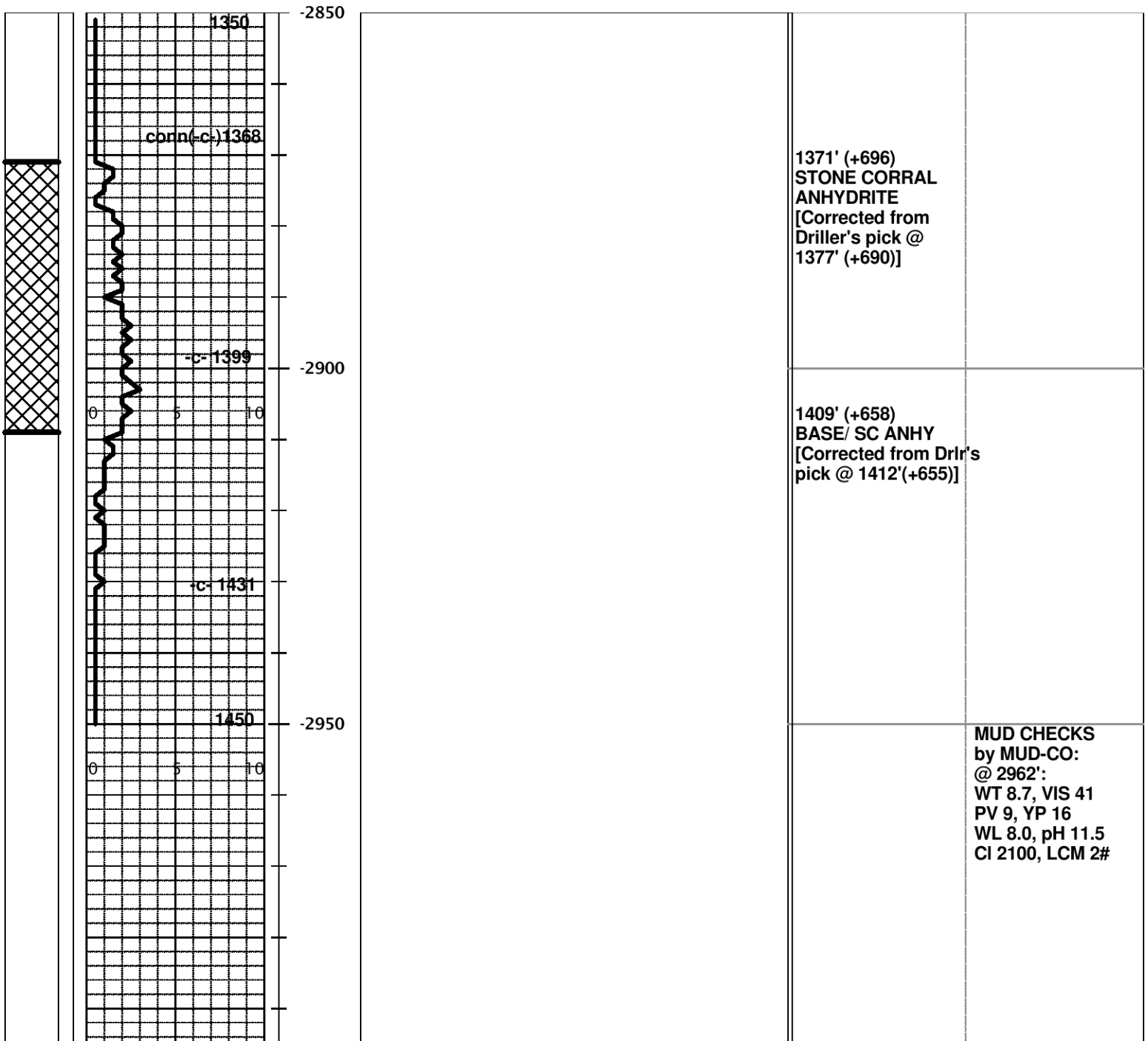
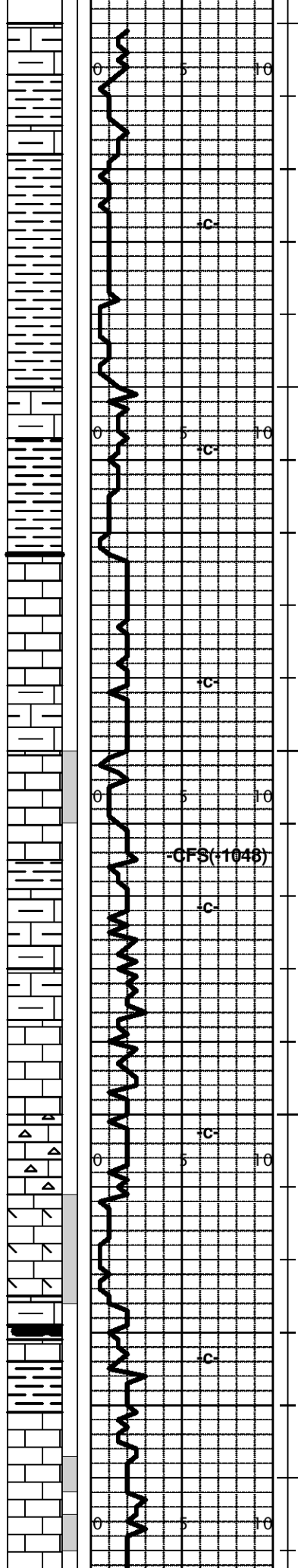


Respectfully submitted,
 Roger L. Martin, Geologist

LITH POROSITY DRILLING TIME DST SAMPLE DESCRIPTION REMARKS
 MN/FT





-3000 LS: gy-tn-cm, dn & Pkst w/Pr- NVP, NS & argil- shly.

SH: gy- blk, sm carb.
(LS: AA)

-3050 LS: tn-gy, dn- fnx, VPr- NVP, argil, NS.

SH: AA.

{TOPEKA} LS: cm-tn-gy, mx- fnxln, VRr prt Mdxln- sm 2nd ReX, Pr- NVP w/NS. sm wh-chlky, VRr fn oomldc w/Fr- Gd Por w/ NS.

LS: AA, Pred dn & argil- shly & SH: AA.

-3100 LS: gy-tn-wh, mx- Vfnxln, sm SI dolomc, sm grnlr Pkst, Pr- Fr IX Por, IGr Por, Trc OSTN, NFO. sm chlky, Abndt dn- VPr- NVP & argil.

-CFS(+1048)

SH: AA & blk carb.

LS: dn & argil & chlky & grnlr Pkst, Pred Pr- NVP, NS.
SH: AA.

LS: dn & argil & chlky w/Pred VPr- NVP, NS.

LS: cm-tn-gy, mx- Vfnxln, sm fos Pkst, SI Cherty, sm dn, Rr chlky, Pr- NVP, NS.

-3150 LS: AA, sm mot- Pkst & mx- fnxln w/Fr Por: IGr Por, IX Por, NS, Cherty.

DOLO LS: bf-tn, mx- fnxln- sucro & grnlr w/Fr- Gd IX Por, NFO, NC, NS.

sm argil DLS & LS.

SH: blk carb
& LS: dn MdSt.

SH: gn-gy-rd.

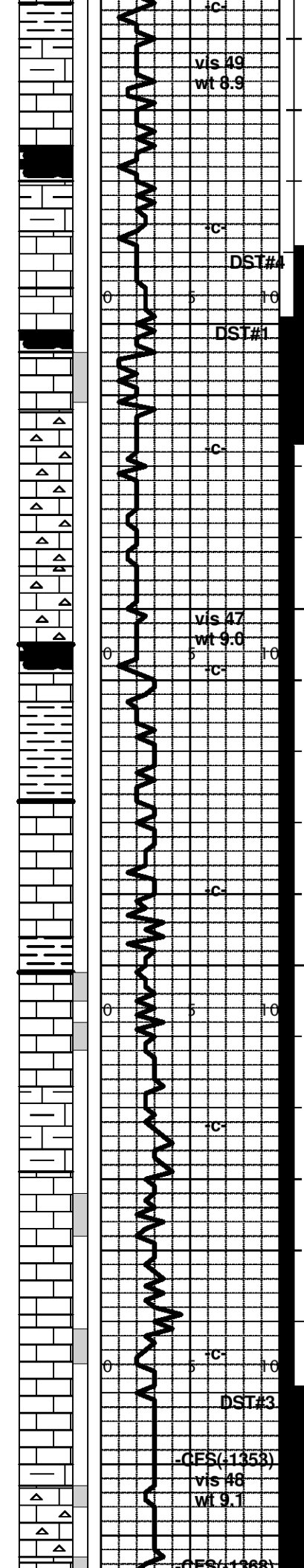
-3200 LS: Pred dn- lithogr & mx, sm chlky & sm DLS AA, Pred Pr- NVP, Trc STN, Trc SFO, VRr pp- vug Por, Pred barren w/Pr- NVP, sm chlky, SI Cherty.

**3073' (-1006)
TOPEKA**

*** 10' DRILLING SAMPLES***

{Trc SFO}

**DST#4; OREAD
Straddle Test:
28' of Anchor; &
440' of Tail Pipe
E-Log:3250'--3278'**



LS: gy argil.

LS: tn-wh, Pred dn & mx- Vfnxln w/Pr Por: pp Por, mIX Por, NS. SI Cherty.

SH: blk carb.

LS: dn & argil Mdst & SH: AA.

LS: tn-gy-wh, sm mot Pkst, Trc Fr Por: pp- vug Por, lool Por, Trc SFO- STN- Cut, sm chlky, Abndt dn, Cherty.

LS: AA, Pred dn Mdst, sm argil.

SH: blk carb & VC.

LS: tn-gy-wh, fos & ool Pkst & mx- fnxln, Pr- Fr Por, Rr spt'd STN, VSI SFO, Trc Gd Por w/subsat STN & SI SFO, VSI Odor, Trc Grst- ool & fos w/VGd Por, sat STN-SFO-Cut.

LS: tn-gy-wh, mx- fnxln- sm 2nd ReX, sm fos Pkst, prt chlky, VRr Pr- Fr Por: IX Por, IGr Por, pp- vug Por, ~5% w/spt'd- subsat STN, VSI SFO & Cut. Cherty: lt-dk blu-gy, tn-cm, sm fos, shrp.

LS: cm-tn, Pred dn- mx- Vfnx, Pr- NVP w/NS. Cherty: blu-gy & tn, shrp.

{HEEBNER} SH: blk carb.

LS: tn-gy, dn- mx, VPr- NVP w/NS.

SH: gy & blk & gn-gy & rd, sm calc & lmy.

{TORONTO} LS: tn-gy-wh, dn- mx- fnx, sm SI 2nd ReX, Pred VPr- NVP w/ NS. sm chlky LS, AA, Pred dn- chlky.

sm SH: AA.

{LANSING} LS: tn-gy-wh, mot ool & fos Pkst, mx- fxln, Pr IX & IGr Por, <5% w/VSI SFO- STN, VRr (<5%) w/dd STN, Rr chlky, VSI Cherty.

LS: Pred dn & argil, sm chlky, Pred barren. Incrs SH: blk carb & gy-gn & rd.

LS: tn-gy-wh, mx- Vfnx, >5% <10% w/Pr- Fr Por: pp- vug Por w/spt'd STN, VSI SFO, VRr ool Pkst w/Fr- Gd lool Por w/subsat- sat STN, SI SFO & VSI Odor, Trc prt oomldc. Prt dn to chlky, SI Cherty, AA. sm SH, AA.

LS: mx- fnx, Rr ool & fos Pkst w/vug Por, ~5% w/Pr- Fr Por: pp- vug Por, lool Por, IGr Por, Trc Gd vug Por w/spt'd STN, VSI Odor & Trc sat STN, VSI Odor, SI Cherty: Pred dn- chlky LS w/VPr- NVP.

LS: dn & argil & sm SH.

LS: tn-gy-wh, Pred dn- mx- fnx, sm mot Pkst, VPr Por w/NS, SI Cherty: tn, blu-gy, shrp

LS: (40 min spl) cm-tn, mx- fnxln & Pkst- Trc Grst: ool &

(LTD: 3718')
Rotary:3249'--3277'
(RTD: 3717')
45-60-45-60 min
IF: BOB in 24 min.
ISI:Wk surf Blow
Back
built to 3/4"
FF: BOB in 34 min.
FSI: Wk surf. BB
blt to 3/4"
Rec: 160' GIP
40' Cln Oil

{Trc SFO}

{VSI SFO}

{VSI SFO}

3305' (-1238)
HEEBNER SH

3330' (-1263)
TORONTO

3351' (-1284)
LANSING
{VSI SFO}

{VSI SFO}

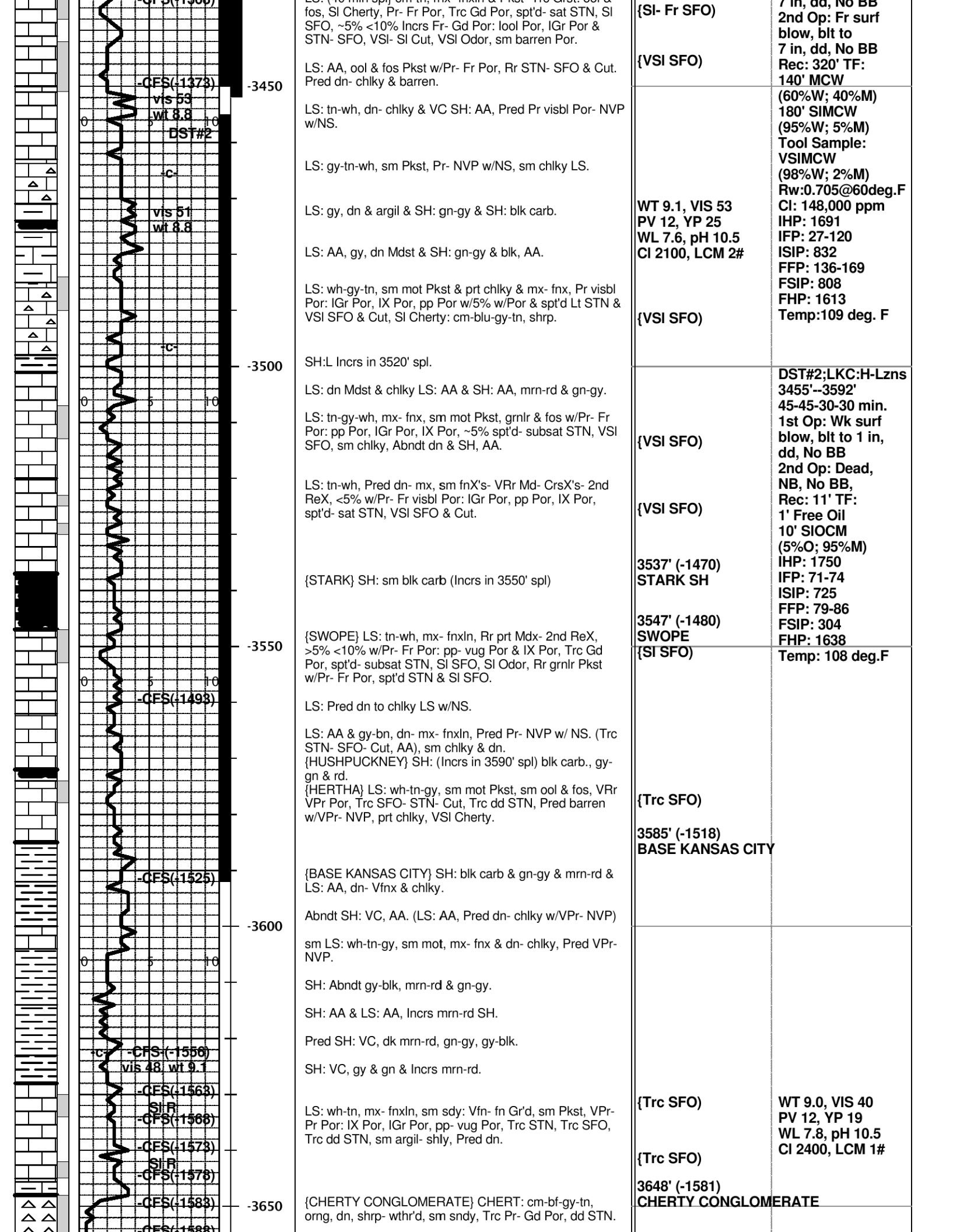
{SI SFO}

WT 9.1, VIS 57
PV 15, YP 27
WL 7.6, pH 11.0
CI 2100, LCM 2#

DST#1 OREAD-
Thru LKC 'G' Zn
3259'--3450'
45-45-45-45 min
1st Op: BOB in
12 min, dead,
No BB
2nd Op: BOB in
21 min, dead,
No BB
Rec: 70'GIP
236' HOCWM
(30%O; 30%W;
40%M)
310' HOCWM
(25%O; 15%W;
60%M)
546' Total Fluid

TOOL SPL:
5%Gas, 10%Oil
10%Wtr, 75%Mud
Rw:0.121@75deg.F
CI: 60,000 ppm
IHP: 1652
IFP: 98-264
ISIP: 841
FFP: 282-332
FSIP: 818
FHP: 1543
Temp: 109deg. F

DST#3; LKC:
Fzn & G zn
Straddle test:
(43'anchor;
265'tail)
E-Log: 3410'-3453'
(LTD: 3718')
Rotary:3409'-3452'
(RTD: 3717')
45-45-45-45 min
1st Op: Fr surf
blow, blt to
Zin d. No BB



-CFS(-1373)
vis 53
wt 8.8
DST#2

-3450

LS: AA, ool & fos Pkst w/Pr- Fr Por, Rr STN- SFO & Cut. Pred dn- chlky & barren.

LS: tn-wh, dn- chlky & VC SH: AA, Pred Pr visbl Por- NVP w/NS.

LS: gy-tn-wh, sm Pkst, Pr- NVP w/NS, sm chlky LS.

LS: gy, dn & argil & SH: gn-gy & SH: blk carb.

LS: AA, gy, dn Mdst & SH: gn-gy & blk, AA.

LS: wh-gy-tn, sm mot Pkst & prt chlky & mx- fnx, Pr visbl Por: IGr Por, IX Por, pp Por w/5% w/Por & spt'd Lt STN & VSI SFO & Cut, SI Cherty: cm-blu-gy-tn, shrp.

vis 51
wt 8.8

-3500

SH:L Incrs in 3520' spl.

LS: dn Mdst & chlky LS: AA & SH: AA, mrn-rd & gn-gy.

LS: tn-gy-wh, mx- fnx, sm mot Pkst, grnlr & fos w/Pr- Fr Por: pp Por, IGr Por, IX Por, ~5% spt'd- subsat STN, VSI SFO, sm chlky, Abndt dn & SH, AA.

LS: tn-wh, Pred dn- mx, sm fnX's- VRr Md- CrsX's- 2nd ReX, <5% w/Pr- Fr visbl Por: IGr Por, pp Por, IX Por, spt'd- sat STN, VSI SFO & Cut.

{STARK} SH: sm blk carb (Incrs in 3550' spl)

-3550

{SWOPE} LS: tn-wh, mx- fnxln, Rr prt Mdx- 2nd ReX, >5% <10% w/Pr- Fr Por: pp- vug Por & IX Por, Trc Gd Por, spt'd- subsat STN, SI SFO, SI Odor, Rr grnlr Pkst w/Pr- Fr Por, spt'd STN & SI SFO.

-CFS(-1493)

LS: Pred dn to chlky LS w/NS.

LS: AA & gy-bn, dn- mx- fnxln, Pred Pr- NVP w/ NS. (Trc STN- SFO- Cut, AA), sm chlky & dn. {HUSHPUCKNEY} SH: (Incrs in 3590' spl) blk carb., gy-gn & rd.

{HERTHA} LS: wh-tn-gy, sm mot Pkst, sm ool & fos, VRr VPr Por, Trc SFO- STN- Cut, Trc dd STN, Pred barren w/VPr- NVP, prt chlky, VSI Cherty.

-3600

{BASE KANSAS CITY} SH: blk carb & gn-gy & mrn-rd & LS: AA, dn- Vfnx & chlky.

Abndt SH: VC, AA. (LS: AA, Pred dn- chlky w/VPr- NVP)

sm LS: wh-tn-gy, sm mot, mx- fnx & dn- chlky, Pred VPr- NVP.

SH: Abndt gy-blk, mrn-rd & gn-gy.

SH: AA & LS: AA, Incrs mrn-rd SH.

Pred SH: VC, dk mrn-rd, gn-gy, gy-blk.

SH: VC, gy & gn & Incrs mrn-rd.

-CFS(-1556)
vis 48 wt 9.1

-CFS(-1563)

SI R
-CFS(-1568)

-CFS(-1573)

SI R
-CFS(-1578)

-3650

LS: wh-tn, mx- fnxln, sm sdy: Vfn- fn Gr'd, sm Pkst, VPr- Pr Por: IX Por, IGr Por, pp- vug Por, Trc STN, Trc SFO, Trc dd STN, sm argil- shly, Pred dn.

{CHERTY CONGLOMERATE} CHERT: cm-bf-gy-tn, org, dn, shrp- wthr'd, sm sdy, Trc Pr- Gd Por, dd STN.

{SI- Fr SFO}

{VSI SFO}

WT 9.1, VIS 53
PV 12, YP 25
WL 7.6, pH 10.5
CI 2100, LCM 2#

{VSI SFO}

{VSI SFO}

{VSI SFO}

3537' (-1470)
STARK SH

3547' (-1480)
SWOPE

{SI SFO}

{Trc SFO}

3585' (-1518)
BASE KANSAS CITY

{Trc SFO}

{Trc SFO}

3648' (-1581)

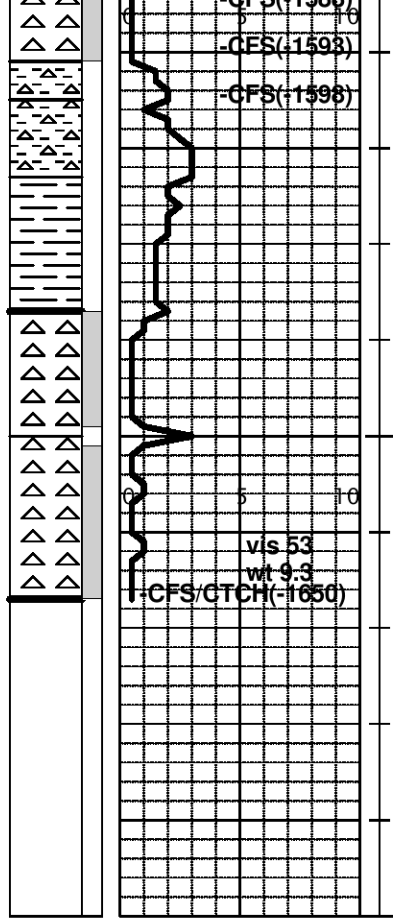
CHERTY CONGLOMERATE

7 in, dd, No BB
2nd Op: Fr surf blow, blt to 7 in, dd, No BB
Rec: 320' TF: 140' MCW

(60%W; 40%M)
180' SIMCW (95%W; 5%M)
Tool Sample: VSIMCW (98%W; 2%M)
Rw:0.705@60deg.F
Cl: 148,000 ppm
IHP: 1691
IFP: 27-120
ISIP: 832
FFP: 136-169
FSIP: 808
FHP: 1613
Temp:109 deg. F

DST#2;LKC:H-Lzns 3455'--3592'
45-45-30-30 min.
1st Op: Wk surf blow, blt to 1 in, dd, No BB
2nd Op: Dead, NB, No BB, Rec: 11' TF: 1' Free Oil
10' SIOCM (5%O; 95%M)
IHP: 1750
IFP: 71-74
ISIP: 725
FFP: 79-86
FSIP: 304
FHP: 1638
Temp: 108 deg.F

WT 9.0, VIS 40
PV 12, YP 19
WL 7.8, pH 10.5
CI 2400, LCM 1#



CHERT: VC- orng-yel-gn, bf-gy & blu-gy, Pred shrp & prt wthr'd, sm prt Tripolc w/spt'd dd STN. Abndt F.Sd Gr'd: Md- VCrs Gr'd, well rnd'd- anglr, clr- frost'd & color'd, VRR Sd Clust: Cherty & pyrte.

Shly Chert & sm Sd, VC & VC SH, sm Chert, AA, NFO.

Abndt SH: AA
Rr Chert & LS: AA

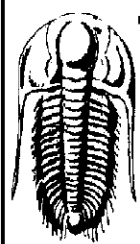
VAbndt CHERT: (3717' 20 min spl) wh-cm, ambr, sm orng, Pred opq, shrp & prtly wthr'd, sm semiTripolc & wthr'd w/Por, Trc dd STN, NFO. sm Qtzc Chert.

CHERT: AA, Incrs ambr, opq, shrp & cm-wh, sm wthr'd edg's, Rr 2nd Qtz ReX, Rr pyrte, NS.

3717' (-1650)/RTD
3718' (-1651)/LTD

WT 9.1, VIS 52
PV 14, YP 26
WL 8.0, pH 10.5
CI 3000, LCM 2#

HESS OIL CO
JJ #1-33
1148' FSL & 434' FWL
Sec 33-11S-18W
ELLIS CO., KS
API# 15-051-26569



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Hess Oil Company **33-11s-18w-Ness Co KS**

PO Box 1009 **JJ #1-33**
McPherson KS, 67460

Job Ticket: 54324 **DST#: 1**

ATTN: Roger Martin Test Start: 2013.07.24 @ 15:29:31

GENERAL INFORMATION:

Formation: **Oread-LKC G**

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)

Time Tool Opened: 18:05:21 Tester: Tate Lang

Time Test Ended: 23:41:01 Unit No: 41

Interval: **3259.00 ft (KB) To 3450.00 ft (KB) (TVD)** Reference Elevations: 2067.00 ft (KB)

Total Depth: 3450.00 ft (KB) (TVD) 2062.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8322 Outside

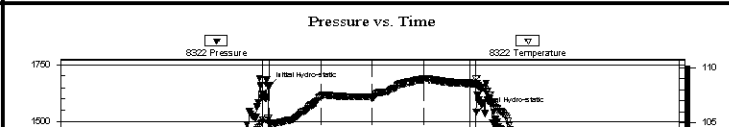
Press@RunDepth: 331.53 psig @ 3266.00 ft (KB) Capacity: 8000.00 psig

Start Date: 2013.07.24 End Date: 2013.07.24 Last Calib.: 2013.07.24

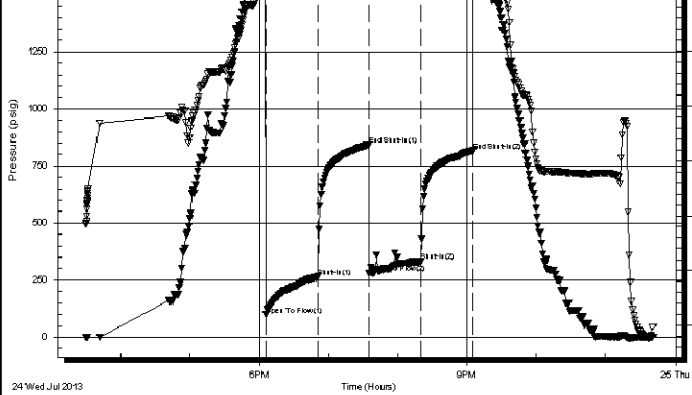
Start Time: 15:29:32 End Time: 23:41:01 Time On Btm: 2013.07.24 @ 18:05:01

Time Off Btm: 2013.07.24 @ 21:05:31

TEST COMMENT: B.O.B. In 12 mins.
Dead no blow back
B.O.B. In 21 mins.
Dead no blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1652.38	105.39	Initial Hydro-static



1	98.49	104.91	Open To Flow (1)
46	263.98	107.40	Shut-In(1)
90	840.97	107.36	End Shut-In(1)
91	281.75	107.19	Open To Flow (2)
136	331.53	108.94	Shut-In(2)
181	817.62	108.53	End Shut-In(2)
181	1542.89	109.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
310.00	25%O 15%W 60%M	2.18
236.00	30%O 30%W 40%M	3.31
0.00	70 GIP	0.00
0.00	TS 5%G 10%O 10%W 75%M	0.00

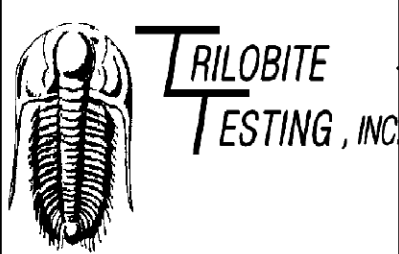
Gas Rates

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

Trilobite Testing, Inc

Ref. No: 54324

Printed: 2013.07.25 @ 07:44:42



DRILL STEM TEST REPORT

FLUID SUMMARY

Hess Oil Company
 PO Box 1009
 McPherson KS, 67460
 ATTN: Roger Martin

33-11s-18w-Ness Co KS
JJ #1-33
 Job Ticket: 54324 **DST#: 1**
 Test Start: 2013.07.24 @ 15:29:31

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 60000 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.60 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2100.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
310.00	25%O 15%W 60%M	2.180
236.00	30%O 30%W 40%M	3.310
0.00	70 GIP	0.000
0.00	TS 5%G 10%O 10%W 75%M	0.000

Total Length: 546.00 ft Total Volume: 5.490 bbl

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

Laboratory Name: Laboratory Location:

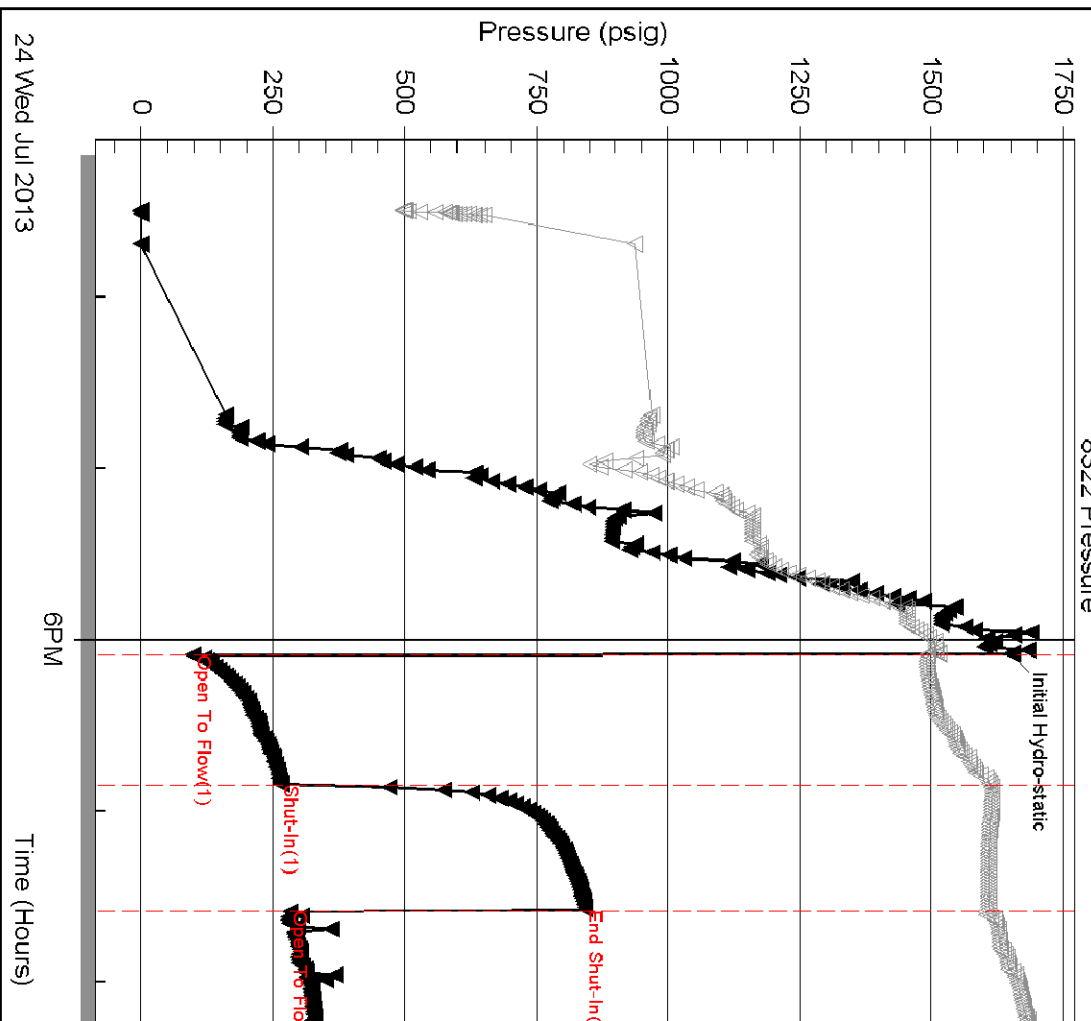
Recovery Comments: .121 @ 75F = 60,000

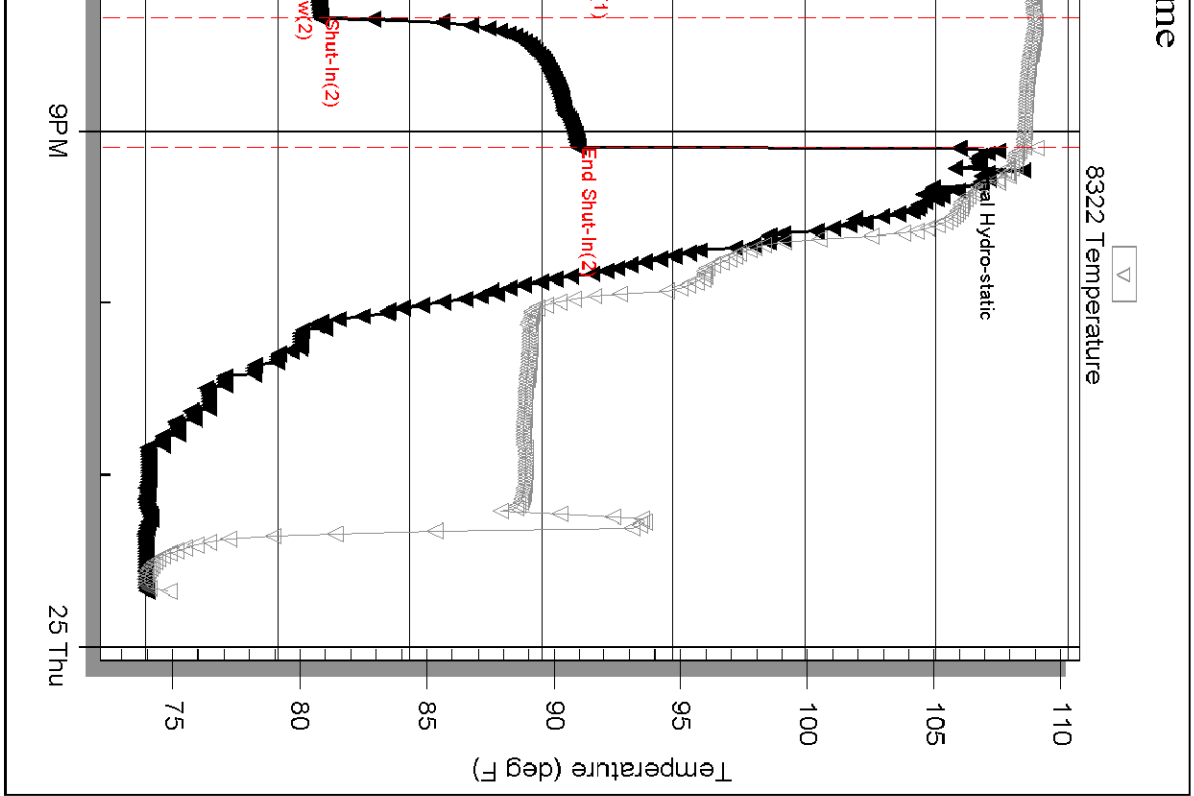
Serial #: 8322

Outside Hess Oil Company

JJ#1-33

Pressure vs. Time





Printed: 2013.07.25 @ 07:44:44

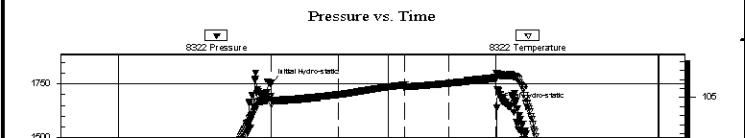
DST Test Number: 1

	DRILL STEM TEST REPORT	
	Hess Oil Company PO Box 1009 McPherson KS, 67460 ATTN: Roger Martin	33-11s-18w-Ness Co KS JJ #1-33 Job Ticket: 54325 DST#: 2 Test Start: 2013.07.25 @ 14:40:00

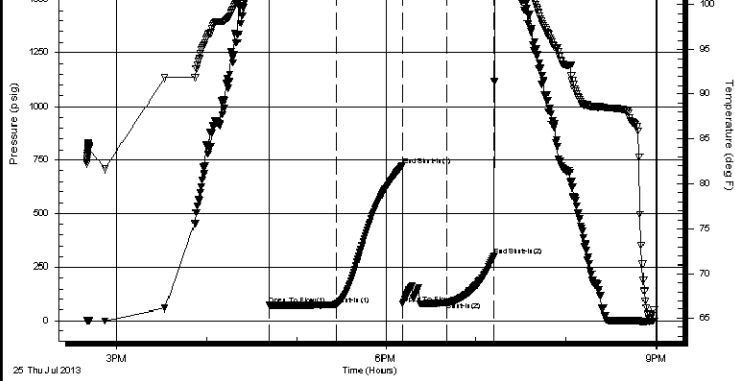
GENERAL INFORMATION:		
Formation: LKC H-L Deviated: No Whipstock: ft (KB) Time Tool Opened: 16:41:50 Time Test Ended: 20:58:39	Test Type: Conventional Bottom Hole (Reset) Tester: Tate Lang Unit No: 41	Reference Elevations: 2067.00 ft (KB) 2062.00 ft (CF) KB to GR/CF: 5.00 ft
Interval: 3455.00 ft (KB) To 3592.00 ft (KB) (TVD) Total Depth: 3599.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Good		

Serial #: 8322 Outside Press@RunDepth: 86.01 psig @ 3462.00 ft (KB) Start Date: 2013.07.25 End Date: 2013.07.25 Start Time: 14:40:01 End Time: 20:58:40	Capacity: 8000.00 psig Last Calib.: 2013.07.25 Time On Btm: 2013.07.25 @ 16:41:40 Time Off Btm: 2013.07.25 @ 19:12:30
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TEST COMMENT: Weak surface blow built to 1 in
 Dead no blow back
 Dead no blow
 Dead no blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1750.35	105.11	Initial Hydro-static



1	71.48	104.29	Open To Flow (1)
45	74.39	105.29	Shut-In(1)
90	724.91	106.43	End Shut-In(1)
90	79.26	106.06	Open To Flow (2)
119	86.01	106.63	Shut-In(2)
151	303.88	107.21	End Shut-In(2)
151	1637.55	107.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	5%O 95%M	0.05
1.00	100%O	0.00
0.00	TS 2%O 98%M	0.00

Gas Rates

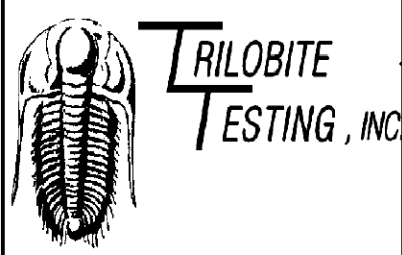
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 54325

Printed: 2013.07.25 @ 23:30:56



DRILL STEM TEST REPORT

FLUID SUMMARY

Hess Oil Company **33-11s-18w-Ness Co KS**
 PO Box 1009 **JJ #1-33**
 McPherson KS, 67460 Job Ticket: 54325 **DST#: 2**
 ATTN: Roger Martin Test Start: 2013.07.25 @ 14:40:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2100.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	5%O 95%M	0.049
1.00	100%O	0.005
0.00	TS 2%O 98%M	0.000

Total Length: 11.00 ft Total Volume: 0.054 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

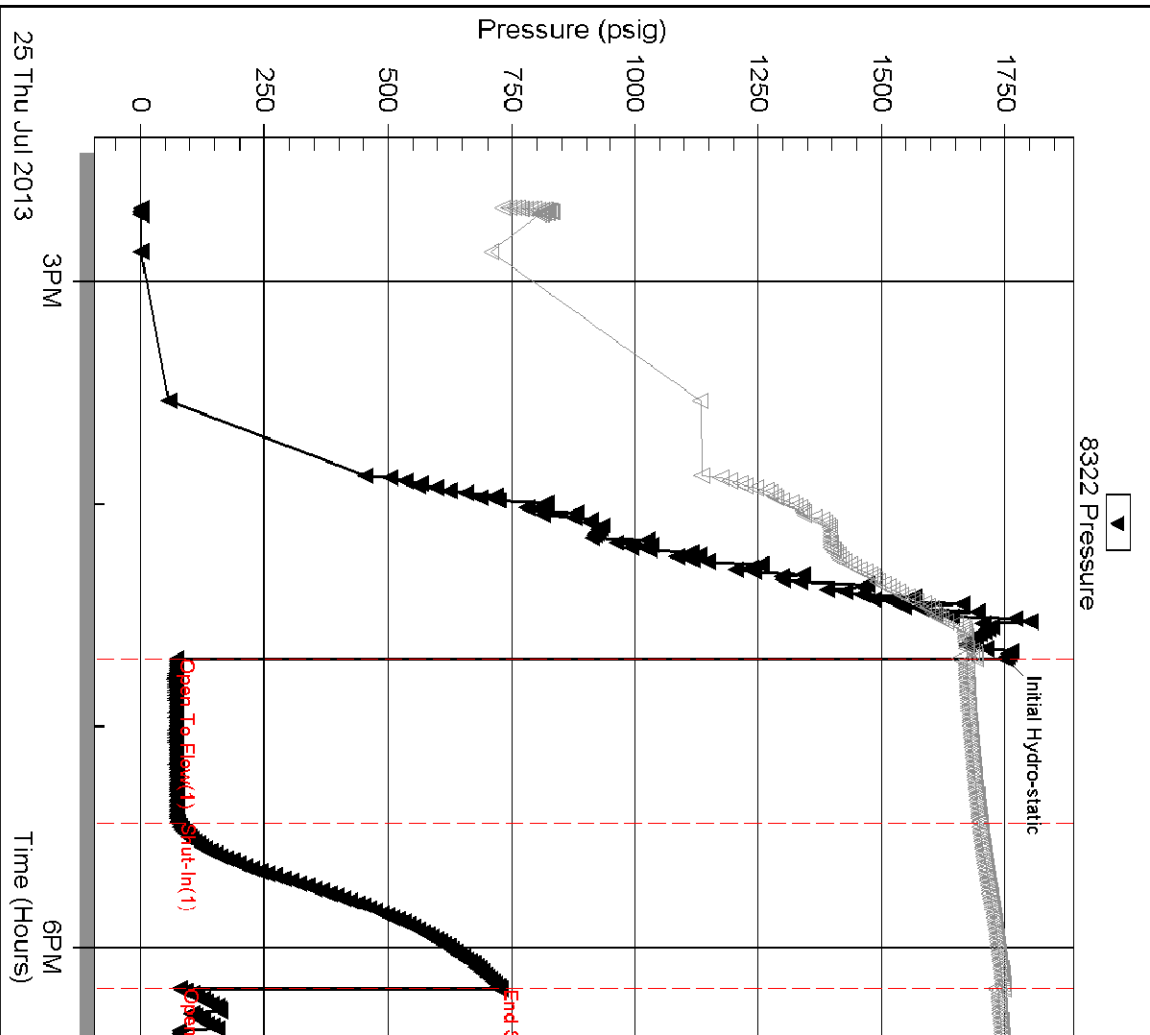
Serial #: 8322

Outside

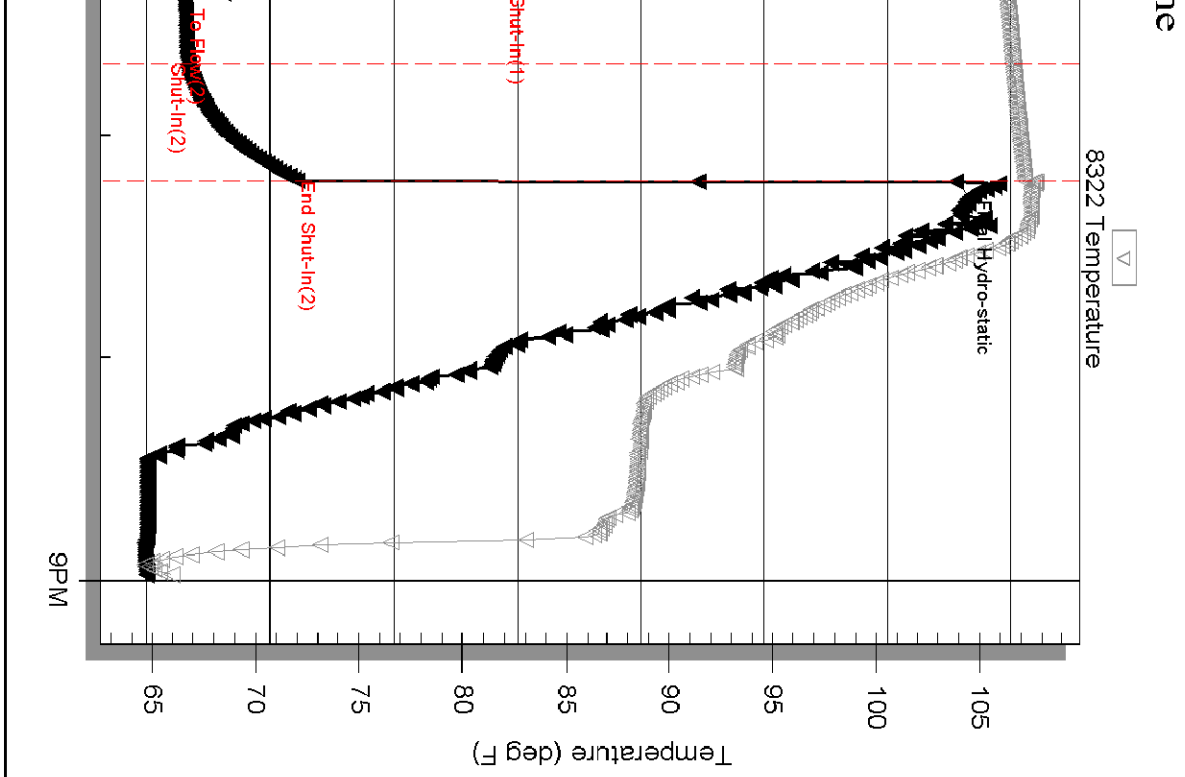
Hess Oil Company

JJ#1-33

Pressure vs. Time



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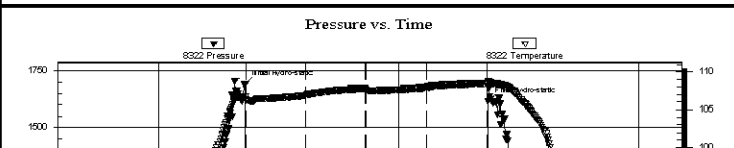
DST Test Number: 2

	DRILL STEM TEST REPORT	
	Hess Oil Company PO Box 1009 McPherson KS, 67460 ATTN: Roger Martin	33-11s-18w-Ness Co KS JJ #1-33 Job Ticket: 54376 DST#: 3 Test Start: 2013.07.26 @ 23:05:42

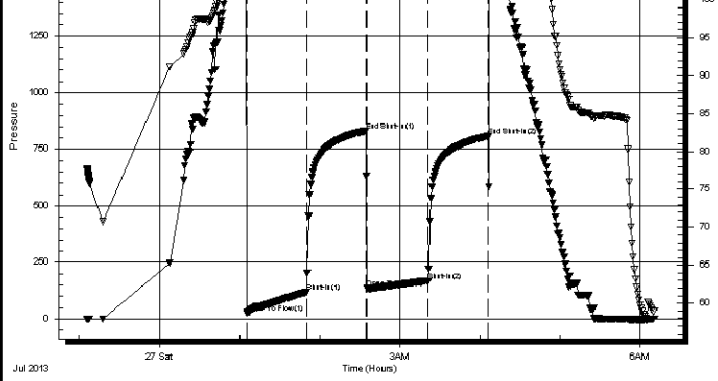
GENERAL INFORMATION:			
Formation:	F-G		
Deviated:	No	Whipstock:	ft (KB)
Time Tool Opened:	01:05:22	Test Type:	Conventional Straddle (Reset)
Time Test Ended:	06:10:42	Tester:	Tate Lang
		Unit No:	41
Interval:	3410.00 ft (KB) To 3452.00 ft (KB) (TVD)	Reference Elevations:	2067.00 ft (KB)
Total Depth:	3717.00 ft (KB) (TVD)		2062.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition:	Good
		KB to GR/CF:	5.00 ft

Serial #: 8322	Outside		
Press@RunDepth:	168.82 psig @	3411.00 ft (KB)	Capacity: 8000.00 psig
Start Date:	2013.07.26	End Date:	2013.07.27
Start Time:	23:05:43	End Time:	06:10:42
		Last Calib.:	2013.07.27
		Time On Btm:	2013.07.27 @ 01:05:02
		Time Off Btm:	2013.07.27 @ 04:06:51

TEST COMMENT: Fair surface blow built to 7 in.
 Dead no blow back
 Fair surface blow built to 7 in.
 Dead no blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1690.74	106.71	Initial Hydro-static
1	1690.74	106.71	End Hydro-static



1	26.55	106.23	Open To Flow (1)
46	119.94	106.85	Shut-In(1)
90	831.89	107.76	End Shut-In(1)
91	135.62	107.57	Open To Flow (2)
137	168.82	107.89	Shut-In(2)
182	807.82	108.44	End Shut-In(2)
182	1613.26	108.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	5%M 95%W	0.89
140.00	40%M 60%W	1.44
0.00	TS 2%M 98%W	0.00

* Recovery from multiple tests

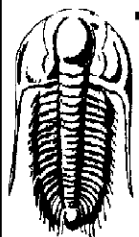
Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Trilobite Testing, Inc

Ref. No: 54376

Printed: 2013.07.29 @ 10:19:12



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Hess Oil Company
 PO Box 1009
 McPherson KS, 67460
 ATTN: Roger Martin

33-11s-18w-Ness Co KS
JJ #1-33
 Job Ticket: 54376 **DST#: 3**
 Test Start: 2013.07.26 @ 23:05:42

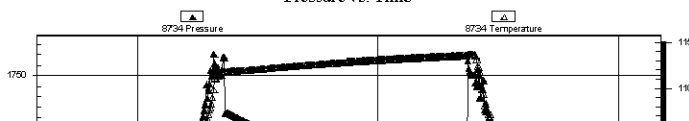
GENERAL INFORMATION:

Formation: **F-G**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:05:22
 Time Test Ended: 06:10:42
 Test Type: Conventional Straddle (Reset)
 Tester: Tate Lang
 Unit No: 41
 Interval: **3410.00 ft (KB) To 3452.00 ft (KB) (TVD)**
 Total Depth: 3717.00 ft (KB) (TVD)
 Reference Elevations: 2067.00 ft (KB)
 2062.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good
 KB to GR/CF: 5.00 ft

Serial #: 8734 Below (Straddle)
 Press@RunDepth: psig @ 3719.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.07.26 End Date: 2013.07.27 Last Calib.: 2013.07.27
 Start Time: 23:05:12 End Time: 06:10:11 Time On Btm:
 Time Off Btm:

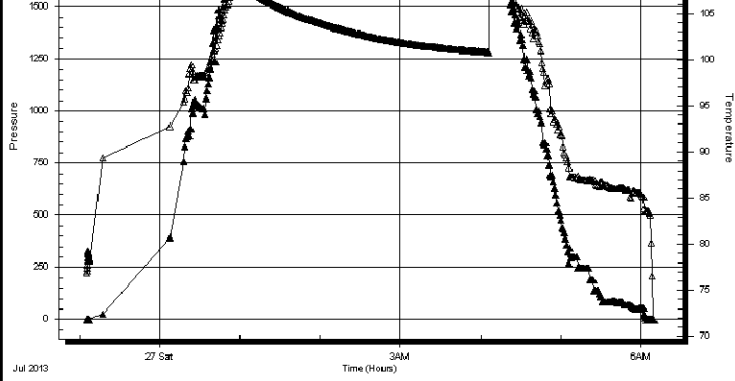
TEST COMMENT: Fair surface blow built to 7 in.
 Dead no blow back
 Fair surface blow built to 7 in.
 Dead no blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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Recovery

Length (ft)	Description	Volume (bbl)
180.00	5%M 95%W	0.89
140.00	40%M 60%W	1.44
0.00	TS 2%M 98%W	0.00

* Recovery from multiple tests

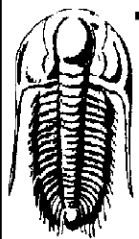
Gas Rates

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

Trilobite Testing, Inc

Ref. No: 54376

Printed: 2013.07.29 @ 10:19:13



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Hess Oil Company
 PO Box 1009
 McPherson KS, 67460
 ATTN: Roger Martin

33-11s-18w-Ness Co KS
JJ #1-33
 Job Ticket: 54376 **DST#: 3**
 Test Start: 2013.07.26 @ 23:05:42

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2100.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	5%M 95%W	0.885
140.00	40%M 60%W	1.435
0.00	TS 2%M 98%W	0.000

Total Length: 320.00 ft Total Volume: 2.320 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

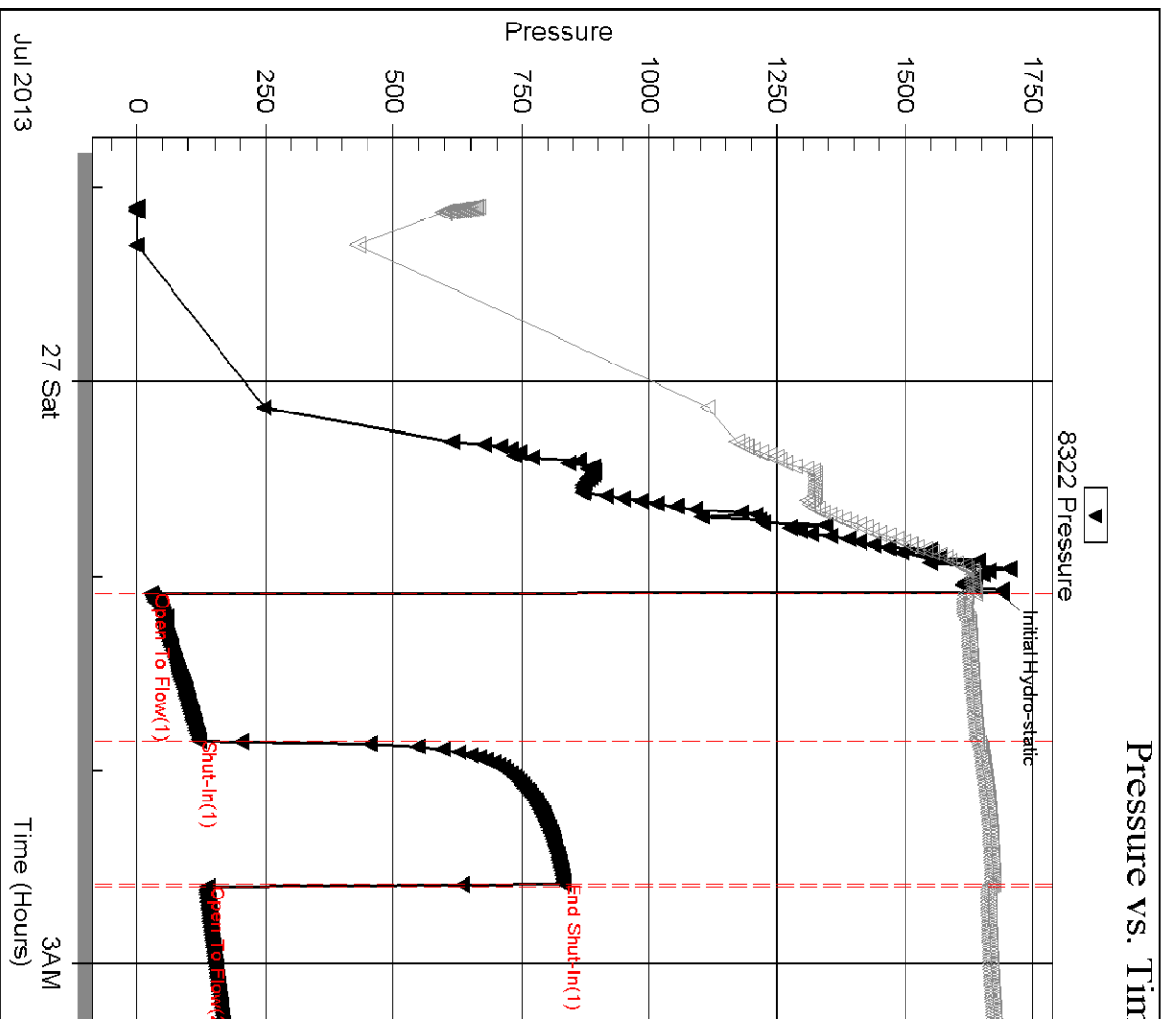
Serial #: 8322

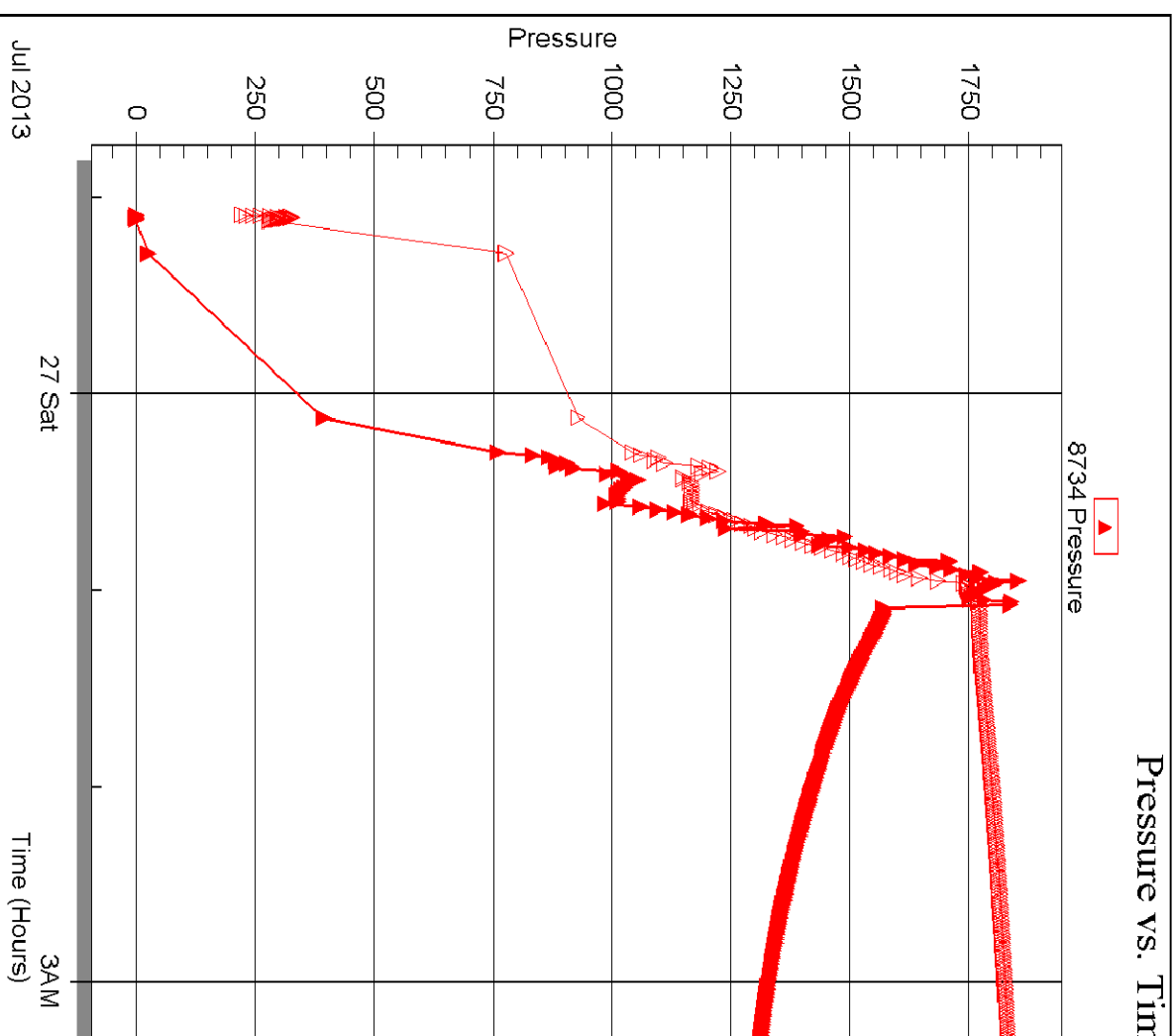
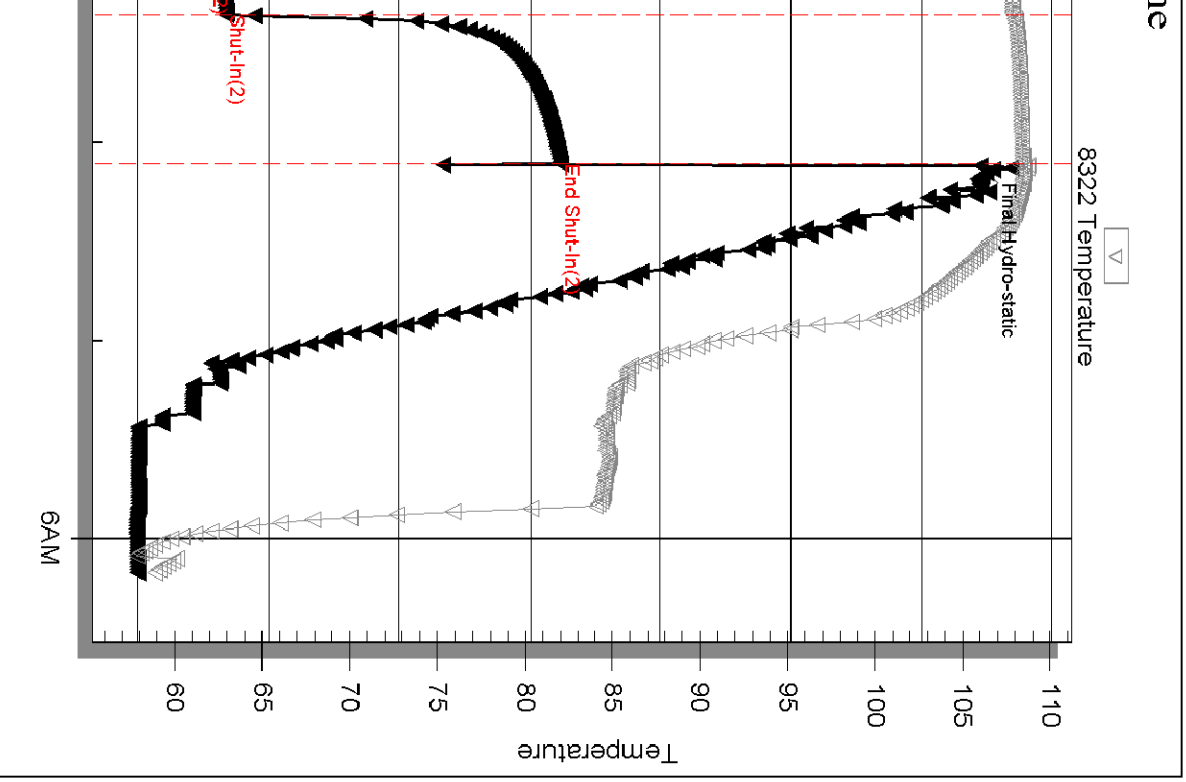
Outside

Hess Oil Company

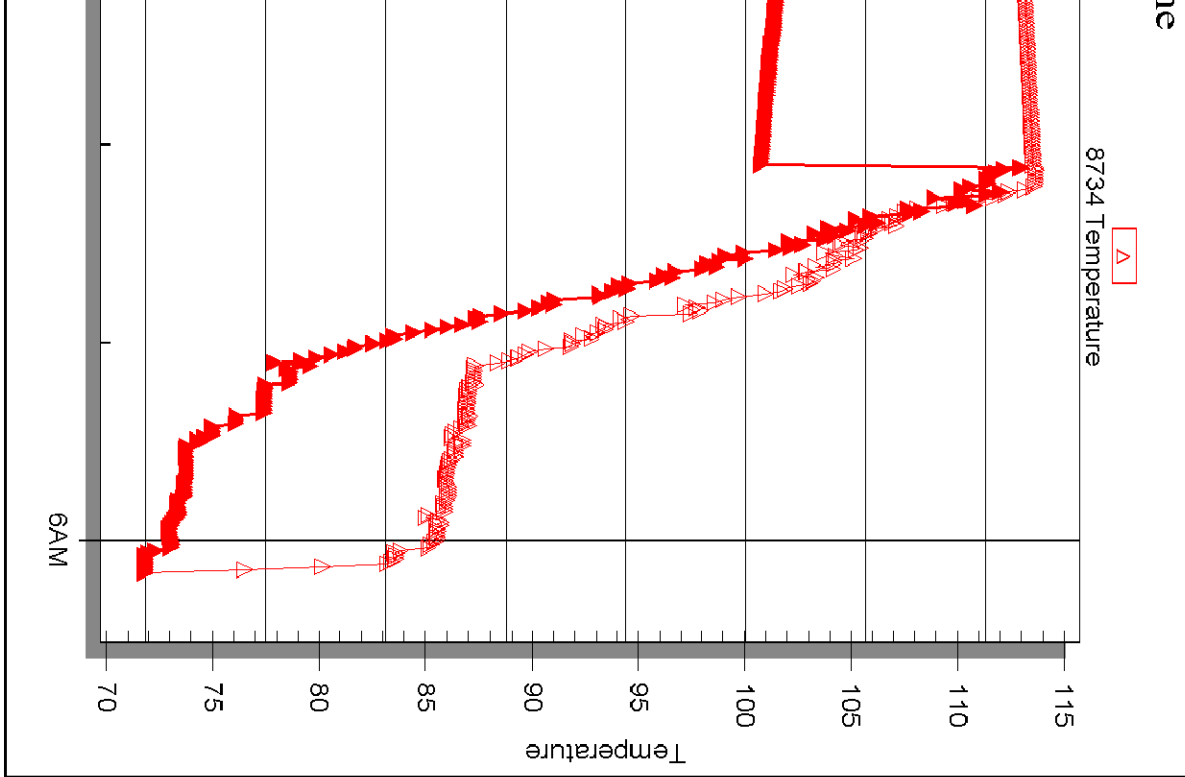
JJ#1-33

Pressure vs. Time

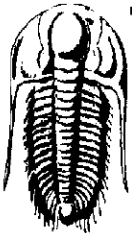




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DST Test Number: 3

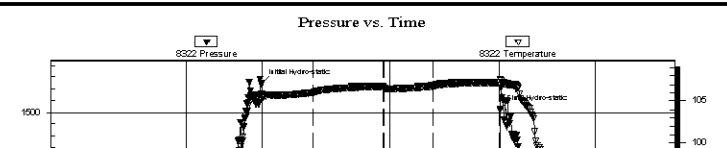
	DRILL STEM TEST REPORT	
	Hess Oil Company PO Box 1009 McPherson KS, 67460 ATTN: Roger Martin	33-11s-18w-Ness Co KS JJ #1-33 Job Ticket: 54377 DST#: 4 Test Start: 2013.07.27 @ 07:26:26

GENERAL INFORMATION:

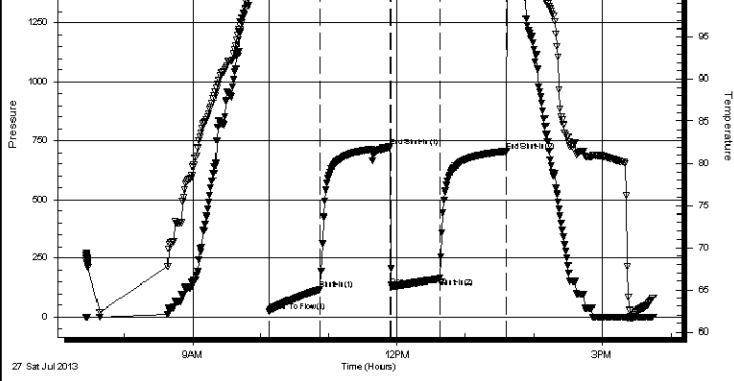
Formation: Oread	Deviated: No Whipstock: ft (KB)	Test Type: Conventional Straddle (Reset)
Time Tool Opened: 10:07:06	Time Test Ended: 15:45:05	Tester: Tate Lang
Interval: 3250.00 ft (KB) To 3278.00 ft (KB) (TVD)		Unit No: 41
Total Depth: 3717.00 ft (KB) (TVD)		Reference Elevations: 2067.00 ft (KB)
Hole Diameter: 7.88 inches	Hole Condition: Good	2062.00 ft (CF)
		KB to GR/CF: 5.00 ft

Serial #: 8322	Outside			
Press@RunDepth: 165.68 psig @ 3251.00 ft (KB)		Capacity: 8000.00 psig		
Start Date: 2013.07.27	End Date: 2013.07.27	Last Calib.: 2013.07.27		
Start Time: 07:26:27	End Time: 15:45:06	Time On Btm: 2013.07.27 @ 10:06:56		
		Time Off Btm: 2013.07.27 @ 13:36:35		

TEST COMMENT: B.O.B. In 24 mins
 Weak surface blow back built to 3/4 in.
 B.O.B. In 34 min.
 Weak surface blow back built to 3/4 in.



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1622.63	105.85	Initial Hydro-static
1	1622.63	105.85	Open To Flow (1)



1	27.48	105.18	Open To Flow (1)
46	119.18	106.03	Shut-In(1)
107	722.86	106.73	End Shut-In(1)
108	134.59	106.53	Open To Flow (2)
151	165.68	106.78	Shut-In(2)
210	706.42	107.20	End Shut-In(2)
210	1511.67	107.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
240.00	70%W 30%M	1.20
40.00	60%W 40%M	0.56
40.00	100%Clean oil	0.56
0.00	160 GIP	0.00

* Recovery from multiple tests

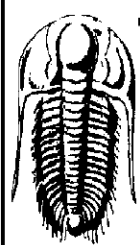
Gas Rates

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

Trilobite Testing, Inc

Ref. No: 54377

Printed: 2013.07.29 @ 10:18:21



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Hess Oil Company
 PO Box 1009
 McPherson KS, 67460
 ATTN: Roger Martin

33-11s-18w-Ness Co KS

JJ #1-33

Job Ticket: 54377

DST#: 4

Test Start: 2013.07.27 @ 07:26:26

GENERAL INFORMATION:

Formation: **Oread**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:07:06
 Time Test Ended: 15:45:05
Interval: 3250.00 ft (KB) To 3278.00 ft (KB) (TVD)
 Total Depth: 3717.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Straddle (Reset)
 Tester: Tate Lang
 Unit No: 41
 Reference Elevations: 2067.00 ft (KB)
 2062.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8734

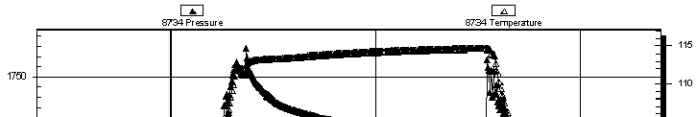
Below (Straddle)

Press@RunDepth: psig @ 3694.00 ft (KB)
 Start Date: 2013.07.27 End Date: 2013.07.27
 Start Time: 07:26:54 End Time: 15:45:33

Capacity: 8000.00 psig
 Last Calib.: 2013.07.27
 Time On Btm:
 Time Off Btm:

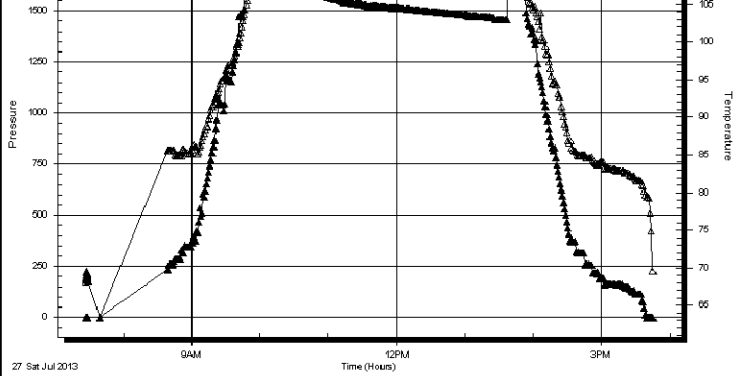
TEST COMMENT: B.O.B. In 24 mins
 Weak surface blow back built to 3/4 in.
 B.O.B. In 34 min.
 Weak surface blow back built to 3/4 in.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation



27 Sat Jul 2013

Recovery

Length (ft)	Description	Volume (bbl)
240.00	70%W 30%M	1.20
40.00	60%W 40%M	0.56
40.00	100%Clean oil	0.56
0.00	160 GIP	0.00

* Recovery from multiple tests

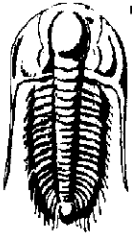
Gas Rates

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

Trilobite Testing, Inc

Ref. No: 54377

Printed: 2013.07.29 @ 10:18:21

 <p>TRILOBITE TESTING, INC</p>	DRILL STEM TEST REPORT	FLUID SUMMARY
	<p>Hess Oil Company</p> <p>PO Box 1009 McPherson KS, 67460</p> <p>ATTN: Roger Martin</p>	<p>33-11s-18w-Ness Co KS</p> <p>JJ #1-33</p> <p>Job Ticket: 54377</p> <p>Test Start: 2013.07.27 @ 07:26:26</p>

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 38 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.50 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2100.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
240.00	70%W 30%M	1.198
40.00	60%W 40%M	0.561
40.00	100%Clean oil	0.561
0.00	160 GIP	0.000

Total Length: 320.00 ft Total Volume: 2.320 bbl

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

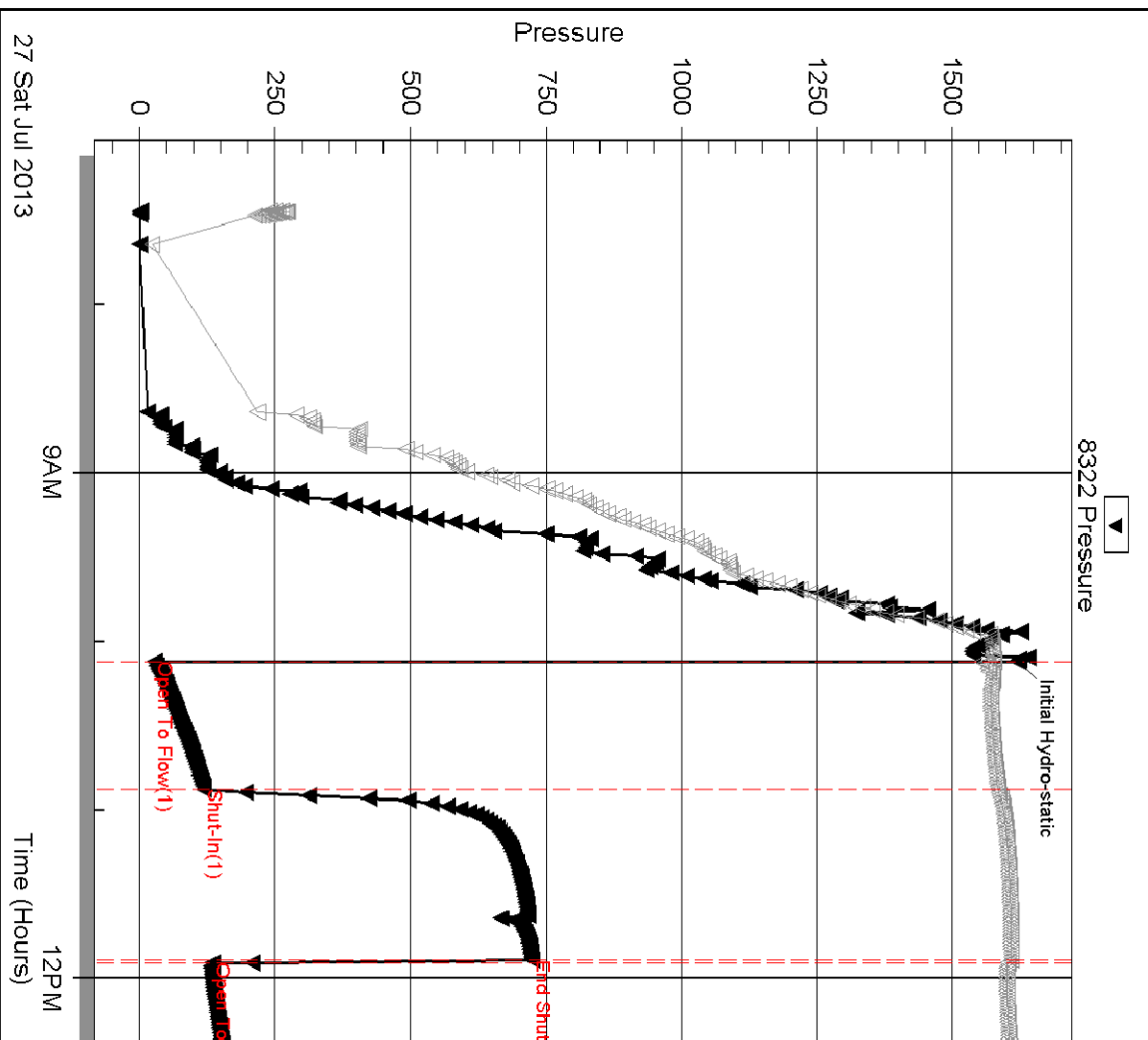
Serial #: 8322

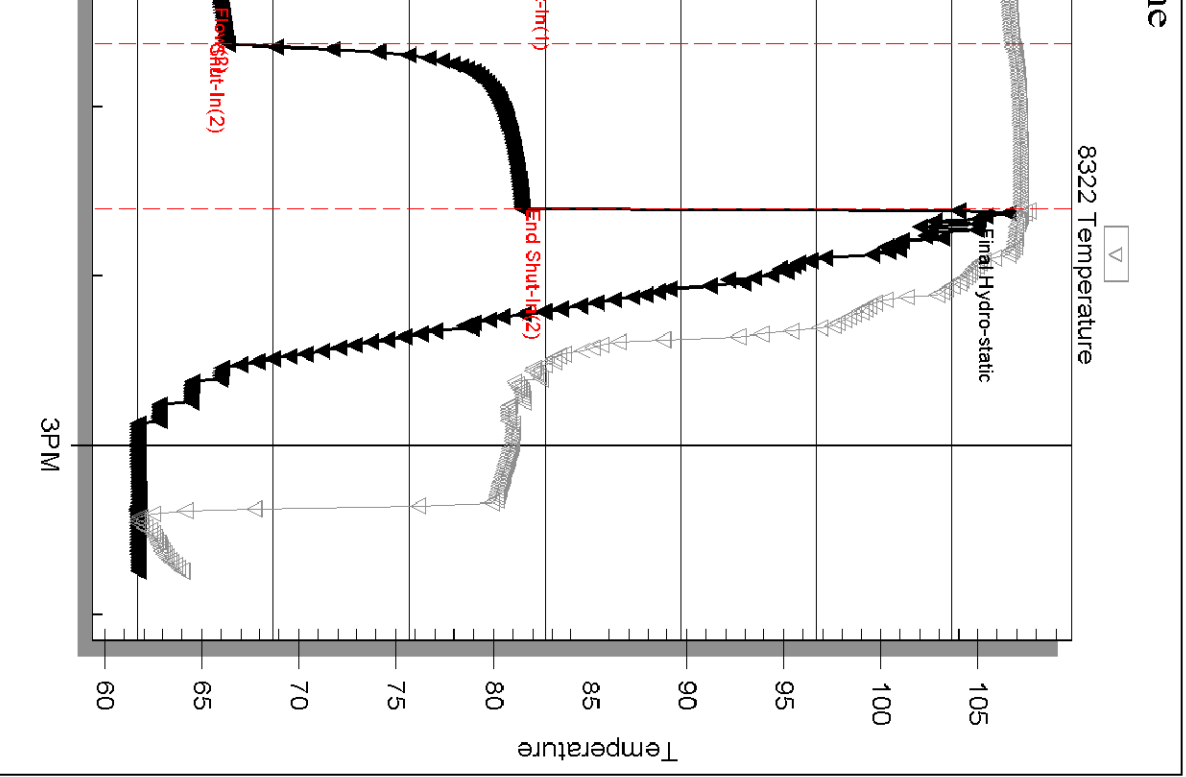
Outside

Hess Oil Company

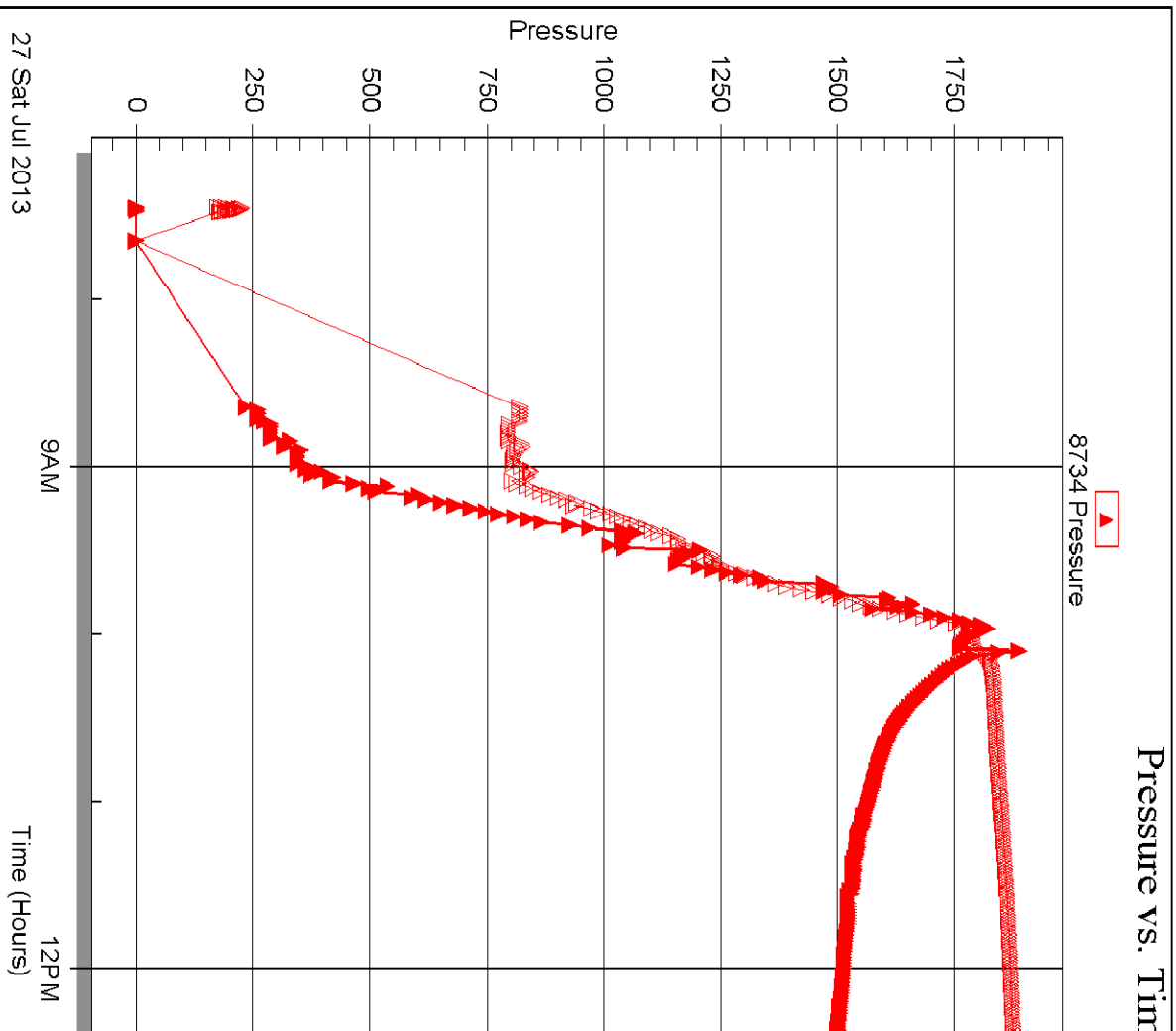
JJ#1-33

Pressure vs. Time





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Tribolite Testing, Inc

Ref. No: 54377

