

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](mailto: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) (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	KELLER 1-31
Doc ID	1668270

All Electric Logs Run

Porosity
Resistivity
Mico
Sonic





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: 6/19/2022  
 Invoice #: 0361534  
 Lease Name: Keller  
 Well #: 1-31 (New)  
 County: Barton, Ks  
 Job Number: WP2958  
 District: Pratt

Date/Description	HRS/QTY	Rate	Total
Longstring	0.000	0.000	0.00
H-Long	150.000	33.600	5,040.00
H-Plug	50.000	13.440	672.00
5 1/2" Floatshoe-Flapper AFU	1.000	360.000	360.00
5 1/2" LD Plug & Baffle	1.000	336.000	336.00
Cement baskets 5 1/2"	1.000	288.000	288.00
5 1/2" Turbolizers	5.000	120.000	600.00
Mud flush	500.000	0.960	480.00
Liquid KCL Substitute 2	1.000	19.200	19.20
Light Eq Mileage	50.000	1.920	96.00
Heavy Eq Mileage	100.000	3.840	384.00
Ton Mileage	458.000	1.440	659.52
Cement Blending & Mixing	200.000	1.344	268.80
Depth Charge 3001'-4000'	1.000	2,160.000	2,160.00
Cement Data Acquisition	1.000	240.000	240.00
Service Supervisor	1.000	275.000	275.00
Cement Plug Container	1.000	240.000	240.00

**Total** 12,118.52

**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 COMPANY, LLC	Lease & Well #	KELLER 1-31	Date	6/19/2022
Service District	PRATT, KS.	County & State	BARTON, KS.	Legals S/T/R	31-20S-13W
Job Type	LONGSTRING	<input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> SWD	New Well?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> No	Job #
					Ticket #
					WP 2958

Equipment #	Driver	Job Safety Analysis - A Discussion of Hazards & Safety Procedures			
926	LESLEY	<input checked="" type="checkbox"/> Hard hat	<input checked="" type="checkbox"/> Gloves	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Warning Signs & Flagging
179-521	CLIFTON	<input checked="" type="checkbox"/> H2S Monitor	<input checked="" type="checkbox"/> Eye Protection	<input type="checkbox"/> Required Permits	<input type="checkbox"/> Fall Protection
182-534	FLORENCIO	<input checked="" type="checkbox"/> Safety Footwear	<input type="checkbox"/> Respiratory Protection	<input 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 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	
3557' - 5 1/2" LONGSTRING	

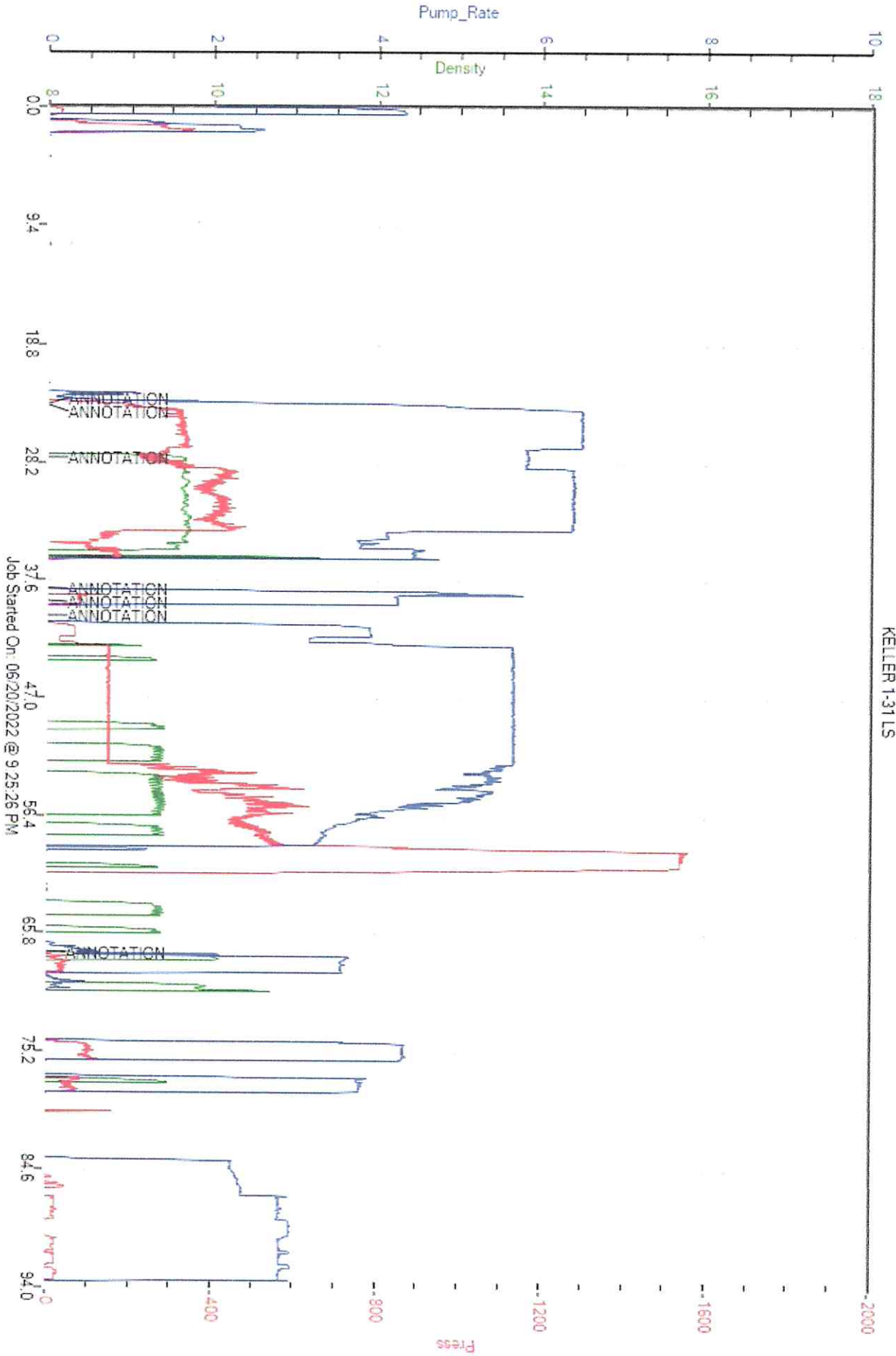
Product/ Service Code	Description	Unit of Measure	Quantity	Net Amount
CP030	H-Long	sack	150.00	\$5,040.00
CP055	H-Plug	sack	50.00	\$672.00
FE145	5 1/2" Float Shoe - AFU Flapper Type	ea	1.00	\$360.00
FE170	5 1/2" Latch Down Plug & Baffle	ea	1.00	\$336.00
FE130	5 1/2" Cement Basket	ea	1.00	\$288.00
FE135	5 1/2" Turbolizer	ea	5.00	\$600.00
CP170	Mud Flush	gal	500.00	\$480.00
AF056	Liquid KCL Substitute 2	gal	1.00	\$19.20
M015	Light Equipment Mileage	mi	50.00	\$96.00
M010	Heavy Equipment Mileage	mi	100.00	\$384.00
M020	Ton Mileage	tm	458.00	\$659.52
C060	Cement Blending & Mixing Service	sack	200.00	\$268.80
D014	Depth Charge: 3001'-4000'	job	1.00	\$2,160.00
C035	Cement Data Acquisition	job	1.00	\$240.00
R061	Service Supervisor	day	1.00	\$275.00
C050	Cement Plug Container	job	1.00	\$240.00

Customer Section: On the following scale how would you rate Hurricane Services Inc.?		Net:	\$12,118.52
Based on this job, how likely is it you would recommend HSI to a colleague?		Total Taxable	\$ -
<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"/>		Tax Rate:	
Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely		Sale Tax:	\$ -
		Total:	\$ 12,118.52
		HSI Representative:	Kevin Lesley

**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 *Roger Martin* CUSTOMER AUTHORIZATION SIGNATURE

DARRAH OIL CO.  
KELLER 1-31 LS



Job Started On: 06/20/2022 @ 9:25:26 PM



**CEMENT TREATMENT REPORT**

Customer: DARRAH OIL COMPANY, LLC	Well: KELLER 1-31	Ticket: WP 2958
City, State:	County: BARTON, KS.	Date: 6/19/2022
Field Rep: SETH EVENSON	S-T-R: 31-20S-13W	Service: LONGSTRING

Downhole Information	
Hole Size:	7 1/4 in
Hole Depth:	3568 ft
Casing Size:	5 1/2 in 15.5#
Casing Depth:	3557 ft
Tubing / Liner:	in
PLUG DEPTH:	3536 ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	84.2 bbls

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

Calculated Slurry - Tail	
Blend:	H-LONG
Weight:	15 ppg
Water / Sx:	6.0 gal / sx
Yield:	1.42 ft <sup>3</sup> / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	37.9 bbls
Total Sacks:	150 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
7:00PM			-	-	ON LOCATION- SPOT EQUIPMENT
7:20PM				-	RUN CASING= 5 1/2"X 15.5#
///////				-	TURBOLIZERS- 1,3,5,9,13
///////				-	BASKET- 6
9:50PM				-	CASING ON BOTTOM- HOOK UP AND BREK CIRC. WITH RIG PUMP AND MUD
10:55PM	6.0	300.0	12.0	12.0	MUD FLUSH
10:57PM	6.0	300.0	24.0	36.0	2% KCL FLUSH
11:02PM	5.0	250.0	37.9	73.9	MIX 150 SKS H-LONG CEMENT @ 15 PPG
11:08PM				73.9	SHUT DOWN- CLEAR PUMP AND LINES- DROP LATCHDOWN PLUG
11:12PM	6.0	200.0	-	73.9	START DISPLACEMENT
11:25PM	5.0	400.0	64.0	137.9	LIFT PRESSURE
11:28PM	4.0	600.0	80.0		SLOW RATE
11:30PM	3.0	1,500.0	84.2		PLUG DOWN- HELD
					CIRCULATION THRU JOB
11:45PM			7.0		PLUG RATHOLE = 30 SKS H-PLUG CEMENT
11:55PM			5.0		PLUG MOUSEHOLE = 20 SKS H-PLUG CEMENT
					WASH UP PUMP TRUCK
					JOB COMPLETE,
					THANKS- KEVEN AND CREW

CREW		UNIT	SUMMARY		
Cementer:	LESLEY	926	Average Rate	Average Pressure	Total Fluid
Pump Operator:	CLIFTON	179-521	5.0 bpm	507 psi	314 bbls
Bulk #1:	FLORENCIO	182-534			
Bulk #2:					





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: 6/12/2022  
 Invoice #: 0361188  
 Lease Name: Keller  
 Well #: 1-31 (New)  
 County: Barton, Ks  
 Job Number: WP2921  
 District: Pratt

Date/Description	HRS/QTY	Rate	Total
Surface	0.000	0.000	0.00
Cement Pozmix 60/40	500.000	14.400	7,200.00
Calcium Chloride	1,290.000	0.720	928.80
Cello Flake	125.000	1.680	210.00
Light Eq Mileage	50.000	1.920	96.00
Heavy Eq Mileage	150.000	3.840	576.00
Ton Mileage	1,075.000	1.440	1,548.00
Depth Charge 0'-500'	1.000	960.000	960.00
Cement Data Acquisition	1.000	240.000	240.00
Cement Plug Container	1.000	240.000	240.00
Service Supervisor	1.000	275.000	275.00
8 5/8" Top rubber plug	1.000	168.000	168.00
Cement Blending & Mixing	500.000	1.344	672.00

**Total** 13,113.80

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**WE APPRECIATE YOUR BUSINESS!**



Customer	Darrah Oil Company LLC		Lease & Well #	Keller 1-31		Date	6/12/2022		
Service District	Pratt Kansas		County & State	Barton Kansas		Legals S/T/R	31-20s-13w		
Job Type	surface	<input checked="" type="checkbox"/> PROD	<input type="checkbox"/> INJ	<input type="checkbox"/> SWD	New Well?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> No	Job #	
Equipment #	Driver	Job Safety Analysis - A Discussion of Hazards & Safety Procedures							
916	M Brungardt	<input checked="" type="checkbox"/> Hard hat	<input checked="" type="checkbox"/> Gloves	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Warning Signs & Flagging				
529/522	R Osborn	<input type="checkbox"/> H2S Monitor	<input checked="" type="checkbox"/> Eye Protection	<input type="checkbox"/> Required Permits	<input type="checkbox"/> Fall Protection				
182/534	J Trevino	<input checked="" type="checkbox"/> Safety Footwear	<input type="checkbox"/> Respiratory Protection	<input checked="" type="checkbox"/> Slip/Trip/Fall Hazards	<input type="checkbox"/> Specific Job Sequence/Expectations				
523/256	F Contrass	<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 type="checkbox"/> Hearing Protection	<input checked="" type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Additional concerns or issues noted below					
<b>Comments</b>									
Product/ Service Code	Description	Unit of Measure	Quantity					Net Amount	
cp070	60/40/2 Pozmix	sack	500.00					\$7,200.00	
cp100	Calcium Chloride	lb	1,290.00					\$928.80	
cp120	Cello-flake	lb	125.00					\$210.00	
m015	Light Equipment Mileage	mi	50.00					\$96.00	
m010	Heavy Equipment Mileage	mi	150.00					\$576.00	
m020	Ton Mileage	tm	1,075.00					\$1,548.00	
d010	Depth Charge: 0'-500'	job	1.00					\$960.00	
c035	Cement Data Acquisition	job	1.00					\$240.00	
c050	Cement Plug Container	job	1.00					\$240.00	
r061	Service Supervisor	day	1.00					\$275.00	
fe285	8 5/8" Rubber Plug	ea	1.00					\$168.00	
			1.00						
c060	Cement Blending & Mixing Service	sack	500.00					\$672.00	
Customer Section: On the following scale how would you rate Hurricane Services Inc.?									
						Net:	\$13,113.80		
Based on this job, how likely is it you would recommend HSI to a colleague?						Total Taxable	\$ -	Tax Rate:	
<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"/>						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.		Sale Tax:	\$ -
Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely						Total:		\$ 13,113.80	
HSI Representative: <i>Mark Brungardt</i>									

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X *Doug Roberts*

**CUSTOMER AUTHORIZATION SIGNATURE**



**CEMENT TREATMENT REPORT**

<b>Customer:</b> Darrah Oil CompanyLLC	<b>Well:</b> Keller 1-31	<b>Ticket:</b> wp2921
<b>City, State:</b> Great Bend Kansas	<b>County:</b> Barton Kansas	<b>Date:</b> 6/12/2022
<b>Field Rep:</b> Doug Roberts	<b>S-T-R:</b> 31-20s-13w	<b>Service:</b> surface

Downhole Information	
Hole Size:	12 1/4 in
Hole Depth:	441 ft
Casing Size:	8 5/8 in
Casing Depth:	440 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	26.0 bbls

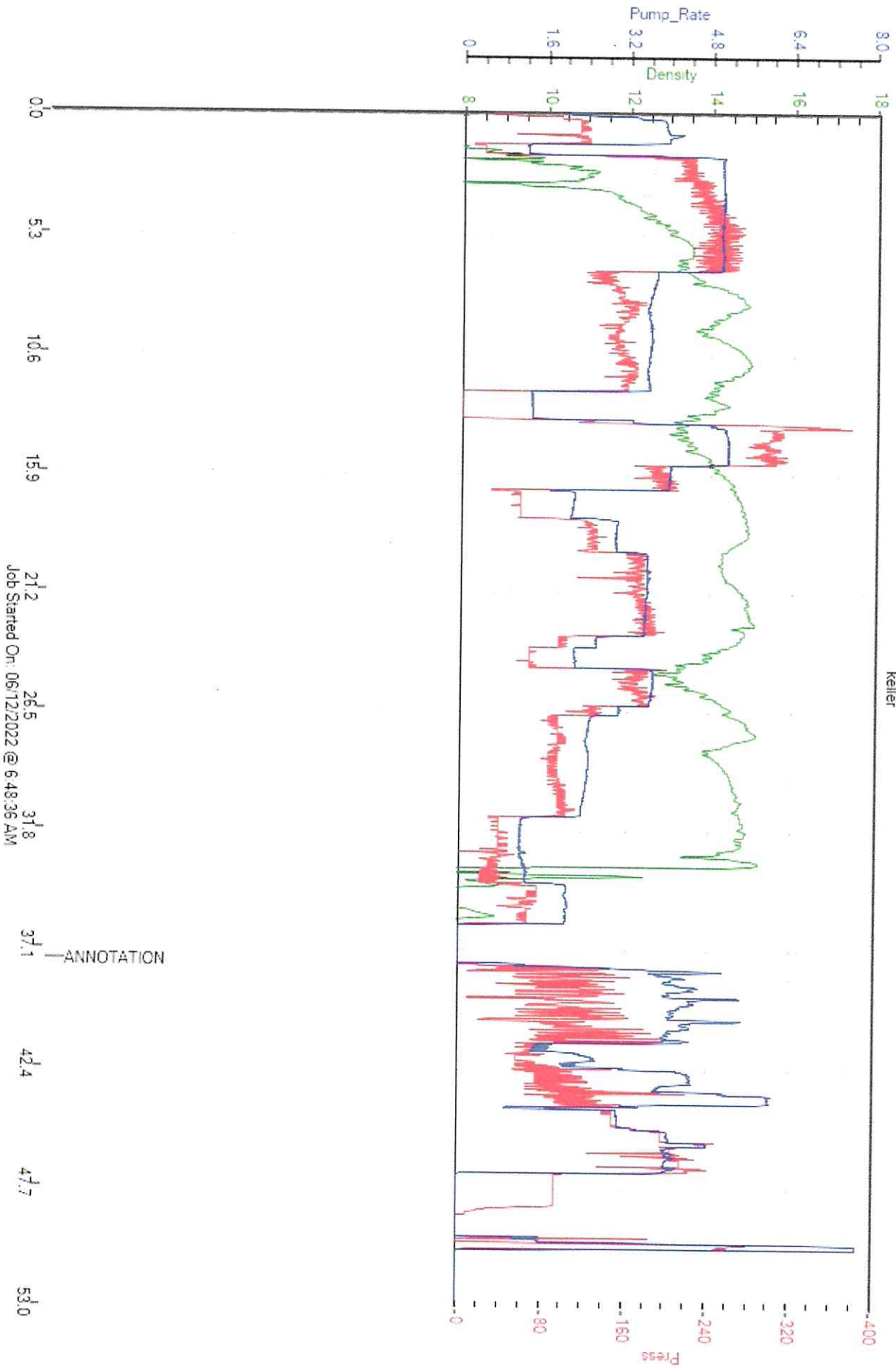
Calculated Slurry - Lead	
Blend:	60/40 2 & 3
Weight:	14.8 ppg
Water / Sx:	5.2 gal / sx
Yield:	1.21 ft <sup>3</sup> / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0.0 bbls
Excess:	230%
Total Slurry:	108.0 bbls
Total Sacks:	500 sx

Calculated Slurry - Tail	
Blend:	
Weight:	ppg
Water / Sx:	gal / sx
Yield:	ft <sup>3</sup> / 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	STAGE BBLs	TOTAL BBLs	REMARKS
2:30 AM			-	-	on location job and safety
2:45 AM				-	spot trucks and rig up
				-	
5:00 AM				-	start casing in the hole
6:45 AM				-	casing on bottom and circulate
				-	
6:55 AM				-	start cement
	5.0	250.0	5.0	5.0	fresh water
	5.0	250.0	108.0	113.0	mix 500 sacks 60/40 2& 3
7:30 AM					cement in and shut down
				-	release plug
7:35 AM					start displacement
7:45 AM	4.0	200.0	26.0		displacement in and close in the well
					circulated 20 bbls to the pit

CREW		UNIT	SUMMARY		
Cementer:	M Brungardt	916	Average Rate	Average Pressure	Total Fluid
Pump Operator:	R Osborn	529/522	4.7 bpm	233 psi	139 bbls
Bulk #1:	J Trevino	182/534			
Bulk #2:	F Contrass	523/256			

darrah  
keller



Job Started On: 06/12/2022 @ 6:48:36 AM



## DRILL STEM TEST REPORT

Prepared For: **Darrah Oil Company LLC**

125 N Market, Suite 1425  
Wichita, KS. 67202

ATTN: Roger Martin

### **Keller #1-31**

### **31-20s-13w Barton,KS**

Start Date: 2022.06.15 @ 23:29:51

End Date: 2022.06.16 @ 08:14:51

Job Ticket #: 68889                      DST #: 1

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

Printed: 2022.06.23 @ 08:56:17



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68889

**DST#: 1**

ATTN: Roger Martin

Test Start: 2022.06.15 @ 23:29:51

## GENERAL INFORMATION:

Formation: **LKC A - F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:38:21

Time Test Ended: 08:14:51

Test Type: Conventional Bottom Hole (Initial)

Tester: Matt Smith

Unit No: 68

**Interval: 3292.00 ft (KB) To 3372.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3372.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8788**

**Inside**

Press@RunDepth: 174.98 psig @ 3293.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.15

End Date:

2022.06.16

Last Calib.:

2022.06.16

Start Time:

23:29:56

End Time:

08:14:51

Time On Btm:

2022.06.16 @ 02:37:06

Time Off Btm:

2022.06.16 @ 05:31:06

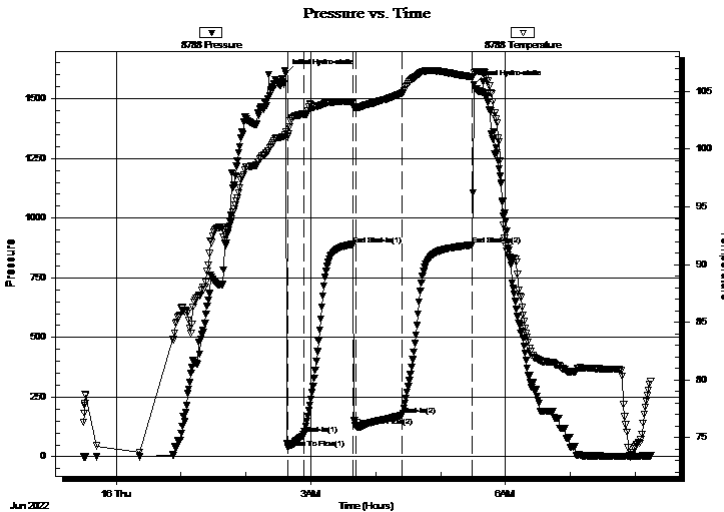
**TEST COMMENT:** IF: Strong Blow . B.O.B. in 1 1/2 mins. Built to 142.22". (15)

IS: Weak Surface Blow . Died. (45)

FF: Strong Blow . B.O.B. in 30 secs. Built to 233.89". G.T.S. in 28 mins. (45)

FS: Strong Blow . B.O.B. in 16 mins. Built to 12.19". (60)

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1604.57	101.50	Initial Hydro-static
2	37.10	101.14	Open To Flow (1)
17	92.89	103.04	Shut-In(1)
63	889.98	104.12	End Shut-In(1)
65	127.32	103.61	Open To Flow (2)
108	174.98	104.89	Shut-In(2)
173	887.16	106.24	End Shut-In(2)
174	1558.42	106.65	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
252.00	GMCO 40%g 5%m 55%o	3.53
63.00	GOCM 45%g 30%o 25%m	0.88
126.00	GOCM 10%g 20%o 70%m	1.77
5.00	GVSOCM 2%g 3%o 95%m	0.07

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	5.70	7.52
Last Gas Rate	0.13	5.71	7.53
Max. Gas Rate	0.13	5.83	7.57



# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68889

**DST#: 1**

ATTN: Roger Martin

Test Start: 2022.06.15 @ 23:29:51

## GENERAL INFORMATION:

Formation: **LKC A - F**

Deviated: No Whipstock: ft (KB)

Test Type: Conventional Bottom Hole (Initial)

Time Tool Opened: 02:38:21

Tester: Matt Smith

Time Test Ended: 08:14:51

Unit No: 68

**Interval: 3292.00 ft (KB) To 3372.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3372.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: psig @ 3293.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.15

End Date: 2022.06.16

Last Calib.: 2022.06.16

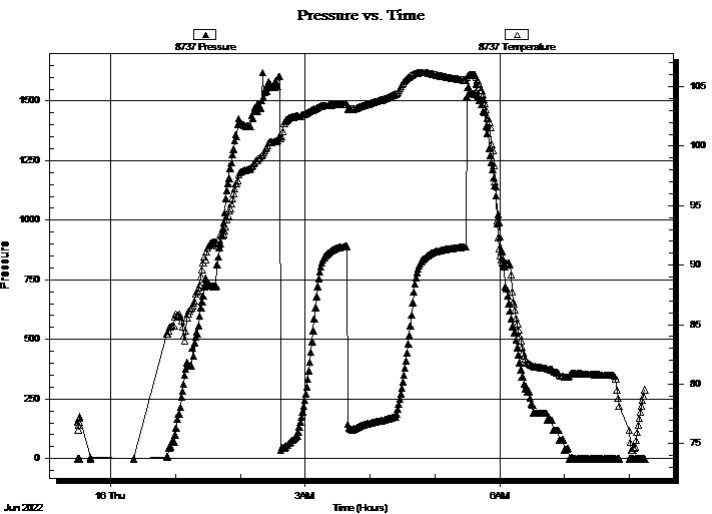
Start Time: 23:29:16

End Time: 08:14:11

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: Strong Blow, B.O.B. in 1 1/2 mins. Built to 142.22". (15)  
IS: Weak Surface Blow. Died. (45)  
FF: Strong Blow. B.O.B. in 30 secs. Built to 233.89". G.T.S. in 28 mins. (45)  
FS: Strong Blow. B.O.B. in 16 mins. Built to 12.19". (60)



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
252.00	GMCO 40%g 5%m 55%o	3.53
63.00	GOCM 45%g 30%o 25%m	0.88
126.00	GOCM 10%g 20%o 70%m	1.77
5.00	GV SOCM 2%g 3%o 95%m	0.07

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	5.70	7.52
Last Gas Rate	0.13	5.71	7.53
Max. Gas Rate	0.13	5.83	7.57



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68889

**DST#: 1**

ATTN: Roger Martin

Test Start: 2022.06.15 @ 23:29:51

## Tool Information

Drill Pipe:	Length: 3275.00 ft	Diameter: 3.80 inches	Volume: 45.94 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.80 inches	Volume: 0.00 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 45.94 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3292.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	111.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Shale Packer in the string.

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3262.00	
Shut In Tool	5.00			3267.00	
Hydraulic tool	5.00			3272.00	
Jars	5.00			3277.00	
EMT	3.00			3280.00	
Safety Joint	3.00			3283.00	
Packer	4.00			3287.00	31.00 Bottom Of Top Packer
Packer	5.00			3292.00	
Stubb	1.00			3293.00	
Recorder	0.00	8788	Inside	3293.00	
Recorder	0.00	8737	Outside	3293.00	
Perforations	2.00			3295.00	
Change Over Sub	1.00			3296.00	
Blank Spacing	63.00			3359.00	
Change Over Sub	1.00			3360.00	
Perforations	9.00			3369.00	
Bullnose	3.00			3372.00	80.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>111.00</b>				





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68889

**DST#: 1**

ATTN: Roger Martin

Test Start: 2022.06.15 @ 23:29:51

## 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: 55.00 sec/qt

Cushion Volume:

bbf

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
252.00	GMCO 40%g 5%m 55%o	3.535
63.00	GOCM 45%g 30%o 25%m	0.884
126.00	GOCM 10%g 20%o 70%m	1.767
5.00	GVSOCM 2%g 3%o 95%m	0.070

Total Length: 446.00 ft

Total Volume:

6.256 bbf

Num Fluid Samples: 1

Num Gas Bombs: 1

Serial #: P 10 MAS25

Laboratory Name:

Laboratory Location:

Recovery Comments: No Mud Check Well.  
Shale Packer.



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68889

**DST#: 1**

ATTN: Roger Martin

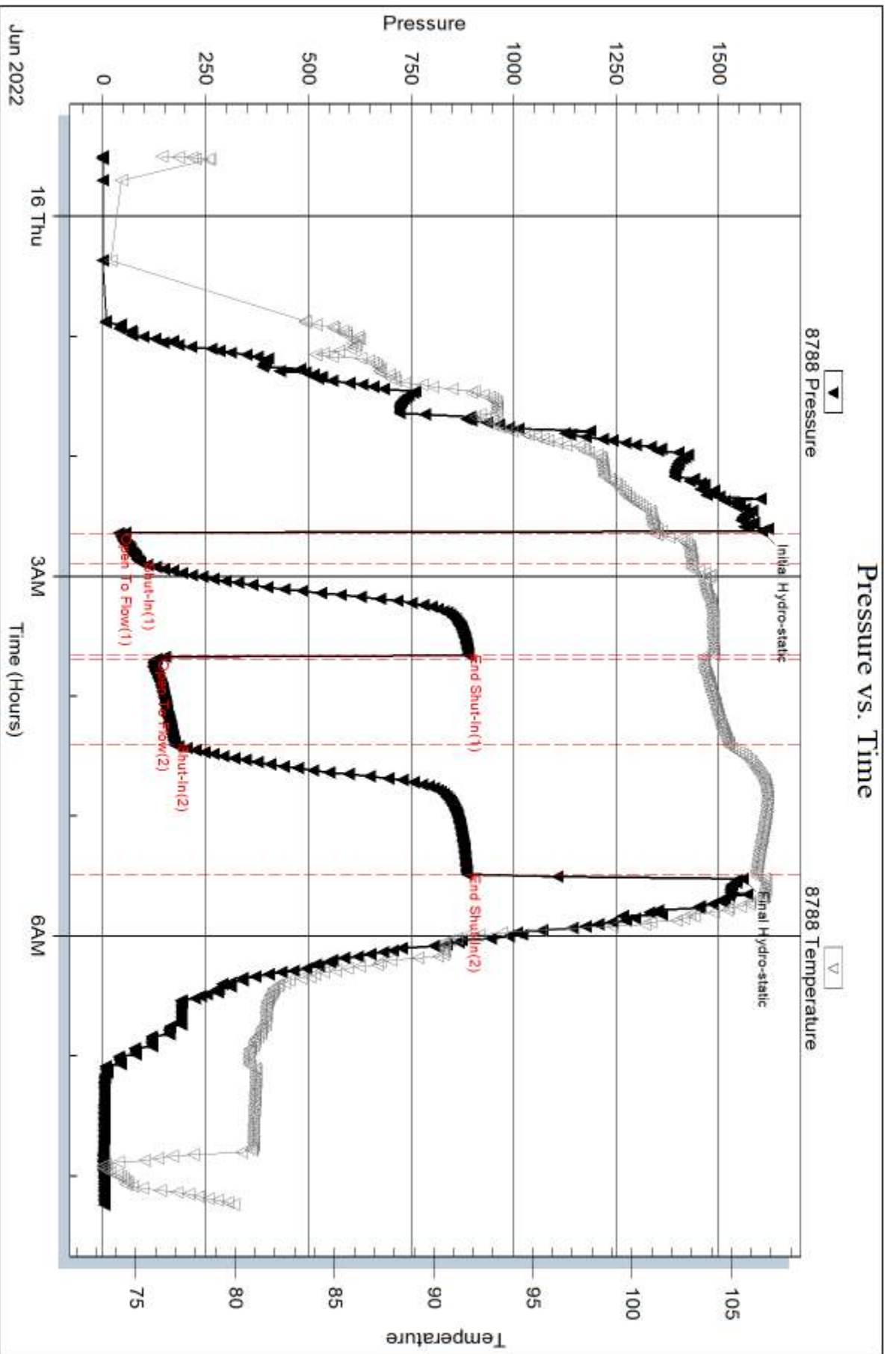
Test Start: 2022.06.15 @ 23:29:51

### Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	28	0.13	5.70	7.52
2	30	0.13	5.83	7.57
2	40	0.13	5.81	7.56
2	45	0.13	5.71	7.53

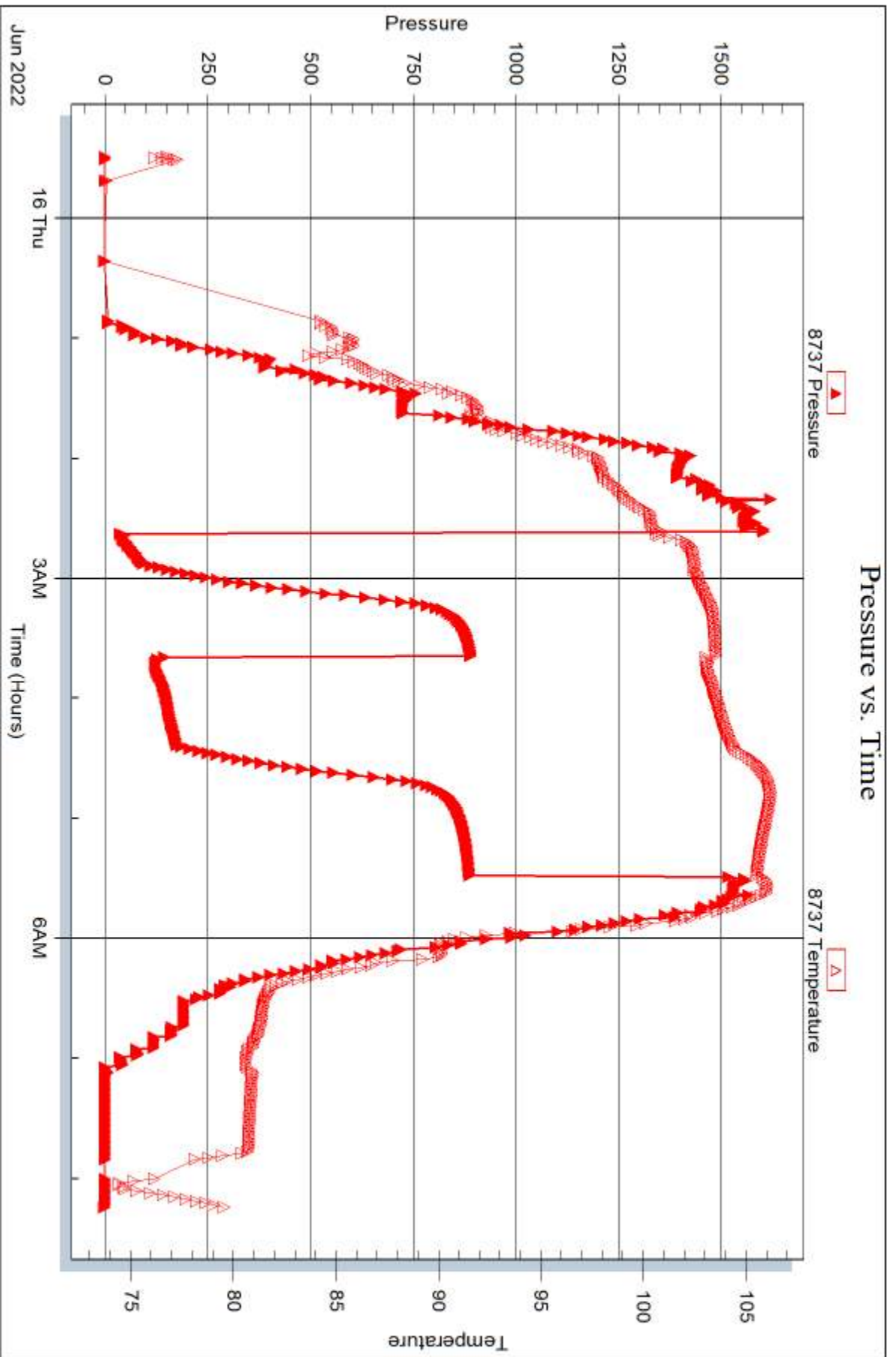


Serial #: 8737

Outside Darrah Oil Company LLC

Keller #1-31

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Darrah Oil Company LLC**

125 N Market, Suite 1425  
Wichita, KS. 67202

ATTN: Roger Martin

### **Keller #1-31**

### **31-20s-13w Barton,KS**

Start Date: 2022.06.17 @ 03:39:06

End Date: 2022.06.17 @ 11:26:51

Job Ticket #: 68890                      DST #: 2

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

Printed: 2022.06.23 @ 08:55:42



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68890

**DST#: 2**

ATTN: Roger Martin

Test Start: 2022.06.17 @ 03:39:06

## GENERAL INFORMATION:

Formation: **LKC H - L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:11:36

Time Test Ended: 11:26:51

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 3413.00 ft (KB) To 3533.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3533.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: 88.56 psig @ 3414.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.17 End Date: 2022.06.17

Last Calib.: 2022.06.17

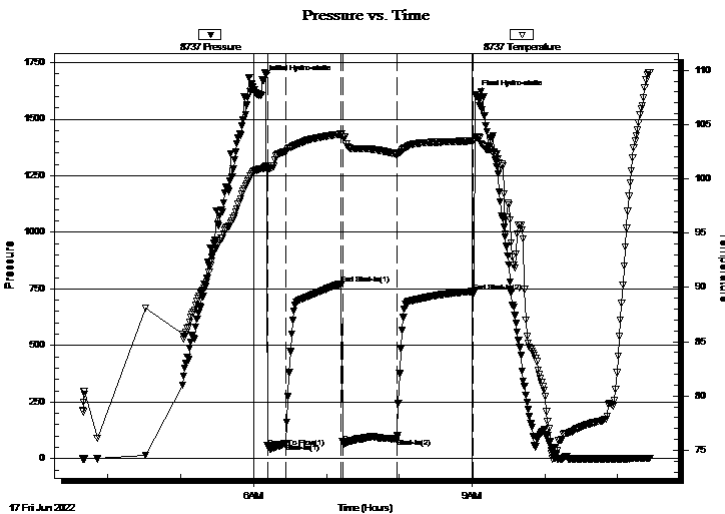
Start Time: 03:39:11 End Time: 11:26:50

Time On Btm: 2022.06.17 @ 06:07:21

Time Off Btm: 2022.06.17 @ 09:02:21

**TEST COMMENT:** IF: Strong Blow . B.O.B. in 1 1/2 mins. Built to 285.58". (15)  
IS: No Blow . (45)  
FF: Strong Blow . B.O.B. immediate. G.T.S. in 8 mins. (45)  
FS: Weak Blow . Built to 2.47". (60)

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1673.45	100.96	Initial Hydro-static
5	51.72	100.93	Open To Flow (1)
19	66.80	102.50	Shut-In(1)
65	771.91	104.12	End Shut-In(1)
67	69.45	103.89	Open To Flow (2)
111	88.56	102.25	Shut-In(2)
174	738.73	103.51	End Shut-In(2)
175	1606.66	103.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	GMCHO 15%g 15%m 70%o	0.88
63.00	GMCO 25%g 30%m 45%o	0.88
63.00	GHOCM 10%g 45%o 45%m	0.88

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	12.49	10.06
Last Gas Rate	0.38	4.68	69.89
Max. Gas Rate	0.13	20.27	12.98



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68890

**DST#: 2**

ATTN: Roger Martin

Test Start: 2022.06.17 @ 03:39:06

## Tool Information

Drill Pipe:	Length: 3403.00 ft	Diameter: 3.80 inches	Volume: 47.74 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.80 inches	Volume: 0.00 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 47.74 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3413.00 ft			Final	53000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	120.00 ft				
Tool Length:	151.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3383.00	
Shut In Tool	5.00			3388.00	
Hydraulic tool	5.00			3393.00	
Jars	5.00			3398.00	
EMT	3.00			3401.00	
Safety Joint	3.00			3404.00	
Packer	4.00			3408.00	31.00 Bottom Of Top Packer
Packer	5.00			3413.00	
Stubb	1.00			3414.00	
Recorder	0.00	8788	Inside	3414.00	
Recorder	0.00	8737	Outside	3414.00	
Perforations	2.00			3416.00	
Change Over Sub	1.00			3417.00	
Blank Spacing	95.00			3512.00	
Change Over Sub	1.00			3513.00	
Perforations	17.00			3530.00	
Bullnose	3.00			3533.00	120.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>151.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68890

**DST#: 2**

ATTN: Roger Martin

Test Start: 2022.06.17 @ 03:39:06

## 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: 58.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	GMCHO 15%g 15%m 70%o	0.884
63.00	GMCO 25%g 30%m 45%o	0.884
63.00	GHOCM 10%g 45%o 45%m	0.884

Total Length: 189.00 ft

Total Volume: 2.652 bbl

Num Fluid Samples: 1

Num Gas Bombs: 1

Serial #: P 30 MAS

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68890

**DST#: 2**

ATTN: Roger Martin

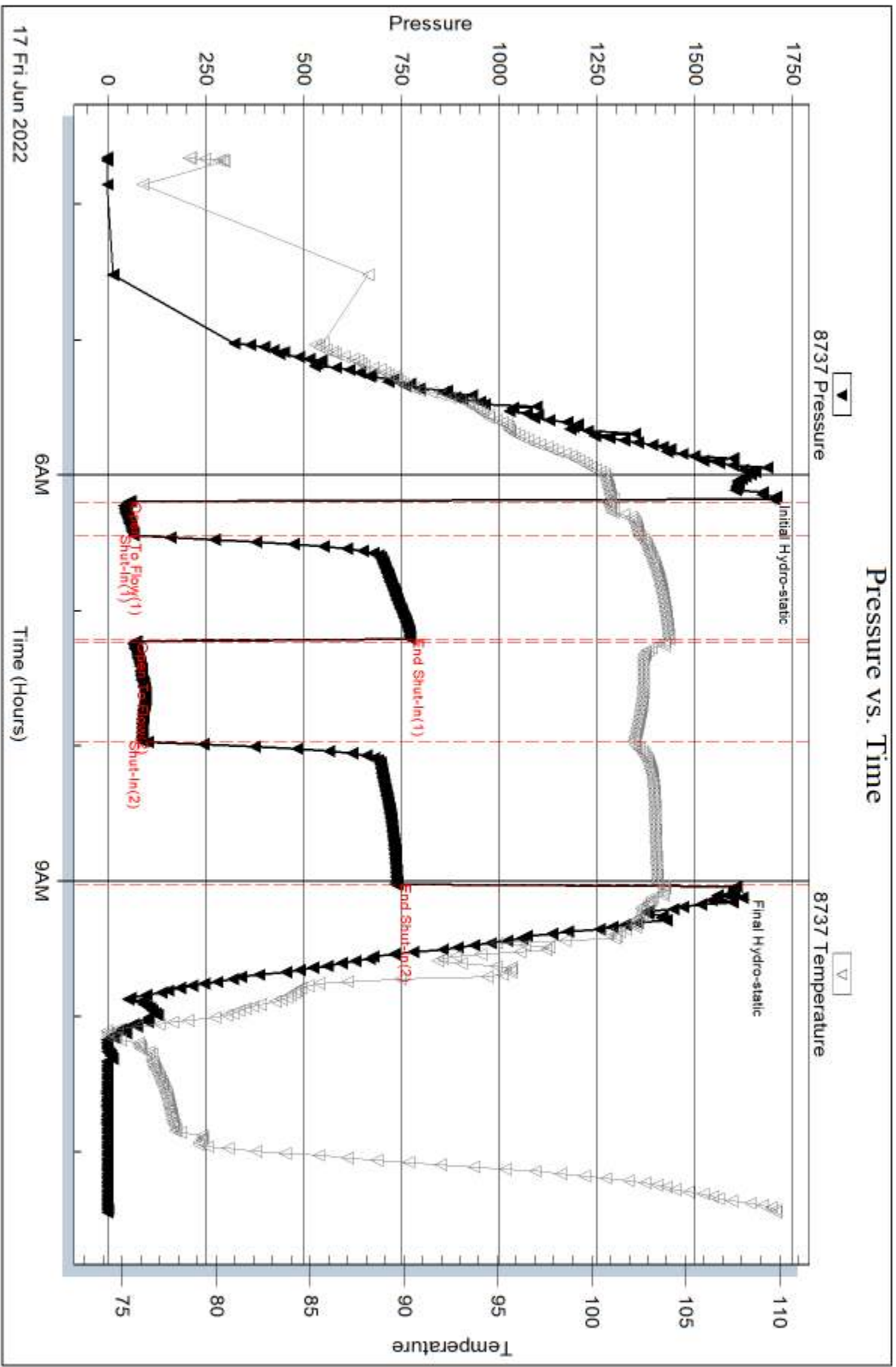
Test Start: 2022.06.17 @ 03:39:06

### Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	8	0.13	12.49	10.06
2	8	0.13	12.49	10.06
2	10	0.13	14.02	10.64
2	20	0.13	20.27	12.98
2	30	0.38	13.95	103.85
2	40	0.38	4.68	69.89





## DRILL STEM TEST REPORT

Prepared For: **Darrah Oil Company LLC**

125 N Market, Suite 1425  
Wichita, KS. 67202

ATTN: Roger Martin

### **Keller #1-31**

#### **31-20s-13w Barton,KS**

Start Date: 2022.06.18 @ 00:02:36

End Date: 2022.06.18 @ 08:12:06

Job Ticket #: 68891                      DST #: 3

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

Printed: 2022.06.23 @ 08:54:50



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68891

**DST#: 3**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 00:02:36

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:40:51

Time Test Ended: 08:12:06

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 3508.00 ft (KB) To 3557.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3557.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8788**

**Inside**

Press@RunDepth: 37.07 psig @ 3509.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.18

End Date:

2022.06.18

Last Calib.:

2022.06.18

Start Time: 00:02:41

End Time:

08:12:05

Time On Btm:

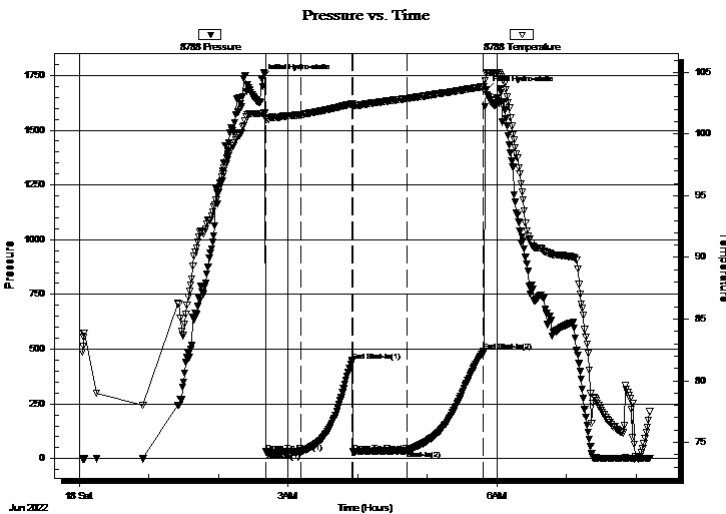
2022.06.18 @ 02:36:51

Time Off Btm:

2022.06.18 @ 05:50:51

**TEST COMMENT:** IF: Weak Blow . Built to 3.30". (30)  
IS: No Blow . (45)  
FF: Fair Blow . Built to 6.67". (45)  
FS: No Blow . (60)

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1737.12	101.68	Initial Hydro-static
4	30.66	101.21	Open To Flow (1)
34	31.00	101.57	Shut-In(1)
79	446.93	102.46	End Shut-In(1)
80	30.48	102.30	Open To Flow (2)
126	37.07	102.88	Shut-In(2)
192	490.21	103.84	End Shut-In(2)
194	1682.87	104.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
32.00	GHOCM 15%g 30%o 55%m	0.45
0.00	63' GIP 100%g	0.00
0.00	TS- GHOCM 5%g 40%o 55%m	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

ATTN: Roger Martin

Job Ticket: 68891

**DST#: 3**

Test Start: 2022.06.18 @ 00:02:36

**GENERAL INFORMATION:**

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:40:51

Time Test Ended: 08:12:06

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 3508.00 ft (KB) To 3557.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3557.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: psig @ 3509.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.18

End Date:

2022.06.18

Last Calib.:

2022.06.18

Start Time: 00:02:48

End Time:

08:12:12

Time On Btm:

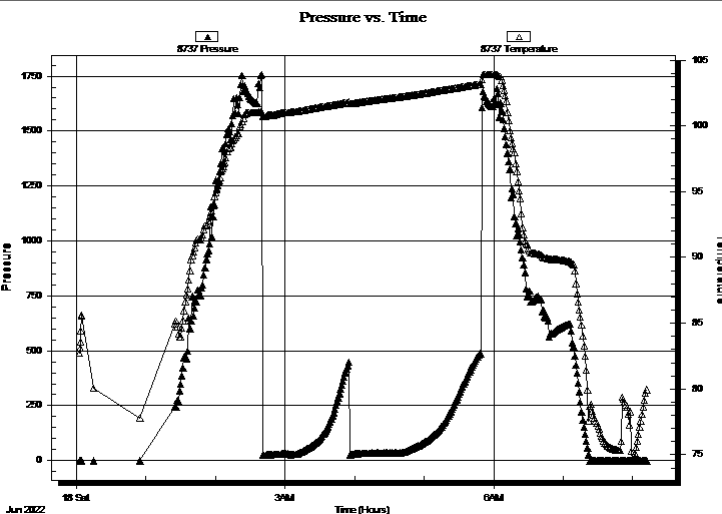
Time Off Btm:

**TEST COMMENT:** IF: Weak Blow . Built to 3.30". (30)

IS: No Blow . (45)

FF: Fair Blow . Built to 6.67". (45)

FS: No Blow . (60)



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
32.00	GHOCM 15%g 30%o 55%m	0.45
0.00	63' GIP 100%g	0.00
0.00	TS- GHOCM 5%g 40%o 55%m	0.00

**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 Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68891

**DST#: 3**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 00:02:36

## Tool Information

Drill Pipe:	Length: 3497.00 ft	Diameter: 3.80 inches	Volume: 49.05 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.80 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 49.05 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3508.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	49.00 ft			
Tool Length:	80.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3478.00	
Shut In Tool	5.00			3483.00	
Hydraulic tool	5.00			3488.00	
Jars	5.00			3493.00	
EMT	3.00			3496.00	
Safety Joint	3.00			3499.00	
Packer	4.00			3503.00	31.00 Bottom Of Top Packer
Packer	5.00			3508.00	
Stubb	1.00			3509.00	
Recorder	0.00	8788	Inside	3509.00	
Recorder	0.00	8737	Outside	3509.00	
Perforations	2.00			3511.00	
Change Over Sub	1.00			3512.00	
Blank Spacing	32.00			3544.00	
Change Over Sub	1.00			3545.00	
Perforations	9.00			3554.00	
Bullnose	3.00			3557.00	49.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>80.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68891

**DST#: 3**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 00:02:36

## 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: 55.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
32.00	GHOCM 15%g 30%o 55%m	0.449
0.00	63' GIP 100%g	0.000
0.00	TS- GHOCM 5%g 40%o 55%m	0.000

Total Length: 32.00 ft      Total Volume: 0.449 bbl

Num Fluid Samples: 0

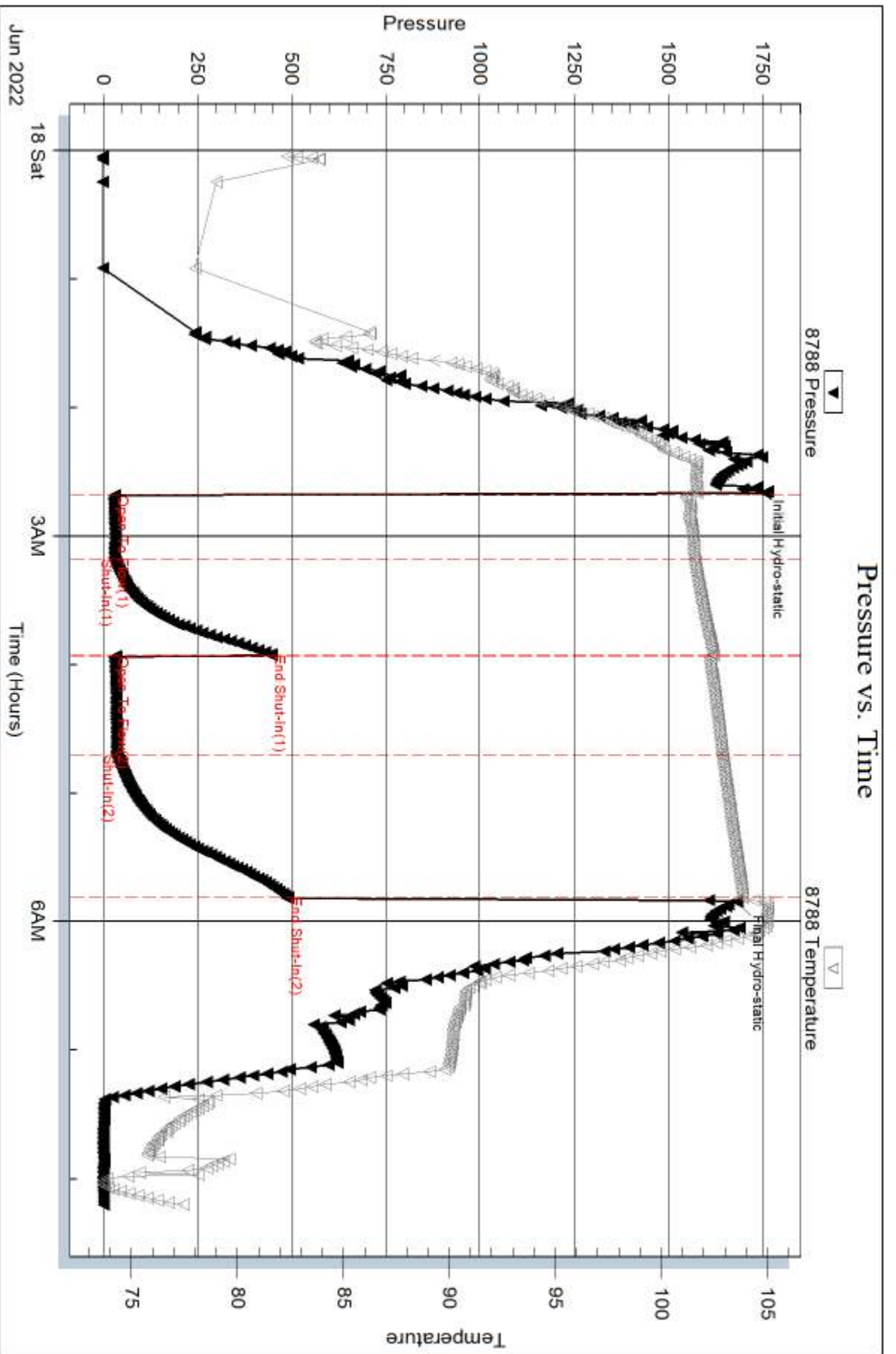
Num Gas Bombs: 0

Serial #: None

Laboratory Name:

Laboratory Location:

Recovery Comments: Tool Sample 5%gas 40% H Oil 55%mud



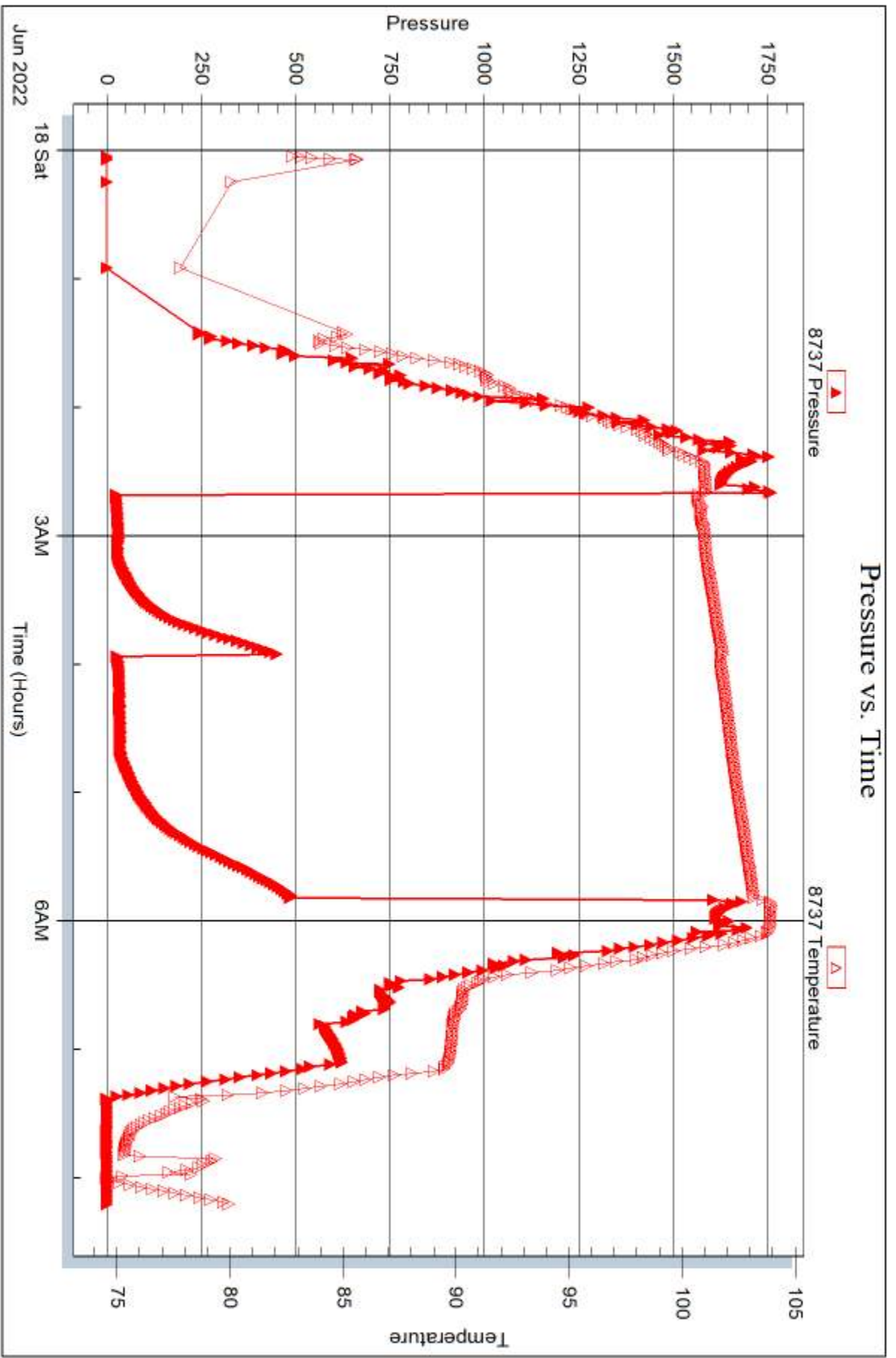


Serial #: 8737

Outside Darrah Oil Company LLC

Keller #1-31

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 68891

Printed: 2022.06.23 @ 08:54:51



## DRILL STEM TEST REPORT

Prepared For: **Darrah Oil Company LLC**

125 N Market, Suite 1425  
Wichita, KS. 67202

ATTN: Roger Martin

### **Keller #1-31**

### **31-20s-13w Barton,KS**

Start Date: 2022.06.18 @ 14:53:03

End Date: 2022.06.18 @ 22:39:03

Job Ticket #: 68892                      DST #: 4

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

Printed: 2022.06.23 @ 08:20:55



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68892

**DST#: 4**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 14:53:03

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:21:03

Time Test Ended: 22:39:03

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 3508.00 ft (KB) To 3572.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3572.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8788 Inside**

Press@RunDepth: 55.45 psig @ 3509.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.18

End Date:

2022.06.18

Last Calib.:

2022.06.18

Start Time: 14:53:08

End Time:

22:39:02

Time On Btm:

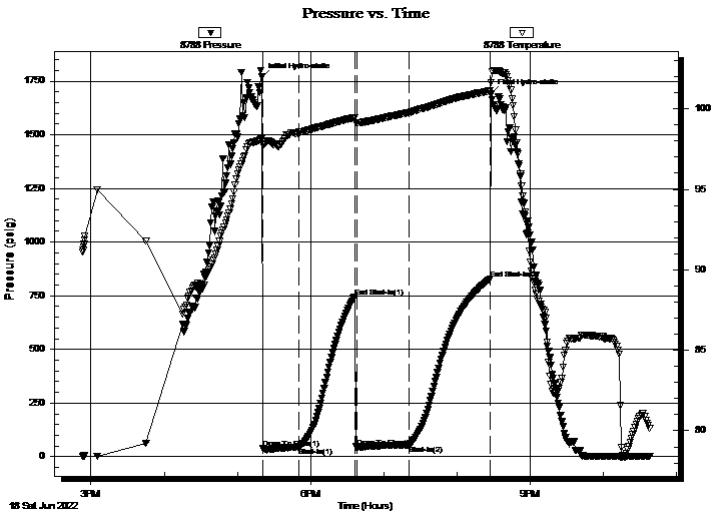
2022.06.18 @ 17:20:18

Time Off Btm:

2022.06.18 @ 20:28:18

**TEST COMMENT:** IF: Weak-Fair Blow . Built to 5.94". (30)  
IS: No Blow . (45)  
FF: Fair-Strong Blow . Built to 9.37". (45)  
FS: No Blow . (60)

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1767.73	98.16	Initial Hydro-static
1	38.45	97.74	Open To Flow (1)
31	45.29	98.54	Shut-In(1)
76	744.60	99.46	End Shut-In(1)
78	43.03	99.13	Open To Flow (2)
121	55.45	99.76	Shut-In(2)
188	828.58	101.12	End Shut-In(2)
188	1689.83	101.65	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	GHOCM 25%g 30%o 45%m	0.88
32.00	GHOCM 4%g 40%o 56%m	0.45
0.00	63' GIP 100%g	0.00
0.00	TS GHOCM 5%g 35%o 60%m	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE**  
**TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC  
125 N Market, Suite 1425  
Wichita, KS. 67202  
ATTN: Roger Martin

**31-20s-13w Barton,KS**  
**Keller #1-31**  
Job Ticket: 68892 **DST#: 4**  
Test Start: 2022.06.18 @ 14:53:03

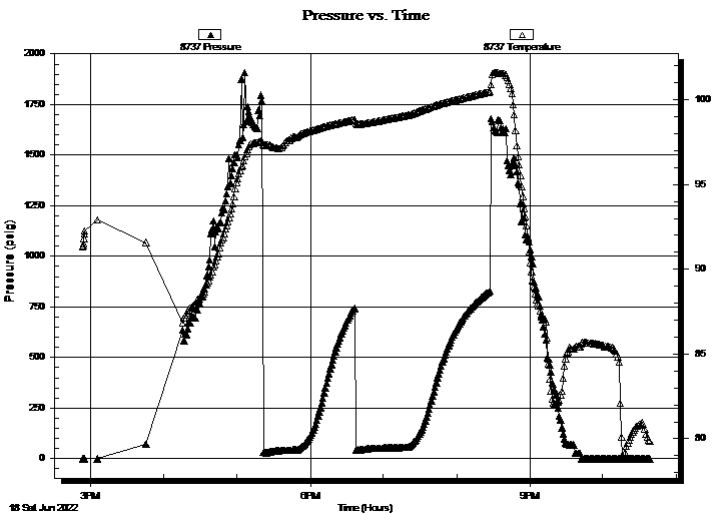
## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 17:21:03  
Time Test Ended: 22:39:03  
Interval: **3508.00 ft (KB) To 3572.00 ft (KB) (TVD)**  
Total Depth: 3572.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Matt Smith  
Unit No: 68  
Reference Elevations: 1914.00 ft (KB)  
1904.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8737** **Outside**  
Press@RunDepth: psig @ 3509.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2022.06.18 End Date: 2022.06.18 Last Calib.: 2022.06.18  
Start Time: 14:53:14 End Time: 22:39:08 Time On Btm:  
Time Off Btm:

**TEST COMMENT:** IF: Weak-Fair Blow . Built to 5.94". (30)  
IS: No Blow . (45)  
FF: Fair-Strong Blow . Built to 9.37". (45)  
FS: No Blow . (60)

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	GHOCM 25%g 30%o 45%m	0.88
32.00	GHOCM 4%g 40%o 56%m	0.45
0.00	63' GIP 100%g	0.00
0.00	TS GHOCM 5%g 35%o 60%m	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68892

**DST#: 4**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 14:53:03

## Tool Information

Drill Pipe:	Length: 3498.00 ft	Diameter: 3.80 inches	Volume: 49.07 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.80 inches	Volume: 0.00 bbl	Weight to Pull Loose:	85000.00 lb
			<u>Total Volume: 49.07 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3508.00 ft			Final	53000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	64.00 ft				
Tool Length:	95.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3478.00	
Shut In Tool	5.00			3483.00	
Hydraulic tool	5.00			3488.00	
Jars	5.00			3493.00	
EMT	3.00			3496.00	
Safety Joint	3.00			3499.00	
Packer	4.00			3503.00	31.00 Bottom Of Top Packer
Packer	5.00			3508.00	
Stubb	1.00			3509.00	
Recorder	0.00	8788	Inside	3509.00	
Recorder	0.00	8737	Outside	3509.00	
Perforations	2.00			3511.00	
Change Over Sub	1.00			3512.00	
Blank Spacing	32.00			3544.00	
Change Over Sub	1.00			3545.00	
Perforations	24.00			3569.00	
Bullnose	3.00			3572.00	64.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>95.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Darrah Oil Company LLC

**31-20s-13w Barton,KS**

125 N Market, Suite 1425  
Wichita, KS. 67202

**Keller #1-31**

Job Ticket: 68892

**DST#: 4**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 14:53:03

## 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: 56.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	GHOCM 25%g 30%o 45%m	0.884
32.00	GHOCM 4%g 40%o 56%m	0.449
0.00	63' GIP 100%g	0.000
0.00	TS GHOCM 5%g 35%o 60%m	0.000

Total Length: 95.00 ft      Total Volume: 1.333 bbl

Num Fluid Samples: 0

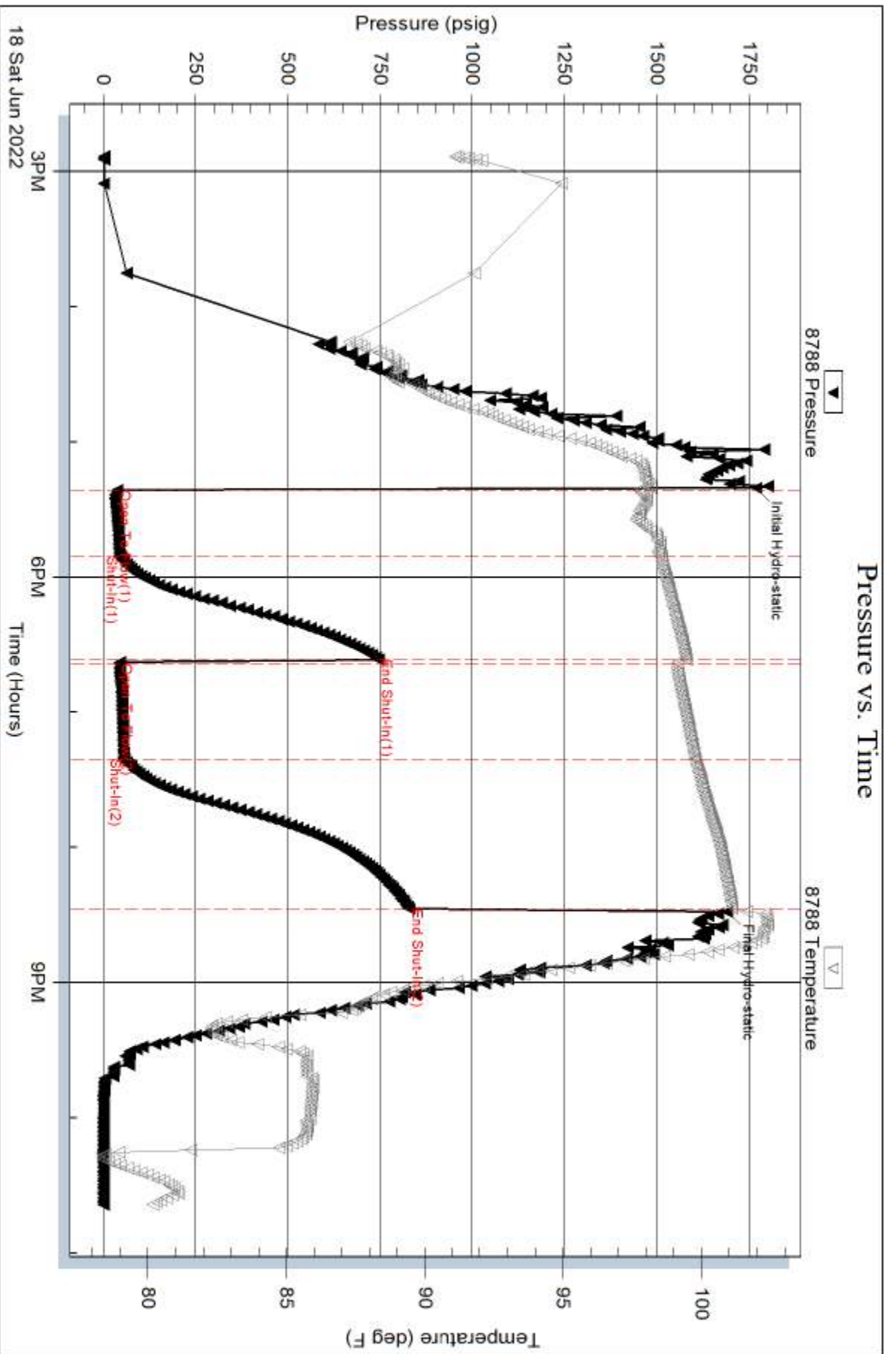
Num Gas Bombs: 0

Serial #: None

Laboratory Name:

Laboratory Location:

Recovery Comments: Tool Sample... 5%g 35%o 60%m

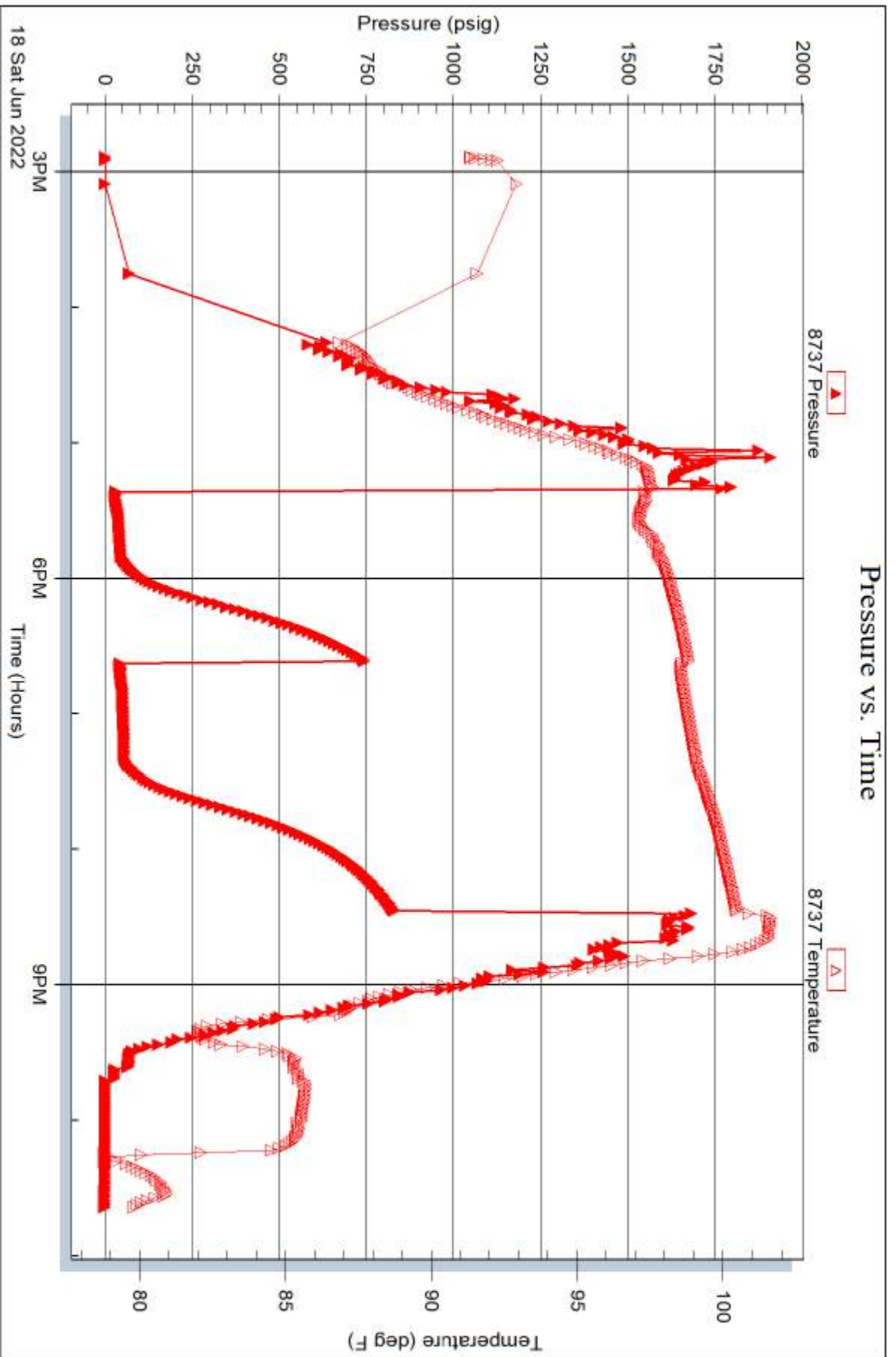


Serial #: 8737

Outside Darrah Oil Company LLC

Keller #1-31

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 68892

Printed: 2022.06.23 @ 08:20:56





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 68889

Well Name & No. Keller 1-31 Test No. 1 Date 6/15/22  
 Company Darrah Oil Company, LLC Elevation 1914 KB 1964 GL  
 Address 125 N. MARKET, Suite 1425 Wichita, KS. 67202  
 Co. Rep / Geo. Roger Martin Rig Southwind 8  
 Location: Sec. 31 Twp 20S Rge. 13W Co. Barton State KS

Interval Tested 3292 - 3372 Zone Tested Lansing A-F  
 Anchor Length 80' Drill Pipe Run 3275 Mud Wt. 9.0  
 Top Packer Depth 3287 Drill Collars Run Q Vis SS  
 Bottom Packer Depth 3292 Wt. Pipe Run Q WL ?  
 Total Depth 3372 Chlorides ? ppm System LCM 3<sup>rd</sup>

Blow Description IF: Strong Blow. B.O.B 1 1/2 mins. Built to 142.22"  
ISI: Weak Surface Blow. Died.  
FF: Strong Blow. B.O.B. in 30 secs. Built to 233.89". C.T.I.S. in 28 mins  
FSI: Strong Blow. B.O.B in 16 mins. Built to 12.19"

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>GrSOCM</u>	<u>2</u>	<u>3</u>	<u>8</u>	<u>87</u>
<u>126</u>	<u>GOCM</u>	<u>10</u>	<u>20</u>	<u>70</u>	<u>70</u>
<u>63</u>	<u>GOCM</u>	<u>45</u>	<u>30</u>	<u>25</u>	<u>25</u>
<u>252</u>	<u>GmCO</u>	<u>40</u>	<u>55</u>	<u>5</u>	<u>5</u>

Rec Total 446' Fluid BHT 102° Gravity N/A API RW N/A @ — °F Chlorides NA ppm

(A) Initial Hydrostatic <u>1605</u>	<input checked="" type="checkbox"/> Test <u>1800</u>	T-On Location <u>2025</u>
(B) First Initial Flow <u>37</u>	<input checked="" type="checkbox"/> Jars <u>300</u>	T-Started <u><del>2329</del> 2329</u>
(C) First Final Flow <u>93</u>	<input checked="" type="checkbox"/> Safety Joint	T-Open <u>0238</u>
(D) Initial Shut-In <u>890</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>0635</u>
(E) Second Initial Flow <u>127</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0814</u>
(F) Second Final Flow <u>175</u>	<input checked="" type="checkbox"/> Mileage <u>(82) → Pratt 123</u>	Comments
(G) Final Shut-In <u>887</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1558</u>	<input type="checkbox"/> Straddle	

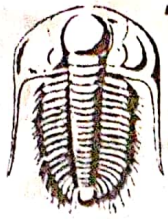
Initial Open 15  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 60

Shale Packer 250  
 Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility  
 Sub Total 2473

EM Tool  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 2473

MP/DST Disc't YES

Approved By \_\_\_\_\_ Our Representative Matthew A. Smith  
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



**TRILOBITE TESTING INC.**

P.O. Box 362 • Hays, Kansas 67601 • (785) 625-4778

6/15/22  
Ticket # 68889

**GAS VOLUME REPORT**

DARREN OIL Comp. Southwind 8 OPERATOR      Keller 1-31 (31-20s-13w) Barton Co. KS WELL NAME AND NO.      1 DST NO.

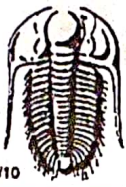
DF!

FF! GTS 28 mins

Min.	Ins. of Water PSIG	Orifice Size	CF/D	Min.	Ins. of Water PSIG	Orifice Size	CF/D	ATMS CF/D
				28	5.70	1/8"	7.13	7.52
				30	5.83	1/8"	7.16	7.57
				40	5.81	1/8"	7.17	7.56
				45	5.71	1/8"	7.13	7.53

Remarks:

*Matthew Smith*



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 68890

Well Name & No. Keller 1-31 Test No. 2 Date 6/17/22  
 Company Dareah Oil Company, LLC Elevation 1914 KB 1904 GL  
 Address 125 N. Market, Suite 1425 Wichita, KS 67202  
 Co. Rep / Geo. Roger Martin Rig Southwind 8  
 Location: Sec. 31 Twp 20S Rge. 13W Co. Barton State KS.

Interval Tested 3413 - 3533 Zone Tested KC H-L  
 Anchor Length 120' Drill Pipe Run 3403 Mud Wt. 9.0  
 Top Packer Depth 3408 Drill Collars Run 0 Vis 58  
 Bottom Packer Depth 3413 Wt. Pipe Run 0 WL ?  
 Total Depth 3533 Chlorides ? ppm System LCM 2\*

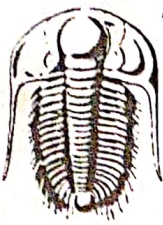
Blow Description IF: Strong Blow. B.O.B. in 1 1/2 mins. Built to 285.58".  
ISI: No Blow.  
FF: Strong Blow. B.O.B. immediate. G.I.S. in 8 mins.  
FSI: Weak Blow. Built to 2.47".

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>GHOOM</u>	<u>10</u>	<u>45</u>	<u>45</u>	<u>0</u>
<u>63</u>	<u>GMC O</u>	<u>25</u>	<u>45</u>	<u>30</u>	<u>0</u>
<u>63</u>	<u>GMC HO</u>	<u>15</u>	<u>70</u>	<u>15</u>	<u>0</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 189 BHT 101° Gravity N/A API RW N/A @ — ° F Chlorides N/A ppm  
 (A) Initial Hydrostatic 1673  Test 1800 T-On Location 0310  
 (B) First Initial Flow 52  Jars 300 T-Started 0339  
 (C) First Final Flow 67  Safety Joint T-Open 0611  
 (D) Initial Shut-In 772  Circ Sub T-Pulled 0905  
 (E) Second Initial Flow 69  Hourly Standby T-Out 1126  
 (F) Second Final Flow 89  Mileage 82 Proff 123 Comments \_\_\_\_\_  
 (G) Final Shut-In 739  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1607  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 15  EM Tool \_\_\_\_\_  
 Initial Shut-In 45  Ruined Shale Packer \_\_\_\_\_  
 Final Flow 45  Ruined Packer \_\_\_\_\_  
 Final Shut-In 60  Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 2223  
 Sub Total 2223 MP/DST Disc't YES

Approved By \_\_\_\_\_ Our Representative Matthew A Smith  
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601 • (785) 625-4778

6/17/22  
Ticket #  
68890

## GAS VOLUME REPORT

DARRAH Oil Comp. (Southwind 8)  
OPERATOR

Keller 1-31 (31-20s-13w) Barton, Co. KC(H-L) 2  
WELL NAME AND NO. DST NO.

IF:

FF: G.T.S. 8-mins-

Min.	Ins. of Water PSIG	Orifice Size	CF/D	Min.	Ins. of Water PSIG	Orifice Size	SCFD	ATM 5
				8	12.49	1/8"	9.40	10.02
				10	14.02	1/8"	9.89	10.64
				20	20.27	1/8"	12.20	12.98
				30	13.95	3/8"	97.50	103.85
				40	4.68	3/8"	66.59	69.90
				45	2.57	3/8"	59.19	62.17

Remarks:

*Matthew Jantz*



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 68891

Well Name & No. Keller 1-31 Test No. 3 Date 6/17/22  
 Company Dareah Oil Company, LLC Elevation 1914 KB 1904 GL  
 Address 125 N. Market, Suite 1425 Wichita, Ks. 67202  
 Co. Rep / Geo. Roger Martin Rig Southwind 8  
 Location: Sec. \_\_\_\_\_ Twp \_\_\_\_\_ Rge. \_\_\_\_\_ Co. \_\_\_\_\_ State \_\_\_\_\_

Interval Tested 3508 - 3557 Zone Tested Arkisuckle  
 Anchor Length 49' Drill Pipe Run 3497 Mud Wt. 9.0  
 Top Packer Depth 3503 Drill Collars Run 2 Vis 55  
 Bottom Packer Depth 3508 Wt. Pipe Run 2 WL ?  
 Total Depth 3557 Chlorides ? ppm System LCM 5"

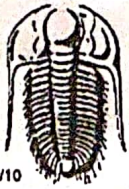
Blow Description IF: Weak Blow. Built to 3.30"  
ISI: No Blow  
FF: Fair Blow. Built to 6.67"  
FSI: No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>GIP</u>	<u>100</u>			
<u>32</u>	<u>6 HO CM</u>	<u>15</u>	<u>30</u>		<u>55</u>
<u>TS</u>	<u>TS- GHOCM</u>	<u>5</u>	<u>40</u>		<u>55</u>
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total \_\_\_\_\_ BHT \_\_\_\_\_ Gravity N/A API RW N/A @ \_\_\_\_\_ ° F Chlorides ? ppm

(A) Initial Hydrostatic <u>1737</u>	<input checked="" type="checkbox"/> Test <u>1800</u>	T-On Location <u>2328</u>
(B) First Initial Flow <u>31</u>	<input checked="" type="checkbox"/> Jars <u>300</u>	T-Started <u>0002</u>
(C) First Final Flow <u>31</u>	<input checked="" type="checkbox"/> Safety Joint _____	T-Open <u>0240</u>
(D) Initial Shut-In <u>447</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>0550</u>
(E) Second Initial Flow <u>30</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>0812</u>
(F) Second Final Flow <u>37</u>	<input checked="" type="checkbox"/> Mileage <u>82</u> → <u>Prott</u> 123	Comments _____
(G) Final Shut-In <u>490</u>	<input type="checkbox"/> Sampler _____	<input checked="" type="checkbox"/> EM Tool _____
(H) Final Hydrostatic <u>1683</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Total <u>2223</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>2223</u>	

Approved By \_\_\_\_\_ Our Representative Matthew Sand  
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 68892

Well Name & No. Keller 1-31 Test No. 4 Date 6/18/22  
 Company Deerah Oil Company, LLC Elevation 1914 KB 1904 GL  
 Address 125 N. Market, Suite 1425 Wichita, KS, 67202  
 Co. Rep / Geo. Roger Martin Rig Southwind 8  
 Location: Sec. 31 Twp 20S Rge. 13W Co. Barton State KS

Interval Tested 3508 - 3572 Zone Tested Arbuckle  
 Anchor Length 64' Drill Pipe Run 3498 Mud Wt. 9.0  
 Top Packer Depth 3503 Drill Collars Run 0 Vls SC  
 Bottom Packer Depth 3508 Wt. Pipe Run 0 WL ?  
 Total Depth 3572 Chlorides ? ppm System LCM S#

Blow Description IF: Weak-Fair Blow. Built to 5.94"  
ISI: No Blow.  
FF: Fair-Strong Blow. Built 9.37"  
FSI: No Blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>GIP</u>	<u>100</u>			
<u>32</u>	<u>GHOcm</u>	<u>4</u>	<u>40</u>		<u>56</u>
<u>63</u>	<u>GHOcm</u>	<u>25</u>	<u>30</u>		<u>45</u>
<u>TS</u>	<u>GHOcm</u>	<u>5</u>	<u>35</u>		<u>60</u>

Rec Total 95' Fluid BHT 102° Gravity M/A API RW M/A @ — °F Chlorides ? ppm  
 (A) Initial Hydrostatic 1768  Test 1800 T-On Location 1030  
 (B) First Initial Flow 38  Jars 300 T-Started 1453  
 (C) First Final Flow 45  Safety Joint \_\_\_\_\_ T-Open 1721  
 (D) Initial Shut-In 745  Circ Sub \_\_\_\_\_ T-Pulled 2035  
 (E) Second Initial Flow 43  Hourly Standby \_\_\_\_\_ T-Out 2239  
 (F) Second Final Flow 55  Mileage (32) Pratt 123 Comments \_\_\_\_\_  
 (G) Final Shut-In 829  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1680 (1690)  Straddle \_\_\_\_\_  EM Tool -350  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 215  
 Final Shut-In 60  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 2223 MP/DST Disc't YES  
 Sub Total 2223 Total 1873

Approved By \_\_\_\_\_ Our Representative [Signature]  
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

Conservation Division  
266 N. Main St., Ste. 220  
Wichita, KS 67202-1513



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

Dwight D. Keen, Chair  
Susan K. Duffy, Commissioner  
Andrew J. French, Commissioner

Laura Kelly, Governor

October 12, 2022

Cristina Goodrich  
Darrah Oil Company, LLC  
125 N MARKET SUITE 1015  
WICHITA, KS 67202-1700

Re: ACO-1  
API 15-009-31702-00-00  
KELLER 1-31  
SE/4 Sec.31-20S-13W  
Barton County, Kansas

Dear Cristina Goodrich:

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 6/11/2022 and the ACO-1 was received on October 12, 2022 (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

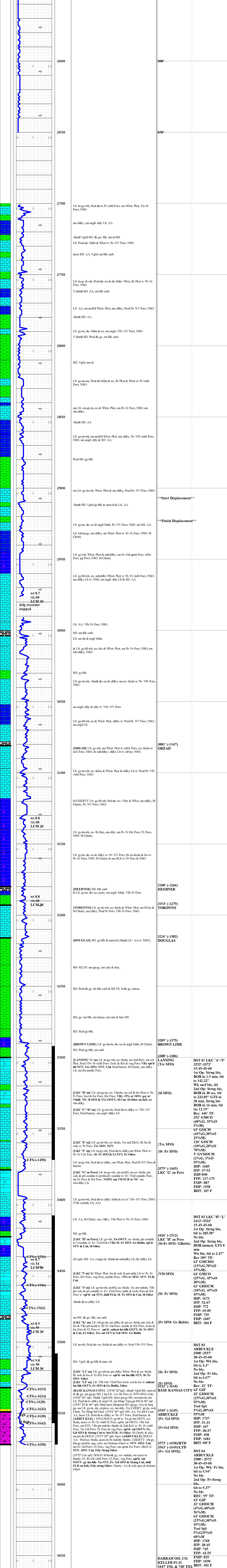
**GEOLOGIST'S REPORT**  
DRILLING TIME AND SAMPLE LOG

COMPANY <b>DARRAH OIL COMPANY, LLC.</b>		ELEVATIONS	
LEASE <b>KELLER #1-31</b>		KB <b>1914'</b>	GL <b>1904'</b>
FIELD <b>HISS SOUTH</b>		Measurements Are All From <b>KB</b>	
LOCATION <b>1847' FSL &amp; 748' FEL</b>		API # <b>15-009-31702-00-00</b>	
SECTION <b>31</b>	TOWNSHIP <b>20S</b>	RANGE <b>13W</b>	
COUNTY <b>BARTON</b>	STATE <b>KANSAS</b>		
CONTRACTOR <b>SOUTHWIND DRILLING, Rig #8</b>		CASING	
SPUD <b>06/11/2022</b>	COMP <b>06/19/2022</b>	SURFACE <b>8.58" set @ 435' w/ 500 sks</b>	
RTD <b>3572'</b>	LTD <b>3563'</b>	Common, 2% Gel, 3% CC.	
ELECTRICAL SURVEYS Midwest Wireline: DIL/BHCS, CNJ/CDL, MEL		PRODUCTION <b>5 1/2" 150#/R.L.S set @ 3556.66', Shoe joint= 21.00"</b>	

FORMATION TOPS	LOG	SAMPLES	CHRONOLOGY
STONE CORRAL/ANHYDRITE	797' (+1117)	--	06/11/2022- MIRU Southwind Drilling, Rig #8. SPUD
BASE SC/ANHYDRITE	817' (+1097)	--	12 1/4" hole. Set 8.58" @ 435' w/ 500 sks Common, 2% gel, 3% cc. Cement did circulate.
OREAD	3079' (-1165)	3081' (-1167)	06/12/2022- WOC @ 440' @ 7 AM.
HEEBNER	3175' (-1261)	3180' (-1266)	06/13/2022- Drilling @ 1348 @ 7 AM.
DOUGLAS	3212' (-1298)	3216' (-1302)	06/14/2022- Drilling @ 2465' @ 7 AM. Displace mud system @ 2935'.
BROWN LIME	3288' (-1374)	3289' (-1375)	06/15/2022- Drilling @ 3160' @ 7 AM. Run DST #1.
LANSING	3298' (-1384)	3300' (-1386)	06/16/2022- TH @ 3372' @ 7 AM. Run DST #2.
LKC 'G' zn Porosity	3376' (-1462)	3379' (-1465)	06/17/2022- Drilling @ 3510' @ 7 AM. Run DST #3.
LKC 'H' zn Porosity	3424' (-1510)	3426' (-1512)	06/18/2022- DST #3 @ 3557' @ 7 AM. DTD 3572'.
BASE KANSAS CITY	3529' (-1615)	3532' (-1618)	Run DST #4 @ RTD 3572'.
ARBUCKLE	3544' (-1630)	3549' (-1635)	06/19/2022- Run OH Elogs. Set 5 1/2" Production casing @ 3556' w/ 150 sks H-long, 30 sks for RH, 20 sks for MH. Job complete 11:45 PM.
RTD/LTD	3563' (-1649)	3572' (-1658)	

**REMARKS:**  
06/19/2022- HSI Cemented 5 1/2" 15.50/R.L.S production casing plus shoe joint = 21.00".  
Run 5 1/2" casing, set @ 3556.66' Centralizers set on #1, #3, #5, #9, #13, and basket on #6. Hook up & break circulation with rig pump & mud flush, 2% KCl flush. Mix 150 sks H-Long cement @ 15 ppg, Yield 1.42 - 37.0 bbl, displaced 84.2 bbl. Shut down, clear pump and lines.  
Drop latch-down plug. Start displacement. Lift pressure. Slow rate. Plug down plug held. Had circulation through job. Plug RH 30 sks H-Plug, Plug MH 20 sks H-Plug.  
Job complete 11:55 PM.  
  
Respectfully submitted,  
Roger L. Martin, Geologist

LITH POROSITY DRILLING TIME MINUT DST SAMPLE DESCRIPTION TGV 300







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton Ks**

125 N Market, Suite 1425  
Wichita, Ks. 67202

**Keller 1-31**

Job Ticket: 68889

**DST#: 1**

ATTN: Roger Martin

Test Start: 2022.06.15 @ 23:29:51

## GENERAL INFORMATION:

Formation: **Lansing A-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:38:21

Time Test Ended: 08:14:51

Test Type: Conventional Bottom Hole (Initial)

Tester: Matt Smith

Unit No: 68

**Interval: 3292.00 ft (KB) To 3372.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3372.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8788**

**Inside**

Press@RunDepth: 174.98 psig @ 3293.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.15

End Date:

2022.06.16

Last Calib.:

2022.06.16

Start Time:

23:29:56

End Time:

08:14:51

Time On Btm:

2022.06.16 @ 02:37:06

Time Off Btm:

2022.06.16 @ 05:31:06

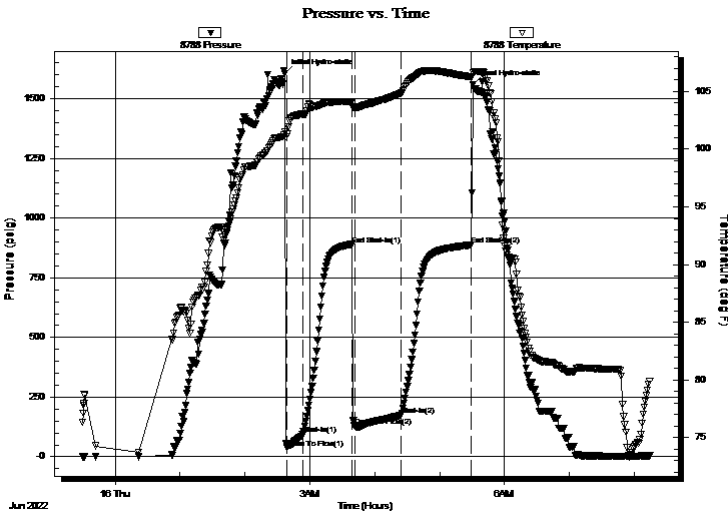
**TEST COMMENT:** IF: Strong Blow, B.O.B. in 1 1/2 mins. Built to 142.22". (15)

IS: Weak Surface Blow. Died. (45)

FF: Strong Blow. B.O.B. in 30 secs. Built to 233.89". G.T.S. in 28 mins. (45)

FS: Strong Blow. B.O.B. in 16 mins. Built to 12.19". (60)

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1604.57	101.50	Initial Hydro-static
2	37.10	101.14	Open To Flow (1)
17	92.89	103.04	Shut-In(1)
63	889.98	104.12	End Shut-In(1)
65	127.32	103.61	Open To Flow (2)
108	174.98	104.89	Shut-In(2)
173	887.16	106.24	End Shut-In(2)
174	1558.42	106.65	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
252.00	GMCO 40%g 5%o 55%o	3.53
63.00	GOCM 45%g 30%o 25%o	0.88
126.00	GOCM 10%g 20%o 70%o	1.77
5.00	GVSOCM 2%g 3%o 95%o	0.07

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	5.70	7.52
Last Gas Rate	0.13	5.71	7.53
Max. Gas Rate	0.13	5.83	7.57



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton Ks**

125 N Market, Suite 1425  
Wichita, Ks. 67202

**Keller 1-31**

Job Ticket: 68889

**DST#: 1**

ATTN: Roger Martin

Test Start: 2022.06.15 @ 23:29:51

## GENERAL INFORMATION:

Formation: **Lansing A-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:38:21

Time Test Ended: 08:14:51

Test Type: Conventional Bottom Hole (Initial)

Tester: Matt Smith

Unit No: 68

**Interval: 3292.00 ft (KB) To 3372.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3372.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: psig @ 3293.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.15 End Date: 2022.06.16

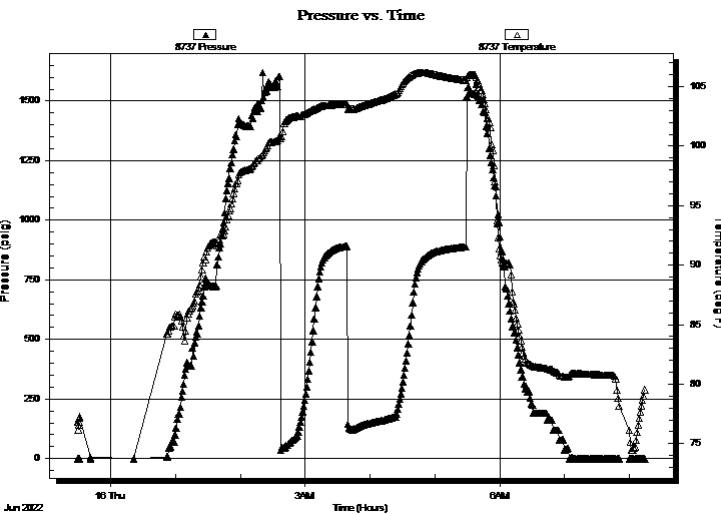
Last Calib.: 2022.06.16

Start Time: 23:29:16 End Time: 08:14:11

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: Strong Blow . B.O.B. in 1 1/2 mins. Built to 142.22". (15)  
IS: Weak Surface Blow . Died. (45)  
FF: Strong Blow . B.O.B. in 30 secs. Built to 233.89". G.T.S. in 28 mins. (45)  
FS: Strong Blow . B.O.B. in 16 mins. Built to 12.19". (60)



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
252.00	GMCO 40%g 5%m 55%o	3.53
63.00	GOCM 45%g 30%o 25%m	0.88
126.00	GOCM 10%g 20%o 70%m	1.77
5.00	GV SOCM 2%g 3%o 95%m	0.07

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	5.70	7.52
Last Gas Rate	0.13	5.71	7.53
Max. Gas Rate	0.13	5.83	7.57



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Darrah Oil Company LLC

**31-20s-13w Barton Ks**

125 N Market, Suite 1425  
Wichita, Ks. 67202

**Keller 1-31**

Job Ticket: 68889

**DST#: 1**

ATTN: Roger Martin

Test Start: 2022.06.15 @ 23:29:51

### 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: 55.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 0.20 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
252.00	GMCO 40%g 5%m 55%o	3.535
63.00	GOCM 45%g 30%o 25%m	0.884
126.00	GOCM 10%g 20%o 70%m	1.767
5.00	GVSOCM 2%g 3%o 95%m	0.070

Total Length: 446.00 ft      Total Volume: 6.256 bbl

Num Fluid Samples: 1

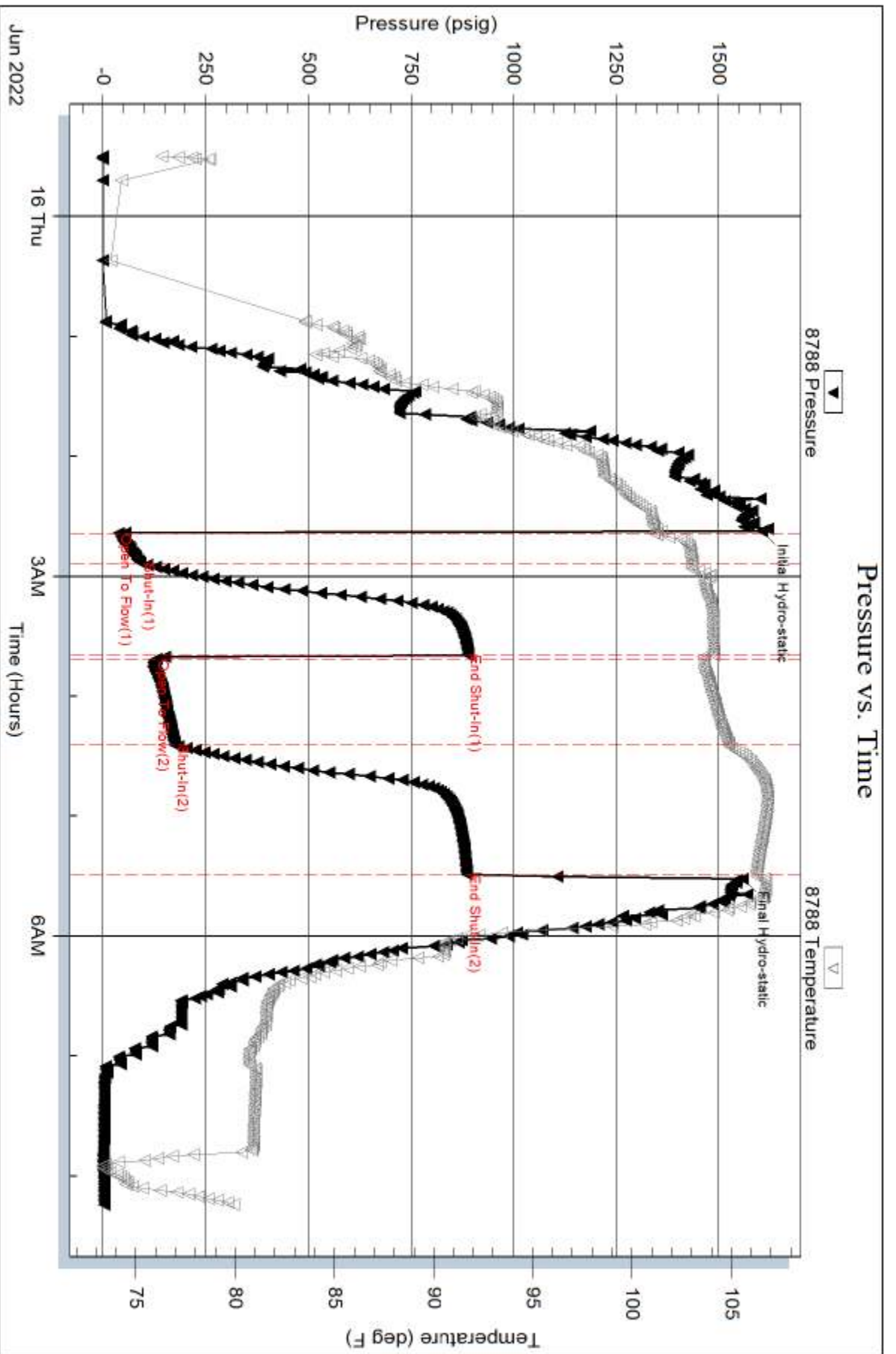
Num Gas Bombs: 1

Serial #: P 10 MAS25

Laboratory Name:

Laboratory Location:

Recovery Comments: No Mud Check Well.  
Shale Packer.

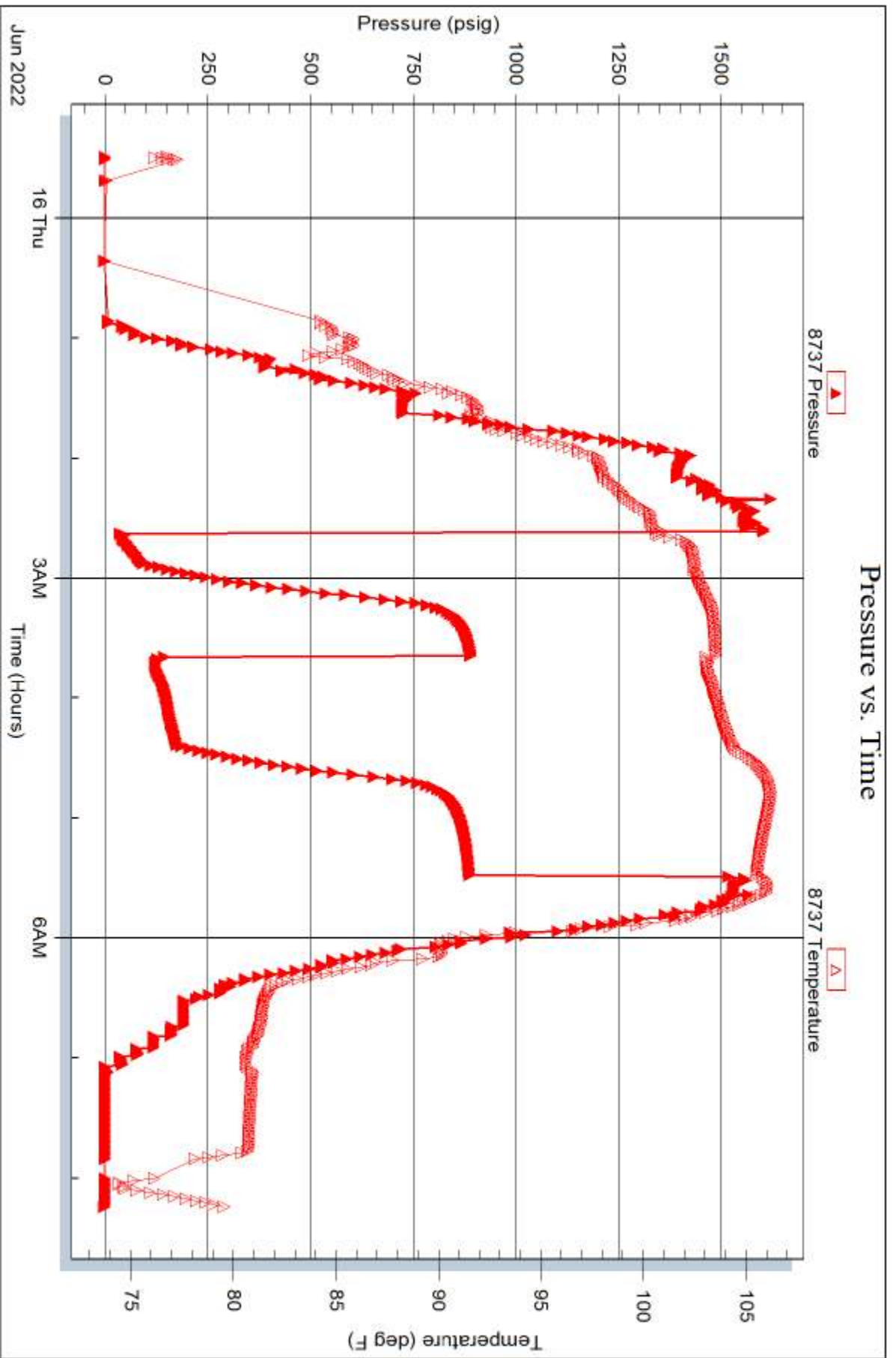


Serial #: 8737

Outside Darrah Oil Company LLC

Keller 1-31

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 68889

Printed: 2022.06.16 @ 10:10:52



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton Ks**

125 N Market, Suite 1425  
Wichita, Ks. 67202

**Keller 1-31**

Job Ticket: 68890

**DST#: 2**

ATTN: Roger Martin

Test Start: 2022.06.17 @ 03:39:06

## GENERAL INFORMATION:

Formation: **KC H-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:11:36

Time Test Ended: 11:26:51

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 3413.00 ft (KB) To 3533.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3533.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: 88.56 psig @ 3414.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.17 End Date: 2022.06.17

Last Calib.: 2022.06.17

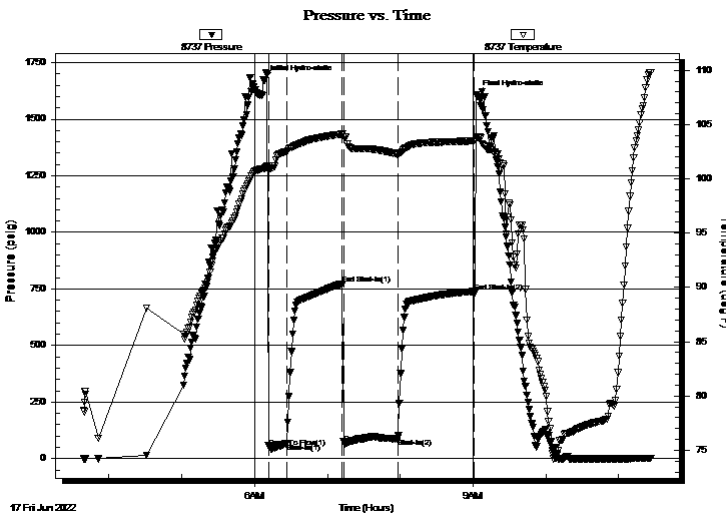
Start Time: 03:39:11 End Time: 11:26:50

Time On Btm: 2022.06.17 @ 06:07:21

Time Off Btm: 2022.06.17 @ 09:02:21

**TEST COMMENT:** IF: Strong Blow . B.O.B. in 1 1/2 mins. Built to 285.58". (15)  
IS: No Blow . (45)  
FF: Strong Blow . B.O.B. immediate. G.T.S. in 8 mins. (45)  
FS: Weak Blow . Built to 2.47". (60)

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1673.45	100.96	Initial Hydro-static
5	51.72	100.93	Open To Flow (1)
19	66.80	102.50	Shut-In(1)
65	771.91	104.12	End Shut-In(1)
67	69.45	103.89	Open To Flow (2)
111	88.56	102.25	Shut-In(2)
174	738.73	103.51	End Shut-In(2)
175	1606.66	103.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	GMCHO 15%g 15%m 70%o	0.88
63.00	GMCO 25%g 30%m 45%o	0.88
63.00	GHOCM 10%g 45%o 45%m	0.88

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	12.49	10.06
Last Gas Rate	0.38	2.57	62.17
Max. Gas Rate	0.13	20.27	12.98

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Darrah Oil Company LLC

**31-20s-13w Barton Ks**

125 N Market, Suite 1425  
Wichita, Ks. 67202

**Keller 1-31**

Job Ticket: 68890

**DST#: 2**

ATTN: Roger Martin

Test Start: 2022.06.17 @ 03:39:06

### 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: 58.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 0.20 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
63.00	GMCHO 15%g 15%m 70%o	0.884
63.00	GMCO 25%g 30%m 45%o	0.884
63.00	GHOCM 10%g 45%o 45%m	0.884

Total Length: 189.00 ft

Total Volume: 2.652 bbl

Num Fluid Samples: 1

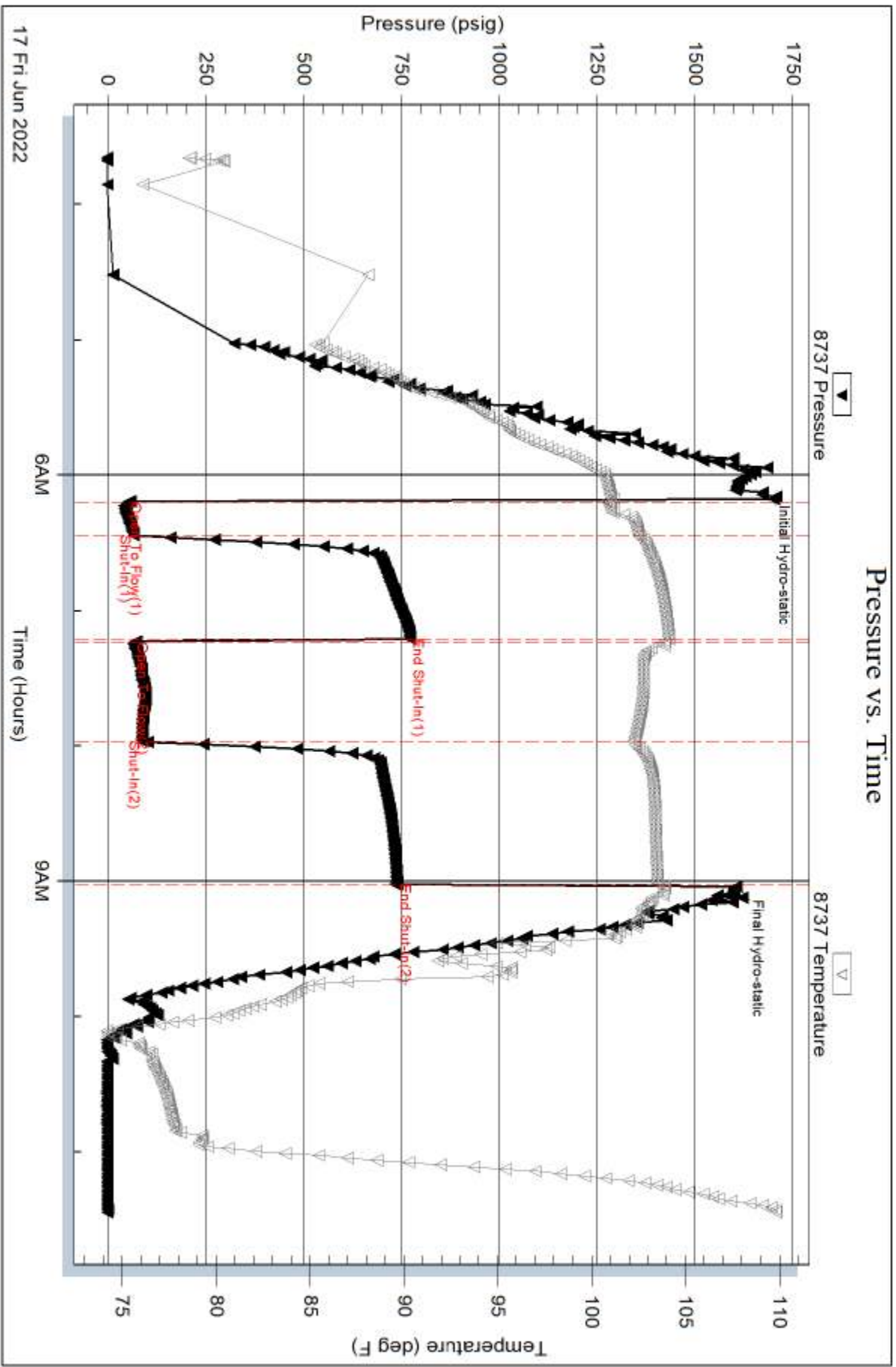
Num Gas Bombs: 1

Serial #: P 30 MAS

Laboratory Name:

Laboratory Location:

Recovery Comments:







**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton Ks**

125 N Market, Suite 1425  
Wichita, Ks. 67202

**Keller 1-31**

Job Ticket: 68891

**DST#: 3**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 00:02:36

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:40:51

Time Test Ended: 08:12:06

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 3508.00 ft (KB) To 3557.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3557.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8788**

**Inside**

Press@RunDepth: 37.07 psig @ 3509.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.18

End Date:

2022.06.18

Last Calib.:

2022.06.18

Start Time: 00:02:41

End Time:

08:12:05

Time On Btm:

2022.06.18 @ 02:36:51

Time Off Btm:

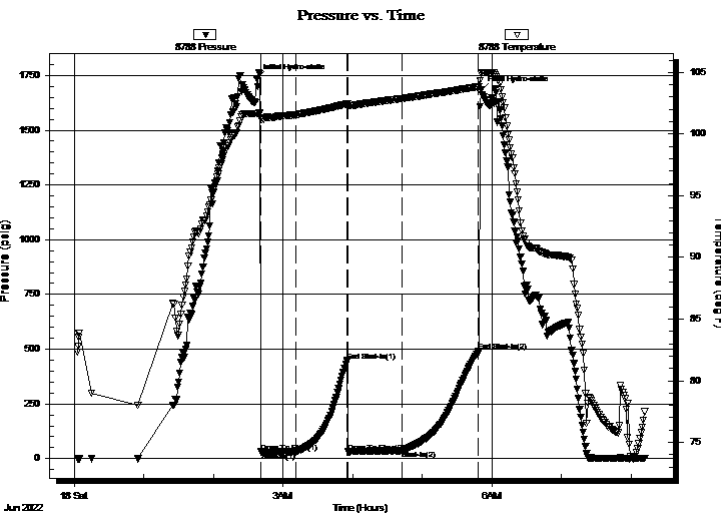
2022.06.18 @ 05:50:51

TEST COMMENT: IF: Weak Blow . Built to 3.30". (30)

IS: No Blow . (45)

FF: Fair Blow . Built to 6.67". (45)

FS: No Blow . (60)



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1737.12	101.68	Initial Hydro-static
4	30.66	101.21	Open To Flow (1)
34	31.00	101.57	Shut-In(1)
79	446.93	102.46	End Shut-In(1)
80	30.48	102.30	Open To Flow (2)
126	37.07	102.88	Shut-In(2)
192	490.21	103.84	End Shut-In(2)
194	1682.87	104.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
32.00	GHOCM 15%g 30%o 55%m	0.45
0.00	63' GIP 100%g	0.00
0.00	TS- GHOCM 5%g 40%o 55%m	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton Ks**

125 N Market, Suite 1425  
Wichita, Ks. 67202

**Keller 1-31**

Job Ticket: 68891

**DST#: 3**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 00:02:36

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:40:51

Time Test Ended: 08:12:06

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 3508.00 ft (KB) To 3557.00 ft (KB) (TVD)**

Total Depth: 3557.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1914.00 ft (KB)

1904.00 ft (CF)

KB to GR/CF: 10.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: psig @ 3509.00 ft (KB)

Start Date: 2022.06.18

End Date:

2022.06.18

Capacity: 8000.00 psig

Last Calib.:

2022.06.18

Start Time: 00:02:48

End Time:

08:12:12

Time On Btm:

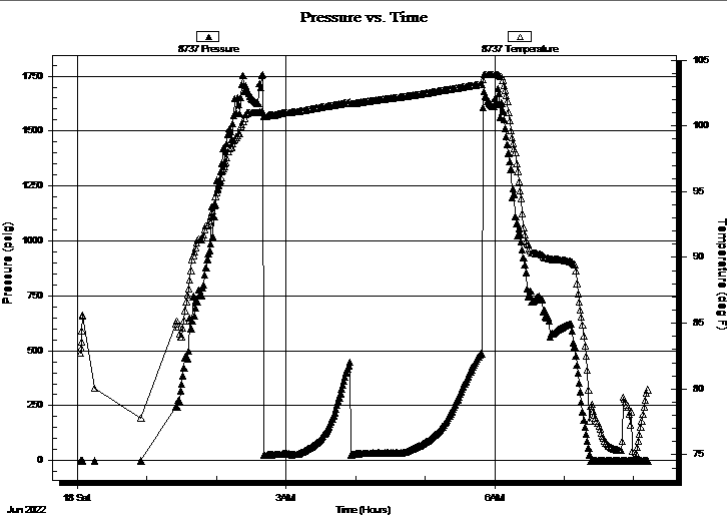
Time Off Btm:

TEST COMMENT: IF: Weak Blow . Built to 3.30". (30)

IS: No Blow . (45)

FF: Fair Blow . Built to 6.67". (45)

FS: No Blow . (60)



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
32.00	GHOCM 15%g 30%o 55%m	0.45
0.00	63' GIP 100%g	0.00
0.00	TS- GHOCM 5%g 40%o 55%m	0.00

## 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

**31-20s-13w Barton Ks**

125 N Market, Suite 1425  
Wichita, Ks. 67202

**Keller 1-31**

Job Ticket: 68891

**DST#: 3**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 00:02:36

## 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: 55.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
32.00	GHOCM 15%g 30%o 55%m	0.449
0.00	63' GIP 100%g	0.000
0.00	TS- GHOCM 5%g 40%o 55%m	0.000

Total Length: 32.00 ft      Total Volume: 0.449 bbl

Num Fluid Samples: 0

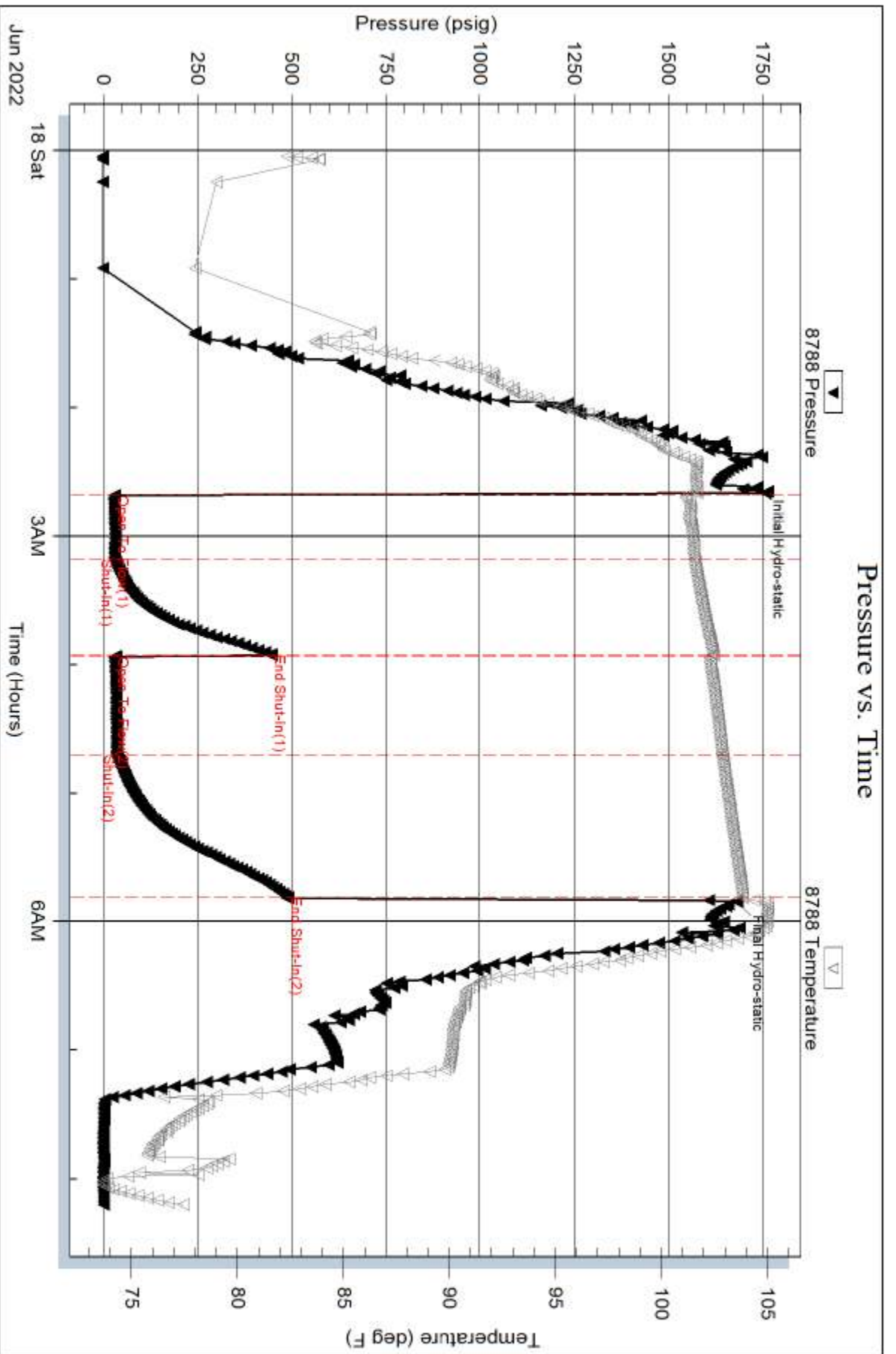
Num Gas Bombs: 0

Serial #: None

Laboratory Name:

Laboratory Location:

Recovery Comments: Tool Sample 5%gas 40% H Oil 55%mud

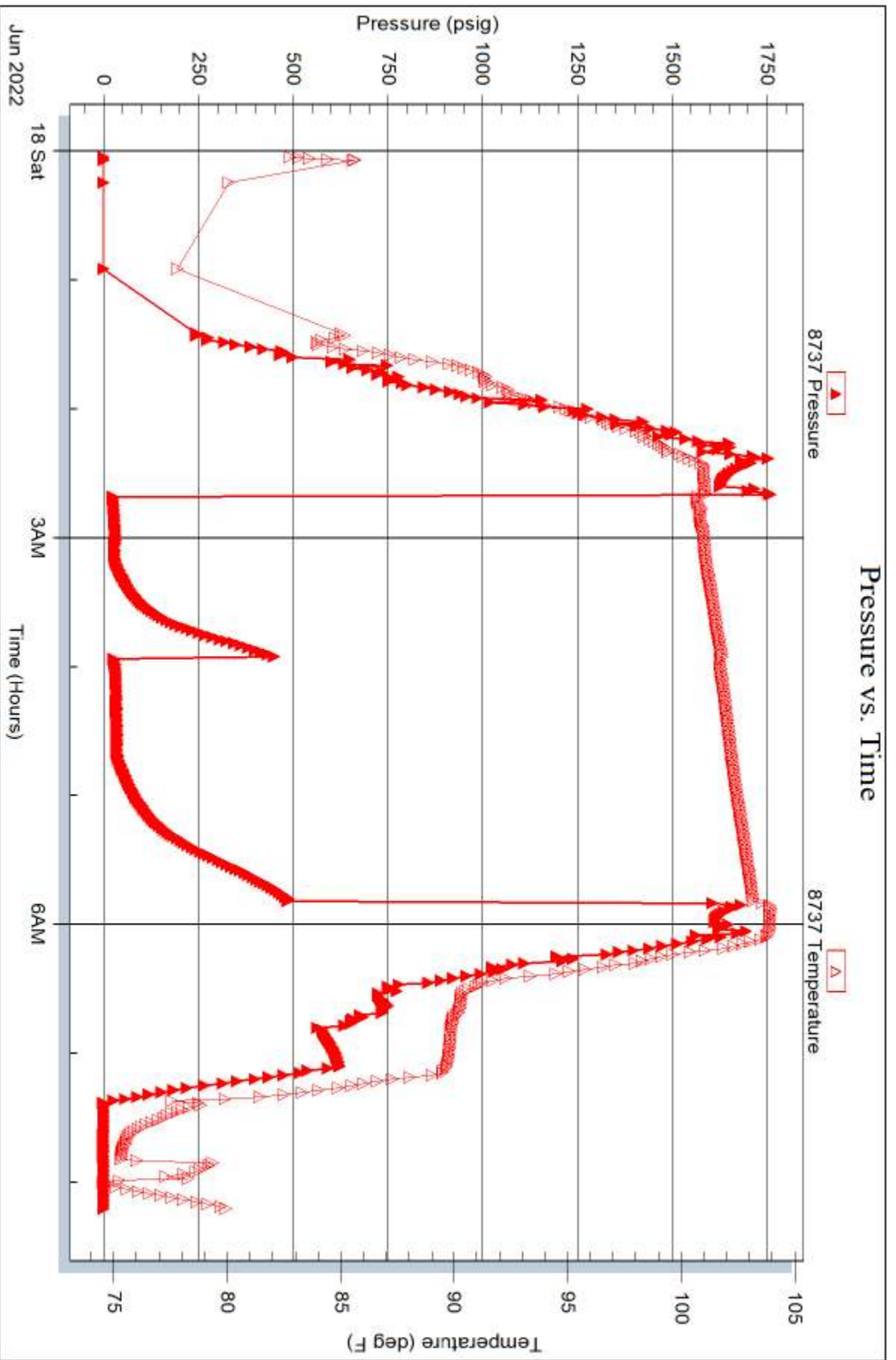


Serial #: 8737

Outside Darrah Oil Company LLC

Keller 1-31

DST Test Number: 3





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton Ks**

125 N Market, Suite 1425  
Wichita, Ks. 67202

**Keller 1-31**

Job Ticket: 68892

**DST#: 4**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 14:53:03

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:21:03

Time Test Ended: 22:39:03

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 3508.00 ft (KB) To 3572.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3572.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8788 Inside**

Press@RunDepth: 55.45 psig @ 3509.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.18

End Date:

2022.06.18

Last Calib.:

2022.06.18

Start Time: 14:53:08

End Time:

22:39:02

Time On Btm:

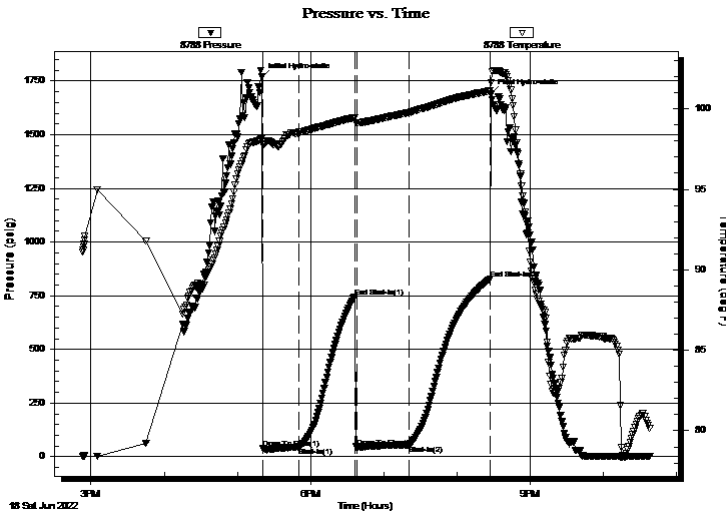
2022.06.18 @ 17:20:18

Time Off Btm:

2022.06.18 @ 20:28:18

**TEST COMMENT:** IF: Weak-Fair Blow . Built to 5.94". (30)  
IS: No Blow . (45)  
FF: Fair-Strong Blow . Built to 9.37". (45)  
FS: No Blow . (60)

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1767.73	98.16	Initial Hydro-static
1	38.45	97.74	Open To Flow (1)
31	45.29	98.54	Shut-In(1)
76	744.60	99.46	End Shut-In(1)
78	43.03	99.13	Open To Flow (2)
121	55.45	99.76	Shut-In(2)
188	828.58	101.12	End Shut-In(2)
188	1689.83	101.65	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	GHOCM 25%g 30%o 45%m	0.88
32.00	GHOCM 4%g 40%o 56%m	0.45
0.00	63' GIP 100%g	0.00
0.00	TS GHOCM 5%g 35%o 60%m	0.00

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Company LLC

**31-20s-13w Barton Ks**

125 N Market, Suite 1425  
Wichita, Ks. 67202

**Keller 1-31**

Job Ticket: 68892

**DST#: 4**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 14:53:03

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:21:03

Time Test Ended: 22:39:03

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 3508.00 ft (KB) To 3572.00 ft (KB) (TVD)**

Reference Elevations: 1914.00 ft (KB)

Total Depth: 3572.00 ft (KB) (TVD)

1904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8737 Outside**

Press@RunDepth: psig @ 3509.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.06.18 End Date: 2022.06.18

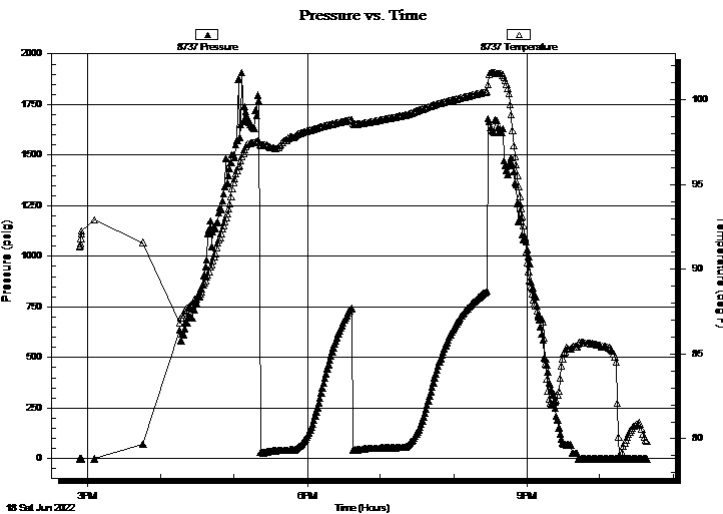
Last Calib.: 2022.06.18

Start Time: 14:53:14 End Time: 22:39:08

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: Weak-Fair Blow . Built to 5.94". (30)  
IS: No Blow . (45)  
FF: Fair-Strong Blow . Built to 9.37". (45)  
FS: No Blow . (60)



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	GHOCM 25%g 30%o 45%m	0.88
32.00	GHOCM 4%g 40%o 56%m	0.45
0.00	63' GIP 100%g	0.00
0.00	TS GHOCM 5%g 35%o 60%m	0.00

## 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

**31-20s-13w Barton Ks**

125 N Market, Suite 1425  
Wichita, Ks. 67202

**Keller 1-31**

Job Ticket: 68892

**DST#: 4**

ATTN: Roger Martin

Test Start: 2022.06.18 @ 14:53:03

## 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: 56.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
63.00	GHOCM 25%g 30%o 45%m	0.884
32.00	GHOCM 4%g 40%o 56%m	0.449
0.00	63' GIP 100%g	0.000
0.00	TS GHOCM 5%g 35%o 60%m	0.000

Total Length: 95.00 ft      Total Volume: 1.333 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: None

Laboratory Name:

Laboratory Location:

Recovery Comments: Tool Sample... 5%g 35%o 60%m



