

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc**

8411 Preston Rd Suite 800
Dallas, TX 75225+5520

ATTN: Wyatt Urban

Denker #9

10-22S-12W Stafford,KS

Start Date: 2019.08.03 @ 09:30:00

End Date: 2019.08.03 @ 15:54:02

Job Ticket #: 66286 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.08.06 @ 10:21:23



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mai Oil Operations Inc
8411 Preston Rd Suite 800
Dallas, TX 75225+5520
ATTN: Wyatt Urban

10-22S-12W Stafford,KS

Denker #9

Job Ticket: 66286

DST#: 1

Test Start: 2019.08.03 @ 09:30:00

GENERAL INFORMATION:

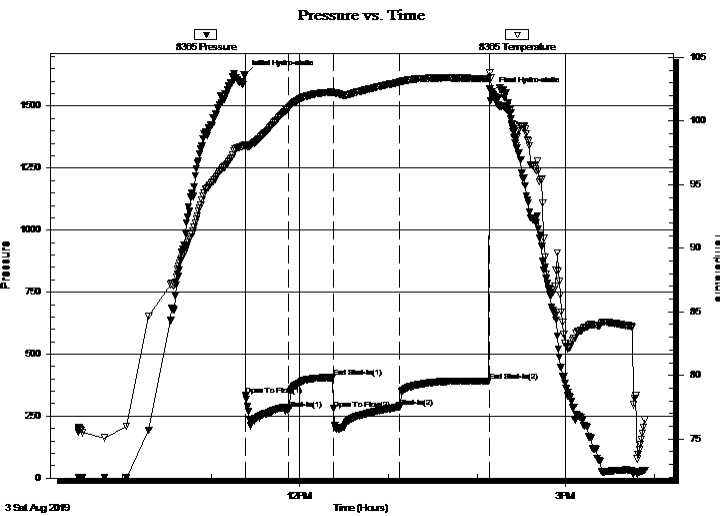
Formation: **Lansing**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:23:17
 Time Test Ended: 15:54:02
 Interval: **3284.00 ft (KB) To 3360.00 ft (KB) (TVD)**
 Total Depth: 3360.00 ft (KB) (TVD)
 Hole Diameter: 7.80 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 1864.00 ft (KB)
 1856.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8365

Inside

Press@RunDepth: 287.73 psig @ 3285.00 ft (KB) Capacity: psig
 Start Date: 2019.08.03 End Date: 2019.08.03 Last Calib.: 2019.08.03
 Start Time: 09:30:01 End Time: 15:54:02 Time On Btm: 2019.08.03 @ 11:22:47
 Time Off Btm: 2019.08.03 @ 14:10:02

TEST COMMENT: IF 30 Minutes/ BOB in 30 sec. / GTS in 1 1/2 minutes
 ISI 45 Minutes/ 4 1/2" blow back
 FF 45 Minutes/ BOB in 10 sec
 FSI 60 Minutes/ 40 inch blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1628.43	98.13	Initial Hydro-static
1	333.40	98.00	Open To Flow (1)
30	278.33	101.07	Shut-In(1)
60	405.36	102.26	End Shut-In(1)
60	280.22	102.24	Open To Flow (2)
105	287.73	103.05	Shut-In(2)
166	391.80	103.34	End Shut-In(2)
168	1559.32	102.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
310.00	GMW/ G 5% M 35% W 60%	4.35
248.00	GLMCW/ G 5% M 5% W 90%	3.48

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	8.28	652.02
Last Gas Rate	1.00	3.92	526.68
Max. Gas Rate	1.00	8.28	652.02



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mai Oil Operations Inc
8411 Preston Rd Suite 800
Dallas, TX 75225+5520
ATTN: Wyatt Urban

10-22S-12W Stafford,KS

Denker #9

Job Ticket: 66286

DST#: 1

Test Start: 2019.08.03 @ 09:30:00

GENERAL INFORMATION:

Formation: **Lansing**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:23:17
 Time Test Ended: 15:54:02
 Interval: **3284.00 ft (KB) To 3360.00 ft (KB) (TVD)**
 Total Depth: 3360.00 ft (KB) (TVD)
 Hole Diameter: 7.80 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 1864.00 ft (KB)
 1856.00 ft (CF)
 KB to GR/CF: 8.00 ft

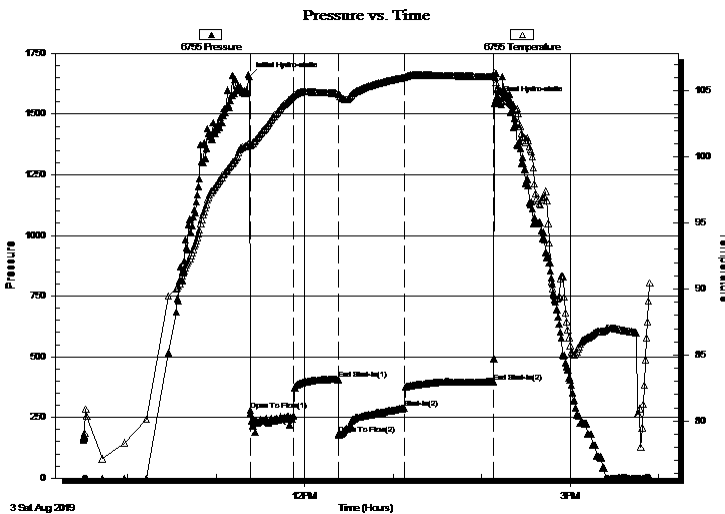
Serial #: 6755

Outside

Press@RunDepth: 397.02 psig @ 3286.00 ft (KB) Capacity: psig
 Start Date: 2019.08.03 End Date: 2019.08.03 Last Calib.: 2019.08.03
 Start Time: 09:30:01 End Time: 15:54:02 Time On Btm: 2019.08.03 @ 11:22:32
 Time Off Btm: 2019.08.03 @ 14:09:32

TEST COMMENT: IF 30 Minutes/ BOB in 30 sec. / GTS in 1 1/2 minutes
 ISI 45 Minutes/ 4 1/2" blow back
 FF 45 Minutes/ BOB in 10 sec
 FSI 60 Minutes/ 40 inch blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1655.13	101.06	Initial Hydro-static
1	278.82	100.84	Open To Flow (1)
30	256.63	104.64	Shut-In(1)
60	405.98	104.80	End Shut-In(1)
61	181.68	104.75	Open To Flow (2)
105	287.58	106.03	Shut-In(2)
166	397.02	106.12	End Shut-In(2)
167	1556.29	106.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
310.00	GMW/ G 5% M 35% W 60%	4.35
248.00	GLMCW/ G 5% M 5% W 90%	3.48

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	8.28	652.02
Last Gas Rate	1.00	3.92	526.68
Max. Gas Rate	1.00	8.28	652.02



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mai Oil Operations Inc
8411 Preston Rd Suite 800
Dallas, TX 75225+5520
ATTN: Wyatt Urban

10-22S-12W Stafford,KS
Denker #9
Job Ticket: 66286 **DST#: 1**
Test Start: 2019.08.03 @ 09:30:00

Tool Information

Drill Pipe:	Length: 3290.00 ft	Diameter: 3.80 inches	Volume: 46.15 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:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 46.15 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial	34000.00 lb
Depth to Top Packer:	3284.00 ft			Final	42000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	75.52 ft				
Tool Length:	95.52 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			3269.00	
Hydraulic tool	5.00			3274.00	
Top Packer	5.00			3279.00	
Packer	5.00			3284.00	20.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3285.00	
Recorder	1.00	6755	Outside	3286.00	
Anchor	5.00			3291.00	
Change Over Sub	1.00			3292.00	
Drill Pipe	63.52			3355.52	
Change Over Sub	1.00			3356.52	
Bullnose	3.00			3359.52	75.52 Anchor Tool

Total Tool Length: 95.52



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mai Oil Operations Inc
8411 Preston Rd Suite 800
Dallas, TX 75225+5520
ATTN: Wyatt Urban

10-22S-12W Stafford,KS
Denker #9
Job Ticket: 66286 **DST#: 1**
Test Start: 2019.08.03 @ 09:30:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	65000 ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
310.00	GMW/ G 5% M 35% W 60%	4.348
248.00	GLMCW/ G 5% M 5% W 90%	3.479

Total Length: 558.00 ft Total Volume: 7.827 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: Recovery Resistivity .078 ohms @ 99 deg



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Mai Oil Operations Inc

10-22S-12W Stafford,KS

8411 Preston Rd Suite 800
Dallas, TX 75225+5520

Denker #9

Job Ticket: 66286

DST#: 1

ATTN: Wyatt Urban

Test Start: 2019.08.03 @ 09:30:00

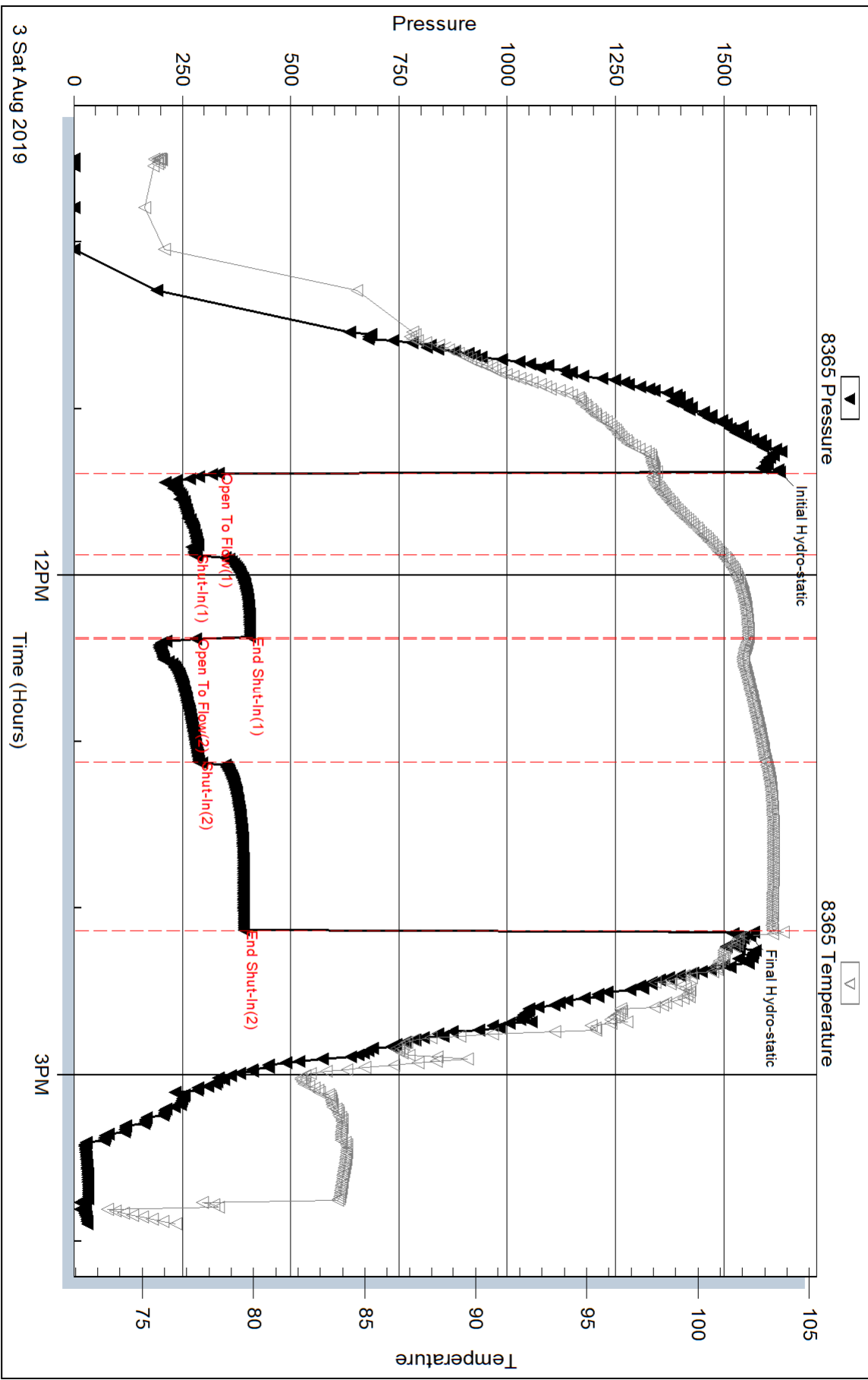
Gas Rates Information

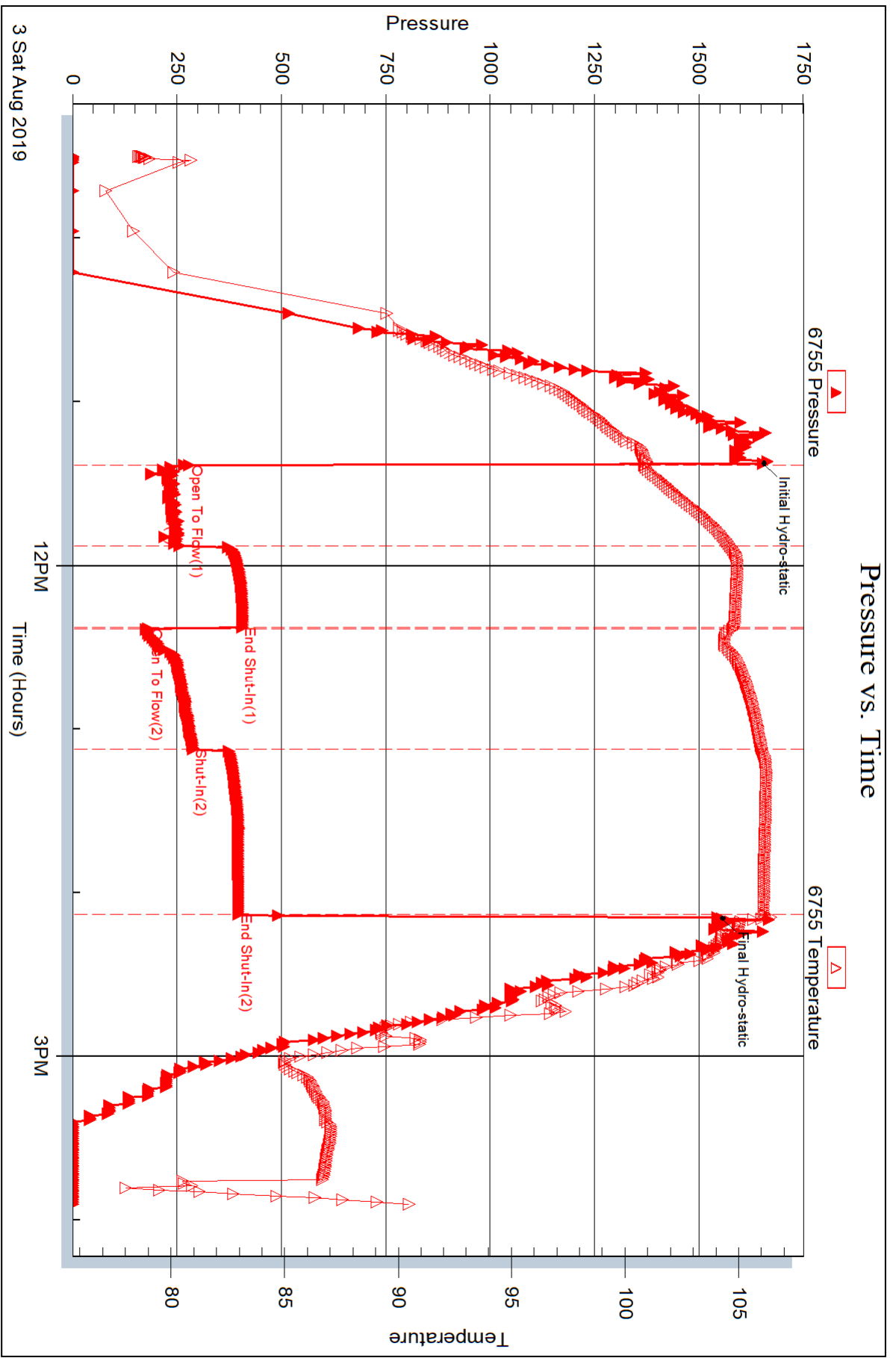
Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	10	1.00	8.28	652.02
1	20	1.00	6.82	610.05
1	30	1.00	6.42	598.55
2	10	1.00	6.35	596.54
2	20	1.00	4.78	551.40
2	30	1.00	4.07	530.99
2	40	1.00	3.92	526.68
2	45	1.00	3.92	526.68

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc**

8411 Preston Rd Suite 800
Dallas, TX 75225+5520

ATTN: Wyatt Urban

Denker #9

10-22S-12W Stafford,KS

Start Date: 2019.08.04 @ 08:24:00

End Date: 2019.08.04 @ 14:18:02

Job Ticket #: 66287 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.08.06 @ 11:09:33



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mai Oil Operations Inc
 8411 Preston Rd Suite 800
 Dallas, TX 75225+5520
 ATTN: Wyatt Urban

10-22S-12W Stafford,KS
Denker #9
 Job Ticket: 66287 **DST#: 2**
 Test Start: 2019.08.04 @ 08:24:00

GENERAL INFORMATION:

Formation: **LKC H-K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:55:02
 Time Test Ended: 14:18:02
 Interval: **3418.00 ft (KB) To 3503.00 ft (KB) (TVD)**
 Total Depth: 3503.00 ft (KB) (TVD)
 Hole Diameter: 7.80 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 1864.00 ft (KB)
 1856.00 ft (CF)
 KB to GR/CF: 8.00 ft

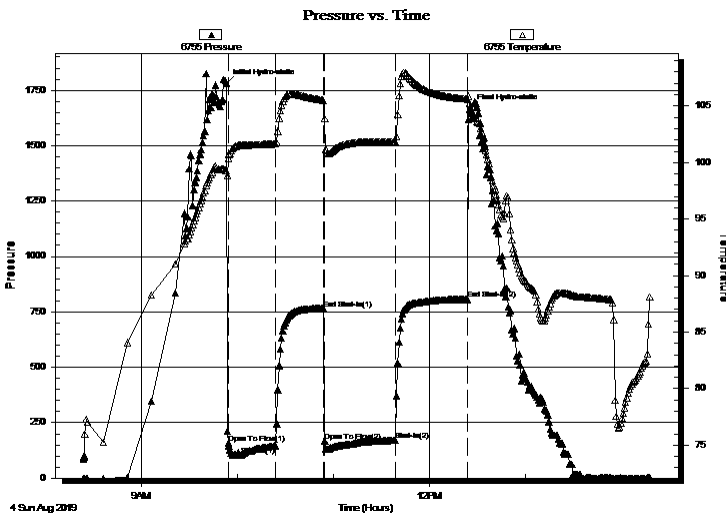
Serial #: 6755

Outside

Press@RunDepth: 806.39 psig @ 3420.00 ft (KB) Capacity: psig
 Start Date: 2019.08.04 End Date: 2019.08.04 Last Calib.: 2019.08.04
 Start Time: 08:24:01 End Time: 14:18:02 Time On Btm: 2019.08.04 @ 09:53:32
 Time Off Btm: 2019.08.04 @ 12:25:47

TEST COMMENT: IF 30 Minutes Blow to BOB in 30 sec GTS 3 minutes
 ISI 30 Minutes 2 1/2" blow back
 FF 45 Mintues Blow to BOB in 5 sec
 FSI 45 Mintues 1" blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1781.38	99.28	Initial Hydro-static
1	159.28	100.37	Open To Flow (1)
31	146.05	101.67	Shut-In(1)
61	765.22	105.47	End Shut-In(1)
62	165.33	103.88	Open To Flow (2)
106	171.87	101.84	Shut-In(2)
151	806.39	105.61	End Shut-In(2)
153	1668.56	104.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
310.00	GMCWO G 20 M10 W 30 O 40	4.35
124.00	GOCWM G 20 O 20 W 20 M 40	1.74
45.00	M 100%	0.63

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.63	7.64	235.84
Last Gas Rate	0.63	7.39	233.17
Max. Gas Rate	0.63	8.21	241.94



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mai Oil Operations Inc
8411 Preston Rd Suite 800
Dallas, TX 75225+5520
ATTN: Wyatt Urban

10-22S-12W Stafford,KS
Denker #9
Job Ticket: 66287 **DST#: 2**
Test Start: 2019.08.04 @ 08:24:00

Tool Information

Drill Pipe:	Length: 3418.00 ft	Diameter: 3.80 inches	Volume: 47.95 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: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 47.95 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	3418.00 ft			Final 41000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.52 ft			
Tool Length:	104.52 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			3403.00	
Hydraulic tool	5.00			3408.00	
Top Packer	5.00			3413.00	
Packer	5.00			3418.00	20.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3419.00	
Recorder	1.00	6755	Outside	3420.00	
Anchor	14.00			3434.00	
Change Over Sub	1.00			3435.00	
Drill Pipe	63.52			3498.52	
Change Over Sub	1.00			3499.52	
Bullnose	3.00			3502.52	84.52 Anchor Tool

Total Tool Length: 104.52



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mai Oil Operations Inc

10-22S-12W Stafford,KS

8411 Preston Rd Suite 800
Dallas, TX 75225+5520

Denker #9

Job Ticket: 66287

DST#: 2

ATTN: Wyatt Urban

Test Start: 2019.08.04 @ 08:24:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

22000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7900.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
310.00	GMCWO G 20 M10 W 30 O 40	4.348
124.00	GOCWM G 20 O 20 W 20 M 40	1.739
45.00	M 100%	0.631

Total Length: 479.00 ft Total Volume: 6.718 bbl

Num Fluid Samples: 0

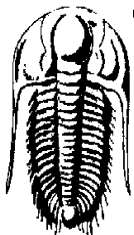
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Recovery Resistivity .206 ohms @ 100 deg



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Mai Oil Operations Inc

10-22S-12W Stafford,KS

8411 Preston Rd Suite 800
Dallas, TX 75225+5520

Denker #9

Job Ticket: 66287

DST#: 2

ATTN: Wyatt Urban

Test Start: 2019.08.04 @ 08:24:00

Gas Rates Information

Temperature: 59 (deg F)

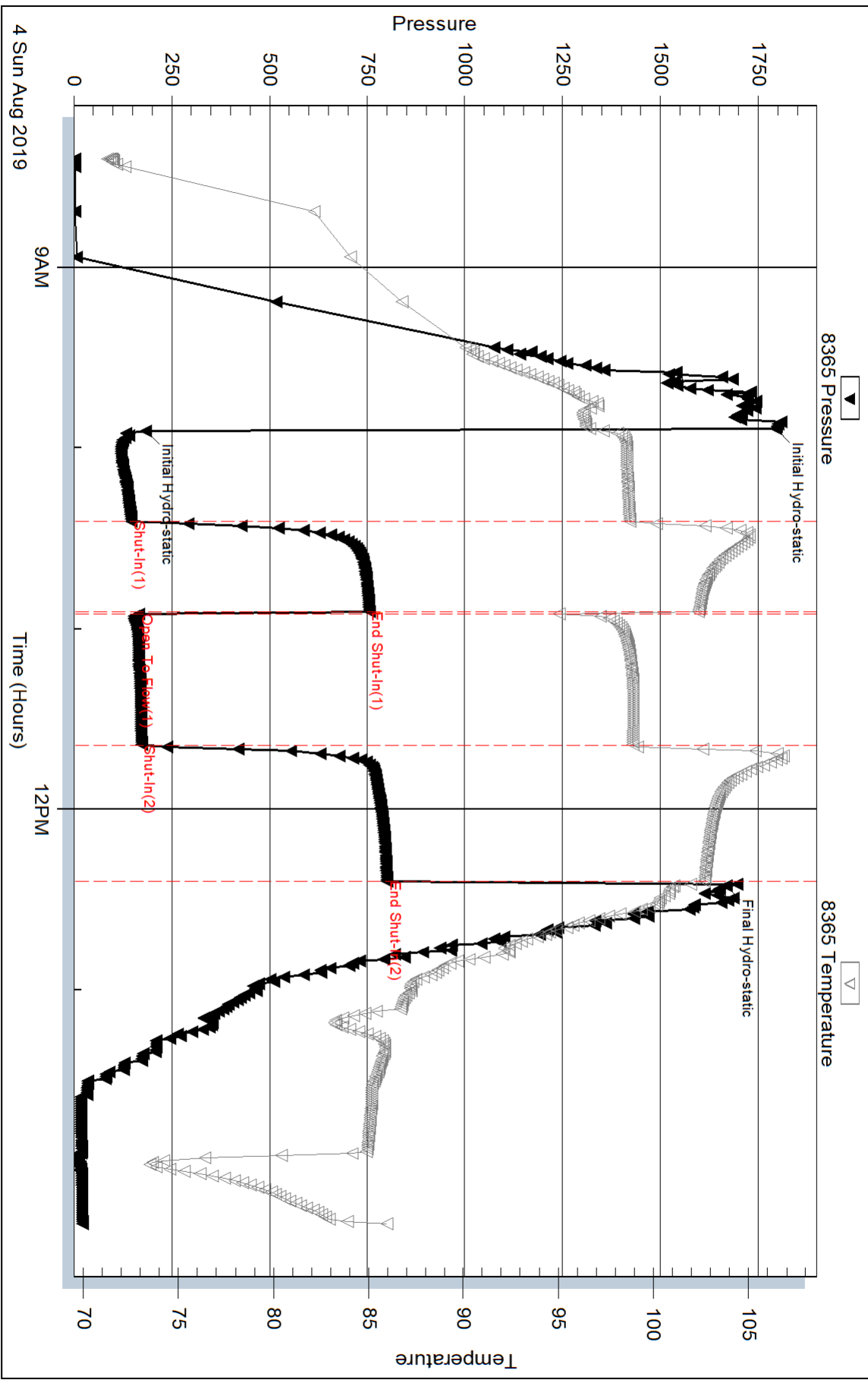
Relative Density: 0.65

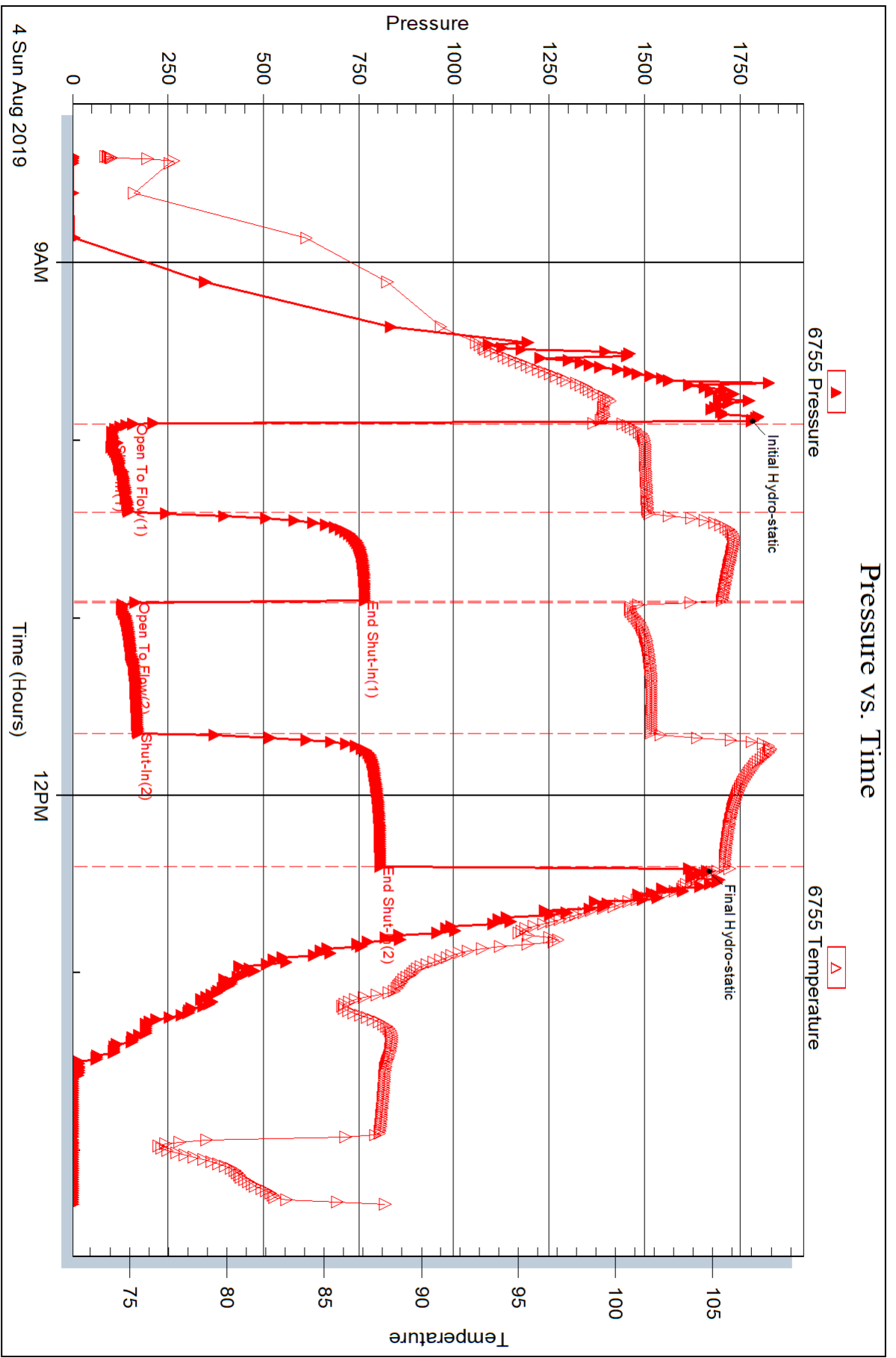
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	10	0.63	7.64	235.84
1	20	0.63	7.86	238.20
1	30	0.63	7.57	235.10
2	10	0.75	2.93	270.69
2	20	0.75	2.57	265.07
2	30	0.63	8.21	241.94
2	40	0.63	7.64	235.84
2	45	0.63	7.39	233.17

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc**

8411 Preston Rd Suite 800
Dallas, TX 75225+5520

ATTN: Wyatt Urban

Denker #9

10-22S-12W Stafford,KS

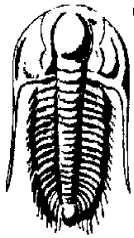
Start Date: 2019.08.05 @ 07:14:00

End Date: 2019.08.05 @ 13:46:02

Job Ticket #: 66288 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.08.06 @ 12:07:18



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mai Oil Operations Inc
 8411 Preston Rd Suite 800
 Dallas, TX 75225+5520
 ATTN: Wyatt Urban

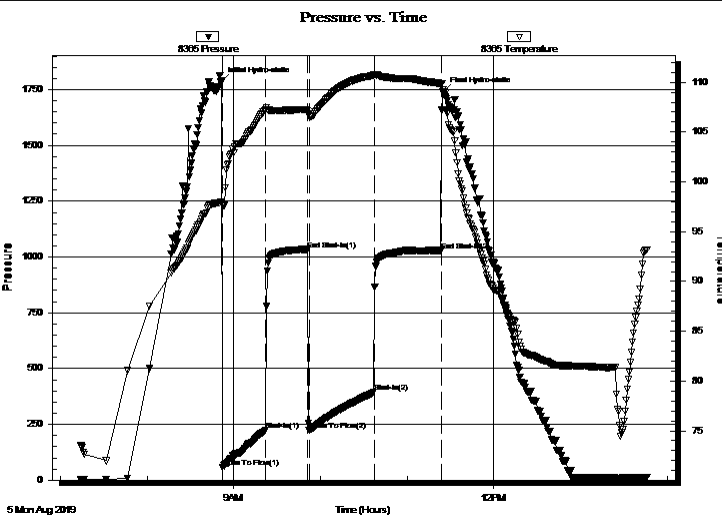
10-22S-12W Stafford,KS
Denker #9
 Job Ticket: 66288 **DST#: 3**
 Test Start: 2019.08.05 @ 07:14:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:52:17
 Time Test Ended: 13:46:02
 Interval: **3585.00 ft (KB) To 3659.00 ft (KB) (TVD)**
 Total Depth: 3659.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 1864.00 ft (KB)
 1856.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8365 Inside
 Press@RunDepth: 394.90 psig @ 3586.00 ft (KB) Capacity: psig
 Start Date: 2019.08.05 End Date: 2019.08.05 Last Calib.: 2019.08.05
 Start Time: 07:14:01 End Time: 13:46:02 Time On Btm: 2019.08.05 @ 08:51:32
 Time Off Btm: 2019.08.05 @ 11:24:47

TEST COMMENT: IF 30 Minutes Blow to BOB in 4 min Total build 74 1/2"
 ISI 30 Mintues 4" blow back
 FF 45 Mintues Blow to BOB in 5 1/2 min Total build 88"
 FSI 45 Mintues Light surface blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1786.43	98.00	Initial Hydro-static
1	58.35	97.67	Open To Flow (1)
31	222.28	107.28	Shut-In(1)
60	1033.06	107.16	End Shut-In(1)
61	223.41	106.71	Open To Flow (2)
106	394.90	110.72	Shut-In(2)
152	1028.88	109.83	End Shut-In(2)
154	1740.13	109.29	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
434.00	GSOCMW / G 5% O 5% M 10% W 80%	6.09
124.00	GOCMW / G 40% O 10% M 20% W 30%	1.74
310.00	GWCMO / G 45% W 15% M 20% O 20%	4.35
0.00	620 feet GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mai Oil Operations Inc
 8411 Preston Rd Suite 800
 Dallas, TX 75225+5520
 ATTN: Wyatt Urban

10-22S-12W Stafford,KS

Denker #9

Job Ticket: 66288

DST#: 3

Test Start: 2019.08.05 @ 07:14:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:52:17
 Time Test Ended: 13:46:02
 Interval: **3585.00 ft (KB) To 3659.00 ft (KB) (TVD)**
 Total Depth: 3659.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 1864.00 ft (KB)
 1856.00 ft (CF)
 KB to GR/CF: 8.00 ft

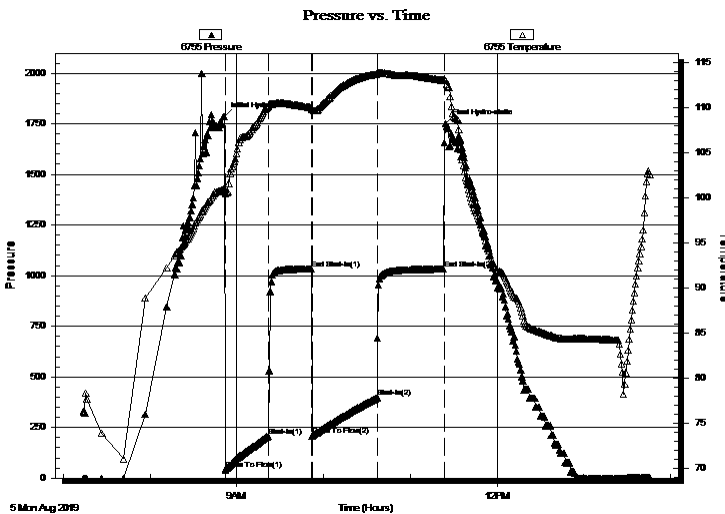
Serial #: 6755

Outside

Press@RunDepth: 1032.58 psig @ 3587.00 ft (KB) Capacity: psig
 Start Date: 2019.08.05 End Date: 2019.08.05 Last Calib.: 2019.08.05
 Start Time: 07:14:01 End Time: 13:46:02 Time On Btm: 2019.08.05 @ 08:51:32
 Time Off Btm: 2019.08.05 @ 11:24:32

TEST COMMENT: IF 30 Minutes Blow to BOB in 4 min Total build 74 1/2"
 ISI 30 Mintues 4" blow back
 FF 45 Mintues Blow to BOB in 5 1/2 min Total build 88"
 FSI 45 Mintues Light surface blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1786.18	100.94	Initial Hydro-static
1	42.72	100.47	Open To Flow (1)
31	208.40	110.20	Shut-In(1)
60	1033.38	109.92	End Shut-In(1)
61	209.76	109.74	Open To Flow (2)
106	397.70	113.73	Shut-In(2)
152	1032.58	113.01	End Shut-In(2)
153	1749.74	113.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
434.00	GSOCMW / G 5% O 5% M 10% W 80%	6.09
124.00	GOCMW / G 40% O 10% M 20% W 30%	1.74
310.00	GWCMO / G 45% W 15% M 20% O 20%	4.35
0.00	620 feet GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mai Oil Operations Inc
8411 Preston Rd Suite 800
Dallas, TX 75225+5520
ATTN: Wyatt Urban

10-22S-12W Stafford,KS
Denker #9
Job Ticket: 66288 **DST#: 3**
Test Start: 2019.08.05 @ 07:14:00

Tool Information

Drill Pipe:	Length: 3575.00 ft	Diameter: 3.80 inches	Volume: 50.15 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: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 50.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	3585.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	74.19 ft			
Tool Length:	94.19 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			3570.00	
Hydraulic tool	5.00			3575.00	
Top Packer	5.00			3580.00	
Packer	5.00			3585.00	20.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3586.00	
Recorder	1.00	6755	Outside	3587.00	
Anchor	36.00			3623.00	
Change Over Sub	1.00			3624.00	
Drill Pipe	31.19			3655.19	
Change Over Sub	1.00			3656.19	
Bullnose	3.00			3659.19	74.19 Anchor Tool

Total Tool Length: 94.19



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mai Oil Operations Inc

10-22S-12W Stafford,KS

8411 Preston Rd Suite 800
Dallas, TX 75225+5520

Denker #9

Job Ticket: 66288

DST#: 3

ATTN: Wyatt Urban

Test Start: 2019.08.05 @ 07:14:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

19000 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
434.00	GSOCMW / G 5% O 5% M 10% W 80%	6.088
124.00	GOCMW / G 40% O 10% M 20% W 30%	1.739
310.00	GWCMO / G 45% W 15% M 20% O 20%	4.348
0.00	620 feet GIP	0.000

Total Length: 868.00 ft Total Volume: 12.175 bbl

Num Fluid Samples: 0

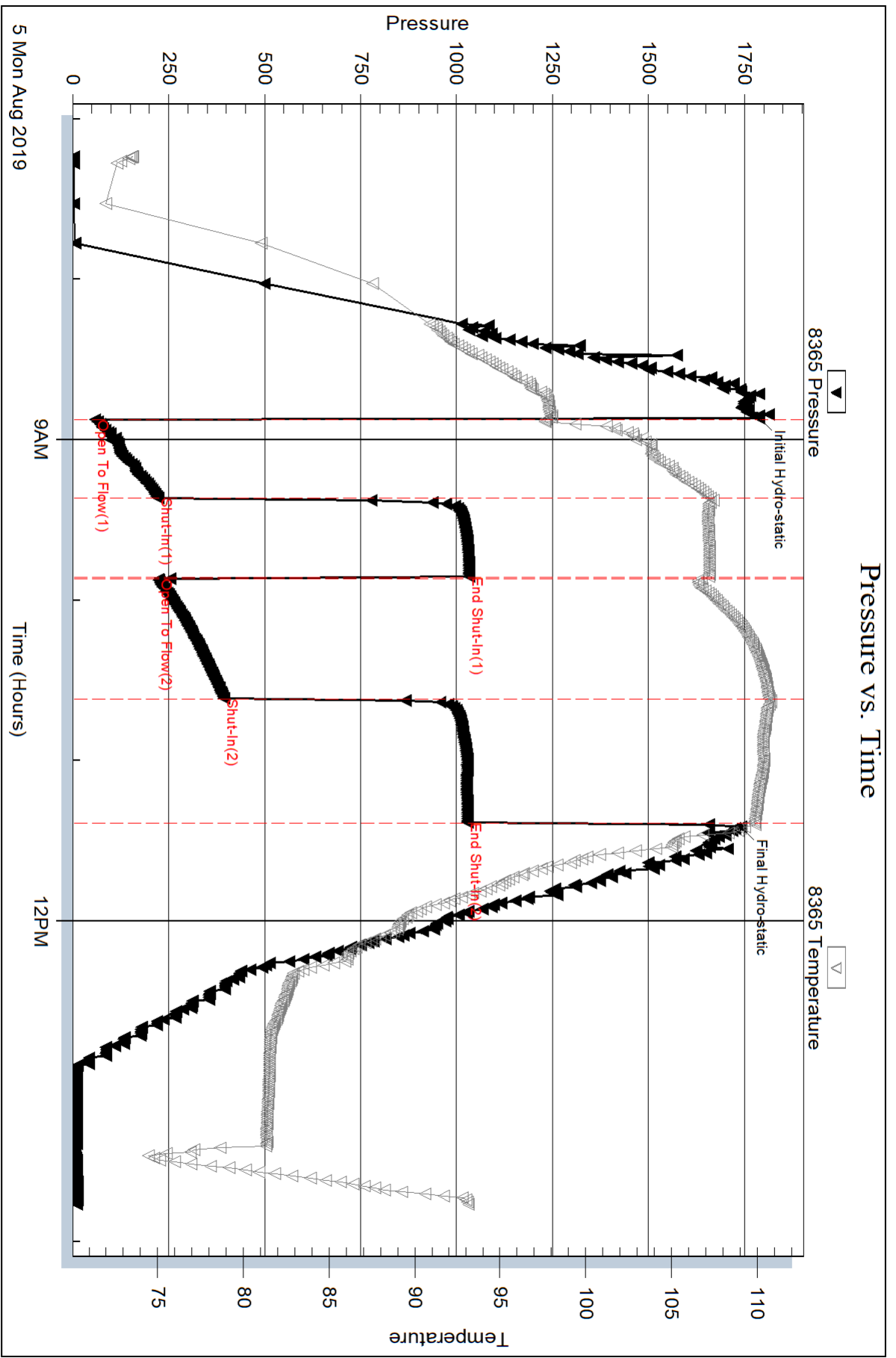
Num Gas Bombs: 0

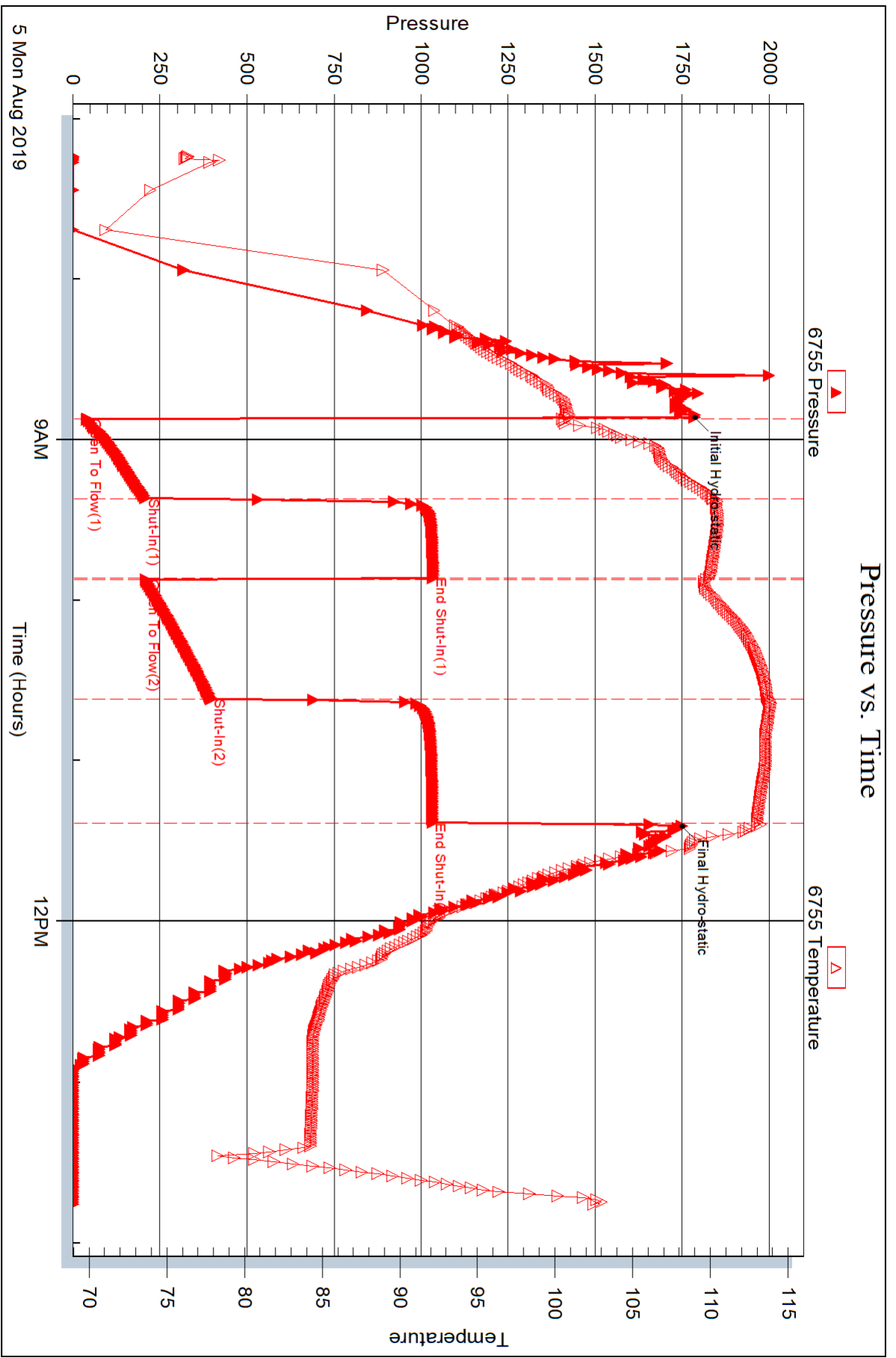
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Recovery Resistivity .250 ohms @ 92 deg.







DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc**

8411 Preston Rd Suite 800
Dallas, TX 75225+5520

ATTN: Wyatt Urban

Denker #9

10-22S-12W Stafford,KS

Start Date: 2019.08.05 @ 19:52:00

End Date: 2019.08.06 @ 02:14:02

Job Ticket #: 66289 DST #: 4

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.08.06 @ 12:05:06



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mai Oil Operations Inc
 8411 Preston Rd Suite 800
 Dallas, TX 75225+5520
 ATTN: Wyatt Urban

10-22S-12W Stafford,KS

Denker #9

Job Ticket: 66289

DST#: 4

Test Start: 2019.08.05 @ 19:52:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 21:28:17
 Tester: Ken Swinney
 Time Test Ended: 02:14:02
 Unit No: 72
 Interval: **3655.00 ft (KB) To 3661.00 ft (KB) (TVD)**
 Reference Elevations: 1864.00 ft (KB)
 Total Depth: 3561.00 ft (KB) (TVD)
 1856.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 8.00 ft

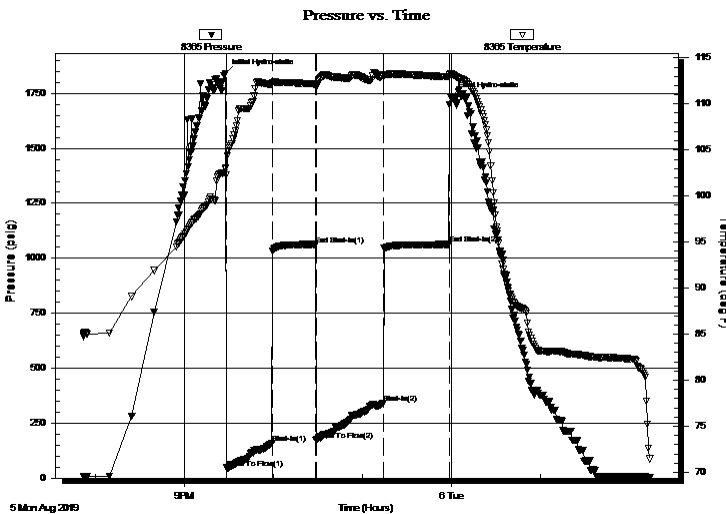
Serial #: 8365

Inside

Press@RunDepth: 340.10 psig @ 3557.00 ft (KB) Capacity: psig
 Start Date: 2019.08.05 End Date: 2019.08.06 Last Calib.: 2019.08.06
 Start Time: 19:52:01 End Time: 02:14:02 Time On Btm: 2019.08.05 @ 21:27:47
 Time Off Btm: 2019.08.06 @ 00:00:17

TEST COMMENT: IF 30 Minutes BOB 20 minutes - Total build 28"
 ISI 30 Minutes 8 inch blow back
 FF 45 Mintues BOB 8 minutes - Total build 63"
 FSI 45 Mintuse 11" blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1840.92	103.01	Initial Hydro-static
1	46.32	102.33	Open To Flow (1)
32	159.24	112.13	Shut-In(1)
61	1062.15	112.12	End Shut-In(1)
61	173.81	111.88	Open To Flow (2)
107	340.10	113.07	Shut-In(2)
151	1063.20	112.99	End Shut-In(2)
153	1734.58	113.24	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
434.00	GOCW / G 5% O 10% W 85%	6.09
124.00	GOCW / G 40% O 10% W 50%	1.74
186.00	GOCMW / 60% O 10% M 10% W 20 %	2.61
15.00	Clean Oil	0.21
0.00	605 feet GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mai Oil Operations Inc
 8411 Preston Rd Suite 800
 Dallas, TX 75225+5520
 ATTN: Wyatt Urban

10-22S-12W Stafford,KS

Denker #9

Job Ticket: 66289

DST#: 4

Test Start: 2019.08.05 @ 19:52:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:28:17
 Time Test Ended: 02:14:02
 Interval: **3655.00 ft (KB) To 3661.00 ft (KB) (TVD)**
 Total Depth: 3561.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 1864.00 ft (KB)
 1856.00 ft (CF)
 KB to GR/CF: 8.00 ft

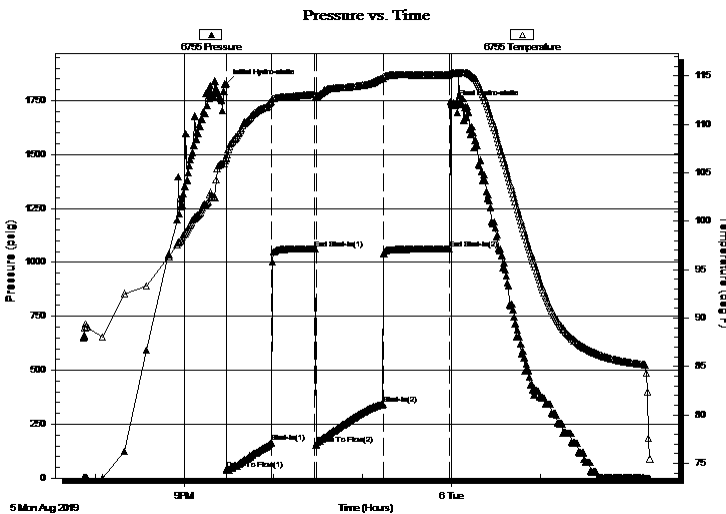
Serial #: 6755

Outside

Press@RunDepth: 1062.83 psig @ 3558.00 ft (KB) Capacity: psig
 Start Date: 2019.08.05 End Date: 2019.08.06 Last Calib.: 2019.08.06
 Start Time: 19:52:01 End Time: 02:14:02 Time On Btm: 2019.08.05 @ 21:28:02
 Time Off Btm: 2019.08.06 @ 00:00:02

TEST COMMENT: IF 30 Minutes BOB 20 minutes - Total build 28"
 ISI 30 Minutes 8 inch blow back
 FF 45 Mintues BOB 8 minutes - Total build 63"
 FSI 45 Mintuse 11" blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1829.32	106.52	Initial Hydro-static
1	40.00	106.59	Open To Flow (1)
31	165.16	112.40	Shut-In(1)
60	1063.24	113.09	End Shut-In(1)
61	154.90	112.91	Open To Flow (2)
106	341.95	114.78	Shut-In(2)
151	1062.83	115.14	End Shut-In(2)
152	1732.05	115.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
434.00	GOCW / G 5% O 10% W 85%	6.09
124.00	GOCW / G 40% O 10% W 50%	1.74
186.00	GOCMW / 60% O 10% M 10% W 20 %	2.61
15.00	Clean Oil	0.21
0.00	605 feet GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mai Oil Operations Inc
8411 Preston Rd Suite 800
Dallas, TX 75225+5520
ATTN: Wyatt Urban

10-22S-12W Stafford,KS
Denker #9
Job Ticket: 66289 **DST#: 4**
Test Start: 2019.08.05 @ 19:52:00

Tool Information

Drill Pipe:	Length: 3566.00 ft	Diameter: 3.80 inches	Volume: 50.02 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:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 50.02 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	39000.00 lb
Depth to Top Packer:	3555.00 ft			Final	41000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	6.00 ft				
Tool Length:	26.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			3540.00	
Hydraulic tool	5.00			3545.00	
Packer - Shale	5.00			3550.00	
Packer	5.00			3555.00	20.00 Bottom Of Top Packer
Anchor	1.00			3556.00	
Recorder	1.00	8365	Inside	3557.00	
Recorder	1.00	6755	Outside	3558.00	
Bullnose	3.00			3561.00	6.00 Anchor Tool

Total Tool Length: 26.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mai Oil Operations Inc

10-22S-12W Stafford,KS

8411 Preston Rd Suite 800
Dallas, TX 75225+5520

Denker #9

Job Ticket: 66289

DST#: 4

ATTN: Wyatt Urban

Test Start: 2019.08.05 @ 19:52:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

20000 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
434.00	GOCW / G 5% O 10% W 85%	6.088
124.00	GOCW / G 40% O 10% W 50%	1.739
186.00	GOCMW / 60% O 10% M 10% W 20 %	2.609
15.00	Clean Oil	0.210
0.00	605 feet GIP	0.000

Total Length: 759.00 ft Total Volume: 10.646 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

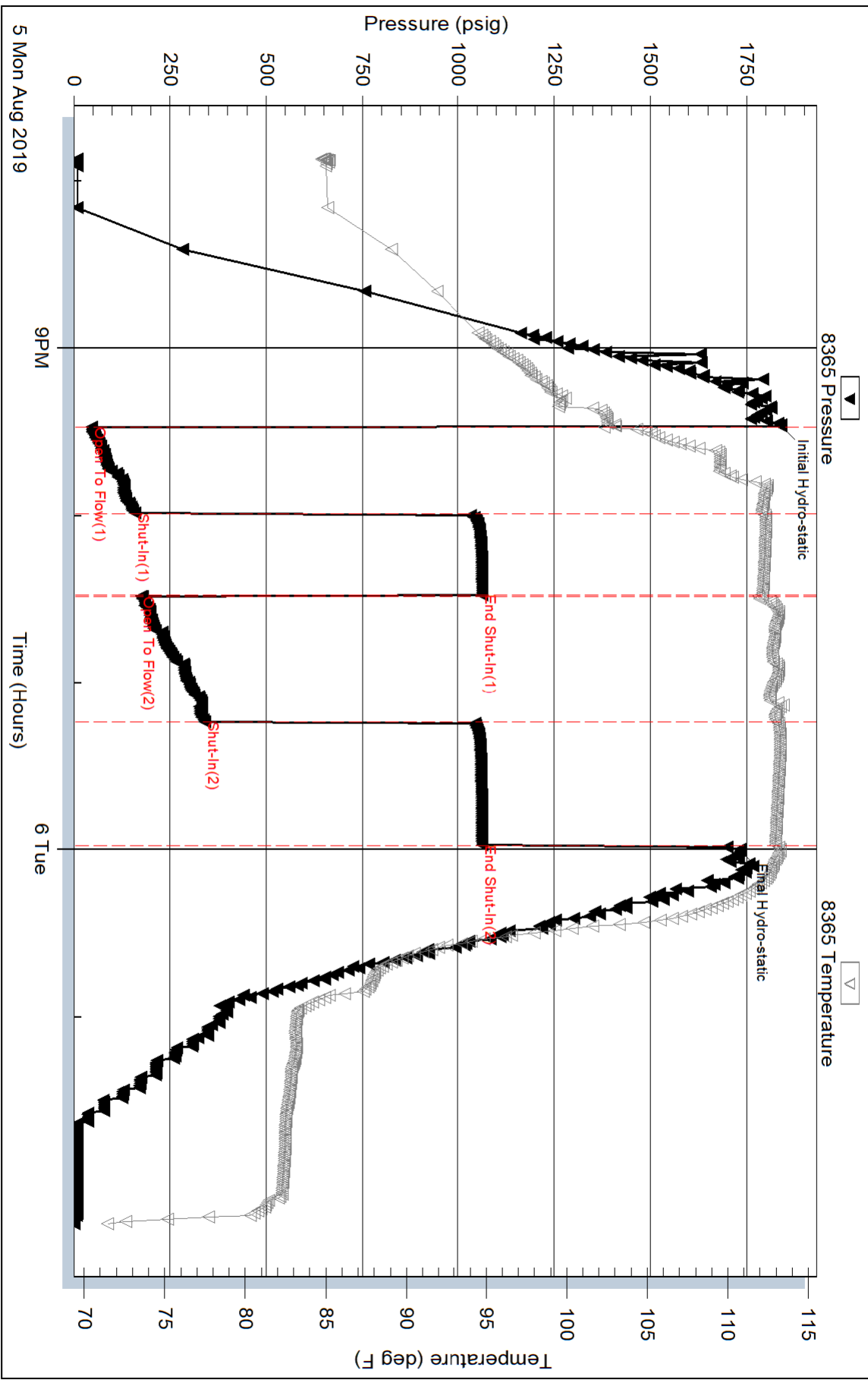
Serial #:

Laboratory Name:

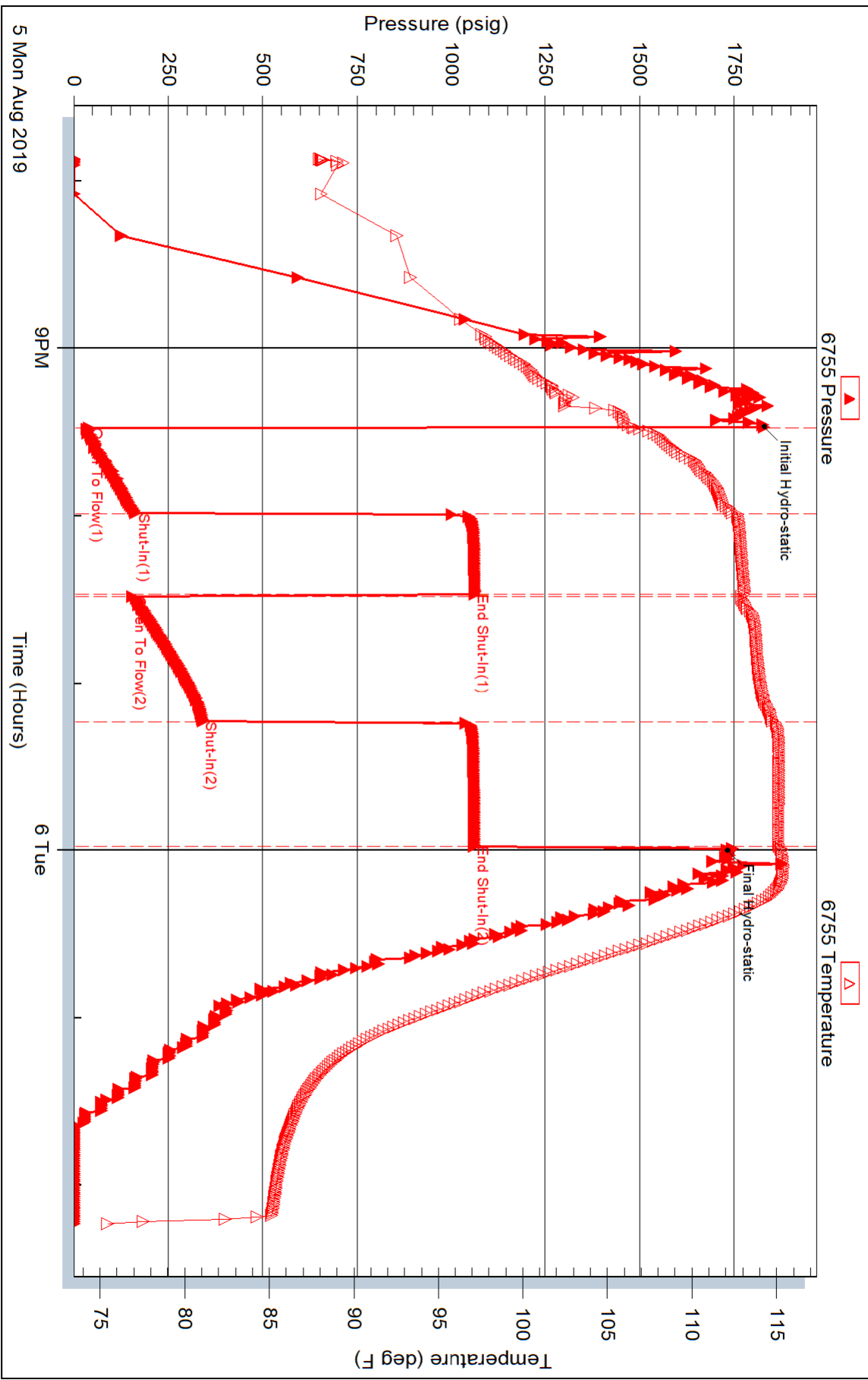
Laboratory Location:

Recovery Comments: Recovery Resistivity .290 ohms @ 76 deg

Pressure vs. Time



Pressure vs. Time





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66286

NO.

Well Name & No. Denker #9 Test No. 1 Date 3 AUG 19
 Company Mai O.I. Operations Inc. Elevation 1864 KB 1856 GL
 Address 8411 Preston Rd Suite 800 Dallas TX 75225+5520
 Co. Rep / Geo. Wyatt Urban Rig Southwind Rig 3
 Location: Sec. 10 Twp 22S Rge. 12W Co. Stafford State KS

Interval Tested 3284-3360 Zone Tested Lansing
 Anchor Length 76 Drill Pipe Run 3290 Mud Wt. 8.9
 Top Packer Depth 3299 Drill Collars Run — Vls 49
 Bottom Packer Depth 3284 Wt. Pipe Run — WL 7.6
 Total Depth 3360 Chlorides 5000 ppm System LCM 2#

Blow Description IF BOB 30 sec / Gas to surface 1 1/2 minutes
IST, 4 1/2 inch blow back

FF BOB 10 sec
PSI, 40 inch blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>310</u>	<u>GMW</u>	<u>5</u>		<u>60</u>	<u>35</u>
<u>248</u>	<u>GLMCW</u>	<u>5</u>		<u>90</u>	<u>5</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

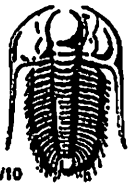
Rec Total 558 BHT 103 Gravity — API RW .078 @ 99 °F Chlorides 65,000 ppm

(A) Initial Hydrostatic 1628 Test 1200 T-On Location 8:19 am
 (B) First Initial Flow 333 Jars — T-Started 9:30 am
 (C) First Final Flow 278 Safety Joint — T-Open 11:22 am
 (D) Initial Shut-In 405 Circ Sub — T-Pulled 2:02 pm
 (E) Second Initial Flow 280 Hourly Standby — T-Out 3:55 pm
 (F) Second Final Flow 287 Mileage 44 44 Comments —
 (G) Final Shut-In 391 Sampler —
 (H) Final Hydrostatic 1559 Straddle — EM Tool —

Initial Open 30 Shale Packer — Ruined Shale Packer —
 Initial Shut-In 30 Extra Packer — Ruined Packer —
 Final Flow 45 Extra Recorder — Extra Copies —
 Final Shut-In 60 Day Standby — Sub Total 0
 Accessibility — Total 1244
 Sub Total 1244 MP/DST Disc't —

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 66287

NO.

Well Name & No. Denker #9 Test No. 2 Date 4 AUG 19
 Company Mai Oil Operations Inc Elevation 1864 KB 1856 GL
 Address 8411 Preston Rd Sec. 1e 800 Dallas TX 75225-5520
 Co. Rep / Geo. Wyatt Urban Rig Southwind 3
 Location: Sec. 10 Twp 22S Rge. 12W Co. Stafford State KS

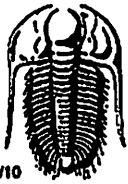
Interval Tested 3418-3503 Zone Tested Lansing H-K
 Anchor Length 85 Drill Pipe Run 3418 Mud Wt. 9.2
 Top Packer Depth 3413 Drill Collars Run - Vis 370
 Bottom Packer Depth 3418 Wt. Pipe Run - WL 1016
 Total Depth 3503 Chlorides 7900 ppm System LCM 1 #
 Blow Description IF Blow to BOB 30 sec / Gas to surface 3 min
PSI 2 1/2 inch blow back
FF Blow to BOB 5 sec / ~~PSI~~
FST 1 inch blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>310</u>	<u>GMCWO</u>	<u>20</u>	<u>40</u>	<u>30</u>	<u>10</u>
<u>124</u>	<u>GOCWM</u>	<u>20</u>	<u>20</u>	<u>30</u>	<u>40</u>
<u>45</u>	<u>Mud</u>				<u>100</u>

Rec Total BHT 106 Gravity API RW .206 @ 100° F Chlorides 22000 ppm
 (A) Initial Hydrostatic 1795 Test 1200 T-On Location 7:54 am
 (B) First Initial Flow 183 Jars _____ T-Started 8:24 am
 (C) First Final Flow 146 Safety Joint _____ T-Open 9:53 am
 (D) Initial Shut-In 754 Circ Sub _____ T-Pulled 12:23 pm
 (E) Second Initial Flow 166 Hourly Standby _____ T-Out 2:18 pm
 (F) Second Final Flow 172 Mileage 44 44 Comments _____
 (G) Final Shut-In 799 Sampler _____
 (H) Final Hydrostatic 1668 Straddle _____ EM Tool _____
 Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 30 Extra Packer _____ Ruined Packer _____
 Final Flow 45 Extra Recorder _____ Extra Copies _____
 Final Shut-In 45 Day Standby _____ Sub Total 0
 Sub Total 1244 Accessibility _____ Total 1244
 Sub Total 1244 MP/DST Disc'l _____

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 66288

NO.

Well Name & No. Decker #9 Test No. 3 Date 5 AUG 19
 Company Mar O'l Operations Inc Elevation 1864 KB 1856 GL
 Address 844 Preston Rd Suite 800 Dallas TX 75225 + 5520
 Co. Rep / Geo. Wyatt Urban Rig Southwind 3
 Location: Sec. 10 Twp 22S Rge. 12W Co. Stafford State KS

Interval Tested 3585-3659 Zone Tested Arbuckle
 Anchor Length 74 Drill Pipe Run 3575 Mud Wt. 9.2
 Top Packer Depth 3580 Drill Collars Run ✓ Vis 47
 Bottom Packer Depth 3585 Wt. Pipe Run — WL 10.0
 Total Depth 3659 Chlorides 7600 ppm System LCM 1 #

Blow Description IF Blow to BOB 4 min / Total build 74 1/2 inches
ISI 4 inch blow back
FF Blow to BOB in 5 1/2 min / Total build 88 inches
FSI Light surface blow back

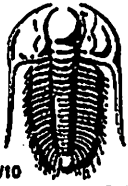
Rec	Feet of	%gas	%oil	%water	%mud
<u>434</u>	<u>650 CMW</u>	<u>5</u>	<u>5</u>	<u>80</u>	<u>10</u>
<u>124</u>	<u>60 CMW</u>	<u>40</u>	<u>10</u>	<u>30</u>	<u>20</u>
<u>310</u>	<u>64 CMW</u>	<u>45</u>	<u>20</u>	<u>15</u>	<u>20</u>
<u>620</u>	<u>GIP</u>				
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total BHT 110 Gravity API RW .750 @ 92 ° F Chlorides 19000 ppm

(A) Initial Hydrostatic <u>1786</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>6:28 am</u>
(B) First Initial Flow <u>58</u>	<input type="checkbox"/> Jars	T-Started <u>7:14 am</u>
(C) First Final Flow <u>222</u>	<input type="checkbox"/> Safety Joint	T-Open <u>8:52 am</u>
(D) Initial Shut-In <u>1033</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>11:27 am</u>
(E) Second Initial Flow <u>223</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1:46 pm</u>
(F) Second Final Flow <u>394</u>	<input checked="" type="checkbox"/> Mileage <u>44 44</u>	Comments _____
(G) Final Shut-In <u>1028</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>1740</u>	<input type="checkbox"/> Straddle	_____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> EM Tool _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Shale Packer _____
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Ruined Packer _____
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby	<input type="checkbox"/> Extra Copies _____
	<input type="checkbox"/> Accessibility	Sub Total <u>0</u>
	Sub Total <u>1244</u>	Total <u>1244</u>
		MP/DST Disc't _____

Approved By _____ Our Representative _____

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 66289

NO.

Well Name & No. Denker #9 Test No. 4 Date 5 AUG 19
 Company Mor Oil Operations Inc Elevation 1864 KB 1856 GL
 Address 8411 Preston Rd Suite 800 Dallas TX 75225-5520
 Co. Rep / Geo. Vyatt Urban Rig Southwind 3
 Location: Sec. 10 Twp 22S Rge. 12W Co. Stafford State KS

Interval Tested 3555-3561 Zone Tested Airbuckle
 Anchor Length 2 Drill Pipe Run 3566 Mud Wt. 9.2
 Top Packer Depth 3550 Drill Collars Run — Vis 47
 Bottom Packer Depth 3555 Wt. Pipe Run — WL 10.0
 Total Depth 3561 Chlorides 7600 ppm System LCM 1#

Blow Description IF BOB 20 min / Total build 28 inches
PSI 8 inch blow back
FF BOB 8 min / Total build 63 inches
PSI 11 inch blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>434</u>	<u>GOCW</u>	<u>5</u>	<u>10</u>	<u>85</u>	
<u>124</u>	<u>GOCW</u>	<u>40</u>	<u>10</u>	<u>50</u>	
<u>186</u>	<u>GOCMW</u>	<u>60</u>	<u>10</u>	<u>20</u>	<u>10</u>
<u>15</u>	<u>Clean oil</u>		<u>100</u>		
<u>605</u>	<u>GFP</u>	<u>100</u>			

Rec Total BHT 113 Gravity 37 API RW .290 @ 76 °F Chlorides 20,000 ppm

(A) Initial Hydrostatic <u>1840</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>7:11 pm</u>
(B) First Initial Flow <u>46</u>	<input type="checkbox"/> Jars	T-Started <u>7:52 pm</u>
(C) First Final Flow <u>159</u>	<input type="checkbox"/> Safety Joint	T-Open <u>9:27 am</u>
(D) Initial Shut-In <u>1062</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>11:57 pm</u>
(E) Second Initial Flow <u>173</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>2:14 am</u>
(F) Second Final Flow <u>340</u>	<input checked="" type="checkbox"/> Mileage <u>44</u>	Comments
(G) Final Shut-In <u>1063</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1734</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1494</u>
	Sub Total <u>1494</u>	MP/DST Disc't

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.



QUALITY OILWELL CEMENTING, INC.
 PO BOX 32 - 740 WEST WICHITA AVE, RUSSELL KS 67665
 PHONE:785-324-1041 FAX:785-483-1087
 EMAIL: cementing@ruraltel.net

Date: 7/31/2019
 Invoice # 1485
 P.O.#:
 Due Date: 8/30/2019
 Division: Russell

Invoice

Contact:
 Mai Oil Operations
Address/Job Location:

8411 Preston Rd. Ste 800
 Dallas TX 75225-5520

Reference:
 DENKER 9 SEC 10-22-12

Description of Work:
 LONG SURFACE JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 657.71	No				
Common-Class A	270	\$ 4,100.19	Yes				
POZ Mix-Standard	180	\$ 928.85	Yes				
Calcium Chloride	20	\$ 825.64	Yes				
Flo Seal	225	\$ 331.73	Yes				
Bulk Truck Matl-Material Service Charge	479	\$ 353.11	No				
Premium Gel (Bentonite)	9	\$ 192.40	Yes				
8 5/8" Top Rubber Plug	1	\$ 89.94	Yes				
Pump Truck Mileage-Job to Nearest Camp	22	\$ 72.98	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	22	\$ 56.76	No				

SubTotal: \$ 7,609.31

Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (190.23)

SubTotal for Taxable Items: \$ 6,307.03

SubTotal for Non-Taxable Items: \$ 1,112.05

Total: \$ 7,419.08

Tax: \$ 473.03

7.50% Stafford County Sales Tax

Amount Due: \$ 7,892.11

Applied Payments:

Balance Due: \$ 7,892.11

Thank You For Your Business!

Past Due Invoices are subject to a service charge (annual rate of 24%)
 This does not include any applicable taxes unless it is listed.
 ©2008-2013 Straker Investments, LLC. All rights reserved.

Invoice Terms:

Net 30

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Home Office P.O. Box 32 Russell, KS 67665

No. 1485

Phone 785-483-2025
Cell 785-324-1041

Date	7-31-19	Sec.	10	Twp.	22	Range	12	County	Stafford	State	Ks	On Location	Finish	5:15 AM
------	---------	------	----	------	----	-------	----	--------	----------	-------	----	-------------	--------	---------

Lease Denker Well No. 9 Owner _____
Location 281 + K-19, 6E, 1/2 S,

Contractor Southwind #3
To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish
cement and helper to assist owner or contractor to do work as listed.

Type Job Surface Charge To mai oil operations
Hole Size 12 1/4" T.D. 650'
8 5/8" Depth 650'

Csg. _____ Street _____
Tbg. Size _____ Depth _____ City _____ State _____
Tool _____ Depth _____

Cement Left in Csg. 20' Shoe Joint 20' Cement Amount Ordered 450 60/40 4% cc 2% Gel
Meas Line _____ Displace 40 BLS 1/2# Flo-seal

EQUIPMENT				Common
Pumptrk	17	No.	Cement Helper <u>David</u>	270
Bulktrk	21	No.	Driver <u>Tim</u>	Poz. Mix 180
Bulktrk	p.u.	No.	Driver <u>Rick</u>	Gel. 9
			Driver <u>Rick</u>	Calcium 20

JOB SERVICES & REMARKS
Remarks: Cement did Circulate

Rat Hole	Flowseal <u>225#</u>
Mouse Hole	Kol-Seal
Centralizers	Mud CLR 48
Baskets	CFL-117 or CD110 CAF 38
D/V or Port Collar	Sand
	Handling <u>479</u>
	Mileage

FLOAT EQUIPMENT	
Guide Shoe	
Centralizer	<u>8 5/8 Rubber plus</u>
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Pumptrk Charge Long Surface
Mileage 22

Signature <u>Greg Aris</u>	Tax
	Discount
	Total Charge

Thanks

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

Home Office P.O. Box 32 Russell, KS 67665

No. 1492

Cell 785-324-1041

Date	8-7-19	Sec.	10	Twp.	22	Range	12	County	Stafford	State	Ks	On Location		Finish	12:00 AM
------	--------	------	----	------	----	-------	----	--------	----------	-------	----	-------------	--	--------	----------

Lease **Denker** Well No. **9** Location **281 + K-19, 6E, 1/2 S E 1 into**

Contractor **Southwind #3** Owner **To Quality Oilwell Cementing, Inc.**
 You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Type Job **Longstring** Charge To **Mai oil operations**

Hole Size **7 7/8"** T.D. **3720'** Cement Left in Csg. **31.57'** Shoe Joint **31.57'**

Csg. **5 1/2" 14# used** Depth **3715.81'** Cement Amount Ordered **160 6 1/4 10% Salt 2% Gel Vd 76**

Tbg. Size _____ Depth _____ City _____ State _____

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

Meas Line _____ Displace **90 BLS** 1000 gal mud Clear **48**

EQUIPMENT Common **96**

Pumptrk **17** No. **17** Cementer **Jim** Poz. Mix **6064**

Bulktrk **15** No. **15** Driver **Michael** Gel. **3**

Bulktrk **p.u.** No. **p.u.** Driver **Rick** Calcium _____

JOB SERVICES & REMARKS Hulls _____

Remarks: _____ Salt **14**

Rat Hole **305x** Flowseal **40"**

Mouse Hole _____ Kol-Seal _____

Centralizers **1, 3-10, 12, 13, 14** Mud CLR 48 **1000 gal**

Baskets **pipe on bottom Break Circulation** CFL-117 or CD110 CAF 38

D/V or Port Collar **pump 1000 gal mud Clear 48** Sand _____

plug Rathole w/ 305x Hook to 5 1/2" Handling **177**

Casing + mix 1305x Cement. Shut down Mileage _____

wash pump + lines Displaced plug w/ 90 BLS of H2O. Released

Lift pressure **700 #**

Land plug **1500 #**

FLOAT EQUIPMENT	
Guide Shoe	
Centralizer	12
Baskets	
AFU Inserts	
Float Shoe	1
Latch Down	1
Pumptrk Charge	prod string
Mileage	22
Tax	
Discount	
Total Charge	

X Signature **John S. [Signature]**

JAMES C. MUSGROVE

Petroleum Geologist, LLC
212 Main Street
P.O. Box 215
Claflin, KS 67525

Office (620) 588-4250

Res. Claflin (620) 786-0839

Mai Oil Operations Inc.
Denker #9
NE-NE-SW-SW (1097' FSL & 1018' FWL)
Section 10-22s-12w
Stafford County, Kansas

Page 1

5 1/2" Production Casing Set

Contractor: Southwind Drilling Co. (rig #3)
Commenced: July 30, 2019
Completed: August 6, 2019
Elevation: 1865' K.B., 1863' D.F., 1856' G.L.
Casing program: Surface; 8 5/8" @ 650'
Production, 5 1/2" @ 3719'
Sample: Samples saved and examined 2800' to the Rotary Total Depth.
Drilling time: One (1) foot drilling time recorded and kept 2800' to the Rotary Total Depth.
Measurements: All depths measured from the Kelly Bushing.
Drill Stem Tests: There were four (4) Drill Stem Tests ran by Trilobite Testing Co.
Electric Log: By Eli; Dual Induction, Compensated Density/Neutron and PE and Micro Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	648	+1217
Base Anhydrite	669	+1196
Heebner	3146	-1281
Toronto	3163	-1298
Douglas	3177	-1312
Brown Lime	3278	-1413
Lansing	3291	-1426
Base Kansas City	3519	-1654
Conglomerate	3541	-1676
Viola	3554	-1689
Simpson Shale	3600	-1735
Simpson Sand	3632	-1767
Arbuckle	3654	-1789
Rotary Total Depth	3720	-1855
Log Total Depth	3718	-1853

(All tops and zone(s) corrected to Electric Log Measurements)

SAMPLE ANALYSIS, SHOWS OF OIL, TESTING DATA, ETC.

TOPEKA SECTION

3044-3054' Limestone, cream, tan; scattered vuggy porosity, dead black stain; no show of free oil and faint odor.

TORONTO SECTION

3163-3173' Limestone, cream, tan, fossiliferous, poor visible porosity; trace brown stain, no show of free oil and no odor.

DOUGLAS SECTION

3177-3182' Sand, gray; fine grained, sub-rounded; micaeous, friable in part, trace black stain, no show of free oil and no odor in fresh samples.

LANSING SECTION

3291-3300' Limestone, tan, brown; finely crystalline, poor visible porosity; slightly cherty; dense.

3301-3310' Limestone, cream, white, finely crystalline; slightly chalky, scattered vuggy type porosity; trace light brown stain, show of free oil and faint odor in fresh samples.

3324-3330' Limestone, cream, white; fossiliferous, oomoldic; slightly chalky, poorly developed vuggy and oomoldic porosity; poor brown spotty stain; show of free oil and faint odor in fresh samples.

3338-3344' Limestone, gray fossiliferous, chalky in part; poor to fair pinpoint type porosity; show of free oil and strong odor in fresh samples.

Drill Stem Test #1 **3284-3360**

Times: 30-30-45-60

Blow: Strong

G.T.S. 1 ½ min gas gauged as follows

Initial Flow

10 min	652,000	cfgpd
20 min	610,000	cfgpd
30 min	598,000	cfgpd

Final Flow

10 min	596,500	cfgpd
20 min	551,400	cfgpd
30 min	530,900	cfgpd
40 min	526,600	cfgpd
45 min	526,500	cfgpd

Recovery: 558 gas cut muddy water

Pressures: ISIP 405 psi
FSIP 391 psi
IFP 333-278 psi
FFP 280-287 psi
HSH 1628-1559 psi

3371-3375' Limestone, cream, white, fossiliferous, chalky, poor visible porosity; trace black stain; no free oil and no odor in fresh samples.

3378-3384' Limestone, tan, brown; finely crystalline, dense; poor porosity, no shows.

- 3384-3410' Limestone, white, cream, tan, fossiliferous; scattered vuggy type porosity, trace brown stain; weak show of free oil and questionable odor in fresh samples.
- 3426-3434' Limestone, cream, white, fine to medium crystalline, scattered pinpoint porosity; black and golden brown stain and saturation, no show of free oil faint odor in fresh samples.
- 3444-3451' Limestone, tan, cream; finely crystalline; slightly chalky; fair pinpoint type porosity; black and golden brown stain and saturation, show of free oil and faint odor in fresh samples.
- 3458-3474' Limestone, white; oomoldic, good oomoldic and vuggy type porosity; dark brown to black stain; show of free oil and faint odor.
- 3488-3492' Limestone, cream, fossiliferous, few oomoldic; fair to good porosity, dark brown stain, show of free oil and faint odor in fresh samples.

Drill Stem Test #2 **3418-3503**

Times: 30-30-45-60

Blow: Strong; gas to surface in 3 mins

G.T.S. Gauged as follows

Initial Flow

10 min	235,840	cfgpd
20 min	238,200	cfgpd
30 min	235,100	cfgpd

Final Flow

10 min	270,690	cfgpd
20 min	265,070	cfgpd
30 min	241,940	cfgpd
40 min	235,840	cfgpd
45 min	233,170	cfgpd

Recovery: 45' mud
 124' oil and gas cut muddy water
 (20% gas; 20% oil; 30% water; 40% mud)
 310' very heavily oil cut muddy water
 (20% gas; 40% oil; 30% water; 10% mud)

Pressures: ISIP 754 psi
 FSIP 799 psi
 IFP 183-146 psi
 FFP 166-172 psi
 HSH 1795-1668 psi

VIOLA SECTION

- 3550-3570' Chert; white; gray; boney; few tripolitic; scattered porosity, trace black stain, no free oil, no odor in fresh samples.
- 3570-3580' Chert; as above.
- 3580-3600' Chert; white; cream, gray; boney; poor visible porosity; black edge staining; no show of free oil and no odor in fresh samples.

SIMPSON SECTION

3632-3635' Sand, gray, dark brown; medium grained; poorly developed porosity, trace gray to black stain; no show of free oil and no odor in fresh samples.

ARBUCKLE SECTION

3654-3659' Dolomite, tan, fine and medium crystalline, scattered vuggy and inter-crystalline type porosity; trace brown stain and saturation; show of free oil, good show of gas bubbles and strong odor in fresh samples.

Drill Stem Test #3 **3585-3659**

Times: 30-30-45-60

Blow: Strong

Recovery: 620' gas in pipe
310' oil and gas cut mud
(45% gas; 20% oil; 15% water; 20% mud)
124' oil and gas cut water
(40% gas; 10% oil; 30% water; 20% mud)
434' slightly oil cut muddy water
(5% gas; 5% oil; 80% water; 10% mud)

Pressures: ISIP 1033 psi
FSIP 1028 psi
IFP 58-222 psi
FFP 223-394 psi
HSH 1786-1740 psi

3659-3661' Dolomite, as above; good inter-crystalline porosity, good stain and saturation, fair to good show of free oil and good odor in fresh samples.

Drill Stem Test #4 **3655-3661**

Times: 30-30-45-60

Blow: Strong

Recovery: 605' gas in pipe
15' clean oil
186' oil and gas cut water
(60% gas; 10% oil; 20% water 10% mud)
124' oil and gas cut water
(40% gas; 10% oil; 50% water)
434' slightly oil cut muddy water
(5% gas; 10% oil; 85% water)

Pressures: ISIP 1062 psi
FSIP 1063 psi
IFP 46-159 psi
FFP 173-340 psi
HSH 1840-1734 psi

Mai Oil Operations Inc.
Denker #9
NE-NE-SW-SW (1097' FSL & 1018' FWL)
Section 10-22s-12w
Stafford County, Kansas

Page 5

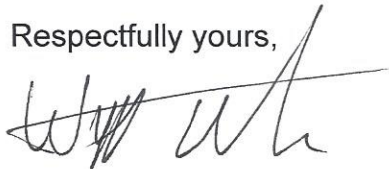
3661-3670'	Dolomite, tan, white; sucrosic; fair porosity, brown stain, no show of free oil and faint odor in fresh samples.
3670-3700'	Dolomite, white; medium crystalline; poor to fair inter-crystalline porosity; dark black stain; no free oil and no odor; plus white oolitic chert.
3700-3710'	Dolomite, tan, medium crystalline; few sucrosic; good inter-crystalline porosity; light brown stain, trace of free oil and faint odor.
3710-3720'	Dolomite, tan, buff; cherty in part, poor porosity; no show and strong sulfuric odor in fresh samples.

Rotary Total Depth: 3720
Log Total Depth: 3718

Recommendations:

5 ½" production casing was set and cemented on the Mai Oil Operations, Inc., Denker #9

Respectfully yours,



Wyatt Urban
Petroleum Geologist