



KANSAS CORPORATION COMMISSION 1060650  
OIL & GAS CONSERVATION DIVISION

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 # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       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 #: \_\_\_\_\_

Spud Date or Recompletion Date      Date Reached TD      Completion Date or Recompletion Date

API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_- Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  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: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

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**

- Letter of Confidentiality Received  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



1060650

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**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 <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> 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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	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
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	Hess 2-33
Doc ID	1060650

All Electric Logs Run

CPDCN Microresistivity Log
AI Shallow Focused Elect. Log
Microresistivity Log
Dual Receiver Cement Bond Log

Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	Hess 2-33
Doc ID	1060650

Tops

Name	Top	Datum
Stone Corral	2364	+513
Bs/Stone Corral	2387	+490
Heebner	3874	-997
Lansing	3918	-1041
Muncie Creek	4067	-1190
Stark	4156	-1279
Marmaton	4260	-1383
Little Osage	4380	-1503
Morrow	4496	-1619
Mississippian	4528	-1651
LTD	4647	



JOB LOG

SWIFT Services, Inc.

DATE 6-9-11 PAGE NO. 7

CUSTOMER Grand Mesa WELL NO. #233 LEASE Hess JOB TYPE 2-Stage TICKET NO. 19801

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1935							on loc w/ FE
								RTD 4650'
								5 1/2" X 15.5 X 4648' X 21'
								Cent. 2, 4, 5, 6, 7, 9, 12, 15, 54
								Back 2, 55
								D.V. Top 55 @ 2383'
	1955							start FE
	2230							Break Circ
	2245	4	0			250		Start Pref 500 gal Mud Flush 20 bbl KCL Flush
	2253	5.5	32/0			300		Start Cement 175 sks EA-2
	2301		42					End Cement
								Wash P+L
								Drop DV, L.D. Plug
	2305	6	0			150		Start Displacement wtr
	2315	6	60			200		Mud
		5	89			300		Catch Cement
	2325		110			700/400		Land Plug
								Release Pressure
								Fluct held
	2328							Drop Opening Plug
	2350					1100		Open DV
								Circ 2 hrs
	0130	2.5	7/5					Plug RH+MH 25/15 sks SMD
	0140	4.5	0			150		Start KCL Flush
	0145	6.5	20/0			300		Start SMD Cement 260 <sup>sks</sup> SMD
	0310		144					End Cement / Cement Circulating
								Drop Closing Plug
	0213	6	0			150		Start Displacement
	0215	4	15			200		Catch Cement
	0224		51			450		Land Plug
						1500		Close DV
								Release Pressure
								DV closed
								Circ 400 sks top pit
								Wash Workline
								Stop Activity
								Emergency Wash
								Thank you Nick, Josh E., David, and

**JOB LOG**

**SWIFT Services, Inc.**

DATE 07-20-11 PAGE NO. 1

CUSTOMER Goldman Sachs WELL NO. 233 LEASE Hess JOB TYPE Acidize/Perf TICKET NO. 00028

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0845							DN LOCATION ACID 600 GAL 15% HCl 2 7/8" 5 1/2" PERF 4478-84
	0850		3.5	-				SPOT ACID, PER 4523 SET PER. PER 4460
	0900	0.7	3.5	-		0		START ACID
		2.7	14	-		0		FLUSH
		1.3	26.3	-		0		ACID ON PERFS
		1.3	0	-		0		
		2.0	50	-		0		
		3.5	70	-		0		
		4.0	90	-		50		
		4.0	14.2	-		50		
	0920			-		0		ISOL VAC
								LOAD 40/2666
	0930							JOB COMPLETE
								THANK YOU JANE & JOSH B

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Ward Loyd, Commissioner  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

August 02, 2011

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

Re: ACO1  
API 15-063-21910-00-00  
Hess 2-33  
NW/4 Sec.33-13S-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



**BOB SCHREIBER**

268 N.W. 220 ROAD  
HOISINGTON, KS 65744  
Home Phone: 620-653-7691  
Mobile: 620-786-0991

# GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY GRAND MESA OPERATING CO.

LEASE HESS #2-33

FIELD \_\_\_\_\_

LOCATION 485' FNL + 1540' FWL

SEC 33 TWP 13S RGE 31W

COUNTY GOVE STATE KS

CONTRACTOR Marlin Rig 24

SPUD 5-27-11 COMP 6-9-11

RTD 4650 LTD 4647

MUD UP 3300 TYPE MUD Chemical

ELEVATIONS

KB 2877

DF \_\_\_\_\_

GL 2872

Measurements Are All From 2877

CASING

SURFACE 2 3/8" @ 223' w/165 sxs  
PRODUCTION 1 5/8" @ 4643' w/400 sxs

ELECTRICAL SURVEYS

Density-Neutron, micro Induction

## FORMATION TOPS & STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION		
				A	B	C
Anhydrite	2367	2364	+513	+6		
Tspeeka	3663	3657	-780			
Heebner	3881	3874	-997	+15		
Lansing	3924	3918	-1041	+10		
Maurice Creek	4025	4067	-1190	+13		
Stark	4160	4156	-1229	+11		
BKC	4225	4223	-1346			
Normaton	4266	4260	-1383	+14		
Little Osage	4385	4380	-1503	+13		
Johnson	4482	4477	-1600			
Morrison	4508	4496	-1619	+22		
Mississippian	4533	4528	-1651	+11		
TD	4650	4647	-1720			

REFERENCE WELL FOR STRUCTURE

A 6MOC, Klaus-Hess 1-33, 33-13S-31W, 332' FNL + 2551' FWL

REMARKS The Hess 2-33 was structurally high to Klaus-Hess 1-33. It was +6' Ah and was 10-14' through the pay zones. Two primary and 3 secondary zones were identified in the DST's. This should be a good well.

*Bob Schreiber*

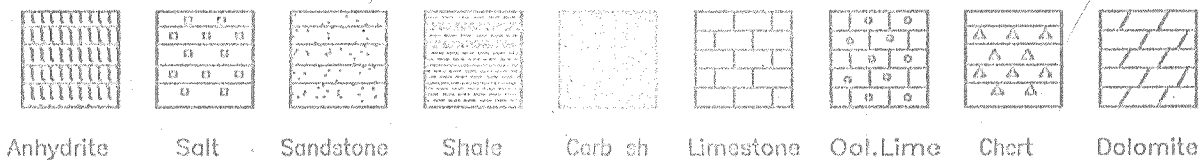
Pipe: 1 1/4" int & 5 1/2" O.D., 15.5#, tally 4648' set @ 4643', PBTD @ 4622', DU tool @ 2383', P.P. 11:30 PM 1st stage  
cmnt: 200 sxs EA-2 w/add, 12 bbl MF, 20 bbl KCL Flash,  
stage 2 DU: 225 sxs SMD, pmp to surface w/40 bbl pit, PD 2:30 AM

## RECOMMENDATIONS AND REMARKS

FORMATION	PERFORATE INTERVAL	LOG ANALYSIS		TREATMENT AND REMARKS
		% POR	% SV	



### LEGEND



SCALE      " = 100'

LOG 7703

DRILLING TIME IN MINUTES  
PER FOOT  
Rate of Penetration Increases



DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

REMARKS

2400

ANH 2367  
+510

BANH 2393  
+484

- 5-27-11: MIRD, Spud 3:45 p.m., 8 5/8" @ 214', cont w/165.5XS, 1/4°
- 5-28-11: Dr/g @ 340'
- 5-29-11: Dr/g @ 2385', 3/4° @ 2393'
- 5-30-11: B.T. 3610' PDC out, 3/8° @ 3610'
- 5-31-11: Dr/g @ 3915', DST 1 @ 3963'
- 6-1-11: DST 2, 3978'
- 6-2-11: DST 3 @ 3992' 'D'; DST 4 'E'
- 6-3-11: DST 4
- 6-4-11: DST 5 @ 4160' 'H-J'
- 6-5-11: DST 6 @ 4186' 'K'  
DST 7 @ 4227' 'L'
- 6-6-11: Dr/g @ 4220'
- 6-7-11: DST 8 @ 4439' up ES-Verd.
- 6-8-11: DST 9 @ 4493' Johnson
- 6-9-11: RTD @ 4650', Sur 1 1/2", log  
ran 5 1/2" @ 4643' w/200.5XS
- 6-10-11: ...

Mud v @ 3610': WT 8.7  
VIS 54  
WL 7.2  
PH 11.0  
Chl 15<sup>00</sup>

3600

50

TOPEKA

TOPEKA 3663(-786)

3700

50



LS - crm, mdhd - sli, stfr, fn - ulfn  
xln, sli, grny, sli, tass, fn ool, ip NS

SH - rsty / mcn, mod ind, sli, wxy, ip  
w/ tr ss - lt gy, mod ind, fn gen, g lac  
NS

LS - crm - lt gy, mdhd - hd, ulfn xln  
fn ool ip, sli, grny NS

LS - crm - off whip, fn xln,  
mdhd - sli stfr, grny xst

LS - off whp - crm, mdhd - stfr ip, ulfn  
- fn xln, chky ip, tr ool, tr pr vug  
oc. stp, ? diff odr, no fib NS

LS - lt br - crm, mdhd - hd ip, ulfn -  
fn ip xln, fn tass, tr ool, sli, grny  
w kdrt - crm, tr tass NS

SH - blk - dk gy ip, sli ind, sli carb  
tr sli, tr ss

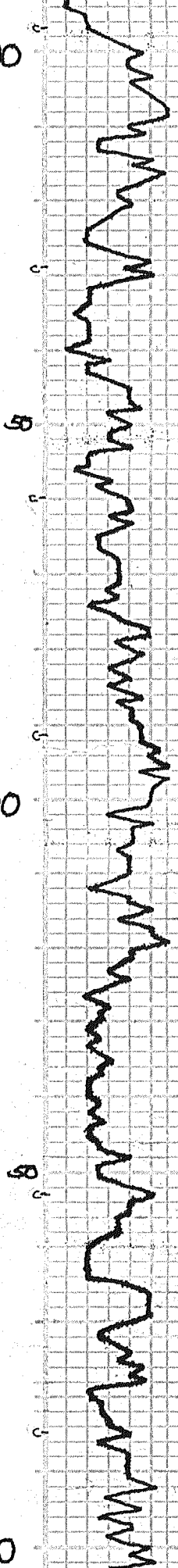
LS - lt br - crm, mdhd - hd, ulfn - fn xln  
foss, grny ip, tr sec xln NS

SH - gy - dk gy, mod - sli ind, tr - sli carb  
sh, rsty - br, sty sh

3800

3900

4000



HEEBNER

TORONTO

LANSING



LS - crm - off wh, md hd - hd, v/fn xln, sft fr mod chky NS

LS - crm - tat br, md hd - hd, v/fn xln fr sec xln, fass NS

SH - dk gys, mod ind, blk y, qtd sft fr. ht. gy

LS - crm, md hd - tr hd - tr sft fr, v/fn fr xln, fass, tr vug - sli fass, dist or tr, spity str - prt sat, v/wk - no flo ? wk odr, v/s - sft fr, dk br, low grv

LS - crm - off wh, md hd - tr sft fr, sli - mod chky NS

LS - lt br, hd, micro xln, NS

LS - crm, md hd - tr sft fr, v/fn - fr xln - sli chky ip, sli fass, tr ool NS

SH - gy - tat grn ip, mod ind, sli blk y

LS - br, hd, micro xln, tr fass NS w/ chrt - crm - off wh, v/sli with rd sli fass NS

LS - crm - off wh, md hd, v/fn - fr ip xln tr sec xln, tr ool, sli fass, tr pr fass, cft - vug or, ? tr lt str, tr gs bbl no flo NSFO

LS - crm, md hd, fr xln, sli grny, sli chky, fr ool ip, sli fass, tr mbw gs bbl, p vlt fr odr NSFO

SH - blk, sli ind, fass, sli - mod carb

LS - crm - lt br, hd, v/fn xln, sli fass NS

SS - lt gy, mod - w/ ind, v/fn grn - sly sli arg - sli calc ip NS

SH - lt gy - gy - rsty ip, sli - mod ind sli blk y

LS - crm - off wh ip, md hd - tr hd - sft fr ip v/fn xln, sec xln, ip, fass ip, tr sli frct - tr mbw gs bbl NSFO grd, off wh, sft fr, mod chky NS

SH - gy - lt gy - rsty ip, sli - mod ind

LS - crm - tat br, md hd - hd ip, v/fn xln, mod ool, sli chky ip

LS - off wh, md hd - sft fr, v/fn xln mod chky NS

LS - crm, md hd - tr hd - tr sft fr, v/fn xln, tr fr sec xln ip, fass, tr ool NS

SH - blk - dk gy, sli - mod ind, sli carb

LS - crm - off wh, md hd - tr hd, v/fn xln, fass grd LS - crm, sft fr, v/fn - fr ip xln sli chky ip, fass ip, tr ool, tr frct fr pas pr - tr sli vug - sli fass, cft - ool or tr spity str - prt sat, tr edg str, tr fr odr, tr fr - sli, qd flo, sft fr, lt br o ss sli dd o md br

LS - crm - tat br, md hd - hd, micro - v/fn xln tr ool, tr fass, sme prt - tr sat, lt br, sft fr - md br o, v/sme LS - crm - off wh, v/fn xln md hd - tr sft fr, tr fr sec xln, tr fr pr ool or tr prt sat, sft fr, lt br o, int odr

LS - crm - off wh, md hd - tr hd - sft fr ip, v/fn - fr xln, tr sec xln, sli - tr mod chky ip, sli fass tr sly, tr edg str - prt sat, v/sft fr md br o

LS - crm - tat br ip, md hd - hd ip, micro xln, sme fr - md ip sec xln, fass ip, tr frct - fass xln w/ edg str, lt br, fr - qd cat, 1 prt sat - sft fr, ? no odr, 2 prt sat - sft fr

LS - v/fn br - crm ip, md hd - hd ip, v/fn - micro xln sli fass, spity, edg str + vug or, tr frct fr pas odr bug, md - gld br, sft fr, v/sft fr - md flo - fr - qd cat, fr - sli, fr odr grd crm - off wh, md hd, v/fn xln sli chky, ool ip, tr str, v/sft fr - str - prt sat, decr odr sli dd o ip tr chrt - ool - crm - lt br, frch NS

Mud v 2) 3922' : WT 9.1  
VLS 56  
WL 8.0  
PH 9.5  
CH 2000

Mud v 2) 3978' : WT 9.0  
VLS 54  
WL 7.2  
PH 10.0  
CH 3000

HEEBNER 3881 (-1004)

TORONTO 3903 (-1026)

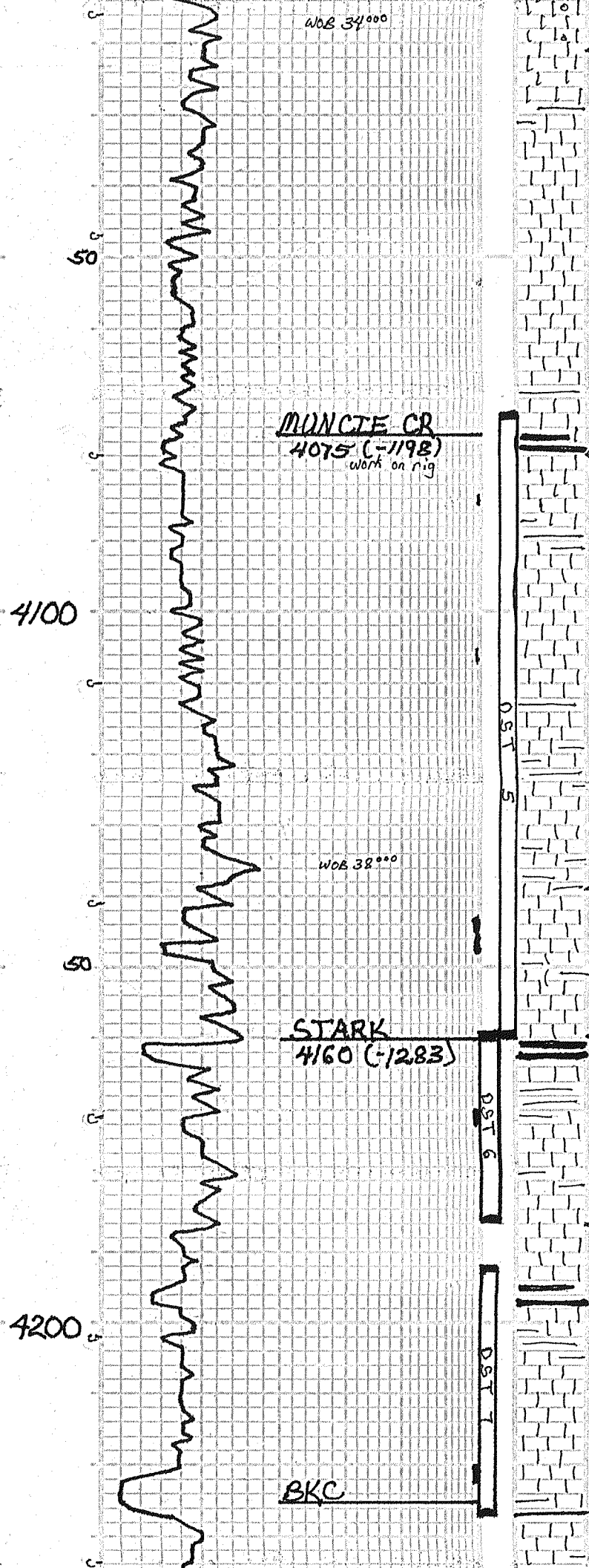
LANSING 3924 (-1047)

DST 1) 3946-3963 : 30-30  
1st) wk s.B. dd 5"  
Rec: 60' m w/CO (580, 95% m)  
IFP 36-64#  
SIP 60-807# , HP 1979-1909#

DST 2) 3968-3978 : 30-45-45-60  
1st) wk bld 2 1/2" decr wk s.B., no B.B.  
2nd) w/lt bld 1/2" decr wk s.B., no B.B.  
Rec: 240' TF  
120' O/WCM 20% 65% 15%  
120' M/WCO 65% 20% 15%  
IFP 72-102# , FFP 117-128#  
SIP 814-779# , HP 1963-1905#  
ch 39000 119°F

DST 3) 3967-3992 : 30-45-60-90  
1st) wk bld 2" decr 1" , No B.B.  
2nd) wk bld 1 1/2" decr 1/2" , No B.B.  
Rec: 5' CO (1080 , 85% m, 58% w)  
119°F

SR



WOB 34000  
 LS - crm, md hd - hd ip, ultra-xln  
 sli chky, sli ool, sli foss, tr psect  
 uag - oocst, tr ool, 1 pc sfo (F)  
 w/sh - ltgy - gy - gr, sli - mod ind, sli  
 wxy ip, tr chrt

LS - crm - off wh, md hd, fn - ultra-xln  
 tr sli chky, tr psect, NLSFO  
 grd ultr br, hd - md hd, ultra xln  
 tr mod ool, tr fr oocst or NLS

LS - off wh - crm, md hd - tr hd, fn - ultra  
 xln, sli - tr mod chky ip, foss ip  
 tr ool, tr pyr

LS - crm - trnt gy ip, hd, microxln  
 sli frct ip, tr foss NLS

LS - crm, md hd - hd, microxln  
 tr ool NLS

sh - blk, sli ind, sli foss, carb

LS - lt br - br ip, hd, microxln, sli foss  
 tr frct, tr fr flo - edg ip, tr fr cut  
 tr ool, tr softy sta, tr pr uag ussfo  
 some LS - crm - mod ip, md hd, ultra xln, sli  
 chky ip, sli grny, tr sm, tr fr cut  
 ussfo md - hbr o no ool

LS - crm - off wh, md hd - hd - tr sft  
 ultra xln, chky ip, tr psect, frct ip  
 tr foss, ? ultra ool, tr sli dd - dd o

LS - crm - trnt br, md hd - hd, ultra xln  
 sli frct, grd sli chky ip, tr intrd  
 chrt, tr foss, sli grny ip, tr pr uag or  
 tr flmy o, tr ool ? ussfo

sh - gy - trnt gr, sli mod, mod ind, tr  
 fr grn sly

LS - crm - off wh trnt br ip, md hd - hd  
 ultra xln, tr frct ip, ool ip NLS

LS - crm - off wh, md hd, ultra xln tr foss  
 ool ip, sli chky ip, tr oocst or  
 tr sta, 2 pc sfo lt br o

sh - gy - trnt gr, md hd, blk, mostly dull

LS - crm, md hd, ultra - some tr - tr md  
 xln, mod ool ip, tr sec xln, tr oocst  
 tr - some lrg ip uag lagan - intr ool  
 or, tr some prt sat - sat, tr brn or  
 mod - gd ool, ussfo, tr - md br o  
 tr - some fr - gd flo + cut

LS - ultra br - crm ip, md hd - hd ip, ultra xln  
 tr sli chky, ool, frct ip, tr - some edg - prt  
 sat, fr - gd flo, tr - some tr sli q cut  
 tr pr vis or, ussfo lt - md br o, gd ool

sh - blk, sli - mod ind, carb, sli blk - foss  
 LS - br, ad das, micro xln, tr foss NLS

LS - crm - off wh - tr mod lt gy, md hd -  
 hd ip - tr sft, ultra - tr ip xln, tr fr - md  
 sec xln, sli chky ip, ool ip, tr foss  
 fu pas pr - sli - fr - intr ool - uag - tr oocst or  
 fu pas prt - sat - sat, sli chky ip, fu pas  
 gd flo, fr - sli q cut, gd ool,  
 ussfo lt - md br o, tr sli dd o

LS - crm - off wh - mod lt gy ip, md hd - hd  
 ultra xln, ool ip, frct ip, ultra chky ip  
 tr sta - set ? ussfo, tr whr fu

sh - blk, sli - mod ip ind, carb, sli foss

LS - br, hd, microxln, tr foss, grd crm  
 sli chky, sli ultra ip NLS

LS - crm - trnt gy - hbr ip, ad - md hd ip  
 ultra xln, ultra chky ip, sli foss ip  
 sec xln ip NLS

LS - crm - trnt br, md hd - hd ip, ultra xln  
 sec xln ip, sli chky ip, ool, tr pr fr pr  
 intr ool or, tr sat - pr sat, ussfo flmy o  
 ? trnt ool

Dol - crm, md hd, ultra - tr xln, sli  
 tr - mod calc ip, sli with o gap ip  
 ? vis or, tr - some fr - md br - sat  
 fu pas fr - gd flo, fr - sli q cut  
 bld o ip, us - ussfo (some sli dd md  
 br o), fu drpl tr br o

25 WOB  
 120' OMAC (10% & 60% m, 30% w)  
 IFF 73-103#, FFP 107-127#  
 SIP 811-798#, HP 2001-1904#

DST 4) 3992 - 4012:30-45-60-90  
 1st) wk bld 234", no B.B.  
 2nd) wk bld 6", no B.B.  
 Rec: 25 CGO (10% & 90% o)  
 100' OCM ( , 30% & 70% m)  
 IFF 40-80#, FFP 88-107#  
 SIP 989# 977#, HP 1979-1922#  
 35° GRV oil 114°F

Mud v @ 3992: WT 9.1  
 VLS 53  
 WL 7.6  
 PH 10.0  
 CHL 6400

Mud v @ 4030: WT 9.1  
 VLS 61  
 WL 6.8  
 PH 10.0  
 CHL 4800

DST 5) 4072 - 4160:30-45-60-90  
 1st) G.B. - B.O.B. 7", 12" B.B. in - 25 dec 8"  
 2nd) G.B. - B.O.B. 7", 12" B.B. 15 - dd 47 min  
 Rec: G O M  
 1800' G 100%  
 1160' GGO 25% 65%  
 120' MCO 60% 40%  
 IFF 109-285#, FFP 291-554#  
 SIP 1293-1270#, HP 2061-1979#  
 GRV 38° 119°F

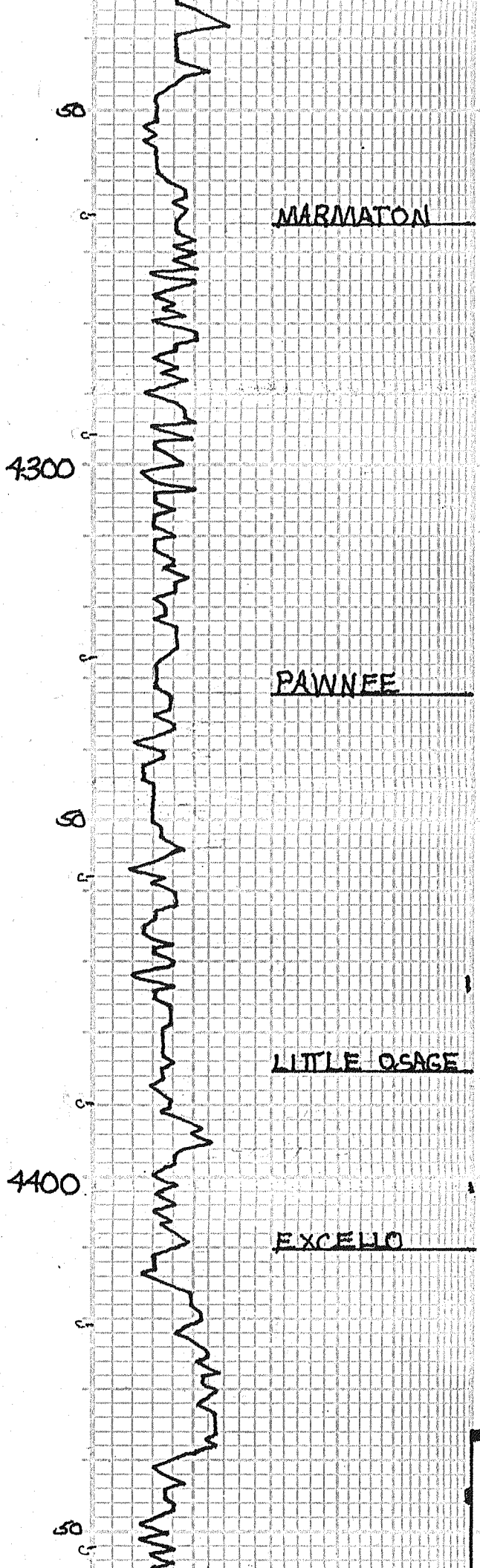
Mud v @ 4160: WT 9.0  
 VLS 62  
 WL 6.8  
 PH 10.5  
 CHL 4000

DST 6) 4159 - 4186:30-45-45-60  
 1st) wk bld 1 1/2" / 9m, No B.B.  
 2nd) wk bld 3/4" / 7m, No B.B.  
 Rec: 190' MW 358m, 65% W  
 chl 33000, 119°F  
 IFF 44-99#, FFP 100-124#  
 SIP 1074-1042#, HP 2109-1998

Mud v @ 4186: WT 9.1  
 VLS 64  
 WL 7.2  
 PH 10.5  
 CHL 6100

BKC 4225 (-1348)





LS - crm - lt br ip, hd - md hd ip  
 micro xln, sli foss, tr ool NSTO  
 x 1-2 pc? abv ool, intr ptrl br vssd

DST 7) 4192-4227: 30-30-30-30  
 1st) wk bl to 1/4"  
 2nd) no bl,  
 Rec: 20 m  
 IFP 46-53# FFP 55-61  
 SIP 1070-1062# HP 2126-2027#  
 117° F

**MARMATON**

**MARMATON 4366(-1489)**

LS - v/lt br - tr crm - tr rd ip, hd -  
 md hd, fr xln, sli - tr mod trct ip  
 sli foss, tr ool, mod secxln ip  
 grd stfr, sli - mod chky ip  
 off wh - crm LS NS

SH - dk gy - tr gr - tr blk, tr dk br  
 sli mod ind

SH - rsty/orag, stfr/gmy wet  
 rsty/br mod-wt ind

LS - crm - lt br, md hd - tr hd, v/lt  
 fr ip xln, foss, tr ool, secxln ip  
 prly cont ip, grd chky, stfr ip  
 1 pc. gs bbl, ? v/lt odr NSTO

Mod v @ 4327: WT 9.1  
 VLS 56  
 WL 6.8  
 pH 10.5  
 Cl 6300

SH - rsty/br - gy, sli ind, sli Fiss

LS - crm - trtgy ip, md hd - tr hd  
 v/lt xln, tr frct NS

LS - lt br - br, hd dns, micro xln, tr ool  
 NS

SH - rsty - br/orag - tr mntgy  
 tr gr, sli - mod ind, stly ip  
 tr wky

**PAWNEE**

**PAWNEE 4332(-1455)**

LS - crm - trtgy, hd, v/lt xln  
 tr stly NS

LS - crm, hd, micro xln, ool ip, sli  
 foss, grd stfr, off wh, sli chky  
 mtr, gol, LS, NS  
 w/ tr chrt

LS - crm, md hd - hd, v/lt xln  
 tr ool, NS

SH - dkgy - tr gr, mod-w/ind, blk

LS - crm - trt br, md hd - hd - tr stfr  
 tr secxln (stm ip), tr fr xln pvt  
 tr pc vng - intr ool, 2-3 pcs fr - gd  
 fr, fr - sli slw cut, tr sta - prt cont  
 sli sli ddo, vssd, trt - sli fr odr

SH - blk, sli ind, sli Fiss, carb

**LITTLE OSAGE 4385(-1508)**

LS - br, hd, dns, v/lt xln, tr foss NS

LS - crm - off wh - tr br ip, md hd - hd  
 - tr stfr, v/lt fr ip xln, v/lt  
 chky ip, fr ool - tr lpr ool ip  
 tr foss, tr sply ool - v/lt intr xln  
 tr, tr stn - sat, tr tlo (fr pas)  
 tr fr cut, 1-2 pcs Flm - FO

**LITTLE OSAGE**

**EXCELLO**

**EXCELLO 4410(-1583)**

SH - blk, sli - mod ind, sli - mod Fiss  
 calt ip

LS - crm - trt br - mod lt gy ip  
 md hd - hd ip, v/lt xln, mod  
 ool ip, tr foss NS

LS - lt br, hd dns, micro xln, frct ip NS  
 grd crm, hd - tr md hd, micro -  
 v/lt xln, frct 1 pc sli ddo  
 trt odr

DST 8) 4354-4439: 30-45-60-90  
 1st) wk bld 2", No B.B.  
 2nd) F61 bld 10", No B.B.  
 Rec: 175' GIP  
 30' CO 10080  
 100' ocm 2080, 808M  
 IFP 77-98# FFP 94-119#  
 SIP 1126-1189# HP 2299-2193#  
 122° F

LS - crm - trt br, md hd - hd dns, v/lt  
 - micro xln, ool ip, tr frct  
 1-2 pcs sfa, dd 6 stn NSTO  
 trt odr dol pc Probabv

4455 LS - crm - trt br, md hd - hd, micro - v/lt  
 xln, sli foss, smp fr - md secxln  
 grd off wh, sli chky, stfr ip

4445 LS - crm - lt br, md hd - hd ip - tr stfr

Mad  $\sqrt{2}$  4439: WT 9.3  
 VLS 55  
 WL 8.0  
 pH 10.0  
 chl 6000

JOHNSON

JOHNSON 4482(-1605)

Mad  $\sqrt{2}$  4493: WT 9.0  
 WL 6.4  
 VLS 56  
 pH 10.5  
 chl 5400

MORROW

MORROW 4508(-1631)

MISS

MISS 4533(-1656)

DST 9) 4436-4493: 30-45-60-90  
 1st) G.B. old B.O.B. 2", BB B.O.B. 22"  
 2nd) G.B. old B.O.B. 2", BB 2"/200 mdd 30m  
 Rec: 680' GIP 100%G,  
 2200' 60 15%G, 8580  
 120' 600 70%O, 30% m  
 JFP 185-548#, FFP 571-882#  
 FIP 1107-1026#, HP 2260-2167#  
 29° Gru 126° F

RTD

RTD 4650(-1773)

LTD 4647(-1770)

4500

4600

DST 9

micro - v. xln, sli. foss, tr. mod  
 fr. ct, sec. xln, fr. ct, w. sli. ip, tr. od  
 dkr. br. O, F50. sli. dd - dd O

LS - crm - ltr, mod. ip, md. hd - hd ip, vln xln  
 tr. sec. xln, gr. d. chky ip, foss ip, tr. od  
 tr. fr. ct, NLS  
 w/ some sh - gy - lgy, sli. md, sli. wxy, shy ip

LS - ltr - br - tr dkr. br, micro xln, md - md hd ip  
 fr. ct ip, sec. xln ip, sli. foss, tr. vug. br  
 tr. str, tr. vug. br, v. s. fo. dkr. br - blk

LS - ltr - br, md. hd - hd ip, tr. str, micro xln  
 tr. vug. br, sli. foss, mod. fr. ct ip, foss  
 tr. ool, tr. vug. br - gr. d. tr. some pr. tr.  
 foss. ct - sli. vug. tr. int. p. l. o. s. me  
 str. - pr. str - sli. ool, dkr. br - br ip, tr. fr. ct  
 fr. sli. g. ct. O, dkr. br - br. O, ltr. gr. v.  
 sli. dd ip, tr. - some wk. F/0

LS - br - ltr, hd, micro xln, tr. fr.  
 vug - foss. ct - br, s. s. fo. sli. dd  
 LS - p. red. abv. pr. br, sli. foss - tr. ool  
 1-2 pc. s. d. gr. d. off. wh - cr. ip, md. hd  
 vln - fr. xln, sli. - tr. mod. chky ip, sli. fr. ct  
 NLS FO

SH - yell, sli - mod. ind, blk. ip, sli. ip  
 SH - crm - tr. gr. t. gy, sli. wet, sli. fr. grn  
 s. ndy ip  
 SS - crm - off. wh - lgy - tr. br, fr. - tr. md - vln  
 gr. ip, s. br. nd, tr. - some d. y. / arg. ip  
 30% loose grs  
 SS - crm - tr. gr. t. br, mod. sli. ind, fr. grn  
 d. y. ip, NLS gr. d. SS - mod. d. y. ip  
 fr. grn, mod. tr. - str. ip, s. br. nd - tr.  
 s. br. ng, 2 pc. s. fo, no F/0

LS - crm - ltr, md. hd - hd, fr. - tr. md  
 xln, sli. chky ip, mod. fr. grn. s. ndy  
 tr. sli. foss, w/ some ls - ltr - br, hd  
 vln - micro xln, tr. foss, tr. some py. ip  
 NLS

LS - crm - off. wh - tr. ltr, md. hd - hd  
 fr. - tr. md xln, sli. - mod. ip, chky, mod.  
 fr. grn. s. ndy. 1. Fr. ool ip, tr. sli. foss  
 w/ some ls - ltr, hd. dns, micro xln  
 fr. ct ip, NLS

LS - crm - tr, md. hd - hd, vln - fr. ip, xln  
 ool ip, fr. vln ip, grn. s. ndy, r. n. l.  
 gr. d. mod. chky, ool, s. ndy ls. NLS

LS - ltr - crm ip, md - md hd ip, fr. - md ip  
 xln, ool, tr. foss, vln - sli. s. ndy ip  
 gr. d. sli. chky - s. ndy ip NLS

SH - gy - gr - tr. dkr. gy, sli. - mod. ind, tr. foss  
 LS - tr, hd - md. hd ip, micro - fr. ip xln  
 tr. fr. ct, ool ip, tr. fr. grn. s. ndy NLS

LS - ltr - br ip, hd. dns, micro xln  
 sli. foss ip, fr. ool ip, fr. ct ip, NLS  
 1 pc. pp. ob. str.

SH - dkr. gy - dkr. m. n, mod. ind, blk.  
 sli. pty. lstr

LS - br - hd, dns, micro xln, tr. foss NLS  
 gr. d. crm, hd - md. hd, vln xln, fr.  
 ool, sli. s. ndy ip, sli. chky ip NLS

LS - ltr - br ip, hd. dns, micro xln  
 tr. sec. xln, tr. fr. xln. pyr. gr. d.  
 crm - off. wh, sli. fr. ct, chky ip NLS  
 mod. ool ip

LS - ltr - br, hd, micro xln, NLS  
 fr. ool ip  
 w/ some chit - vln - ltr - tr. br, sp. r.  
 vln xln pyr, tr. spic, tr. chit  
 LS - crm - ltr - mod. ip, md. hd - hd. dns  
 vln xln, mod. tr. fr. ct, foss, tr. ool  
 tr. sli. dol NLS

LS - ltr - tr, hd, vln xln, mod. foss  
 ip, fr. m, tr. ool, tr. sec. xln dkr.  
 m. n, NLS







## DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514

ATTN: Steve Stribling

**33/13S/31W/Gove**

**Hess 2-33**

Start Date: 2011.05.31 @ 22:00:00

End Date: 2011.06.01 @ 04:58:30

Job Ticket #: 15791                      DST #: 1

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.06.01 @ 21:19:38

Grand Mesa Operating  
Hess 2-33  
33/13S/31W/Gove  
DST # 1  
Lansing Zone C  
2011.05.31







# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15791

**DST#: 1**

Test Start: 2011.05.31 @ 22:00:00

**Tool Information**

Drill Pipe:	Length: 3800.00 ft	Diameter: 3.88 inches	Volume: 55.57 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 56.16 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	3946.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	17.00 ft				
Tool Length:	46.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut-in tool	5.00			3922.00	
Hydraulic tool	5.00			3927.00	
Change over sub	1.00			3928.00	
Jars	6.00			3934.00	
Safety Joint	2.00			3936.00	
Packer	5.00			3941.00	29.00 Bottom Of Top Packer
Packer	5.00			3946.00	
Anchor	12.00			3958.00	
Recorder	1.00	6748	Inside	3959.00	
Recorder	1.00	6651	Outside	3960.00	
Bullnose	3.00			3963.00	17.00 Bottom Packers & Anchor

**Total Tool Length: 46.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514  
ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15791

**DST#: 1**

Test Start: 2011.05.31 @ 22:00:00

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 56.00 sec/qt

Water Loss: 7.99 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: ppm

deg API

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	MUD WITH SHOW OF OIL/95% MUD 5% OIL	0.295

Total Length: 60.00 ft      Total Volume: 0.295 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

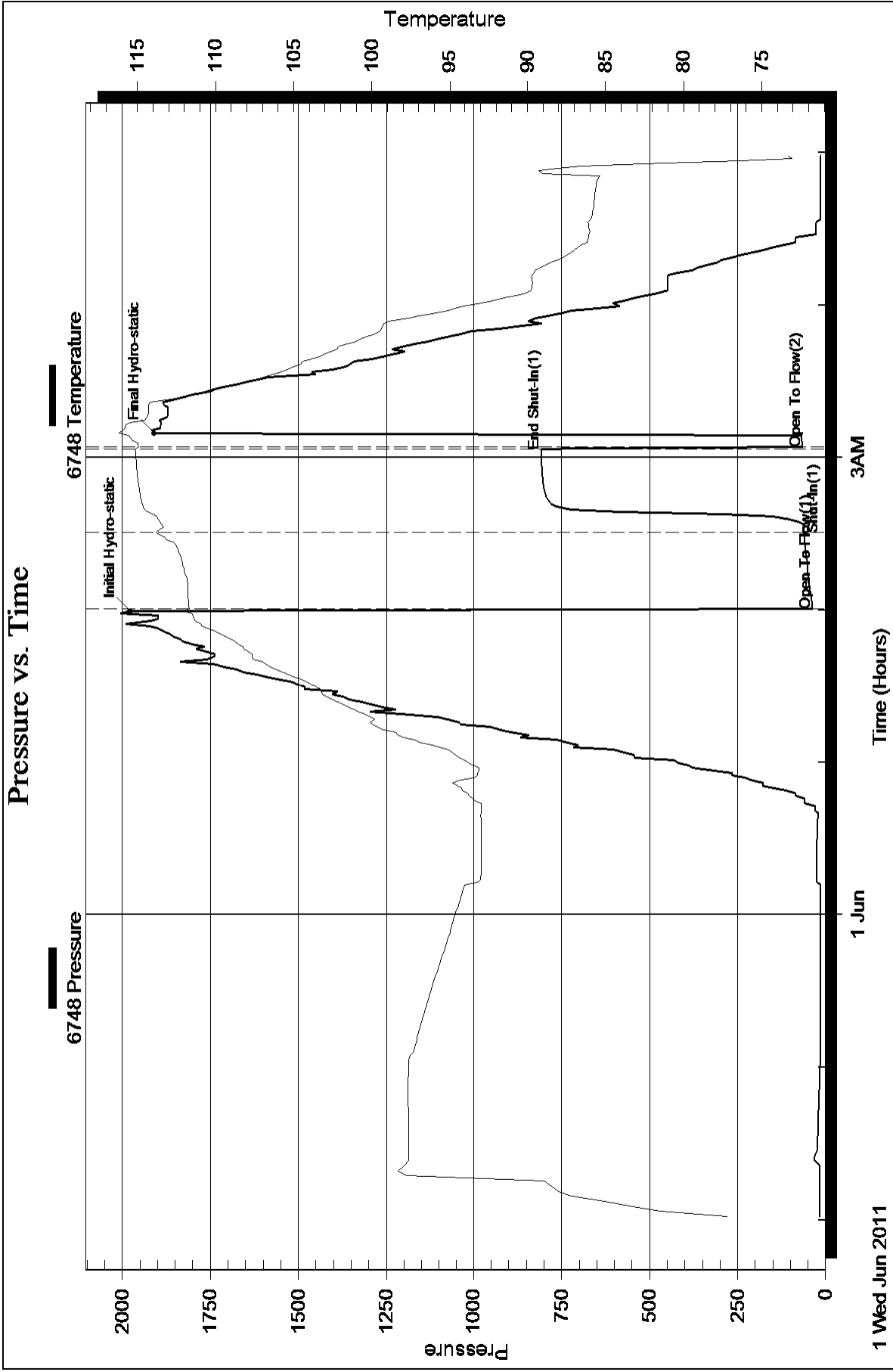
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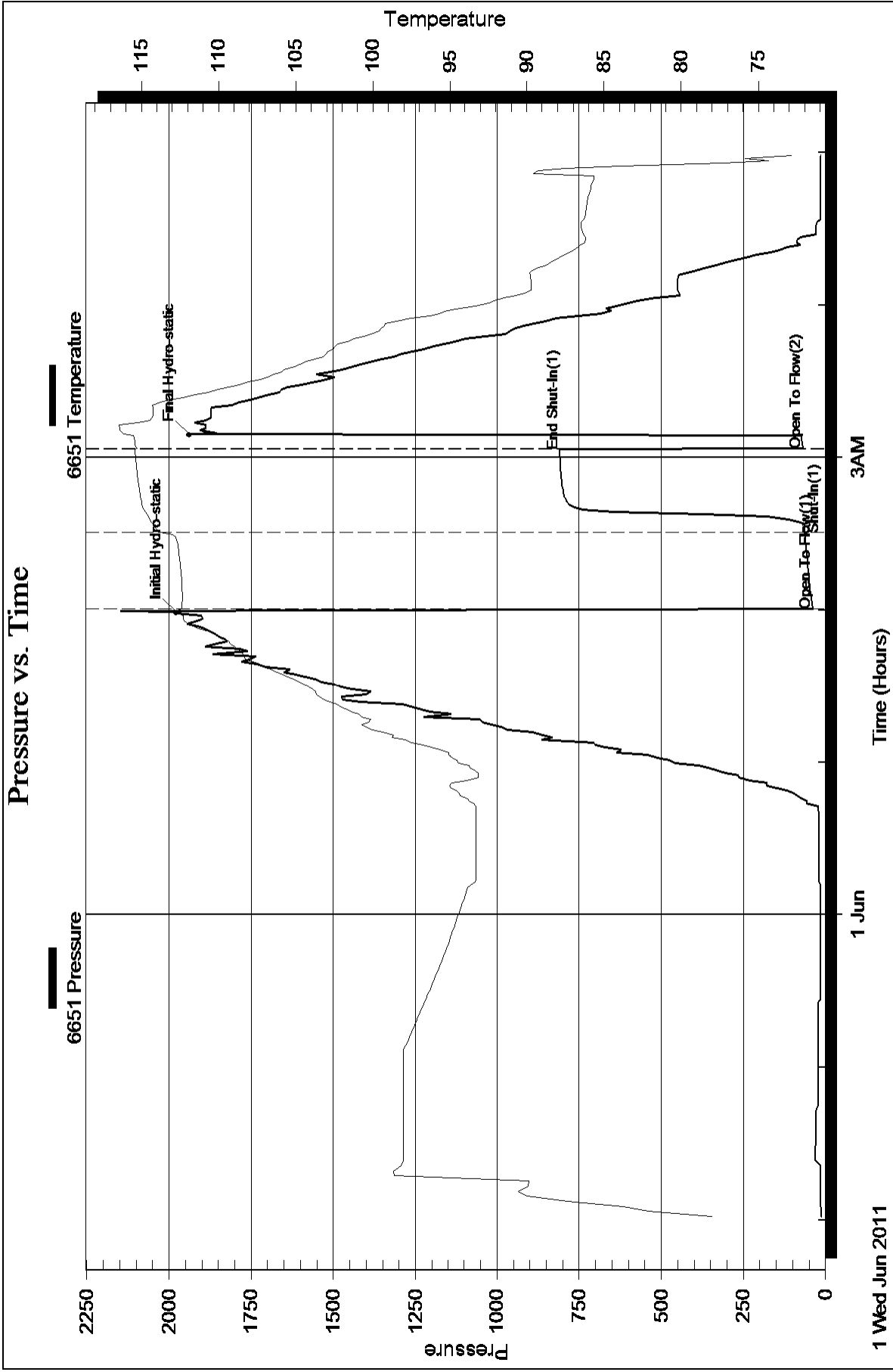
Inside

Grand Mesa Operating

33/13S31W/Gove

DST Test Number: 1







## DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514

ATTN: Steve Stribling

**33/13S/31W/Gove**

**Hess 2-33**

Start Date: 2011.06.01 @ 07:15:00

End Date: 2011.06.01 @ 14:17:30

Job Ticket #: 15792                      DST #: 2

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.06.02 @ 19:04:57

Grand Mesa Operating  
Hess 2-33  
33/13S/31W/Gove  
DST # 2  
LANSING ZONE D  
2011.06.01









# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Grand Mesa Operating  
 1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15792      **DST#: 2**  
 Test Start: 2011.06.01 @ 07:15:00

**Tool Information**

Drill Pipe:	Length: 3815.00 ft	Diameter: 3.88 inches	Volume: 55.79 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	62000.00 lb
			<u>Total Volume: 56.38 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	3961.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	12.00 ft				
Tool Length:	41.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Shut-in tool	5.00			3937.00	
Hydraulic tool	5.00			3942.00	
Change over sub	1.00			3943.00	
Jars	6.00			3949.00	
Safety Joint	2.00			3951.00	
Packer	5.00			3956.00	29.00      Bottom Of Top Packer
Packer	5.00			3961.00	
Anchor	7.00			3968.00	
Recorder	1.00	6749	Inside	3969.00	
Recorder	1.00	6651	Outside	3970.00	
Bullnose	3.00			3973.00	12.00      Bottom Packers & Anchor

**Total Tool Length: 41.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514  
ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15792

**DST#: 2**

Test Start: 2011.06.01 @ 07:15:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 54.00 sec/qt  
Water Loss: 7.19 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 3000.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	OIL AND WATER CUT MUD	0.590
0.00	15% WATER 20% OIL 65% MUD	0.000
120.00	MUDDY WATER CUT OIL	1.755
0.00	15% WATER 20% MUD 65% OIL	0.000

Total Length: 240.00 ft      Total Volume: 2.345 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

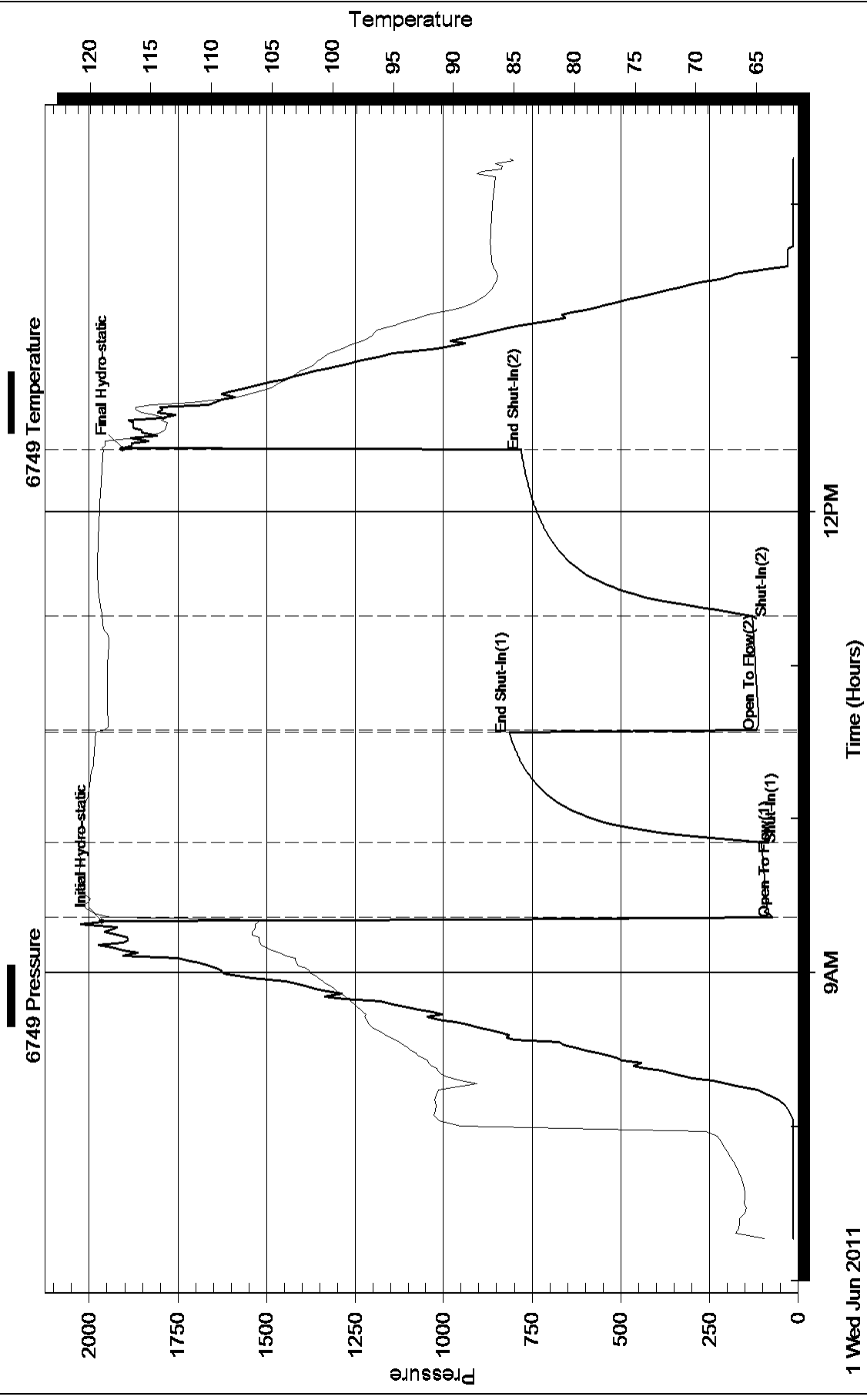
Serial #:

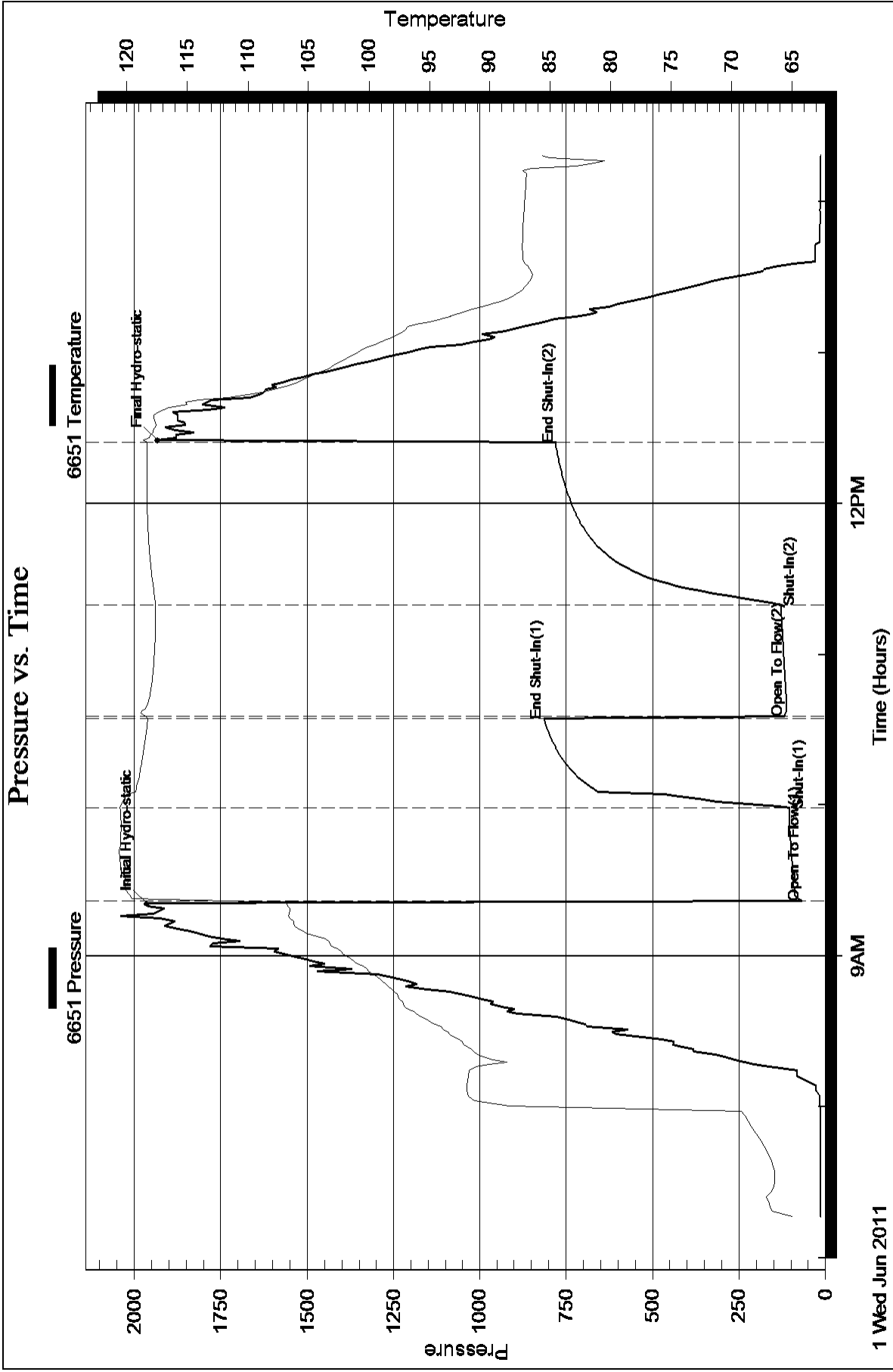
Laboratory Name:

Laboratory Location:

Recovery Comments: RECOVERY CHLORIDES 39000 PPM

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514

ATTN: Steve Stribling

**33/13S/31W/Gove**

**Hess 2-33**

Start Date: 2011.06.01 @ 10:00:00

End Date: 2011.06.01 @ 20:38:00

Job Ticket #: 15793                      DST #: 3

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.06.02 @ 10:09:27

Grand Mesa Operating  
Hess 2-33  
33/13S/31W/Gove  
DST # 3  
Lansing Zone D  
2011.06.01









# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Grand Mesa Operating  
 1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15793      **DST#: 3**  
 Test Start: 2011.06.01 @ 10:00:00

**Tool Information**

Drill Pipe:	Length: 3820.00 ft	Diameter: 3.88 inches	Volume: 55.86 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 56.45 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	2.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	3967.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	25.00 ft				
Tool Length:	54.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-in tool	5.00			3943.00	
Hydraulic tool	5.00			3948.00	
Change over sub	1.00			3949.00	
Jars	6.00			3955.00	
Safety Joint	2.00			3957.00	
Packer	5.00			3962.00	29.00      Bottom Of Top Packer
Packer	5.00			3967.00	
Anchor	20.00			3987.00	
Recorder	1.00	6749	Inside	3988.00	
Recorder	1.00	6651	Outside	3989.00	
Bullnose	3.00			3992.00	25.00      Bottom Packers & Anchor

**Total Tool Length: 54.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15793

**DST#: 3**

Test Start: 2011.06.01 @ 10:00:00

### Mud and Cushion Information

Mud Type: Gel Chem  
 Mud Weight: 9.00 lb/gal  
 Viscosity: 54.00 sec/qt  
 Water Loss: 7.20 in<sup>3</sup>  
 Resistivity: ohm.m  
 Salinity: 3000.00 ppm  
 Filter Cake: 1.00 inches

Cushion Type:  
 Cushion Length: ft  
 Cushion Volume: bbl  
 Gas Cushion Type:  
 Gas Cushion Pressure: psig

Oil API: deg API  
 Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Clean Oil 100% oil	0.025
85.00	Oil cut mud with trace of water	0.418
0.00	85% mud 10% oil 5% water	0.000
120.00	oil and water cut mud	1.464
0.00	60% mud 30% water 10% oil	0.000

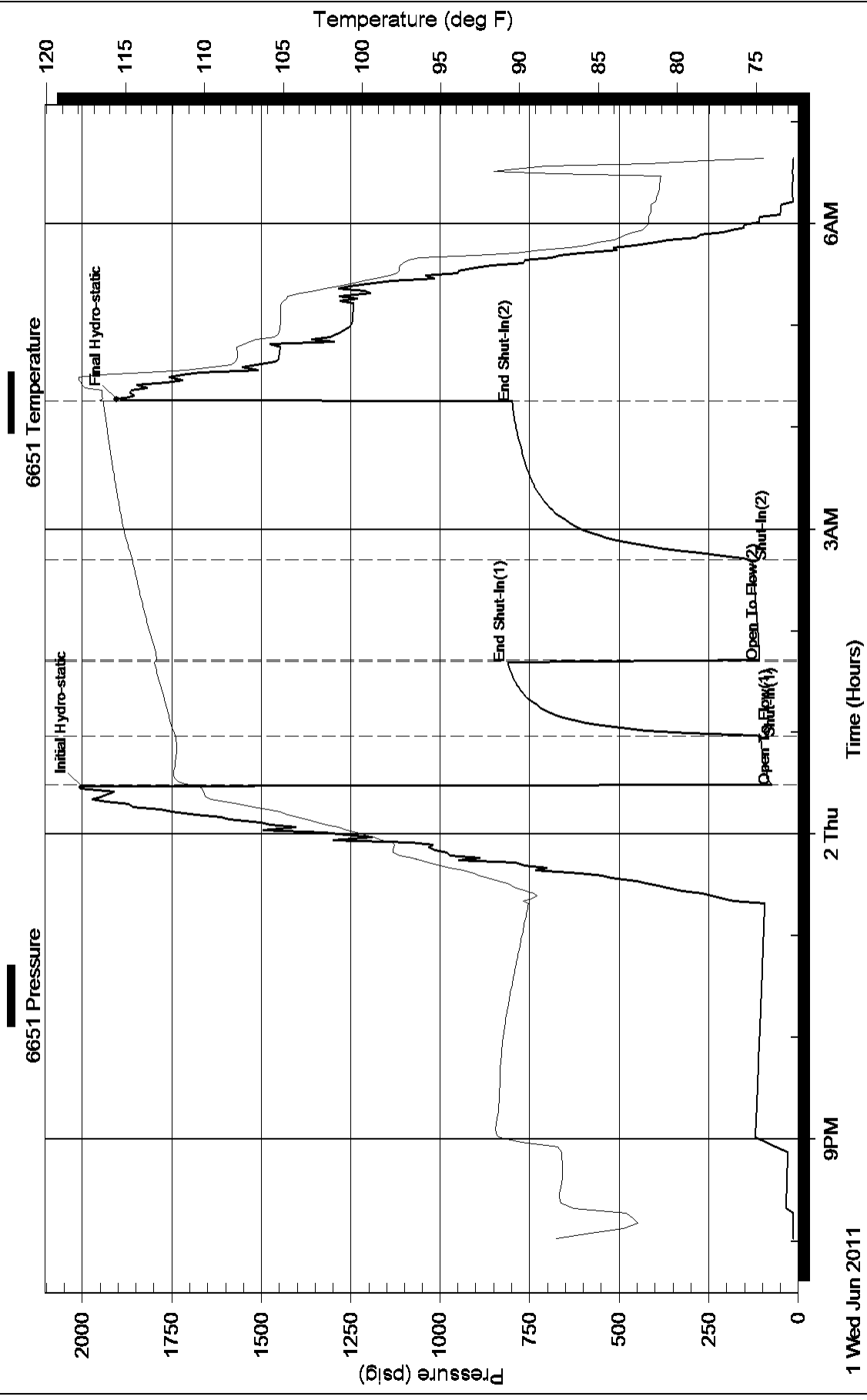
Total Length: 210.00 ft      Total Volume: 1.907 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

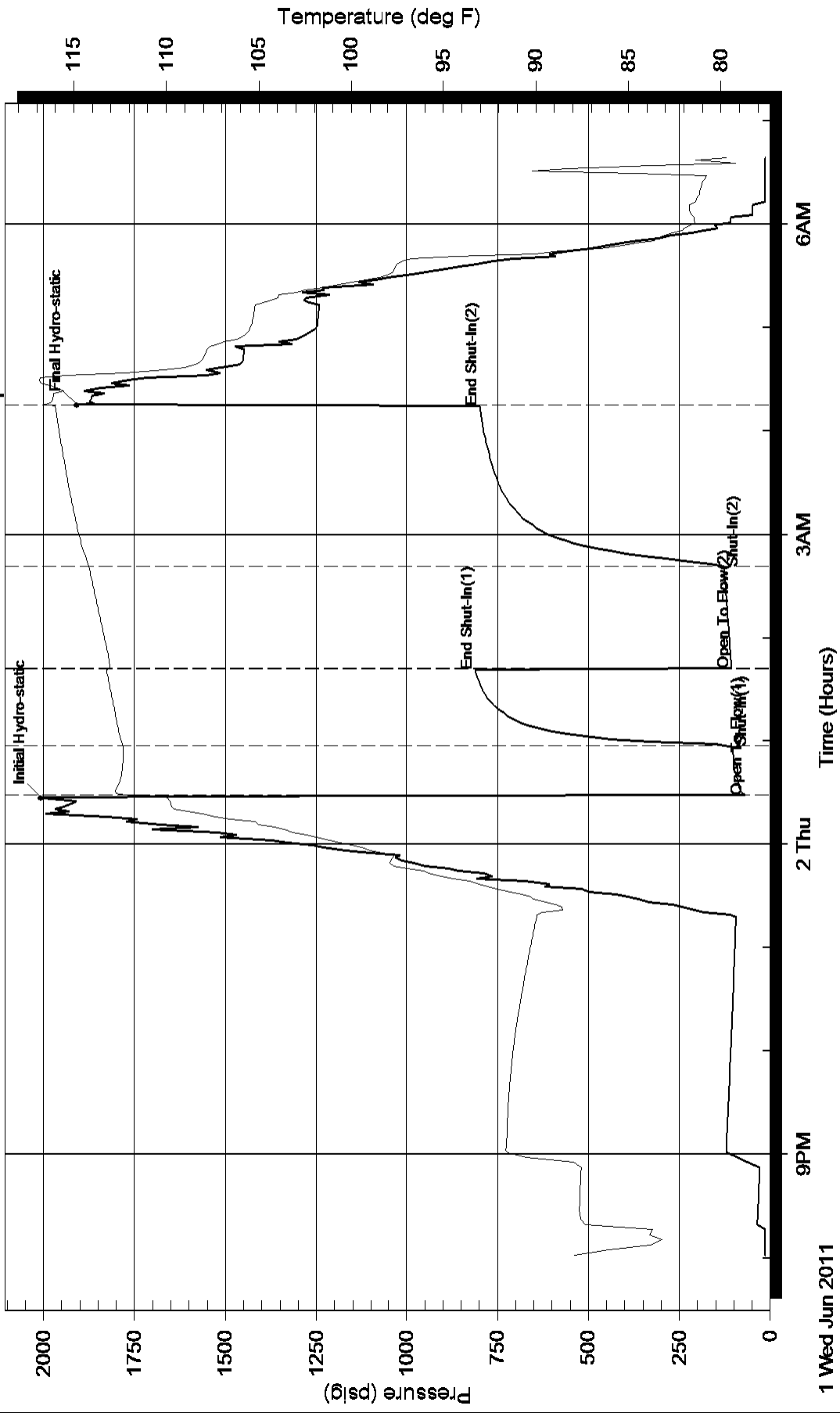
### Pressure vs. Time

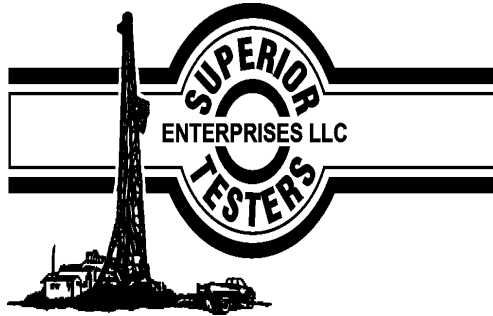


# Pressure vs. Time

6749 Pressure

6749 Temperature





## DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514

ATTN: Steve Stribling

**33/13S/31W/Gove**

**Hess 2-33**

Start Date: 2011.06.02 @ 17:46:00

End Date: 2011.06.03 @ 01:33:00

Job Ticket #: 15794                      DST #: 4

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.06.03 @ 09:00:23









# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Grand Mesa Operating  
 1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15794      **DST#: 4**  
 Test Start: 2011.06.02 @ 17:46:00

**Tool Information**

Drill Pipe:	Length: 3861.00 ft	Diameter: 3.88 inches	Volume: 56.46 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 57.05 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	3992.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	20.00 ft				
Tool Length:	49.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-in tool	5.00			3968.00	
Hydraulic tool	5.00			3973.00	
Change over sub	1.00			3974.00	
Jars	6.00			3980.00	
Safety Joint	2.00			3982.00	
Packer	5.00			3987.00	29.00      Bottom Of Top Packer
Packer	5.00			3992.00	
Anchor	15.00			4007.00	
Recorder	1.00	6749	Inside	4008.00	
Recorder	1.00	6748	Outside	4009.00	
Bullnose	3.00			4012.00	20.00      Bottom Packers & Anchor

**Total Tool Length: 49.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514  
ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15794

**DST#: 4**

Test Start: 2011.06.02 @ 17:46:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 53.00 sec/qt  
Water Loss: 7.60 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 6400.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
95.00	Clean gassy oil 90% oil 10% gas	0.467
100.00	Oil cut mud 30% oil 70% mud	1.220

Total Length: 195.00 ft      Total Volume: 1.687 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

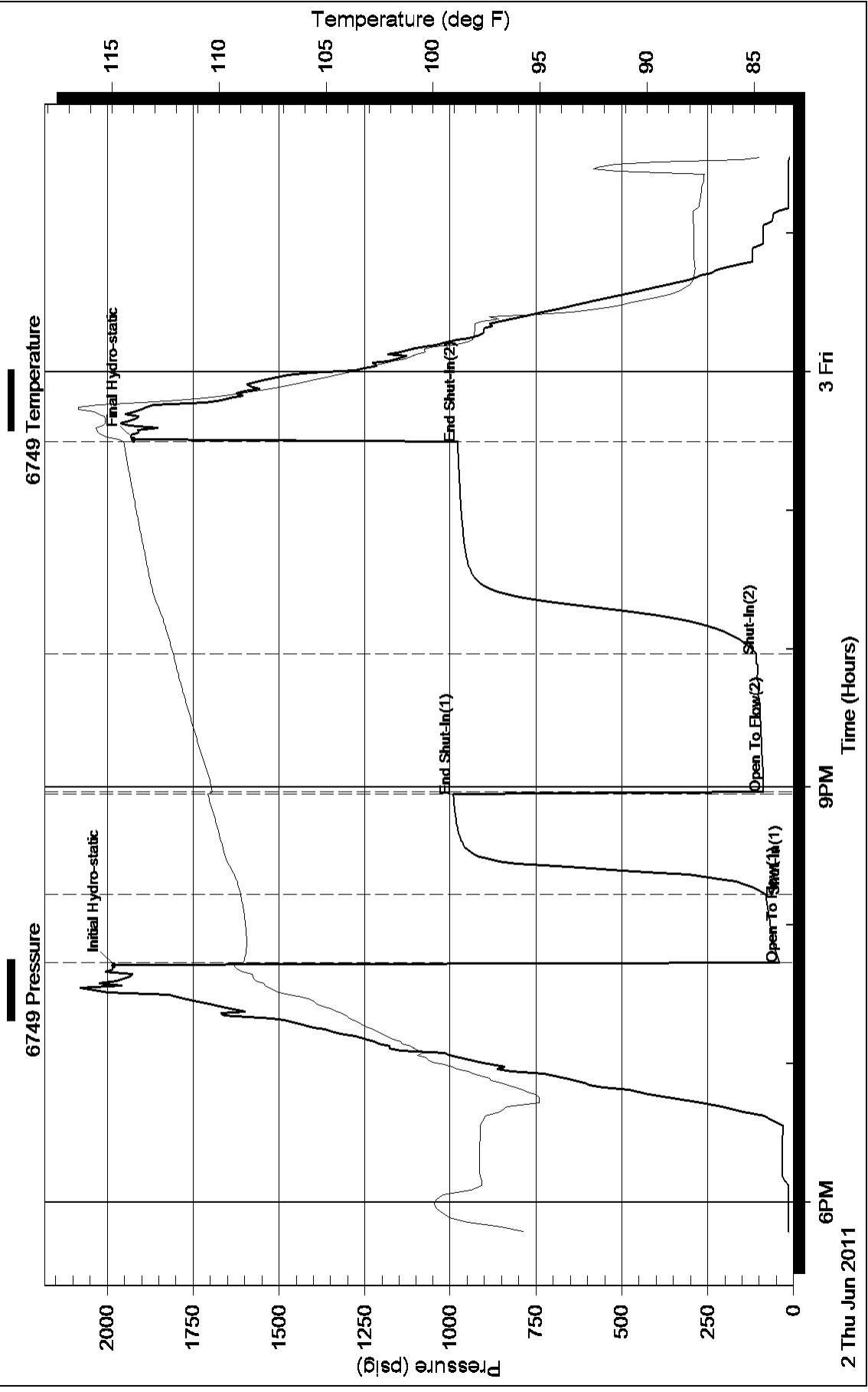
Serial #:

Laboratory Name:

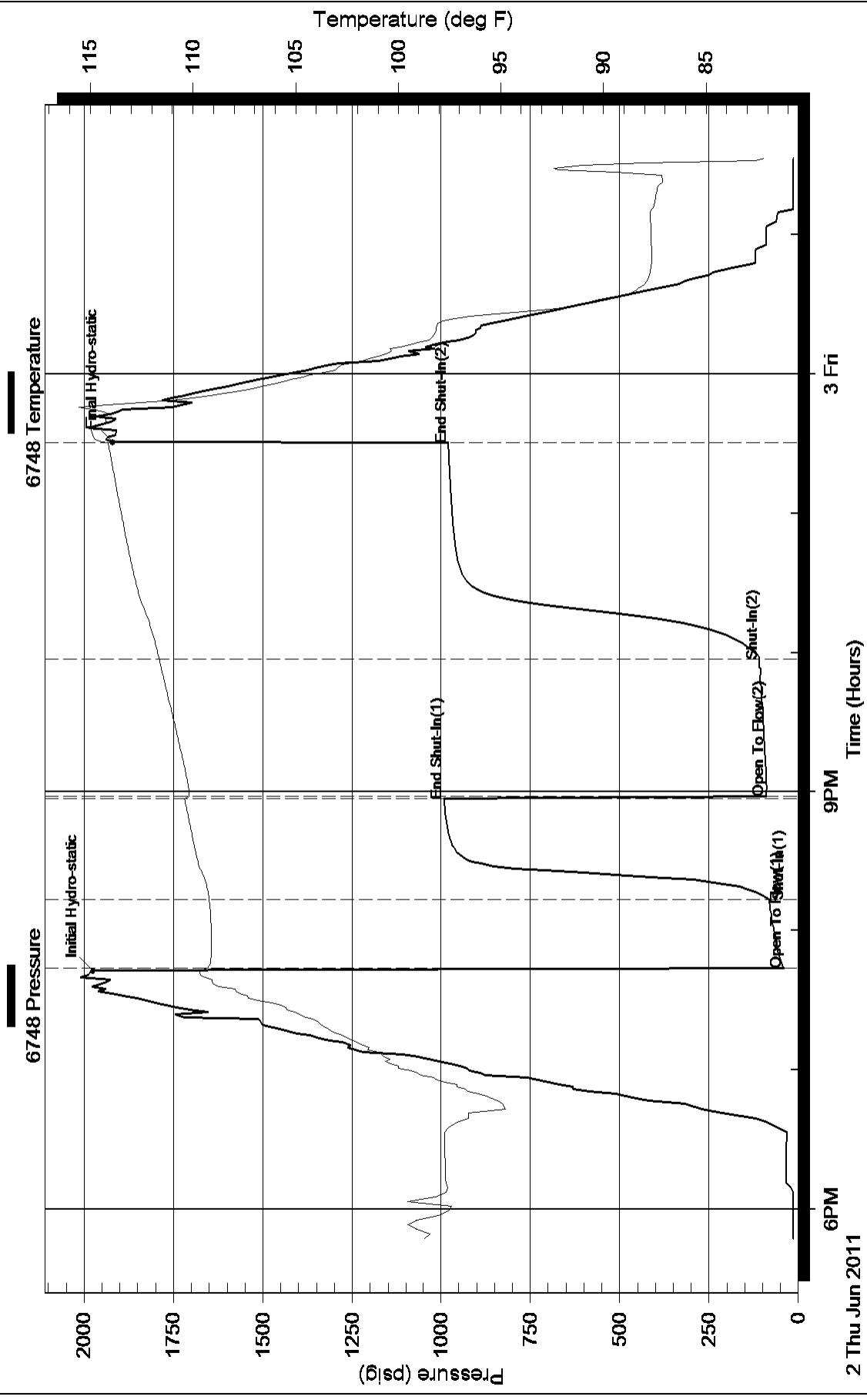
Laboratory Location:

Recovery Comments: Gravity of oil 35

# Pressure vs. Time



### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514

ATTN: Steve Stribling

**33/13S/31W/Gove**

**Hess 2-33**

Start Date: 2011.06.04 @ 07:30:00

End Date: 2011.06.04 @ 16:24:00

Job Ticket #: 15795                      DST #: 5

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.06.06 @ 09:34:15

Grand Mesa Operating  
Hess 2-33  
33/13S/31W/Gove  
DST # 5  
Lansing zone H//J  
2011.06.04



# DRILL STEM TEST REPORT

Grand Mesa Operating  
 1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

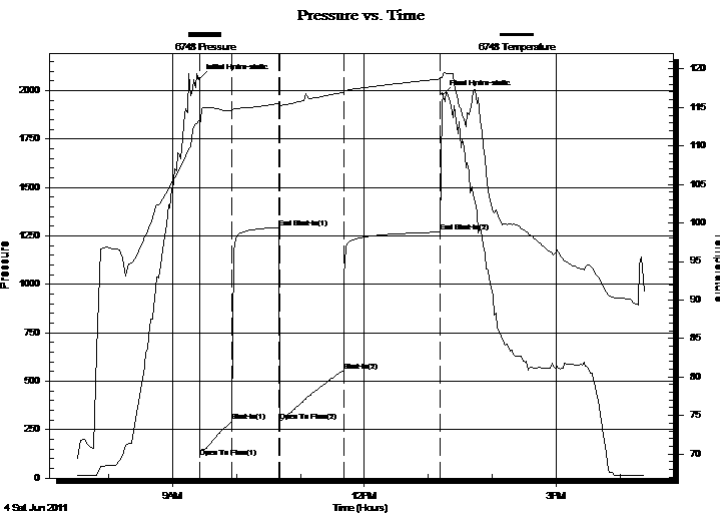
**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15795 **DST#: 5**  
 Test Start: 2011.06.04 @ 07:30:00

## GENERAL INFORMATION:

Formation: **Lansing zone H/WJ**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 09:25:30  
 Time Test Ended: 16:24:00  
 Interval: **4072.00 ft (KB) To 4160.00 ft (KB) (TVD)**  
 Total Depth: 4160.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3325 Scott City/94  
 Reference Elevations: 2877.00 ft (KB)  
 2872.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6748 Outside**  
 Press @ Run Depth: 554.77 psig @ 4157.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2011.06.04 End Date: 2011.06.04 Last Calib.: 2011.06.04  
 Start Time: 07:31:00 End Time: 16:24:00 Time On Btm: 2011.06.04 @ 09:25:00  
 Time Off Btm: 2011.06.04 @ 13:13:30

**TEST COMMENT:** 1ST Open 30 Minutes/Good blow /Blow built to bottom of bucket in 4 minutes  
 1ST Shut In 45 Minutes/Blow back built to 12 inches in 25 min/Died to 8 inches  
 2ND Open 60 Minutes/Good blow /Blow built to bottom of bucket in 4 Minutes  
 2ND Shut In 90 Minutes/Blow back built to 12 inches in 15 min/Died 47 minutes later



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2061.48	113.33	Initial Hydro-static
1	109.32	112.82	Open To Flow (1)
32	295.10	114.53	Shut-In(1)
75	1293.66	115.54	End Shut-In(1)
76	291.73	115.23	Open To Flow (2)
136	554.77	116.94	Shut-In(2)
227	1270.10	118.70	End Shut-In(2)
229	1979.55	119.30	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1800.00	Gas in pipe 100%	25.16
1160.00	Clean gassy oil Gas 35% Oil 65%	16.96
120.00	Mud cut oil 40% Mud 60% Oil	1.75

## Gas Rates

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



# DRILL STEM TEST REPORT

Grand Mesa Operating  
 1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

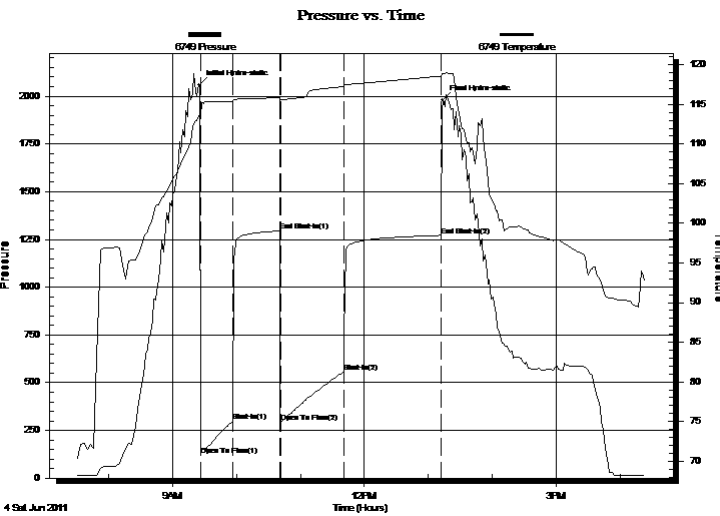
**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15795 **DST#: 5**  
 Test Start: 2011.06.04 @ 07:30:00

## GENERAL INFORMATION:

Formation: **Lansing zone H/WJ**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 09:25:30  
 Time Test Ended: 16:24:00  
 Interval: **4072.00 ft (KB) To 4160.00 ft (KB) (TVD)**  
 Total Depth: 4160.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3325 Scott City/94  
 Reference Elevations: 2877.00 ft (KB)  
 2872.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6749 Inside**  
 Press @ Run Depth: 1271.15 psig @ 4156.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2011.06.04 End Date: 2011.06.04 Last Calib.: 2011.06.04  
 Start Time: 07:31:00 End Time: 16:24:00 Time On Btm: 2011.06.04 @ 09:25:00  
 Time Off Btm: 2011.06.04 @ 13:13:30

**TEST COMMENT:** 1ST Open 30 Minutes/Good blow /Blow built to bottom of bucket in 4 minutes  
 1ST Shut In 45 Minutes/Blow back built to 12 inches in 25 min/Died to 8 inches  
 2ND Open 60 Minutes/Good blow /Blow built to bottom of bucket in 4 Minutes  
 2ND Shut In 90 Minutes/Blow back built to 12 inches in 15 min/Died 47 minutes later



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2059.73	113.73	Initial Hydro-static
1	121.86	113.53	Open To Flow (1)
32	296.50	115.36	Shut-In(1)
76	1294.40	115.93	End Shut-In(1)
77	293.12	115.67	Open To Flow (2)
136	555.15	117.24	Shut-In(2)
227	1271.15	118.57	End Shut-In(2)
229	1981.41	118.86	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1800.00	Gas in pipe 100%	25.16
1160.00	Clean gassy oil Gas 35% Oil 65%	16.96
120.00	Mud cut oil 40% Mud 60% Oil	1.75

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Grand Mesa Operating  
 1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15795      **DST#: 5**  
 Test Start: 2011.06.04 @ 07:30:00

**Tool Information**

Drill Pipe:	Length: 3926.00 ft	Diameter: 3.88 inches	Volume: 57.41 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	68000.00 lb
			<u>Total Volume: 58.00 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	2.75 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	4072.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	88.00 ft				
Tool Length:	116.75 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-in tool	5.00			4048.25	
Hydraulic tool	5.00			4053.25	
Change over sub	0.75			4054.00	
Jars	6.00			4060.00	
Safety Joint	2.00			4062.00	
Packer	5.00			4067.00	28.75      Bottom Of Top Packer
Packer	5.00			4072.00	
Anchor	4.00			4076.00	
change over sub	0.75			4076.75	
drill pipe	62.50			4139.25	
change over sub	0.75			4140.00	
anchor	15.00			4155.00	
Recorder	1.00	6749	Inside	4156.00	
Recorder	1.00	6748	Outside	4157.00	
bull plug	3.00			4160.00	88.00      Bottom Packers & Anchor

**Total Tool Length: 116.75**





# DRILL STEM TEST REPORT

## FLUID SUMMARY

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15795

**DST#: 5**

Test Start: 2011.06.04 @ 07:30:00

### Mud and Cushion Information

Mud Type: Gel Chem  
 Mud Weight: 9.00 lb/gal  
 Viscosity: 62.00 sec/qt  
 Water Loss: 6.19 in<sup>3</sup>  
 Resistivity: ohm.m  
 Salinity: 4000.00 ppm  
 Filter Cake: 1.00 inches

Cushion Type:  
 Cushion Length: ft  
 Cushion Volume: bbl  
 Gas Cushion Type:  
 Gas Cushion Pressure: psig

Oil API: deg API  
 Water Salinity: ppm

### Recovery Information

Recovery Table

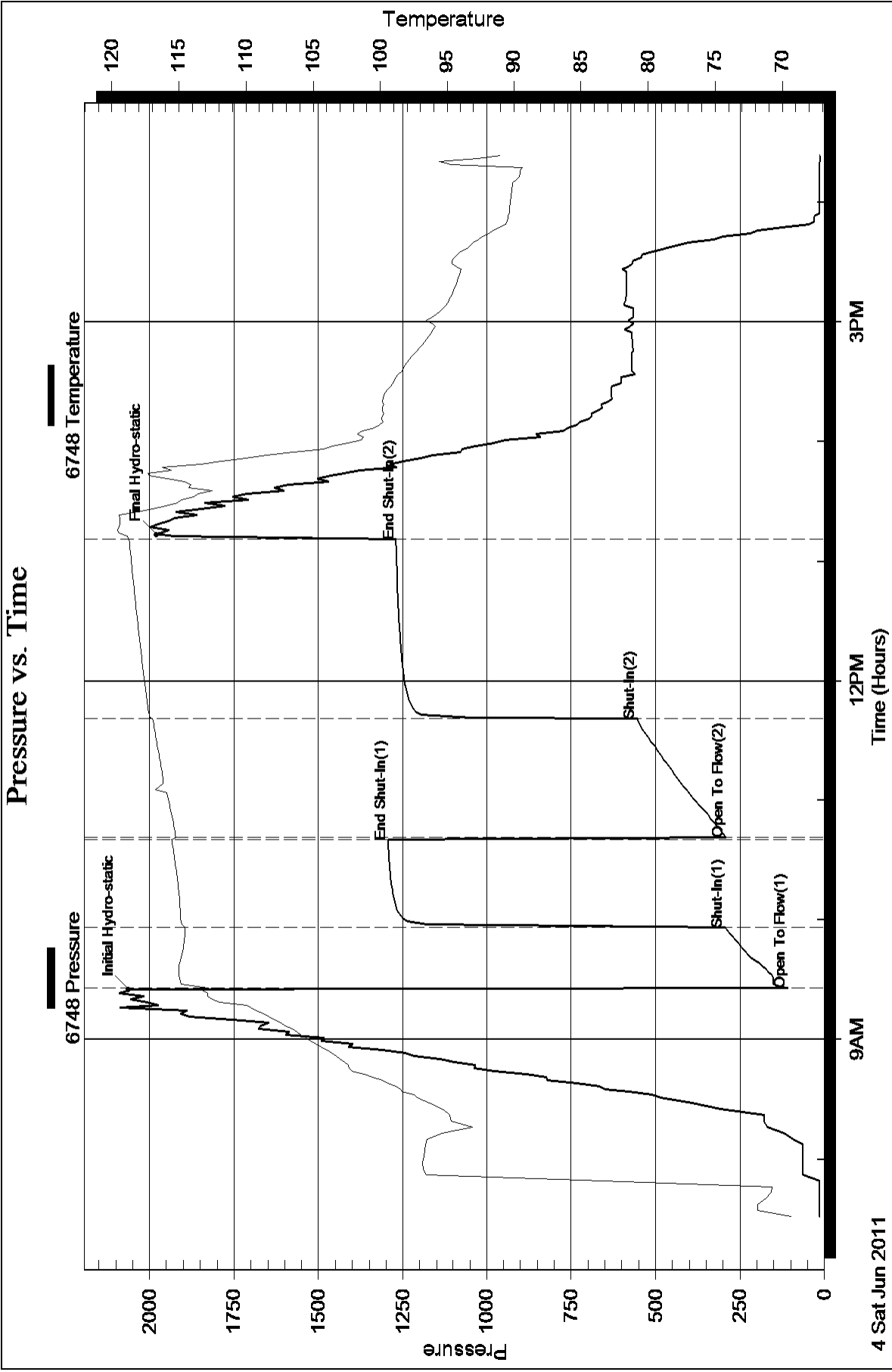
Length ft	Description	Volume bbl
1800.00	Gas in pipe 100%	25.159
1160.00	Clean gassy oil Gas 35% Oil 65%	16.964
120.00	Mud cut oil 40% Mud 60% Oil	1.755

Total Length: 3080.00 ft      Total Volume: 43.878 bbl

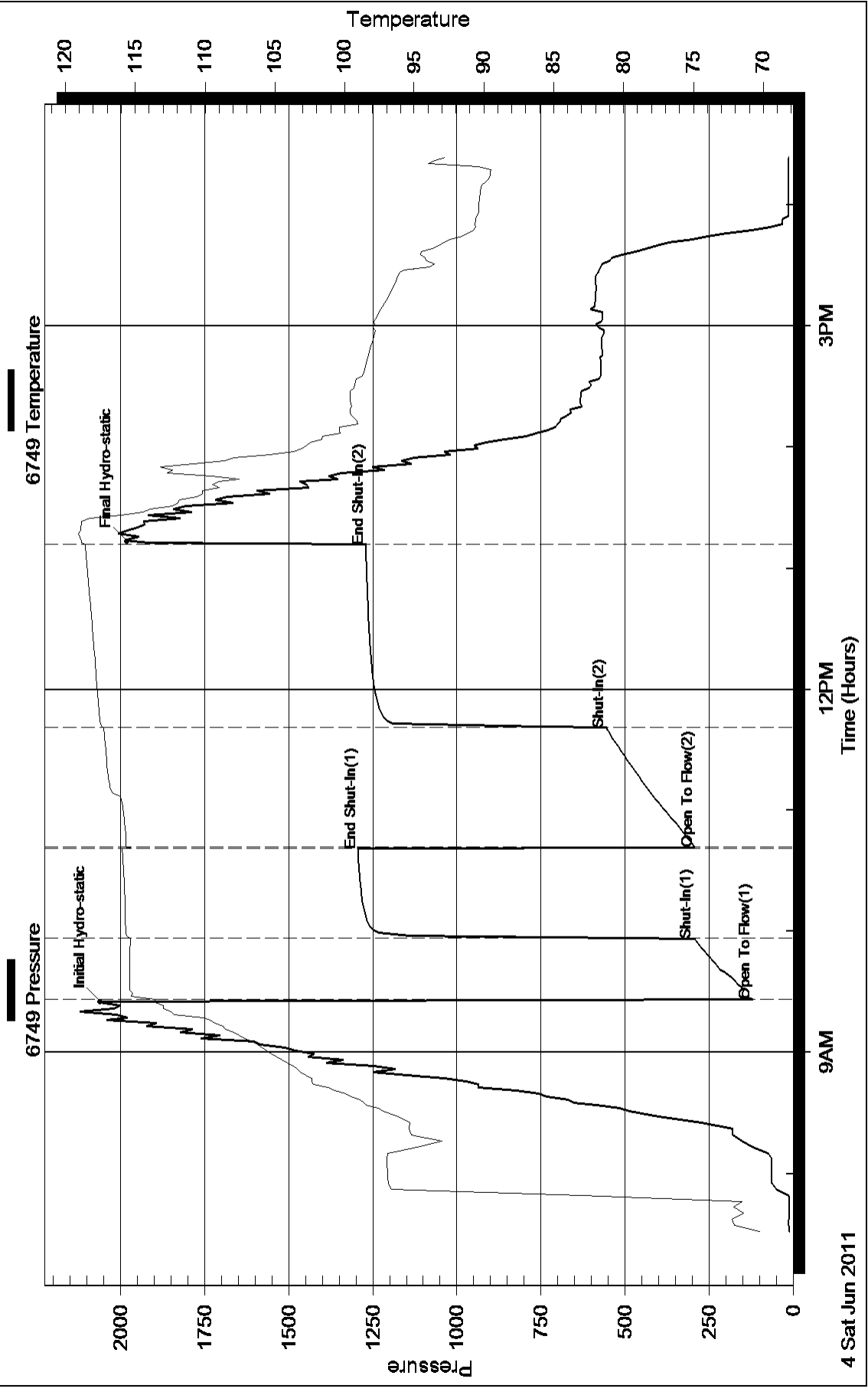
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: Gravity of oil 38  
 Circulating Sub Yes



# Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514

ATTN: Steve Stribling

**33/13S/31W/Gove**

**Hess 2-33**

Start Date: 2011.06.05 @ 01:28:00

End Date: 2011.06.05 @ 08:31:00

Job Ticket #: 15796                      DST #: 6

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.06.06 @ 09:33:38







# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15796

**DST#: 6**

Test Start: 2011.06.05 @ 01:28:00

**Tool Information**

Drill Pipe:	Length: 4026.00 ft	Diameter: 3.88 inches	Volume: 58.88 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 59.47 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	4159.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	27.00 ft				
Tool Length:	56.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut-in tool	5.00			4135.00	
Hydraulic tool	5.00			4140.00	
Change over sub	1.00			4141.00	
Jars	6.00			4147.00	
Safety Joint	2.00			4149.00	
Packer	5.00			4154.00	29.00 Bottom Of Top Packer
Packer	5.00			4159.00	
Anchor	22.00			4181.00	
Recorder	1.00	6749	Inside	4182.00	
Recorder	1.00	6748	Outside	4183.00	
Bullnose	3.00			4186.00	27.00 Bottom Packers & Anchor

**Total Tool Length: 56.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514  
ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15796

**DST#: 6**

Test Start: 2011.06.05 @ 01:28:00

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 62.00 sec/qt

Water Loss: 6.79 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
190.00	Muddy water 35% Mud 65% Water	1.614

Total Length: 190.00 ft      Total Volume: 1.614 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

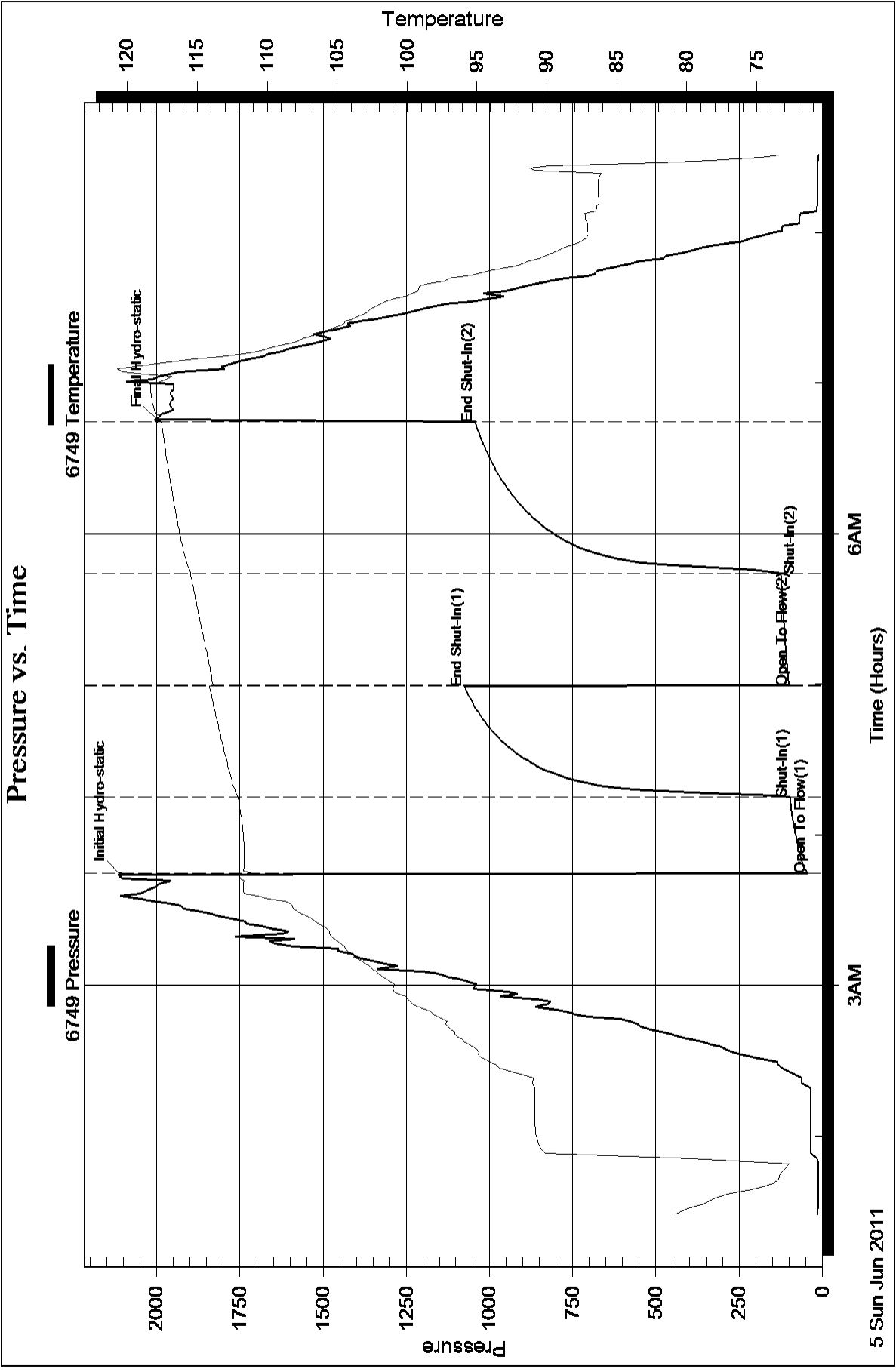
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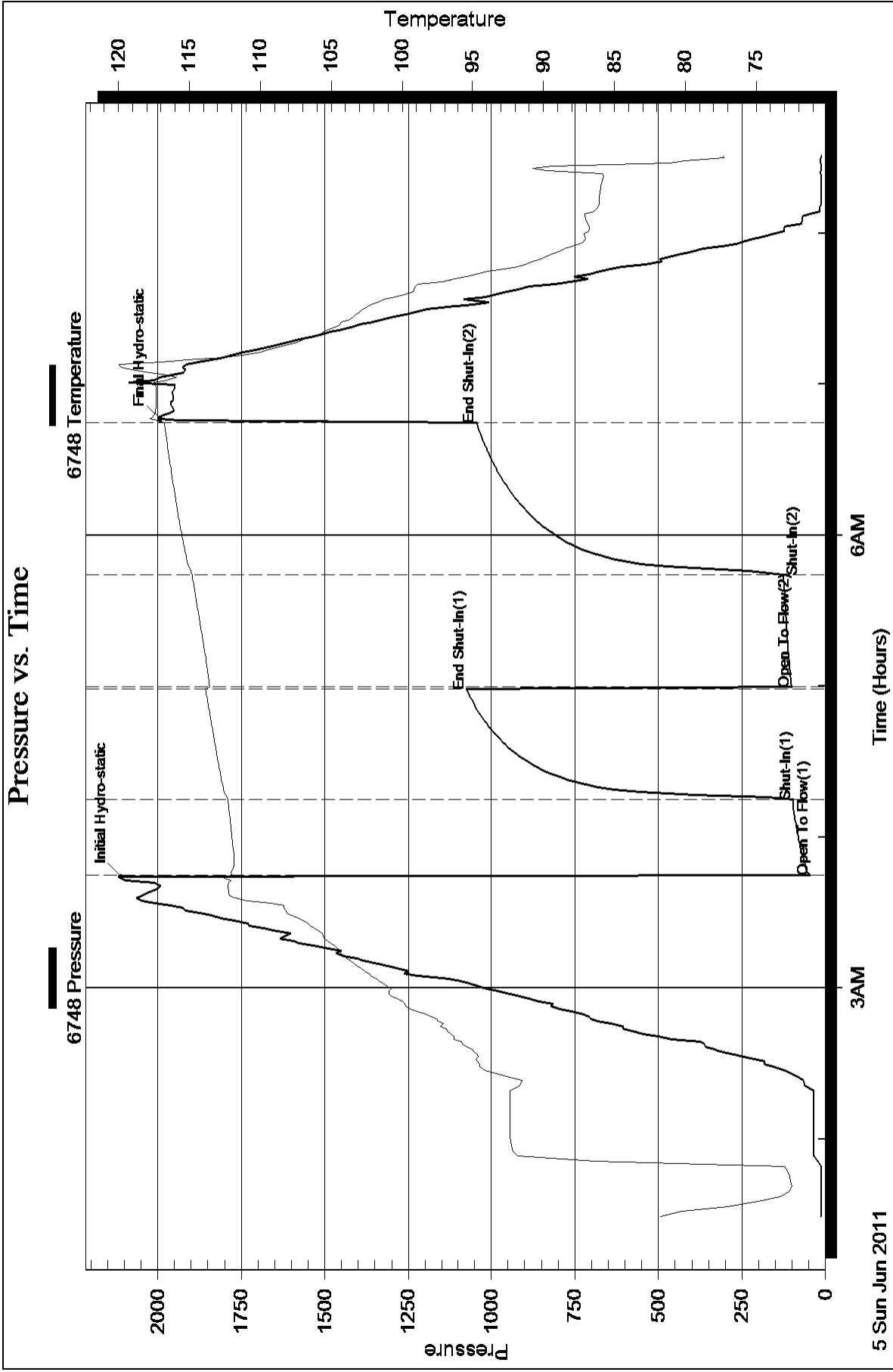
Laboratory Name:

Laboratory Location:

Recovery Comments: Recovery Chlorides 33,000 ppm  
Thin layer of oil on first stand of fluid









## DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514

ATTN: Steve Stribling

**33/13S/31W/Gove**

**Hess 2-33**

Start Date: 2011.06.05 @ 17:45:00

End Date: 2011.06.06 @ 00:05:00

Job Ticket #: 15797                      DST #: 7

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.06.06 @ 09:32:53



# DRILL STEM TEST REPORT

Grand Mesa Operating  
 1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

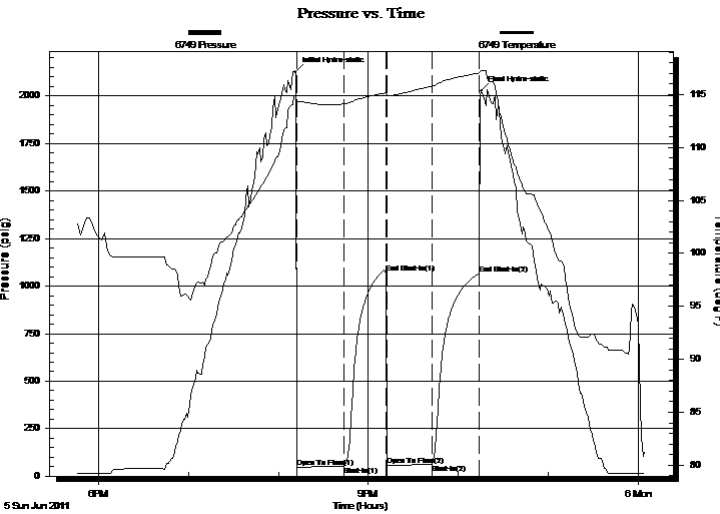
**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15797 **DST#: 7**  
 Test Start: 2011.06.05 @ 17:45:00

## GENERAL INFORMATION:

Formation: **Lansing zone L**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:12:30  
 Time Test Ended: 00:05:00  
 Interval: **4192.00 ft (KB) To 4227.00 ft (KB) (TVD)**  
 Total Depth: 4227.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3325 Scott City/94  
 Reference Elevations: 2877.00 ft (KB)  
 2872.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6749 Inside**  
 Press @ Run Depth: 61.51 psig @ 4223.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2011.06.05 End Date: 2011.06.06 Last Calib.: 2011.06.05  
 Start Time: 17:46:00 End Time: 00:05:00 Time On Btm: 2011.06.05 @ 20:11:30  
 Time Off Btm: 2011.06.05 @ 22:15:30

**TEST COMMENT:** 1ST Open 30 Minutes/Weak blow/Blow built to 1/4 inch  
 1ST Shut In 30 Minutes/No blow back  
 2ND Open 30 Minutes/No blow  
 2ND Shut In 30 Minutes/No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2126.47	114.89	Initial Hydro-static
1	46.30	114.39	Open To Flow (1)
33	53.36	114.14	Shut-In(1)
60	1070.57	115.16	End Shut-In(1)
61	55.27	114.90	Open To Flow (2)
91	61.51	115.80	Shut-In(2)
123	1062.49	117.05	End Shut-In(2)
124	2027.98	117.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud 100%	0.10

## Gas Rates

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





# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15797

**DST#: 7**

Test Start: 2011.06.05 @ 17:45:00

## Tool Information

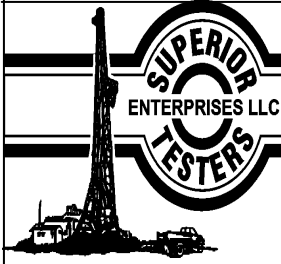
Drill Pipe:	Length: 4056.00 ft	Diameter: 3.88 inches	Volume: 59.32 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 59.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4192.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut-in tool	5.00			4168.00	
Hydraulic tool	5.00			4173.00	
Change over sub	1.00			4174.00	
Jars	6.00			4180.00	
Safety Joint	2.00			4182.00	
Packer	5.00			4187.00	29.00 Bottom Of Top Packer
Packer	5.00			4192.00	
Anchor	30.00			4222.00	
Recorder	1.00	6749	Inside	4223.00	
Recorder	1.00	6748	Outside	4224.00	
Bullnose	3.00			4227.00	35.00 Bottom Packers & Anchor

**Total Tool Length: 64.00**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15797

**DST#: 7**

Test Start: 2011.06.05 @ 17:45:00

### Mud and Cushion Information

Mud Type: Gel Chem  
 Mud Weight: 9.00 lb/gal  
 Viscosity: 64.00 sec/qt  
 Water Loss: 7.20 in<sup>3</sup>  
 Resistivity: ohm.m  
 Salinity: 6100.00 ppm  
 Filter Cake: 1.00 inches

Cushion Type:  
 Cushion Length: ft  
 Cushion Volume: bbl  
 Gas Cushion Type:  
 Gas Cushion Pressure: psig

Oil API: deg API  
 Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud 100%	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

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

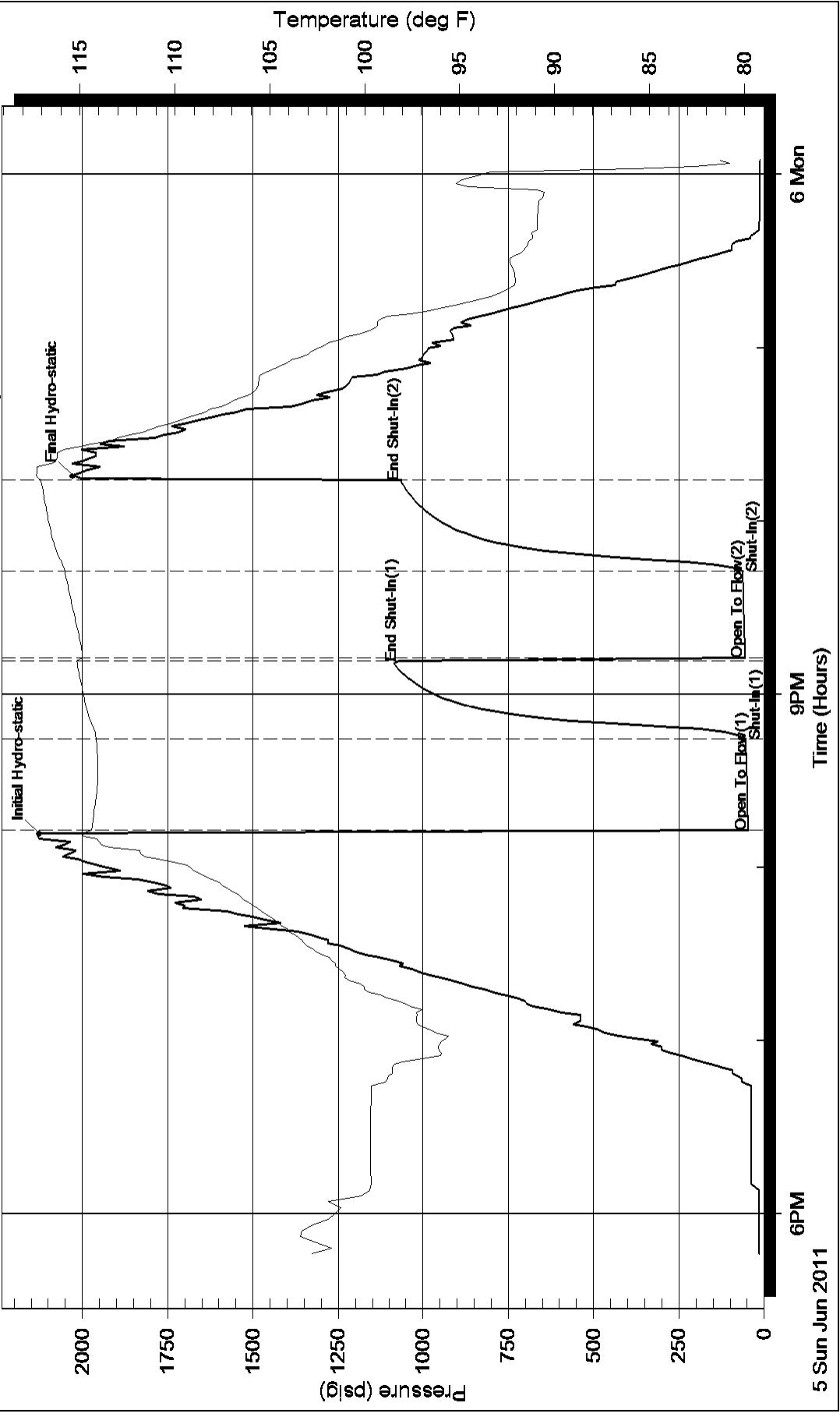
Laboratory Name:      Laboratory Location:

Recovery Comments:

# Pressure vs. Time

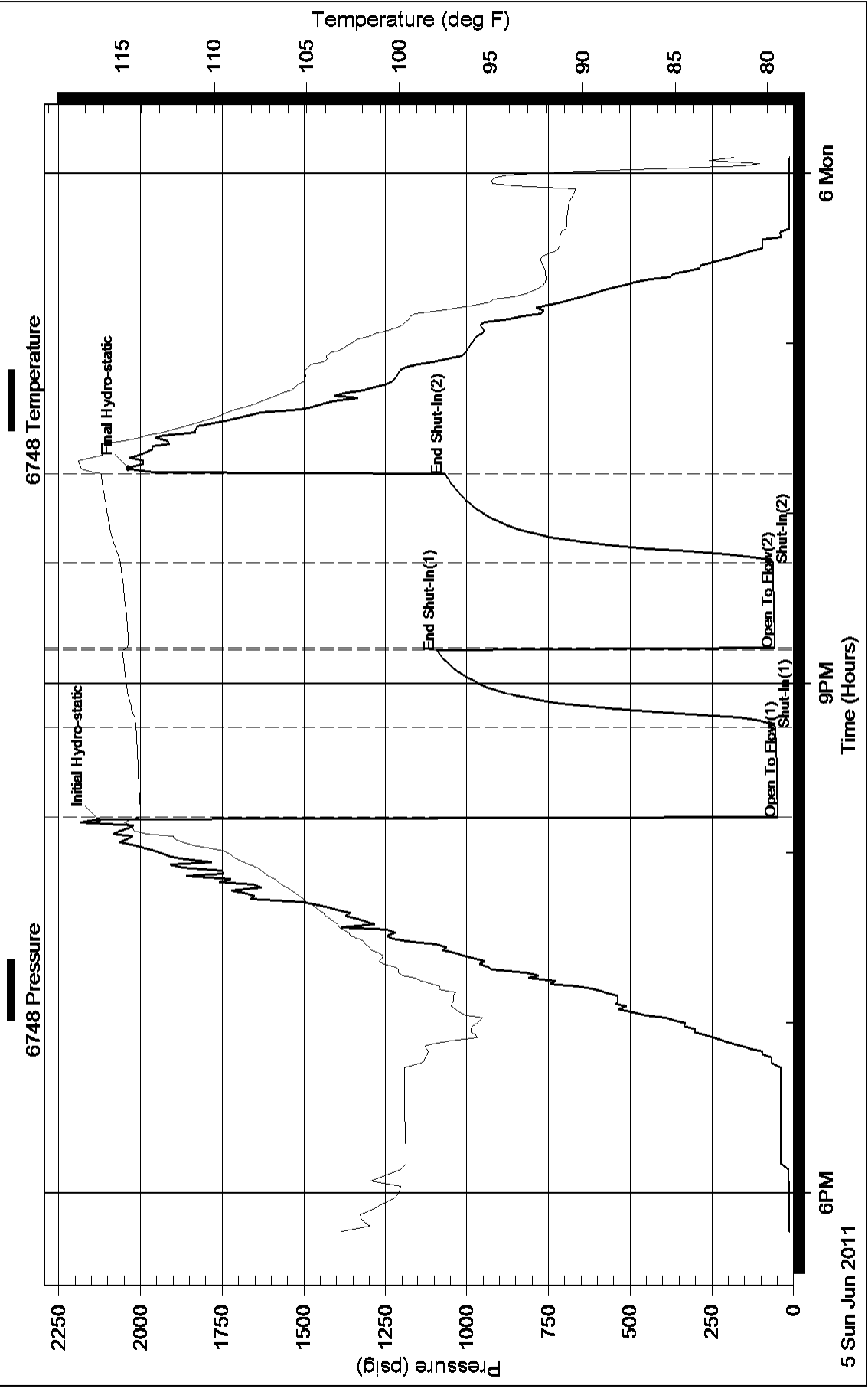
**6749 Pressure**

**6749 Temperature**





### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514

ATTN: Steve Stribling

**33/13S/31W/Gove**

**Hess 2-33**

Start Date: 2011.06.07 @ 03:15:00

End Date: 2011.06.07 @ 11:00:00

Job Ticket #: 15798                      DST #: 8

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.06.07 @ 12:27:14

Grand Mesa Operating  
Hess 2-33  
33/13S/31W/Gove  
DST # 8  
Fort Scott/Cherokee  
2011.06.07



# DRILL STEM TEST REPORT

Grand Mesa Operating  
 1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15798 **DST#: 8**  
 Test Start: 2011.06.07 @ 03:15:00

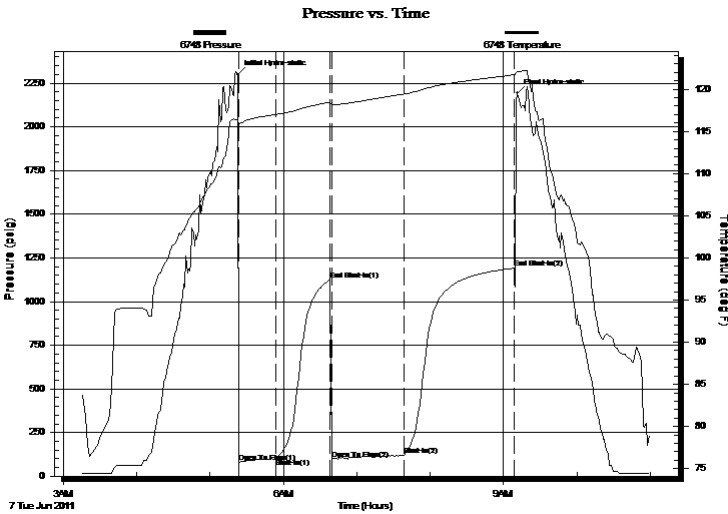
## GENERAL INFORMATION:

Formation: **Fort Scott/Cherokee**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:24:00  
 Time Test Ended: 11:00:00  
 Interval: **4354.00 ft (KB) To 4439.00 ft (KB) (TVD)**  
 Total Depth: 4439.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3325 Scott City/94  
 Reference Elevations: 2877.00 ft (KB)  
 2872.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6748 Outside**  
 Press @ Run Depth: 118.47 psig @ 4436.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2011.06.07 End Date: 2011.06.07 Last Calib.: 2011.06.07  
 Start Time: 03:16:00 End Time: 11:00:00 Time On Btm: 2011.06.07 @ 05:23:00  
 Time Off Btm: 2011.06.07 @ 09:11:30

**TEST COMMENT:** 1ST Open 30 Minutes/Weak blow/Blow built to 2 inches  
 1ST Shut In 45 Minutes/No blow back  
 2ND Open 60 Minutes/Fair blow/Blow built to 10 inches  
 2ND Shut In 90 Minutes/No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2298.34	116.43	Initial Hydro-static
1	79.89	115.92	Open To Flow (1)
31	100.06	117.00	Shut-In(1)
76	1126.23	118.45	End Shut-In(1)
77	94.42	118.15	Open To Flow (2)
136	118.47	119.43	Shut-In(2)
226	1190.40	121.72	End Shut-In(2)
229	2190.73	122.05	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
175.00	Gas in pipe 100% Gas	1.39
30.00	Clean oil 100% Oil	0.44
100.00	Oil Cut Mud	1.46
0.00	20% Oil 80%Mud	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

Grand Mesa Operating  
 1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15798 **DST#: 8**  
 Test Start: 2011.06.07 @ 03:15:00

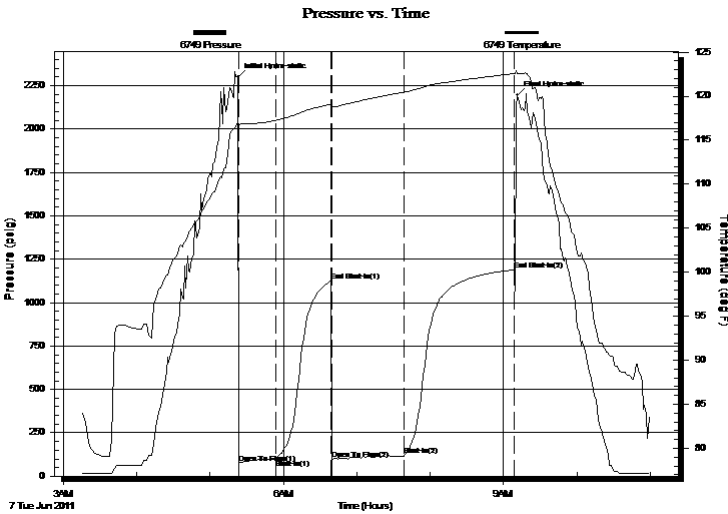
## GENERAL INFORMATION:

Formation: **Fort Scott/Cherokee**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:24:00  
 Time Test Ended: 11:00:00  
 Interval: **4354.00 ft (KB) To 4439.00 ft (KB) (TVD)**  
 Total Depth: 4439.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3325 Scott City/94  
 Reference Elevations: 2877.00 ft (KB)  
 2872.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6749 Inside**  
 Press @ Run Depth: 1189.45 psig @ 4435.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2011.06.07 End Date: 2011.06.07 Last Calib.: 2011.06.07  
 Start Time: 03:16:00 End Time: 11:00:00 Time On Btm: 2011.06.07 @ 05:23:00  
 Time Off Btm: 2011.06.07 @ 09:11:30

**TEST COMMENT:** 1ST Open 30 Minutes/Weak blow/Blow built to 2 inches  
 1ST Shut In 45 Minutes/No blow back  
 2ND Open 60 Minutes/Fair blow/Blow built to 10 inches  
 2ND Shut In 90 Minutes/No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2299.01	117.11	Initial Hydro-static
1	77.10	116.55	Open To Flow (1)
31	98.22	117.24	Shut-In(1)
76	1126.63	119.09	End Shut-In(1)
77	94.94	118.80	Open To Flow (2)
136	119.66	120.47	Shut-In(2)
226	1189.45	122.57	End Shut-In(2)
229	2193.45	122.58	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
175.00	Gas in pipe 100% Gas	1.39
30.00	Clean oil 100% Oil	0.44
100.00	Oil Cut Mud	1.46
0.00	20% Oil 80%Mud	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Grand Mesa Operating  
 1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15798      **DST#: 8**  
 Test Start: 2011.06.07 @ 03:15:00

**Tool Information**

Drill Pipe:	Length: 4212.00 ft	Diameter: 3.88 inches	Volume: 61.60 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	62000.00 lb
			<u>Total Volume: 62.19 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	6.75 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	4354.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	85.00 ft				
Tool Length:	113.75 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-in tool	5.00			4330.25	
Hydraulic tool	5.00			4335.25	
Change over sub	0.75			4336.00	
Jars	6.00			4342.00	
Safety Joint	2.00			4344.00	
Packer	5.00			4349.00	28.75      Bottom Of Top Packer
Packer	5.00			4354.00	
Anchor	5.00			4359.00	
change over sub	0.75			4359.75	
drill pipe	62.50			4422.25	
change over sub	0.75			4423.00	
anchor	11.00			4434.00	
Recorder	1.00	6749	Inside	4435.00	
Recorder	1.00	6748	Outside	4436.00	
bull plug	3.00			4439.00	85.00      Bottom Packers & Anchor

**Total Tool Length: 113.75**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15798

**DST#: 8**

Test Start: 2011.06.07 @ 03:15:00

### Mud and Cushion Information

Mud Type: Gel Chem  
 Mud Weight: 9.00 lb/gal  
 Viscosity: 56.00 sec/qt  
 Water Loss: 6.80 in<sup>3</sup>  
 Resistivity: ohm.m  
 Salinity: 6300.00 ppm  
 Filter Cake: 1.00 inches

Cushion Type:  
 Cushion Length: ft  
 Cushion Volume: bbl  
 Gas Cushion Type:  
 Gas Cushion Pressure: psig

Oil API: deg API  
 Water Salinity: ppm

### Recovery Information

Recovery Table

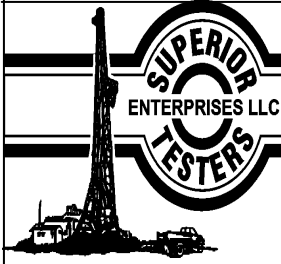
Length ft	Description	Volume bbl
175.00	Gas in pipe 100% Gas	1.394
30.00	Clean oil 100% Oil	0.439
100.00	Oil Cut Mud	1.462
0.00	20% Oil 80%Mud	0.000

Total Length: 305.00 ft      Total Volume: 3.295 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:



# DRILL STEM TEST REPORT

**GAS RATES**

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514  
ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15798

**DST#: 8**

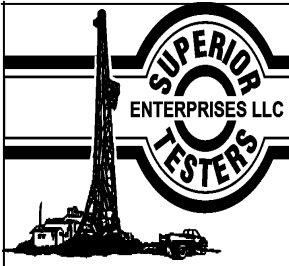
Test Start: 2011.06.07 @ 03:15:00

## Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
		0.00	0.00	0.00



# DRILL STEM TESTING - DATA LISTING

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15798

**DST#: 8**

Test Start: 2011.06.07 @ 03:15:00

Serial # 6748 Outside				Serial # 6748 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	0.0	13.73	83.8		79.0	938.58	103.0
	3.0	13.34	79.2		80.5	976.28	102.7
	6.0	13.35	76.4		82.0	1027.59	103.2
	9.0	13.42	76.7		83.5	1080.23	103.3
	12.0	13.48	77.8		85.0	1119.92	104.0
	15.0	13.49	79.0		86.5	1188.00	104.6
	18.0	13.51	79.9		88.0	1221.44	104.8
	21.0	13.51	80.9		89.5	1421.77	105.2
	24.0	14.30	84.6		91.0	1311.69	105.5
	27.0	63.39	93.8		92.5	1380.31	105.7
	30.0	63.43	94.0		94.0	1424.89	106.0
	33.0	63.38	94.0		95.5	1612.44	106.4
	36.0	63.47	94.0		97.0	1484.35	106.7
	39.0	62.97	94.1		98.5	1572.92	107.2
	42.0	62.97	94.1		100.0	1638.22	107.6
	45.0	63.16	94.1		101.5	1649.88	108.0
	48.0	63.05	94.1		103.0	1659.95	108.2
	51.0	90.40	93.8		104.5	1745.15	108.7
	54.0	119.70	93.1		106.0	1809.05	108.9
	57.0	166.92	95.2		107.5	1805.93	109.3
	59.5	278.70	97.0		109.0	1966.59	109.6
	61.0	347.03	97.5		110.5	1855.48	110.3
	62.5	368.53	98.1		112.0	1968.99	110.7
	64.0	436.12	98.5		113.5	2045.77	110.8
	65.5	469.52	98.8		115.0	2082.24	111.8
	67.0	529.16	99.4		116.5	2099.20	112.1
	68.5	602.22	99.6		118.0	2163.16	113.5
	70.0	620.70	100.0		119.5	2115.37	114.9
	71.5	683.98	100.7		121.0	2226.59	116.3
	73.0	749.76	101.5		122.5	2192.43	116.4
	74.5	778.11	101.6		124.0	2141.74	116.4
	76.0	819.26	101.8		125.5	2318.46	116.4
	77.5	877.00	102.2		126.0	2310.95	116.3

Printing every 3 samples



Serial # 6748 Outside				Serial # 6748 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
Initial Hydro-static	126.5	2301.09	116.4		178.5	694.65	117.7
	127.0	2298.34	116.4		180.0	777.90	117.8
	127.5	78.70	115.8		181.5	845.53	117.8
Open To Flow (1)	128.0	79.89	115.9		183.0	899.00	117.9
	128.5	80.94	115.9		184.5	941.27	117.9
	130.0	83.01	116.0		186.0	973.86	118.0
	131.5	84.98	116.2		187.5	1000.49	118.0
	133.0	86.85	116.2		189.0	1022.89	118.1
	134.5	88.43	116.3		190.5	1041.61	118.1
	136.0	89.38	116.4		192.0	1057.70	118.2
	137.5	90.60	116.5		193.5	1071.51	118.2
	139.0	91.91	116.5		195.0	1083.54	118.3
	140.5	93.36	116.6		196.5	1094.16	118.3
	142.0	94.77	116.6		198.0	1103.54	118.3
	143.5	95.80	116.7		199.5	1111.90	118.4
	145.0	95.70	116.7		201.0	1119.46	118.4
	146.5	95.82	116.7		201.5	1121.70	118.4
	148.0	97.63	116.8		202.0	1124.06	118.4
	149.5	95.90	116.8	End Shut-In(1)	202.5	1126.23	118.4
	151.0	97.13	116.9		203.0	131.04	117.8
	152.5	96.74	116.9	Open To Flow (2)	203.5	94.42	118.2
	154.0	98.38	116.9		204.0	98.31	118.2
	155.5	98.34	117.0		205.5	101.91	118.1
	156.5	98.49	117.0		207.0	102.09	118.2
Shut-In(1)	157.0	98.54	117.0		208.5	99.37	118.2
	157.5	100.06	117.0		210.0	105.25	118.2
	158.0	103.00	117.0		211.5	103.15	118.2
	158.5	106.03	117.0		213.0	105.18	118.3
	159.0	109.05	117.0		214.5	104.34	118.3
	160.5	119.26	117.1		216.0	101.61	118.3
	162.0	130.99	117.1		217.5	104.92	118.4
	163.5	144.65	117.2		219.0	108.38	118.4
	165.0	161.00	117.2		220.5	108.03	118.4
	166.5	180.97	117.2		222.0	109.64	118.5
	168.0	205.46	117.3		223.5	109.16	118.5
	169.5	236.96	117.3		225.0	109.23	118.5
	171.0	277.60	117.4		226.5	106.26	118.6
	172.5	332.21	117.4		228.0	107.76	118.6
	174.0	404.82	117.5		229.5	114.79	118.6
	175.5	495.69	117.6		231.0	111.37	118.7
	177.0	597.05	117.6		232.5	113.19	118.7

Printing every 3 samples

Serial # 6748 Outside				Serial # 6748 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	234.0	112.30	118.7		289.5	990.11	120.4
	235.5	111.27	118.8		291.0	1009.92	120.5
	237.0	110.13	118.8		292.5	1026.52	120.5
	238.5	110.43	118.9		294.0	1040.75	120.5
	240.0	114.96	118.9		295.5	1053.08	120.6
	241.5	113.53	118.9		297.0	1063.92	120.6
	243.0	115.66	119.0		298.5	1073.41	120.6
	244.5	114.86	119.0		300.0	1082.18	120.7
	246.0	114.53	119.0		301.5	1090.17	120.7
	247.5	111.94	119.1		303.0	1097.27	120.8
	249.0	118.19	119.1		304.5	1103.85	120.8
	250.5	117.75	119.1		306.0	1109.89	120.8
	252.0	116.83	119.2		307.5	1115.29	120.8
	253.5	116.53	119.2		309.0	1120.46	120.9
	255.0	114.25	119.2		310.5	1125.34	120.9
	256.5	117.63	119.3		312.0	1129.81	120.9
	258.0	116.18	119.3		313.5	1134.08	121.0
	259.5	117.58	119.4		315.0	1137.88	121.0
	261.0	117.69	119.4		316.5	1141.40	121.0
	261.5	117.68	119.4		318.0	1144.93	121.1
	262.0	117.76	119.4		319.5	1148.25	121.1
Shut-In(2)	262.5	118.47	119.4		321.0	1151.34	121.1
	263.0	121.97	119.4		322.5	1154.13	121.2
	263.5	126.17	119.5		324.0	1156.84	121.2
	264.0	130.85	119.5		325.5	1159.64	121.2
	265.5	146.71	119.5		327.0	1161.94	121.2
	267.0	165.51	119.5		328.5	1164.41	121.3
	268.5	188.33	119.6		330.0	1166.55	121.3
	270.0	216.52	119.6		331.5	1168.60	121.3
	271.5	252.55	119.7		333.0	1170.72	121.4
	273.0	299.22	119.7		334.5	1172.66	121.4
	274.5	360.42	119.8		336.0	1174.41	121.4
	276.0	438.27	119.9		337.5	1176.05	121.4
	277.5	528.69	119.9		339.0	1177.80	121.5
	279.0	622.69	120.0		340.5	1179.76	121.5
	280.5	711.10	120.1		342.0	1181.30	121.5
	282.0	787.63	120.2		343.5	1182.46	121.5
	283.5	849.57	120.2		345.0	1183.81	121.6
	285.0	898.20	120.3		346.5	1185.39	121.6
	286.5	936.01	120.3		348.0	1186.80	121.6
	288.0	965.96	120.4		349.5	1187.75	121.7

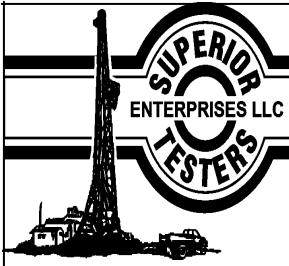
Printing every 3 samples

Serial # 6748 Outside				Serial # 6748 Outside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
End Shut-In(2)	351.0	1188.93	121.7		402.0	1012.31	103.6
	352.0	1190.07	121.7		403.5	870.13	102.9
	352.5	1190.21	121.7		405.0	911.44	101.6
	353.0	1190.40	121.7		406.5	865.56	101.5
	353.5	1082.14	121.7		408.0	814.33	101.9
	354.0	1103.78	121.7		409.5	754.03	101.5
Final Hydro-static	354.5	2152.45	122.0		411.0	653.40	100.9
	355.0	2113.56	122.0		412.5	659.60	100.4
	355.5	2190.73	122.1		414.0	553.18	99.8
	356.0	2170.44	122.1		415.5	561.81	97.2
	356.5	2154.87	122.1		417.0	502.59	95.6
	357.0	2141.87	122.1		418.5	433.34	94.1
	358.5	2110.17	122.1		420.0	407.13	92.5
	360.0	2110.86	122.2		421.5	342.75	91.2
	361.5	2091.70	122.2		423.0	310.21	90.8
	363.0	2183.40	122.2		424.5	253.81	90.4
	364.5	2197.04	121.2		426.0	214.08	90.7
	366.0	2158.15	120.2		427.5	177.27	90.9
	367.5	1984.01	120.6		429.0	127.16	90.9
	369.0	2071.92	118.6		430.5	63.66	90.7
	370.5	2029.57	117.3		432.0	65.42	90.7
	372.0	1873.11	117.1		433.5	27.98	90.4
	373.5	1936.13	116.3		435.0	27.87	89.4
	375.0	1787.31	115.7		436.5	28.03	89.3
	376.5	1850.45	116.5		438.0	13.99	88.9
	378.0	1803.22	114.0		439.5	13.74	88.7
	379.5	1690.85	113.1		441.0	13.77	88.6
	381.0	1709.53	111.6		442.5	13.87	88.6
	382.5	1604.96	110.3		444.0	13.91	88.4
	384.0	1623.57	110.1		445.5	13.94	88.2
	385.5	1579.42	108.8		447.0	13.92	88.1
	387.0	1528.72	108.2		448.5	13.93	87.8
	388.5	1355.43	107.2		450.0	13.94	87.7
	390.0	1426.68	107.3		451.5	13.75	88.8
	391.5	1391.36	107.4		453.0	13.91	89.5
	393.0	1327.29	107.0		454.5	13.57	88.9
	394.5	1262.21	106.5		456.0	13.58	88.2
	396.0	1128.44	106.2		457.5	13.21	84.3
	397.5	1167.55	106.0		459.0	13.15	79.9
	399.0	1024.42	105.3		460.5	13.72	80.4
	400.5	1068.27	104.6		462.0	13.93	77.9

Printing every 3 samples

Serial # 6748 Outside				Serial # 6749 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	463.5	13.90	78.9				
	464.0	13.81	79.7				

Printing every 3 samples



# DRILL STEM TESTING - DATA LISTING

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15798

**DST#: 8**

Test Start: 2011.06.07 @ 03:15:00

Serial # 6749 Inside				Serial # 6749 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	0.0	13.23	84.0		79.0	958.83	102.8
	3.0	13.18	82.1		80.5	1080.78	103.1
	6.0	13.12	80.2		82.0	1028.74	103.2
	9.0	13.10	79.6		83.5	1210.79	103.5
	12.0	13.10	79.3		85.0	1121.60	103.8
	15.0	13.10	79.1		86.5	1189.53	104.4
	18.0	13.09	79.1		88.0	1249.29	104.7
	21.0	13.10	79.0		89.5	1252.07	105.1
	24.0	13.94	81.0		91.0	1313.25	105.5
	27.0	62.59	93.6		92.5	1454.32	105.7
	30.0	62.81	94.0		94.0	1398.27	105.9
	33.0	62.72	94.0		95.5	1434.73	106.3
	36.0	62.40	93.9		97.0	1498.52	106.7
	39.0	62.71	93.7		98.5	1571.48	107.0
	42.0	62.58	93.6		100.0	1704.30	107.5
	45.0	62.80	93.6		101.5	1652.66	107.9
	48.0	62.23	93.5		103.0	1700.34	108.2
	51.0	90.66	94.1		104.5	1748.37	108.7
	54.0	118.89	92.8		106.0	1802.22	108.8
	57.0	151.28	94.6		107.5	1809.62	109.2
	59.5	279.16	96.9		109.0	1892.87	109.5
	61.0	331.50	97.4		110.5	1913.26	110.1
	62.5	369.43	98.1		112.0	1972.05	110.7
	64.0	435.94	98.3		113.5	2141.12	110.8
	65.5	469.43	98.7		115.0	2084.36	111.5
	67.0	529.97	99.3		116.5	2102.80	111.9
	68.5	592.26	99.7		118.0	2216.80	113.0
	70.0	621.41	99.9		119.5	2196.25	114.4
	71.5	684.13	100.5		121.0	2228.29	115.9
	73.0	749.79	101.3		122.5	2194.97	116.2
	74.5	778.60	101.6		124.0	2177.41	116.3
	76.0	807.45	101.8		125.5	2300.70	116.5
	77.5	877.16	102.1		126.0	2311.25	116.8

Printing every 3 samples

Serial # 6749 Inside				Serial # 6749 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
Initial Hydro-static Open To Flow (1)	126.5	2303.93	117.0		178.5	683.26	118.2
	127.0	2299.01	117.1		180.0	768.10	118.2
	127.5	77.10	116.6		181.5	837.55	118.3
	128.0	78.24	116.8		183.0	892.62	118.4
	128.5	79.38	116.8		184.5	935.98	118.5
	130.0	81.61	116.9		186.0	969.65	118.5
	131.5	83.84	116.9		187.5	996.65	118.6
	133.0	85.54	116.9		189.0	1019.55	118.6
	134.5	87.17	116.9		190.5	1038.81	118.7
	136.0	88.53	116.9		192.0	1055.10	118.7
	137.5	89.70	116.9		193.5	1069.13	118.8
	139.0	91.12	116.9		195.0	1081.25	118.8
	140.5	92.16	116.9		196.5	1091.96	118.9
	142.0	93.55	116.9		198.0	1101.49	118.9
	143.5	94.87	116.9		199.5	1110.08	119.0
	145.0	94.91	117.0		201.0	1117.64	119.0
	146.5	94.45	117.0		202.0	1122.30	119.1
	148.0	96.43	117.0		202.5	1124.53	119.1
	149.5	94.62	117.0	End Shut-In(1)	203.0	1126.63	119.1
	151.0	95.88	117.1	Open To Flow (2)	203.5	94.94	118.8
	152.5	96.03	117.1		204.0	96.11	118.8
	154.0	96.98	117.1		204.5	99.12	118.8
	155.5	97.42	117.2		206.0	101.58	118.8
	156.5	97.48	117.2		207.5	101.28	118.8
	157.0	97.59	117.2		209.0	100.16	118.9
Shut-In(1)	157.5	98.22	117.2		210.5	104.91	118.9
	158.0	100.98	117.3		212.0	102.73	119.0
	158.5	103.93	117.3		213.5	103.66	119.0
	159.0	107.11	117.3		215.0	103.52	119.1
	160.5	117.20	117.3		216.5	95.26	119.1
	162.0	128.80	117.4		218.0	105.31	119.2
	163.5	142.25	117.5		219.5	107.35	119.2
	165.0	158.28	117.5		221.0	107.47	119.3
	166.5	177.82	117.6		222.5	108.34	119.3
	168.0	201.95	117.6		224.0	108.61	119.4
	169.5	232.34	117.7		225.5	108.19	119.4
	171.0	271.52	117.8		227.0	104.47	119.5
	172.5	324.61	117.8		228.5	108.64	119.5
	174.0	394.76	117.9		230.0	112.41	119.6
	175.5	483.92	118.0		231.5	111.18	119.6
	177.0	584.45	118.1		233.0	111.81	119.7

Printing every 3 samples

Serial # 6749 Inside				Serial # 6749 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	234.5	111.37	119.7		290.0	993.58	121.4
	236.0	110.27	119.8		291.5	1012.69	121.5
	237.5	108.59	119.8		293.0	1028.64	121.5
	239.0	110.89	119.8		294.5	1042.47	121.5
	240.5	112.90	119.9		296.0	1054.55	121.5
	242.0	113.16	119.9		297.5	1065.00	121.6
	243.5	114.34	120.0		299.0	1074.51	121.6
	245.0	113.97	120.0		300.5	1082.80	121.6
	246.5	113.00	120.0		302.0	1090.63	121.7
	248.0	112.41	120.1		303.5	1097.79	121.7
	249.5	118.36	120.1		305.0	1104.05	121.7
	251.0	114.71	120.2		306.5	1110.08	121.8
	252.5	116.11	120.2		308.0	1115.64	121.8
	254.0	114.97	120.2		309.5	1120.56	121.8
	255.5	114.11	120.3		311.0	1125.25	121.8
	257.0	116.33	120.3		312.5	1129.84	121.9
	258.5	115.48	120.4		314.0	1133.99	121.9
	260.0	116.69	120.4		315.5	1137.81	121.9
	261.5	116.81	120.4		317.0	1141.25	121.9
	262.0	116.88	120.4		318.5	1144.77	122.0
	262.5	116.87	120.5		320.0	1148.11	122.0
Shut-In(2)	263.0	119.66	120.5		321.5	1151.03	122.0
	263.5	123.74	120.5		323.0	1153.98	122.1
	264.0	128.24	120.5		324.5	1156.62	122.1
	264.5	133.25	120.5		326.0	1159.12	122.1
	266.0	149.63	120.6		327.5	1161.65	122.1
	267.5	169.41	120.6		329.0	1163.99	122.2
	269.0	193.36	120.6		330.5	1166.06	122.2
	270.5	222.94	120.7		332.0	1168.22	122.2
	272.0	260.85	120.8		333.5	1170.26	122.2
	273.5	310.53	120.8		335.0	1172.13	122.3
	275.0	375.29	120.9		336.5	1174.24	122.3
	276.5	456.25	120.9		338.0	1175.61	122.3
	278.0	548.39	121.0		339.5	1177.57	122.3
	279.5	641.78	121.1		341.0	1179.21	122.4
	281.0	728.07	121.1		342.5	1180.75	122.4
	282.5	801.39	121.2		344.0	1181.89	122.4
	284.0	860.14	121.2		345.5	1183.26	122.4
	285.5	905.97	121.3		347.0	1184.85	122.5
	287.0	941.94	121.3		348.5	1185.98	122.5
	288.5	970.38	121.4		350.0	1187.36	122.5

Printing every 3 samples

Serial # 6749 Inside				Serial # 6749 Inside			
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)	Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
End Shut-In(2)	351.5	1188.32	122.5		402.0	1018.06	103.8
	352.0	1188.81	122.6		403.5	922.75	102.8
	352.5	1189.28	122.6		405.0	912.72	102.1
	353.0	1189.45	122.6		406.5	808.58	101.8
	353.5	1069.51	122.5		408.0	815.69	102.1
	354.0	1096.51	122.6		409.5	755.49	101.4
Final Hydro-static	354.5	2132.34	122.9		411.0	716.74	100.9
	355.0	2111.69	122.7		412.5	651.92	100.3
	355.5	2193.45	122.6		414.0	622.74	99.3
	356.0	2176.32	122.6		415.5	563.62	97.0
	356.5	2158.84	122.6		417.0	499.20	95.8
	357.0	2145.04	122.6		418.5	466.62	94.3
	358.5	2112.01	122.6		420.0	407.66	93.0
	360.0	2113.12	122.6		421.5	328.36	92.3
	361.5	2115.28	122.6		423.0	311.83	92.1
	363.0	2187.38	122.7		424.5	255.29	91.9
	364.5	2081.88	122.3		426.0	214.91	91.4
	366.0	2163.28	121.7		427.5	179.08	91.2
	367.5	2048.71	120.8		429.0	126.11	90.8
	369.0	2006.21	120.8		430.5	61.29	90.5
	370.5	2034.14	120.7		432.0	63.86	90.5
	372.0	1872.14	119.7		433.5	41.43	90.4
	373.5	1941.40	119.8		435.0	26.86	89.3
	375.0	1895.81	119.8		436.5	26.92	89.3
	376.5	1752.39	119.7		438.0	13.61	89.0
	378.0	1807.60	116.6		439.5	13.63	88.7
	379.5	1677.57	114.7		441.0	13.54	88.6
	381.0	1713.67	112.9		442.5	13.51	88.6
	382.5	1675.04	112.1		444.0	13.49	88.5
	384.0	1564.66	111.2		445.5	13.49	88.3
	385.5	1583.72	110.5		447.0	13.46	88.3
	387.0	1560.34	110.0		448.5	13.46	88.1
	388.5	1485.19	109.1		450.0	13.46	87.9
	390.0	1430.23	108.4		451.5	13.43	88.9
	391.5	1309.81	107.9		453.0	13.38	89.7
	393.0	1329.67	107.2		454.5	13.36	88.8
	394.5	1260.28	106.9		456.0	13.32	88.4
	396.0	1228.26	106.6		457.5	13.28	87.5
	397.5	1170.96	106.0		459.0	13.17	84.7
	399.0	1043.20	105.2		460.5	13.27	83.8
	400.5	1070.38	104.5		462.0	13.29	81.5

Printing every 3 samples



<b>Serial # 6749</b>		<b>Inside</b>	
Comments	Time (Min.)	Pressure (psig)	Temp. (deg F)
	463.5	13.34	83.7
	464.0	13.30	84.8

Printing every 3 samples



## DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating**

1700 N Waterfront Parkway  
Building 600  
Wichita, KS 67206+5514

ATTN: Steve Stribling

**33/13S/31W/Gove**

**Hess 2-33**

Start Date: 2011.06.07 @ 21:40:00

End Date: 2011.06.08 @ 07:36:30

Job Ticket #: 15799                      DST #: 9

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.06.08 @ 08:29:04

Grand Mesa Operating

Hess 2-33

33/13S/31W/Gove

DST # 9

Johnson

2011.06.07







# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Grand Mesa Operating  
 1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**Hess 2-33**  
**33/13S/31W/Gove**  
 Job Ticket: 15799      **DST#: 9**  
 Test Start: 2011.06.07 @ 21:40:00

**Tool Information**

Drill Pipe:	Length: 4305.00 ft	Diameter: 3.88 inches	Volume: 62.96 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 63.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.75 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4436.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	85.75 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-in tool	5.00			4412.25	
Hydraulic tool	5.00			4417.25	
Change over sub	0.75			4418.00	
Jars	6.00			4424.00	
Safety Joint	2.00			4426.00	
Packer	5.00			4431.00	28.75      Bottom Of Top Packer
Packer	5.00			4436.00	
Anchor	5.00			4441.00	
change over sub	0.75			4441.75	
drill pipe	31.50			4473.25	
change over sub	0.75			4474.00	
anchor	14.00			4488.00	
Recorder	1.00	6749	Inside	4489.00	
Recorder	1.00	6748	Outside	4490.00	
bull plug	3.00			4493.00	57.00      Bottom Packers & Anchor

**Total Tool Length: 85.75**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Grand Mesa Operating

**Hess 2-33**

1700 N Waterfront Parkway  
 Building 600  
 Wichita, KS 67206+5514  
 ATTN: Steve Stribling

**33/13S/31W/Gove**

Job Ticket: 15799

**DST#: 9**

Test Start: 2011.06.07 @ 21:40:00

### Mud and Cushion Information

Mud Type: Gel Chem  
 Mud Weight: 9.00 lb/gal  
 Viscosity: 55.00 sec/qt  
 Water Loss: 7.99 in<sup>3</sup>  
 Resistivity: ohm.m  
 Salinity: 6000.00 ppm  
 Filter Cake: 1.00 inches

Cushion Type:  
 Cushion Length: ft  
 Cushion Volume: bbl  
 Gas Cushion Type:  
 Gas Cushion Pressure: psig

Oil API: deg API  
 Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
680.00	Gas in pipe 100% gas	8.780
2200.00	Gassy oil 15% gas 85% oil	32.173
120.00	Mud cut oil 30% Mud 70% Oil	1.755
0.00	gravity below 30	0.000

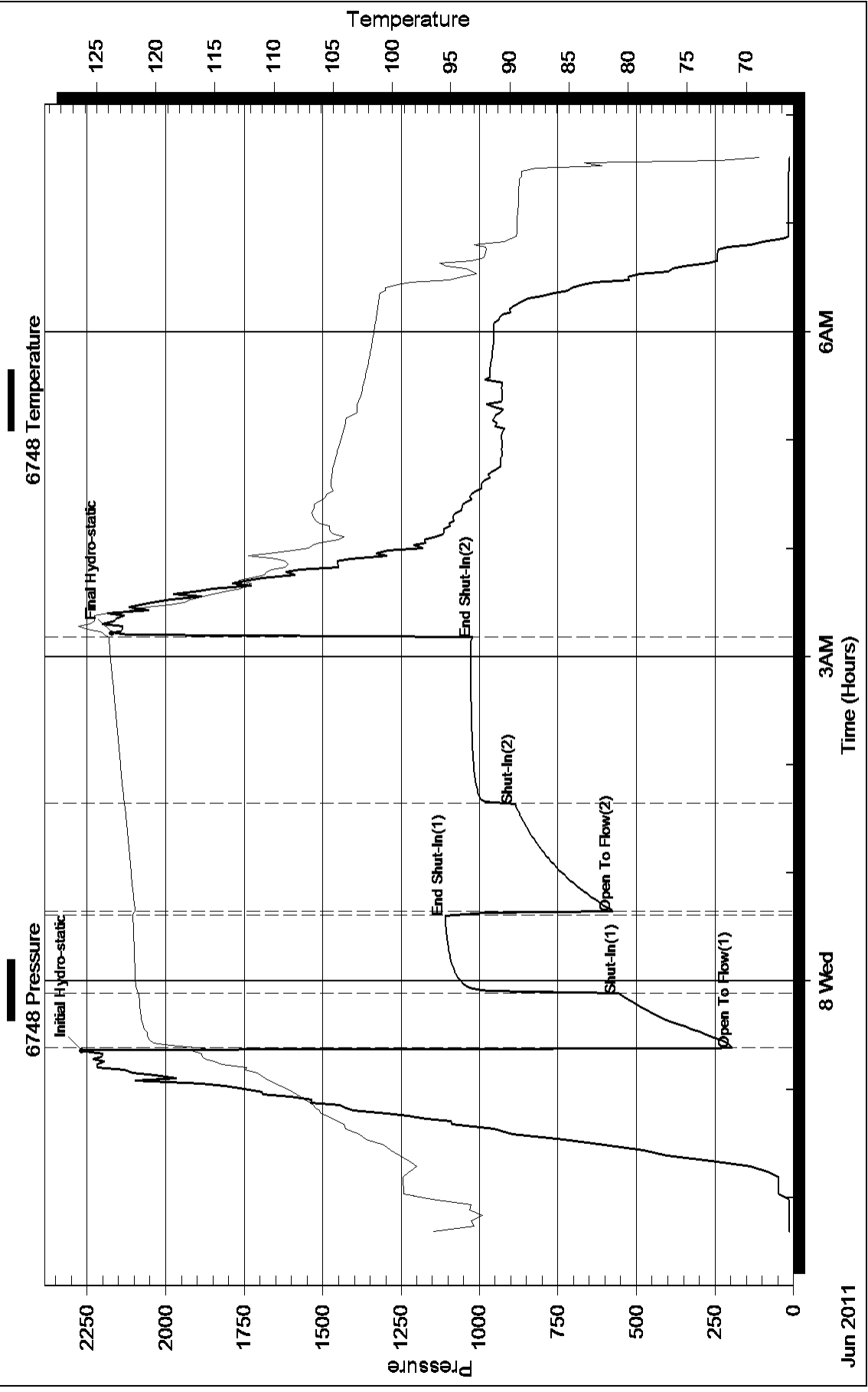
Total Length: 3000.00 ft      Total Volume: 42.708 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: Gravity of oil 29  
 Circulating Sub Yes

### Pressure vs. Time



### Pressure vs. Time

