

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
--	---

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	Murfin Drilling Co., Inc.
Well Name	KLEIN UNIT 1-7
Doc ID	1647354

All Electric Logs Run

DIL
DUCP
MEL
BHCS



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Lawler

Klein Unit #1-7

7-3s-34w Rawlins,KS

Start Date: 2022.04.09 @ 06:15:38

End Date: 2022.04.09 @ 17:24:08

Job Ticket #: 68748 DST #: 1

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

Printed: 2022.04.15 @ 11:52:26



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company
250 N Water Ste 300
Wichita, KS 67202
ATTN: Jeff Lawler

7-3s-34w Rawlins,KS

Klein Unit #1-7

Job Ticket: 68748

DST#: 1

Test Start: 2022.04.09 @ 06:15:38

GENERAL INFORMATION:

Formation: **LKC A - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:52:08

Time Test Ended: 17:24:08

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: 3802.00 ft (KB) To 3905.00 ft (KB) (TVD)

Reference Elevations: 2936.00 ft (KB)

Total Depth: 3905.00 ft (KB) (TVD)

2931.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8674 Outside

Press@RunDepth: 36.15 psig @ 3803.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.04.09

End Date:

2022.04.09

Last Calib.:

2022.04.09

Start Time:

06:15:43

End Time:

17:24:08

Time On Btm:

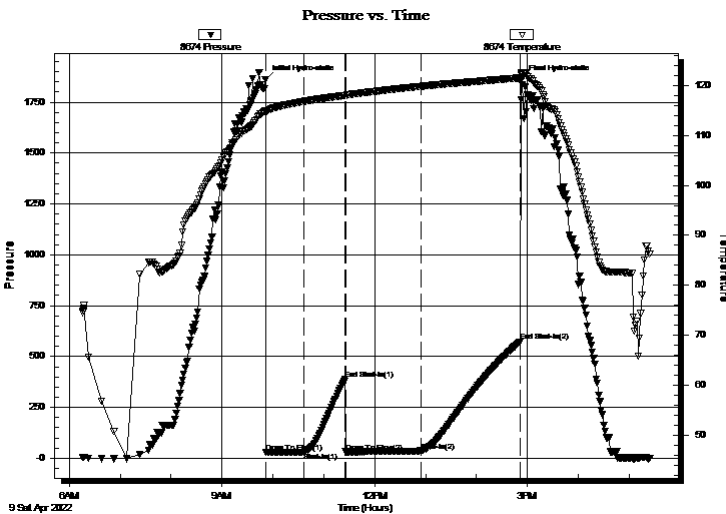
2022.04.09 @ 09:51:08

Time Off Btm:

2022.04.09 @ 14:53:08

TEST COMMENT: IF: 1/4" blow built to 1"
IS: No return.
FF: Surface blow built to 3/4"
FS: No return 30-60-90-120

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1862.47	115.04	Initial Hydro-static
1	28.56	114.58	Open To Flow (1)
45	30.65	116.83	Shut-In(1)
94	387.78	118.05	End Shut-In(1)
95	31.21	118.04	Open To Flow (2)
183	36.15	119.86	Shut-In(2)
301	573.50	121.56	End Shut-In(2)
302	1862.22	122.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	mud oil spots 100%m	0.15

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Company

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Lawler

7-3s-34w Rawlins,KS

Klein Unit #1-7

Job Ticket: 68748

DST#: 1

Test Start: 2022.04.09 @ 06:15:38

GENERAL INFORMATION:

Formation: **LKC A - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:52:08

Time Test Ended: 17:24:08

Interval: **3802.00 ft (KB) To 3905.00 ft (KB) (TVD)**

Total Depth: 3905.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Reference Elevations: 2936.00 ft (KB)

2931.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8790

Inside

Press@RunDepth: psig @ 3803.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.04.09 End Date: 2022.04.09

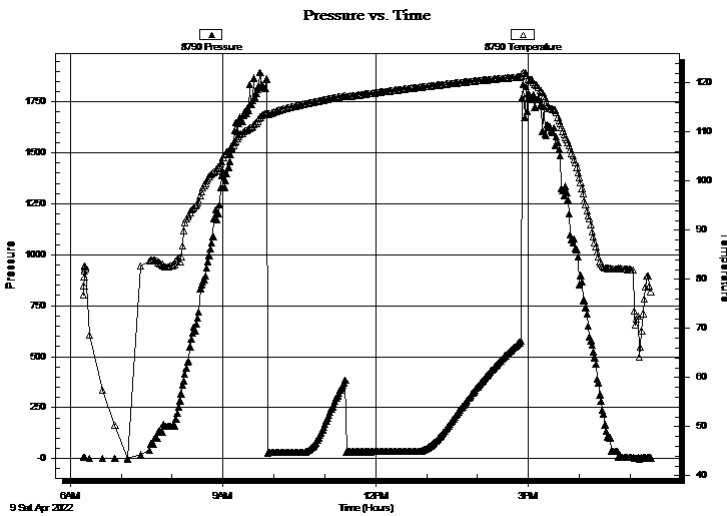
Last Calib.: 2022.04.09

Start Time: 06:15:42 End Time: 17:24:07

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1/4" blow built to 1"
IS: No return.
FF: Surface blow built to 3/4"
FS: No return 30-60-90-120



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	mud oil spots 100% _m	0.15

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

7-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Klein Unit #1-7

Job Ticket: 68748

DST#: 1

ATTN: Jeff Lawler

Test Start: 2022.04.09 @ 06:15:38

Tool Information

Drill Pipe:	Length: 3624.00 ft	Diameter: 3.80 inches	Volume: 50.84 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 178.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 110000.0 lb
			<u>Total Volume: 51.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 88000.00 lb
Depth to Top Packer:	3802.00 ft			Final 88000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	103.00 ft			
Tool Length:	132.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Stubb	1.00		Fluid	3774.00		
Shut In Tool	5.00			3779.00		
Hydraulic tool	5.00			3784.00		
Jars	5.00			3789.00		
EM Tool	2.00			3791.00		
Safety Joint	2.00			3793.00		
Packer	5.00			3798.00	29.00	Bottom Of Top Packer
Packer	4.00			3802.00		
Stubb	1.00			3803.00		
Recorder	0.00	8790	Inside	3803.00		
Recorder	0.00	8674	Outside	3803.00		
Perforations	2.00			3805.00		
Change Over Sub	1.00			3806.00		
Drill Pipe	95.00			3901.00		
Change Over Sub	1.00			3902.00		
Bullnose	3.00			3905.00	103.00	Bottom Packers & Anchor
Total Tool Length:	132.00					



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

7-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Klein Unit #1-7

Job Ticket: 68748

DST#: 1

ATTN: Jeff Lawler

Test Start: 2022.04.09 @ 06:15:38

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: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	mud oil spots 100%m	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

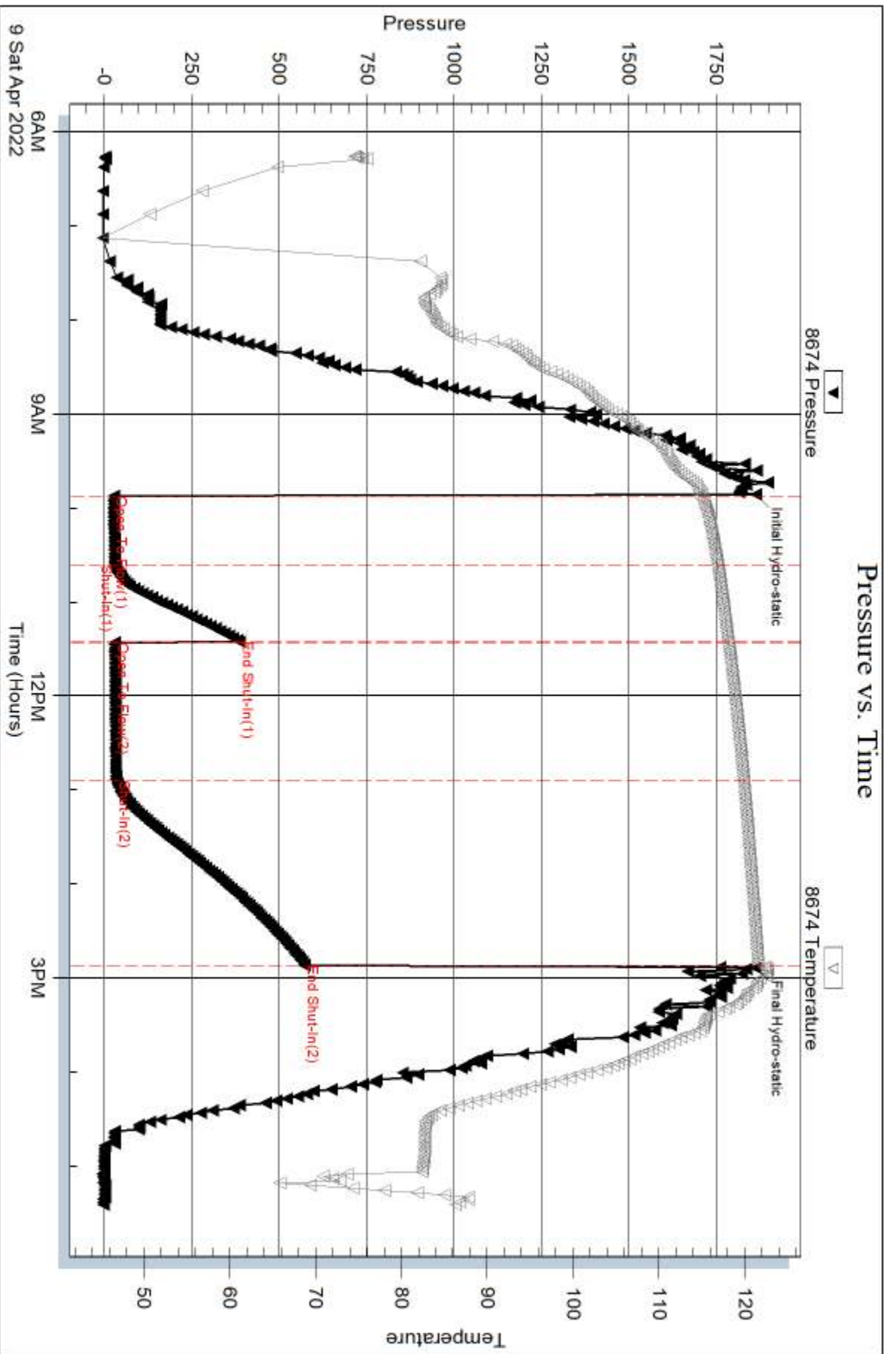
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



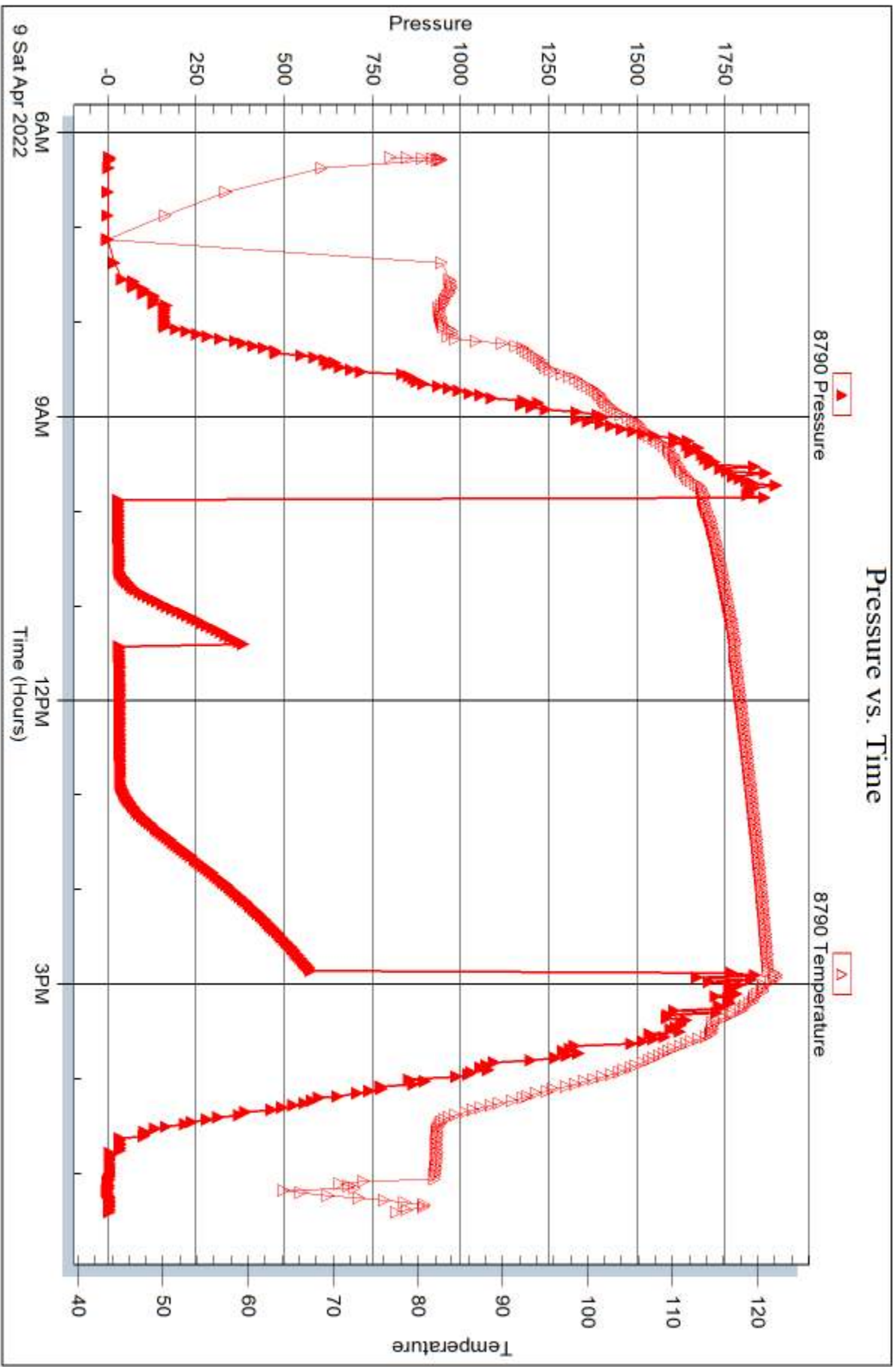
Serial #: 8790

Inside

Murfin Drilling Company

Kein Unit #1-7

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 68748

Printed: 2022.04.15 @ 11:52:29



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Lawler

Klein Unit #1-7

7-3s-34w Rawlins,KS

Start Date: 2022.04.10 @ 10:38:43

End Date: 2022.04.10 @ 19:05:43

Job Ticket #: 68749 DST #: 2

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

Printed: 2022.04.15 @ 11:51:36



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N Water Ste 300
 Wichita, KS 67202
 ATTN: Jeff Lawler

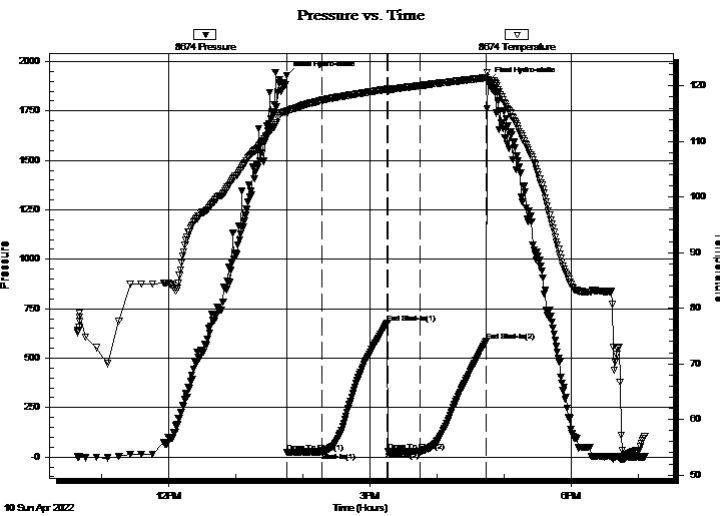
7-3s-34w Rawlins,KS
Klein Unit #1-7
 Job Ticket: 68749 **DST#: 2**
 Test Start: 2022.04.10 @ 10:38:43

GENERAL INFORMATION:

Formation: **LKC G**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:46:13
 Time Test Ended: 19:05:43
 Interval: **3907.00 ft (KB) To 3970.00 ft (KB) (TVD)**
 Total Depth: 3970.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 2936.00 ft (KB)
 2931.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8674 Outside
 Press@RunDepth: 26.95 psig @ 3908.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.04.10 End Date: 2022.04.10 Last Calib.: 2022.04.10
 Start Time: 10:38:48 End Time: 19:05:42 Time On Btm: 2022.04.10 @ 13:45:43
 Time Off Btm: 2022.04.10 @ 16:45:43

TEST COMMENT: IF: 1/4" blow built to 3/4"
 IS: No return.
 FF: No blow.
 FS: No return. 30-60-30-60



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1928.89	115.59	Initial Hydro-static
1	25.31	115.09	Open To Flow (1)
32	26.28	117.38	Shut-In(1)
90	677.94	119.41	End Shut-In(1)
91	26.72	119.20	Open To Flow (2)
119	26.95	120.03	Shut-In(2)
179	584.67	121.46	End Shut-In(2)
180	1898.33	121.14	Final Hydro-static

Recovery

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

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N Water Ste 300
 Wichita, KS 67202
 ATTN: Jeff Lawler

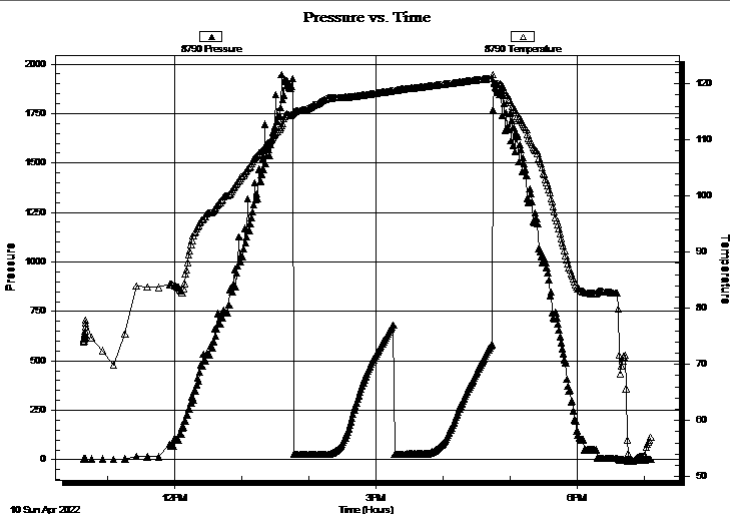
7-3s-34w Rawlins,KS
Klein Unit #1-7
 Job Ticket: 68749 **DST#: 2**
 Test Start: 2022.04.10 @ 10:38:43

GENERAL INFORMATION:

Formation: **LKC G**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 13:46:13 Tester: Brandon Turley
 Time Test Ended: 19:05:43 Unit No: 79
 Interval: **3907.00 ft (KB) To 3970.00 ft (KB) (TVD)** Reference Elevations: 2936.00 ft (KB)
 Total Depth: 3970.00 ft (KB) (TVD) 2931.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8790 Inside
 Press@RunDepth: psig @ 3908.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.04.10 End Date: 2022.04.10 Last Calib.: 2022.04.10
 Start Time: 10:38:38 End Time: 19:05:32 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: 1/4" blow built to 3/4"
 IS: No return.
 FF: No blow.
 FS: No return. 30-60-30-60



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud oil spots 100% <i>m</i>	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

7-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Klein Unit #1-7

Job Ticket: 68749

DST#: 2

ATTN: Jeff Lawler

Test Start: 2022.04.10 @ 10:38:43

Tool Information

Drill Pipe:	Length: 3729.00 ft	Diameter: 3.80 inches	Volume: 52.31 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 178.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose:	120000.0 lb
			<u>Total Volume: 53.19 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial	90000.00 lb
Depth to Top Packer:	3907.00 ft			Final	90000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	63.00 ft				
Tool Length:	92.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	3879.00	
Shut In Tool	5.00			3884.00	
Hydraulic tool	5.00			3889.00	
Jars	5.00			3894.00	
EM Tool	2.00			3896.00	
Safety Joint	2.00			3898.00	
Packer	5.00			3903.00	29.00 Bottom Of Top Packer
Packer	4.00			3907.00	
Stubb	1.00			3908.00	
Recorder	0.00	8790	Inside	3908.00	
Recorder	0.00	8674	Outside	3908.00	
Perforations	25.00			3933.00	
Change Over Sub	1.00			3934.00	
Drill Pipe	32.00			3966.00	
Change Over Sub	1.00			3967.00	
Bullnose	3.00			3970.00	63.00 Bottom Packers & Anchor
Total Tool Length:	92.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

7-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Klein Unit #1-7

Job Ticket: 68749

DST#: 2

ATTN: Jeff Lawler

Test Start: 2022.04.10 @ 10:38:43

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: 69.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

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

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

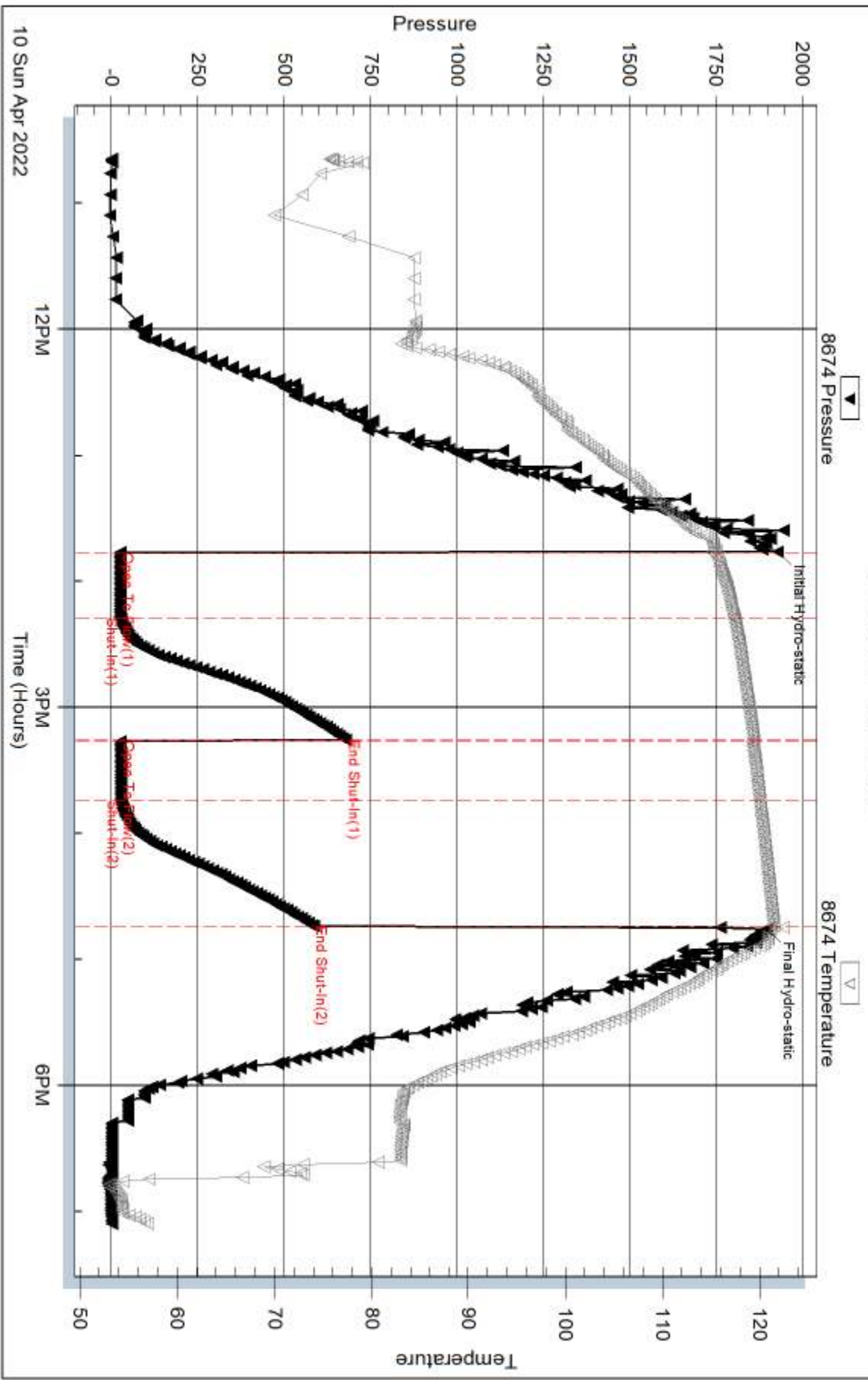
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



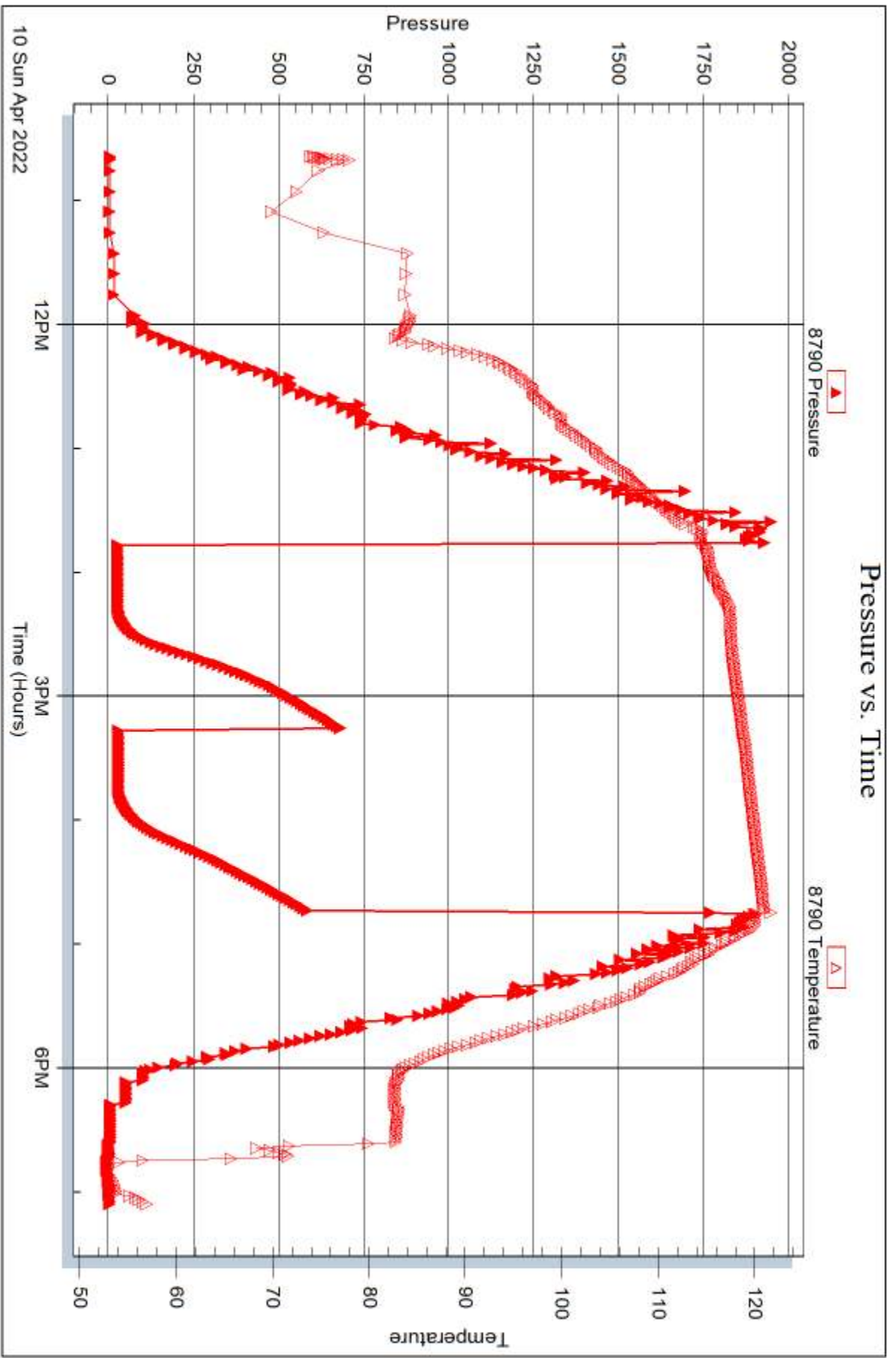
Serial #: 8790

Inside

Murfin Drilling Company

Klein Unit #1-7

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 68749

Printed: 2022.04.15 @ 11:51:37



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Lawler

Klein Unit #1-7

7-3s-34w Rawlins,KS

Start Date: 2022.04.11 @ 10:04:00

End Date: 2022.04.11 @ 19:25:30

Job Ticket #: 68750 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.04.15 @ 11:51:11



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Company

7-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Klein Unit #1-7

Job Ticket: 68750

DST#: 3

ATTN: Jeff Lawler

Test Start: 2022.04.11 @ 10:04:00

GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:26:00

Time Test Ended: 19:25:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 3968.00 ft (KB) To 4044.00 ft (KB) (TVD)

Reference Elevations: 2936.00 ft (KB)

Total Depth: 4044.00 ft (KB) (TVD)

2931.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8674 Outside

Press@RunDepth: 427.61 psig @ 3969.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.04.11

End Date:

2022.04.11

Last Calib.: 2022.04.11

Start Time: 10:04:05

End Time:

19:25:30

Time On Btm: 2022.04.11 @ 13:25:30

Time Off Btm: 2022.04.11 @ 16:26:30

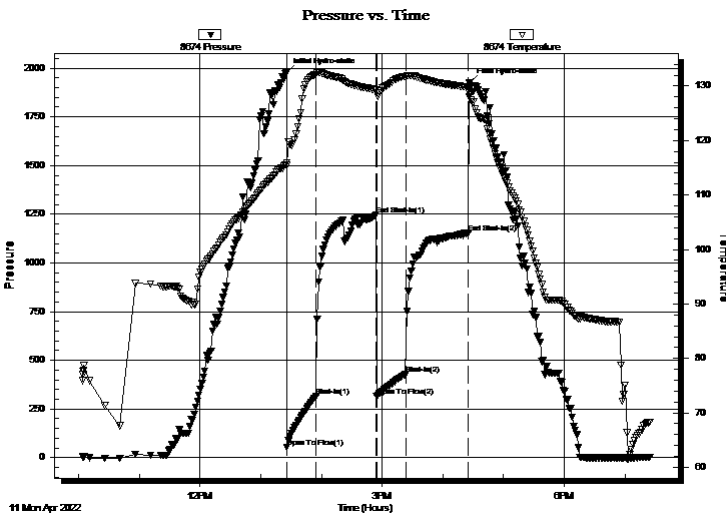
TEST COMMENT: IF: BOB in 5 mins. 44"

IS: No return.

FF: BOB in 10 mins. 26"

FS: No return. 30-60-30-60

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1978.03	115.46	Initial Hydro-static
1	53.96	115.91	Open To Flow (1)
30	316.13	132.19	Shut-In(1)
89	1248.16	129.32	End Shut-In(1)
89	316.23	128.75	Open To Flow (2)
118	427.61	131.75	Shut-In(2)
180	1155.70	129.84	End Shut-In(2)
181	1926.17	128.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
315.00	mcw 90%w 10%m	2.80
378.00	mcw 60%w 40%m	5.30
220.00	w cm 40%w 60%m	3.09

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company

7-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Klein Unit #1-7

Job Ticket: 68750

DST#: 3

ATTN: Jeff Lawler

Test Start: 2022.04.11 @ 10:04:00

GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:26:00

Time Test Ended: 19:25:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: **3968.00 ft (KB) To 4044.00 ft (KB) (TVD)**

Reference Elevations: 2936.00 ft (KB)

Total Depth: 4044.00 ft (KB) (TVD)

2931.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8790 Inside

Press@RunDepth: psig @ 3969.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.04.11

End Date:

2022.04.11

Last Calib.:

1899.12.30

Start Time: 10:04:31

End Time:

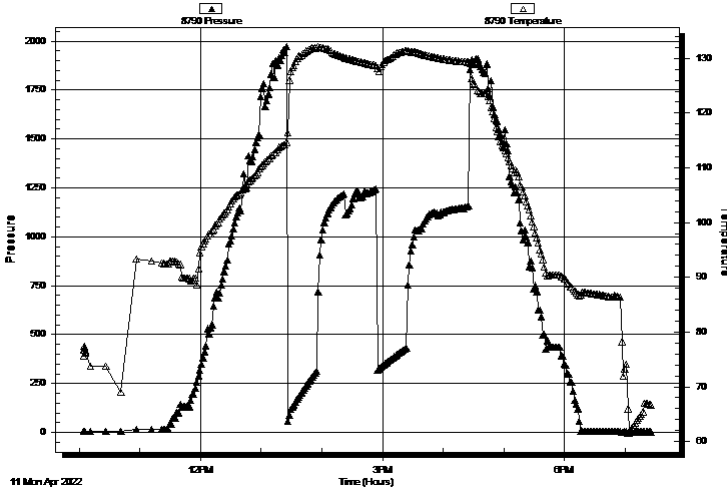
19:25:56

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: BOB in 5 mins. 44"
IS: No return.
FF: BOB in 10 mins. 26"
FS: No return. 30-60-30-60

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
315.00	mcw 90%w 10%m	2.80
378.00	mcw 60%w 40%m	5.30
220.00	w cm 40%w 60%m	3.09

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

7-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Klein Unit #1-7

Job Ticket: 68750

DST#: 3

ATTN: Jeff Lawler

Test Start: 2022.04.11 @ 10:04:00

Tool Information

Drill Pipe:	Length: 3782.00 ft	Diameter: 3.80 inches	Volume: 53.05 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 178.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose:	120000.0 lb
			<u>Total Volume: 53.93 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	90000.00 lb
Depth to Top Packer:	3968.00 ft			Final	94000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	76.00 ft				
Tool Length:	105.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00		Fluid	3940.00	
Shut In Tool	5.00			3945.00	
Hydraulic tool	5.00			3950.00	
Jars	5.00			3955.00	
EM Tool	2.00			3957.00	
Safety Joint	2.00			3959.00	
Packer	5.00			3964.00	29.00 Bottom Of Top Packer
Packer	4.00			3968.00	
Stubb	1.00			3969.00	
Recorder	0.00	8790	Inside	3969.00	
Recorder	0.00	8674	Outside	3969.00	
Perforations	7.00			3976.00	
Change Over Sub	1.00			3977.00	
Drill Pipe	63.00			4040.00	
Change Over Sub	1.00			4041.00	
Bullnose	3.00			4044.00	76.00 Bottom Packers & Anchor
Total Tool Length:	105.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

7-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Klein Unit #1-7

Job Ticket: 68750

DST#: 3

ATTN: Jeff Lawler

Test Start: 2022.04.11 @ 10:04:00

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:

26000 ppm

Viscosity: 73.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
315.00	mcw 90%w 10%m	2.797
378.00	mcw 60%w 40%m	5.302
220.00	w cm 40%w 60%m	3.086

Total Length: 913.00 ft Total Volume: 11.185 bbl

Num Fluid Samples: 0

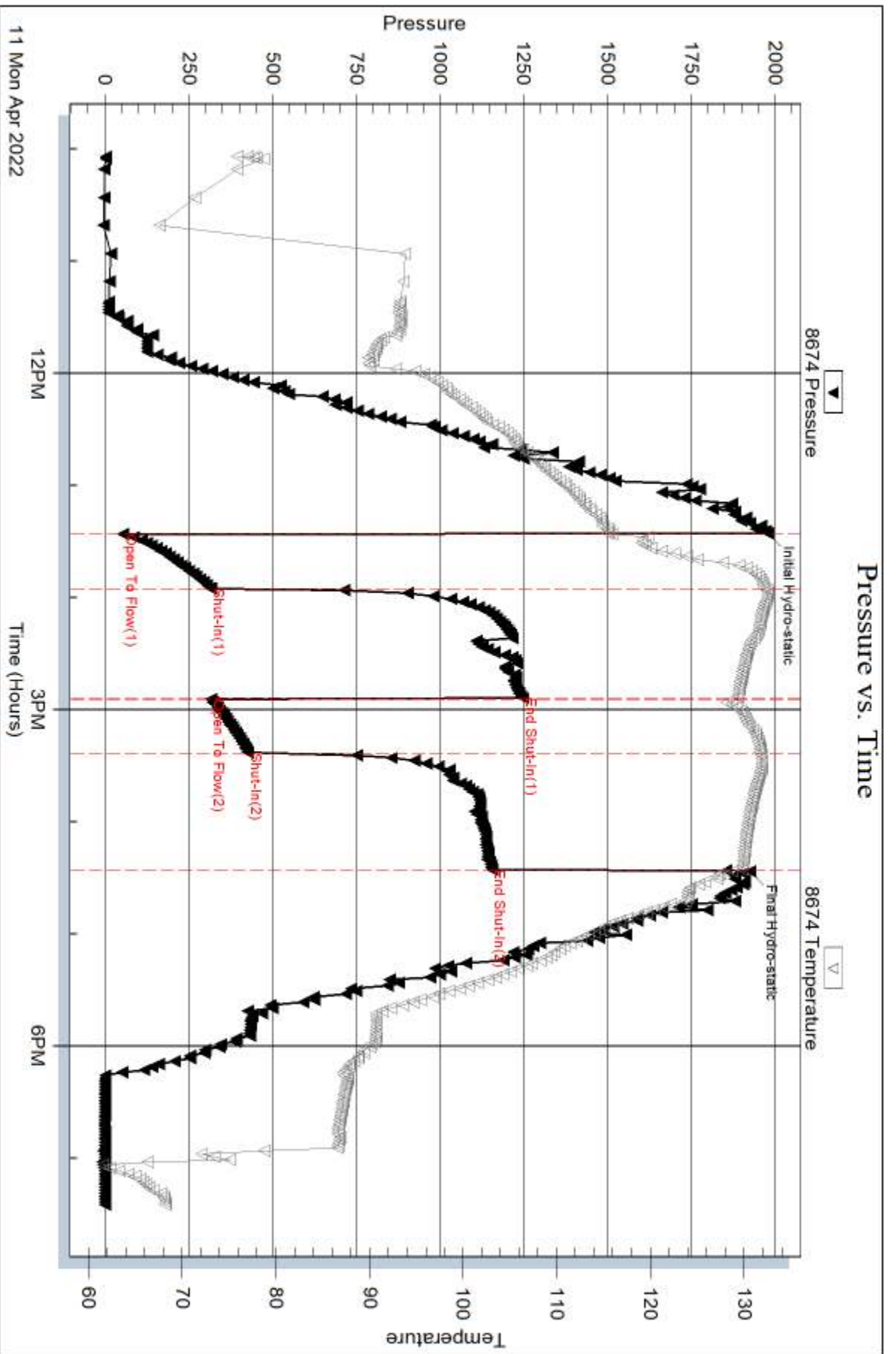
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .31@62=26000



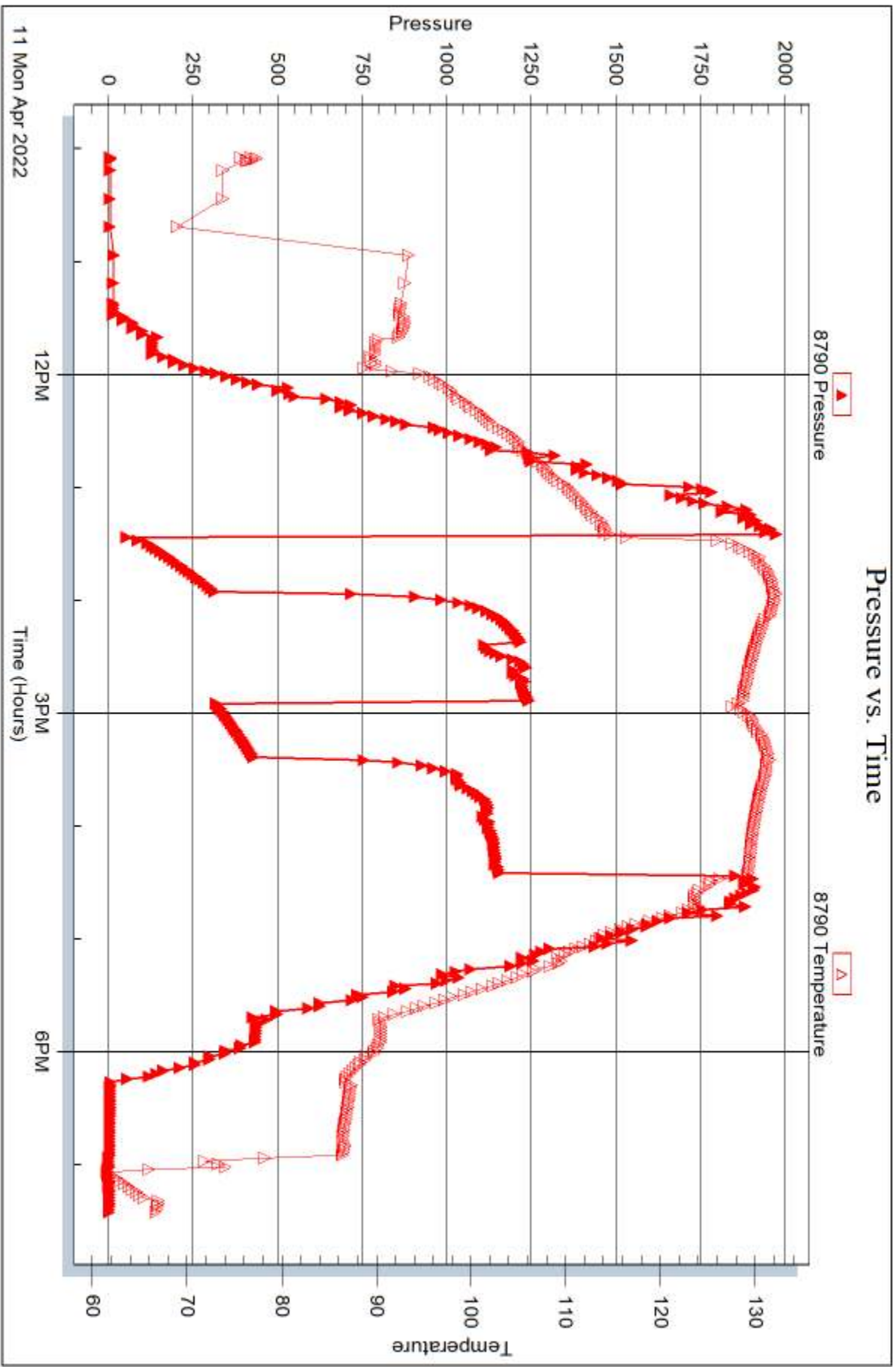
Serial #: 8790

Inside

Murfin Drilling Company

Klein Unit #1-7

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 68750

Printed: 2022.04.15 @ 11:51:12



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita, KS 67202

ATTN: Jeff Lawler

Klein Unit #1-7

7-3s-34w Rawlins,KS

Start Date: 2022.04.12 @ 08:17:49

End Date: 2022.04.12 @ 16:35:19

Job Ticket #: 68776 DST #: 4

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

Printed: 2022.04.15 @ 11:50:41

Murfin Drilling Company
7-3s-34w Rawlins,KS
Klein Unit #1-7
DST # 4
LKC K-L
2022.04.12



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N Water Ste 300
 Wichita, KS 67202
 ATTN: Jeff Lawler

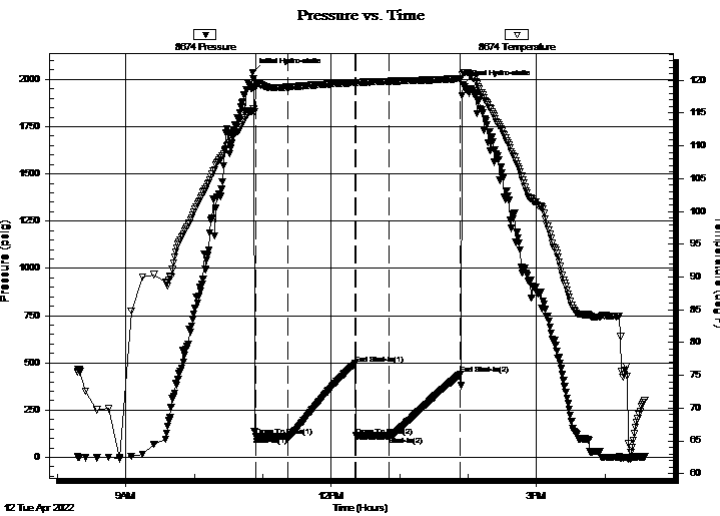
7-3s-34w Rawlins,KS
Klein Unit #1-7
 Job Ticket: 68776 **DST#: 4**
 Test Start: 2022.04.12 @ 08:17:49

GENERAL INFORMATION:

Formation: **LKC K-L**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 10:53:49 Tester: Brandon Turley
 Time Test Ended: 16:35:19 Unit No: 79
Interval: 4036.00 ft (KB) To 4090.00 ft (KB) (TVD)
 Reference Elevations: 2936.00 ft (KB)
 Total Depth: 4090.00 ft (KB) (TVD) 2931.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8674 Outside
 Press@RunDepth: 113.88 psig @ 4037.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.04.12 End Date: 2022.04.12 Last Calib.: 2022.04.12
 Start Time: 08:17:54 End Time: 16:35:18 Time On Btm: 2022.04.12 @ 10:51:19
 Time Off Btm: 2022.04.12 @ 13:55:49

TEST COMMENT: IF: 8" blow died in 26 min. We lost mud right after opening the tool.
 IS: No return.
 FF: No blow.
 FS: No return. 30-60-30-60



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2037.02	115.38	Initial Hydro-static
3	111.64	118.95	Open To Flow (1)
31	111.57	118.97	Shut-In(1)
90	495.20	119.65	End Shut-In(1)
91	113.36	119.63	Open To Flow (2)
120	113.88	119.87	Shut-In(2)
182	438.57	120.26	End Shut-In(2)
185	1970.81	121.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	mud 100% m	0.90

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company
250 N Water Ste 300
Wichita, KS 67202
ATTN: Jeff Lawler

7-3s-34w Rawlins,KS

Klein Unit #1-7

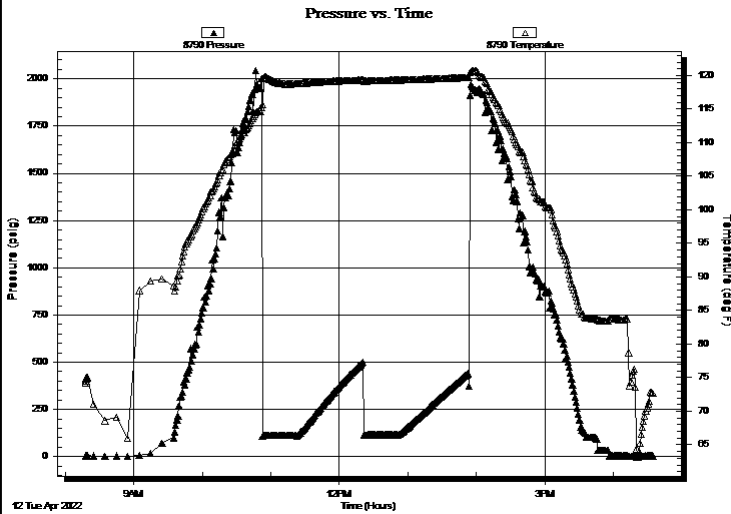
Job Ticket: 68776 **DST#: 4**
Test Start: 2022.04.12 @ 08:17:49

GENERAL INFORMATION:

Formation: LKC K-L		
Deviated: No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 10:53:49		Tester: Brandon Turley
Time Test Ended: 16:35:19		Unit No: 79
Interval: 4036.00 ft (KB) To 4090.00 ft (KB) (TVD)		Reference Elevations: 2936.00 ft (KB)
Total Depth: 4090.00 ft (KB) (TVD)		2931.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Good	KB to GR/CF: 5.00 ft

Serial #: 8790	Inside				
Press@RunDepth:	psig @	4037.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2022.04.12	End Date:	2022.04.12	Last Calib.:	2022.04.12
Start Time:	08:17:39	End Time:	16:35:03	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF: 8" blow died in 26 min. We lost mud right after opening the tool.
 IS: No return.
 FF: No blow.
 FS: No return. 30-60-30-60



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
180.00	mud 100% _m	0.90

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

7-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Klein Unit #1-7

Job Ticket: 68776

DST#: 4

ATTN: Jeff Lawler

Test Start: 2022.04.12 @ 08:17:49

Tool Information

Drill Pipe:	Length: 3846.00 ft	Diameter: 3.80 inches	Volume: 53.95 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 178.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 110000.0 lb
			<u>Total Volume: 54.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 90000.00 lb
Depth to Top Packer:	4036.00 ft			Final 90000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	83.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	4008.00	
Shut In Tool	5.00			4013.00	
Hydraulic tool	5.00			4018.00	
Jars	5.00			4023.00	
EM Tool	2.00			4025.00	
Safety Joint	2.00			4027.00	
Packer	5.00			4032.00	29.00 Bottom Of Top Packer
Packer	4.00			4036.00	
Stubb	1.00			4037.00	
Recorder	0.00	8790	Inside	4037.00	
Recorder	0.00	8674	Outside	4037.00	
Perforations	16.00			4053.00	
Change Over Sub	1.00			4054.00	
Drill Pipe	32.00			4086.00	
Change Over Sub	1.00			4087.00	
Bullnose	3.00			4090.00	54.00 Bottom Packers & Anchor
Total Tool Length:	83.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

7-3s-34w Rawlins,KS

250 N Water Ste 300
Wichita, KS 67202

Klein Unit #1-7

Job Ticket: 68776

DST#: 4

ATTN: Jeff Lawler

Test Start: 2022.04.12 @ 08:17:49

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: 73.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	mud 100%m	0.903

Total Length: 180.00 ft Total Volume: 0.903 bbl

Num Fluid Samples: 0

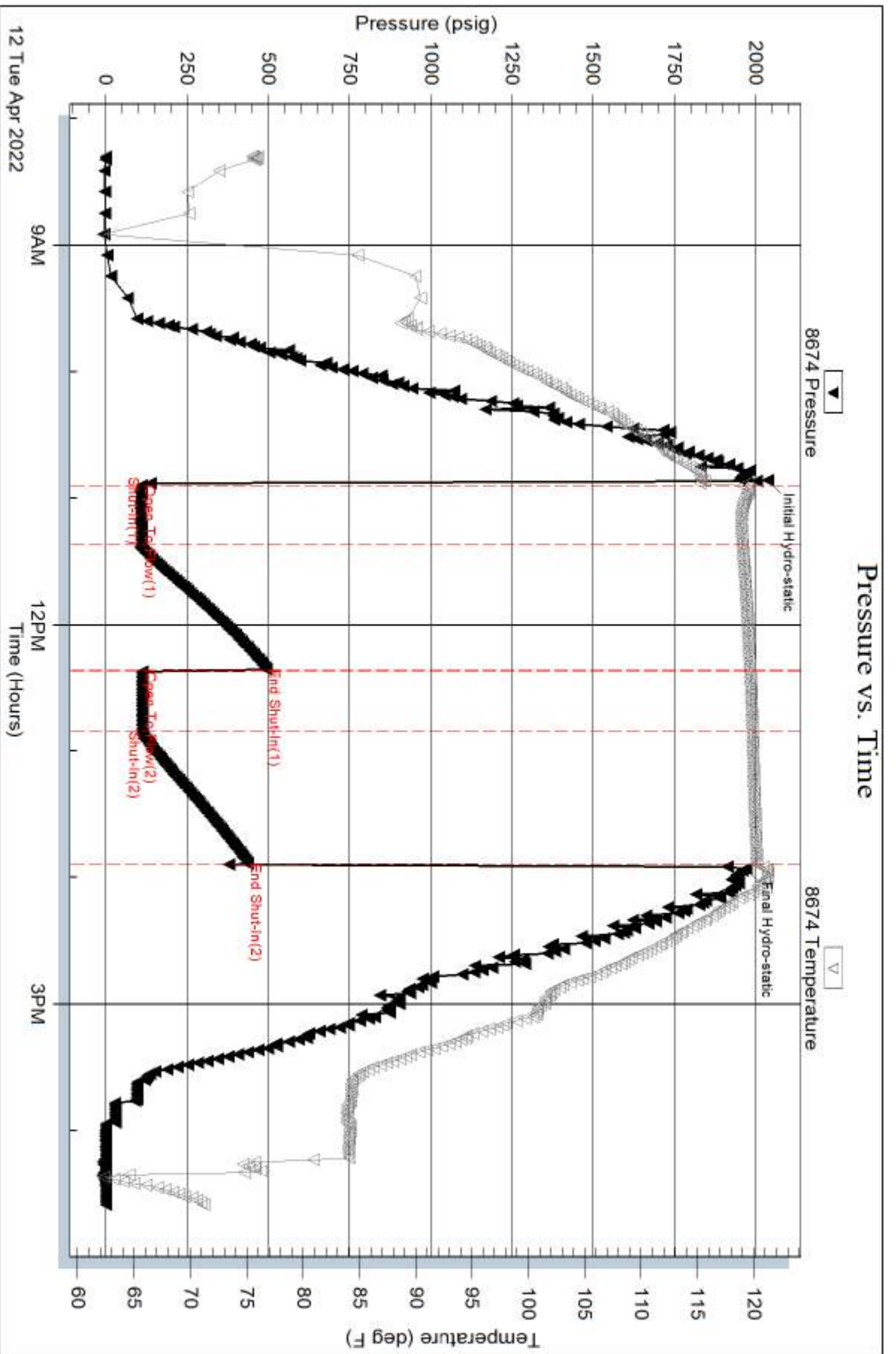
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



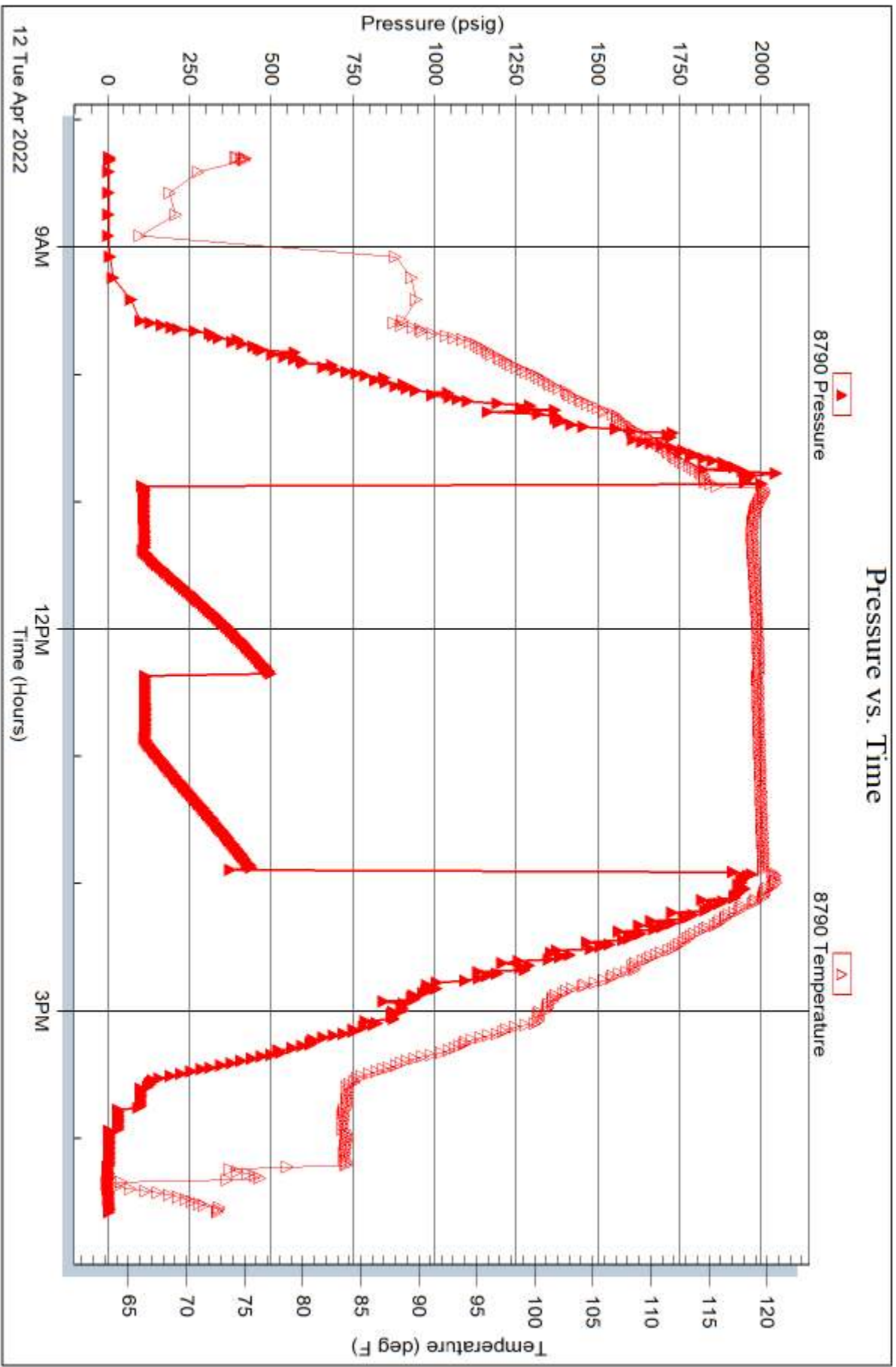
Serial #: 8790

Inside

Murfin Drilling Company

Klein Unit #1-7

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 68776

Printed: 2022.04.15 @ 11:50:43



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68748

Well Name & No. Klein unit 1-7 Test No. 1 Date 4-9-22
 Company Murfin Drilling Elevation 2936 KB 2931 GL
 Address 250 N Water St 300 Wichita, KS 67202
 Co. Rep / Geo. Jeff Lawler Rig Murfin 108
 Location: Sec. 7 Twp 35 Rge. 34W Co. Rawlins State KS

Interval Tested 3802 3905 Zone Tested LKC A-D
 Anchor Length 103 Drill Pipe Run 3624 Mud Wt. 8.6
 Top Packer Depth 3797 Drill Collars Run 178 Vls 69
 Bottom Packer Depth 3802 Wt. Pipe Run --- WL 6.4
 Total Depth 3905 Chlorides 1100 ppm System LCM 6

Blow Description #F: 1/4 blow built to 1.
IS: No return.
FF: surface blow built to 3/4.
F5: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>mud o-i spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 121 Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic <u>1862</u>	<input checked="" type="checkbox"/> Test 1800	T-On Location <u>1:00</u>
(B) First Initial Flow <u>28</u>	<input checked="" type="checkbox"/> Jars 300	T-Started <u>6:15</u>
(C) First Final Flow <u>30</u>	<input checked="" type="checkbox"/> Safety Joint	T-Open <u>9:51</u>
(D) Initial Shut-In <u>387</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>14:51</u>
(E) Second Initial Flow <u>31</u>	<input checked="" type="checkbox"/> Hourly Standby 5h 500	T-Out <u>17:24</u>
(F) Second Final Flow <u>36</u>	<input checked="" type="checkbox"/> Mileage <u>222</u> - 70rt 105	Comments <u>on the bank</u>
(G) Final Shut-In <u>573</u>	<input type="checkbox"/> Sampler	<u>at 2:30</u>
(H) Final Hydrostatic <u>1862</u>	<input type="checkbox"/> Straddle	<u>out of town by</u>

Initial Open 30 40 draw would not set
 Initial Shut-In 60
 Final Flow 90
 Final Shut-In 120

Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 2705

MP/DST Disc't ---

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **68749**

Well Name & No. Klein unit 1-7 Test No. 2 Date 4-10-22
 Company Murfin Drilling Elevation 2936 KB 2931 GL
 Address _____
 Co. Rep / Geo. Jeff Lawler Rig Murfin 108
 Location: Sec. 7 Twp 35 Rge. 34W Co. Rawlins State KS

Interval Tested 3907 3970 Zone Tested LKC G
 Anchor Length _____ 63 Drill Pipe Run 3729 Mud Wt. 9.0
 Top Packer Depth _____ 3902 Drill Collars Run 178 Vis 59
 Bottom Packer Depth _____ 3907 Wt. Pipe Run _____ WL 6.4
 Total Depth _____ 3970 Chlorides 1600 ppm System LCM 6

Blow Description IF: 1/4 blow built to 3/4.
IS: No return.
FF: No blow.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 121 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1928</u>	<input checked="" type="checkbox"/> Test 1800	T-On Location <u>8:30</u>
(B) First Initial Flow <u>25</u>	<input checked="" type="checkbox"/> Jars 300	T-Started <u>10:38</u>
(C) First Final Flow <u>26</u>	<input checked="" type="checkbox"/> Safety Joint	T-Open <u>13:43</u>
(D) Initial Shut-In <u>677</u>	<input checked="" type="checkbox"/> Circ Sub	T-Pulled <u>16:43</u>
(E) Second Initial Flow <u>26</u>	<input checked="" type="checkbox"/> Hourly Standby .5h 50	T-Out <u>19:03</u>
(F) Second Final Flow <u>26</u>	<input checked="" type="checkbox"/> Mileage <u>222</u> 105	Comments _____
(G) Final Shut-In <u>584</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1898</u>	<input type="checkbox"/> Straddle	<input checked="" type="checkbox"/> EM Tool

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60

Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Ruined Shale Packer
 Ruined Packer
 Extra Copies

Sub Total 0
 Total 2255
 Sub Total 2255 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **68750**

Well Name & No. Klein unit 1-7 Test No. 3 Date 4-11-22
 Company Murfin Drilling Elevation 2936 KB 2931 GL
 Address _____
 Co. Rep / Geo. Jeff Lawler Rig Murfin 108
 Location: Sec. 7 Twp 35 Rge. 34W Co. Rawlins State KS

Interval Tested 3968 4044 Zone Tested LKC H-5
 Anchor Length _____ 76 Drill Pipe Run 3782 Mud Wt. 9.1
 Top Packer Depth _____ 3963 Drill Collars Run 178 Vis 73
 Bottom Packer Depth _____ 3968 Wt. Pipe Run _____ WL 7.2
 Total Depth _____ 4044 Chlorides 3000 ppm System LCM 4
 Blow Description IF: BoB in 5 mins. 44"
IS: No return
FF: BoB in 10 min. 26"
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>220</u>	<u>WCM</u>		<u>40</u>	<u>60</u>	
<u>378</u>	<u>MCW</u>		<u>60</u>	<u>40</u>	
<u>315</u>	<u>MCW</u>		<u>90</u>	<u>10</u>	
_____	_____				
_____	_____				

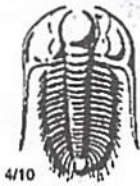
Rec Total 913 BHT 129 Gravity _____ API RW .31 @ 62 °F Chlorides 26,000 ppm

(A) Initial Hydrostatic 1978 Test 1950 T-On Location 8:45
 (B) First Initial Flow 53 Jars 300 T-Started 10:04
 (C) First Final Flow 316 Safety Joint T-Open 13:26
 (D) Initial Shut-In 1248 Circ Sub N/C T-Pulled 16:26
 (E) Second Initial Flow 316 Hourly Standby T-Out 19:28
 (F) Second Final Flow 427 Mileage 222 105 Comments _____
 (G) Final Shut-In 1155 Sampler _____
 (H) Final Hydrostatic 1926 Straddle _____ EM Tool _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 2355
 Sub Total 2355 MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60

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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **68776**

Well Name & No. Klein unit 1-7 Test No. 4 Date 4-12-22
 Company Murfin Drilling Elevation 2936 KB 2931 GL
 Address _____
 Co. Rep / Geo. Jeff Lawler Rig Murfin 108
 Location: Sec. 7 Twp 35 Rge. 34W Co. R9W1nd State KS

Interval Tested 4036 4090 Zone Tested LKC K-L
 Anchor Length _____ Drill Pipe Run 3846 Mud Wt. 9.1
 Top Packer Depth _____ Drill Collars Run 178 Vls 73
 Bottom Packer Depth 4036 Wt. Pipe Run _____ WL 7.2
 Total Depth 4090 Chlorides 3000 ppm System LCM 4

Blow Description IF: 8" blow died in 26 min. Lost mud after opening
IS: No return.
EF: No blow.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>180</u>	<u>Mud</u>			<u>100</u>	
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Rec Total 180 BHT 120 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2037</u>	<input checked="" type="checkbox"/> Test 1950	T-On Location <u>5:45</u>
(B) First Initial Flow <u>111</u>	<input checked="" type="checkbox"/> Jars 300	T-Started <u>8:17</u>
(C) First Final Flow <u>111</u>	<input checked="" type="checkbox"/> Safety Joint _____	T-Open <u>10:52</u>
(D) Initial Shut-In <u>495</u>	<input checked="" type="checkbox"/> Circ Sub _____	T-Pulled <u>13:52</u>
(E) Second Initial Flow <u>113</u>	<input checked="" type="checkbox"/> Hourly Standby _____	T-Out <u>16:37</u>
(F) Second Final Flow <u>113</u>	<input checked="" type="checkbox"/> Mileage <u>222-x2</u> 210	Comments <u>logged 4-13</u>
(G) Final Shut-In <u>438</u>	<input type="checkbox"/> Sampler _____	<u>18:30</u>
(H) Final Hydrostatic <u>1970</u>	<input type="checkbox"/> Straddle _____	<input checked="" type="checkbox"/> EM Tool -350

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60

Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby 1d 2h
 Accessibility _____

Sub Total 2460 MP/DST Disc't _____

Sub Total 800-350
 Total 2910

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.

Scale 1:240 Imperial

Well Name: KLEIN UNIT #1-7
Surface Location: NE SE SE NE Sec. 7 - 3S - 34W
Bottom Location:
API: 15-153-21281
License Number: 30606
Spud Date: 4/2/2022 Time: 2:15 PM
Region: RAWLING COUNTY KANSAS
Drilling Completed: 4/14/2022 Time: 5:08 AM
Surface Coordinates: 2100' FNL & 100' FEL
Bottom Hole Coordinates:
Ground Elevation: 2931.00ft
K.B. Elevation: 2936.00ft
Logged Interval: 3200.00ft To: 4533.00ft
Total Depth: 4533.00ft
Formation: OREAD; LANSING-KANSAS CITY
Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

OPERATOR

Company: MURFIN DRILLING COMPANY, INC.
Address: 250 N WATER
STE. 300
WICHITA, KS 67202-1216
Contact Geologist: SARAH KERSTETTER
Contact Phone Nbr: (316) 267-3241
Well Name: KLEIN UNIT #1-7
Location: NE SE SE NE Sec. 7 - 3S - 34W
API: 15-153-21281
Pool: State: KANSAS Field: UNNAMED
Country: USA

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: 39.80817
Latitude: -101.166951
N/S Co-ord: 2100' FNL
E/W Co-ord: 100' FEL

LOGGED BY



Company: BIG CREEK CONSULTING, INC.
Address: 3504 DUNCAN ST
ST. JOE, MO 64507
Phone Nbr: (785) 259-3737
Logged By: GEOLOGIST Name: JEFF LAWLER

CONTRACTOR

Contractor: MURFIN DRILLING COMPANY, INC.
Rig #: 108
Rig Type: MUD ROTARY
Spud Date: 4/2/2022 Time: 2:15 PM
TD Date: 4/14/2022 Time: 5:08 AM
Rig Release: 4/15/2022 Time: 8:00 AM

ELEVATIONS

K.B. Elevation: 2936.00ft
K.B. to Ground: 5.00ft

Ground Elevation: 2931.00ft

NOTES

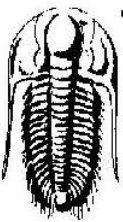
DUE TO A LACK OF ECONOMICAL RECOVERY DECISION WAS MADE TO PLUG & ABANDON THE KLEIN UNIT # 1-7.

RESPECTFULLY SUBMITTED,
JEFF LAWLER

WELL COMPARISON SHEET

FORMATION	● KLEIN UNIT #1-7								R STEARNS PETROLEUM				R RAYMOND OIL CO., INC.				● BLACK OAK PRODUCTION			
	ARGABRIGHT #1-4				SAMSON #1				SAMPSON #1				THRELKEL ET AL #1-23							
	SE NW NW SE 4-3-34				NE NW NW 10-3-34				SE SE SE 5-3-34				NE NE NE SE 23-3-35							
	KB	2936	GL	2931	KB	2903	LOG	SMPL.	KB	2958	LOG	SMPL.	KB	2927	LOG	SMPL.	KB	3002	LOG	SMPL.
LOGS/GEOREPORT	LOG	SMPL.	LOGS/GEOREPORT	LOG	SMPL.	LOG	SMPL.	LOGS/GEOREPORT	LOG	SMPL.	LOGS/GEOREPORT	LOG	SMPL.	LOGS/GEOREPORT	LOG	SMPL.				
ANHYDRITE TOP	2697	239	2696	240	2662	241	- 2	- 1	2710	248	- 9	- 8	2685	241	- 2	- 1	2798	254	- 15	- 14
BASE	2732	204	2729	207	2713	190	+ 14	+ 17	2750	208	- 4	- 1					2799	203	+ 1	+ 4
TOPEKA	3651	-715	3647	-711	3616	-713	- 2	+ 2	3677	-719	+ 4	+ 8	3677	-713	- 2	+ 2	3719	-717	+ 2	+ 6
OREAD	3798	-862	3786	-850	3760	-857	- 5	+ 7	3792	-834	- 28	- 16	3790	-857	- 5	+ 7	3844	-842	- 20	- 8
LKC	3866	-930	3848	-912	3819	-916	- 14	+ 4	3886	-928	- 2	+ 16	3850	-916	- 14	+ 4	3922	-920	- 10	+ 8
STARK	4066	-1130	4042	-1106	4026	-1123	- 7	+ 17					4126	-1123	- 7	+ 17	4122	-1120	- 10	+ 14
MOUND CITY	4114	-1178	4087	-1151	4072	-1169	- 9	+ 18					4136	-1169	- 9	+ 18	4171	-1169	- 9	+ 18
FT SCOTT	4240	-1304	4211	-1275	4193	-1290	- 14	+ 15									4297	-1295	- 9	+ 20
OAKLEY	4314	-1378	4275	-1339	4268	-1365	- 13	+ 26					4462	-1365	- 13	+ 26	4366	-1364	- 14	+ 25
MISSISSIPPIAN	4479	-1543	4462	-1526	4474	-1571	+ 28	+ 45	4550	-1592	+ 49	+ 66					4557	-1555	+ 12	+ 29
TOTAL DEPTH	4519	-1583	4533	-1597	4540	-1637	+ 54	+ 40					4520	-1637		+ 40	4674	-1672	+ 89	+ 75

DST #1 LKC A-D 3802' - 3905'

 <p style="font-size: 24px; font-weight: bold; margin: 0;">TRILOBITE TESTING, INC.</p>	<h2 style="margin: 0;">DRILL STEM TEST REPORT</h2>
	<p>Murfin Drilling Company 7-3s-34w Rawlins Ks</p> <p>250 N Water Ste 300 Klein Unit 1-7 Wichita, Ks 67202 Job Ticket: 68748 DST# 1</p> <p>ATTN: Jeff Lawler Test Start: 2022.04.09 @ 06:15:38</p>

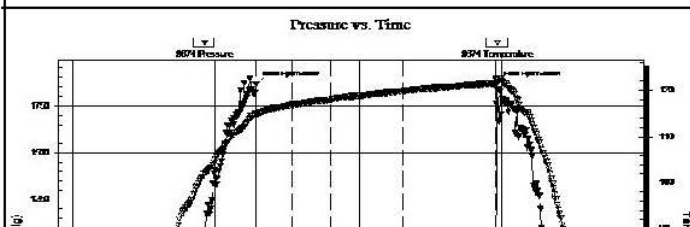
GENERAL INFORMATION:

Formation: LKC A-D	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Brandon Turley
Time Tool Opened: 09:52:08	Unit No: 79
Time Test Ended: 17:24:08	Reference Elevations: 2936.00 ft (KB) 2931.00 ft (CF)
Interval: 3802.00 ft (KB) To 3905.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Total Depth: 3905.00 ft (KB) (TVD)	
Hole Diameter: 7.88 inches Hole Condition: Good	

Serial #: 8674 Outside

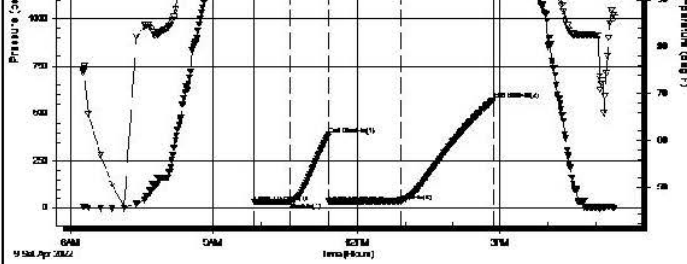
Press@RunDepth: 36.15 psig @ 3803.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2022.04.09	End Date: 2022.04.09
Start Time: 06:15:43	End Time: 17:24:08
	Last Calib.: 2022.04.09
	Time On Btm: 2022.04.09 @ 09:51:08
	Time Off Btm: 2022.04.09 @ 14:53:08

TEST COMMENT: IF: 1/4 blow built to 1.
IS: No return.
FF: Surface blow built to 3/4.
FS: No return 30-60-90-120



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1862.47	115.04	Initial Hydro-static
1	28.56	114.58	Open To Flow (1)
45	30.65	116.83	Shut-In(1)
94	387.78	118.05	End Shut-In(1)



95	31.21	118.04	Open To Flow (2)
183	36.15	119.86	Shut-In(2)
301	573.50	121.56	End Shut-In(2)
302	1862.22	122.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	mud oil spots 100% m	0.15

Gas Rates

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

Trilobite Testing, Inc

Ref. No: 68748

Printed: 2022.04.09 @ 20:41:31

DST #2 LKC G 3907' - 3970'

<p>TRILOBITE TESTING, INC.</p>	DRILL STEM TEST REPORT	
	<p>Murfin Drilling Company</p> <p>250 N Water Ste 300 Wichita, Ks 67202</p> <p>ATTN: Jeff Lawler</p>	<p>7-3s-34w Rawlins Ks</p> <p>Klein Unit 1-7</p> <p>Job Ticket: 68749 DST# 2</p> <p>Test Start: 2022.04.10 @ 10:38:43</p>

GENERAL INFORMATION:

Formation: **LKC G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:46:13

Time Test Ended: 19:05:43

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 3907.00 ft (KB) To 3970.00 ft (KB) (TVD)

Total Depth: 3970.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2936.00 ft (KB)

2931.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8674 Outside

Press@RunDepth: 26.95 psig @ 3908.00 ft (KB)

Start Date: 2022.04.10 End Date: 2022.04.10

Start Time: 10:38:48 End Time: 19:05:42

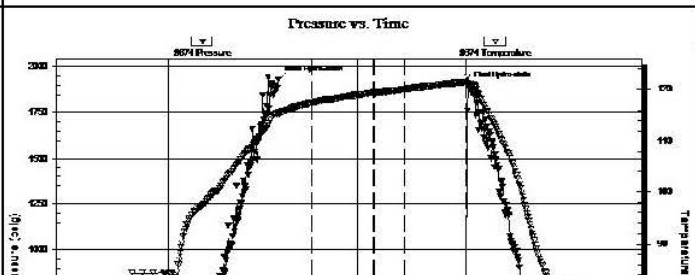
Capacity: 8000.00 psig

Last Calib.: 2022.04.10

Time On Btm: 2022.04.10 @ 13:45:43

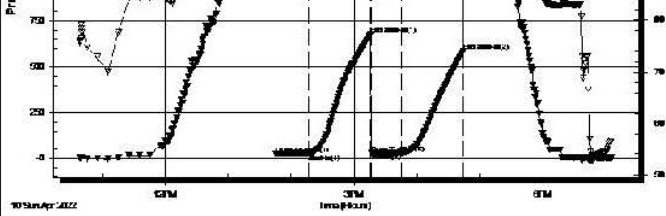
Time Off Btm: 2022.04.10 @ 16:45:43

TEST COMMENT: IF: 1/4 blow built to 3/4.
IS: No return.
FF: No blow.
FS: No return. 30-60-30-60



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1928.89	115.59	Initial Hydro-static
1	25.31	115.09	Open To Flow (1)
32	26.28	117.38	Shut-In(1)
90	677.94	119.41	End Shut-In(1)
91	26.72	119.20	Open To Flow (2)
119	26.95	120.03	Shut-In(2)



179	584.67	121.46	End Shut-In(2)
180	1898.33	121.14	Final Hydro-static

Recovery

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

* Recovery from multiple tests

Gas Rates

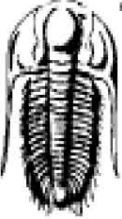
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc

Ref. No: 68749

Printed: 2022.04.11 @ 07:51:09

DST #3 LKC H - J 3968' - 4044'



DRILL STEM TEST REPORT

Murfin Drilling Company

250 N Water Ste 300
Wichita, Ks 67202

ATTN: Jeff Lawler

7-3s-34w Rawlins Ks

Klein Unit 1-7

Job Ticket: 68750 **DST#: 3**

Test Start: 2022.04.11 @ 10:04:00

GENERAL INFORMATION:

Formation: LKC H-J		
Deviated: No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 13:26:00		Tester: Brandon Turley
Time Test Ended: 19:25:30		Unit No: 79
Interval: 3968.00 ft (KB) To 4044.00 ft (KB) (TVD)		Reference Elevations: 2936.00 ft (KB)
Total Depth: 4044.00 ft (KB) (TVD)		2931.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Good	KB to GR/CF: 5.00 ft

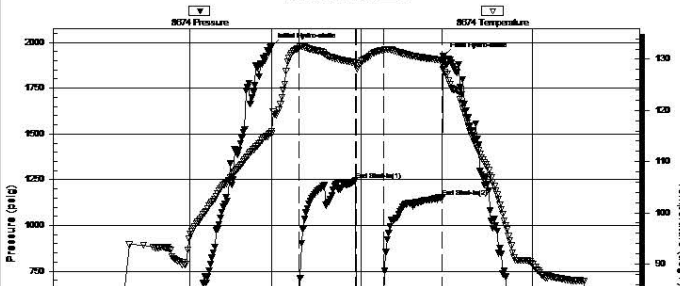
Serial #: 8674

Outside

Press@RunDepth: 427.61 psig @ 3969.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2022.04.11	End Date: 2022.04.11
Start Time: 10:04:05	End Time: 19:25:30
	Last Calib.: 1899.12.30
	Time On Btm: 2022.04.11 @ 13:25:30
	Time Off Btm: 2022.04.11 @ 16:26:30

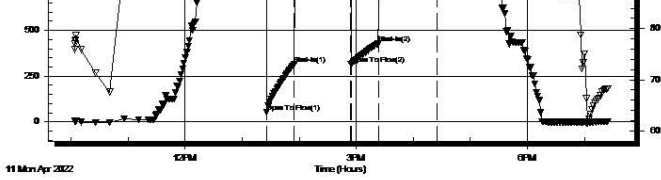
TEST COMMENT: IF: BOB in 5 mins. 44
IS: No return.
FF: BOB in 10 mins. 26
FS: No return. 30-60-30-60

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1978.03	115.46	Initial Hydro-static
1	53.96	115.91	Open To Flow (1)
30	316.13	132.19	Shut-In(1)
89	1248.16	129.32	End Shut-In(1)
89	316.23	128.75	Open To Flow (2)
118	427.61	131.75	Shut-In(2)
180	1155.70	129.84	End Shut-In(2)



181	1926.17	128.75	Final Hydro-static
-----	---------	--------	--------------------

Recovery

Length (ft)	Description	Volume (bbl)
315.00	mcw 90%w 10%m	2.80
378.00	mcw 60%w 40%m	5.30
220.00	w cm 40%w 60%m	3.09

* Recovery from multiple tests

Gas Rates

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

Trilobite Testing, Inc

Ref. No: 68750

Printed: 2022.04.12 @ 06:59:12

DST #4 LKC K - L 4036' - 4090'



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Company

250 N Water Ste 300
Wichita, Ks 67202

ATTN: Jeff Lawler

7-3s-34w Rawlins Ks

Klein Unit 1-7

Job Ticket: 68776

DST#: 4

Test Start: 2022.04.12 @ 08:17:49

GENERAL INFORMATION:

Formation: **LKC K-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:53:49

Time Test Ended: 16:35:19

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4036.00 ft (KB) To 4090.00 ft (KB) (TVD)

Total Depth: 4090.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2936.00 ft (KB)

2931.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8674 Outside

Press@RunDepth: 113.88 psig @ 4037.00 ft (KB)

Start Date: 2022.04.12

End Date: 2022.04.12

Capacity: 8000.00 psig

Last Calib.: 2022.04.12

Start Time: 08:17:54

End Time: 16:35:18

Time On Btm: 2022.04.12 @ 10:51:19

Time Off Btm: 2022.04.12 @ 13:55:49

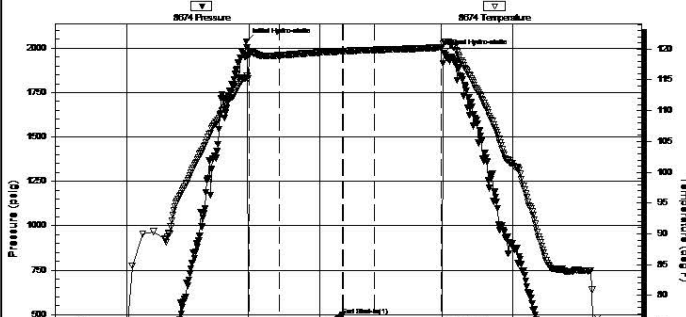
TEST COMMENT: IF: 8" blow died in 26 min. We lost mud right after opening the tool.

IS: No return.

FF: No blow.

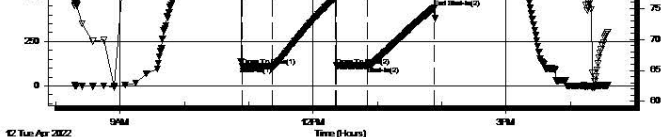
FS: No return. 30-60-30-60

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2037.02	115.38	Initial Hydro-static
3	111.64	118.95	Open To Flow (1)
31	111.57	118.97	Shut-In(1)
90	495.20	119.65	End Shut-In(1)
91	113.36	119.63	Open To Flow (2)
120	113.88	119.87	Shut-In(2)
182	438.57	120.26	End Shut-In(2)
185	1970.81	121.13	Final Hydro-static



Recovery

Length (ft)	Description	Volume (bbl)
180.00	mud 100%m	0.90

* Recovery from multiple tests

Gas Rates

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

Triobite Testing, Inc

Ref. No: 68776

Printed: 2022.04.14 @ 08:44:25

ROCK TYPES

Cht vari	shale, gry	Shblk	Shcol	Ss
Lmst fw7>	Carbon Sh	shale, red	Arg/Shale	

ACCESSORIES

STRINGER

green shale

OTHER SYMBOLS

MISC

- Daily Report
- Digital Photo
- Document
- Folder
- Link
- Vertical Log File
- Horizontal Log File
- Core Log File
- Drill Cuttings Rpt

DST

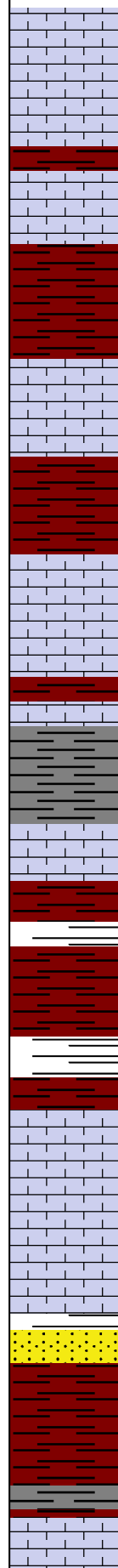
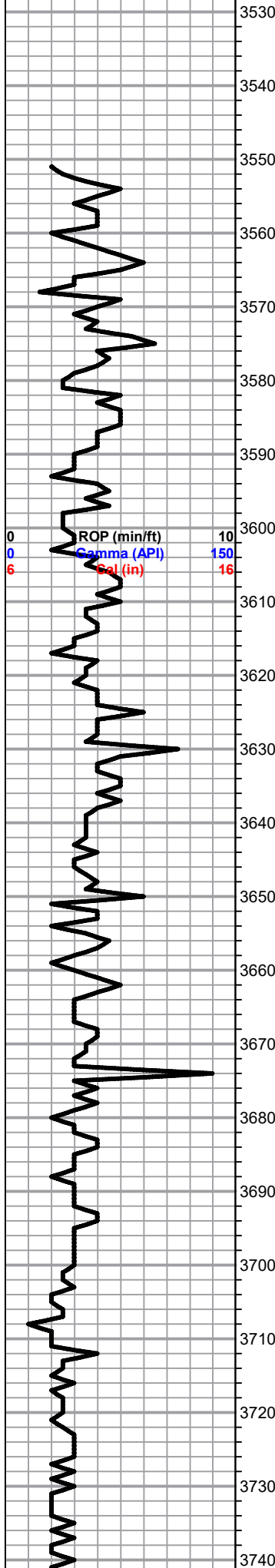
- DST Int
- DST alt

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

Curve Track #1		Depth Intervals	DST	Lithology	Oil Show	Geological Descriptions	Curve Track #3	
ROP (min/ft)	Cal (in)						1:240 Imperial	
0	6	10				<p><u>1' DRILL TIME THROUGH ANHYDRITE FROM 2670' - 2770'</u> <u>1' DRILL TIME FROM 3550' - RTD</u> <u>10' WET/DRY SAMPLES FROM 3550' - RTD</u></p> <p>GEOLOGICAL SUPERVISION BY JEFF LAWLER FROM 3550' - RTD</p>		
0		150						
		16						
		3510						
		3520						

8 5/8" SURFACE PIPE SET @ 346'

**ANHYDRITE TOP 2696' (+240) E-LOG 2697' (+239)
ANHYDRITE BASE 2729' (+207) E-LOG 2732' (+204)**



Lm- Cream Buff Gray, FXLN, mix of fsl & mod. well dev. w/ dense clear replacement cementation, sctrd XLN porosity, & VFXLN, dense, well cemented, sctrd mottling & micro XLN porosity

Lm- Lt Gray Buff, FXLN, sl sandy, some chalky in part, sctrd XLN porosity, barren

Sh- Maroon Green, sl argillaceous, sl sandy, calcareous & sl fsl, few loose crinoids

Lm- Cream Off White, FXLN, fsl & oolitic, loosely cemented & crumbly, dense XLN & sctrd fn ppt porosity, barren

Sh- Maroon Gray, gummy & sandy, dense & waxy

Lm- Cream, FXLN, fsl & oolitic, densely packed, sctrd clear replacement cementation, sctrd XLN porosity, some sl chalky in part, few sl dolomitic cherty Ls, barren

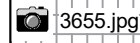
Sh- Maroon Red, sandy & earthy, argillaceous

Sh- Maroon Gray Green, A/A, calcareous

Sh- A/A abundant argillaceous clumps

TOPEKA 3647' (-711) E-LOG 3651' (-715)

Lm- Cream, FXLN, oolitic, sctrd clear replacement cementation, sctrd XLN & rare vry fn ppt porosity, TR BLK DO GILSONITE STN, NSFO, NODR



Sh- Maroon abundant argillaceous & sandy

DEER CREEK 3681' (-745) E-LOG 3685' (-749) Lm- Buff Cream Tan, VF-FXLN, high-energy mix, sl fsl w/ fragments, mottled, sl shaley, poor vis to sctrd XLN porosity

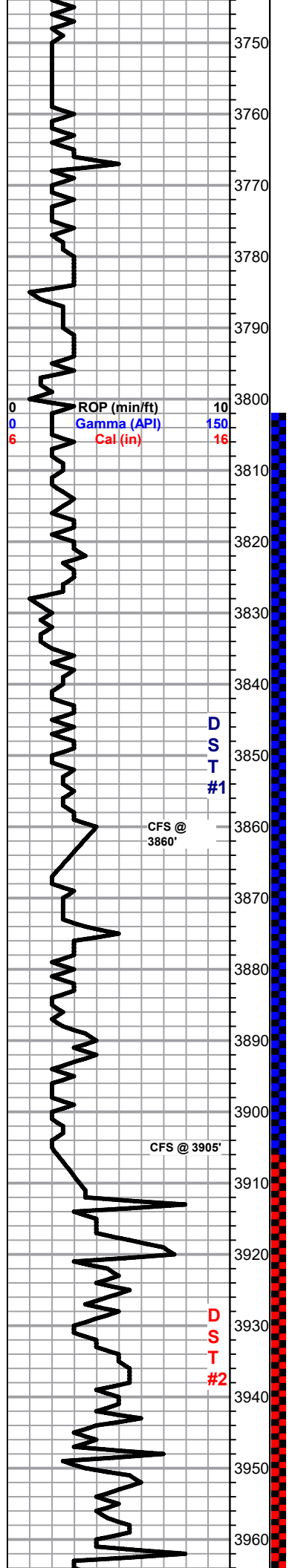
Lm- Lt Purple, Vf Grn, loosely cemented, chalky, sandy, poor vis. porosity

Lm- Cream Tan, Crypto XLN, porcelain like cherty Ls w/o vis. porosity

Sh/Ss- Maroon, argillaceous & sandy, loosely cemented Fn Grn Ss

A/A w/ calcareous gray & green Sh, sandy

MUD CHECK @
3668'
WT: 8.6
VIS: 69
WL: 6.4
CHLOR: 1100



Lm- Dove Gray, Vf Grn, well cemented sandy Ls w/ sctrd XLN at best, tight, barren

Lm- Buff, VFXLN, dense, well cemented & tight, sctrd micro XLN porosity

A/A, slight influx of calcareous & chalky in part

Sh- Gray Maroon Black, abundant argillaceous wash, earthy & sandy, fissile

OREAD 3786' (-850) E-LOG 3798' (-862) Lm- Off White, FXLN, fsl & densely packed small oolites, massive, well cemented, dense clear replacement cementation, dense XLN porosity, clean & barren

A/A, influx of chalky loosely cemented A/A & soft white chalk, barren

Lm- Buff Gray, VFXLN, dense, sl fsl, well cemented & tight w/ sctrd micro XLN & XLN porosity, chalky in part

Lm- Lt Gray Off White, FXLN, fsl & sl oolitic, loosely cemented, sctrd & dense XLN porosity, sctrd reXLN porosity, SCTRD BLK DO STN, NSFO, NODR, chalky in part

Ss/Sh- Off White, FN Grn, calcareous loosely cemented Ss, consolidated & well sorted, SCTRD BLK DO STN, NSFO, NODR, NO FLOR., argillaceous gray sandy wash

LANSING A 3842' (-906) E-LOG 3866' (-930) Lm- Cream Off White, FXLN, fsl & oolitic, dense XLN porosity, 2-3 PCS W/ SCTRD LT BRWN STN, NSFO, NODR, 1 PC W/ BLK DO STN

****POOR SAMPLE QUALITY, MOSTLY LCM****

****GEOLOGRAPH NOT WORKING****

Lm- Off White, F-MEDXLN, well dev. oolitic (large oolites), dense XLN & ppt porosity, massive, SCTRD DRK STN, OILY SHEEN, TR FRO?, NO ODR

Lm/Ss- Cream-VF-FXLN, dense, well cemented, tight w/ poor vis. porosity, Ss/Sandy Ls- Frosted, Fn Grn, well cemented, consolidated & well sorted, SCTRD LT STN, NSFO, NO ODR, WK TR FLOR. (NOT STREAMING)

Sh- Maroon, sandy & earthy

LANS D - Lm- Tan, FXLN, densely packed small oolites, dense XLN & sctrd fn ppt & ppt porosity, HVY DRK STN, TR BLEEDING FRO, NODR

A/A w/ dense clear reXLN & porosity, SCTRD BLK DO STN, NSFO, NODR

****GEOLOGRAPH NOT WORKING****

Lm- Cream, VFXLN, dense, well cemented, some cherty Ls, all tight w/ poor vis. to sctrd XLN porosity, barren

Lm- Cream Off White, FXLN, sl fsl, sctrd to dense XLN porosity, some soft white chalk, clean & barren

Sh-Maroon Gray, gritty & earthy, waxy, some argillaceous wash

LANS G

Lm- Cream, FXLN, fsl & sl oolitic, sctrd XLN porosity, some chalky in part, SCTRD DRK STN, NSFO, NODR, some soft white chalk

A/A w/ sl influx of chalk & few pcs of cream vitreous chert

SHORT TRIP SURVEY 3/4 deg. STRAP -0.63

DST #1 LKC A-D 3802' - 3905 30-60-90-120

30' MUD W/ OIL SPOTS

IFP: 28-30# FFP: 31-36# SIP: 387-573#

3825.jpg

3832.jpg

3842.jpg

3870.jpg

3878.jpg

3894.jpg

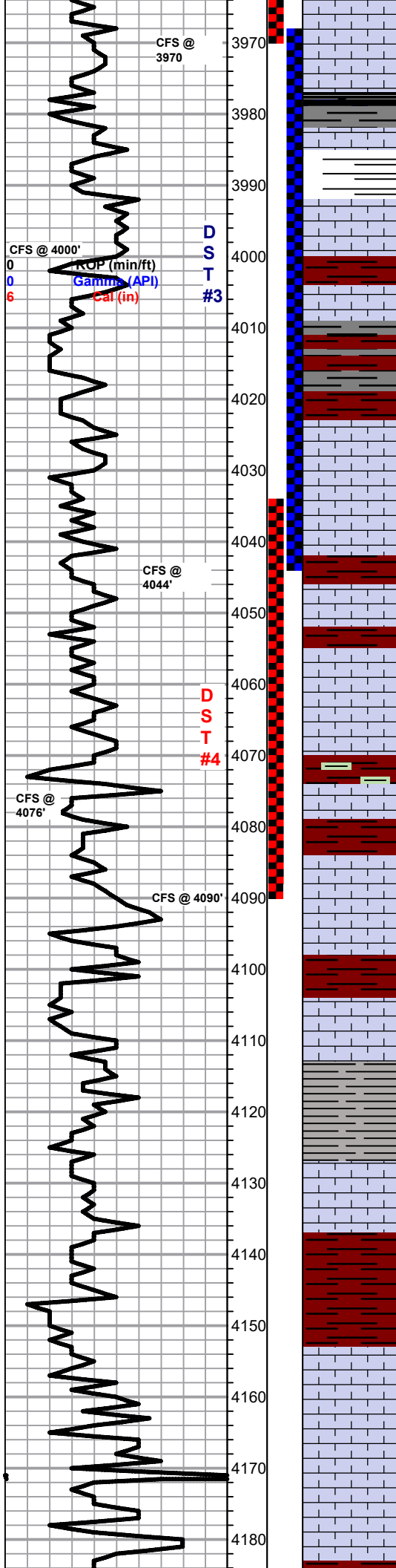
MUD CHECK @ 3905' WT: 9.0 VIS: 59 WL: 6.4 CHLOR: 1600

DST #2 LKC G 3907' - 3970' 30-60-30-60

5' MUD W/ OIL SPOTS

IFP: 25-26# FFP: 26-26# SIP: 677-584#

3955.jpg



Lm- Cream, FXLN, fsl, dense XLN porosity, some w/ dense clear reXLN veins, few pcs of cherty Ls, all barren

Sh- Black Gray, fissile & carbonaceous, argillaceous wash, some sandy

Sh- Gray, abundant argillaceous clumps

LANS H- Lm- Off White, FXLN, fsl w/ fusulinids, dense XLN & secondary reXLN porosity, clean & barren

Lm- Cream Off White, FXLN, sl fsl, dense XLN porosity, some chalky in part, soft white chalk, barren

Sh- Maroon Gray Green, earthy, waxy, some argillaceous wash

LANS J- Lm- Off White, FXLN, oolitic, massive, dense XLN & fn ppt porosity, sctrd clear replacement cementation, barren

STARK SHALE 4042' (-1106) E-LOG 4066' (-1130) Sh- Maroon Green Gray, earthy, calcareous & dense

Lm- White, F-MEDXLN, fsl w/ fusulinids, dense XLN & sctrd vry fn ppt porosity, SCTRD DRK STN, SHW FRO, FNT ODR

Lm- Off White, FXLN, sl fsl, sctrd XLN porosity, clean & barren

Sh- Maroon Gray Green, earthy & sandy, calcareous, waxy

Lm- Cream Off White, VF-FXLN, dense, well cemented, sl fsl, sctrd XLN porosity, some soft white chalk, barren

MOUND CITY 4087' (-1151) E-LOG 4114' (-1178) Sh- Maroon Gray Green, earthy, waxy, calcareous

Lm/Chert- Cream, VFXLN, tight mix w/ sctrd XLN porosity & cherty Ls w/ sctrd XLN porosity, barren

Sh- Maroon Gray Green, earthy, waxy

MARMATON 4118' (-1182) E-LOG 4155' (-1219) Lm- Buff Gray, VF-FXLN, sctrd XLN porosity, tight, poorly dev., barren

Lm- Buff Cream, VF-FXLN, dense & tight w/ sctrd XLN porosity, barren

Sh- Maroon Gray, earthy, sandy, argillaceous wash

Lm/Chert- Buff Cream, Vf Grn FXLN, tight mix of siltstone, FXLN Ls w/ sctrd XLN porosity & salmon colored oolitic vitreous fresh bedded chert, few pcs of dolomitic Ls w/ dense micro XLN porosity

MUD CHECK @ 3970'

WT: 9.0
VIS: 69
WL: 6.8
CHLOR: 2400

DST #3 LKC H - J
3968' -4044'
30-60-30-60

913' TOTAL FLUID
220' WCM
(40% W, 60% M)
378' MCW
(60% W, 40% M)
315' MCW
(90% W, 10% M)

IFP: 53-316#
FFP: 316-427#
SIP: 1248-1155#
BHT: 129 deg.

MUD CHECK @ 4044'

WT: 9/1
VIS: 73
WL: 7.2
CHLOR: 3000

4050.jpg

DST #4 LKC K - L
4034' - 4090'
30-60-30-60

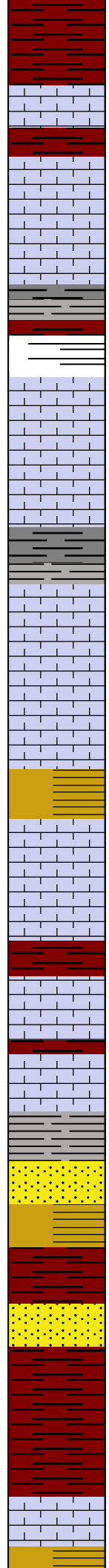
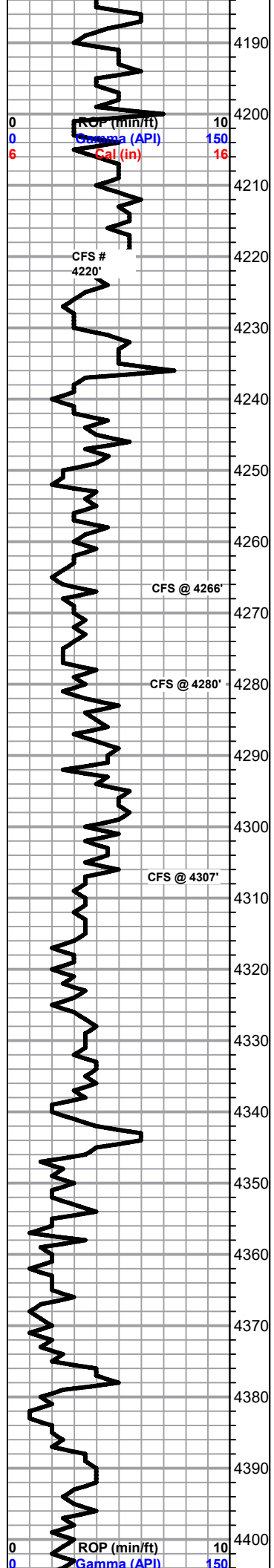
180' MUD (100%)

IFP: 111-111#
FFP: 113-113#
SIP: 495-438#
BHT: 120 deg.

SURVEY 3/4 deg.

MUD CHECK @ 4090'

WT: 9.3
VIS: 57
WL: 8.0
CHLOR: 3900



Sh- Maroon, sl influx of argillaceous wash

Abundant argillaceous wash

Lm- Cream Buff, mix of loosely cemented & chalky w/ poor vis. porosity, FXLN oolitic w/ sctrd clear replacement cementation & XLN porosity, loosely cemented sandy Ls, all barren

Sh- Maroon Gray Black, waxy, calcareous, fissile

FT SCOTT 4211' (-1275) E-LOG 4240' (-13040) Lm- Cream Buff Gray, VF-FXLN, mix of sl fsl & oolitic w/ sctrd-dense XLN porosity, barren, VFXLN, dense & tight w/ sctrd XLN at best, some loosely cemented sandy Ls, barren

Sh- Black Gray Maroon, dense & waxy, calcareous, argillaceous wash

Lm- Cream Off White, massive, fsl & oolitic, dense XLN & sctrd ppt porosity, sctrd clear reXLN, several pcs sl dolomitic, much soft white chalk, all barren

A/A w/o chalk, several pcs of VFXLN dolomitic Ls & cherty Ls, all barren

Lm- Buff, VFXLN, dense, well cemented & tight w/ poor vis. porosity

EXCELLO 4248' (-1312) E-LOG 4293' (-1357) Sh- Black Gray Maroon, carbonaceous, argillaceous clumps, some sandy, waxy

Lm- Cream, FXLN, fsl & oolitic, densely packed, dense XLN & sctrd reXLN porosity, sctrd clear replacement cementation, clean & barren

OAKLEY 4275' (-1339) E-LOG 4314' (-1378) Sh- Gray Maroon, calcareous, waxy

Lm- Dove Gray, Vf Grn, loosely cemented siltstone w/o vis. porosity, few pcs of VFXLN, dense & tight w/o vis. porosity

Sh- Maroon Brown Gray, earthy, waxy, argillaceous & sandy

Lm- Cream, VF-FXLN, fsl & vry oolitic, dns XLN & secondary reXLN porosity, sctrd clear replacement cementation, some sl chalky in part, clean & barren

Lm- Gray, FXLN, fsl & semi-clastic, well to poor cementation, sctrd XLN porosity, barren

Sh- Maroon Gray, earthy, semi-waxy

Lm- White, soft white, crumbley, vry chalky, mottled

Lm- Cream Off White, Vf Grn FXLN, high-energy mix of chalky mud supported, crumbley, hvy mottling, loosely cemented, sl fsl, dense XLN porosity, mottled

Ss- Clear Frosted, M-Crse Grn, sub-rounded to sub-angular, mature, consolidated & mostly mod sorted, some sl unconsolidated, friable, barren

Sh- Purple Green Yellow Brown, semi-waxy

Sh- Red Maroon, sandy, earthy, argillaceous

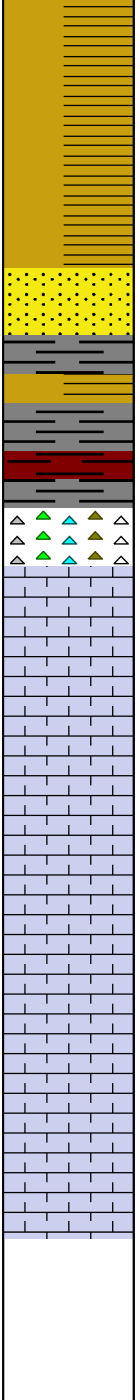
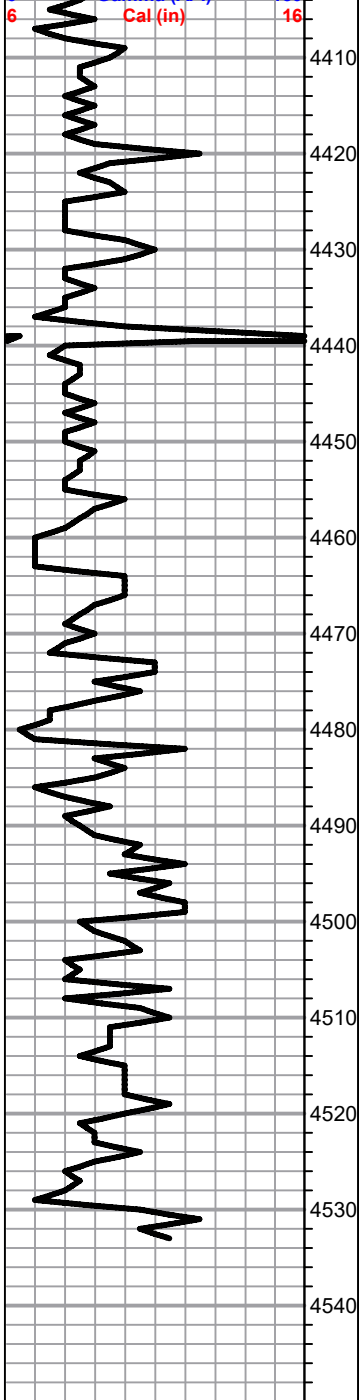
Sand- Frosted Yellow, larg, angular, sub-rounded, many loose ind. grains

Sh- Maroon Gray Green, sandy, waxy, earthy

A/A

Lm- Buff, VFXLN, dense, vry well cemented, no vis. porosity

MUD CHECK @
4220'
WT: 9.0
VIS: 62
WL: 6.8
CHLOR: 3000



Sh- Maroon Green Purple, waxy, sandy, argillaceous

A/A

Ss- Frosted, Fn Grn, consolidated & well sorted, vry firable, some speckling

Sh- Maroon Brown Green Mustard Yellow, waxy, some sandy

Chert- Opaque Yellow Salmon Tan Cream, mix of massive dolomitic & vitreous fresh bedded oolitic & tripolitic chert, barren

MISSISSIPPIAN 4462' (-1526) E-LOG 4479' (-1543) Lm- Dove Gray, Vf Grn, loosely cemented dolomitic Ls w/ consistent micro XLN porosity, barren

Lm- A/A w/ cherty Ls & dolomitic Ls

****NO SAMPLE****

Lm- Dover Gray Cream, FXLN, well cemented dolomitic Ls w/ consistent microXLN porosity

****BLEW KELLY LINE @ 4533' RTD 4533' (-1597) LTD 4519' (-1583) @ 05:18 4/14/2022****

MUD CHECK @
4533'

WT: 9.3
VIS: 90
WL: 7.2
CHLOR: 3200

SURVEY 3/4 deg.



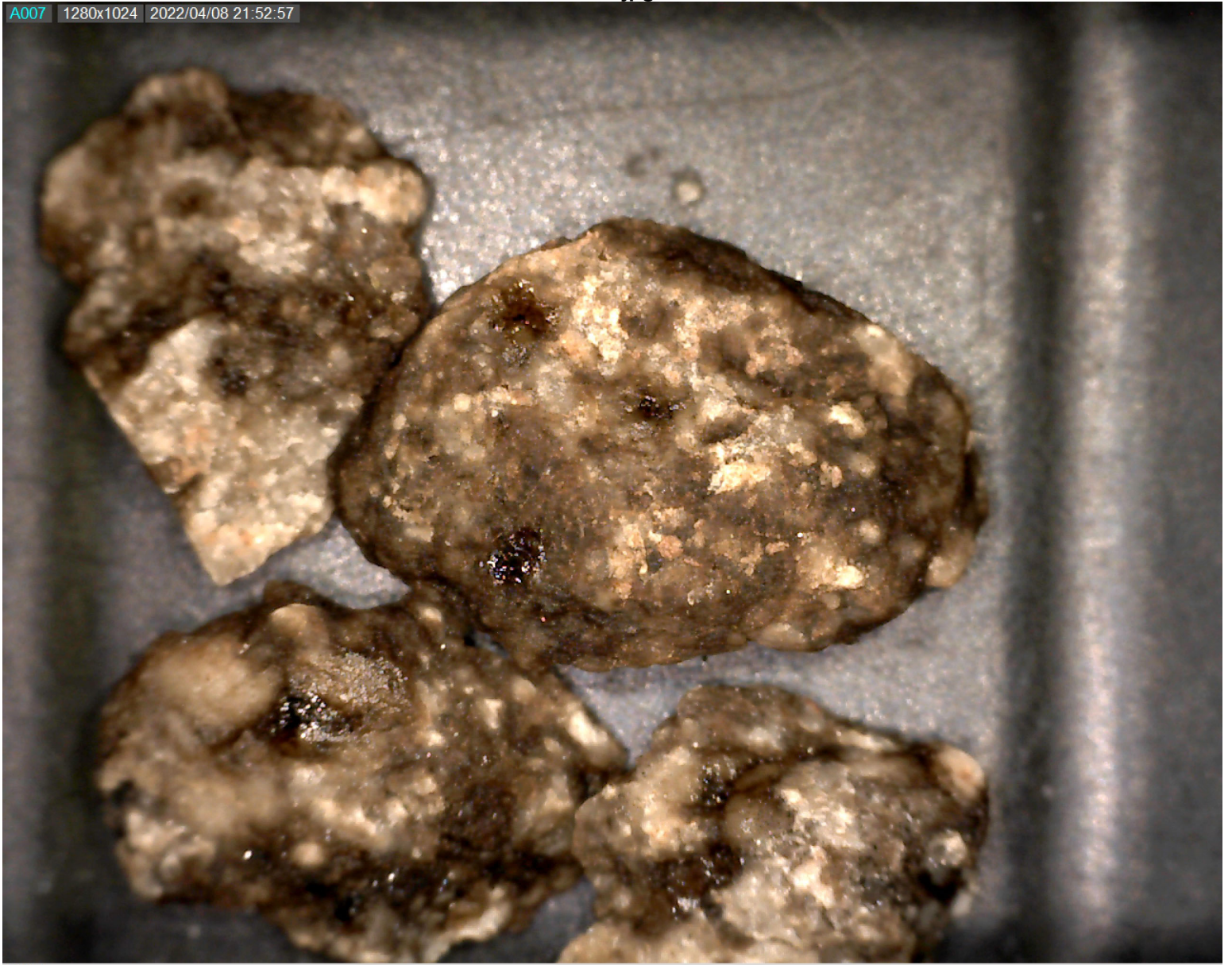
















MDCI
 Klein Unit #1-7
 2100' FNL 100' FEL
 Sec. 7-3S-34W
 2936' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref
Anhydrite	2696	+240	-1	2696	+240	-1
B/Anhydrite	2729	+207	+17	2744	+192	+2
Topeka	3647	-711	+2	3651	-715	-2
Oread	3788	-850	+7	3798	-862	-5
Lansing	3848	-912	+3	3866	-930	-15
Stark	4042	-1106	+17	4066	-1130	-7
Mound City	4087	-1151	+18	4112	-1176	-7
Ft Scott	4211	-1275	+15	4240	-1304	-14
Oakley	4275	-1339	+26	4314	-1378	-13
Mississippi	4462	-1526	+45	4493	-1557	+14
RTD	4533	-1597				
LTD				4520		

**CEMENT TREATMENT REPORT**

Customer: Murfin Drilling	Well: Klein Unit 1-7	Ticket: WP 2629
City, State:	County: Rawlins KS	Date: 4/2/2022
Field Rep: Justin	S-T-R: 7-3S-34W	Service: Surface

Downhole Information

Hole Size:	12 1/4 In
Hole Depth:	350 ft
Casing Size:	8 5/8 In
Casing Depth:	350 ft
Tubing / Liner:	In
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	21.0 bbls

Calculated Slurry - Lead

Blend:	H-325
Weight:	14.8 ppg
Water / Sx:	6.9 gal / sx
Yield:	1.41 ft ³ / sx
Annular Bbls / Ft.:	0.0735 bbs / ft.
Depth:	ft
Annular Volume:	0.0 bbls
Excess:	
Total Slurry:	87.9 bbls
Total Sacks:	350 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	STAGE BBLs	TOTAL BBLs	REMARKS
	700P			-	-	ON LOCATION
	710P				-	SAFETY MEETING
	720P				-	GET INFO: 343' 8 5/8 23# CASING (RACK VERIFIED) 7' LANDING JOINT
	730P				-	RIG UP
	1035P				-	CASING ON BOTTOM
	1045P				-	CIRCULATE WITH RIG PUMP
	1054P	3.0	70.0	5.0	5.0	H2O AHEAD
	1056P	6.5	100.0	87.9	92.9	CEMENT MIXED @ 14.8 PPG (MUD SCALE VERIFIED)
	1110P	4.0	160.0	21.0	113.9	DISPLACE H2O
	1115P				113.9	SHUT IN/PLUG DOWN
	1119P				113.9	WASH UP
	1122P					RIG DOWN
	1135P					LEFT LOCATION

CREW		UNIT		SUMMARY		
Cementer:	Jimmie		914	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Christian		180/520	4.5 bpm	110 psi	114 bbls
Bulk #1:	Charlie		194/235			
Bulk #2:						



CEMENT TREATMENT REPORT

Customer: Murfin Drilling	Well: Klein Unit 1-7	Ticket: WP 2682
City, State: Oakley KS	County: Rawlins KS	Date: 4/15/2022
Field Rep: Justin	S-T-R: 7-3S-34W	Service: PTA

Downhole Information	
Hole Size:	7 7/8 in
Hole Depth:	4533 ft
Casing Size:	in
Casing Depth:	ft
Tubing / Liner:	4 1/2 DP in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacements:	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:	ft
Annular Volume:	0.0 bbls
Excess:	
Total Slurry:	60.7 bbls
Total Sacks:	240 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	STAGE BBLs	TOTAL BBLs	REMARKS
1000P			-	-	ON LOCATION
1010P				-	SAFETY MEETING
1015P				-	RIG UP
1123P	4.0	180.0	6.0	6.0	H2O AHEAD
1125P	7.2	180.0	12.6	17.6	CEMENT 50 SX H-PLUG MIXED AT 13.8 PPG @ 2715'
1128P	3.0	60.0	5.0	22.6	DISPLACE H2O
1130P				22.6	DISPLACE MUD WITH RIG PUMP
1250A	4.0	160.0	5.0	27.6	H2O AHEAD
1253A	4.0	90.0	25.2	52.8	CEMENT 100 SX H-PLUG MIXED AT 13.8 PPG @ 1860'
100A	4.0	20.0	20.0	72.8	DISPLACE H2O
224A	4.0	100.0	5.0		H2O AHEAD
226A	4.0	70.0	12.6		CEMENT 50 SX H-PLUG MIXED AT 13.8 PPG @ 400'
230A	3.0	20.0	2.0		DISPLACE H2O
350A	1.2	20.0	2.5		CEMENT 10 SX H-PLUG MIXED @ 13.8 PPG @ 40' WITH WIPER PLUG
355A	1.5	40.0	7.6		CEMENT 30 SX H-PLUG MIXED AT 13.8 PPG RATHOLE
405A					WASH UP
420A					RIG DOWN
445A					LEFT LOCATION

CREW		UNIT	SUMMARY		
Cementer:	Jimmie	914	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Christian	180/620	3.6 bpm	78 psi	103 bbls
Bulk #1:	Charlie	205			
Bulk #2:					