

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

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	KNOPP 11-13
Doc ID	1672908

All Electric Logs Run

Micro
Dual induction
porosity
sonic

COPELAND

Acid & Cement

BURRTON, KS (620) 463-5161
 GREAT BEND, KS (620) 793-3366
 FAX (620) 463-2104 FAX (620) 793-3536

POST OFFICE BOX 438
 HAYSVILLE, KS 67060
 (316) 524-1225
 (316) 524-1027 FAX

Invoice

INVOICE NUMBER:
C60621-IN

BILL TO:
DARRAH OIL COMPANY LLC
PO BOX 2786
WICHITA, KS 67202-2786

LEASE: KNOPP 11-13

DATE	ORDER	SALESMAN	ORDER DATE	PURCHASE ORDER	SPECIAL INSTRUCTIONS	
07/31/2022	60621		07/28/2022	KNOPP 11-13	NET 30	
QUANTITY	U/M	ITEM NO./DESCRIPTION		D/C	PRICE	EXTENSION
		NEW WELL				
100.00	MI	MILEAGE CEMENT PUMP TRUCK		0.00	6.00	600.00
1.00	EA	PUMP CHARGE SURFACE		0.00	1,150.00	1,150.00
200.00	SK	COMMON CEMENT		0.00	16.75	3,350.00
12.00	SK	CALCIUM CHLORIDE		0.00	42.00	504.00
212.00	EA	BULK CHARGE		0.00	1.25	265.00
498.20	MI	BULK TRUCK - TON MILES		0.00	1.85	921.67
REMIT TO: P.O. BOX 438 HAYSVILLE, KS 67060		COP		Net Invoice:		6,790.67
		FUEL SURCHARGE IS NOT TAXABLE AND IS ADDED TO MILEAGE, PUMP AND OR DELIVERY CHARGES ONLY.		LOGCO Sales Tax:		308.32
RECEIVED BY		NET 30 DAYS		Invoice Total:		7,098.99

There will be a charge of 1.5% "per month" (18% annual rate) on all accounts over 30 days pas

Copeland Acid & Cement is a subsidiary of Gressel Oil Field Service

Gressel Oil Field Service reserves a security interest in the goods sold until the same are paid for in full and reserve all the rights of a secured party under the Uniform Commercial Code.



NEW WELL

FIELD ORDER

N° C 60621

BOX 438 - HAYSVILLE, KANSAS 67060
316-524-1225

DATE 28-Jul 20 22

IS AUTHORIZED BY: DARRAH OIL (NAME OF CUSTOMER)

Address City State KS

TO TREAT WELL

AS FOLLOWS Lease KNOPP Well No. 11-13 Customer Order No.

Sec. Twp. Range 13-14-32W County LOGAN State KS

CONDITIONS: As a part of the consideration hereof it is agreed that Copeland Acid is to service or treat at owners risk, the hereinbefore mentioned well and is not to be held liable for any damage that may occur in connection with said service or treatment. Copeland Acid Service has made no representation, expressed or implied, and no representations have been rolled on, as to what may be the results or effect of the servicing or treating said well. The consideration of said service or treatment is payable. There will be no discount allowed subsequent to such date, 6% interest will be charged after 60 days. Total charges are subject to correction by our invoicing department in accordance with latest published price schedules.

The undersigned represents himself to be duly authorized to sign this order for well owner or operator.

THIS ORDER MUST BE SIGNED BEFORE WORK IS COMMENCED

By Well Owner or Operator Agent

CODE	QUANTITY	DESCRIPTION	UNIT COST	AMOUNT
20.0002	100	Mileage P.T.	\$6.00	\$600.00
20.0005	1	Pump Charge Surface	\$1,150.00	\$1,150.00
20.1001	200	Common Cement Sack	\$16.75	\$3,350.00
20.1012	12	Calcium Chloride per 50 lb.	\$42.00	\$504.00
20.0011	212	Bulk Charge	\$1.25	\$265.00
20.0012	498.2	Bulk Truck Miles	\$1.85	\$921.67
		Process License Fee on Gallons		
		TOTAL BILLING		\$6,790.67

I certify that the above material has been accepted and used; that the above service was performed in a good and workmanlike manner under the direction, supervision and control of the owner, operator or his agent, whose signature appears below.

Copeland Representative GREG C.

Station GB

WILL D. Well Owner, Operator or Agent

Remarks NET 30 DAYS



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

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

Invoice Date: 8/6/2022
 Invoice #: 0362311
 Lease Name: Knopp
 Well #: 11-13
 County: Logan, Ks
 Job Number: WP3194
 District: Oakley

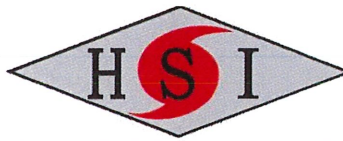
Date/Description	HRS/QTY	Rate	Total
PTA	0.000	0.000	0.00
H-Plug	255.000	14.000	3,570.00
Light Eq Mileage	30.000	2.000	60.00
Heavy Eq Mileage	60.000	4.000	240.00
Ton Mileage	386.320	1.500	579.48
Cement Blending & Mixing	255.000	1.400	357.00
Service Supervisor	1.000	275.000	275.00
Wooden plug 8 5/8"	1.000	150.000	150.00
Depth Charge 2001'-3000'	1.000	2,000.000	2,000.00

Net Invoice	7,231.48
Sales Tax:	441.62
Total	7,673.10

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!



Customer		Darrah Oil Co.		Lease & Well #		Knoop # 11-13		Date		8/6/2022	
Service District		Oakley KS		County & State		Logan KS		Legals S/T/R		13-14S-32W	
Job Type		PTA		<input checked="" type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> SWD		<input type="checkbox"/> YES <input type="checkbox"/> No		Job #		WP3194	
Equipment #		Driver		Job Safety Analysis - A Discussion of Hazards & Safety Procedures							
78		Jesse		<input checked="" type="checkbox"/> Hard hat		<input checked="" type="checkbox"/> Gloves		<input type="checkbox"/> Lockout/Tagout		<input type="checkbox"/> Warning Signs & Flagging	
230		Michael		<input checked="" type="checkbox"/> H2S Monitor		<input checked="" type="checkbox"/> Eye Protection		<input type="checkbox"/> Required Permits		<input type="checkbox"/> Fall Protection	
194-235		Tyler		<input checked="" type="checkbox"/> Safety Footwear		<input type="checkbox"/> Respiratory Protection		<input checked="" type="checkbox"/> Slip/Trip/Fall Hazards		<input checked="" type="checkbox"/> Specific Job Sequence/Expectations	
				<input checked="" type="checkbox"/> FRC/Protective Clothing		<input type="checkbox"/> Additional Chemical/Acid PPE		<input checked="" type="checkbox"/> Overhead Hazards		<input checked="" type="checkbox"/> Muster Point/Medical Locations	
				<input checked="" type="checkbox"/> Hearing Protection		<input type="checkbox"/> Fire Extinguisher		<input type="checkbox"/> Additional concerns or issues noted below			
Comments											
Product/ Service Code											
Description											
Unit of Measure											
Quantity											
Net Amount											
CP055		H-Plug				sack		255.00		\$3,570.00	
M015		Light Equipment Mileage				mi		30.00		\$60.00	
M010		Heavy Equipment Mileage				mi		60.00		\$240.00	
M020		Ton Mileage				tm		386.32		\$579.48	
C060		Cement Blending & Mixing Service				sack		255.00		\$357.00	
R061		Service Supervisor				day		1.00		\$275.00	
FE290		8 5/8" Wooden Plug				ea		1.00		\$150.00	
D013		Depth Charge: 2001'-3000'				job		1.00		\$2,000.00	
Customer Section: On the following scale how would you rate Hurricane Services Inc.?											
										Net: \$7,231.48	
										Total Taxable \$ - Tax Rate:	
Based on this job, how likely is it you would recommend HSI to a colleague?										State tax laws deem certain products and services used on new wells to be sales tax exempt. Hurricane Services relies on the customer provided well information above to make a determination if services and/or products are tax exempt.	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>										Sale Tax: \$ -	
Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely										Total: \$ 7,231.48	
										HSI Representative: <i>Jesse Jones</i>	

TERMS: Cash in advance unless Hurricane Services Inc. (HSI) has approved credit prior to sale. Credit terms of sale for approved accounts are total invoice due on or before the 30th day from the date of invoice. Past due accounts shall pay interest on the balance past due at the rate of 1 1/2% per month or the maximum allowable by applicable state or federal laws. In the event it is necessary to employ an agency and/or attorney to affect the collection, Customer hereby agrees to pay all fees directly or indirectly incurred for such collection. In the event that Customer's account with HSI becomes delinquent, HSI has the right to revoke any discounts previously applied in arriving at net invoice price. Upon revocation, the full invoice price without discount is immediately due and subject to collection. Prices quoted are estimates only and are good for 30 days from the date of issue. Pricing does not include federal, state, or local taxes, or royalties and stated price adjustments. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Any discount is based on 30 days net payment terms or cash. **DISCLAIMER NOTICE:** Technical data is presented in good faith, but no warranty is stated or implied. HSI assumes no liability for advice or recommendations made concerning the results from the use of any product or service. The information presented is a best estimate of the actual results that may be achieved and should be used for comparison purposes and HSI makes no guarantee of future production performance. Customer represents and warrants that well and all associated equipment in acceptable condition to receive services by HSI. Likewise, the customer guarantees proper operational care of all customer owned equipment and property while HSI is on location performing services. The authorization below acknowledges the receipt and acceptance of all terms/conditions stated above, and Hurricane has been provided accurate well information in determining taxable services.

X _____ **CUSTOMER AUTHORIZATION SIGNATURE**



CEMENT TREATMENT REPORT

Customer:	Darrah Oil Co.	Well:	Knopp # 11-13	Ticket:	WP3194
City, State:	Oakley KS	County:	Logan KS	Date:	8/6/2022
Field Rep:	Paco	S-T-R:	13-14S-32W	Service:	PTA

Downhole Information	
Hole Size:	7 7/8 in
Hole Depth:	4615 ft
Casing Size:	in
Casing Depth:	ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	39.3 bbls

Calculated Slurry - Lead	
Blend:	H-Plug
Weight:	13.8 ppg
Water / Sx:	6.9 gal / sx
Yield:	1.42 ft ³ / sx
Annular Bbls / Ft.:	0.0406 bbs / ft.
Depth:	4615 ft
Annular Volume:	187.4 bbls
Excess:	
Total Slurry:	64.4 bbls
Total Sacks:	255 sx

Calculated Slurry - Tail	
Blend:	
Weight:	ppg
Water / Sx:	gal / sx
Yield:	ft ³ / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	0.0 bbls
Total Sacks:	0 sx

TIME	RATE	PSI	BBLs	STAGE TOTAL BBLs	REMARKS
6:15a			-	-	Arrival
6:20a				-	Safety meeting
6:30a				-	Rig up
8:32a	5.1	370.0	5.0	5.0	H2O ahead
8:36a	4.6	400.0	12.6	17.6	Mixed 50 sks of H-plug @ 13.8 ppg @ 2300'
8:39a	4.5	330.0	10.0	27.6	Displaced H2O with truck
8:44a				27.6	Displaced mud with rig for 2 minutes
8:48a				27.6	Pull pipe to 1300'
9:16a	4.9	150.0	5.0	32.6	H2O ahead
9:18a	5.0	390.0	25.2	57.8	Mixed 100 sks of H-plug @ 13.8 ppg @ 1300'
9:26a	3.5	230.0	9.6	67.4	Displaced H2O with truck
9:29a					Pull pipe to 275'
10:00a	5.3	220.0	5.0		H2O ahead
10:03a	5.2	390.0	12.6		Mixed 50 sks of H-plug @ 13.8 ppg @ 275'
10:06p	3.5	190.0	1.5		Displaced H2O with truck
10:08a					Pull pipe to surface
11:15a	3.0	120.0	2.5		Mixed 10 sks of H-plug @ 13.8 ppg @ 40'
11:20a	3.0	120.0	7.5		Mixed 30 sks of H-plug @ 13.8 ppg @ Rat hole
11:25a	3.0	120.0	3.8		Mixed 15 sks of H-plug @ 13.8 ppg @ Mouse hole
11:30a					Plug down
11:32a					Wash up
11:45a					Rig down
12:10p					Depart location

CREW		UNIT	SUMMARY		
Cementer:	Jesse	78	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Michael	230	4.2 bpm	253 psi	100 bbls
Bulk #1:	Tyler	194-235			
Bulk #2:					

Max R. Lovely

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY: **Darrach Oil Co.**

LEAS: **Knopp #11-13**

FIELD: **Chalk Buttes**

LOCATION: **3355 N. L. 1800' EW**

COUNTY: **Logan**

CONTRACTOR: **Murfin Rig #112**

SPUD: **7-28-22 COMP 8-05-22**

RID: **4615**

MUD UP: **3401**

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION: **Chalk Buttes**

BASE: **Andover**

HEALER: **3818**

Muncie Creek

Stack

BKC

Marmaton SH

Johnson

Mississippian

REFERENCE WELLS FOR STRUCTURE

1 Darrach Outlay 3-12 3355' ECL 1815' EWL 12-14-32W

2

3

4

5

6

7

8

9

ELEVATIONS

KB: **2832**

DF: **2824**

MOOSEFEATHERS ARE ALL

FROM KB

PRODUCTION CASING @ 232'

PRODUCTION @ 232'

ELECTRICAL SURVEYS

BY: **W. B. Papp**

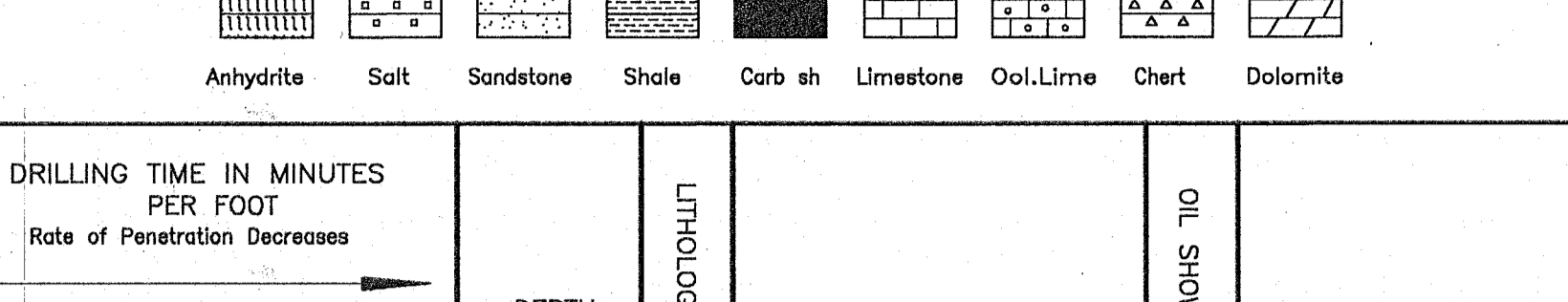
DATE: **8-1-22**

TIME: **11:13**

REMARKS

NEGATIVE DST'S CAUSED THE KNOPP 11-13 TO BE PLUGGED.

LEGEND



DRILLING TIME IN MINUTES PER FOOT
Rate of Penetration Decreases

DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

NO SHOWS

REMARKS

2300

ANHYDRITE 2325-1507

BASE ANHYDRITE 2345-1487

3400

20' SAMPLES
BIT TRIP
STRAP: 3486.30
BOARD: 3496.30

DEVI

3500

LS. CRM, TAN, BUFF, FXTLN, SOFT, V SLTY, F SCT XTLM, NO VIS F, NS

3600

LS. WHT, TAN, FXTLN, GRAY, M HRD, V BRN, NO VIS F, NS

TOPEKA 3639-827

CHT, BUFF, CRM, FRESH, CLEAN, SHARP, NS

3700

SH, BLK, HARD

SH, VARI COLOR

3800

SH, GRAY

HEERBER 3928-996

SH, BLK, CARB

LANING 3965-1033

LS. WHT, V FXTLN, M HRD, ABUN MED OOLS, S SCT INT OOLS, NS

3900

CHT, WHT, PEACH, OPAQ, SHARP, NS

4000

MUNCIE SH 4015-1183

LS. TAN, BRN, FXTLN, M HRD, SCT PES SL CHLKY, SCT & XTLM, NS

4100

STARK 4102-1270

SH, BLK, CARB

HUSH PUCKNEY 4134-1302

SH, GRAY, GRN

4200

BKC 4190-1358

SH, GRAY, GRN

MARMATON 4232-1400

LS. BRN, TAN, V FXTLN, M HRD, PES FRAC'D, SCT LVS DMS, NS

MARMATON'S 4258-1426

SH, BURG, GRAY

MARMATON C 4283-1457

LS. WHT, FXTLN, HRD, DMS, TITE, NS

4300

FAUNEE 4305-1473

CHT, WHT, BLK

FT SCOTT 4335-1503

SH, BLK, DKGRY

HEROSEE SH 4357-1525

SH, BLK, CARB

LOWER HEROSEE 4390-1558

SH, BLK

4400

JOHNSON 4431-1599

LS. TAN, BRN, FXTLN, HRD, DMS, TITE, NS

MORROW SH 4461-1629

SH, GRAY, GRN

MISS 4495-1663

LS. WHT, OFF WHT, V FXTLN, M HRD, V P, NS

4500

LS. LT TAN, CRM, FXTLN, LGS FRAGS, M HRD, VP PES W/PP

4600

RTD 4615 DBU 340

LS. GRAY, V FXTLN, DMS, V HRD, TITE, SL FOSS, NS

CONDITION HOLE 90 MIN'S

ELI LOGGING

MUD-CO

REID ATKINS

TRIOBITE TESTING

BRADLEY WALTER



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Darrah Oil
125 N Market St Ste 1015
Wichita, Ks 67202
ATTN: Max Lovely

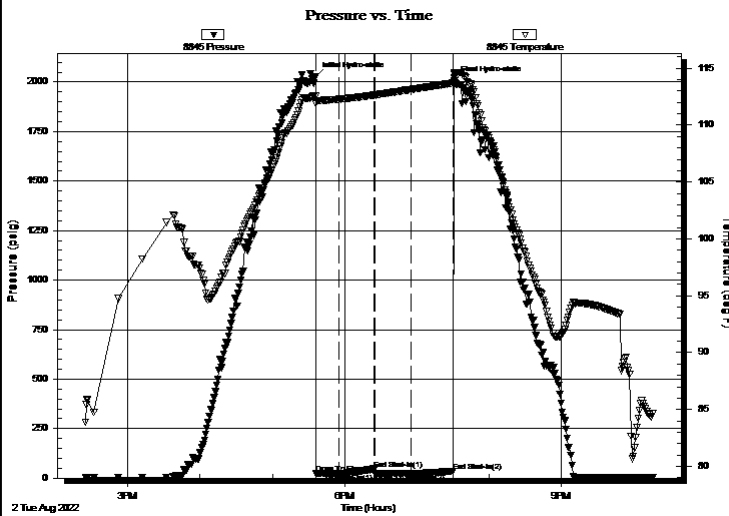
13 14s 32w Logan Ks
Knopp 11-13
Job Ticket: 69152 **DST#: 1**
Test Start: 2022.08.02 @ 14:25:00

GENERAL INFORMATION:

Formation: **Lansing K**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:36:00
Time Test Ended: 22:16:30
Interval: **4108.00 ft (KB) To 4135.00 ft (KB) (TVD)**
Total Depth: 4135.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Bradley Walter
Unit No: 78
Reference Elevations: 2832.00 ft (KB)
2824.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8845 Outside
Press@RunDepth: 22.70 psig @ 4109.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2022.08.02 End Date: 2022.08.02 Last Calib.: 2022.08.02
Start Time: 14:25:05 End Time: 22:16:29 Time On Btm: 2022.08.02 @ 17:35:45
Time Off Btm: 2022.08.02 @ 19:31:15

TEST COMMENT: IF: 1/4" blow,
IS: No return.
FF: No blow.
FS: No return. 20-30-30-30



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2028.03	112.55	Initial Hydro-static
1	24.35	111.87	Open To Flow (1)
20	22.45	112.27	Shut-In(1)
49	46.92	112.63	End Shut-In(1)
50	23.76	112.64	Open To Flow (2)
80	22.70	113.13	Shut-In(2)
115	35.19	113.68	End Shut-In(2)
116	2006.88	114.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100m (oil spots)	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Darrah Oil
125 N Market St Ste 1015
Wichita, Ks 67202
ATTN: Max Lovely

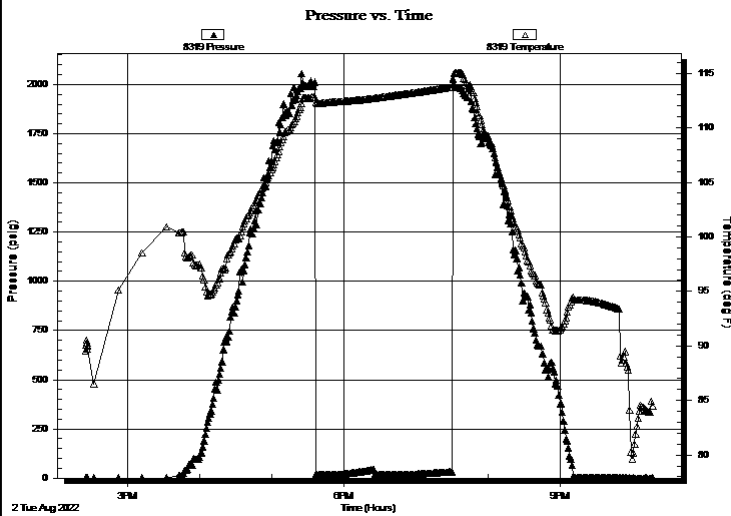
13 14s 32w Logan Ks
Knopp 11-13
Job Ticket: 69152 **DST#: 1**
Test Start: 2022.08.02 @ 14:25:00

GENERAL INFORMATION:

Formation:	Lansing K		
Deviated:	No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened:	17:36:00		Tester: Bradley Walter
Time Test Ended:	22:16:30		Unit No: 78
Interval:	4108.00 ft (KB) To 4135.00 ft (KB) (TVD)		Reference Elevations: 2832.00 ft (KB)
Total Depth:	4135.00 ft (KB) (TVD)		2824.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition: Good	KB to GR/CF: 8.00 ft

Serial #: 8319	Inside				
Press@RunDepth:	psig @	4109.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2022.08.02	End Date:	2022.08.02	Last Calib.:	2022.08.02
Start Time:	14:25:05	End Time:	22:16:29	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF: 1/4" blow ,
IS: No return.
FF: No blow .
FS: No return. 20-30-30-30



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100m (oil spots)	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Darrah Oil
125 N Market St Ste 1015
Wichita, Ks 67202
ATTN: Max Lovely

13 14s 32w Logan Ks
Knopp 11-13
Job Ticket: 69152 **DST#: 1**
Test Start: 2022.08.02 @ 14:25:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.99 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100m (oil spots)	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

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

Laboratory Name: Laboratory Location:

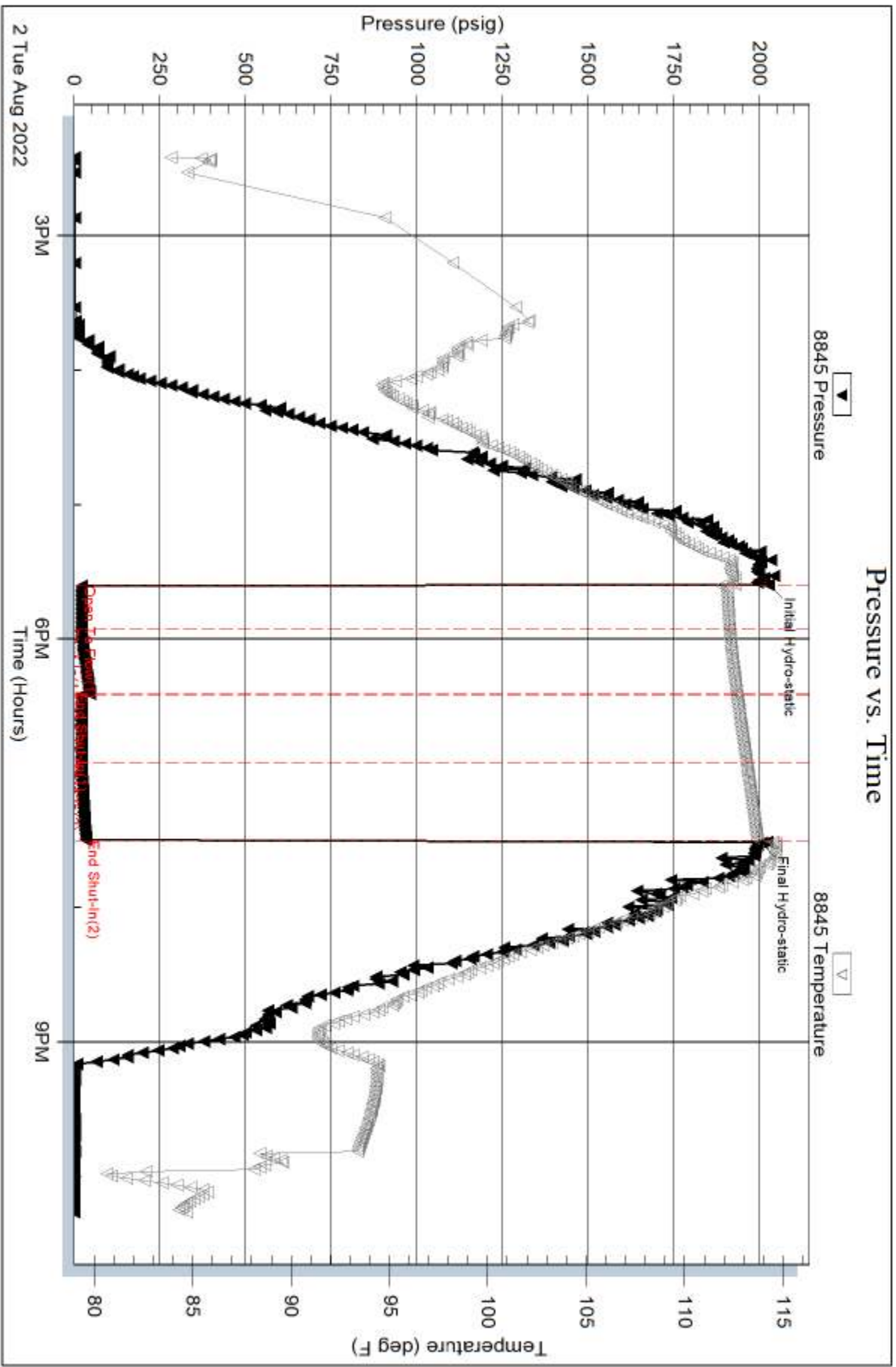
Recovery Comments:

Serial #: 8845

Outside Darrah Oil

Knopp 11-13

DST Test Number: 1



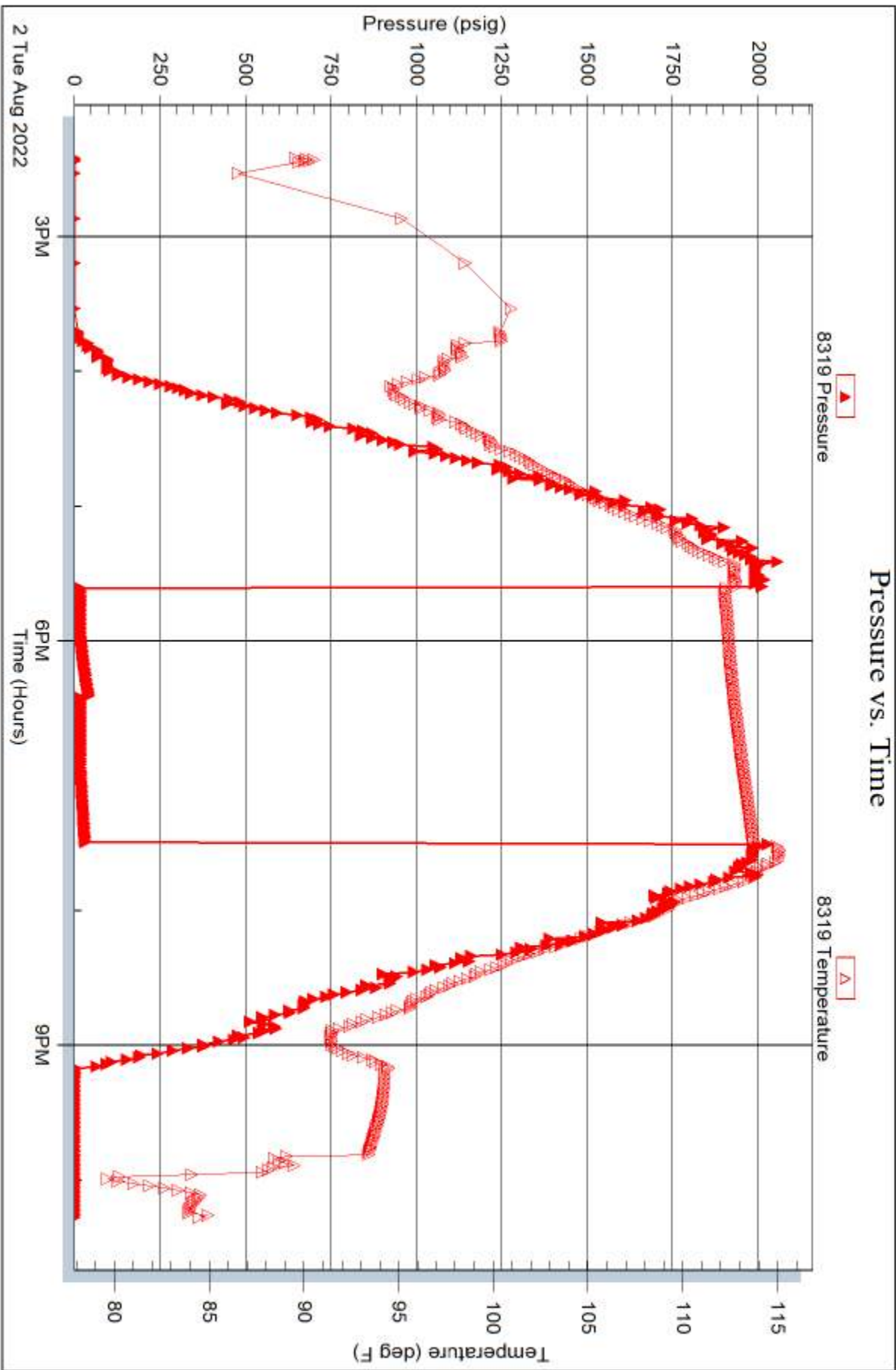
Serial #: 8319

Inside

Darrah Oil

Knopp 11-13

DST Test Number: 1





TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Darrah Oil
 125 N Market St Ste 1015
 Wichita, Ks 67202
 ATTN: Max Lovely

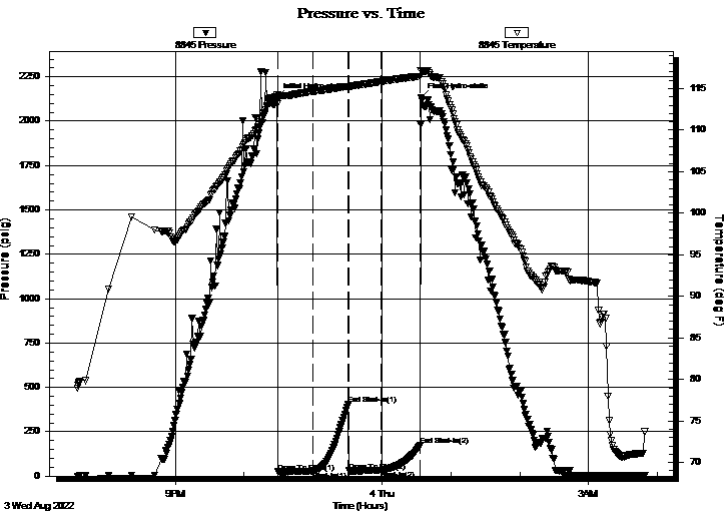
13 14s 32w Logan Ks
Knopp 11-13
 Job Ticket: 68144 **DST#: 2**
 Test Start: 2022.08.03 @ 19:25:00

GENERAL INFORMATION:

Formation: **Pawnee Ft Scott**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:19:30
 Time Test Ended: 03:39:00
 Interval: **4299.00 ft (KB) To 4366.00 ft (KB) (TVD)**
 Total Depth: 4366.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 2832.00 ft (KB)
 2824.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8845 Outside
 Press@RunDepth: 31.70 psig @ 4300.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.08.03 End Date: 2022.08.04 Last Calib.: 2022.08.04
 Start Time: 19:35:05 End Time: 03:48:59 Time On Btm: 2022.08.03 @ 22:28:45
 Time Off Btm: 2022.08.04 @ 00:34:00

TEST COMMENT: IF: 1/4" blow .
 IS: No return.
 FF: No blow ,
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2131.83	114.28	Initial Hydro-static
1	23.08	113.20	Open To Flow (1)
31	27.27	114.66	Shut-In(1)
62	402.82	115.28	End Shut-In(1)
63	28.87	115.20	Open To Flow (2)
91	31.70	115.85	Shut-In(2)
125	173.71	116.49	End Shut-In(2)
126	2130.83	117.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100m (oil spots)	0.05

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Darrah Oil
125 N Market St Ste 1015
Wichita, Ks 67202

ATTN: Max Lovely

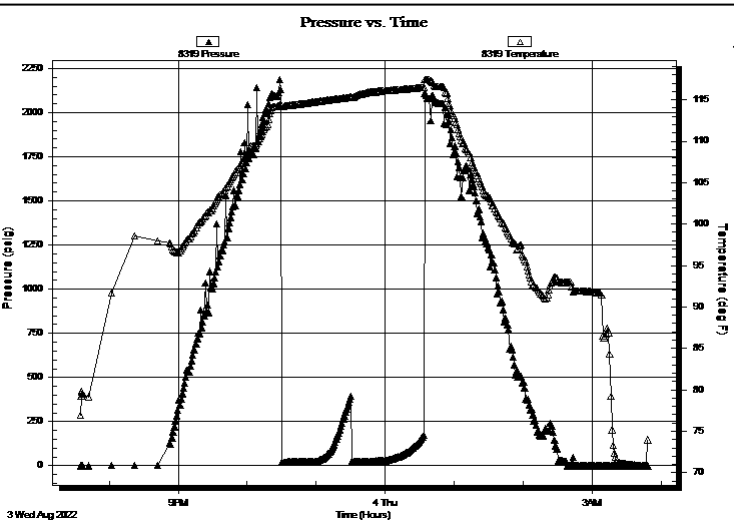
13 14s 32w Logan Ks
Knopp 11-13
Job Ticket: 68144 **DST#: 2**
Test Start: 2022.08.03 @ 19:25:00

GENERAL INFORMATION:

Formation: **Pawnee Ft Scott**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 22:19:30 Tester: Bradley Walter
Time Test Ended: 03:39:00 Unit No: 78
Interval: **4299.00 ft (KB) To 4366.00 ft (KB) (TVD)** Reference Elevations: 2832.00 ft (KB)
Total Depth: 4366.00 ft (KB) (TVD) 2824.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 8.00 ft

Serial #: 8319 Inside
Press@RunDepth: psig @ 4300.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2022.08.03 End Date: 2022.08.04 Last Calib.: 2022.08.04
Start Time: 19:35:05 End Time: 03:48:59 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: 1/4" blow.
IS: No return.
FF: No blow,
FS: No return.



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

Recovery		
Length (ft)	Description	Volume (bbl)
10.00	mud 100m (oil spots)	0.05

* Recovery from multiple tests

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Darrah Oil
125 N Market St Ste 1015
Wichita, Ks 67202
ATTN: Max Lovely

13 14s 32w Logan Ks
Knopp 11-13
Job Ticket: 68144 **DST#: 2**
Test Start: 2022.08.03 @ 19:25:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 47.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

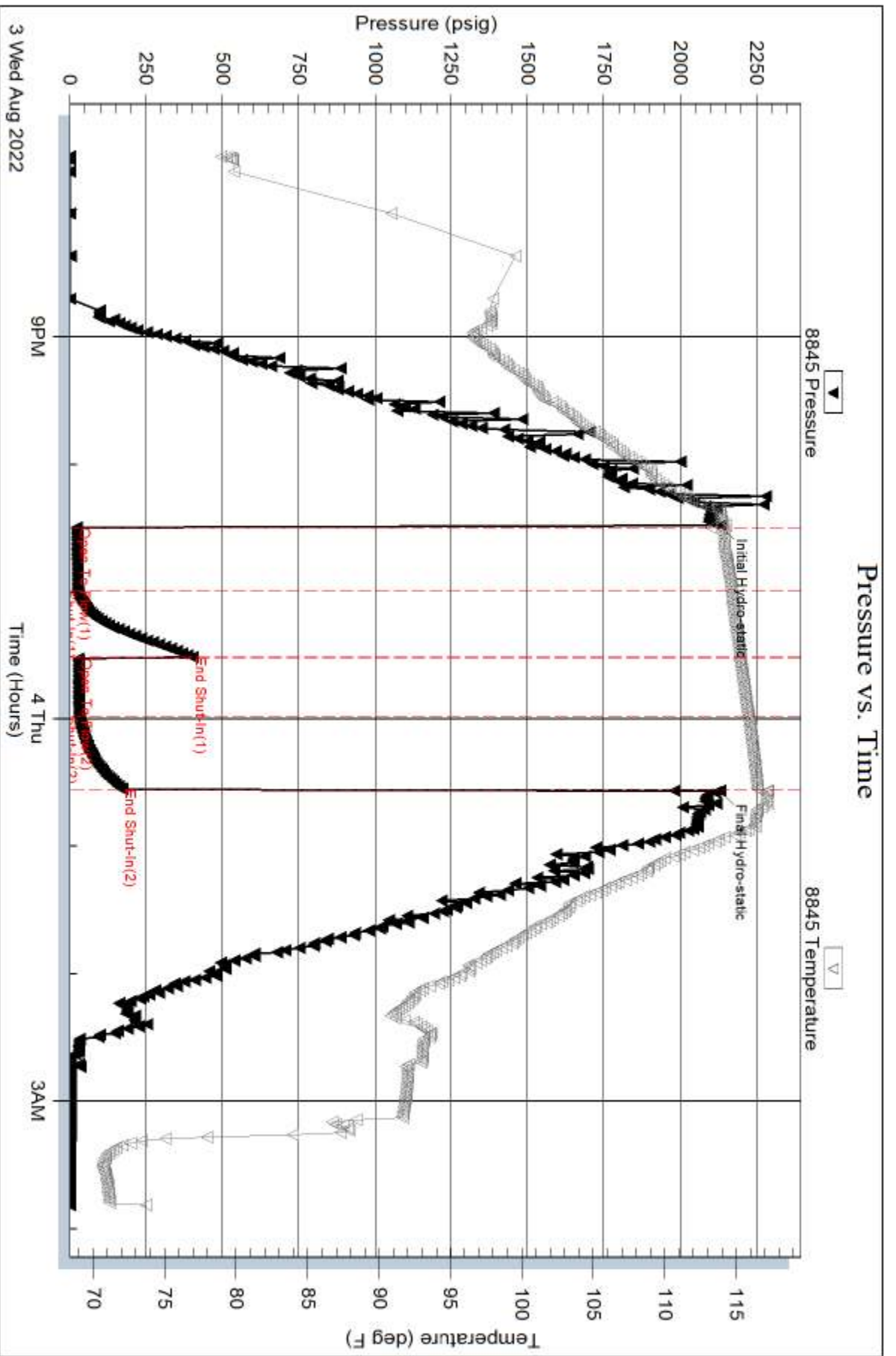
Length ft	Description	Volume bbl
10.00	mud 100m (oil spots)	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:



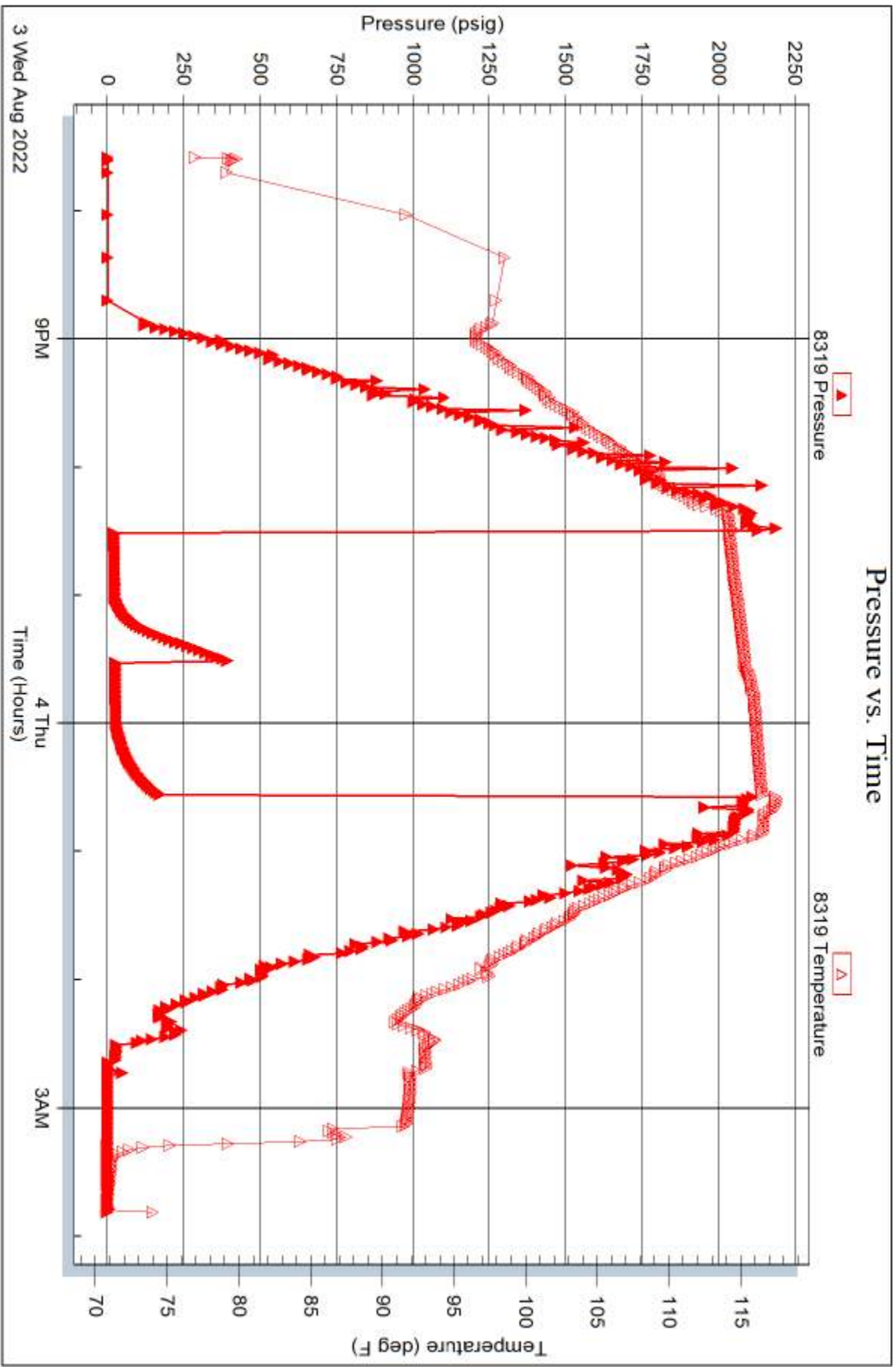
Serial #: 8319

Inside

Darrah Oil

Knopp 11-13

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Darrah Oil**

125 N Market St Ste 1015
Wichita, Ks 67202

ATTN: Max Lovely

Knopp 11-13

13 14s 32w Logan Ks

Start Date: 2022.08.04 @ 16:46:00

End Date: 2022.08.05 @ 00:36:30

Job Ticket #: 68145 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.08.05 @ 16:52:11



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Darrah Oil
125 N Market St Ste 1015
Wichita, Ks 67202
ATTN: Max Lovely

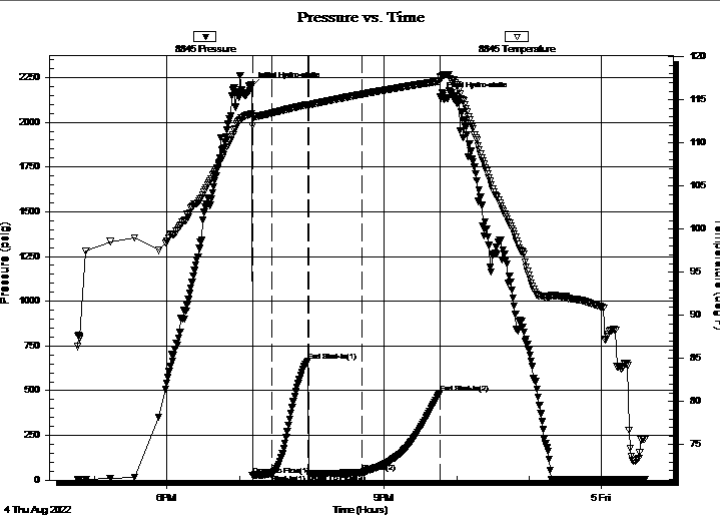
13 14s 32w Logan Ks
Knopp 11-13
Job Ticket: 68145 **DST#: 3**
Test Start: 2022.08.04 @ 16:46:00

GENERAL INFORMATION:

Formation: **Johnson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:10:45
Time Test Ended: 00:36:30
Interval: **4389.00 ft (KB) To 4463.00 ft (KB) (TVD)**
Total Depth: 4463.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 78
Reference Elevations: 2832.00 ft (KB)
2824.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8845 Outside
Press@RunDepth: 43.99 psig @ 4390.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2022.08.04 End Date: 2022.08.05 Last Calib.: 2022.08.05
Start Time: 16:46:05 End Time: 00:36:29 Time On Btm: 2022.08.04 @ 19:10:30
Time Off Btm: 2022.08.04 @ 21:46:30

TEST COMMENT: IF: 1/2" blow .
IS: No return.
FF: 1/4" blow .
FS: No return. 15-30-45-60



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2199.51	113.43	Initial Hydro-static
1	27.15	112.00	Open To Flow (1)
17	33.32	113.46	Shut-In(1)
47	665.72	114.46	End Shut-In(1)
47	35.41	114.36	Open To Flow (2)
92	43.99	115.66	Shut-In(2)
156	487.41	117.15	End Shut-In(2)
156	2141.18	117.69	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
30.00	ocm 5o 95m	0.15

* Recovery from multiple tests

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Darrah Oil
125 N Market St Ste 1015
Wichita, Ks 67202
ATTN: Max Lovely

13 14s 32w Logan Ks
Knopp 11-13
Job Ticket: 68145 **DST#: 3**
Test Start: 2022.08.04 @ 16:46:00

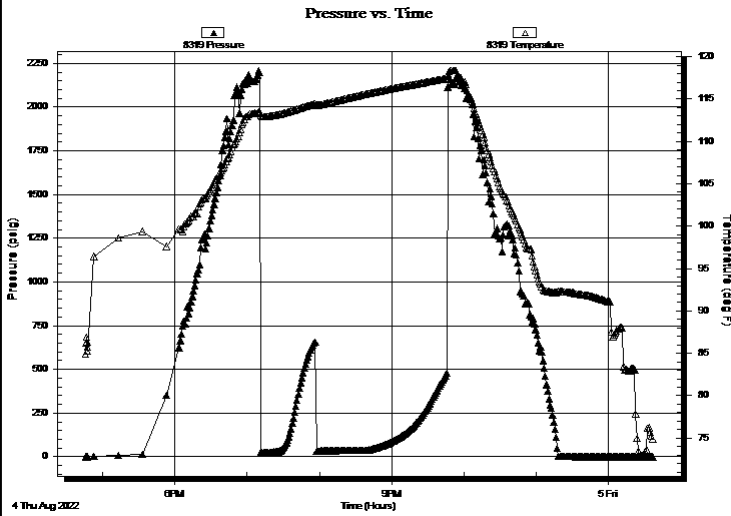
GENERAL INFORMATION:

Formation: **Johnson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:10:45
Time Test Ended: 00:36:30
Interval: **4389.00 ft (KB) To 4463.00 ft (KB) (TVD)**
Total Depth: 4463.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 78
Reference Elevations: 2832.00 ft (KB)
2824.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8319 Inside

Press@RunDepth:	psig @	4390.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2022.08.04	End Date:	2022.08.05	Last Calib.:	2022.08.05
Start Time:	16:46:05	End Time:	00:36:29	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF: 1/2" blow.
IS: No return.
FF: 1/4" blow.
FS: No return. 15-30-45-60



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	ocm 5o 95m	0.15

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Darrah Oil
125 N Market St Ste 1015
Wichita, Ks 67202
ATTN: Max Lovely

13 14s 32w Logan Ks
Knopp 11-13
Job Ticket: 68145 **DST#: 3**
Test Start: 2022.08.04 @ 16:46:00

Tool Information

Drill Pipe:	Length: 4206.00 ft	Diameter: 3.80 inches	Volume: 59.00 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 59.89 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	4389.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	74.00 ft				
Tool Length:	104.00 ft				
Number of Packers:	2	Diameter: 675.00 inches			
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4360.00	
Shut In Tool	5.00			4365.00	
Hydraulic tool	5.00			4370.00	
Jars	5.00			4375.00	
EM Tool	3.00			4378.00	
Safety Joint	2.00			4380.00	
Packer	5.00			4385.00	30.00 Bottom Of Top Packer
Packer	4.00			4389.00	
Stubb	1.00			4390.00	
Recorder	0.00	8319	Inside	4390.00	
Recorder	0.00	8845	Outside	4390.00	
Perforations	5.00			4395.00	
Change Over Sub	1.00			4396.00	
Drill Pipe	63.00			4459.00	
Change Over Sub	1.00			4460.00	
Bullnose	3.00			4463.00	74.00 Bottom Packers & Anchor
Total Tool Length:	104.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Darrah Oil
125 N Market St Ste 1015
Wichita, Ks 67202
ATTN: Max Lovely

13 14s 32w Logan Ks
Knopp 11-13
Job Ticket: 68145 **DST#: 3**
Test Start: 2022.08.04 @ 16:46:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.98 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	ocm 5o 95m	0.148

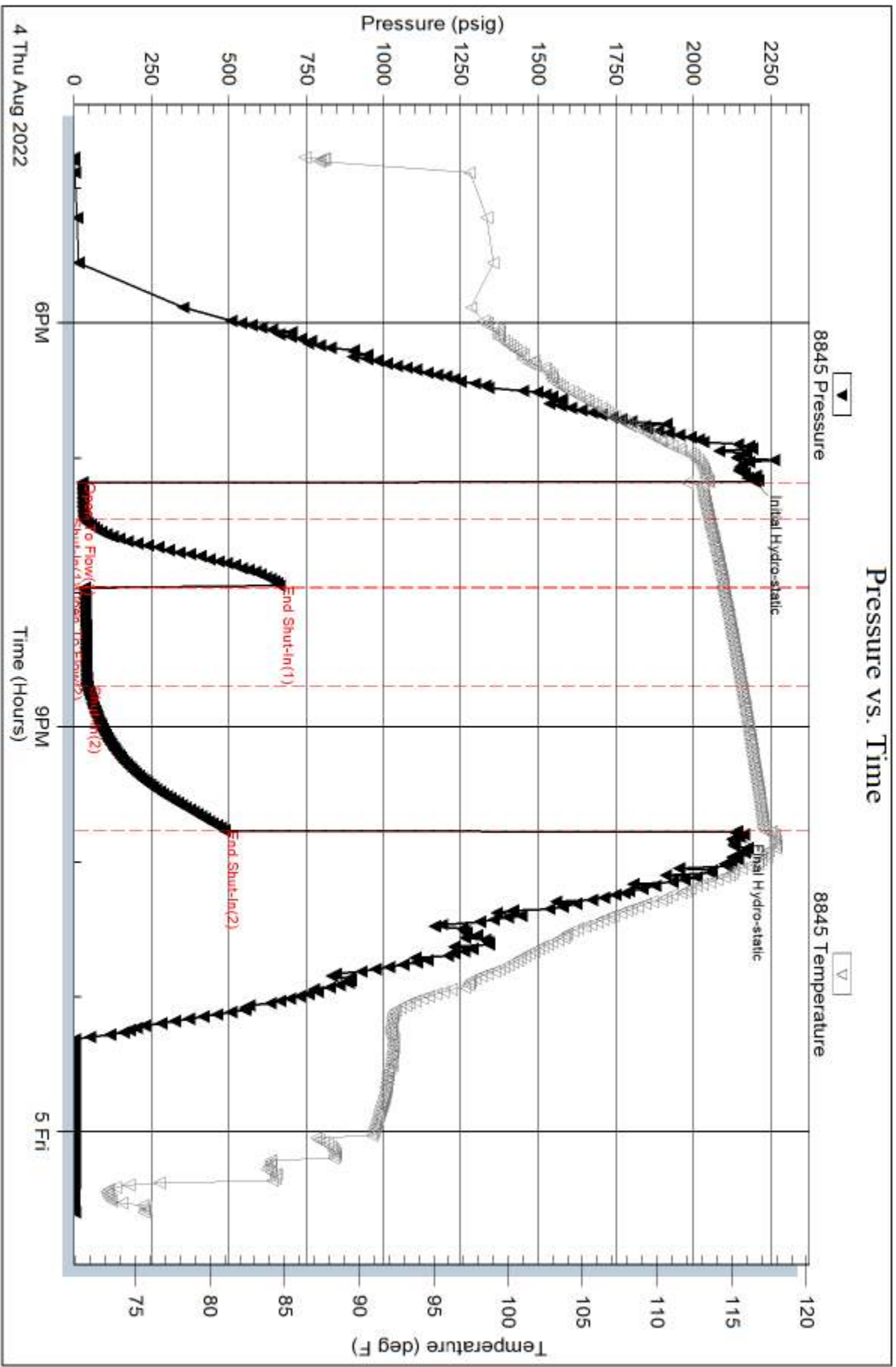
Total Length: 30.00 ft Total Volume: 0.148 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 8845

Outside Darrah Oil

Knopp 11-13

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 68145

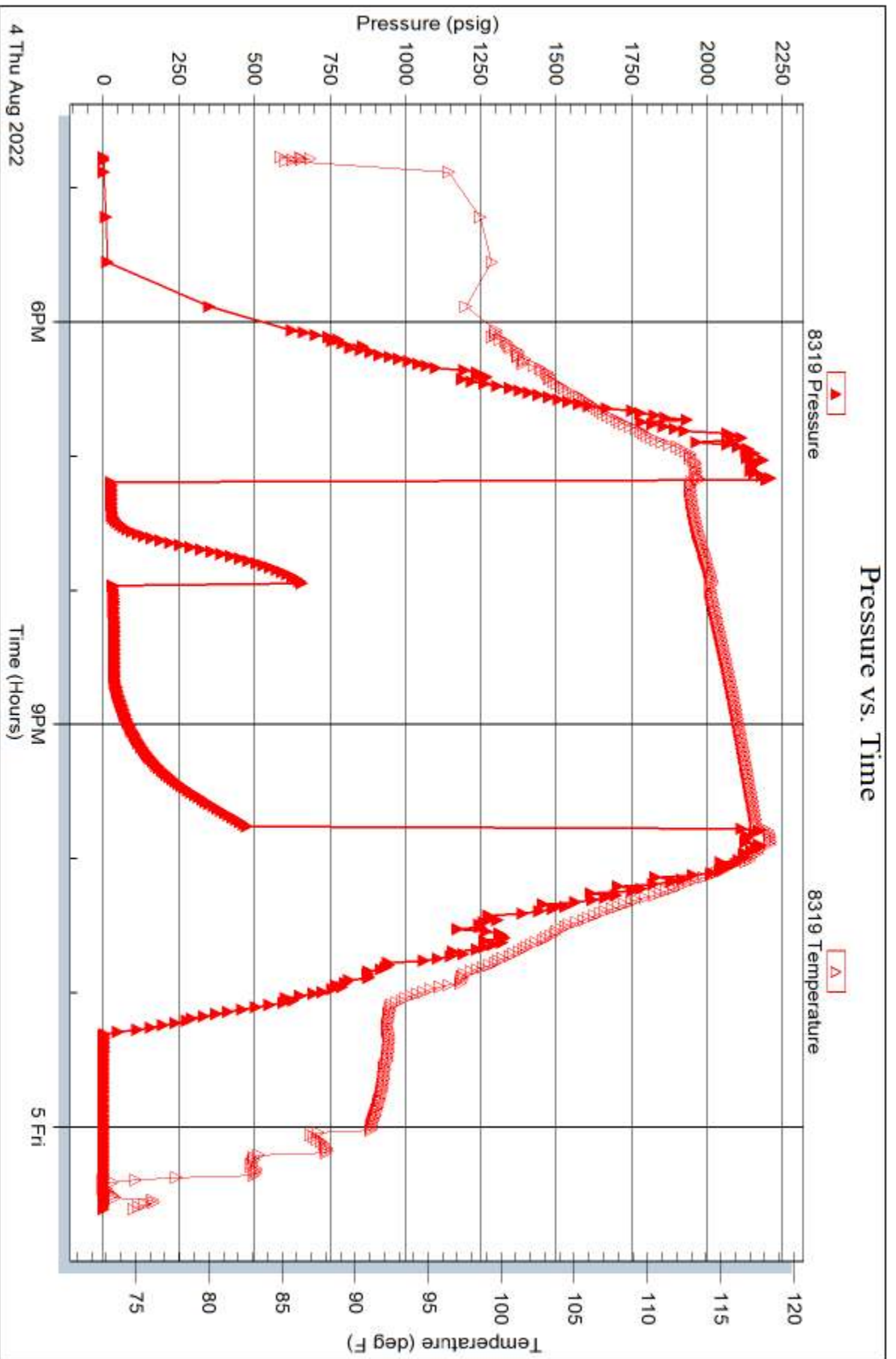
Printed: 2022.08.05 @ 16:52:12

Serial #: 8319

Inside Darrah Oil

Knopp 11-13

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 68145

Printed: 2022.08.05 @ 16:52:12