

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

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 Date Reached TD Completion Date or
Recompletion Date Recompletion Date

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: _____

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 <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 Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No 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
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
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> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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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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Form	ACO1 - Well Completion
Operator	Darrah Oil Company, LLC
Well Name	VAN LOENEN 9
Doc ID	1486411

Tops

Name	Top	Datum
Anhydrite	1821	+504
Heebner	3504	-1179
Toronto	3529	-1204
Lansing	3545	-1220
Muncie Creek	3664	-1339
Stark	3723	-1398
Hushpuckney	3741	-1416
BKC	3752	-1427
Arbuckle	3870	-1545



HURRICANE SERVICES INC

Remit To: Hurricane Services, Inc.
250 N. Water, Suite 200
Wichita, KS 67202
316-303-9515

U56072

Customer:
DARRAH OIL
C/O JOHN JAY DARRAH JR
PO BOX 2786
WICHITA, KS 67201-2786

Invoice Date: 9/5/2019
Invoice #: 0343623
Lease Name: Van Loenen
Well #: 9
County: Graham
Job Number: ICT2338

Date/Description	HRS/QTY	Rate	Total
Surface	0.000	0.000	0.00
Cement pump 208	1.000	637.500	637.50
Heavy Eq Mileage	60.000	3.400	204.00
Light Eq Mileage	60.000	1.700	102.00
Ton Mileage	490.000	1.275	624.75
H-325	160.000	17.000	2,720.00

82300/800

PAID	
CK. NO. <i>12081</i>	DATE <i>11/20/19</i>

Total 4,288.25

TERMS: Net 30 days. Interest may be charged on past due invoice at rate of 1 ½% per month or maximum allowed by applicable state or federal laws. HSI has right to revoke any discounts applied in arriving at net invoice price if invoice is past due. If revoked, full invoice price without discount plus additional sales tax, as applicable, is due immediately and subject to interest charges. Customer agrees to pay all collection costs directly or indirectly incurred by HSI in the event HSI engages a third party to pursue collection of past due invoice.

SALES TAX: Services performed on oil, gas and water wells in Kansas are subject to sales tax, with certain exceptions. HSI relies on the well information provided by the customer in identifying whether the services performed on wells qualify for exemption.

WE APPRECIATE YOUR BUSINESS!



HURRICANE SERVICES INC

Remit To: Hurricane Services, Inc.
250 N. Water, Suite 200
Wichita, KS 67202
316-303-9515

V56071

Customer:
DARRAH OIL
C/O JOHN JAY DARRAH JR
PO BOX 2786
WICHITA, KS 67201-2786

Invoice Date: 9/11/2019
Invoice #: 0343624
Lease Name: Van Loenen
Well #: 9
County: Graham
Job Number: ICT2371

Date/Description	HRS/QTY	Rate	Total
Plug to Abandon	0.000	0.000	0.00
Pump truck #209	1.000	637.500	637.50
Heavy Eq Mileage	60.000	3.400	204.00
Light Eq Mileage	60.000	1.700	102.00
Ton Mileage	821.000	1.275	1,046.78
H-Plug	305.000	11.050	3,370.25
Wooden plug 8 5/8"	1.000	127.500	127.50

~~82900/300~~
83900/300

PAID	
CK. NO.	DATE
12081	11/20/19

Net Invoice	5,488.03
Sales Tax:	262.07
Total	5,750.10

TERMS: Net 30 days. Interest may be charged on past due invoice at rate of 1 1/2% per month or maximum allowed by applicable state or federal laws. HSI has right to revoke any discounts applied in arriving at net invoice price if invoice is past due. If revoked, full invoice price without discount plus additional sales tax, as applicable, is due immediately and subject to interest charges. Customer agrees to pay all collection costs directly or indirectly incurred by HSI in the event HSI engages a third party to pursue collection of past due invoice.

SALES TAX: Services performed on oil, gas and water wells in Kansas are subject to sales tax, with certain exceptions. HSI relies on the well information provided by the customer in identifying whether the services performed on wells qualify for exemption.

WE APPRECIATE YOUR BUSINESS!



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Darrah Oil Company LLC

14-9s-22w Graham KS

125 N Market Suite 1425
Wichita KS 67202+1720

Van Loenen

ATTN: Wyatt Urban

Job Ticket: 65990

DST#: 1

Test Start: 2019.09.09 @ 17:30:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:15:02

Time Test Ended: 01:05:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Spencer J Staab

Unit No: 84

Interval: 3866.00 ft (KB) To 3885.00 ft (KB) (TVD)

Reference Elevations: 2035.00 ft (KB)

Total Depth: 3885.00 ft (KB) (TVD)

2030.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8374

Inside

Press@RunDepth: 1044.54 psig @ 3867.00 ft (KB)

Capacity: psig

Start Date: 2019.09.09

End Date:

2019.09.10

Last Calib.:

2019.09.10

Start Time: 17:30:01

End Time:

01:05:02

Time On Btm:

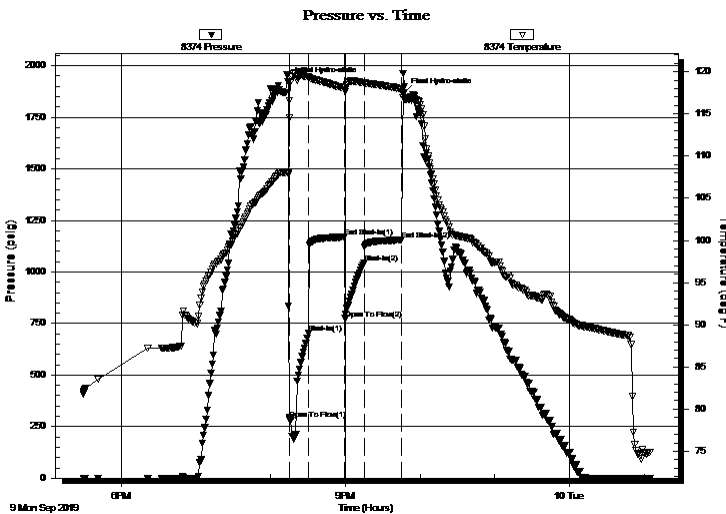
2019.09.09 @ 20:14:02

Time Off Btm:

2019.09.09 @ 21:47:32

TEST COMMENT: 15-IF-BOB 45 secs; Built to 160"
30-ISI-No Return
15-FF-BOB 30 secs; Built to 203"
30-FSI-No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1922.35	108.00	Initial Hydro-static
1	285.93	114.52	Open To Flow (1)
17	701.68	119.37	Shut-In(1)
46	1168.75	118.05	End Shut-In(1)
46	773.73	117.89	Open To Flow (2)
61	1044.54	118.69	Shut-In(2)
92	1155.24	117.90	End Shut-In(2)
94	1869.69	116.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1950.00	MCW 10%M 90%W	27.36
450.00	MW scum oil 40%M 60%W	6.38

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Darrah Oil Company LLC

14-9s-22w Graham KS

125 N Market Suite 1425
Wichita KS 67202+1720

Van Loenen

Job Ticket: 65990

DST#: 1

ATTN: Wyatt Urban

Test Start: 2019.09.09 @ 17:30:00

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:

22500 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1950.00	MCW 10%M 90%W	27.364
450.00	MW scum oil 40%M 60%W	6.379

Total Length: 2400.00 ft Total Volume: 33.743 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2&1/2#LCM

Serial #: 8374

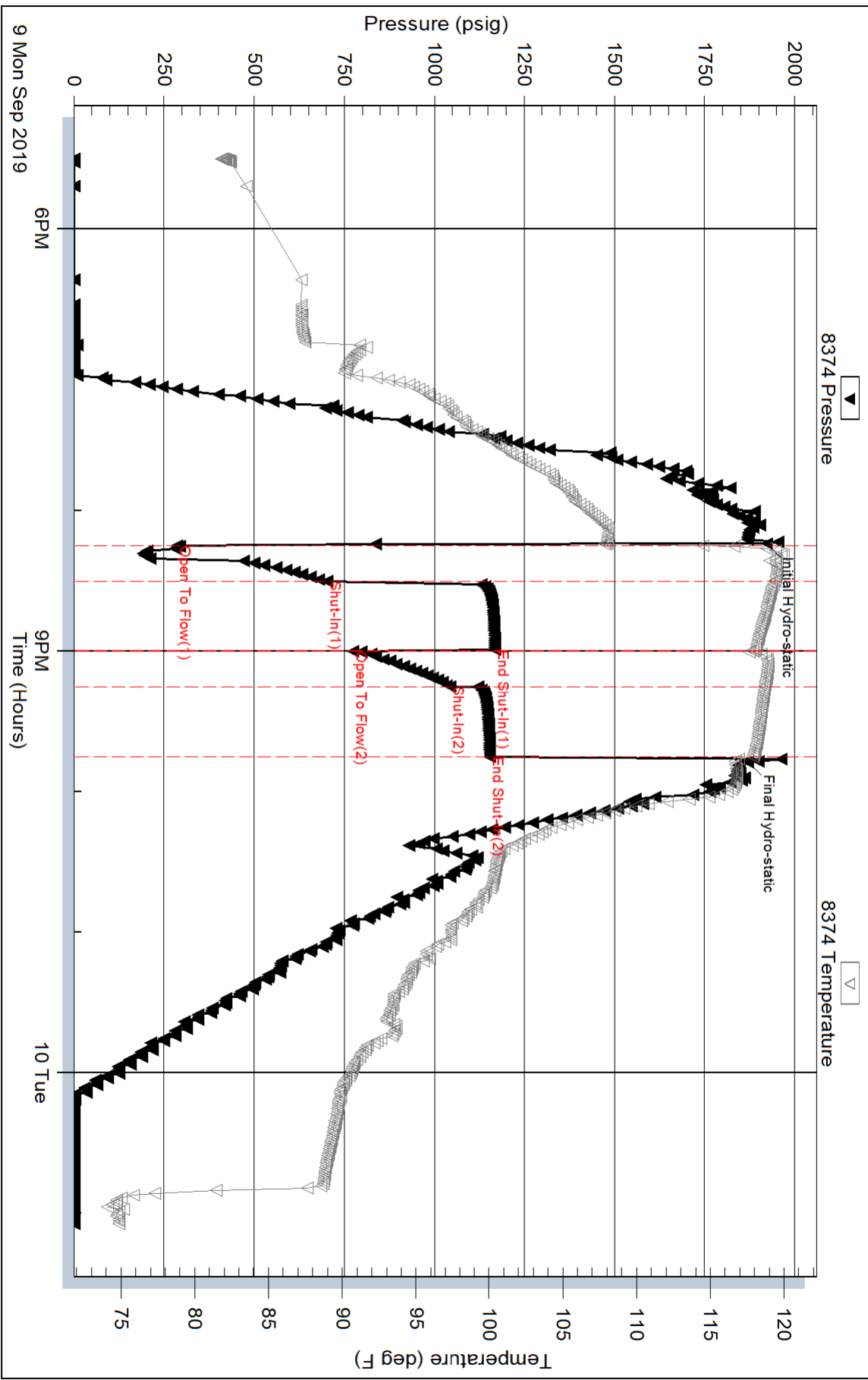
Inside

Darrah Oil Company LLC

Van Loenen

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 65990

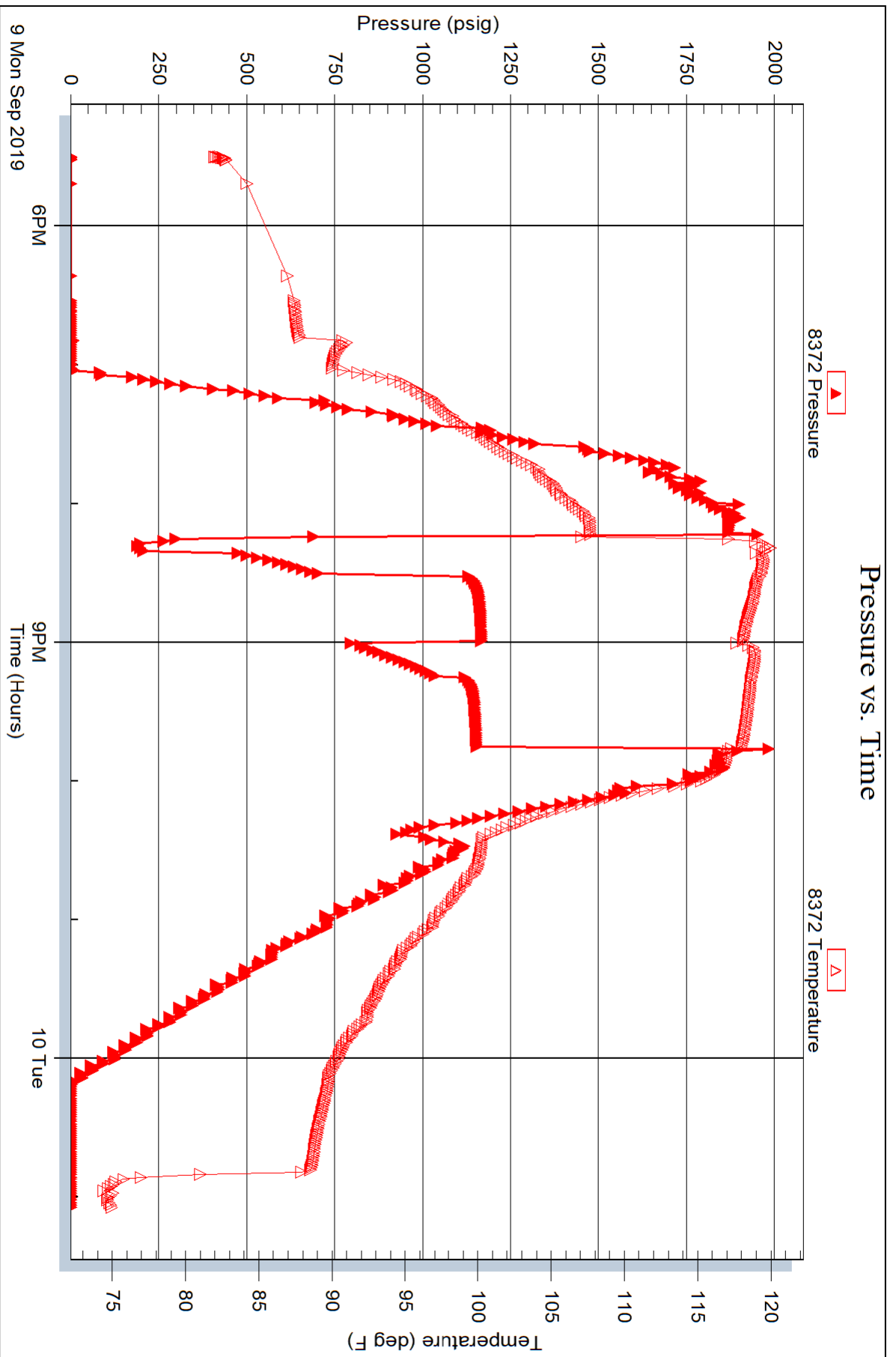
Printed: 2019.09.10 @ 06:54:39

Serial #: 8372

Outside Darrah Oil Company LLC

Van Loenen

DST Test Number: 1





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Darrah Oil Company LLC

14-9s-22w Graham KS

125 N Market Suite 1425
Wichita KS 67202+1720

Van Loenen

ATTN: Wyatt Urban

Job Ticket: 65991

DST#: 2

Test Start: 2019.09.10 @ 14:00:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:01:02

Time Test Ended: 18:49:17

Test Type: Conventional Straddle (Reset)

Tester: Spencer J Staab

Unit No: 84

Interval: 3866.00 ft (KB) To 3875.00 ft (KB) (TVD)

Reference Elevations: 2035.00 ft (KB)

Total Depth: 3935.00 ft (KB) (TVD)

2030.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8372

Inside

Press@RunDepth: 36.65 psig @ 3867.00 ft (KB)

Capacity: psig

Start Date: 2019.09.10

End Date:

2019.09.10

Last Calib.:

2019.09.10

Start Time: 14:00:01

End Time:

18:49:17

Time On Btm:

2019.09.10 @ 16:00:47

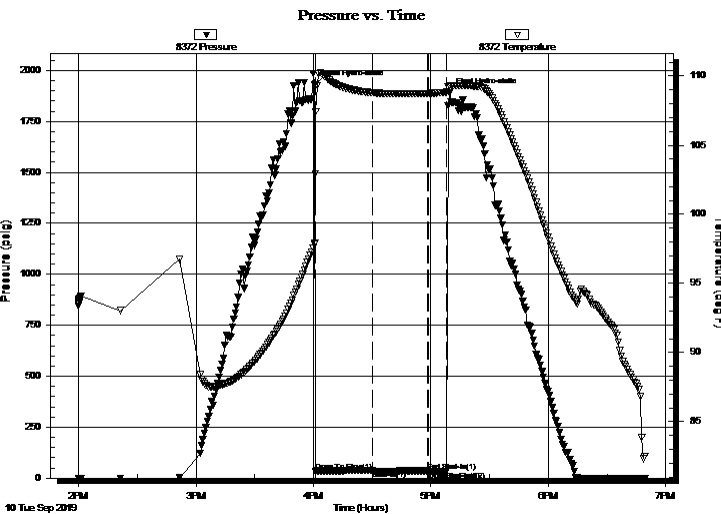
Time Off Btm:

2019.09.10 @ 17:09:32

TEST COMMENT: 30-IF-Weak; 2" Died to 3/4"

30-ISI-No Return

5-FF-No Blow ; Pulled Tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1931.91	97.93	Initial Hydro-static
1	32.86	102.93	Open To Flow (1)
30	36.65	108.80	Shut-In(1)
58	35.09	108.75	End Shut-In(1)
58	32.90	108.75	Open To Flow (2)
68	34.28	108.85	Shut-In(2)
69	1889.37	109.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	OSM 100%M	0.12

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Darrah Oil Company LLC

14-9s-22w Graham KS

125 N Market Suite 1425
Wichita KS 67202+1720

Van Loenen

Job Ticket: 65991

DST#: 2

ATTN: Wyatt Urban

Test Start: 2019.09.10 @ 14:00:00

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:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
25.00	OSM 100%M	0.123

Total Length: 25.00 ft Total Volume: 0.123 bbl

Num Fluid Samples: 0

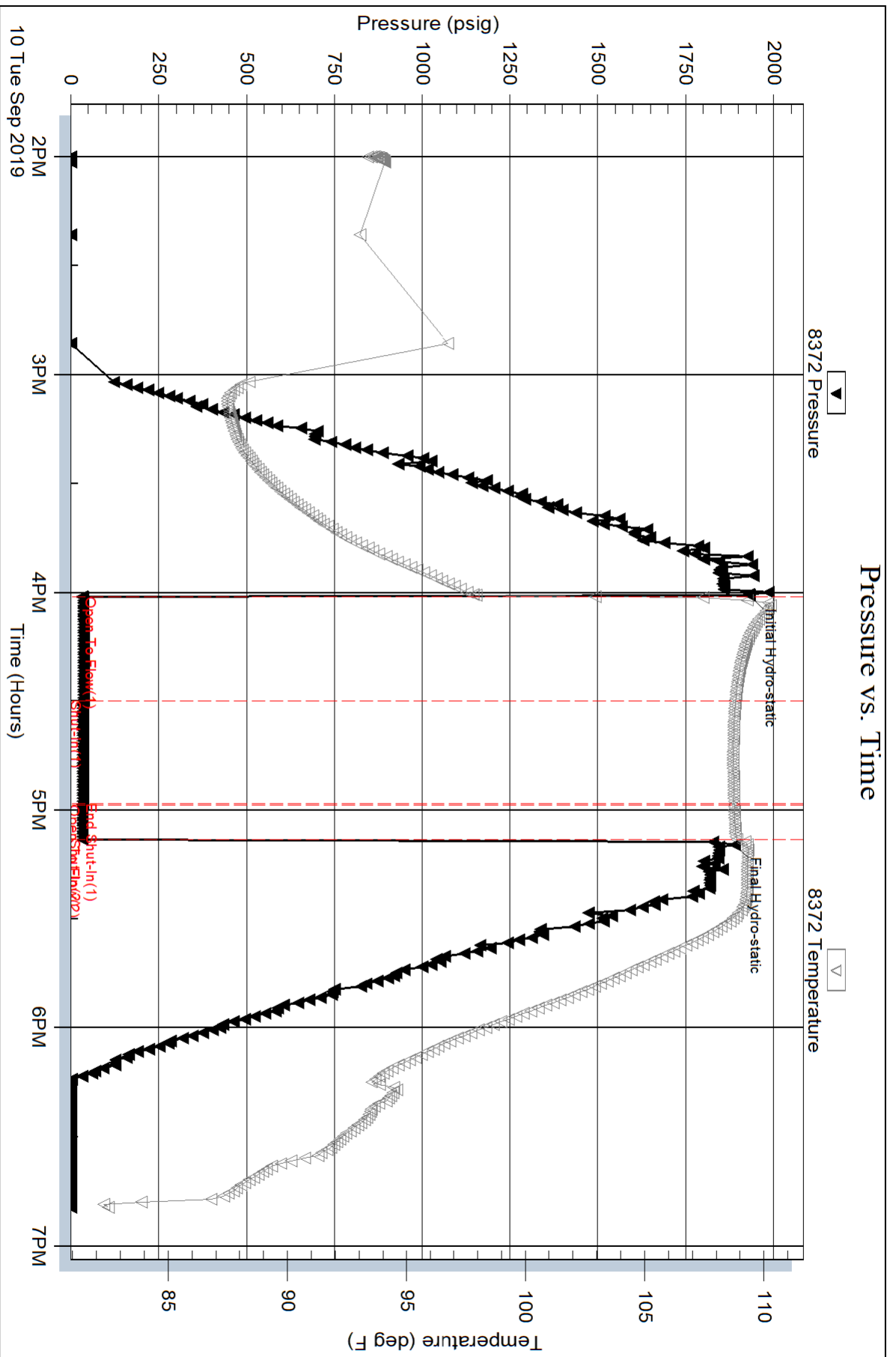
Num Gas Bombs: 0

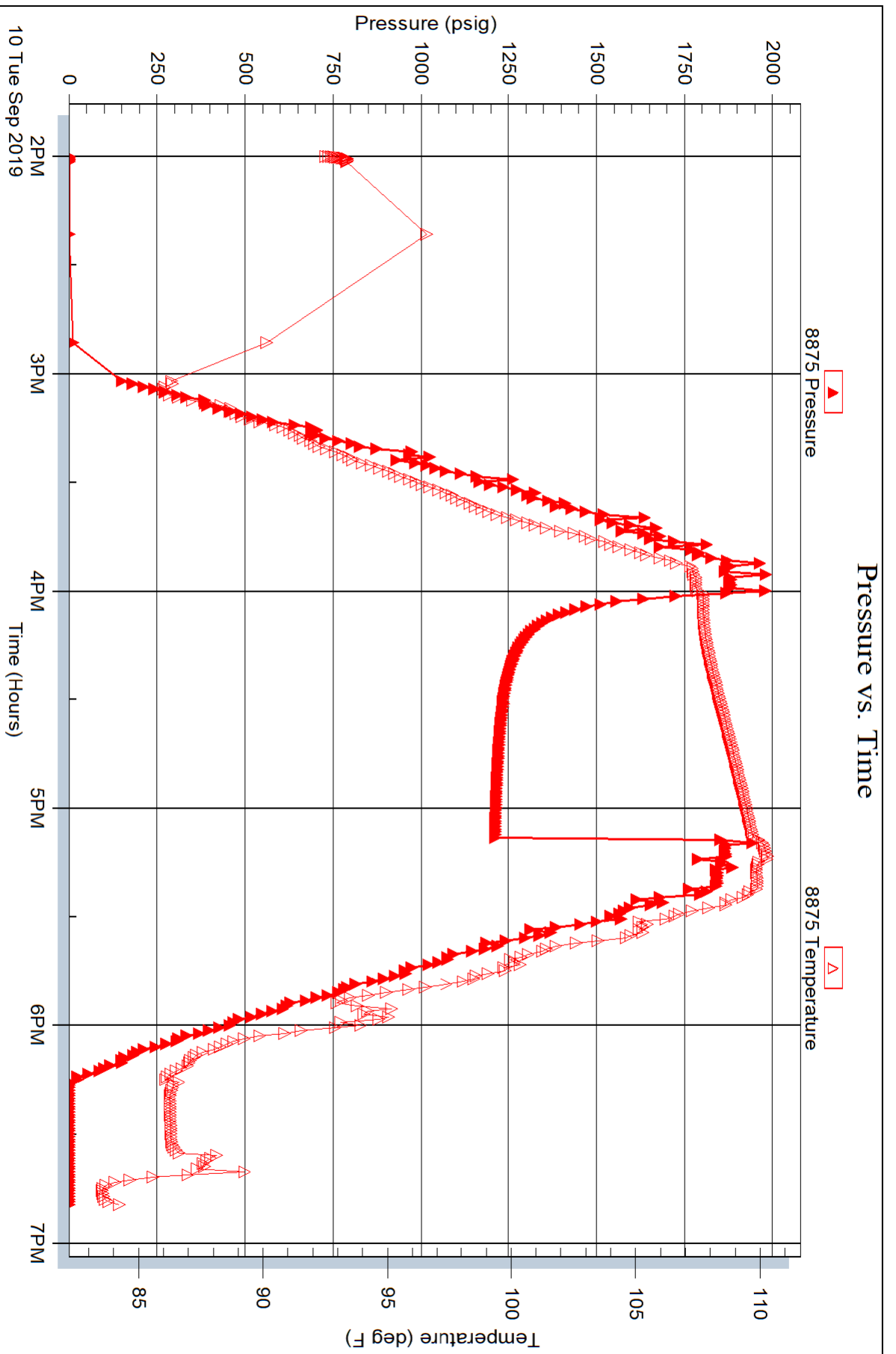
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 3#LCM







TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Darrah Oil Company LLC

14-9s-22w Graham KS

125 N Market Suite 1425
Wichita KS 67202+1720

Van Loenen

Job Ticket: 65992

DST#: 3

ATTN: Wyatt Urban

Test Start: 2019.09.10 @ 19:15:00

GENERAL INFORMATION:

Formation: **LKC 'C'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:22:47

Time Test Ended: 01:18:02

Test Type: Conventional Straddle (Reset)

Tester: Spencer J Staab

Unit No: 84

Interval: 3568.00 ft (KB) To 3590.00 ft (KB) (TVD)

Reference Elevations: 2035.00 ft (KB)

Total Depth: 3925.00 ft (KB) (TVD)

2030.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8374

Inside

Press@RunDepth: 168.36 psig @ 3569.00 ft (KB)

Capacity: psig

Start Date: 2019.09.10

End Date:

2019.09.11

Last Calib.:

2019.09.11

Start Time: 19:15:01

End Time:

01:18:02

Time On Btm:

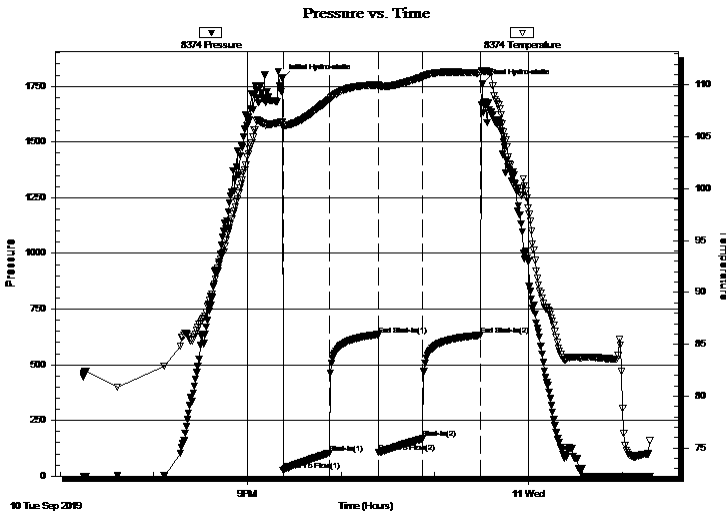
2019.09.10 @ 21:22:32

Time Off Btm:

2019.09.10 @ 23:30:32

TEST COMMENT: 30-IF-BOB 15 mins; Built to 14"
30-ISI-No Return
30-FF-BOB 22 mins; Built to 12"
30-FSI-No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1784.53	106.43	Initial Hydro-static
1	24.70	105.94	Open To Flow (1)
30	103.93	108.58	Shut-In(1)
62	635.36	109.99	End Shut-In(1)
62	106.83	109.91	Open To Flow (2)
90	168.36	110.79	Shut-In(2)
127	632.66	111.20	End Shut-In(2)
128	1760.13	111.41	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
260.00	MCW 10%M 90%W	3.41
120.00	MW w /oil spots 50%M 50%W	1.70

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Darrah Oil Company LLC

14-9s-22w Graham KS

125 N Market Suite 1425
Wichita KS 67202+1720

Van Loenen

Job Ticket: 65992

DST#: 3

ATTN: Wyatt Urban

Test Start: 2019.09.10 @ 19:15:00

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:

27000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
260.00	MCW 10%M 90%W	3.408
120.00	MW w/oil spots 50%M 50%W	1.701

Total Length: 380.00 ft Total Volume: 5.109 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

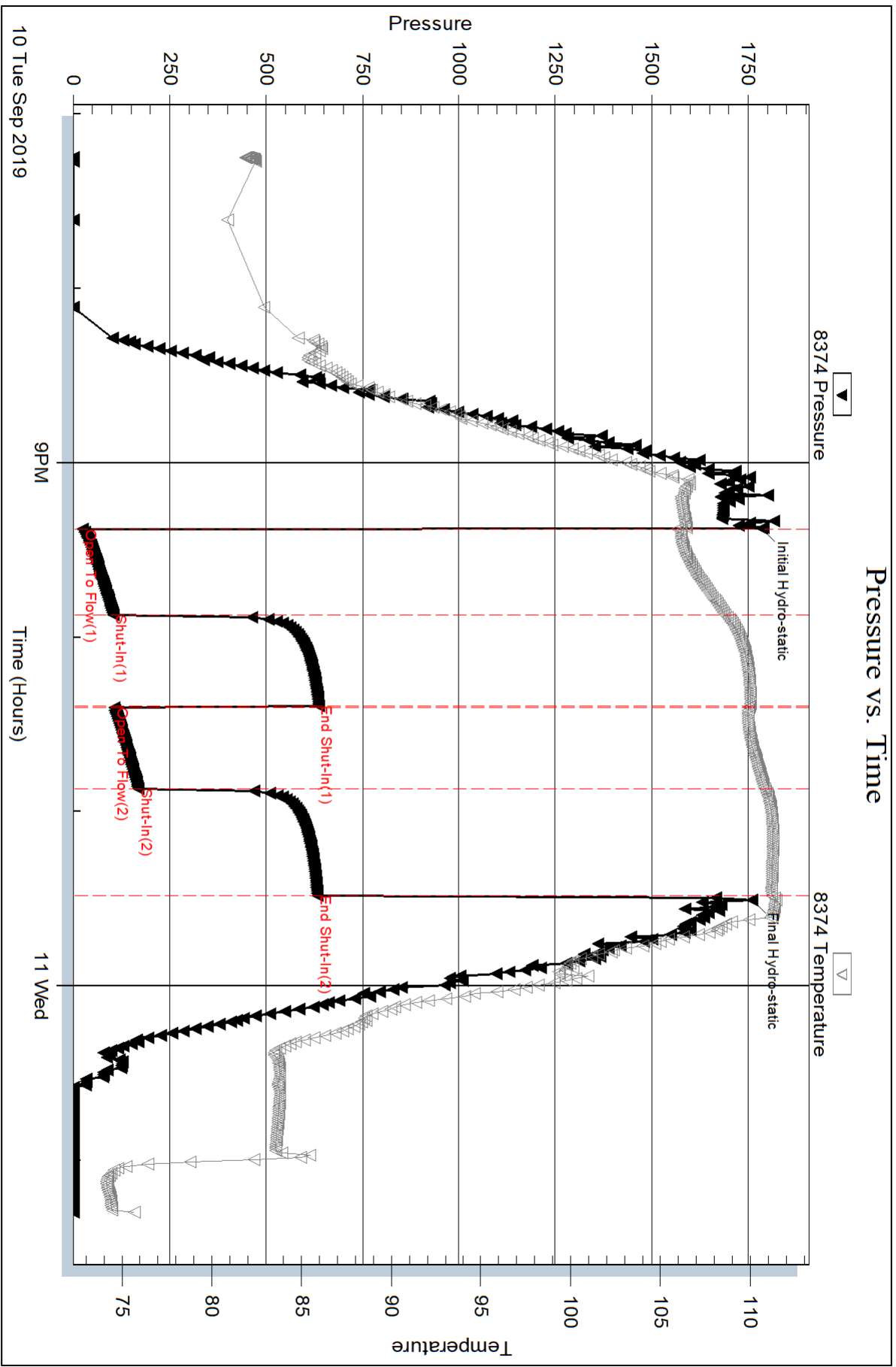
Serial #:

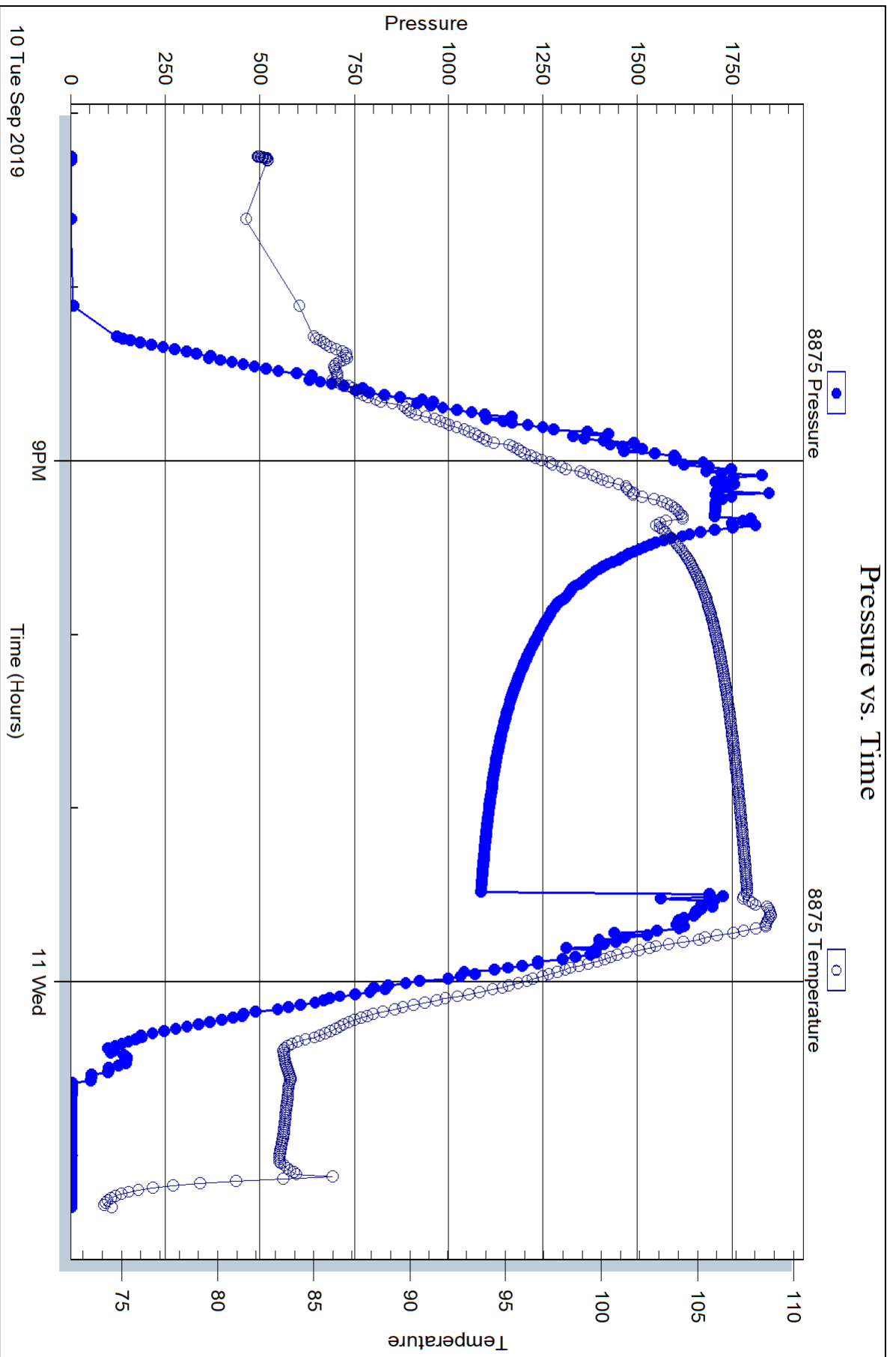
Laboratory Name:

Laboratory Location:

Recovery Comments: 3#LCM

RW=.229@74F







TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Darrah Oil Company LLC

14-9s-22w Graham KS

125 N Market Suite 1425
Wichita KS 67202+1720

Van Loenen

ATTN: Wyatt Urban

Job Ticket: 65993

DST#: 4

Test Start: 2019.09.11 @ 01:35:00

GENERAL INFORMATION:

Formation: **Lwr Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:22:32

Time Test Ended: 05:42:17

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J Staab

Unit No: 84

Interval: 3896.00 ft (KB) To 3916.00 ft (KB) (TVD)

Reference Elevations: 2035.00 ft (KB)

Total Depth: 3935.00 ft (KB) (TVD)

2030.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8374

Inside

Press@RunDepth: 753.16 psig @ 3897.00 ft (KB)

Capacity: psig

Start Date: 2019.09.11

End Date:

2019.09.11

Last Calib.:

2019.09.11

Start Time: 01:35:01

End Time:

05:42:17

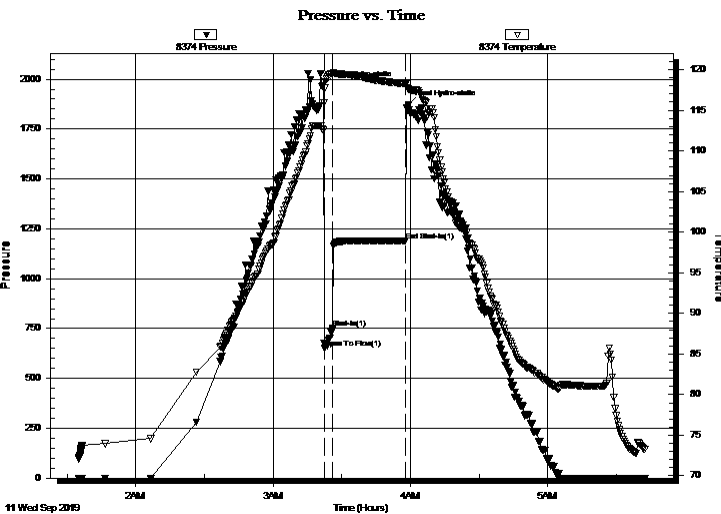
Time On Btm:

2019.09.11 @ 03:21:47

Time Off Btm:

2019.09.11 @ 03:59:02

TEST COMMENT: 5-IF-BOB 10 secs; Built to 95"
30-ISI-No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1967.62	112.54	Initial Hydro-static
1	650.86	117.73	Open To Flow (1)
5	753.16	119.51	Shut-In(1)
36	1189.84	118.24	End Shut-In(1)
38	1869.97	117.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
640.00	MCW 10%M 90%W	8.79
180.00	SWCM 5%W 95%M	2.55

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Darrah Oil Company LLC

14-9s-22w Graham KS

125 N Market Suite 1425
Wichita KS 67202+1720

Van Loenen

Job Ticket: 65993

DST#: 4

ATTN: Wyatt Urban

Test Start: 2019.09.11 @ 01:35:00

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:

24000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
640.00	MCW 10%M 90%W	8.795
180.00	SWCM 5%W 95%M	2.552

Total Length: 820.00 ft Total Volume: 11.347 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 3#LCM

RW=.270@73F

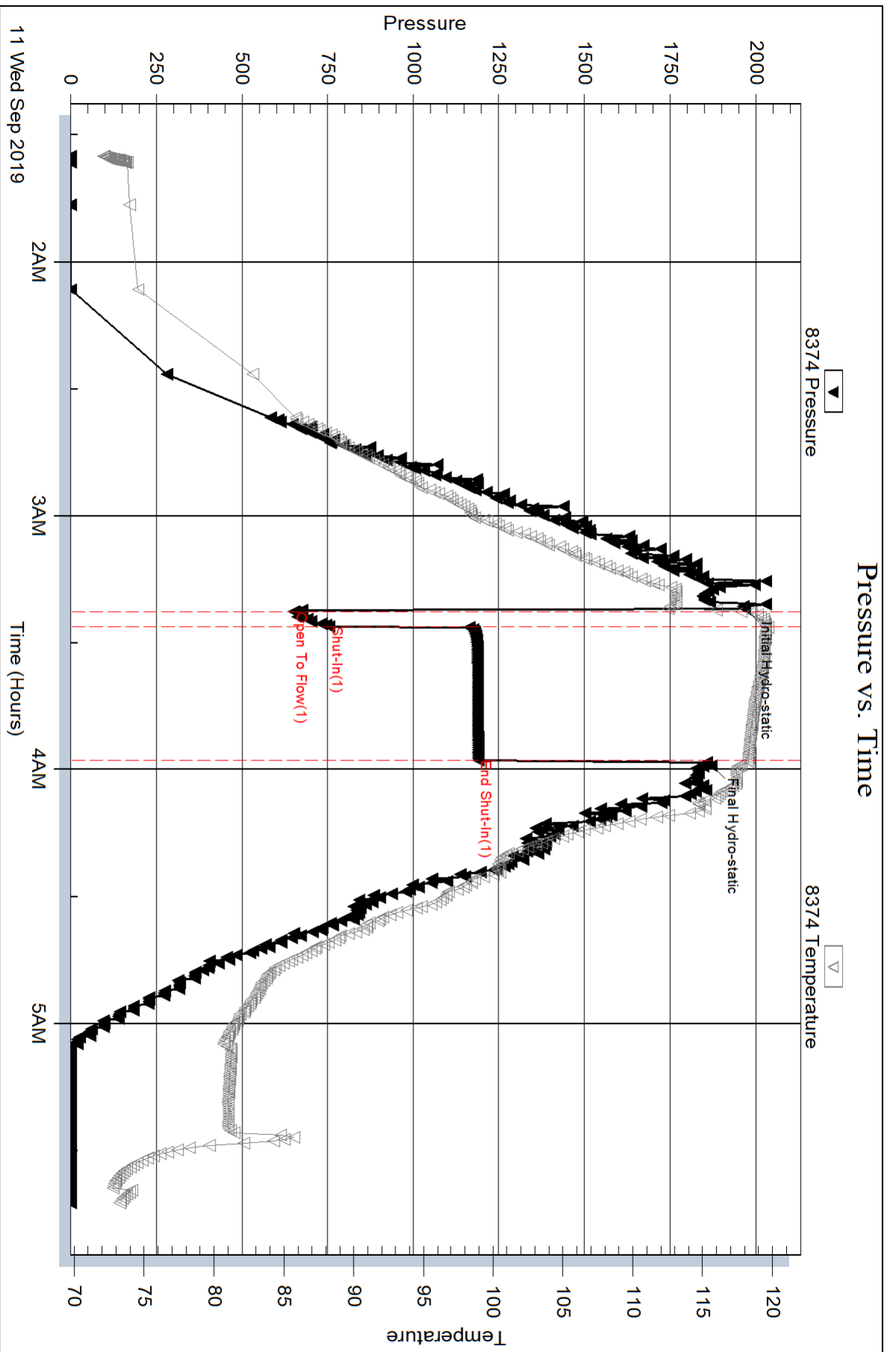
Serial #: 8374

Inside

Darrah Oil Company LLC

Van Loenen

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 65993

Printed: 2019.09.11 @ 08:24:57

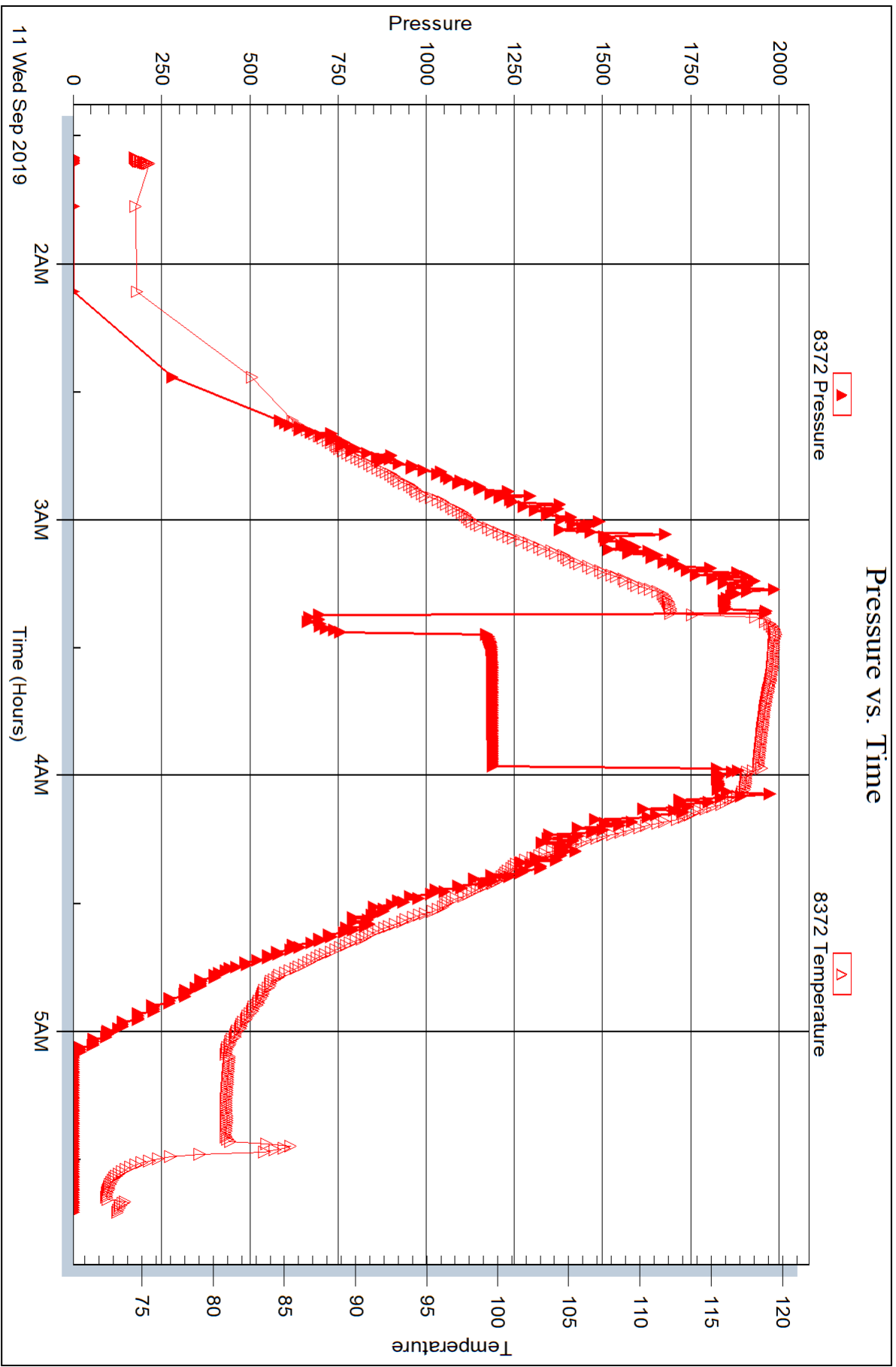
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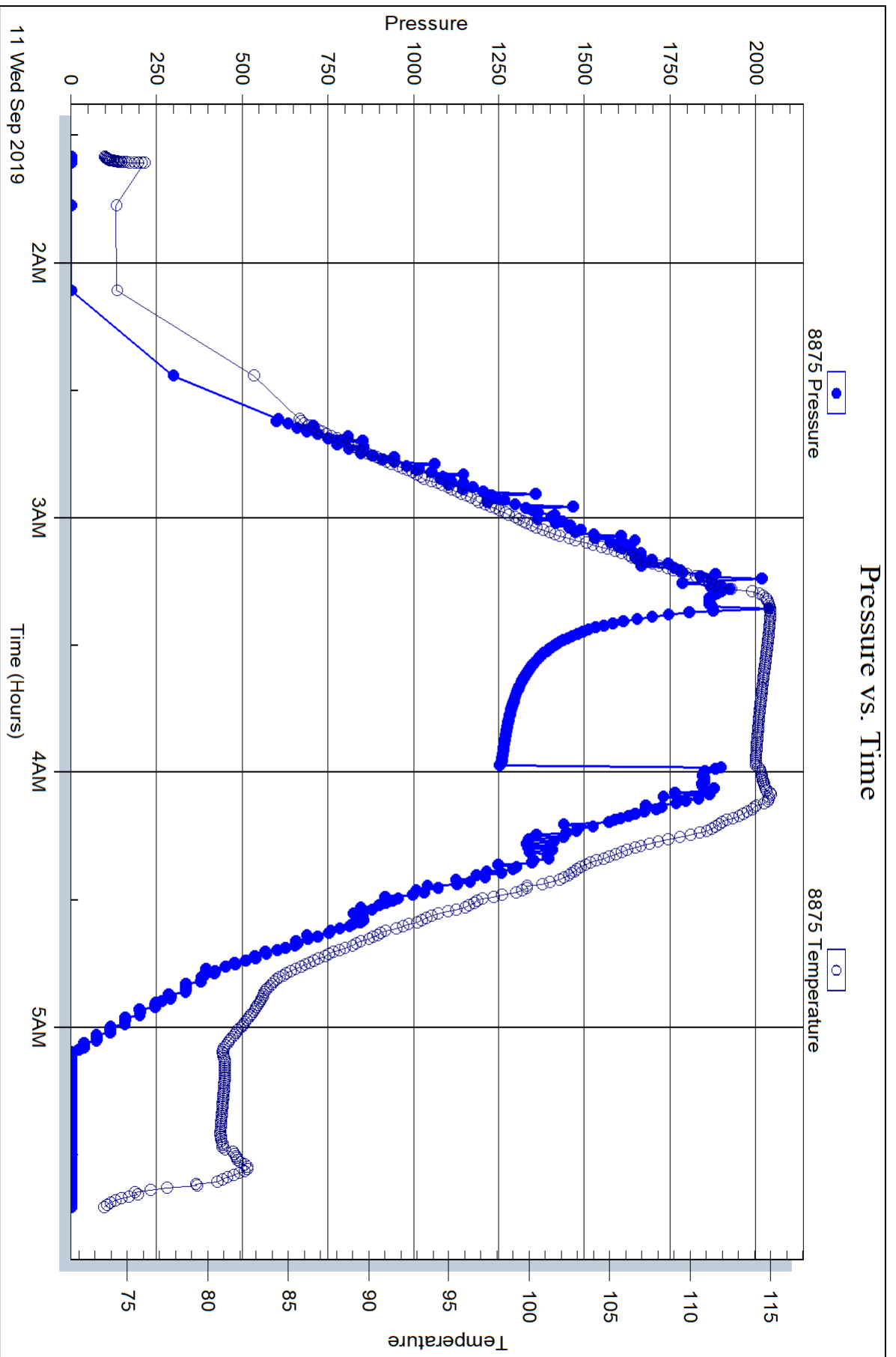
Outside

Darrah Oil Company LLC

Van Loenen

DST Test Number: 4







DRILLING				OIL				OIL						
VAN LOENEN #9				NCRA				NCRA						
VAN LOENE #9				Van Loenen #5				VAN LOENEN #2						
14-9-22				SW-NE-NE 14-9S-22W				NE-NE-NE 14-9S-22W						
COL	2255	R.H	2255	R.H	2292				R.H	2319				
LOG		SAMPLE		LOG		LOG		SAMPLE		LOG		SAMPLE		
FORMATION	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.		
ANHYDRITE TOP			822	503	790	502			+	1			+	4
ANHYDRITE BASE			1857	458										
HEAVY SHALE	3504	-179	3905	-180	3470	-178	-	1	-	2	3505	-186	+	7
TORONTO	3528	-1203	3625	-1200	3495	-1204	+	1	+	4				
LANSING	3545	-1220	3536	-1213	3503	-1221	+	1	+	8	3544	-1225	+	5
BEC	3736	-1431	3737	-1432	3724	-1432	+	1	+	0	3738	-1439	+	8
ARBICOLA	3870	-1545	3878	-1583	3843	-1581	+	6	-	2	3871	-1582	+	7
ETD	3935	-1680	3934	-1609	3846	-1554	-	56	-	55	3875	-1556	-	54

ROCK TYPES

Dolprim	Lmst fw<7	shale, gry	shale, red
sdy lms	shale, grn	Carbon Sh	Ss

ACCESSORIES

STRINGER
 Chert
 green shale

OTHER SYMBOLS

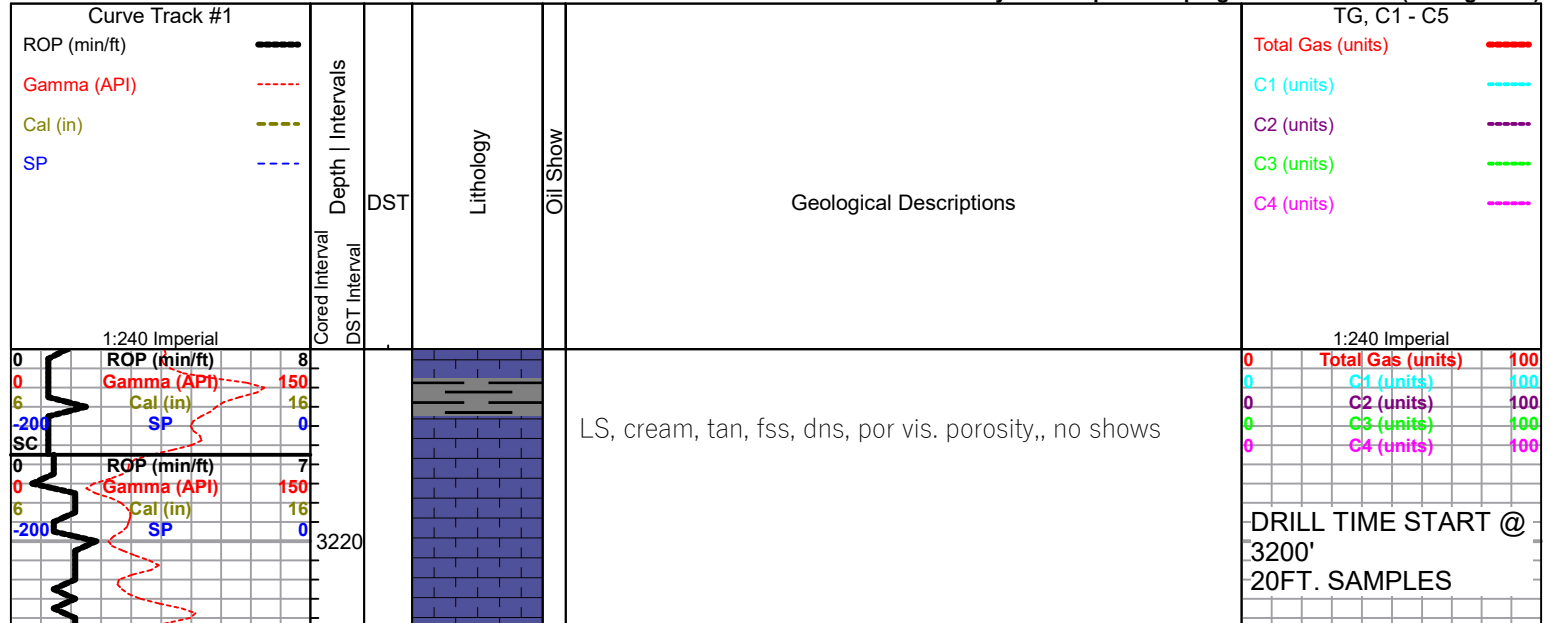
Oil Show

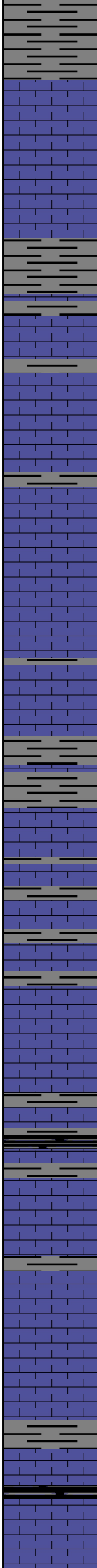
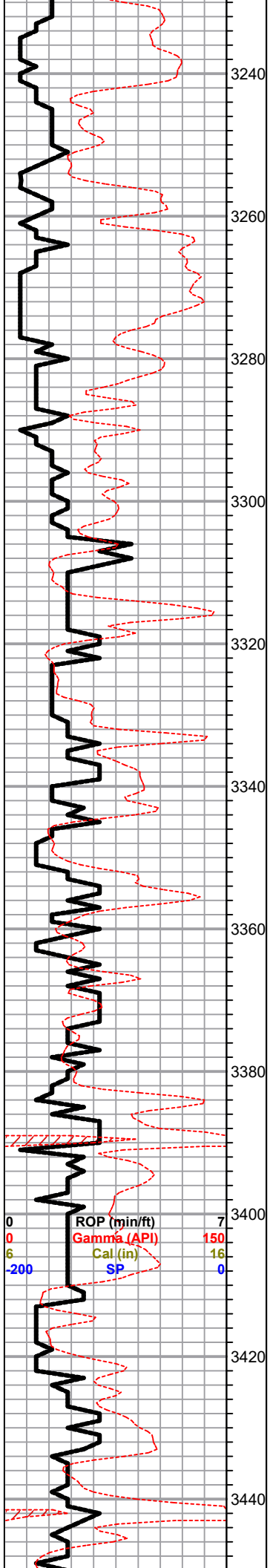
- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Stn
- D Dead Oil Stn
- Fluorescence
- * Gas

DST

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

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Sh, gry, greenish, soft silty

LS, tan, brn, foss, cherty, no shows, no odor

Sh, a/a, tr. sd. gry, f- med grain, sub rounded, good inner gran. porosity no shows

LS wht, crm, foss, poor visible porosity, chalky in pts, no shows

LS, a/a, tr. dens poor vis porosity, sl. chalky, no shows,

Slug dk, gry - blk sh.

LS, tan buff, foss, por vis. porosity, sl. chalky, no shows,
Tr. gry silty brn / gry sh.
slug of black carb sh

LS, foss, fair p.p. porosity in pts, tr. blk flakey discoloration , nsfo,

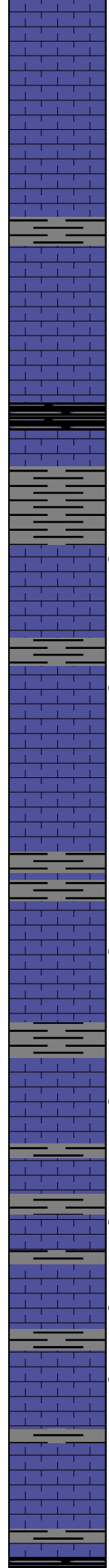
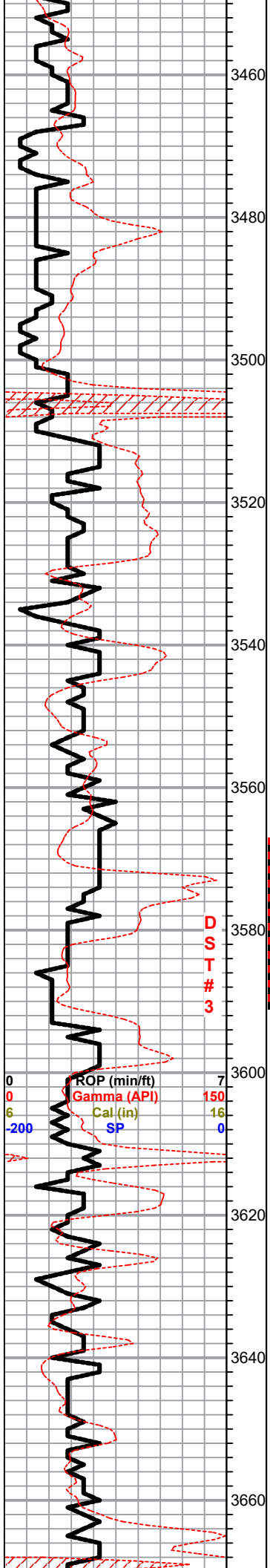
LS , tan , foss, chalky, no shows, . white, opaque cherts,
abd. blk shale.

LS, tan, gran, poorly developed, no shows, v. chalky, tr. cherts, a/a

START OF 10' SAMPLES @ 3400'

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

ROP (min/ft) 7
Gamma (API) 150
Cal (in) 16
SP 0



LS, tan, dol., p.p. porosity, chalky, no shows, tr. white chalk

LS, tan, foss, chalky, poor vis. porosity, sl. chalky, no shows, tr. white chalk

LS, tan, white, fxl, dense, poor vis. porosity, dense, no shows, no odor

LS, tan, white, fxl, dense, cherty in pts, fos,

HEEBNER 3505.0 (-1180.0) 3504.0 (-1179.0)

Slug black carb sh.

LS tan, brn, gry, fxl, dense, LS,

TORONTO 3525.0 (-1205.0) 3528.0 (-1203.0)

LS, tan, crm white, foss, / dolomitic, fair inxln porosity, tr. br spty stain, tr. wk spty sfo, no odor

slug gry greenish sh. silty soft

LANSING 3538.0 (-1213.0) 3545.0 (-1220.0)

LS, white, cream, dol., fair inxln por. tr. blk spty stain, tr. viscous / tarry, spty sfo, no odor

LS white, cream, foss, chalky, poor vis. poor. no shows

LS, cream, white, dense, poor vis. porosity, no shows

Slug gry silty soft shale

LS, white crm, foss/ ool, fair p.p. porosity, tr. brn, stain, v. weak. spty sfo, no odor

Tr. gry silty sh.

LS, white cream, foss, scattered porosity, sl. chalky, brn stain, sfo, faint odor

LS, white, cream, f-xln, fair scattered p.p. porosity, sl. chalky, tr. blk heavy stain, nsfo, ?? odor

LS, white scattered vuggy porosity, sl. chalky, dk blk stain, spty sfo, odor

LS. cream/ white, f-xln, few poorly developed ool, poor scattered oom vuggy type porosity, blk stain, dk brn-blk sfo, faint odor, vis. gas bub. in brkn sampes.

LS, white, cream, tan, fxl, dense, cherty nsfo, no odor

MUNCIE CR. 3670.0 (-1345.0) 0.0 (0.0)

DST#3 3568-3590
30-30-30-30

1st Open :
15 mins build to 4"

2nd Open:
BOB 22 mins.

Recovery
120' Muddy Water
W/ oil spots

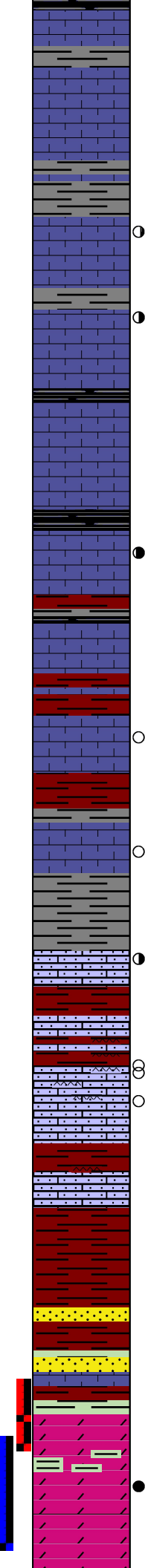
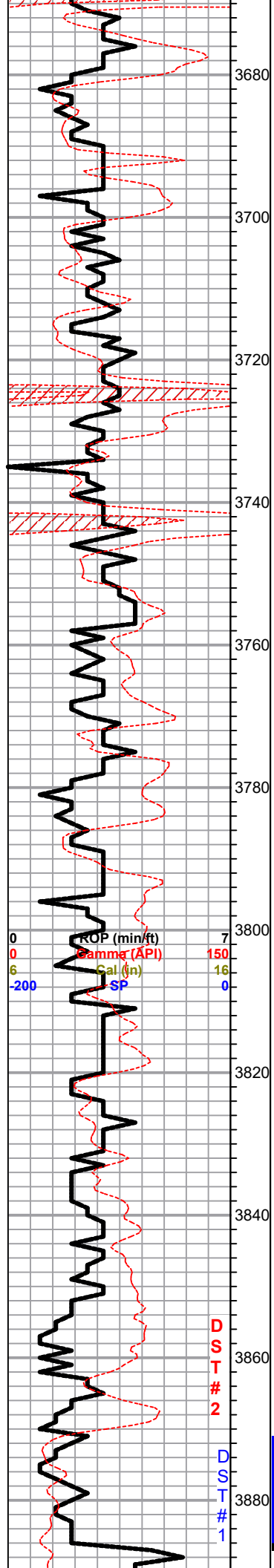
260' MCW
(10%M, 90%W)

Pressures:
ISIP 635 psi
FSIP 632 psi
IFP 24-103 psi
FFP 106-168 psi
HSH 1784-1760 psi

CFS 20-40-60 (units) 100
@ 3600' (ts) 100

0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

BIT TRIP



Black carb Sh.

LS, white, few foss, poor vis. porosity, no shows no odor

LS, white, oom, foss, scattered vuggy porosity lt. brn - golden brn stain, spty sfo, ??? odor

LS, tan, white, scattered p.p. porosity tr. brn/ blk stain, sfo, ??? odor , tr. blk flakey (dead) stains on few

STARK SH. 3724.0 (-1395.0) 0.0 (0.0)

Black carb Sh.

LS, white, dense, poor porosity, nsfo,

Sh, black carb
LS, cream, foss, scattered p.p. porosity, sl. chalky, ft. blk stain, spty dk brn sfo (viscous/ tarry) fair odor in brkn samples

BKC 3756.0 (-1431.0) 3756.0 (-1431.0)

LS, white, cream, scattered vuggy por. tr. blk stain , sfo, ??? odor? tr. pyrite

abund. red / maroon sh

Tr. LS, white, fxl, dense, poor scattered p.p. porosity, tr. spty sfo,

LS, white, gran, micro ool/-sandy, fair inxln porosity, lt. black stain, v. weak, tarry/ heavy spty sfo, Slug sh. dk maroon, red silty

LS, a/a , tr. blk stain, no live sfo,

Soft red maroon, sh. v.c. cherts

LS, white, tan foss/ micro ool, sdy/ gran, nsfo, no odor

Sh, maroon, rust -red, dolomitic, blk,

tr. sd. clear, med grain, sub rounded, poorly sorted, good inner gran. porosity, tr. gluac. no sfo, no odor

Sh, maroon, red , dolomitic, tr. sd. a/a,

ARBUCKLE 3878.0 (-1553.0) 3870.0 (-

Sh, a/a, tr. LS, cream, tan, dol., , fxl, few ool, dense, nsfo, slug abundant aqua green sh,

Dol, tan, suc. good inxln porosity, dk blk stain , sfo, strong odor,

Dol white, tan, suc. fxl, dense, no shows, no odor

DST#1 3866-3885 15-30-15-30

1st Open:
BOB 45 sec.

2nd Open:
BOB 30 Sec.

Recovery:
1950' MCSW

450' MW w/ skim of oil

Pressures:
ISIP 1168 psi
FSIP 1155 psi
IFP 285-701 psi
FFP 773-1044 psi
HSH 1922-1869 psi

MARM???

?	s (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

DST # 2 3866-3875 30-30-5-X

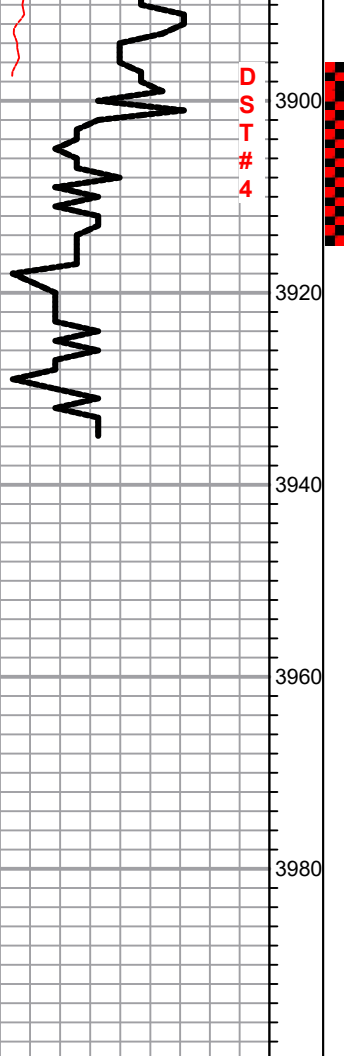
1st Open:
Weak 2" blow

2nd Open:
Died after 5 mins.

Recovery:
25' mud with oil spots

Pressures :
ISIP 36 psi
FSIP 35 psi
IFP 36-35 psi
FFP 32-34 psi
HSH 1931-1889 psi

Dol. white, tan, suc. fxl, dense no shows, no odor



Dol. tan, suc. poor inxln porosity, dense, dk blk stain, dk brn sfo, fair odor in broken samples (free oil in tray)

Dol. tan, brn, fxl, dense, poor vis. porosity, blk flakey stain, nsfo, no odor

Dol, tan, fxl, lg coarse xln in pts, blk stain, tr. sfo, no odor, tr. opaque cherts

LTD 3934.0 (-1609.0) 3934.0 (-1609.0)

RTD 3935.0 (-1610.0) 3935.0 (-1610.0)

DST#4 3896-3916
5-30

1st Open:
BOB 10 sec.

No return

Recovery:
180' SWCM
(5%W, 95%W)
640' MCW
(10%M, 90%W)

Pressures:
BHP 753-1180 PSI

All DST Test after # 1 were straddle tested after Logs