KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1046127

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 9855
Name: Grand Mesa Operating Company
Address 1: 1700 N WATERFRONT PKWY BLDG 600
Address 2:
City: WICHITA State: KS Zip: 67206 + 5514
Contact Person: Ronald N. Sinclair
Phone: (316) 265-3000
CONTRACTOR: License # 30606
Name: Murfin Drilling Co., Inc.
Wellsite Geologist: Steven P. Carl
Purchaser: N/A

Designate Type of Completion:

- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [ ] Oil
- [ ] WSW
- [ ] SWD
- [ ] SIOW
- [ ] Gas
- [x] D&A
- [ ] ENHR
- [ ] SIGW
- [ ] OG
- [ ] GSW
- [ ] Temp. Abd.
- [ ] CM *(Coal Bed Methane)*
- [ ] Cathodic
- [ ] Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:

Operator:
Well Name:
Original Comp. Date: Original Total Depth:

- [ ] Deepening
- [ ] Re-perf.
- [ ] Conv. to ENHR
- [ ] Conv. to SWD
- [ ] Conv. to GSW
- [ ] Plug Back: Plug Back Total Depth
- [ ] Commingled Permit #:
- [ ] Dual Completion Permit #:
- [ ] SWD Permit #:
- [ ] ENHR Permit #:
- [ ] GSW Permit #:

10/11/2010	10/19/2010	10/20/2010
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-063-21871-00-00
Spot Description:
NW - NE - SW - SW Sec. 31 Twp. 13 S. R. 31 [ ] East [x] West
1035 Feet from [ ] North / [x] South Line of Section
935 Feet from [ ] East / [x] West Line of Section
Footages Calculated from Nearest Outside Section Corner:
[ ] NE [ ] NW [ ] SE [x] SW
County: Gove
Lease Name: Phelps Well #: 7-31
Field Name: Maurice Northeast
Producing Formation: None
Elevation: Ground: 2948 Kelly Bushing: 2953
Total Depth: 4779 Plug Back Total Depth: 0
Amount of Surface Pipe Set and Cemented at: 220 Feet
Multiple Stage Cementing Collar Used? [ ] Yes [x] No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from:
feet depth to: w/ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 12000 ppm Fluid volume: 770 bbls
Dewatering method used: Evaporated
Location of fluid disposal if hauled offsite:
Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. [ ] East [ ] West
County: Permit #:

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- [x] **Letter of Confidentiality Received**
  Date: 10/27/2010
- [x] **Confidential Release Date:** 10/26/2012
- [x] **Wireline Log Received**
- [x] **Geologist Report Received**
- [ ] **UIC Distribution**

ALT [ ] I [x] II [ ] III **Approved by:** NAOMI JAMES **Date:** 11/02/2010

Side Two

1046127

Operator Name: Grand Mesa Operating Company Lease Name: Phelps Well #: 7-31

Sec. 31 Twp. 13 S. R. 31 ☐ East ☑ West County: Gove

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Electric Log Submitted Electronically ☑ Yes ☐ No
(If no, Submit Copy)

List All E. Logs Run:
Log
Compact Photo Density Comp. Neutron Micro. Res. Log; AI Shallow focussed Electric Log

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Attached	Attached	Attached

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	220	Common		3% CC, 2% Gel

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:
☐ Perforate
☐ Protect Casing
☐ Plug Back TD
☑ Plug Off Zone

Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
0-4779	60/40 Pozmix	220	4% Gel, 1/4#sx Flocele
-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth

TUBING RECORD: Size: Set At: Packer At: Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	Phelps 7-31
Doc ID	1046127

Tops

Name	Top	Datum
Stone Corral	2435	+518
Bs/Stone Corral	2456	+497
Heebner	3949	-996
Lansing	3996	-1043
Muncie Creek	4156	-1203
Stark	4246	-1293
Marmaton	4355	-1402
Little Osage	4489	-1536
Johnson	4591	-1638
Morrow	4616	-1663
Mississippian	4734	-1781
RTD	4777	

DRILL STEM TEST REPORT

Grand Mesa

1700 N Waterfront PKWY
BLDG 600
Wichita, Ks
ATTN: Steve Carl

Phelps #7-31

31-13-31 Gove,Ks

Job Ticket: 039680 **DST#: 1**

Test Start: 2010.10.16 @ 13:50:33

GENERAL INFORMATION:

Formation: **L**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:57:48
Time Test Ended: 19:05:03

Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 40

Interval: 4281.00 ft (KB) To 4335.00 ft (KB) (TVD)
Total Depth: 4335.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

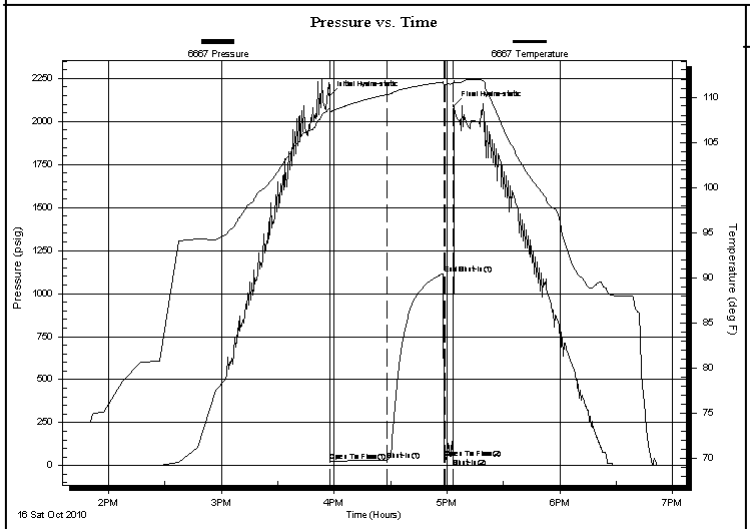
Reference Elevations: 2953.00 ft (KB)
2948.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6667 **Inside**

Press@RunDepth: 32.81 psig @ 4282.00 ft (KB)
Start Date: 2010.10.16 End Date: 2010.10.16
Start Time: 13:50:33 End Time: 18:52:03

Capacity: 8000.00 psig
Last Calib.: 2010.10.16
Time On Btm: 2010.10.16 @ 15:57:33
Time Off Btm: 2010.10.16 @ 17:03:48

TEST COMMENT: Weak 1/4"in blow died in 9 min.
No return
No blow , pull tool after 5 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2152.20	108.84	Initial Hydro-static
1	24.80	108.16	Open To Flow (1)
31	32.81	110.29	Shut-In(1)
61	1116.37	111.70	End Shut-In(1)
62	45.13	111.40	Open To Flow (2)
66	40.66	111.47	Shut-In(2)
67	2090.13	111.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Grand Mesa

1700 N Waterfront PKWY
BLDG 600
Wichita, Ks
ATTN: Steve Carl

Phelps #7-31

31-13-31 Gove,Ks

Job Ticket: 039680 **DST#: 1**

Test Start: 2010.10.16 @ 13:50:33

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	59.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.60 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4000.00 ppm				
Filter Cake:	1.00 inches				

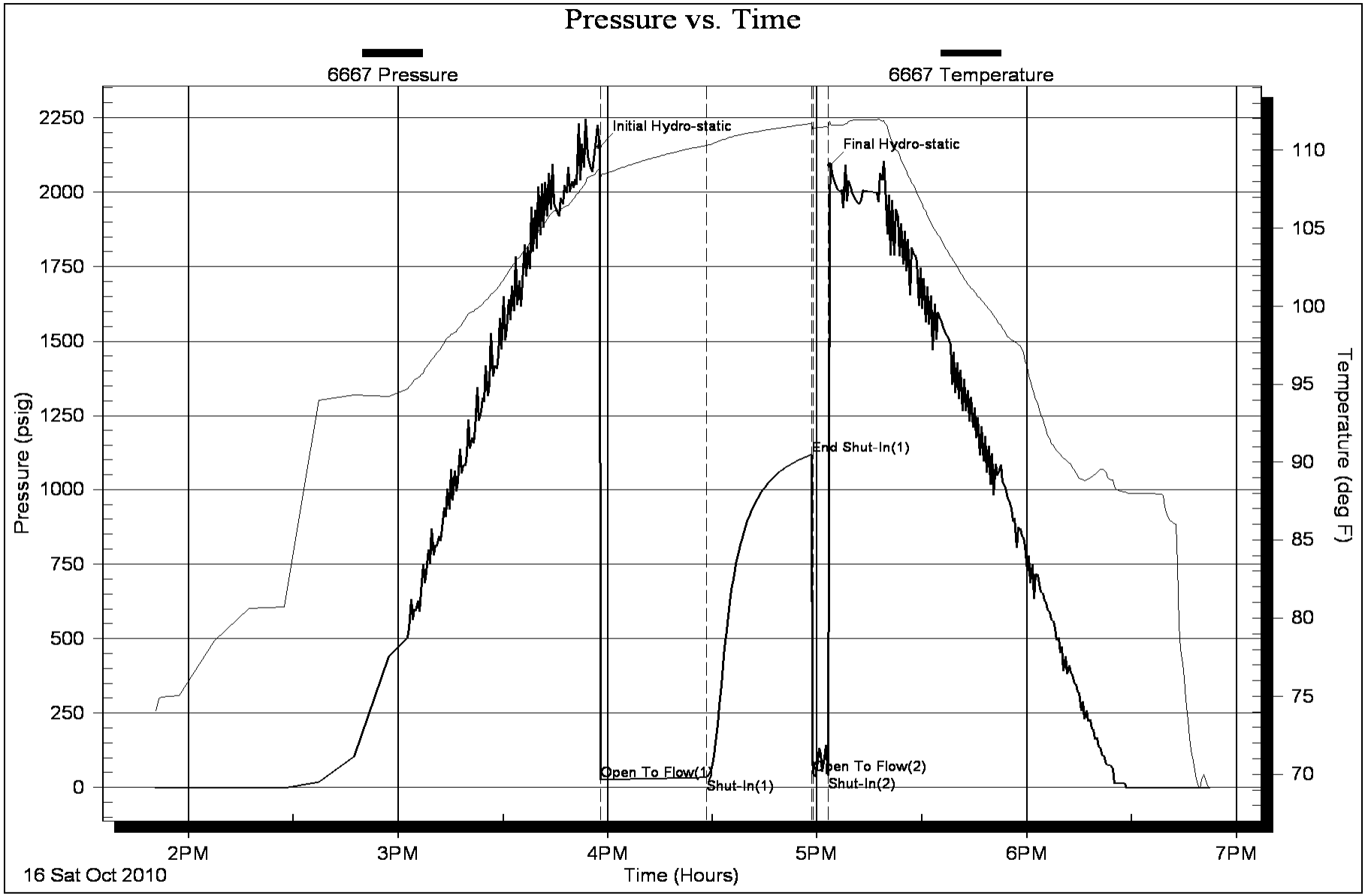
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
6667 Pressure
6667 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
Temperature (deg F)
2250
2000
1750
1500
1250
1000
750
500
250
0
110
105
100
95
90
85
80
75
70
2PM
3PM
4PM
5PM
6PM
7PM
16 Sat Oct 2010
Time (Hours)

DRILL STEM TEST REPORT

Grand Mesa

1700 N Waterfront PKWY
BLDG 600
Wichita, Ks
ATTN: Steve Carl

Phelps #7-31

31-13-31 Gove,Ks

Job Ticket: 039681 **DST#: 2**

Test Start: 2010.10.18 @ 01:50:30

GENERAL INFORMATION:

Formation: **Morrow**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:12:15
Time Test Ended: 08:00:45

Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 40

Interval: 4610.00 ft (KB) To 4693.00 ft (KB) (TVD)
Total Depth: 4693.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

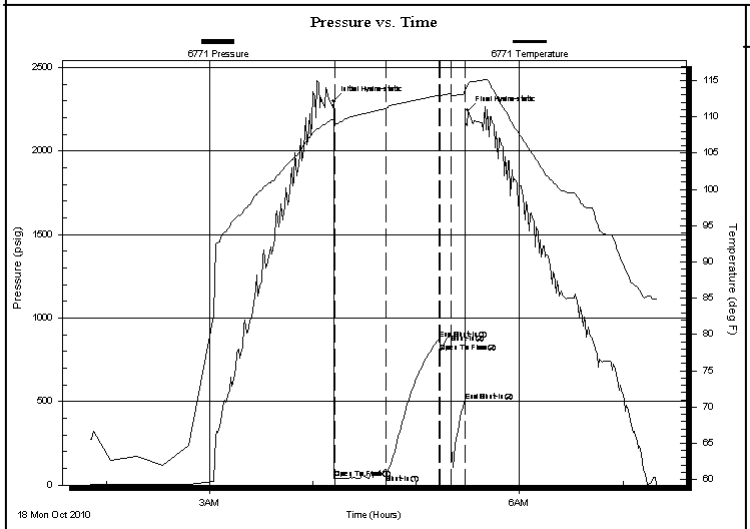
Reference Elevations: 2953.00 ft (KB)
2948.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6771 **Outside**

Press@RunDepth: 905.74 psig @ 4611.00 ft (KB)
Start Date: 2010.10.18 End Date: 2010.10.18
Start Time: 01:50:30 End Time: 07:20:45

Capacity: 8000.00 psig
Last Calib.: 2010.10.18
Time On Btm: 2010.10.18 @ 04:11:45
Time Off Btm: 2010.10.18 @ 05:30:00

TEST COMMENT: 1/2"in + blow died in 27 min.
No return
No blow , pull tool after 5 min.
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2302.22	109.69	Initial Hydro-static
1	39.41	109.06	Open To Flow (1)
31	63.02	111.16	Shut-In(1)
62	873.70	112.94	End Shut-In(1)
62	798.23	112.93	Open To Flow (2)
69	905.74	113.24	Shut-In(2)
77	504.88	113.16	End Shut-In(2)
79	2245.10	114.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	mud 100%m	0.07

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Grand Mesa

1700 N Waterfront PKWY
BLDG 600
Wichita, Ks

ATTN: Steve Carl

Phelps #7-31

31-13-31 Gove,Ks

Job Ticket: 039681 **DST#: 2**

Test Start: 2010.10.18 @ 01:50:30

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	66.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.77 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4400.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

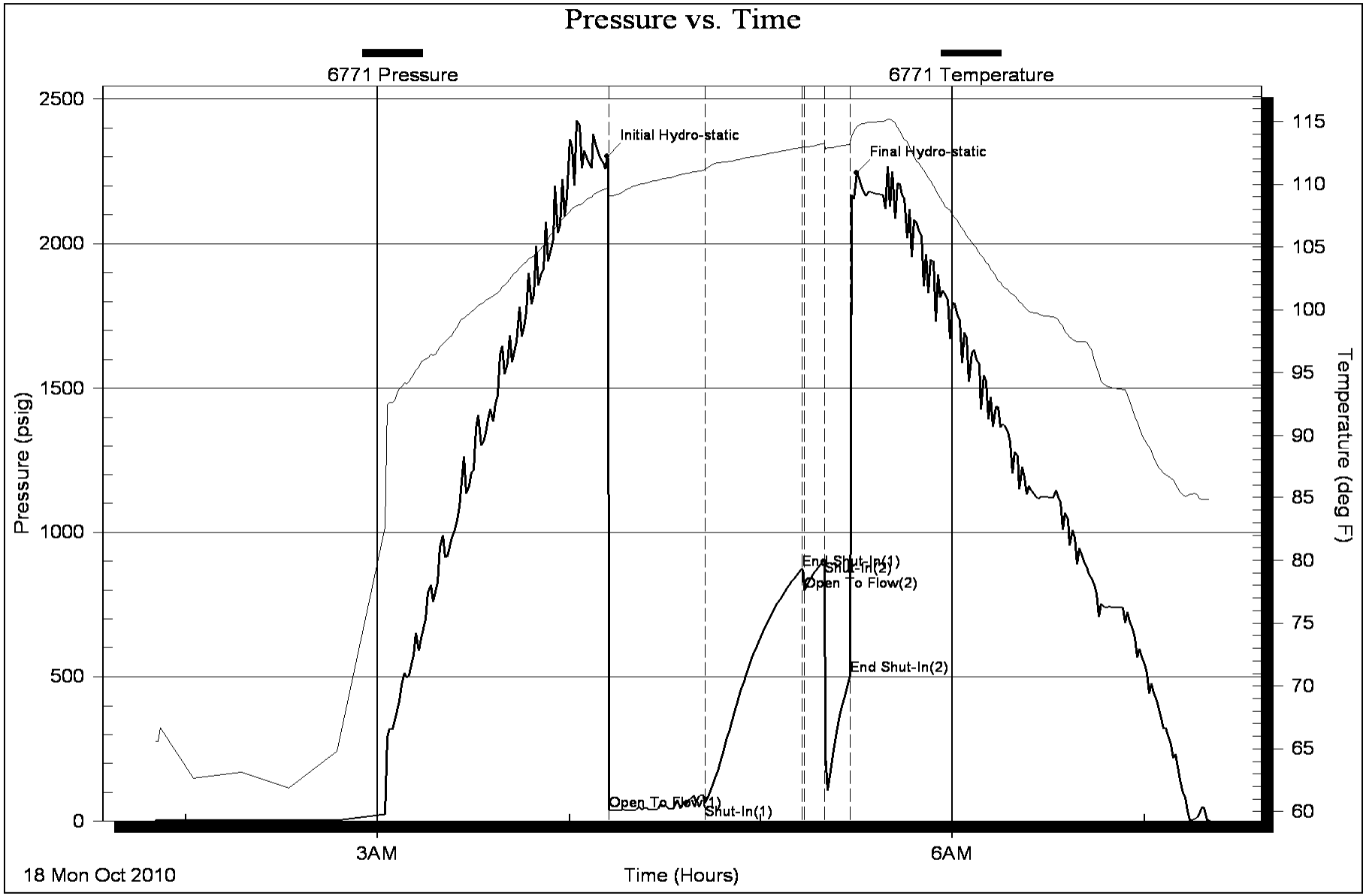
Length ft	Description	Volume bbl
15.00	mud 100%m	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: not sure what happened with recorder 6667 batt was low runing bench test on it to make sure its not recorder


Pressure vs. Time
6771 Pressure
6771 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
Shut-In(2)
Open To Flow(2)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Pressure (psig)
Temperature (deg F)
2500
2000
1500
1000
500
0
115
110
105
100
95
90
85
80
75
70
65
60
3AM
6AM
18 Mon Oct 2010
Time (Hours)

DRILL STEM TEST REPORT

Grand Mesa

1700 N Waterfront PKWY
BLDG 600
Wichita, Ks
ATTN: Steve Carl

Phelps #7-31

31-13-31 Gove,Ks

Job Ticket: 039682 **DST#: 3**

Test Start: 2010.10.18 @ 16:50:26

GENERAL INFORMATION:

Formation: **Morrow, Miss**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:50:26
Time Test Ended: 01:30:11

Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 40

Interval: 4608.00 ft (KB) To 4743.00 ft (KB) (TVD)
Total Depth: 4743.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

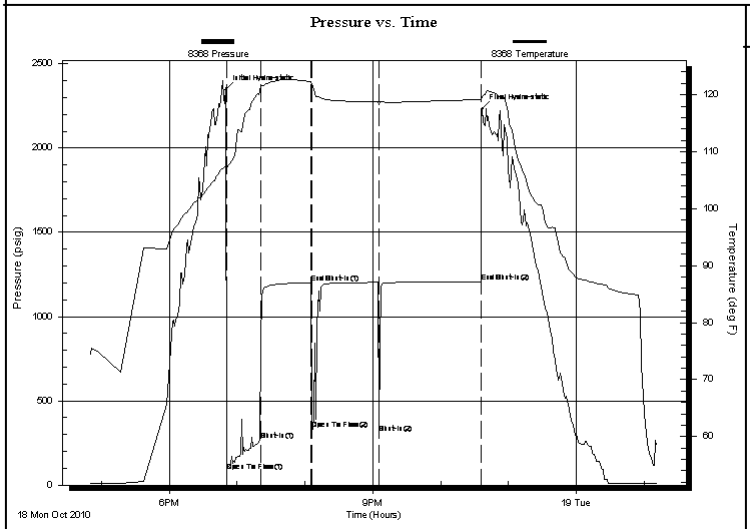
Reference Elevations: 2953.00 ft (KB)
2948.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8368 **Inside**

Press@RunDepth: 305.05 psig @ 4609.00 ft (KB)
Start Date: 2010.10.18 End Date: 2010.10.19
Start Time: 16:50:26 End Time: 01:12:11

Capacity: 8000.00 psig
Last Calib.: 2010.10.19
Time On Btm: 2010.10.18 @ 18:50:11
Time Off Btm: 2010.10.18 @ 22:36:56

TEST COMMENT: B.O.B. in 9 1/2 min.
No return
4"in + blow died back to 1"in
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2346.24	107.57	Initial Hydro-static
1	80.81	106.71	Open To Flow (1)
31	266.33	120.84	Shut-In(1)
76	1200.68	122.26	End Shut-In(1)
77	334.54	121.87	Open To Flow (2)
136	305.05	118.28	Shut-In(2)
226	1204.64	119.16	End Shut-In(2)
227	2233.18	119.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	s o c w m 2%o 38%w 60%m	0.59
300.00	w c m w/oil scum 40%w 60%m	4.21
105.00	s w c m 15%w 85%m	1.47

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Grand Mesa

1700 N Waterfront PKWY
BLDG 600
Wichita, Ks

ATTN: Steve Carl

Phelps #7-31

31-13-31 Gove,Ks

Job Ticket: 039682 **DST#: 3**

Test Start: 2010.10.18 @ 16:50:26

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	21000 ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.98 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

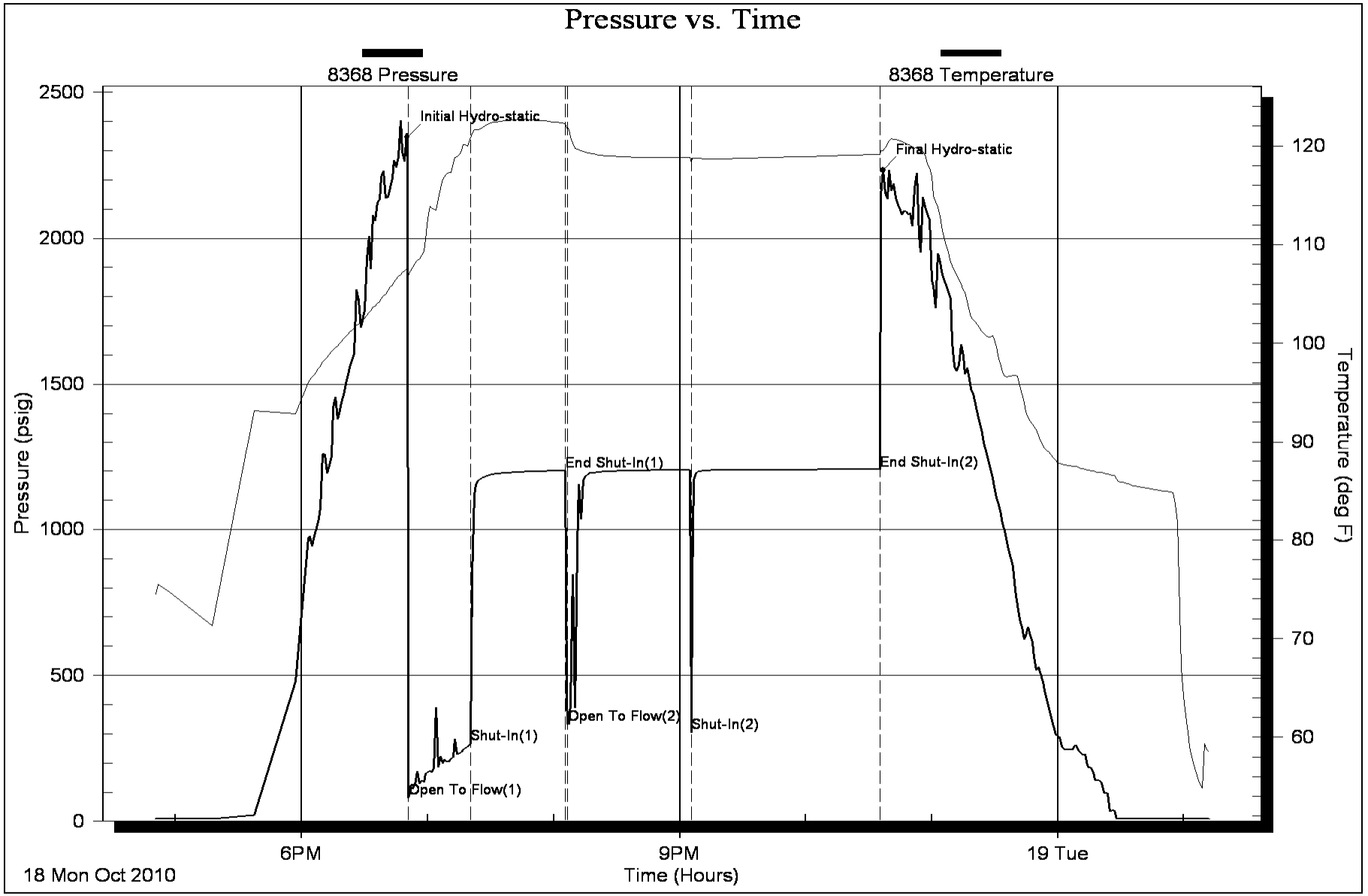
Length ft	Description	Volume bbl
120.00	s o c w m 2%o 38%w 60%m	0.590
300.00	w c m w/oil scum 40%w 60%m	4.208
105.00	s w c m 15%w 85%m	1.473

Total Length: 525.00 ft Total Volume: 6.271 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: rw .391 @ 56*f= 21,000 chlor


Pressure vs. Time
8368 Pressure
8368 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(1)
Open To Flow(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
Temperature (deg F)
2500
2000
1500
1000
500
0
120
110
100
90
80
70
60
6PM
9PM
19 Tue
18 Mon Oct 2010
Time (Hours)

ALLIED CEMENTING CO., LLC. 035484

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Oakley KS

DATE 10/11/10	SEC. 31	TWP. 13	RANGE 31	CALLED OUT	ON LOCATION	JOB START 6:00p	JOB FINISH 6:30p
LEASE Phelps	WELL # T-31	LOCATION Oakley 20S 2W 3 1/2 N				COUNTY Gove	STATE KS
OLD OR NEW (Circle one)							

CONTRACTOR Murfin 24
TYPE OF JOB Surface
HOLE SIZE 12 1/4 T.D. 220
CASING SIZE 8 5/8 DEPTH 220
TUBING SIZE DEPTH
DRILL PIPE 4 1/2 DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 13.05

OWNER Same

CEMENT

AMOUNT ORDERED 165 Com 3070 CC 2% Gel

EQUIPMENT

PUMP TRUCK CEMENTER Alan
434 HELPER Kelly
BULK TRUCK
373 DRIVER Darren
BULK TRUCK
DRIVER

COMMON	165 SKS	@ 15.45	2549.25
POZMIX		@	
GEL	3	@ 20.80	62.40
CHLORIDE	6	@ 58.20	349.20
ASC		@	
HANDLING	174	@ 2.40	417.60
MILEAGE	10¢ SK/mile		348.00
		TOTAL	3726.45

REMARKS:

Ran 8 5/8 Csg, Circulate/Mix 165 SKS Com 3%CC 2% Gel
Displace w/ 13.05 BBL H2O
Cement Did Circulate
Thank You
Alan, Kelly, Darren

SERVICE

DEPTH OF JOB
PUMP TRUCK CHARGE 1018.00
EXTRA FOOTAGE @
MILEAGE 20 @ 7.00 140.00
MANIFOLD @
@
@
TOTAL 1158.00

CHARGE TO: Grand Mesa
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

@
@
@
@
@
TOTAL

SALES TAX (If Any)
TOTAL CHARGES
DISCOUNT IF PAID IN 30 DAYS

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Anthony Martin

SIGNATURE Anthony Martin

ALLIED CEMENTING CO., LLC. 035493

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Oakley KS

DATE 10/19/10	SEC. 31	TWP. 13	RANGE 31	CALLED OUT	ON LOCATION	JOB START 2100a	JOB FINISH 2:30a
LEASE Phelps	WELL # 7-31	LOCATION Oakley 20S 2E 3 1/4W Exto				COUNTY Gove	STATE KS
OLD OR NEW (Circle one)							

CONTRACTOR Murfin 24
TYPE OF JOB Surface
HOLE SIZE 12 1/4 T.D.
CASING SIZE 8 5/8 DEPTH
TUBING SIZE DEPTH
DRILL PIPE 4 1/2 DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG.
PERFS.
DISPLACEMENT

OWNER Same

CEMENT
AMOUNT ORDERED 230 SK 60/40 4% gel 1/4# Flo Seal

COMMON	132	@ 15.45	2039.40
POZMIX	88	@ 8.00	704.00
GEL	8	@ 20.80	166.40
CHLORIDE		@	
ASC		@	
		@	
Flo Seal	55#	@ 2.50	137.50
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	230 sks	@ 2.40	552.00
MILEAGE	10¢ SK/mile		460.00
		TOTAL	4059.30

EQUIPMENT

PUMP TRUCK CEMENTER Allan
386-281 HELPER Wayne
BULK TRUCK
394-287 DRIVER Darren
BULK TRUCK
DRIVER

REMARKS:

25 SKS @ 2445'
100 SKS @ 1523'
40 SKS @ 270'
10 SKS @ 40'
30- Rat Hole
15- Mouse Hole

SERVICE

DEPTH OF JOB
PUMP TRUCK CHARGE 1185.00
EXTRA FOOTAGE @
MILEAGE 20 @ 7.00 140.00
MANIFOLD @
@
@
TOTAL 1325.00

CHARGE TO Grand Mesa
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

8 5/8 Wooden Plug @ 40.00
@
@
@
@
TOTAL 40.00

SALES TAX (If Any)
TOTAL CHARGES
DISCOUNT IF PAID IN 30 DAYS

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Anthony Martin

SIGNATURE Anthony Martin

GRAND MESA OPERATING COMPANY

(316) 265-3000
FAX: (316) 265-3455

1700 N. WATERFRONT PARKWAY
BLDG. 600
WICHITA, KANSAS 67206-5514

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

Well Name:	#7-31 Phelps
Location:	1035'FSL, 935'FWL, 31-13s-31w, Gove County, Kansas
License Number:	API: 15-063-21871
Region:	Maurice NE
Spud Date:	10-12-2010
Drilling Completed:	10-19-2010
Surface Coordinates:	Lat: 38.876253
	Long: -100.812873
Bottom Hole Coordinates:	Vertical hole
Ground Elevation (ft):	2948'
K.B. Elevation (ft):	2953'
Logged Interval (ft):	Surface To: 4777
Total Depth (ft):	4779'
Formation:	Mississippian (Spergen) at RTD
Type of Drilling Fluid:	Chemical

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

GEOLOGIST

Name: Steven P. Carl
Company: Grand Mesa Operating Company
Address: 1700 N. Waterfront Pkwy Bldg #600
Wichita, Kansas 67206

COMMENTS

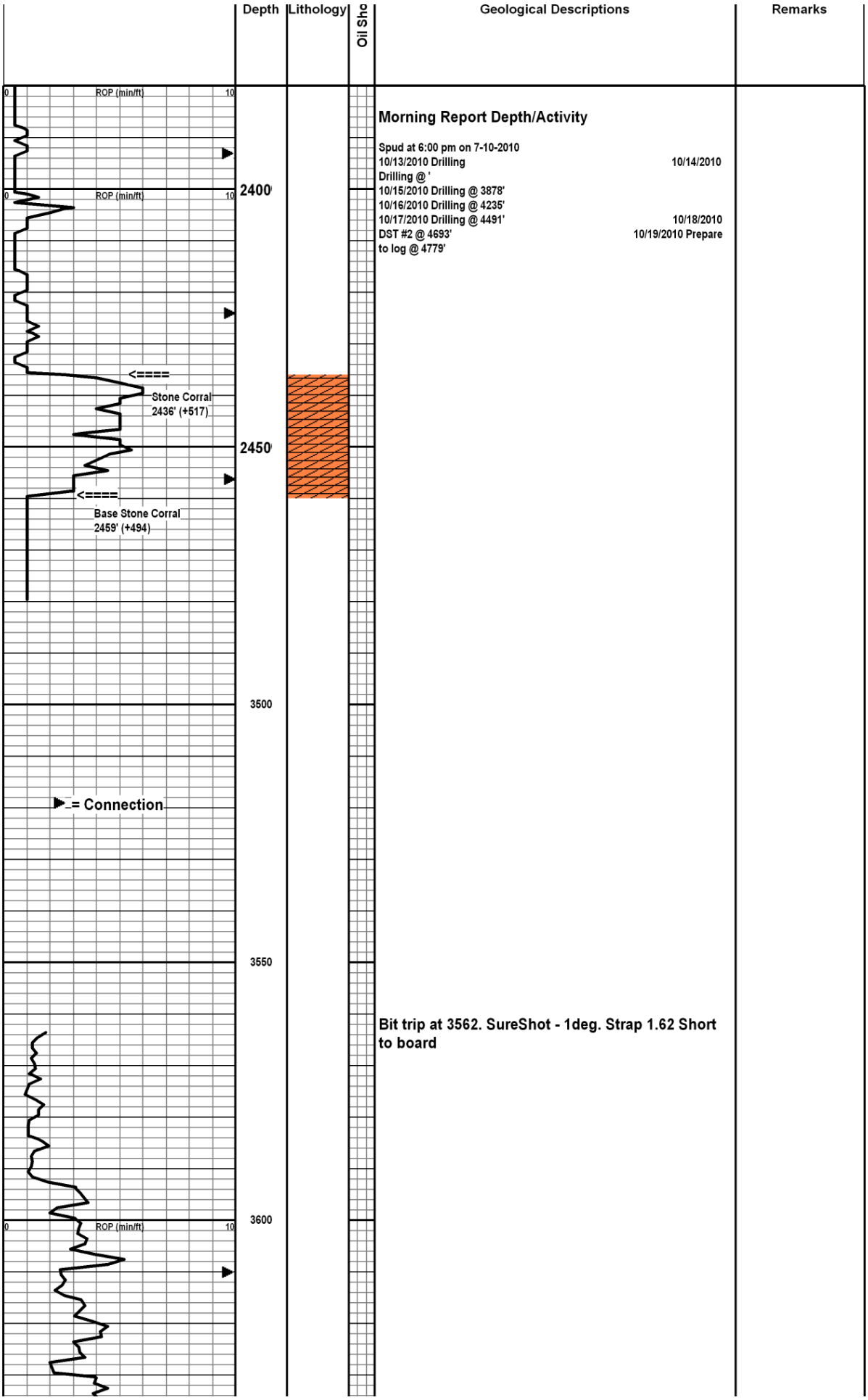
Contractor: Murfin Drilling Company Rig #24
Surface Casing: 8 5/8" set at 211' w/165sx
Mud by: MudCo - Engineer - Reid Atkins
DST's by: Trilobite Testing Inc.
Logs by: Weatherford (DIL, CN-CD, ML)
LTD = 4777ft.

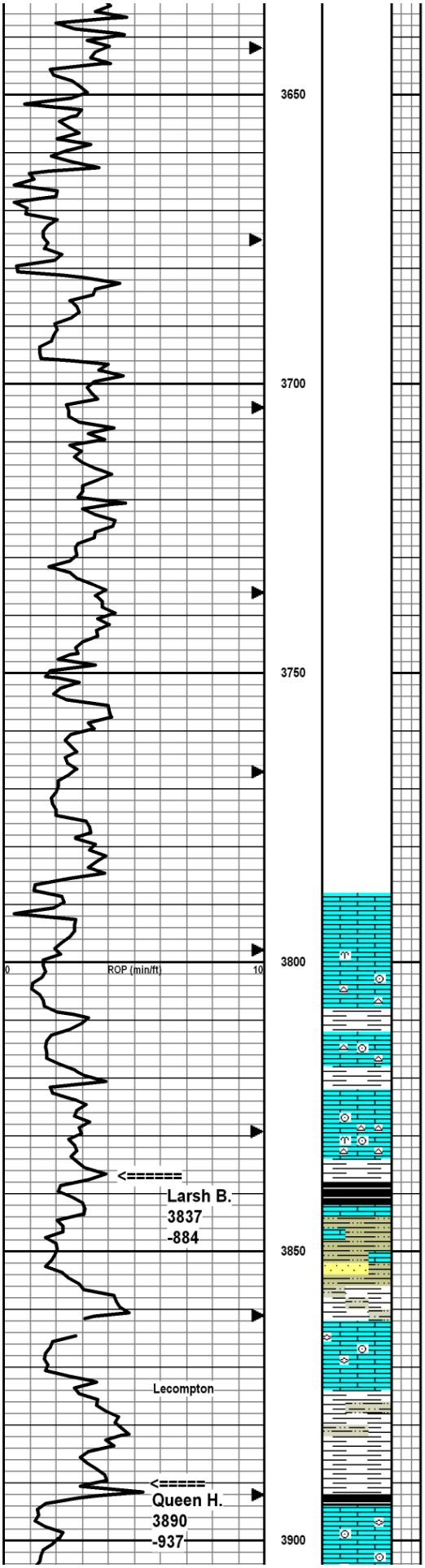
DST and Log data did not support further testing of this well and it was therefore plugged and abandoned on October 19, 2010.

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOPS Depth	Datum	LOG TOPS Depth	Datum
Stone Corral	2436'	+517	2436'	+517
B/Stone Corral	2459'	+494	2457'	+496
Heebner Shale	3952'	-999	3950'	-997
Lansing	3998'	-1045	3996'	-1043
Muncie Creek Shale	4159'	-1206	4156'	-1203
Stark Shale	4250'	-1297	4248'	-1295
Marmaton	4355'	-1402	4355'	-1402
Upper Fort Scott	4460'	-1507	4459'	-1506
Little Osage Shale	4491'	-1538	4489'	-1536
Johnson Zone	4591'	-1638	4591'	-1638
Morrow	4416'	-1663	4617'	-1664
Mississippian	4735'	-1782	4734'	-1781
RTD	4779'	-1826		
LTD			4777'	-1824

Rate of Penetration
ROP (min/ft)


Depth
Lithology
Oil Sho
Geological Descriptions
Remarks
0
ROP (min/ft)
10
2400
2450
3500
3550
3600
<=====
Stone Corral
2436' (+517)
<=====
Base Stone Corral
2459' (+494)
= Connection
Morning Report Depth/Activity
Spud at 6:00 pm on 7-10-2010
10/13/2010 Drilling
10/14/2010
Drilling @ '
10/15/2010 Drilling @ 3878'
10/16/2010 Drilling @ 4235'
10/17/2010 Drilling @ 4491'
10/18/2010
DST #2 @ 4693'
10/19/2010 Prepare
to log @ 4779'
Bit trip at 3562. SureShot - 1deg. Strap 1.62 Short
to board



Samples start at 3800'

LS-lt tan, md xln, mealy, sltly chalky matrix, sm pure chalk, med crush, sparry, sm lrg calc xtls, v foss-misc/bryz/crin, rare clr chert, pr int xln por, no odr, ns.

LS-mostly as above, mealy, chalky, incr pure chalk, incr chert-gry, opaque, SH-med gry, mostly soft, blocky, sm med hard, fissile, sm tiny flecks of biotite.

LS-lt tan, fn xln, grainy, uniform, med-diff crush, nvp, sm LS-gry, transgr w/foss-crin, abund Chert-gry, opaque.

LS-med tan, md xln, grainy, mealy, med crush, foss- misc/brach, abund chert as above, nvp, ns. few pcs SH-drk gry, uniform.

SH-blk, carb, present in 3850 smpl.

SH-lt gry, v sandy/silty, vfn grn, arg, rounded pcs in smpl, soft/friable, few pcs fairly clean, nvp, no odr, ns. Several LS's as above, incr in LS-gry, vfn xln, dense, uniform, nvp.

Mudstn-lt brn, silty, smple cup water muddy gry/brn.

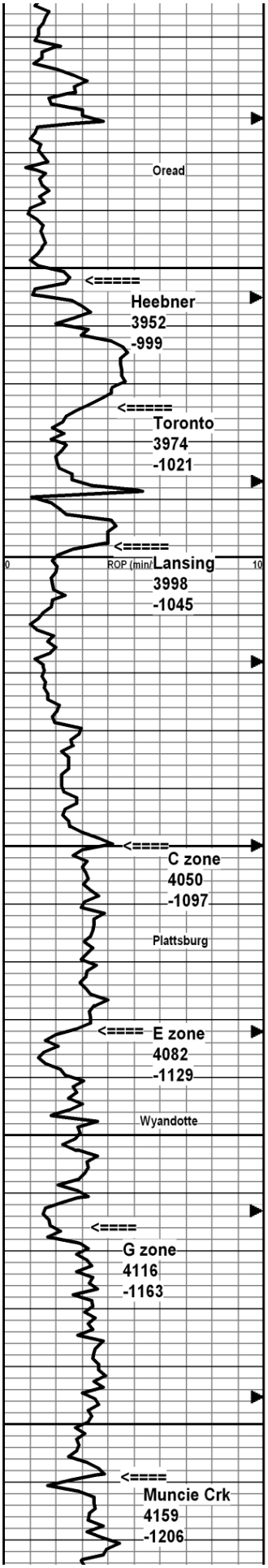
LS-md-lt gry, fn-med xln, abund foss-crin/fus, sm sparry, abund pure chalk, nvp, ns.

Mudstn-med red/brn, silty, v soft, cup water muddy brn.

Mudstn as above.

LS-lt tan/gry, fn-med xln, grainy, sm spar, v foss-crin/fus, rare ool, chalky, sm LS-med gry, dense uniform, few pcs SH-vdrk gry/blk, carb.

Mudco: 3877'
Wt: 8.8
Vis: 62
Yield: 20
pH: 10
Filt: 8.8
Chlor: 2000
LCM: 2



LS-as above, incr pure chalk, no odr, nvp, ns.

LS-mostly lt tan, fn xln, dense, abund chalk, mostly uniform, few pcs LS-mottled gry w/drk min/foss-crin inclu, few pcs chert-lt gry/opaque, no odr, nvp, ns. Few pcs drk gry waxy SH.

LS-mostly lt tan, fn xln, as above, influx of LS-med-lt gry, med xln, sm large calc xtls, mottled, foss, med crush, few w/pr-fr int xln por, no odr, ns.

LS-lt tan, fn xln, mostly dense, mottled, foss-crin/bryz, abund pure chalk, nvp, ns.

As above, 80% pure chalk.

SH-blk, carb, waxy to few brittle, blocky. Present in 3970 smpl. Not present in 3960.

SH-gry, sm red, silty, soft, muddy, sticky, abund chalk, LS-lt gry/tan, md xln, mealy, foss-crin, drk min/foss inclus, scat pr int xln por, no odr, ns. smpl water lt muddy gry.

LS-lt gry/crm, md xln, sparry, sltly ool, foss-crin/bryz/fus md-diff crush, chalky, few drk min occlus, few pcs chert-gry, opaque, nvp, no cup odr, ns.

SH-predom red, sm gry, few blk/carb, brittle.

LS-lt gry/crm, fn xln, foss-bryz/fus/brach, sm ool, dense, med-diff crush, v chalky, few pcs chert-gry, opaque, nvp, no fluor, no odr, ns.

LS-mostly as above, incr uniform matrix, much chalk, nvp, no odr, ns.

LS-crm, fn xln, mostly uniform, chalky, few ool, nvp, no cup odr, ns.

SH-brn/red/gry, few pcs blk.

LS-lt crm-tan, mostly fn xln, sm med xln, grainy, foss-misc, sltly ool, sm chalk, drk min stn stylo, few pcs per tray w/dd oil stn along frac faces, cuts wht in acetone, no matrix por, no cup odr, no fluor, nsfo.

LS- as above, denser, mostly uniform matrix, decr foss/ool, nvp, no cup odr, ns, sm SH-gry, waxy.

LS-crm, fn xln, mostly dense, uniform, rare foss-fus/crin, decr chalk, few stylo w/drk min stn, does not cut, no cup odr, nvp, nsfo.

LS-lt tan, micro-fn xln, mostly dense, uniform, rare profus ool w/pr-fr int ool por, sm ool w/spar filled por, no cup odr, no fluor, ns.

LS-lt tan/crm, micro-fn xln, mostly uniform, sm grainy, sm foss, sm chalk, abund chert-gry/tan, milky, rare pr int xln por, rare min stn frac faces, does not cut, one pc in two trays w/lt tan stn, cuts blu/wht, no cup odr, nsfo.

LS-med tan-crm, fn xln, mostly uniform, cherty as above, decr chalk, nvp, no odr, ns.

LS-lt tan, fn xln, mostly uniform, decr chert, dense, hard, diff crush, sm chalk, nvp, no cup odr, ns.

DOLO-med tan, vfn xln, dense, uniform, vpr int xln por. LS-much as above, foss-crin, abund chert, scat dull yel fluor, vwk cut, nvp, no cup odr, nsfo.

LS-lt gry, micro xln, profus ool in part, calc filled int ool por, mostly uniform, dense, rare foss-crin, sm chalk, few pcs chert, scat v dull yel fluor, nvp, ns.

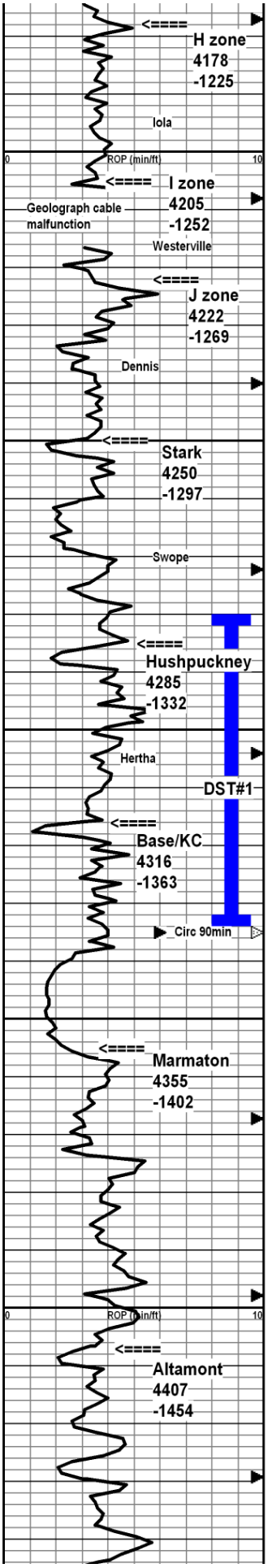
LS-crm, micro xln, sm foss-misc, mostly uniform, sparry, abund calc xtls, sm chalk, dense, hard, diff crush, nvp, no cup odr, ns.

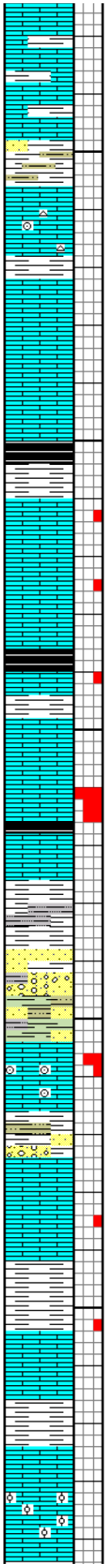
LS-crm, fn xln, sm foss, few pcs ool, dense, rare pr int xln por, rare brn stn, does not cut, few pcs DOLO-lt tan, vfn xln, dense, nvp, no cup odr, ns.

LS-mostly as above, influx of LS-gry, fn xln, dense, foss-brach, nvp, no odr, ns.

SH-blk carb, few small pcs in 4170 smpl, abund in 4180smpl.

LS-drk tan, micro xln, foss-crin/fus/misc, sm LS-tan, md-crs xln, mostly dense, rare pr int xln por, rare med brn stn, vfnt odr on break, could not break out any free oil, no cup odr.





LS-drk mottled tan, fn xln, sltly chalky, foss-crin, abund blk dead oil stn along frac faces and in pr int xln por, brt blu fluor on cut w/acetone, no cup odr, nsfo.

LS-vlt gry-wht, mostly fn xln, uniform, sm sparry crs xln, dense, med crush, sltly foss, sm stylo, sm SH-red/brn/ gry/grn, nvp, no cup odr, no fluor, ns.

SH/Sltstn, gry/red/brn, flecked w/biotite, sm sandy, vfn grn, arg, no cup odr, ns.

LS-lt tan, micro xln, dense, mostly uniform, sm foss, nvp, LS-lt gry, fn xln, sltly chalky, scat pr int xln por, sm lt brn stn, will not cut, LS-crm, micro xln, rare crs xln, sparry, foss-crin, few pcs chert-gry, opaque, nvp, no cup odr, ns.

LS-crm, fn xln, dense, mostly uniform, sm ool/foss, nvp, no cup odr, ns.

LS-lt gry/crm, fn xln, mostly uniform, sm foss, abund pure chalk, nvp, no cup odr, ns.

LS-mostly as above, lots of chalk, few pcs chert-gry, opaque, no cup odr, nvp, ns.

LS-lt tan, micro xln, sparry, dense, few foss-brach/misc, sm chalk, few w/drk min stn along frac faces, no cup odr, ns

SH-blk, carb, bleed gas on break, present in 4260 smpl.

LS-brn, micro xln, foss-misc, v dense, brittle, nvp, ns, LS-gry, fn xln, chalky, drk gry min occlus, nvp, ns, LS-tan, fn xln, sltly chalky, spotty dul fluor on few faces, quest odr, nsfo.

LS-lt-drk tan, micro-fn xln, dense, sparry, foss, sm dead oil stn in vpr int xln por and along frac faces, (1-2 pcs pert tray) w/rare fr vug por, v fnt cup odr, pale blu fluor on cut w/acetone, vssfo.

LS-lt gry, fn xln, mostly uniform, sm foss-brzy/crin, sm chert-lt gry, opaque, incr chalk, rare stn in soft chalky matrix, fnt petr odr on crush, brt wht chalky min flour, quest cup odr, nsfo.

SH-blk, bleed gas on break, present in 4300smpl.

LS-lt tan/crm, fn xln, few crs xln, few pcs of regressive LS, foss, pr int foss/xln por, mostly dense w/nvp, rare pcs w/vssfo, fnt odr on break, may be from above Hushpuckney no cup odr.

DST#1 - Hertha
4281'- 4335'
30-30-5-OUT
Rec: 5'Mud
IFP: 24-32#
FFP: 45-40#
ISIP: 1116#
FSIP: N/A
BHT: 112deg

LS-md tan, micro-fn xln, v dense, foss in part, mostly uniform, nvp, ns, LS-lt tan/crm, fn xln, sltly foss, sltly chalky, scat vpr int xln por, ns, few pcs SH-gry, no cup odr, no fluor.

LS-gry, mottled, crs xln, foss-crin/bryz, sm profus ool, mostly dense, hard, med crush, 5-7 pcs per tray w/fr int xln/foss/ool por, easy crush, f-gsfo, petr odr on break, bleed o&g on break, no fluor, pale blu fluor on cut, fnt cup odr, abund SH-blk, carb.

Mudstn, lt gry, v soft, unconsolidated, silty, sticky, cup water dirty gry, no cup odr, ns.

60min-LS, SH, and Mudstn as above.

SS-dirty gry, vfn-fn grn, silty, shaley, biotite, pyrite, no cup odr, ns.

SH-predom red, sm gry, sm sandy/silty.

LS-lt tan/crm, fn xln matrix, sm crs xln, sltly foss-crin, several pcs per tray w/fr int xln por, sm foss cast por, pr sfo in most por, few pcs w/fr sho drk, thick fo, fnt odr under heat of microscope lamp, fr sat stn in drys, no cup odr, no fluor.

Mudco: 4335'
Wt: 9.2
Vis: 59
Yield: 21
pH: 9.5
Filt: 7.6
Chlor: 4000
LCM: 1

SH-gry/red/brn, sm silty, biotite, pyrite, sm congl, no cup odr, still carrying sho lith from above.

LS-crm, micro-fn xln, sm profus foss, few crs xln, mostly dense w/nvp, scat pr int xln por, abund sticky gry Mudstn, no cup odr, no fluor, ns.

LS-tan/crm, fn xln, sm profus foss, hard, dense, few pcs w/fr vug por, vss drk, thick fo, few pcs chert-tan, opaque, no cup odr, no fluor.

Mudstn, red/brn, v soft, silty, cup water dirty red.

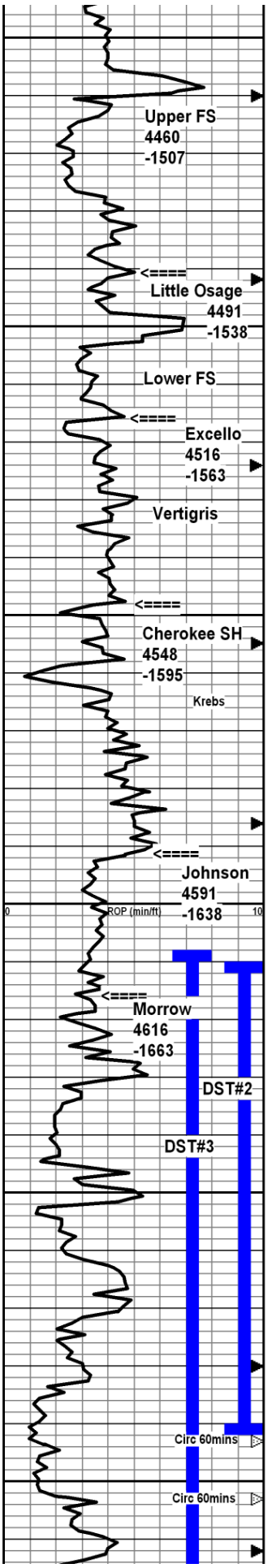
LS-med tan-crm, mostly fn xln, dense, med crush, sm foss-crin, 2-3 pcs per tray w/pr int xln por, pr vug por, vss drk, thick fo, will not break out, no cup odr, no fluor.

LS-med tan-wht, fn xln, sltly chalk, easy crush, mostly uniform, nvp, no cup odr, ns.

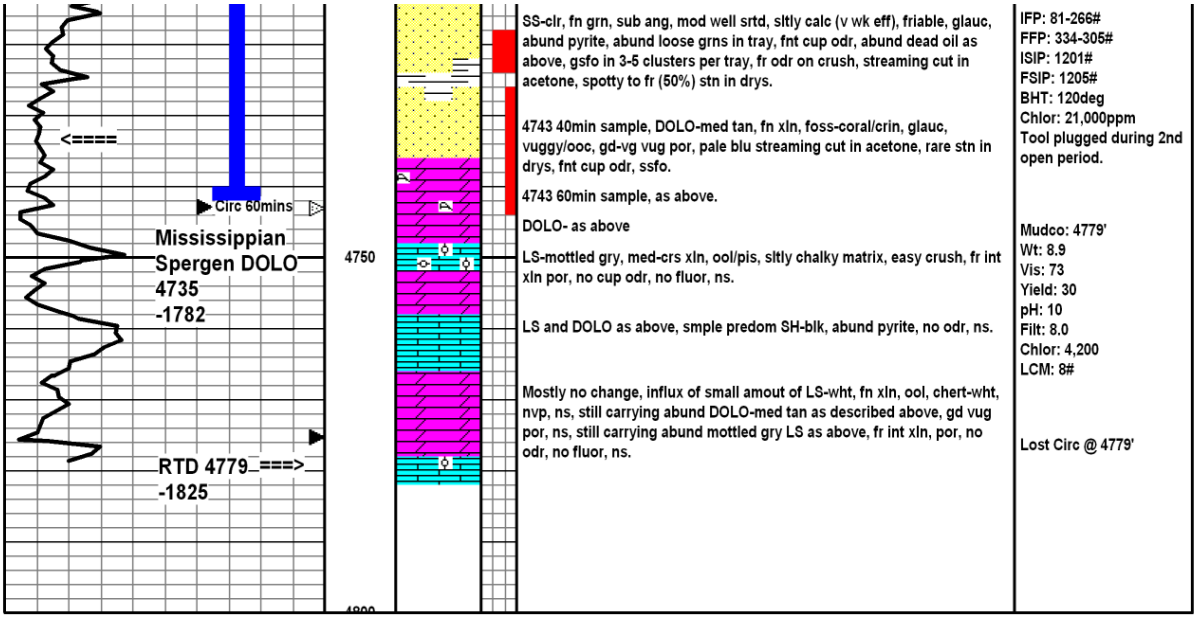
SH-predom gry, sm vari-colored, firm, waxy, sm blk, carb, calc, hard, brittle.

LS-lt tan-wht, fn xln, mostly uniform, sm foss-crin, sltly chalky, easy crush, vpr int xln por, no cup odr, no fluor, ns.

LS-gry, fn xln, profus foss/ool, sltly chalky, nvp, ns, LS-crm, fn xln, mostly uniform, dense, hard, nvp, ns. LS-med tan, med xln, ool, oolites are med brn and sparse, hard, dense, nvp, ns. DOLO-tan/gry, vfn xln, dense, hard, nvp, ns, few pcs chert-gry, opaque, uniform, no cup odr, no fluor, ns.



4450	LS-crm, micro xln, profus ool, foss-brach, dense, easy crush, brittle, all int ool por filled w/calcite, nvp, no cup odr, sm dul min (calcite) fluor, sm lt brn min stn in few chalky pcs, does not cut, few pcs chert-wht, milky, ns.	
	SH-blk, carb.	
	LS-crm, micro-fn xln, decr ool, influx LS-med tan, micro xln, v dense, hard, foss-brach/crin, nvp, influx of abund chert-milky, foss, no cup odr, ns.	
	LS-med tan, micro-fn xln, uniform, rare foss, chert-as above, sm chalky int xln por, lt brn edge stn in few pcs, v fnt blu fluor when cut w/acetone, vfnt cup odr, nsfo.	
	SH-blk, carb, abund in 4500smpl.	Rig check @ 4491 add ~25min to 4500 lag
	LS-med brn, fn xln, hard, dense, sltly foss-fus, nvp, ns.	
4500	SH-gry, waxy, no cup odr, ns.	
	LS-gry, fn xln, uniform, dense, med crush, rare foss-brach, sm grainy, abund chert-drk gry/wht, op to milky, no cup odr, no fluor, ns.	Mudco: 4504' Wt: 9.2 Vis: 66 Yield: 23 pH: 10 Filt: 8.8 Chlor: 4,400 LCM: 1
	SH-blk, carb, abund in 4330 smpl. One pc LS-lt gry, fr vug por, ss drk, tarry fo, will not break out, no fluor, no cup odr.	
	LS-med-lt gry, fn xln, profus ool/pis, drk gry ool, sm w/soft chalky matrix, easy crush, sm hard matrix, med crush, abund SH-blk, carb, no cup odr, spotty min fluor, ns.	
	LS-tan-gry, fn xln, profus ool as above, influx chert-drk gry, opaque, no odr, all int ool por filled w/brittle chalky calc matrix, ns.	
	LS-tan, micro xln, v dense, hard, diff crush, rare pr vug por, vss tarry fo in vugs, no cup odr, no fluor.	
4550	SH-blk, carb.	
	LS-drk tan, fn xln, ool, dense, hard, nvp, no cup odr, ns.	
	LS-gry/tan, fn xln, dense, hard, uniform, nvp, no cup odr, ns.	
	LS-gry/tan, fn xln, sm uniform to sltly foss, sm ool, sltly chalky, few pcs chert, all dense, sm LS-med tan, micro xln, v dense, hard, uniform, nvp, no cup odr, ns.	
	LS-gry/tan, fn xln, mostly uniform, sm foss, sm ool, no cup odr, nvp, ns, abund SH-blk, carb.	
	SH-blk/gry, not carb, fissile.	
4600	LS-predom gry, fn xln, uniform, sm foss, v dense/hard, few pcs crs xln w/pr int xln por, vss blk thk fo, abund chert-gry, milky, glassy, vitreous, no cup odr, no fluor.	
	LS-med-lt tan, fn xln, uniform, dense, hard, rare foss-coral, nvp, no odr, ns.	DST#2- Morrow 4610' - 4693' 30-30-5-OUT Rec: 15'Mud IFP: 39-63# FFP: N/A ISIP: 973# FSIP: N/A BHT: 114deg. Tool plugged during 2nd open period.
	LS-as above, influx blu/gry SH.	
	SS-wht, vfn-fn grn, mod sorted, sub rounded, calc, well cemented, hard, many loose grns in tray, abund gry SH, nvp, no cup odr, ns.	
	LS-drk-med tan, fn xln, uniform, dense, hard, nvp, no cup odr, ns, decr SS as above, ns.	
	SH-predom gry, sm olive, silty, sandy, many loose SS grns-fn grn, mod well srtd, sub rounded, no cup odr, no fluor, ns.	
4650	SH-predom gry, sm red/brn, sm blk, rare olive, mostly silty, sm sand grns, fn grn as above, rare foss-brach, rare coalified plant remains, abund pyrite xtls.	Mudco: 4693' Wt: 9.3 Vis: 50 Yield: 17 pH: 10 Filt: 8.0 Chlor: 4000 LCM: 1
	SH-predom drk gry, as above, abund coalified plant remains, abund pyrite xtls, few SS clusters-dirty gry, vfn grn, arg, well cem, hard, med crush, nvp, no cup odr, no fluor, ns.	
	SH-drk gry as above, decr pyrite, few loose sand grns, all fn grn as above, no odr, no fluor, ns.	4680' Repair mud pump. Down 51 mins.
	SS-wht, vfn grn, clean qtz grns, well srtd, sub rnded, sltly calc (mod eff), semi friable, easy to med crush, abund glauc, abund pr-fr sat blk flakey dead oil (average 10%sat) cuts pale gry, nsfo, no cup odr, no fluor.	
	4703 60min smpl: SS-wht, as above, abund flakey, dead oil stn, sample is predom drk gry/blk shale, silty/sandy, no cup odr, no fluor, nsfo.	DST#3-Morrow Miss 4608'-4743' 30-45-60-90 Rec: 120' SOCWM 300' WCM, Scum O 105' SWCM
4700	SH-med to drk gry/blk, decr sandy/silty, block/firm, fissile, abund coalified plant remains, decr sand clusters as above, no cup odr, no fluor, ns.	



SS-clr, fn grn, sub ang, mod well srtd, sltly calc (v wk eff), friable, glauc, abund pyrite, abund loose grns in tray, fnt cup odr, abund dead oil as above, gsfo in 3-5 clusters per tray, fr odr on crush, streaming cut in acetone, spotty to fr (50%) stn in drys.

4743 40min sample, DOLO-med tan, fn xln, foss-coral/crin, glauc, vuggy/ooc, gd-vg vug por, pale blu streaming cut in acetone, rare stn in drys, fnt cup odr, ssfo.

4743 60min sample, as above.

DOLO- as above

LS-mottled gry, med-crs xln, ool/pis, sltly chalky matrix, easy crush, fr int xln por, no cup odr, no fluor, ns.

LS and DOLO as above, smple predom SH-blk, abund pyrite, no odr, ns.

Mostly no change, influx of small amout of LS-wht, fn xln, ool, chert-wht, nvp, ns, still carrying abund DOLO-med tan as described above, gd vug por, ns, still carrying abund mottled gry LS as above, fr int xln, por, no odr, no fluor, ns.

IFP: 81-266#
FFP: 334-305#
ISIP: 1201#
FSIP: 1205#
BHT: 120deg
Chlor: 21,000ppm
Tool plugged during 2nd open period.

Mudco: 4779'
Wt: 8.9
Vis: 73
Yield: 30
pH: 10
Filt: 8.0
Chlor: 4,200
LCM: 8#

Lost Circ @ 4779'

KANSAS
CORPORATION COMMISSION

October 27, 2010

Ronald N. Sinclair
Grand Mesa Operating Company
1700 N WATERFRONT PKWY BLDG 600
WICHITA, KS 67206-5514

Re: ACO1
API 15-063-21871-00-00
Phelps 7-31
SW/4 Sec.31-13S-31W
Gove County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Ronald N. Sinclair