

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1369904  
OIL & GAS CONSERVATION DIVISION



Form ACO-1  
November 2016

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
- Gas  DH  EOR
- OG  GSW
- 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 EOR  Conv. to SWD
- Plug Back  Liner  Conv. to GSW  Conv. to Producer
  
- Commingled  Permit #: \_\_\_\_\_
- Dual Completion  Permit #: \_\_\_\_\_
- SWD  Permit #: \_\_\_\_\_
- EOR  Permit #: \_\_\_\_\_
- GSW  Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No.: \_\_\_\_\_

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

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

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

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

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

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

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

Total Vertical 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**

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received  Drill Stem Tests Received
- Geologist Report / Mud Logs Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1369904



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

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

**INSTRUCTIONS:** Show important tops 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.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Geologist Report / Mud Logs	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

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
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

- Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
- Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
- Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

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>			PRODUCTION INTERVAL: Top _____ Bottom _____	

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:
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Conservation Division  
266 N. Main St., Ste. 220  
Wichita, KS 67202-1513



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

Pat Apple, Chairman  
Shari Feist Albrecht, Commissioner  
Jay Scott Emler, Commissioner

Sam Brownback, Governor

October 16, 2017

Alan Hoffman  
H & D Exploration LLC  
165 WEST 1ST  
PO BOX 387  
HOISINGTON, KS 67544

Re: ACO-1  
API 15-009-26169-00-00  
BIEBERLE #3  
SE/4 Sec.11-16S-12W  
Barton County, Kansas

Dear Alan Hoffman:

K.A.R. 82-3-107 provides for all completion information to be filed within 120 days of the spud date. Subsection(e)(2) of that regulation states "All rights to confidentiality shall be lost if the filings are not timely."

The above referenced well was spudded on 5/5/2017 and the ACO-1 was received on October 16, 2017 (not within the 120 days timely requirement).

Therefore, your request for confidential treatment of data contained within the ACO-1 filing cannot be granted at this time.

If you should have any questions, please do not hesitate to contact me at (316)337-6200.

Sincerely,

Production Department

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 3/4" 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% Gilsontite, 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

Summary table with columns for Spud Date & Time, Day 1-10, and Total. Rows include Total Depth, Daily Progress, Ft. Per Hr., Current Operation, Formation, Fuel Used, and Survey.

Cost summary table with columns for Mud Cost, Weight, Vis, Water Loss, and Total. Total cost is \$6,257.12.

Bit #1 details table including Bit Make/Type, Bit Size, and Bit Hours.

Bit #2 details table including Bit Make/Type, Bit Size, and Bit Hours.

Bit #3 details table including Bit Make/Type, Bit Size, and Bit Hours.

Bit #4 details table including Bit Make/Type, Bit Size, and Bit Hours.

Weight on Bit (WOB), RPM, Pump Pressure, and Drilling (Rotating) Hours summary table.

Daywork Hrs. (Operator's time) table listing various activities like Rat Hole, Wait on Cement, Weather, Short Trip, Trip, Circulate, Tool, Testing, etc.

Non-Billable Hours (Southwind's time) table listing activities like Rig Up / Tear Down, Wait on Cement (NB), Drill Rat Hole, etc.

Footage Cost, Daywork Cost, and Combined Est. Cost summary table.

\*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', Recovery: 20' Muddy Water w/Oil Spots

DST #2 Info: Footage Interval: 3198' - 3270', Recovery: 10' Mud
DST #3 Info: Footage Interval: 3314' - 3347', Recovery: Gas to Surface
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
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Lease Bieberle Location 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" T.D. 3405' Charge To HD Exploration

Csg. 15 1/2" 5 1/2" Depth 3390' Street

Tbg. Size Depth City State

Tool Depth The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 18.22' Shoe Joint 18.22' Cement Amount Ordered 180 Com 10% Salt 5% Gilsomite

Meas Line Displace 80 BLS 500 gal Mud Clear 48

**EQUIPMENT**

Pumptrk 18 No.	Cementer	Tim	Common	180
	Helper		Poz. Mix	
Bulktrk 3 No.	Driver	Jordan	Gel.	
	Driver		Calcium	
Bulktrk p.u. No.	Driver	Rick		

**JOB SERVICES & REMARKS**

Remarks:	Hulls
Rat Hole	Salt 15
Mouse Hole	Flowseal
Centralizers 1, 3, 5	Kol-Seal 800 #
Baskets 2, 4	Mud CLR 48 500 gal
D/V or Port Collar pipe on bottom break	CFL-117 or CD110 CAF 38
Circulation pump 500 gal Mud Clear	Sand
48, plug Bottom w/ 30 sx Hook to 5 1/2"	Handling 203
Casing + mix 150 sx Cement, shut	Mileage
down wash pump + lines Released	
plug + Displaced w/ 80 BLS of H2O	
Released + held	

**FLOAT EQUIPMENT**

Guide Shoe	
Centralizer 3	
Baskets 2	
AFU Inserts	
Float Shoe	
Latch Down	

Lift pressure 700 #

Land plug to 1500 #

Thanks

Pumptrk Charge prod string  
Mileage 26

X Signature

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'

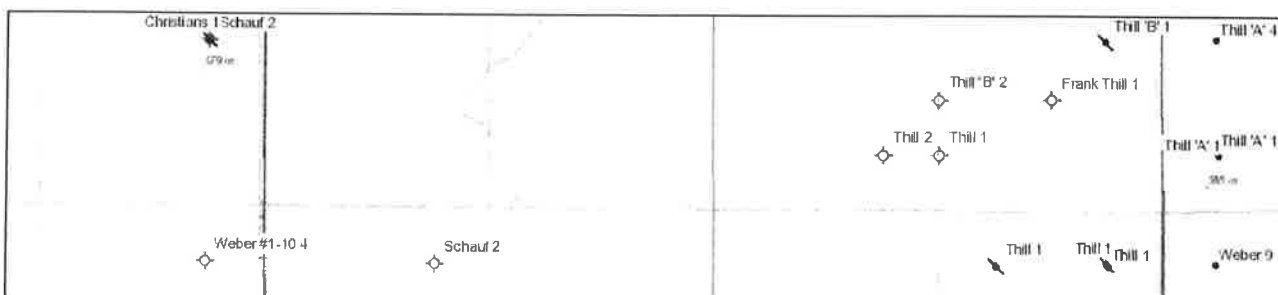
Contractor: Southwind Drilling, Inc. (Rig #9)  
Spud: 05/05/2017 Comp: 05/14/2017  
RTD: 3405' LTD: 3405'  
Mud Up: 2700' Type Mud: Chemical  
API #: 15-009-26169-00-00

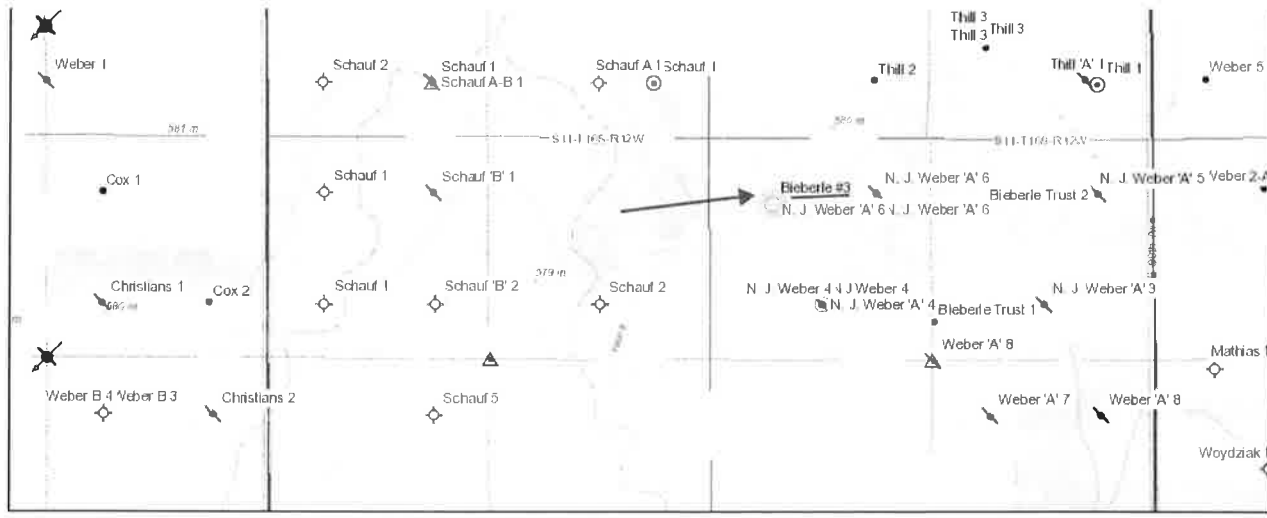
Samples Saved From: 2800' to RTD  
Drilling Time Kept From: 2800' to RTD  
Samples Examined From: 2800' to RTD  
Geological Supervision from: 2800' to RTD  
Geologist on Well: Wyatt Urban

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



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

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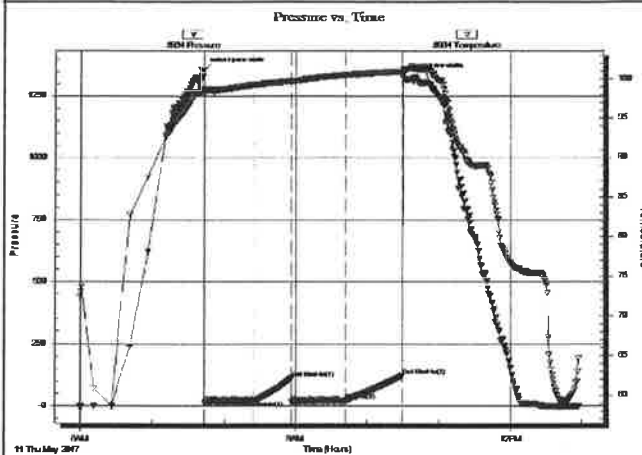
**Serial #: 8934**      **Inside**

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)

Start Date: 2017.05.12 End Date: 2017.05.12

Start Time: 15:13:15 End Time: 20:33:45

Capacity: 8000.00 psig

Last Calib.: 2017.05.12

Time On Btm: 2017.05.12 @ 17:22:15

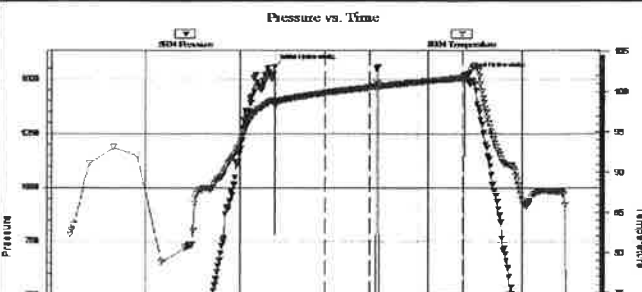
Time Off Btm: 2017.05.12 @ 19:23:30

**TEST COMMENT:** 30-IF-Weak Blow ; Built from surface to 1/4"

30-IS-No Blow Back

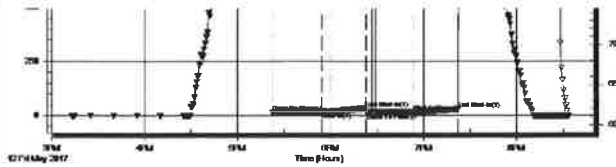
30-FF-No Blow ; Flushed tool; Didn't help

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	102.00	Final Hydro-static



122 1310.02 102.05 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

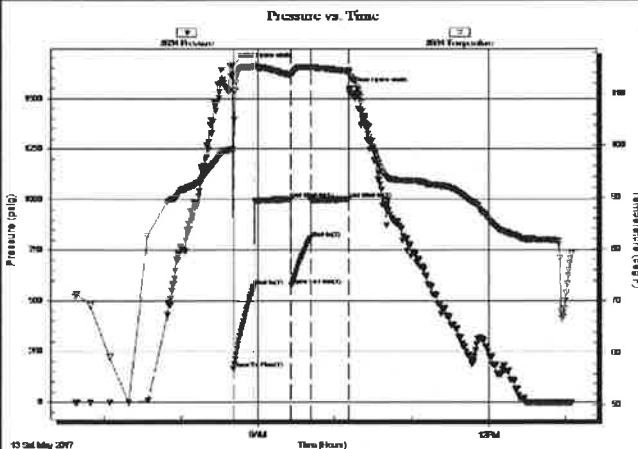
**Serial #: 8934**

**Outside**

Press@RunDepth: 806.52 psig @ 3317.00 ft (KB)  
 Start Date: 2017.05.13 End Date: 2017.05.13  
 Start Time: 08:37:15 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

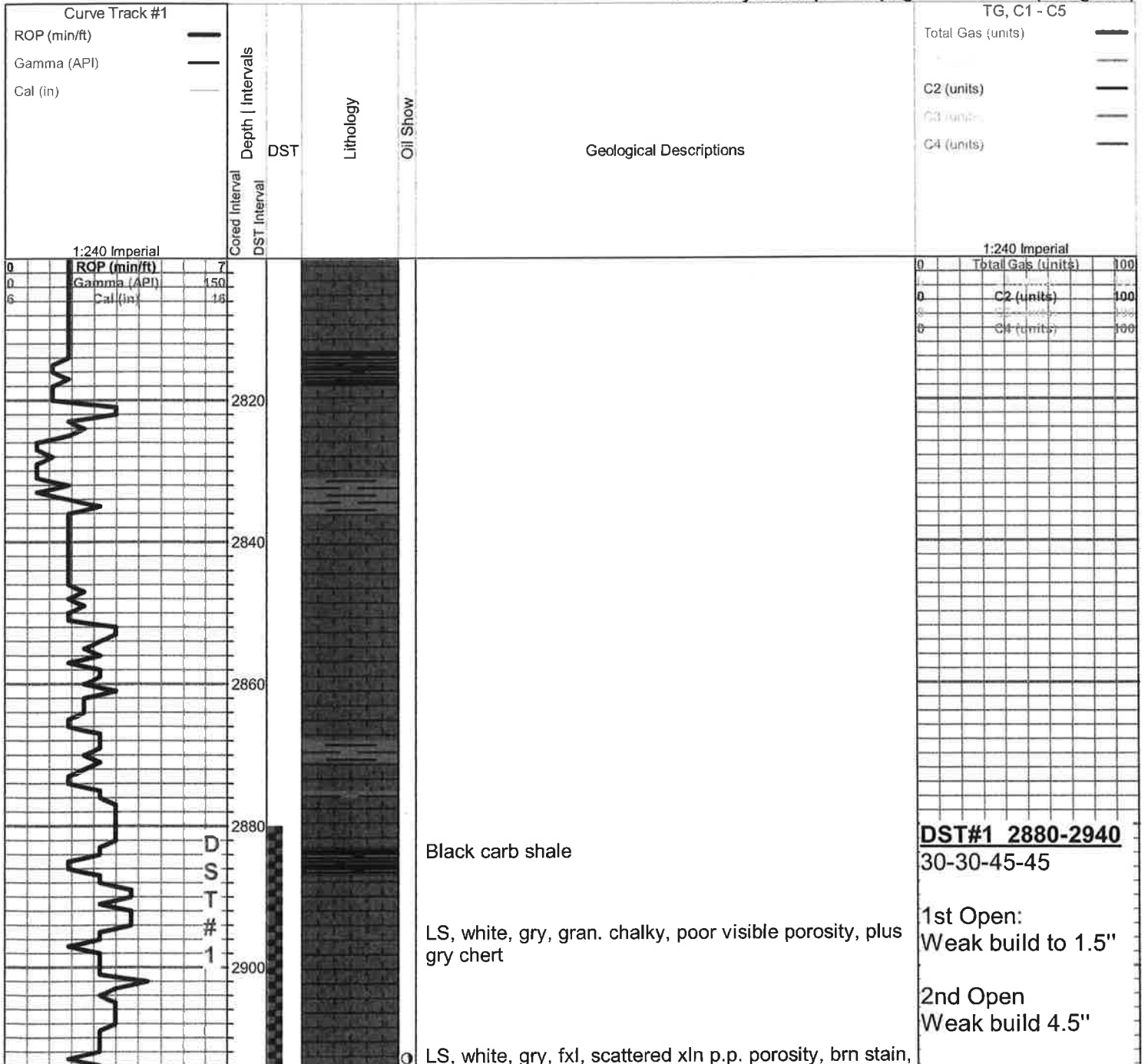
#### Oil Show

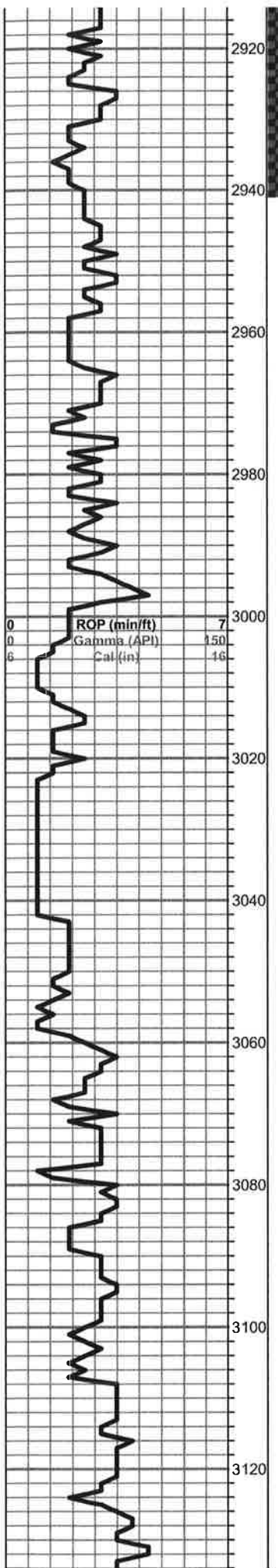
- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Stn
- D Dead Oil Stn
- Fluorescence
- \* Gas

#### 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

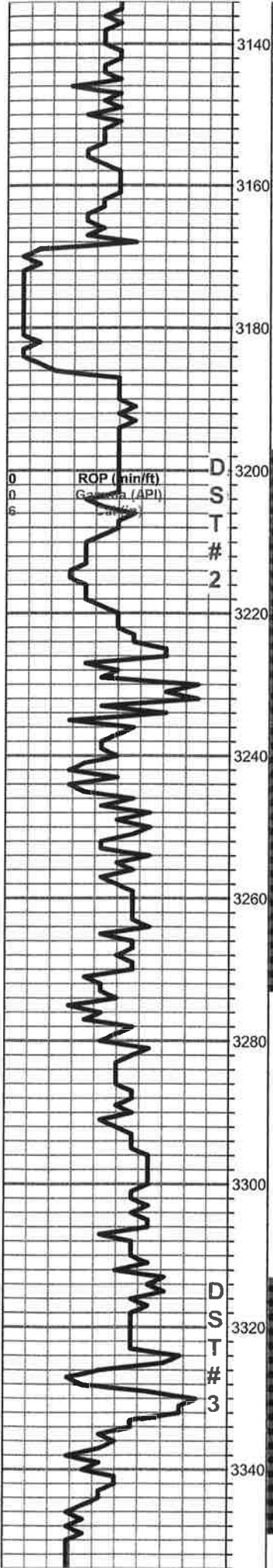
Sh, gry, maroon, silty

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

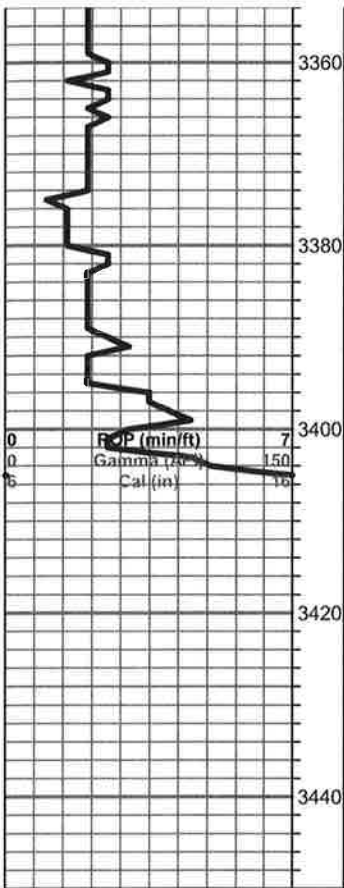
**DST#3 3314-3347**  
15-30-15-30

1st Open:  
BOB 30 Sec.

2nd Open:  
BOB 25 Sec.

Recovery:

60' GMCWO  
15% / 50% / 100%



Brn stain, in str, in str. texture, 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



**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

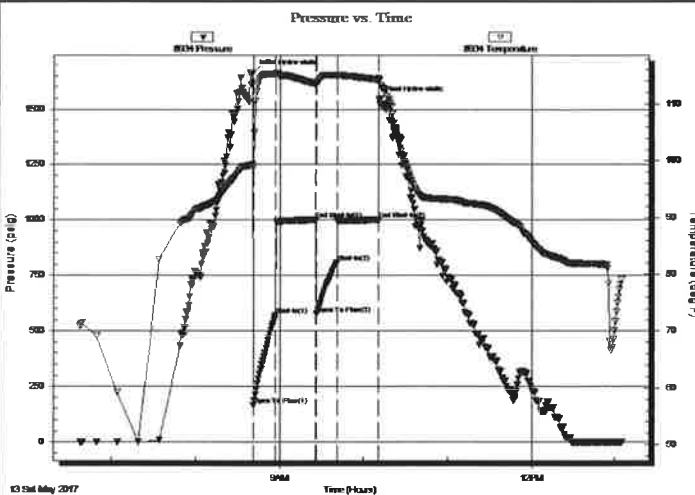
Capacity: 8000.00 psig

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	WMCWO 20%W 10%M 30%G 40%O	14.45
315.00	OMCW 10%O 10%M 80%W	4.42
315.00	GOCM 10%G 30%O 60%W	4.42
180.00	Water 100%W	2.52

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

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

**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:

18500 ppm

Viscosity: 41.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 13.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 11000.00 ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
60.00	GMCWO 5%G 5%M 40%W 50%O	0.842
1030.00	WMCGO 20%W 10%M 30%G 40%O	14.448
315.00	OMCW 10%O 10%M 80%W	4.419
315.00	GOCM 10%G 30%O 60%W	4.419
180.00	Water 100%W	2.525

Total Length: 1900.00 ft

Total Volume: 26.653 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2# LCM

RW=.314@80degrees

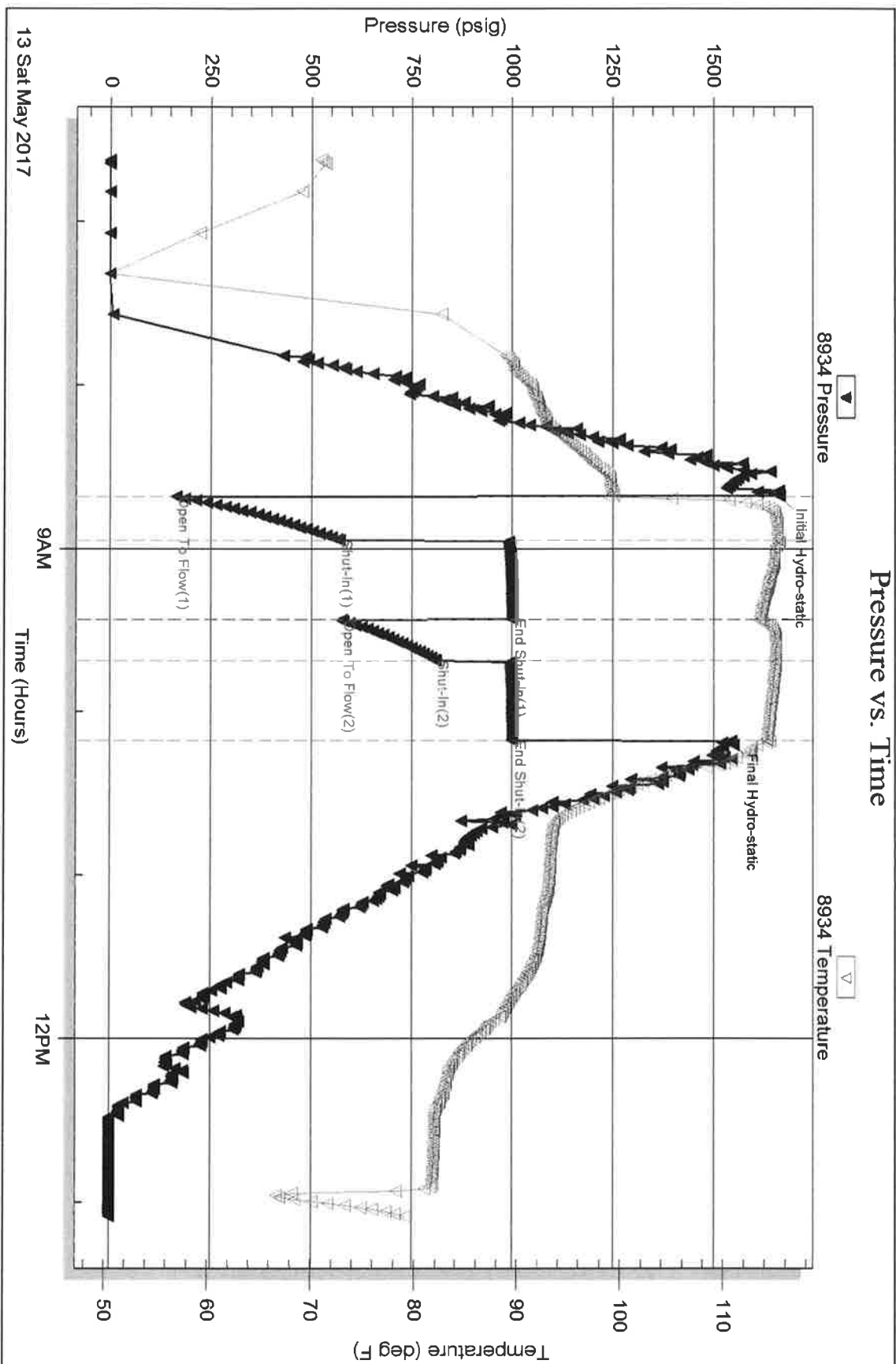
Serial #: 8934

Outside H&D Exploration LLC

Bieberle #3

DST Test Number: 3

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 63214

Printed: 2017.05.13 @ 13:54:03

Serial #: 9120

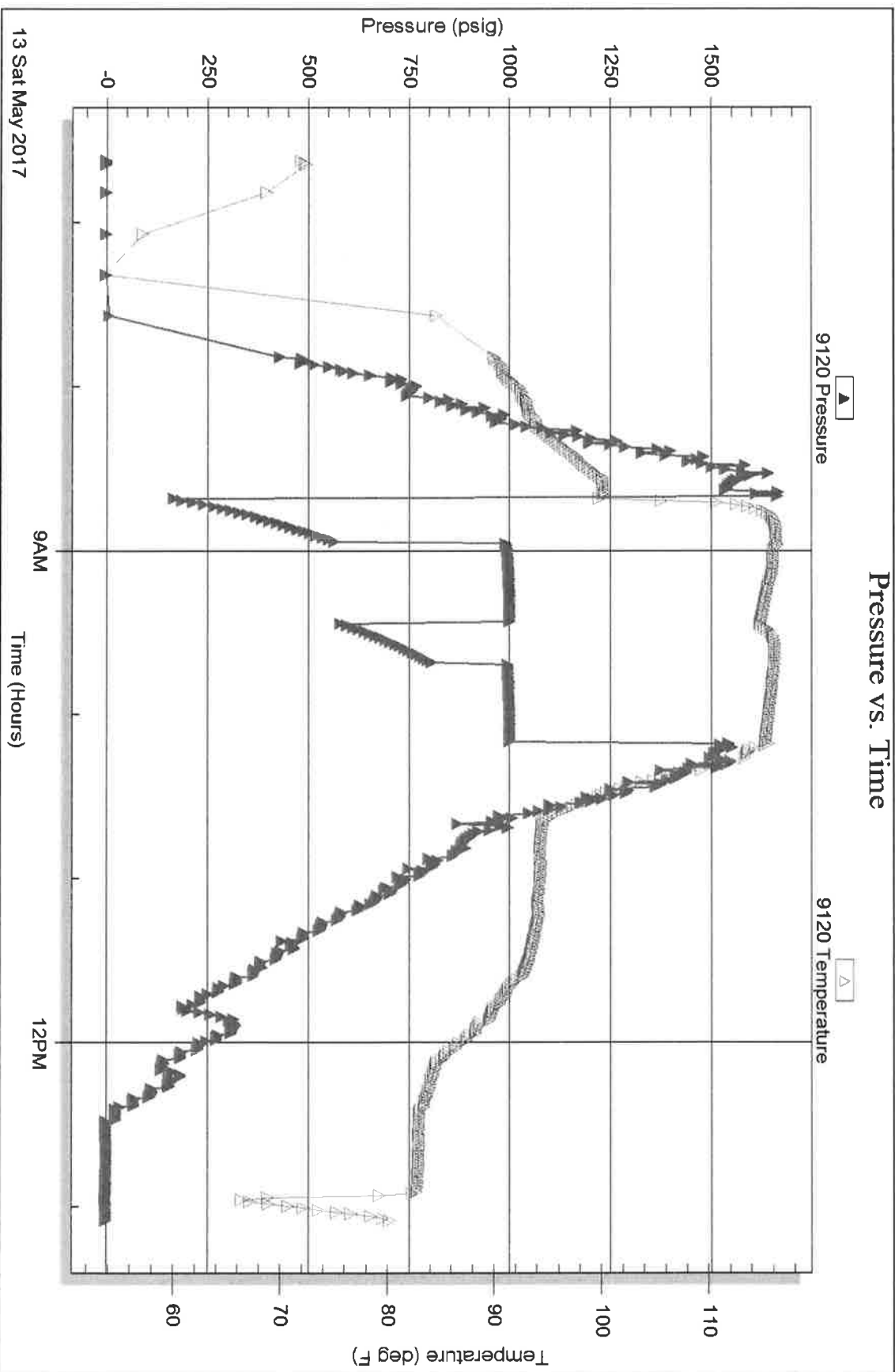
Inside

H&D Exploration LLC

Bieberle #3

DST Test Number: 3

### Pressure vs. Time



13 Sat May 2017

Traffike Testing, Inc

Ref. No: 63214

Printed: 2017.05.13 @ 13:54:04



**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: 63213

**DST#: 2**

ATTN: Jim C. Musgrove

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

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J. Staab

Unit No: 84

**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

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)

Start Date: 2017.05.12

End Date: 2017.05.12

Start Time: 15:13:15

End Time: 20:33:45

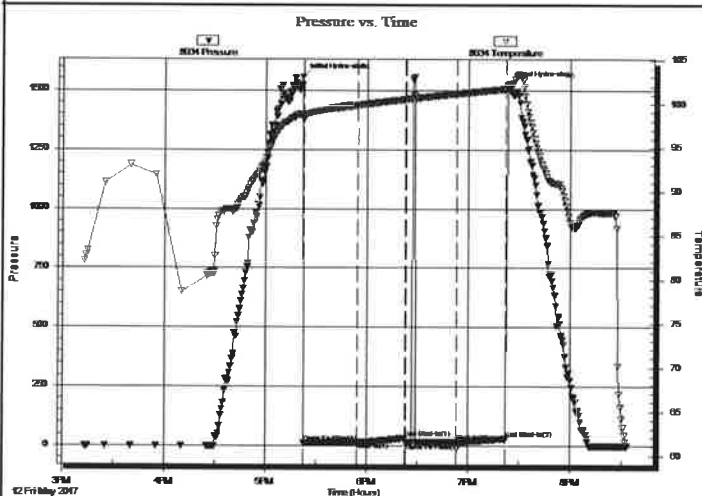
Capacity: 8000.00 psig

Last Calib.: 2017.05.12

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-ISI-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	102.03	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

## FLUID SUMMARY

H&D Exploration LLC

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

PO BOX 387  
Hoisington KS 67544

**Bieberle #3**

Job Ticket: 63213

**DST#: 2**

ATTN: Jim C. Musgrove

Test Start: 2017.05.12 @ 15:13:00

### 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: 42.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 11.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10000.00 ppm

Filter Cake: inches

### Recovery Information

#### Recovery Table

Length ft	Description	Volume bbl
5.00	Mud w /oil specks 100%M	0.070

Total Length: 5.00 ft      Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1&1/2# LCM

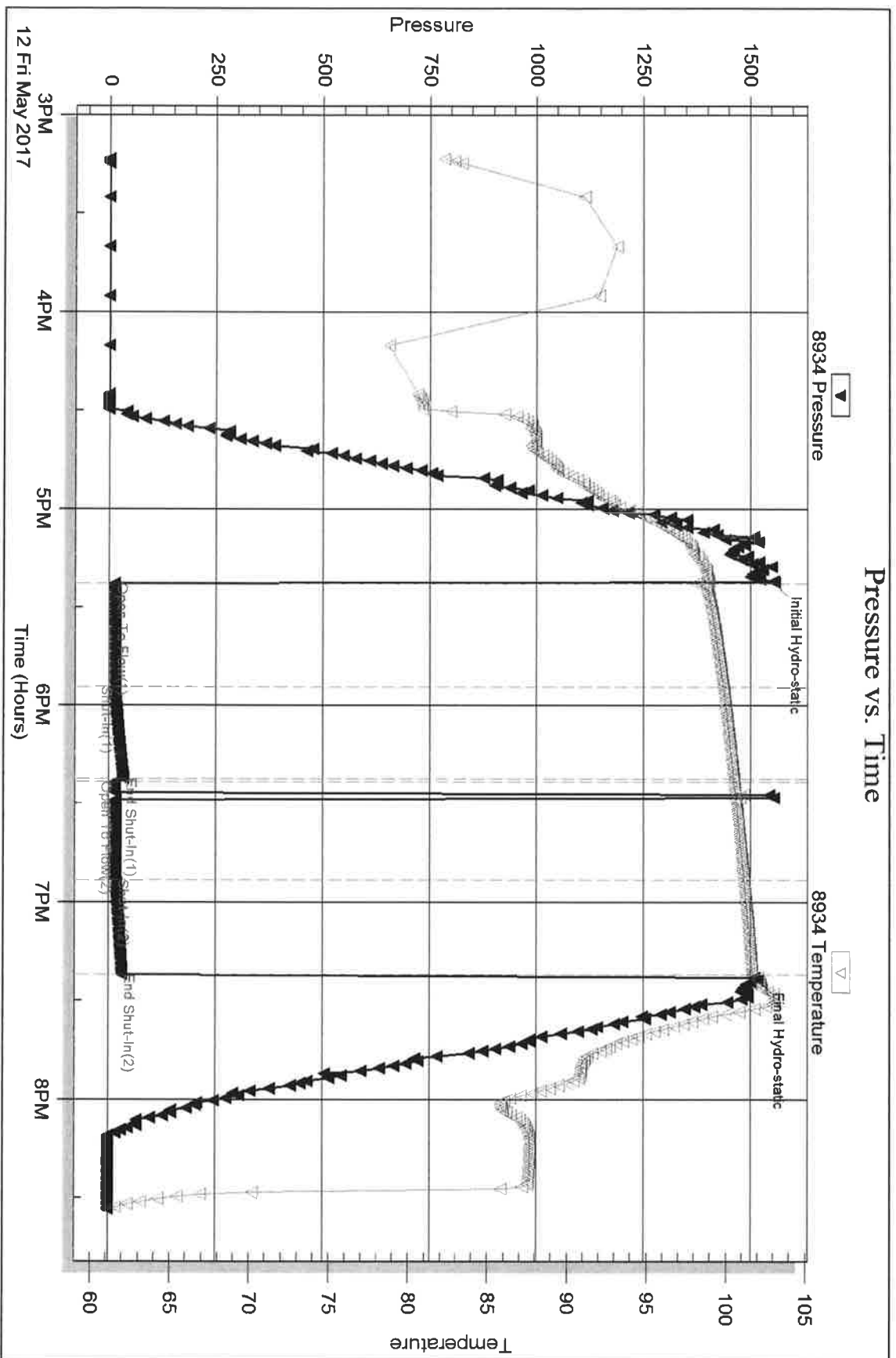
Serial #: 8934

Inside

H&D Exploration LLC

Bieberle #3

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 63213

Printed: 2017.05.13 @ 10:37:32

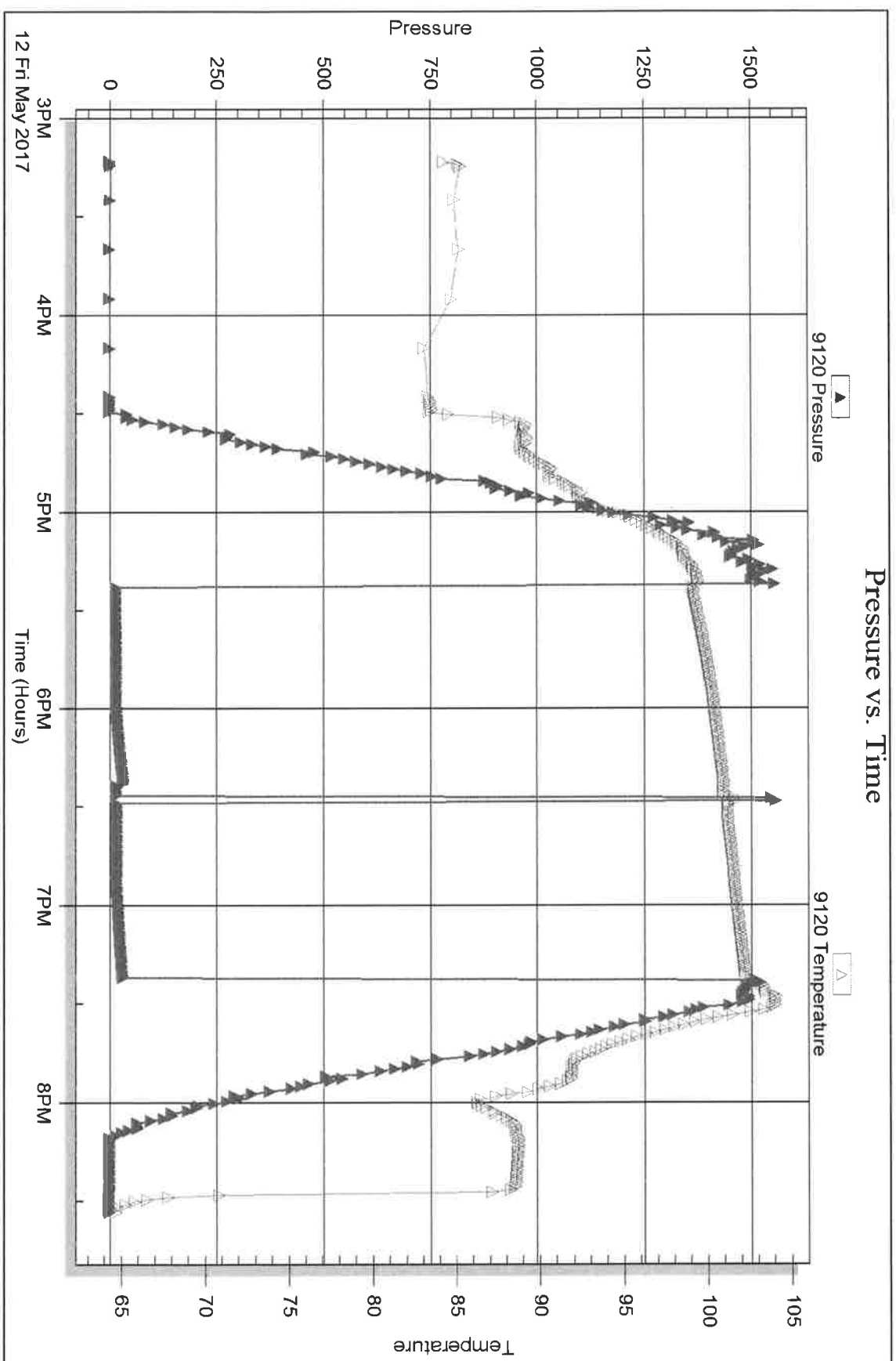
Serial #: 9120

Inside

H&D Exploration LLC

Bieberle #3

DST Test Number: 2







**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: 63212

**DST#: 1**

ATTN: Jim C. Musgrove

Test Start: 2017.05.11 @ 05:59:00

## GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:43:30

Time Test Ended: 12:57:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Spencer J. Staab

Unit No: 84

**Interval: 2880.00 ft (KB) To 2940.00 ft (KB) (TVD)**

Total Depth: 2940.00 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 Inside**

Press@RunDepth: 20.14 psig @ 2887.00 ft (KB)

Start Date: 2017.05.11

End Date: 2017.05.11

Start Time: 05:59:15

End Time: 12:57:45

Capacity: 8000.00 psig

Last Calib.: 2017.05.11

Time On Btm: 2017.05.11 @ 07:43:15

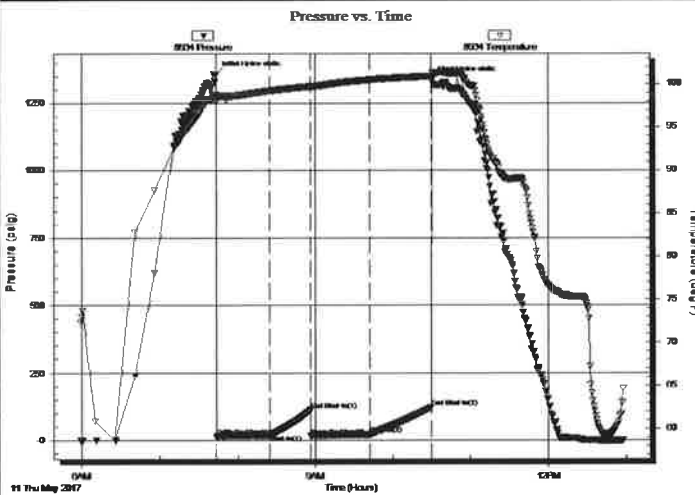
Time Off Btm: 2017.05.11 @ 10:30:30

**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"

45-FSI-No Blow Back



## 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: 63212      **DST#: 1**  
 Test Start: 2017.05.11 @ 05:59:00

**GENERAL INFORMATION:**

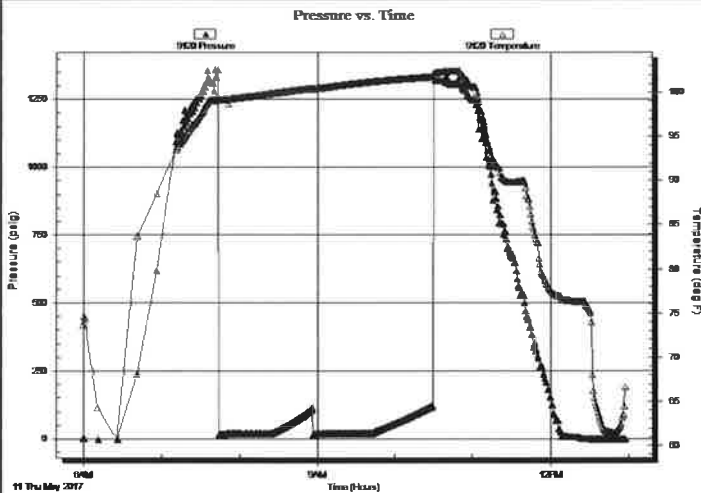
Formation:	<b>Topeka</b>			Test Type:	Conventional Bottom Hole (Initial)
Deviated:	No	Whipstock:	ft (KB)	Tester:	Spencer J. Staab
Time Tool Opened:	07:43:30			Unit No:	84
Time Test Ended:	12:57:45			Reference Elevations:	1922.00 ft (KB)
Interval:	<b>2880.00 ft (KB) To</b>	<b>2940.00 ft (KB) (TVD)</b>			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		

**Serial #: 9120**

**Inside**

Press@RunDepth:	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:	
				Time Off Btm:	

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



**PRESSURE SUMMARY**

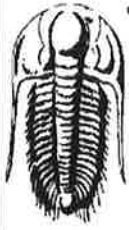
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

**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

**FLUID SUMMARY**

H&D Exploration LLC

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

PO BOX 387  
Hoisington KS 67544

**Bieberle #3**

Job Ticket: 63212

**DST#: 1**

ATTN: Jim C. Musgrove

Test Start: 2017.05.11 @ 05:59:00

## 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: 40.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
25.00	Mud w /scum oil 1%O 99%M	0.351

Total Length: 25.00 ft      Total Volume: 0.351 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2&1/2# LCM

Serial #: 8934

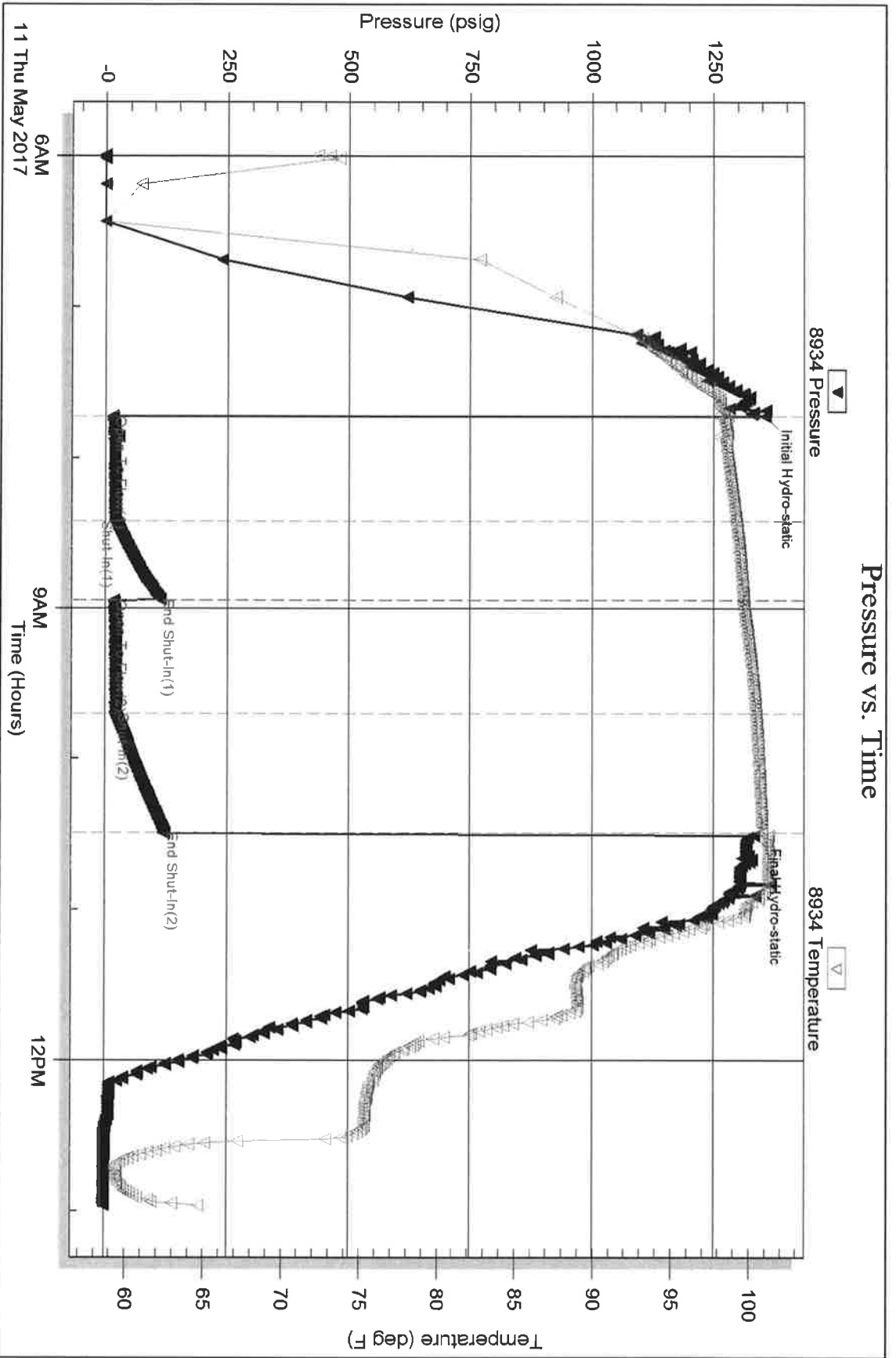
Inside

H&D Exploration LLC

Bieberle #3

DST Test Number: 1

### Pressure vs. Time



Serial #: 9120

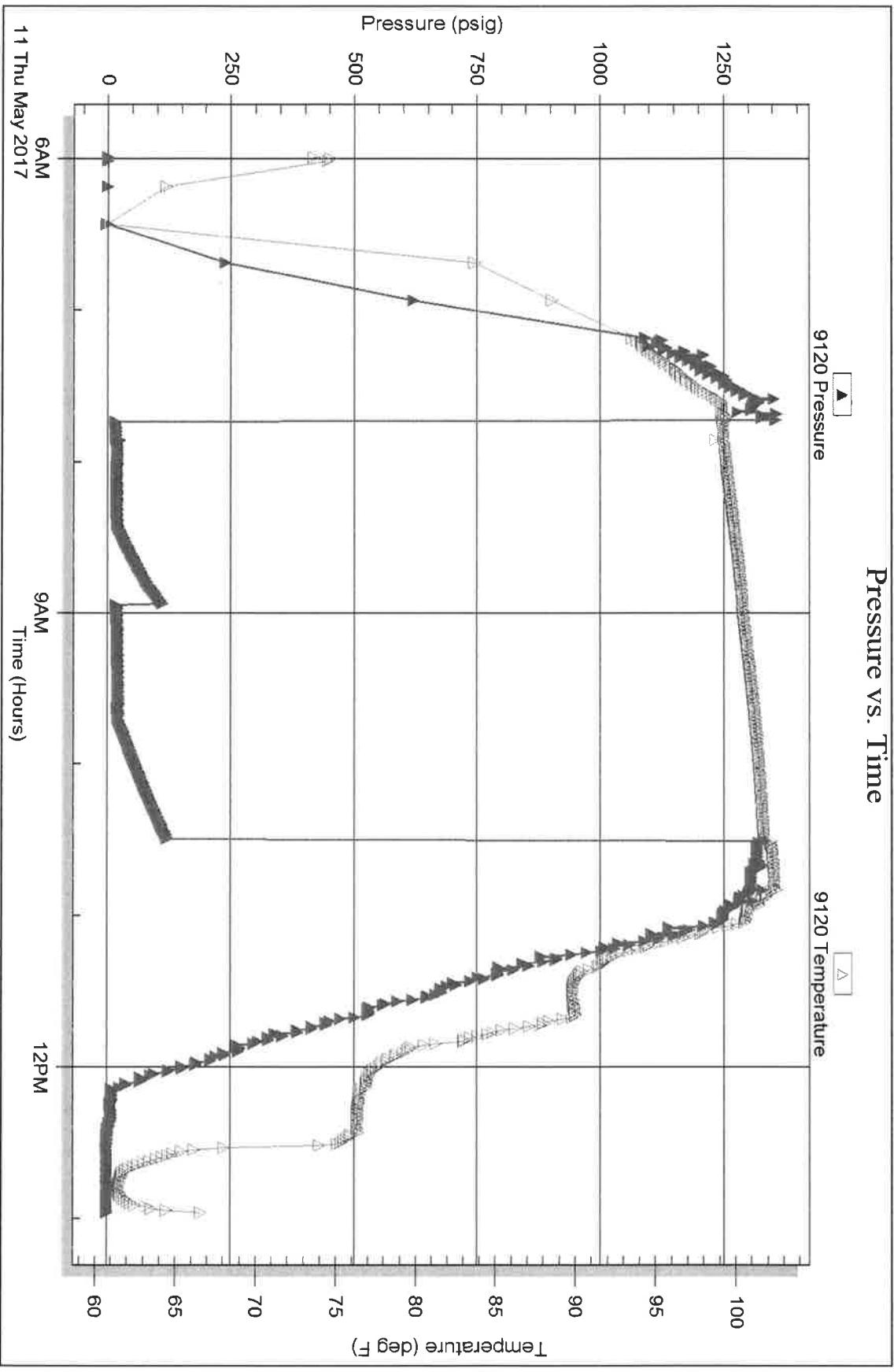
Inside

H&D Exploration LLC

Bieberle #3

DST Test Number: 1

### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 63212

Printed: 2017.05.11 @ 15:50:39