

MORNING DRILLING REPORT

SOUTHWIND DRILLING, INC.

For: H&D Exploration

RIG No. 9

Well Name: Bieberle #3  
 Location: 2250' FSL & 2277' FEL  
 Section: 11-16S-12W  
 County: Barton  
 API: 15-009-26169-00-00

GL Elevation: 1914'  
 KB: 1923'  
 Est. TD: 3400'  
 Conductor Pipe: N/A

Rig No. 9 (Pusher Wee Ptwf) 620-566-7004  
 Rig No. 9 (Doghouse) 620-566-7014  
 Southwind Drilling Office 620-564-3800



Surface Casing: Ran 18 joints of new 2 3/8" casing, Tally @ 759', Set @ 770', used 350 sacks of 60/40 Poz. 4% cc, 2% gal, cement circulated, by Quality (Ticket #054), plug down @ 1:30 pm on 5.6.17.

Production Info: Ran 83 joints of new 1 5/8", 5 1/2" casing, Tally @ 3381', Set @ 3390', used 180 sacks of Common, 10% salt, 5% Gilsomite, 500 gal mud clear-48, cemented by Quality (Ticket #181), job complete @ 3:15 pm on 05.14.17.

Rotary Total Depth: 3405'  
 Log Total Depth: 3405'

Geologist: Jim Musgrove

7:00 A.M. Depth: 3405' 7:00 A.M. Current Operation: TEAR DOWN

Spud Date & Time:	05/05/17	05/06/17	05/07/17	05/08/17	05/09/17	05/10/17	05/11/17	05/12/17	05/13/17	05/14/17	Total
3:57/17 @ 4:45 pm	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	
Total Depth (7:00am)	0	770	1240	1900	2333	2581	2940	3230	3347	3405	
Daily Progress	770	470	660	433	248	359	290	117	58	0	3405
Fl. Per Hr.	75.12	64.83	44.75	30.93	41.33	29.31	23.87	16.14	23.20	0.00	39.36
Current Operation (7:00am)	Rig Up	Dummy Trip	Drilling	Drilling	Repairs	Drilling	TTH w/ Tool - DST #1	Drilling	Trapping out DST #3	Laydown Pipe	
Formation	Surface	Clay/Sand	Lime/Sand	Shale	Lime/Shale	Lime/Shale	Topeka	LKC	LKC	Arbuckle	
Fuel Used (Fuel Chart)	132.47	295.50	310.15	340.47	176.79	298.59	178.92	406.33	110.93	107.60	2357.73
Survey (degree & depth)		1° @ 770'				1 1/4° @ 2940'			1 1/4° @ 3405'		
Mud Cost	\$0.00	\$303.99	\$0.00	\$1,487.74	\$1,150.22	\$391.68	\$1,062.75	\$914.84	\$945.90	\$0.00	\$6,257.12
Weight (# / Gall)	-	-	-	-	9.6	8.7	9.0	8.9	9.1	-	-
Vis (Furimel)	-	-	-	-	-	47	55	50	50	-	-
Water Loss (cc)	-	-	-	-	-	-	8.8	12.0	13.6	-	-
Bit #1											
Bit Make / Type	JZ RR										
Bit Size	12 1/4										
Bit Hours	10.25										10.25
Bit #2											
Bit Make / Type		Reed H24A	Reed H24A	Reed H24A							
Bit Size		7 7/8	7 7/8	7 7/8							
Bit Hours		7.25	14.75	14.00							36.00
Bit #3											
Bit Make / Type					JZ RR	JZ RR					
Bit Size					7 7/8	7 7/8					
Bit Hours					6.00	12.25					18.25
Bit #4											
Bit Make / Type							Reed S52P RR	Reed S52P RR	Reed S52P RR	Reed S52P RR	
Bit Size							7 7/8	7 7/8	7 7/8	7 7/8	
Bit Hours							12.25	7.25	2.50	0.00	22.00
Bit Cumulative Hours	10.25	7.25	14.75	14.00	6.00	12.25	12.25	7.25	2.50	0.00	86.50
Weight on Bit (WOB)	20,000	22,000	25,000	25,000	28,000	28,000	30,000	30,000	30,000	-	-
RPM	120	85	90	85	80	80	80	80	80	-	-
Pump Pressure	700	750	850	800	875	700	785	725	750	-	-
Drilling (Rotating) Hours	10.25	7.25	14.75	14.00	6.00	12.25	12.25	7.25	2.50	0.00	86.50
Daywork Hrs. (Operator's time)											
Rat Hole (> 75 Hrs)											0.00
Wait on Cement											0.00
Weather											0.00
Short Trip								1.25			1.25
Trip	0.25	2.00				3.00	5.25	7.00	9.00		26.50
Circulate		0.50					2.25	1.75	4.25	3.00	11.75
Tool						0.25	0.75	1.00	1.00		3.00
Testing							2.50	2.00	1.50		6.00
Clean Floor after DST											0.00
Wait on Orders									1.25		1.25
Wait on Tester						3.00					3.00
Logging									4.50		4.50
Nipple Down / Jet Cellar										1.50	1.50
LDDP / LDDC									0.50	4.00	4.50
Run Casing / Circ / Cement		2.75								2.50	5.25
Set Slips										0.50	0.50
Lost Circulation (> 2 hrs)											0.00
Billable Hours	0.25	5.25	0.00	0.00	0.00	8.80	10.25	15.50	20.75	8.50	69.00
Non-Billable Hours (Southwind's time)											
Rig Up / Tear Down	9.25									7.50	16.75
Wait on Cement (NB)		8.00									8.00
Drill Rat Hole (< 75 hrs)	0.50										0.50
Drill Mouse Hole											0.00
Drill Plug		0.50									0.50
Circulate / Trip (Surface)	0.50	1.00									1.50
Replacing Dril Collars					17.00						17.00
Rig Repair			5.25	3.25							8.50
Connections	2.50	1.25	3.00	2.25	0.75	1.50	1.00	0.50	0.50		13.25
Jet/Displace	0.50	0.25	0.50	0.50		1.00					2.75
Surveys		0.25				0.25			0.25		0.75
Rig Check	0.25	0.25	0.50		1.00	0.25	0.50	0.25	0.50		3.50
Trip Time (NB - repairs)				3.00							3.00
Pit Mud							0.25	0.25			0.50
Lost Circulation (< 2 hrs)											0.00
Lay Down Kelly / MH & RH											0.00
Non-Billable Hrs.	11.50	11.50	9.25	10.00	18.00	3.25	1.80	1.25	0.75	7.50	76.50
Footage Cost	\$ 7,700.00	\$ 4,700.00	\$ 6,600.00	\$ 4,330.00	\$ 2,480.00	\$ 3,590.00	\$ 2,900.00	\$ 1,170.00	\$ 490.00	\$ -	\$ 33,960.00
Daywork Cost	\$ 62.50	\$ 1,312.50	\$ -	\$ -	\$ -	\$ 2,125.00	\$ 2,962.50	\$ 3,875.00	\$ 5,187.50	\$ 2,125.00	\$ 17,250.00
Combined Est. Cost*	\$ 7,762.50	\$ 6,012.50	\$ 6,600.00	\$ 4,330.00	\$ 2,480.00	\$ 5,715.00	\$ 5,862.50	\$ 5,045.00	\$ 5,677.50	\$ 2,125.00	\$ 51,210.00

\*Please note that this is estimated footage & daywork cost only. Additional charges will apply on invoice (fuel surcharge, water transfer pump, etc)

DST #1 Info -  
 Footage Interval: 2880' - 2940' "Topeka"  
 Recovery: 20' Muddy Water w/Oil Spots

DST #3 Info -  
 Footage Interval: 3314' - 3347' "Arbuckle"  
 Recovery: Gas to Surface  
 1905' Gassy Oily Muddy Water

DST #2 Info -  
 Footage Interval: 3198' - 3270' Lansing "H"  
 Recovery: 10' Mud

DST #4 Info -  
 Footage Interval:  
 Recovery:

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 161

Date	5-14-17	Sec.	11	Twp.	16	Range	12	County	Barton	State	Ks	On Location		Finish	3:15 PM
Lease								Location							
Bieberle								Dubuque, Ks - 1 1/2 S, W15							
Well No. 3								Owner							
Contractor Southwind 9								To Quality Oilwell Cementing, Inc.							
Type Job Longstring								You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.							
Hole Size 7 7/8"								Charge To HD Exploration							
Csg. 15 1/2" 5 1/2"								T.D. 3405'							
Tbg. Size								Depth 3390'							
Tool								Street							
Cement Left in Csg. 18.22'								Depth							
Shoe Joint 18.22'								City							
Meas Line								State							
Displace 80 BLS								The above was done to satisfaction and supervision of owner agent or contractor.							
EQUIPMENT								Cement Amount Ordered 180 Com 10% Salt 5% Gilsomite							
Pumptrk 18 No. Cementer								500 gal Mud Clear 48							
Bulktrk 3 No. Driver								Common 180							
Bulktrk p.u. No. Driver								Poz. Mix							
JOB SERVICES & REMARKS								Gel.							
Remarks:								Calcium							
Rat Hole								Hulls							
Mouse Hole								Salt 15							
Centralizers 1, 3, 5								Flowseal							
Baskets 2, 4								Kol-Seal 800 #							
D/V or Port Collar								Mud CLR 48 500 gal							
Circulation pump 500 gal Mud Clear								CFL-117 or CD110 CAF 38							
48, plug Bottom w/ 30 sx Hook to 5 1/2"								Sand							
Casing + mix 150 sx Cement, Shut								Handling 203							
down wash pump + lines Released								Mileage							
plug + Displaced w/ 80 BLS of H2O								FLOAT EQUIPMENT							
Released + held								Guide Shoe							
Lift pressure 700 #								Centralizer 3							
Land plug to 1500 #								Baskets 2							
Thanks								AFU Inserts							
Signature								Float Shoe							
								Latch Down							
								Pumptrk Charge prod string							
								Mileage 26							
								Tax							
								Discount							
								Total Charge							



# Mudgrove

Petroleum Geology  
212 Main Street, Claflin KS

### NOTES

Company: H&D Exploration, LLC.

Lease: Bieberle #3

Location: SE-NW-NW-SE (2250' FSL & 2277' FEL)

Sec: 11 Twsp: 16S Rge: 12W

County: Barton State: Kansas

Field: Kraft-Prusa

KB: 1923' GL: 1914'

Contractor: Southwind Drilling, Inc. (Rig #9)

Spud: 05/05/2017 Comp: 05/14/2017

RTD: 3405' LTD: 3405'

Mud Up: 2700' Type Mud: Chemical

API #: 15-009-26169-00-00

Samples Saved From: 2800' to RTD

Drilling Time Kept From: 2800' to RTD

Samples Examined From: 2800' to RTD

Geological Supervision from: 2800' to RTD

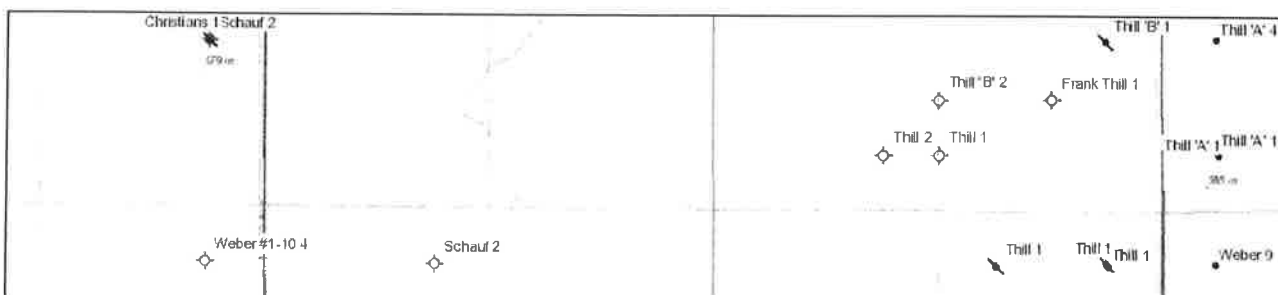
Geologist on Well: Wyatt Urban

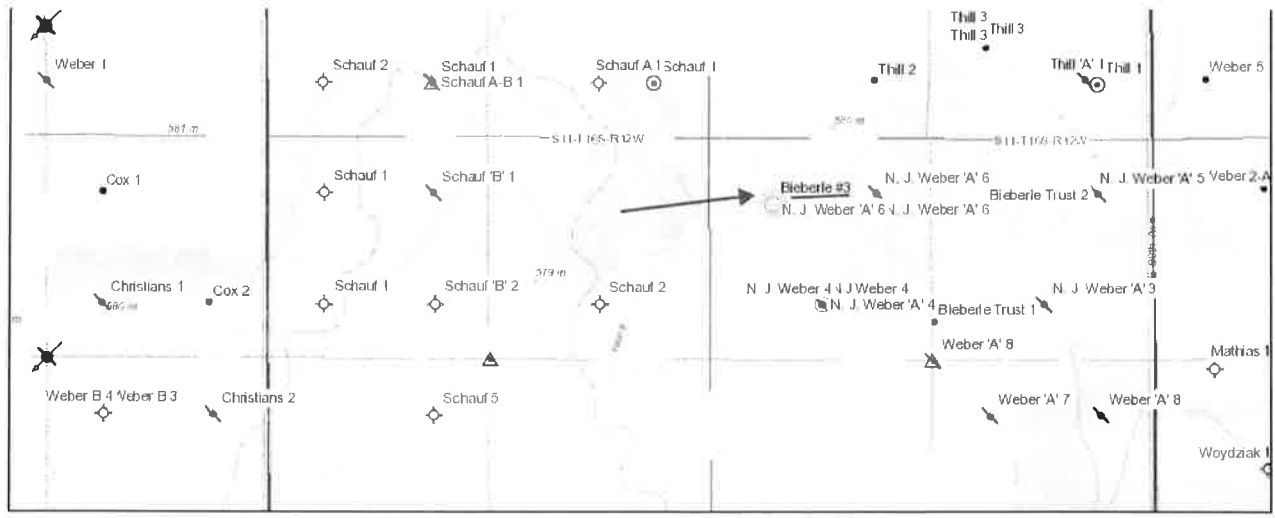
Surface Casing: 8 5/8" @ 780'

Production Casing: 5 1/2" @ 3402'

Electronic Surveys: Logged by ELI: CDL/CNL, DIL, MEL

### H&D EXPLORATION- BIBERLE #3





# H&D EXPLORATION WELL COMPARISON SHEET

	DRILLING WELL				COMPARISON WELL				COMPARISON WELL			
	H&D-Bieberle #3				REIF O&G- Bieberle #2				SCAVENGER O&G-N. J. WEBBER 6			
	SE-NW-NW-SE 11-16S-12W				S2-NW-NE-SE 11-16S-12W				NE-NW-SE 11-16S-12W			
	1922 KB				1907 KB		Structural Relationship		1917 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Heebner	2970	-1048	2969	-1047	2948	-1041	-7	-6	2961	-1044	-4	-3
Toronto	2984	-1062	2984	-1062	2965	-1058	-4	-4				
Douglas	2997	-1075	3001	-1079	2977	-1070	-5	-9				
Brown Lime	3058	-1136	3057	-1135	3040	-1133	-3	-2				
Lansing	3070	-1148	3073	-1151	3057	-1150	2	-1	3068	-1151	3	0
BKC	3326	-1404	3325	-1403	3313	-1406	2	3				
Arbuckle	3336	-1414	3334	-1412	3319	-1412	-2	0	3331	-1414	0	2
RTD	3405	-1483	3405	-1483	3359	-1452	-31	-31	3337	-1420	-63	-63
LTD	3405	-1483	3405	-1483	3362	-1455	-28	-28	3335	-1418	-65	-65

**TRIOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

H&D Exploration LLC      **S11-16S-12W Barton, KS**

PO Box 387      **Bieberle #3**  
Hoisington KS 67544

Job Ticket: 63212      **DST#: 1**

ATTN: Jim C. Musgrove      Test Start: 2017.05.11 @ 05:59:00

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**GENERAL INFORMATION:**

Formation: <b>Topeka</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Spencer J. Staab
Time Tool Opened: 07:43:30	Unit No: 84
Time Test Ended: 12:57:45	Reference Elevations: 1922.00 ft (KB)
Interval: <b>2880.00 ft (KB) To 2940.00 ft (KB) (TVD)</b>	1913.00 ft (CF)
Total Depth: 2940.00 ft (KB) (TVD)	KB to GR/CF: 9.00 ft
Hole Diameter: 7.88 inches Hole Condition: Fair	

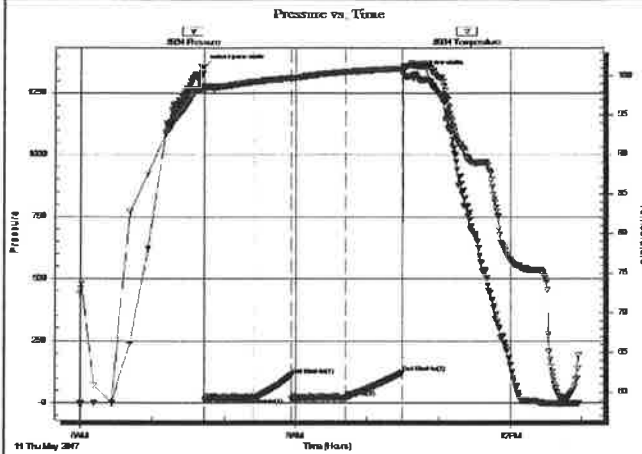
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**Serial #: 8934      Inside**

Press@RunDepth: 20.14 psig @ 2887.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2017.05.11      End Date: 2017.05.11	Last Calib.: 2017.05.11
Start Time: 05:59:15      End Time: 12:57:45	Time On Btm: 2017.05.11 @ 07:43:15
	Time Off Btm: 2017.05.11 @ 10:30:30

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**TEST COMMENT:** 30-IF-Weak Blow ; Built from a surface to 1 1/2"  
30-ISI-No Blow Back  
45-FF-Weak Blow ; Built from 1" to 4 1/4"



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1355.40	98.69	Initial Hydro-static
1	14.20	97.94	Open To Flow (1)
42	19.96	99.21	Shut-In(1)
74	111.75	99.69	End Shut-In(1)
74	15.84	99.64	Open To Flow (2)
119	20.14	100.47	Shut-In(2)
167	121.21	100.90	End Shut-In(2)
168	1333.32	101.33	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
25.00	Mud w /scum oil 1%O 99%M	0.35

**Gas Rates**

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

H&D Exploration LLC

PO BOX 387  
Hoisington KS 67544

ATTN: Jim C. Musgrove

**S11-16S-12W Barton KS**

**Bieberle #3**

Job Ticket: 63213      **DST#: 2**

Test Start: 2017.05.12 @ 15:13:00

**GENERAL INFORMATION:**

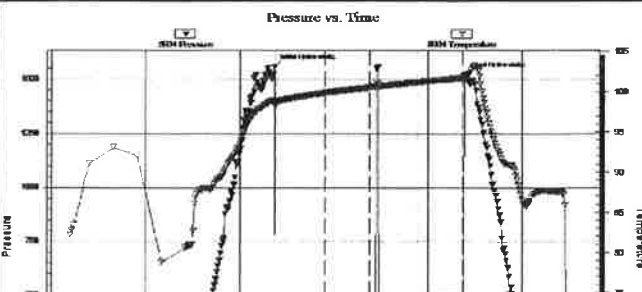
Formation: **LKC "H-I"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 17:22:30  
 Time Test Ended: 20:33:45  
 Interval: **3198.00 ft (KB) To 3270.00 ft (KB) (TVD)**  
 Total Depth: 3270.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 1922.00 ft (KB)  
 1913.00 ft (CF)  
 KB to GR/CF: 9.00 ft

**Serial #: 8934**

**Inside**

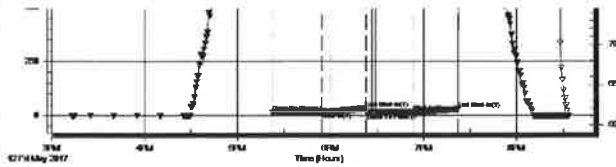
Press@RunDepth: 15.72 psig @ 3202.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2017.05.12      End Date: 2017.05.12      Last Calib.: 2017.05.12  
 Start Time: 15:13:15      End Time: 20:33:45      Time On Btm: 2017.05.12 @ 17:22:15  
 Time Off Btm: 2017.05.12 @ 19:23:30

**TEST COMMENT:** 30-IF-Weak Blow ; Built from surface to 1/4"  
 30-IS-No Blow Back  
 30-FF-No Blow ; Flushed tool; Didn't help  
 30-FSI-No Blow Back



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1556.14	98.93	Initial Hydro-static
1	12.46	98.14	Open To Flow (1)
32	13.99	99.84	Shut-In(1)
61	32.87	100.52	End Shut-In(1)
61	13.76	100.54	Open To Flow (2)
91	15.72	101.17	Shut-In(2)
120	30.17	101.69	End Shut-In(2)
122	1518.62	102.02	Final Hydro-static



122 1310.92 102.05 Final Hydro-Static

**Recovery**

Length (ft)	Description	Volume (bbl)
5.00	Mud w /oil specks 100%M	0.07

\* Recovery from multiple tests

**Gas Rates**

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

H&D Exploration LLC

**S11-16S-12W Barton KS**

PO BOX 387  
Hoisington KS 67544

**Bieberle #3**

Job Ticket: 63214      **DST#: 3**

ATTN: Jim C. Musgrove

Test Start: 2017.05.13 @ 06:37:00

**GENERAL INFORMATION:**

Formation: **Arbuckle/Gorham Ss**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 08:40:45  
 Time Test Ended: 13:05:00

Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84

Interval: **3314.00 ft (KB) To 3347.00 ft (KB) (TVD)**  
 Total Depth: 3347.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1922.00 ft (KB)  
 1913.00 ft (CF)  
 KB to GR/CF: 9.00 ft

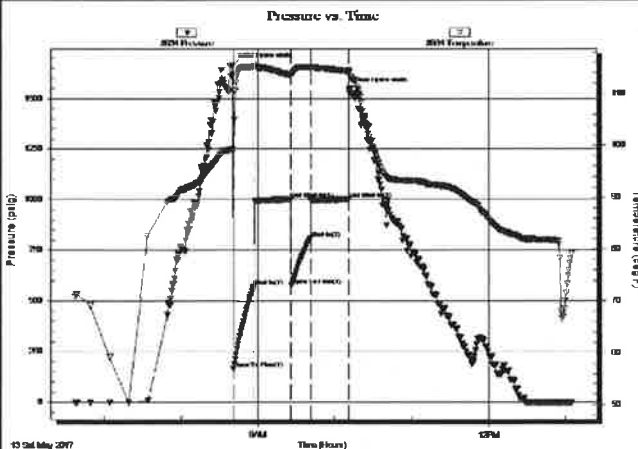
**Serial #: 8934**

**Outside**

Press@RunDepth: 806.52 psig @ 3317.00 ft (KB)  
 Start Date: 2017.05.13 End Date: 2017.05.13  
 Start Time: 06:37:15 End Time: 13:05:00

Capacity: 8000.00 psig  
 Last Calib.: 2017.05.13  
 Time On Btm: 2017.05.13 @ 08:40:30  
 Time Off Btm: 2017.05.13 @ 10:10:45

TEST COMMENT: 15-IF-BOB in 30 seconds  
 30-ISI-Fair Blow ; Built from surface to 4&1/2"  
 15-FF-BOB in 25 seconds  
 30-FSI-Fair Blow ; Built from surface to 2"



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1662.75	99.43	Initial Hydro-static
1	163.92	98.84	Open To Flow (1)
17	569.58	115.28	Shut-In(1)
46	1000.58	113.58	End Shut-In(1)
46	574.69	113.52	Open To Flow (2)
61	806.52	115.05	Shut-In(2)
90	1000.05	114.22	End Shut-In(2)
91	1543.07	114.51	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
60.00	GMCWO 5%G 5%M 40%W 50%O	0.84
1030.00	VMCGO 20%W 10%M 30%G 40%O	14.45
315.00	OMCW 10%O 10%M 80%W	4.42








**Gas Rates**

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

315.00	GOCM 10%G 30%O 60%W	4.42
180.00	Water 100%W	2.52

\* Recovery from multiple tests

### ROCK TYPES

 Dolprim	 shale, gry	 shale, red	 Meta
 Lmst fw<7	 Carbon Sh	 Ss	

### OTHER SYMBOLS

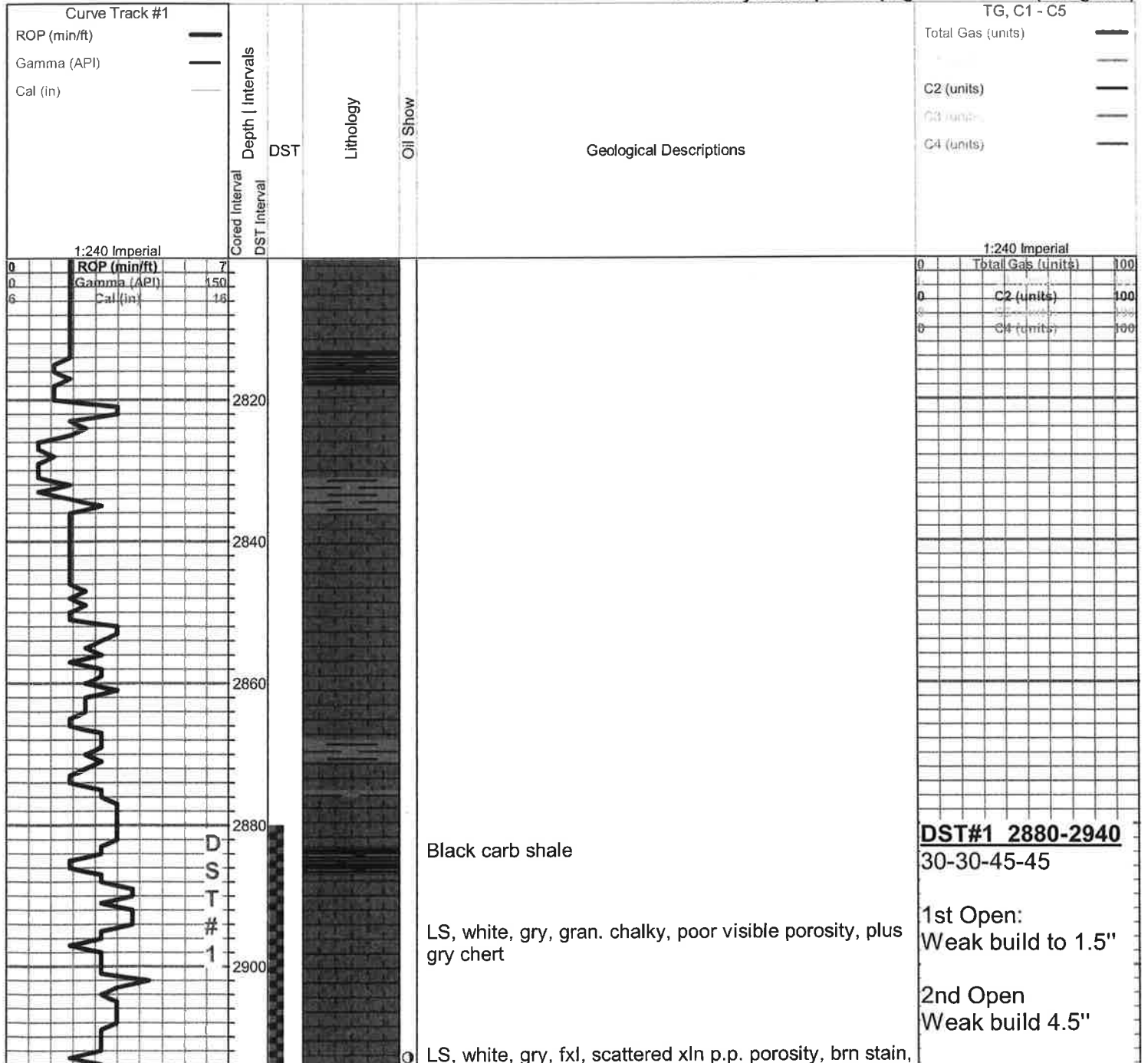
#### Oil Show

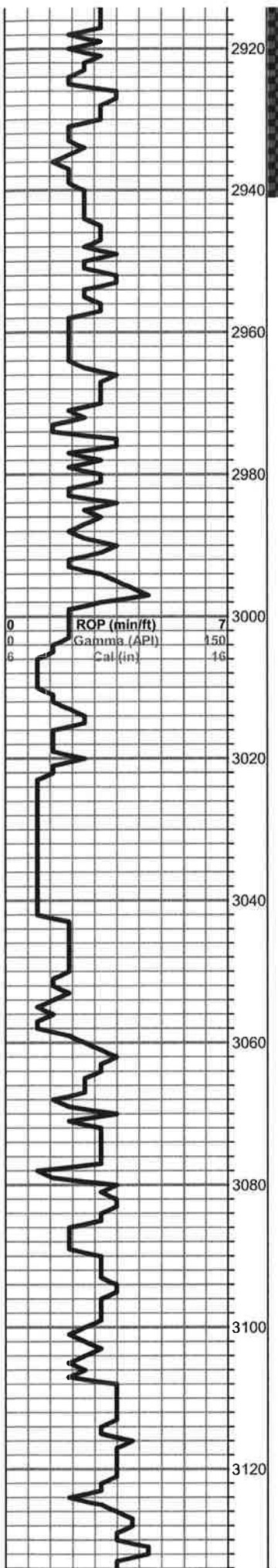
- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Stn
- D Dead Oil Stn
- Fluorescence
- \* Gas

#### DST

- DST Int
- DST alt
- Core
- || tail pipe

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)





tr. fo, good odor

LS, a/a, good stain, sat, sfo, good odor

LS, tan, fxl, poor visible porosity, chalky, no shows

LS, tan, fxl, few foss, poor visible porosity, no shows, no odor

**Heebner 2972.0 -1048.0**  
Black carb Sh.

**Toronto 2984.0 -1062.0**

LS, tan, cream, fxl, chalky, lt. brn stain, tr. sfo, faint odor

**Douglas 2997.0 -1075.0**

Sh, gry, greenish, few maroon

Sh, gry, maroon, greenish, silty

Sh, a/a, tr. sd, gry, med grain, poorly sorted, mica, no shows, no odor

**Brown Lime 3058.0 -1136.0**  
LS, brn, fxl, dense, cherty

**Lansing 3070.0 -1148.0**

LS, cream, tan, fxl, poor visible porosity, black/dark brown stain, tr. sfo, no odor

LS, cream, ool/foss, f- med xln, fair inxln porosity, tr. sfo, no odor

LS, cream, tan, foss, ool, (sl. dol.) poor-fair scattered vuggy oom porosity, lt. sfo, good odor

LS, cream, tan, fxl, dense, poor visible porosity, chalky in pts, tr. brn stain, tr. sfo, good odor

Sh, gry, maroon, silty

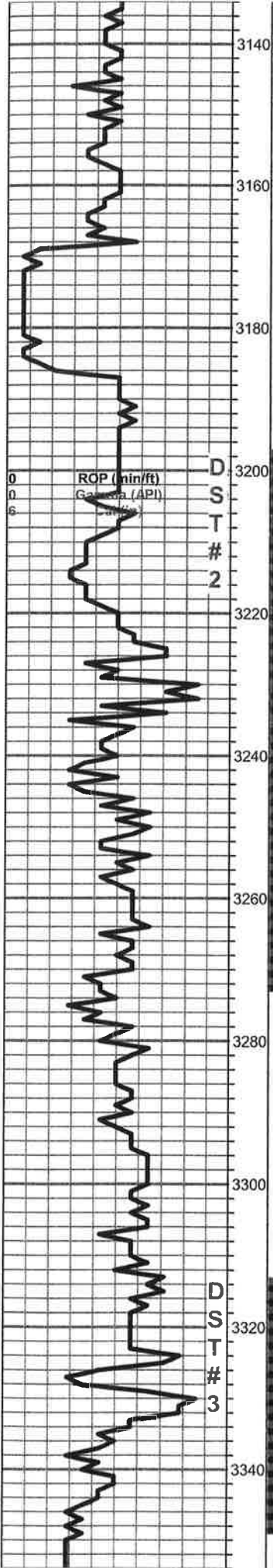
Recovery:

25' Mud

Pressures:  
ISIP 111 psi  
FSIP 121 psi  
IFP 14-19 psi  
FFP 15-20 psi  
HSH 1355-1333 psi

0	Total Gas (units)	100
0	C2 (units)	100
0	C4 (units)	100





○ LS, gry, tan, foss, dense, tr. brn stain, nsfo, odor

Sh, gry, silty soft

○ LS, tan, ool, poor visible porosity, tr. brn stain, nsfo, odor???

LS, cream, fxl, dense, no shows, no odor

● LS, white, cream, oom, good vuggy oom porosity, lt. brn stain, lt. sfo, good odor

LS, a/a, barren

LS, tan, fxl, dense, cherty, no shows

Sh, black carb

● LS, tan, oom, good vuggy oom porosity, lt. brn stain, sfo, odor, vis gas bubbles

LS, tan, gry, foss/ool, poor scattered p.p. porosity, chalky in pts, nsfo, faint odor

LS, a/a

LS, tan, cream, fxl, chalky, poor visible porosity, no shows, no odor

LS, tan, buff, fxl, dense, poor visible porosity, no shows, no odor

Sh, gry, black, silty, few soft

LS, tan, cream, fxl, dense, poor visible porosity, no shows

Base Kansas City 3326.0 -1404.0

Sh, gry, greenish, maroon,

Arbuckle 3336.0 -1414.0

● Sd. cl, med grain, poorly sorted, lt. brn stain, sfo, odor

● Dol. white, cream, fxl, dense, poor visible porosity, brn stain, sfo, odor

● Dol. white, fxl, dense, poor visible porosity, cherty, Lt. brn stain tr. sfo tr. sd. welded poor inxln porosity sfo

**DST#2 3198-3270**  
30-30-30-30

1st Open:  
Weak Surface Blow

2nd Open:  
Died

Recovery:  
5' Mud

Pressures:  
ISIP 32 psi  
FSIP 30 psi  
IFP 12-13 psi  
FFP 13-15 psi  
HSH 1556-1518 psi

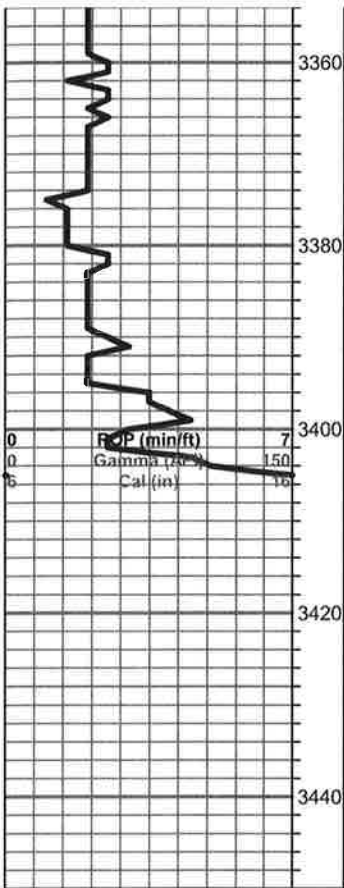
**DST#3 3314-3347**  
15-30-15-30

1st Open:  
BOB 30 Sec.

2nd Open:  
BOB 25 Sec.

Recovery:

60' GMCWO  
15% / 50% / 100%



Brn stain, in str, in str, nsfo, poor visible porosity, str,  
odor

Dol. white, fxl, dense, poor visible porosity, nsfo, tr. sd.  
a/a, strong odor

Dol. white, tan, suc., med xln, good inxln porosity, tr.  
brn stain, nsfo, odor

Dol. white, cream, fxl, dense, few cherty, poor visible  
porosity, no shows

Gran, clr, tr. pyrite, biotite, feldspar, nsfo

**RTD 3405.0 -1483.0**  
**LTD 3405.0 -1483.0**

(5%G, 50%O, 40%  
W, 5%M)

1030' WMC GO  
(30%G, 40%O,  
20%W, 10%M)

315' OMCW  
(10%O, 80%W,  
10%M)

315' GOCM  
(10%G, 30%O,  
60%W,

185' Water

Pressures:  
ISIP 1000 psi  
FSIP 1000 psi  
IFP 163-569 psi  
FFP 574-806 psi  
HSH 1662-1543 psi