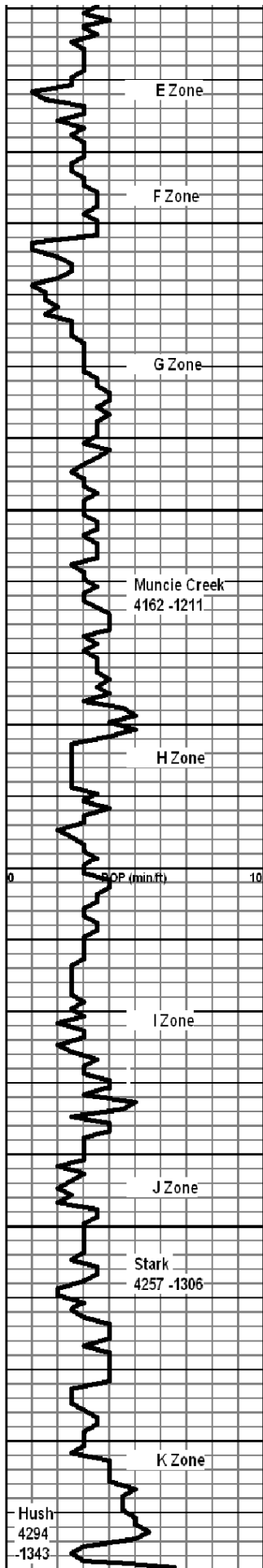
CFS at 4008' - 45"

CFS at 4020' - 60"  
Pulled 28 stand short trip  
at 4020' then cir for test  
60"

Mud Data at 4020' at  
12:30 p.m. on 2-21-11 Wt  
9.1 Vis 53 WL 8.8 pH 10  
Chl 1900 YP 14

CFS at 4060' - 45"

DST NO. 2  
4068' to 4100'



CFS at 4100' - 60"  
 Mud Data at 4100' at  
 11:15 a.m. on 2-22-11 Wt  
 9.1 Vis 54 WL 8.8 pH 9.5  
 Chl 2000 YP 17

DST NO. 3  
 4156' to 4194'

CFS at 4160' - 45"

CFS at 4194' - 75"

Mud Data at 4205' at  
 10:30 a.m. on 2-23-11 Wt  
 9.3 Vis 52 WL 9.6 pH 10  
 Chl 2114 YP 14

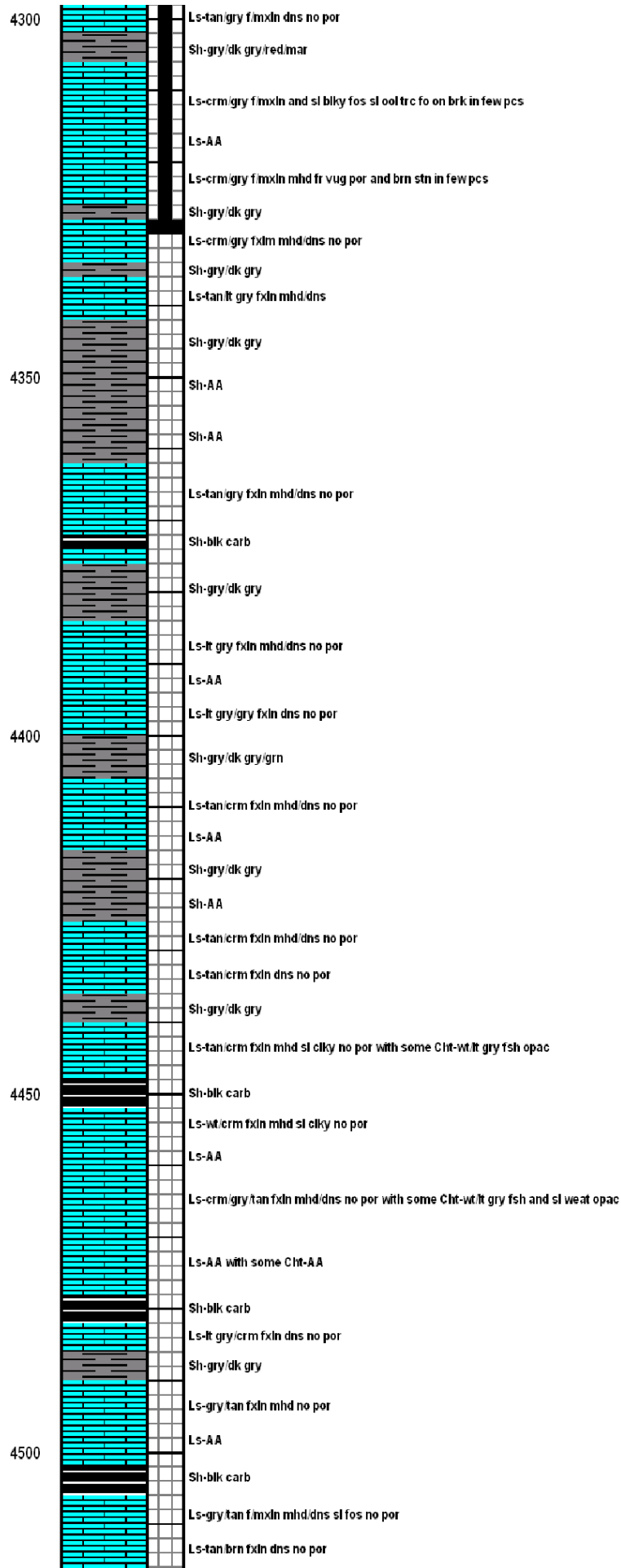
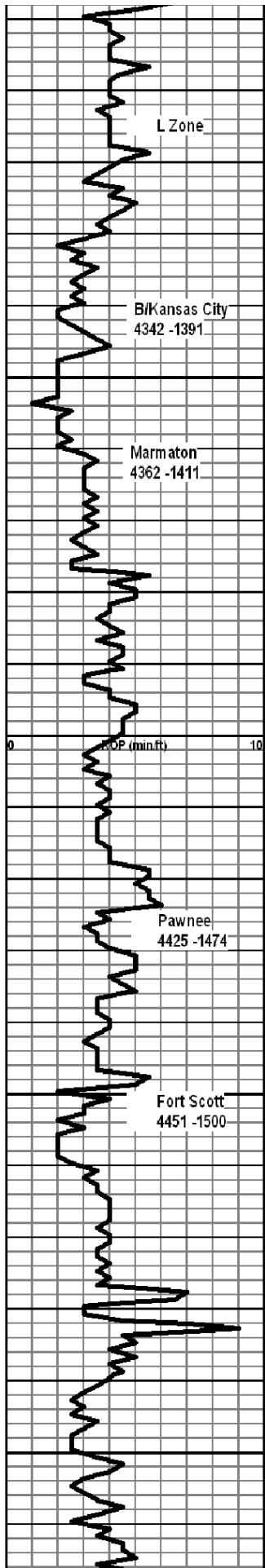
CFS at 4220' - 45"

CFS at 4246' - 45"

CFS at 4272' - 45"

DST NO. 4  
 4290' to 4330'

Hush  
 4294  
 -1343

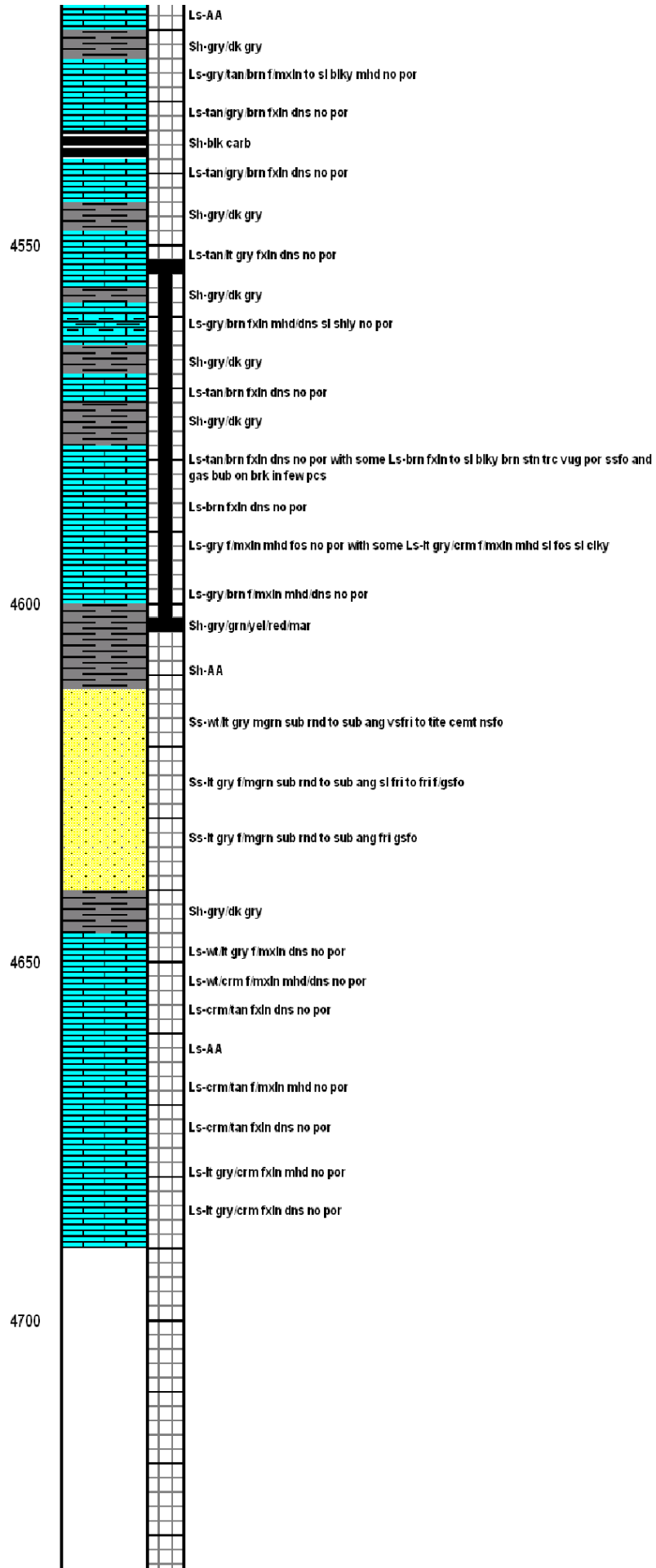
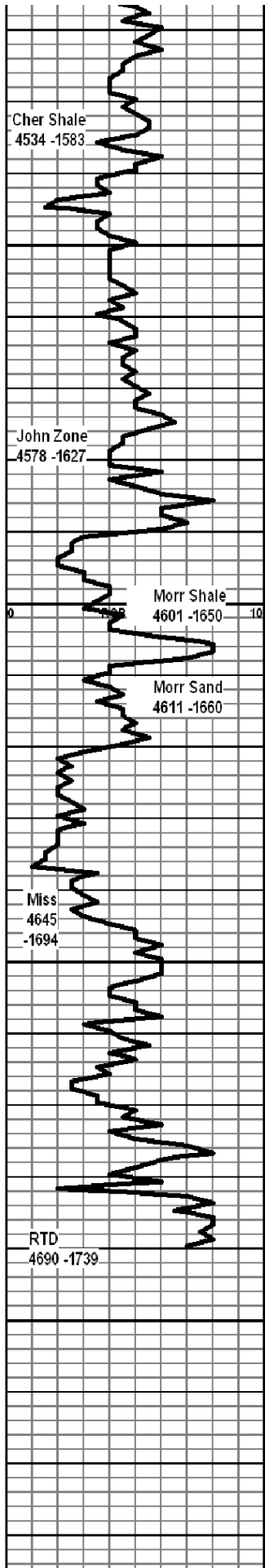


CFS at 4330' - 60"

Pulled 5 stand short trip then Cir for test 60"

Mud Data at 4330' at 10:15 a.m. on 2-24-11 Wt 9.3 Vis 51 WL 8 pH 10.5 Chl 2800 YP 16

CFS at 4476' - 90"



CFS at 4522' 30"

DST NO. 5  
4552' to 4604'

CFS at 4568' - 30"  
Pulled 10 stand short trip at 4568' then cir to cond hole for 30"  
Mud Data at 4568' at 6:45 a.m. on 2-25-11 Wt 9.2 Vis 54 WL 7.2 pH 10.5 Chl 2000 YP 17

CFS at 4590' - 45"

CFS at 4604' - 120"

Mud Data at 4624' at 6:15 a.m. on 2-26-11 Wt 9.1 Vis 55 WL 7.2 pH 10 Chl 2500 YP 15

Finished Drilling at 10:52 a.m. on 2-26-11 Cir for Log - 160"

Finished Logging at 7:00 p.m. on 2-26-11

