

TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc**

8411 Preston Rd Suite 800
Dallas TX 75225+5520

ATTN: Wyatt Urban

Richards #15

6-11S-20W Ellis,KS

Start Date: 2019.01.18 @ 12:37:00

End Date: 2019.01.18 @ 18:49:02

Job Ticket #: 65084 DST #: 1

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

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

Printed: 2019.01.22 @ 11:33:37

Mai Oil Operations Inc
6-11S-20W Ellis,KS
Richards #15
DST # 1
LKC A-C
2019.01.18



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

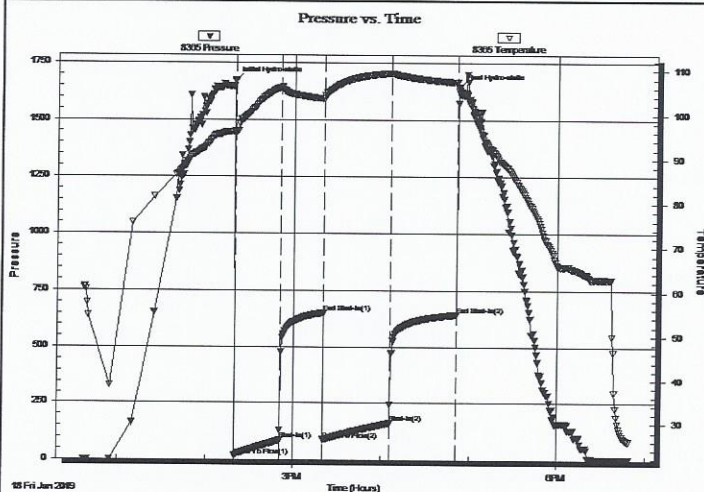
6-11S-20W Ellis,KS
Richards #15
 Job Ticket: 65084 **DST#: 1**
 Test Start: 2019.01.18 @ 12:37:00

GENERAL INFORMATION:

Formation: **LKC A-C**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:20:02
 Time Test Ended: 18:49:02
 Interval: **3395.00 ft (KB) To 3430.00 ft (KB) (TVD)**
 Total Depth: 3395.00 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: 2098.00 ft (KB)
 2090.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8365 Inside
 Press@RunDepth: 161.70 psig @ 3396.00 ft (KB) Capacity: psig
 Start Date: 2019.01.18 End Date: 2019.01.18 Last Calib.: 2019.01.18
 Start Time: 12:37:01 End Time: 18:49:02 Time On Btm: 2019.01.18 @ 14:19:32
 Time Off Btm: 2019.01.18 @ 16:51:47

TEST COMMENT: IFP 30 Minutes Blow built to BOB in 11 min/ Total build 27"
 ISI 30 Minutes 1 1/2" blow back
 FFP 45 Minutes Blow built to BOB in 15 min/ Total build 32 1/2"
 FSI 45 Minutes 5" blow back



PRESSURE SUMMARY

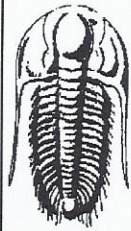
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1671.39	96.43	Initial Hydro-static
1	17.73	95.89	Open To Flow (1)
31	85.51	106.24	Shut-In(1)
61	650.18	103.74	End Shut-In(1)
61	89.63	103.81	Open To Flow (2)
106	161.70	109.46	Shut-In(2)
152	643.39	107.44	End Shut-In(2)
153	1641.33	105.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
67.00	Mud Cut Watery Oil/ M 5 W 15 O 80	0.94
248.00	S Oil cut Muddy Water/ O 5 M 5 W 90	3.48
0.00	243 feet GIP	0.00

Gas Rates

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



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Mai Oil Operations Inc
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 ATTN: Wyatt Urban

6-11S-20W Ellis,KS
Richards #15
 Job Ticket: 65084 **DST#: 1**
 Test Start: 2019.01.18 @ 12:37:00

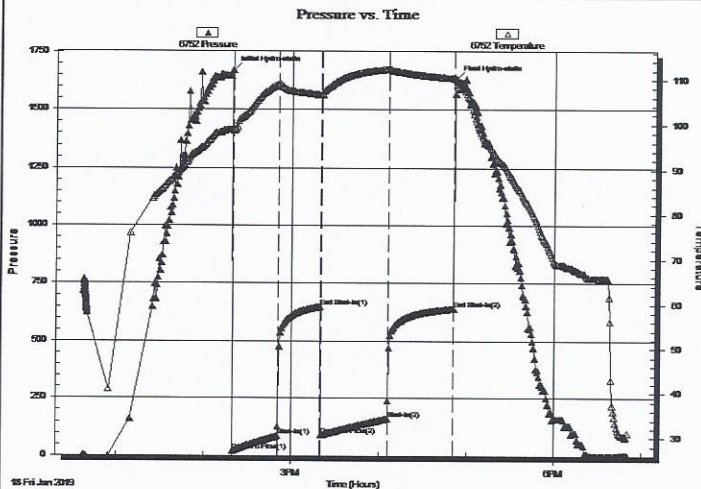
GENERAL INFORMATION:

Formation: **LKC A-C**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:20:02
 Time Test Ended: 18:49:02
 Interval: **3395.00 ft (KB) To 3430.00 ft (KB) (TVD)**
 Total Depth: 3395.00 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: 2098.00 ft (KB)
 2090.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6752 Outside
 Press@RunDepth: 641.83 psig @ 3397.00 ft (KB) Capacity: psig
 Start Date: 2019.01.18 End Date: 2019.01.18 Last Calib.: 2019.01.18
 Start Time: 12:37:01 End Time: 18:50:02 Time On Btm: 2019.01.18 @ 14:19:32
 Time Off Btm: 2019.01.18 @ 16:51:47

TEST COMMENT: IFP 30 Minutes Blow built to BOB in 11 min/ Total build 27"
 ISI 30 Minutes 1 1/2" blow back
 FFP 45 Minutes Blow built to BOB in 15 min/ Total build 32 1/2"
 FSI 45 Minutes 5" blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1671.09	98.96	Initial Hydro-static
1	18.92	98.71	Open To Flow (1)
31	86.54	108.97	Shut-In(1)
61	649.82	106.61	End Shut-In(1)
61	88.98	106.53	Open To Flow (2)
106	161.56	112.34	Shut-In(2)
152	641.83	110.31	End Shut-In(2)
153	1634.38	109.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
67.00	Mud Cut Watery Oil/ M 5 W 15 O 80	0.94
248.00	S Oil cut Muddy Water/ O 5 M 5 W 90	3.48
0.00	243 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

6-11S-20W Ellis,KS
Richards #15
Job Ticket: 65084 **DST#: 1**
Test Start: 2019.01.18 @ 12:37:00

Tool Information

Drill Pipe:	Length: 3385.00 ft	Diameter: 3.80 inches	Volume: 47.48 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: 50000.00 lb
			<u>Total Volume: 47.48 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3395.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	55.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3380.00	
Hydraulic tool	5.00			3385.00	
Top Packer	5.00			3390.00	
Packer	5.00			3395.00	20.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3396.00	
Recorder	1.00	6752	Outside	3397.00	
Anchor	30.00			3427.00	
Bullnose	3.00			3430.00	35.00 Anchor Tool

Total Tool Length: 55.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

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

6-11S-20W Ellis,KS
Richards #15
Job Ticket: 65084 **DST#: 1**
Test Start: 2019.01.18 @ 12:37:00

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: 24000 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.19 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 1500.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
67.00	Mud Cut Watery Oil/ M 5 W 15 O 80	0.940
248.00	S Oil cut Muddy Water/ O 5 M 5 W 90	3.479
0.00	243 feet GIP	0.000

Total Length: 315.00 ft Total Volume: 4.419 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

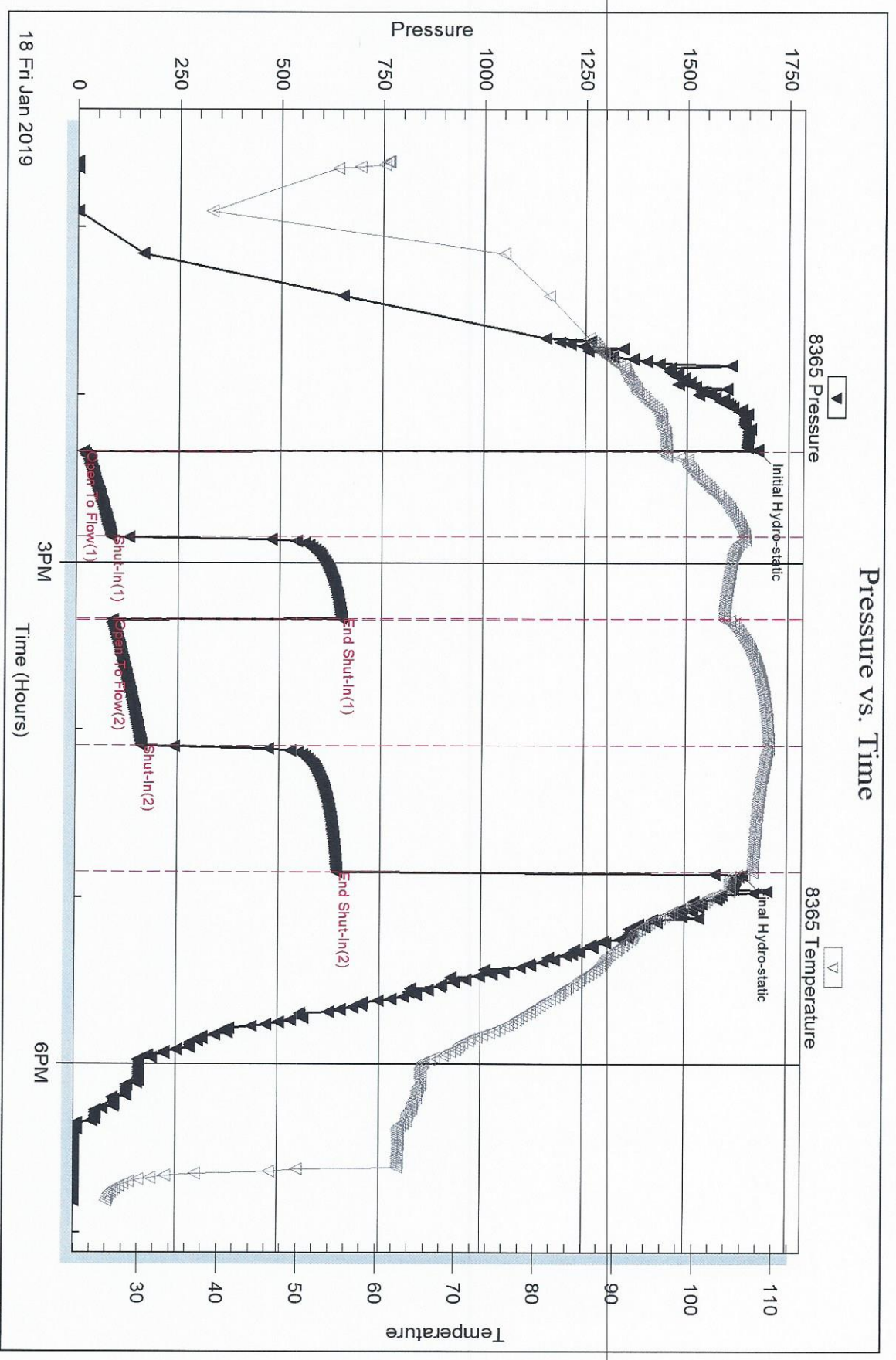
Recovery Comments: Recovery Resistivity .515 ohms @ 37 deg.

Serial #: 8365

Inside Mai Oil Operations Inc

Richards #15

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 65084

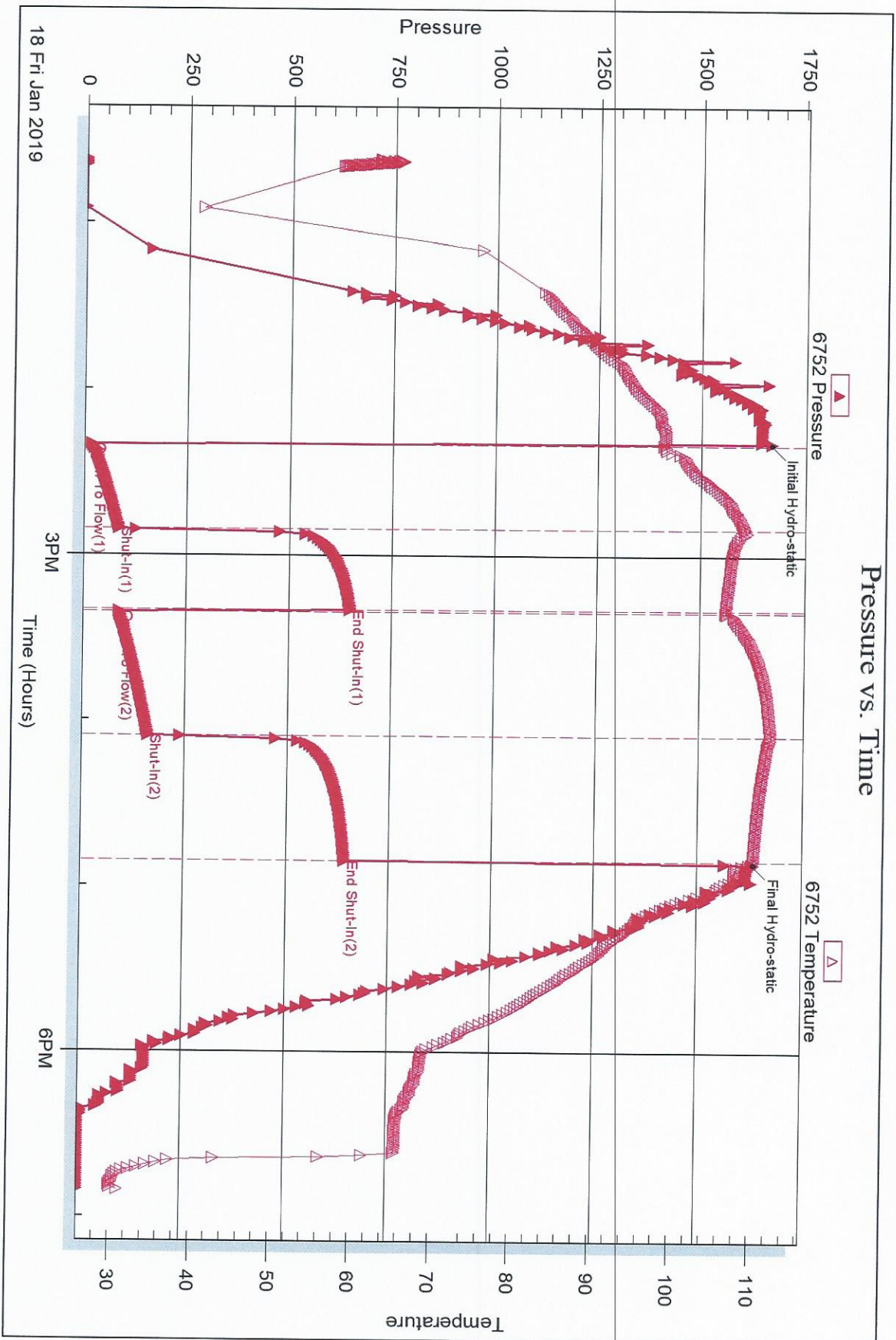
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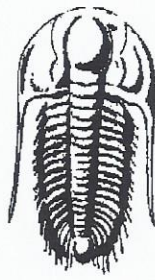
Serial #: 6752

Outside Mai Oil Operations Inc

Richards #15

DST Test Number: 1





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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

Richards #15

6-11S-20W Ellis,KS

Start Date: 2019.01.19 @ 05:15:00

End Date: 2019.01.19 @ 09:57:17

Job Ticket #: 65085 DST #: 2

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

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

Printed: 2019.01.22 @ 11:32:47



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DRILL STEM TEST REPORT

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

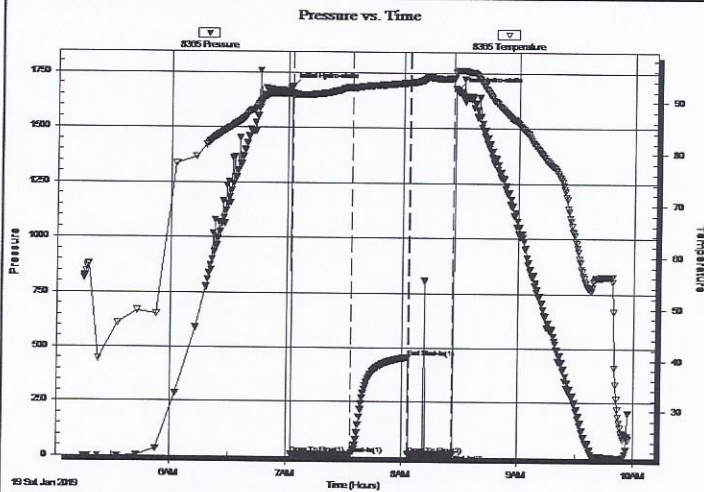
6-11S-20W Ellis,KS
Richards #15
 Job Ticket: 65085 **DST#: 2**
 Test Start: 2019.01.19 @ 05:15:00

GENERAL INFORMATION:

Formation: **LKC D - G**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:02:47
 Time Test Ended: 09:57:17
 Interval: **3444.00 ft (KB) To 3486.00 ft (KB) (TVD)**
 Total Depth: 3486.00 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: 2098.00 ft (KB)
 2090.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8365 Inside
 Press@RunDepth: 13.69 psig @ 3445.00 ft (KB) Capacity: psig
 Start Date: 2019.01.19 End Date: 2019.01.19 Last Calib.: 2019.01.19
 Start Time: 05:15:01 End Time: 09:57:17 Time On Btm: 2019.01.19 @ 07:02:17
 Time Off Btm: 2019.01.19 @ 08:27:32

TEST COMMENT: IFP 30 Minutes Blow built to 2"
 ISI 30 Minutes No blow back
 FFP 30 Minutes Dead - Flush tool - Surface blow 2 minutes then dead - pull test



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1685.91	91.64	Initial Hydro-static
1	11.55	91.30	Open To Flow (1)
32	13.69	92.72	Shut-In(1)
61	457.05	93.76	End Shut-In(1)
61	13.35	93.58	Open To Flow (2)
84	15.67	94.73	Shut-In(2)
86	1670.06	96.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
8.00	Mud 100%	0.11

Gas Rates

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



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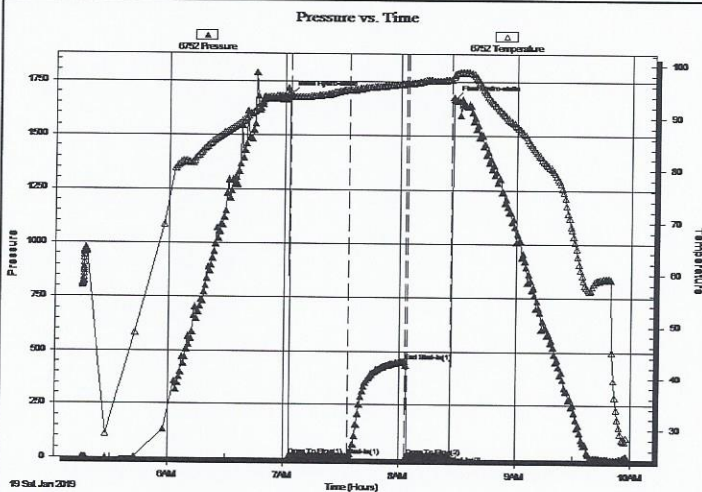
6-11S-20W Ellis,KS
Richards #15
 Job Ticket: 65085 **DST#: 2**
 Test Start: 2019.01.19 @ 05:15:00

GENERAL INFORMATION:

Formation: **LKC D - G**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:02:47
 Time Test Ended: 09:57:17
 Interval: **3444.00 ft (KB) To 3486.00 ft (KB) (TVD)**
 Total Depth: 3486.00 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: 2098.00 ft (KB)
 2090.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6752 Outside
 Press@RunDepth: 455.89 psig @ 3446.00 ft (KB) Capacity: psig
 Start Date: 2019.01.19 End Date: 2019.01.19 Last Calib.: 2019.01.19
 Start Time: 05:15:01 End Time: 09:58:02 Time On Btm: 2019.01.19 @ 07:02:32
 Time Off Btm: 2019.01.19 @ 08:27:32

TEST COMMENT: IFP 30 Minutes Blow built to 2"
 ISI 30 Minutes No blow back
 FFP 30 Minutes Dead - Flush tool - Surface blow 2 minutes then dead - pull test



PRESSURE SUMMARY

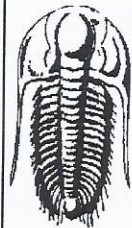
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1686.62	94.24	Initial Hydro-static
1	12.36	94.12	Open To Flow (1)
31	13.98	95.34	Shut-In(1)
61	455.89	96.60	End Shut-In(1)
61	14.72	96.62	Open To Flow (2)
84	16.44	97.44	Shut-In(2)
85	1670.21	98.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
8.00	Mud 100%	0.11

Gas Rates

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



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

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

6-11S-20W Ellis,KS
Richards #15
Job Ticket: 65085 **DST#: 2**
Test Start: 2019.01.19 @ 05:15:00

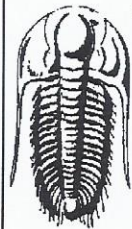
Tool Information

Drill Pipe:	Length: 3448.00 ft	Diameter: 3.80 inches	Volume: 48.37 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: 45000.00 lb
			<u>Total Volume: 48.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 43000.00 lb
Depth to Top Packer:	3444.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	62.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3429.00	
Hydraulic tool	5.00			3434.00	
Top Packer	5.00			3439.00	
Packer	5.00			3444.00	20.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3445.00	
Recorder	1.00	6752	Outside	3446.00	
Anchor	37.00			3483.00	
Bullnose	3.00			3486.00	42.00 Anchor Tool

Total Tool Length: 62.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

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

6-11S-20W Ellis,KS
Richards #15
Job Ticket: 65085 **DST#: 2**
Test Start: 2019.01.19 @ 05:15:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.19 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1400.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
8.00	Mud 100%	0.112

Total Length: 8.00 ft Total Volume: 0.112 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

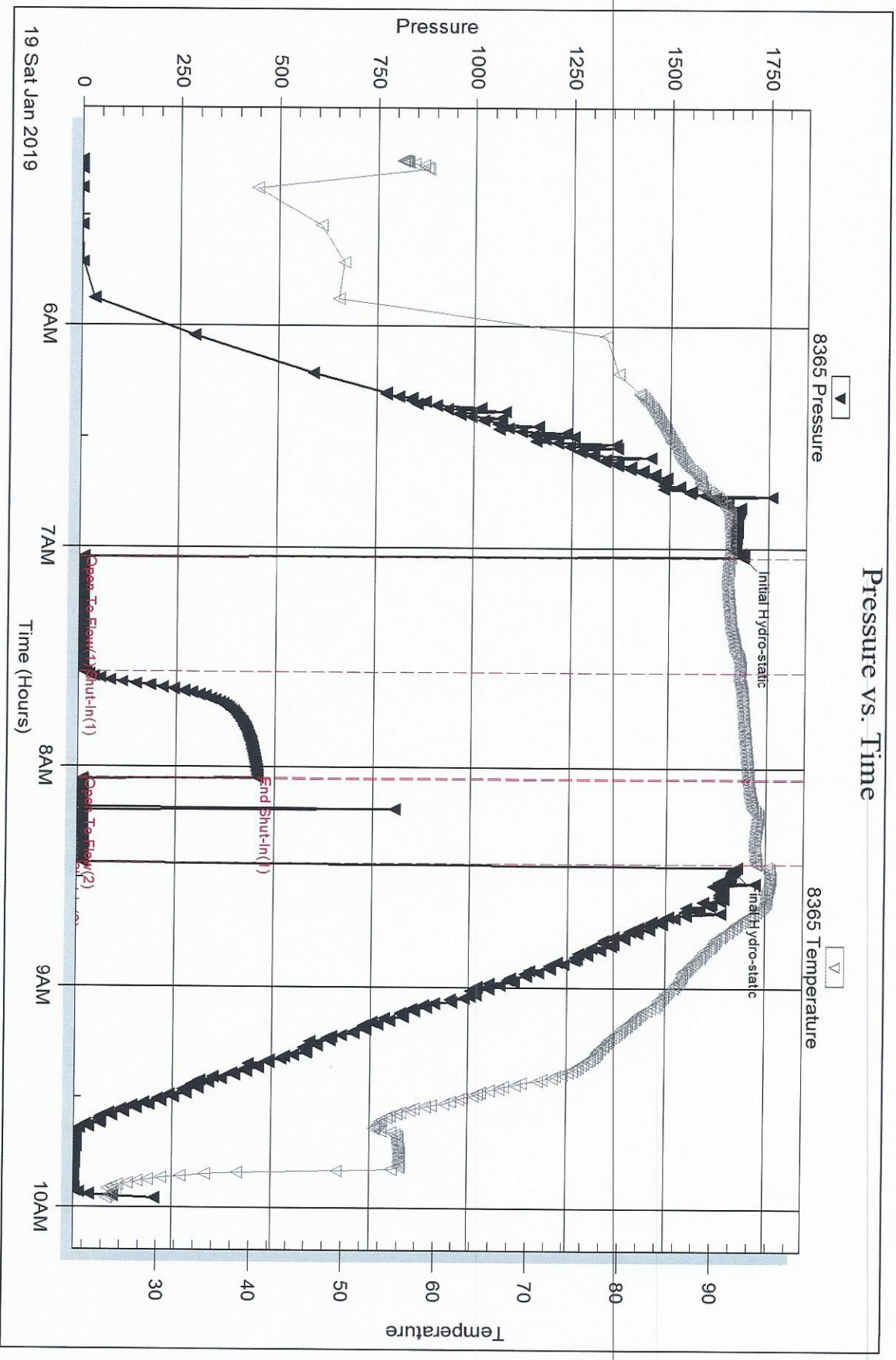
Serial #: 8365

Inside Mai Oil Operations Inc

Richards #15

DST Test Number: 2

Pressure vs. Time



Tribolite Testing, Inc

Ref. No: 65085

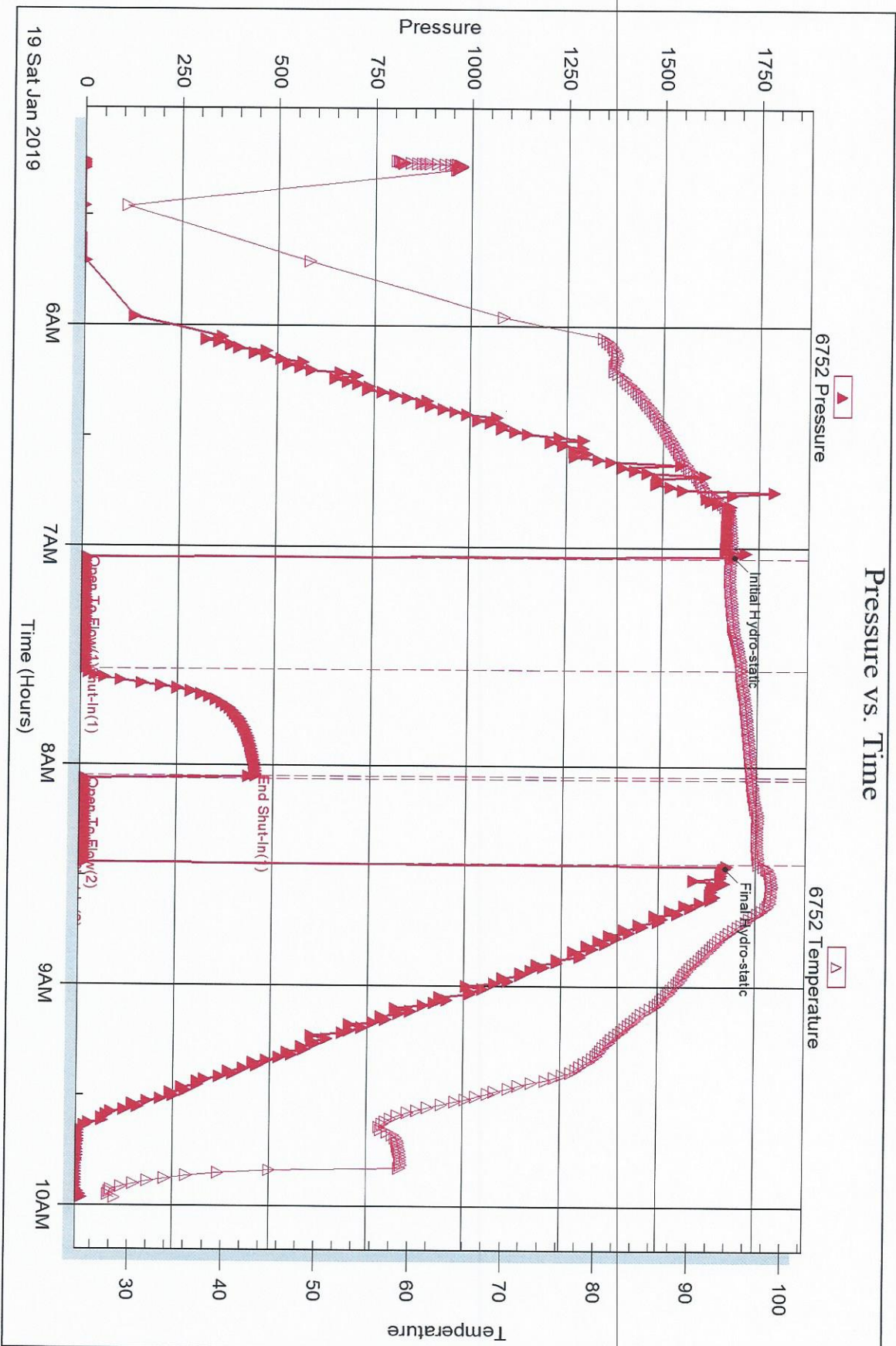
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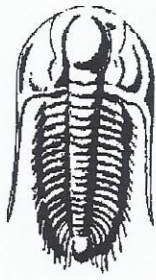
Serial #: 6752

Outside Mai Oil Operations Inc

Richards #15

DST Test Number: 2





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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

Richards #15

6-11S-20W Ellis,KS

Start Date: 2019.01.19 @ 23:21:00

End Date: 2019.01.20 @ 05:49:02

Job Ticket #: 65086 DST #: 3

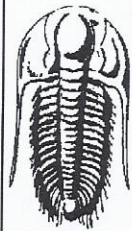
Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

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

Printed: 2019.01.22 @ 11:32:06

Mai Oil Operations Inc
6-11S-20W Ellis,KS
Richards #15
DST # 3
LKC H - L
2019.01.19



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DRILL STEM TEST REPORT

Mai Oil Operations Inc
 8411 Preston Rd Suite 800
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 ATTN: Wyatt Urban

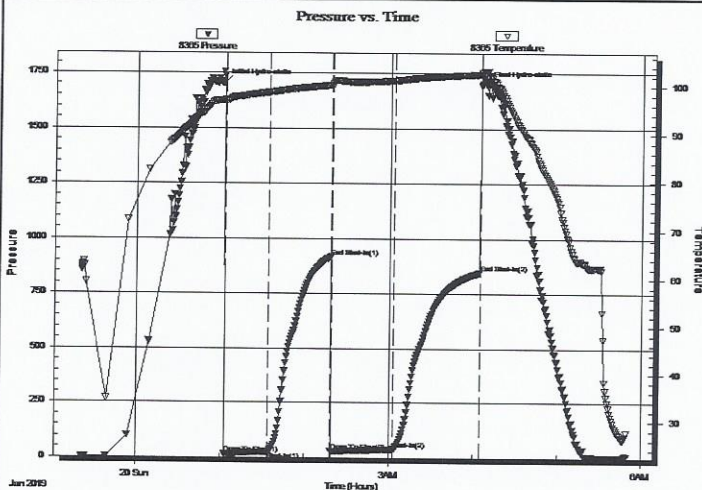
6-11S-20W Ellis,KS
Richards #15
 Job Ticket: 65086 **DST#: 3**
 Test Start: 2019.01.19 @ 23:21:00

GENERAL INFORMATION:

Formation: **LKC H - L**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:03:02
 Time Test Ended: 05:49:02
 Interval: **3497.00 ft (KB) To 3600.00 ft (KB) (TVD)**
 Total Depth: 3600.00 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: 2098.00 ft (KB)
 2090.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8365 Inside
 Press@RunDepth: 40.27 psig @ 3498.00 ft (KB) Capacity: psig
 Start Date: 2019.01.19 End Date: 2019.01.20 Last Calib.: 2019.01.20
 Start Time: 23:21:01 End Time: 05:49:02 Time On Btm: 2019.01.20 @ 01:01:32
 Time Off Btm: 2019.01.20 @ 04:07:47

TEST COMMENT: IFP 30 Minutes Blow built to 6 1/2"
 ISI 45 Minutes No blow back
 FFP 45 Minutes Blow built to 8 1/2"
 FSI 60 Minutes No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1702.89	96.98	Initial Hydro-static
2	14.77	97.02	Open To Flow (1)
33	26.93	98.72	Shut-In(1)
77	917.83	100.21	End Shut-In(1)
78	30.06	100.11	Open To Flow (2)
122	40.27	101.21	Shut-In(2)
183	845.67	102.59	End Shut-In(2)
187	1698.89	103.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	Oil cut Mud/ Oil 20% Mud 80%	0.87

Gas Rates

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



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DRILL STEM TEST REPORT

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

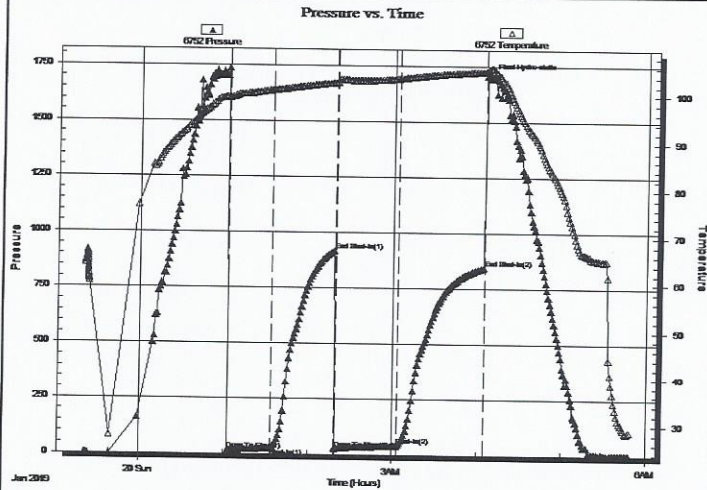
6-11S-20W Ellis,KS
Richards #15
 Job Ticket: 65086 **DST#: 3**
 Test Start: 2019.01.19 @ 23:21:00

GENERAL INFORMATION:

Formation: **LKC H-L**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:03:02
 Time Test Ended: 05:49:02
 Interval: **3497.00 ft (KB) To 3600.00 ft (KB) (TVD)**
 Total Depth: 3600.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Sw inney
 Unit No: 72
 Reference Elevations: 2098.00 ft (KB)
 2090.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6752 Outside
 Press@RunDepth: 845.41 psig @ 3499.00 ft (KB) Capacity: psig
 Start Date: 2019.01.19 End Date: 2019.01.20 Last Calib.: 2019.01.20
 Start Time: 23:21:01 End Time: 05:48:02 Time On Btm:
 Time Off Btm: 2019.01.20 @ 04:07:32

TEST COMMENT: IFP 30 Minutes Blow built to 6 1/2"
 ISI 45 Minutes No blow back
 FFP 45 Minutes Blow built to 8 1/2"
 FSI 60 Minutes No blow back



PRESSURE SUMMARY

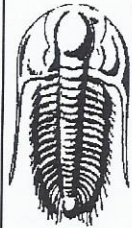
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	14.87	99.57	Open To Flow (1)
31	26.50	101.13	Shut-In(1)
76	918.47	102.72	End Shut-In(1)
77	26.27	102.97	Open To Flow (2)
121	40.42	103.71	Shut-In(2)
182	845.41	105.28	End Shut-In(2)
185	1699.85	105.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	Oil cut Mud/ Oil 20% Mud 80%	0.87

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

6-11S-20W Ellis,KS
Richards #15
Job Ticket: 65086 **DST#: 3**
Test Start: 2019.01.19 @ 23:21:00

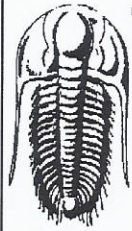
Tool Information

Drill Pipe:	Length: 3510.00 ft	Diameter: 3.80 inches	Volume: 49.24 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: 75000.00 lb
			<u>Total Volume: 49.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3497.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	102.67 ft			
Tool Length:	122.67 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3482.00	
Hydraulic tool	5.00			3487.00	
Top Packer	5.00			3492.00	
Packer	5.00			3497.00	20.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3498.00	
Recorder	1.00	6752	Outside	3499.00	
Anchor	32.00			3531.00	
Change Over Sub	1.00			3532.00	
Drill Pipe	63.67			3595.67	
Change Over Sub	1.00			3596.67	
Bullnose	3.00			3599.67	102.67 Anchor Tool
Total Tool Length:	122.67				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mai Oil Operations Inc

6-11S-20W Ellis,KS

8411 Preston Rd Suite 800
Dallas TX 75225+5520

Richards #15

Job Ticket: 65086

DST#: 3

ATTN: Wyatt Urban

Test Start: 2019.01.19 @ 23:21:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length: ft

Water Salinity: ppm

Viscosity: 53.00 sec/qt

Cushion Volume: bbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 2800.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	Oil cut Mud/ Oil 20% Mud 80%	0.870

Total Length: 62.00 ft Total Volume: 0.870 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

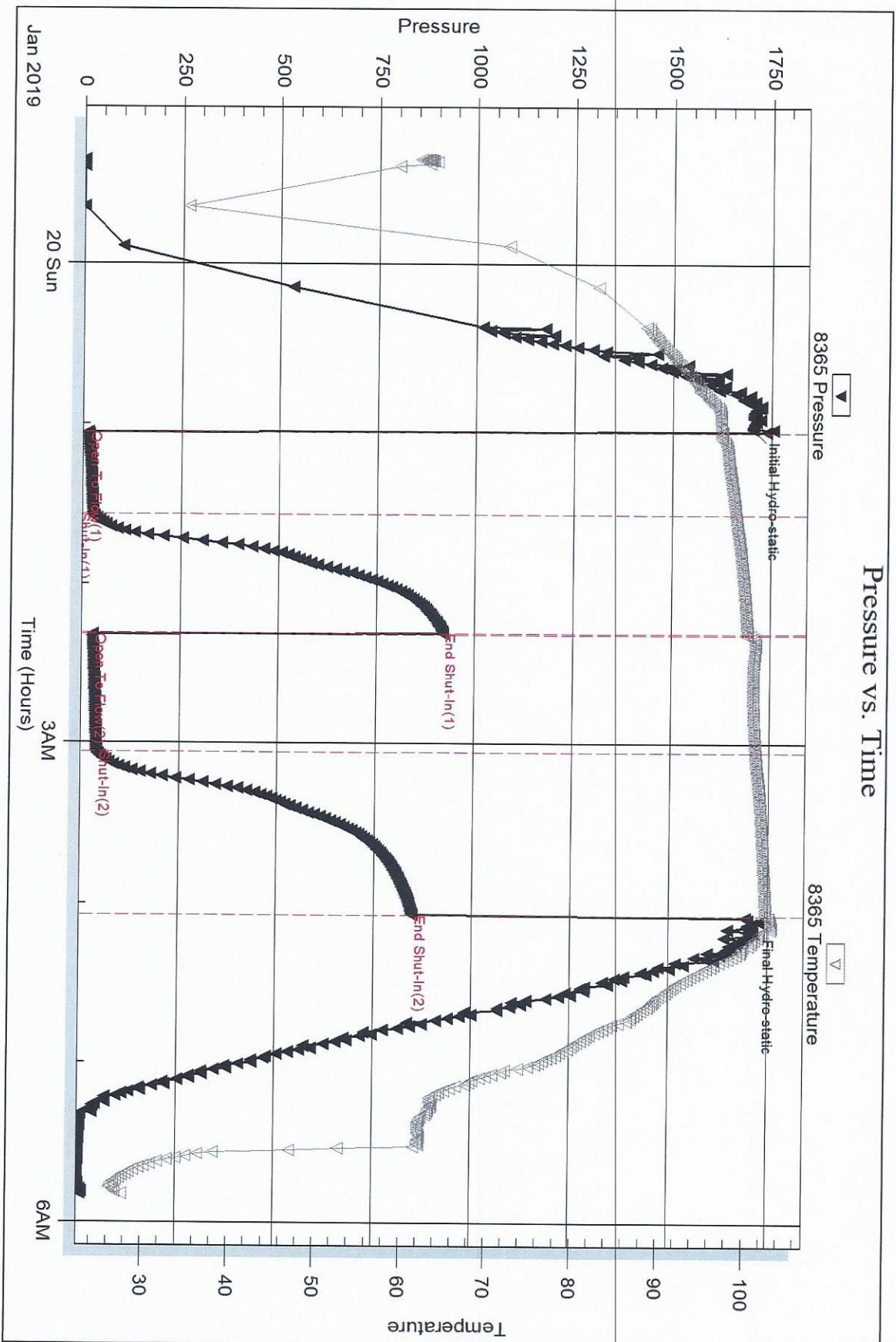
Serial #: 8365

Inside

Mai Oil Operations Inc

Richards #15

DST Test Number: 3

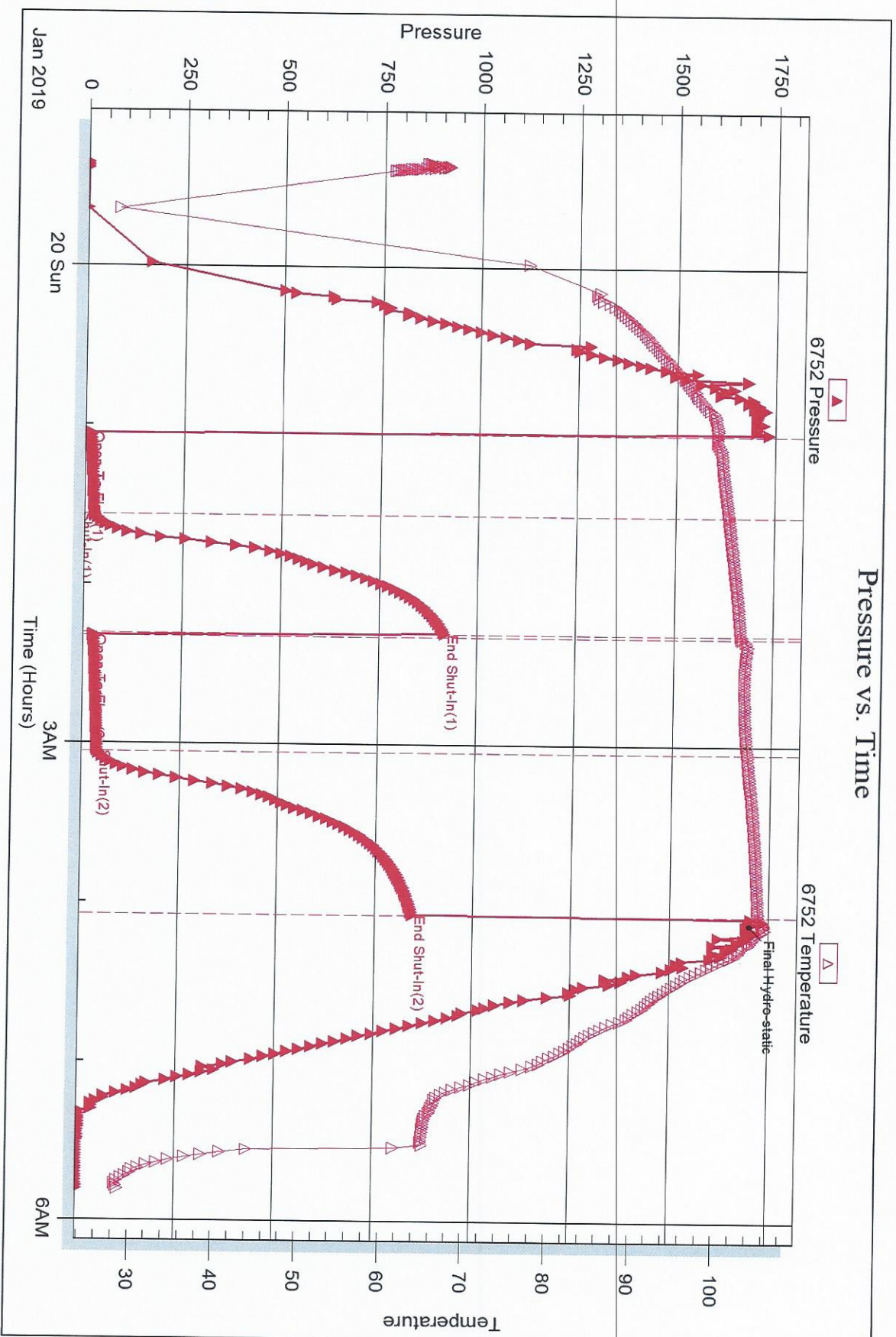


Serial #: 6752

Outside Mai Oil Operations Inc

Richards #15

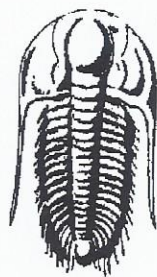
DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 65086

Printed: 2019.01.22 @ 11:32:07



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Mai Oil Operations Inc**

8411 Preston Rd Suite 800
Dallas TX 75225+5520

ATTN: Wyatt Urban

Richards #15

6-11S-20W Ellis,KS

Start Date: 2019.01.21 @ 02:55:00

End Date: 2019.01.21 @ 08:53:02

Job Ticket #: 65087 DST #: 4

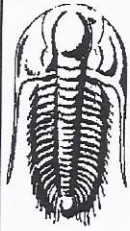
Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

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

Printed: 2019.01.22 @ 11:29:12

Mai Oil Operations Inc
6-11S-20W Ellis,KS
Richards #15
DST # 4
Arbuckle
2019.01.21



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

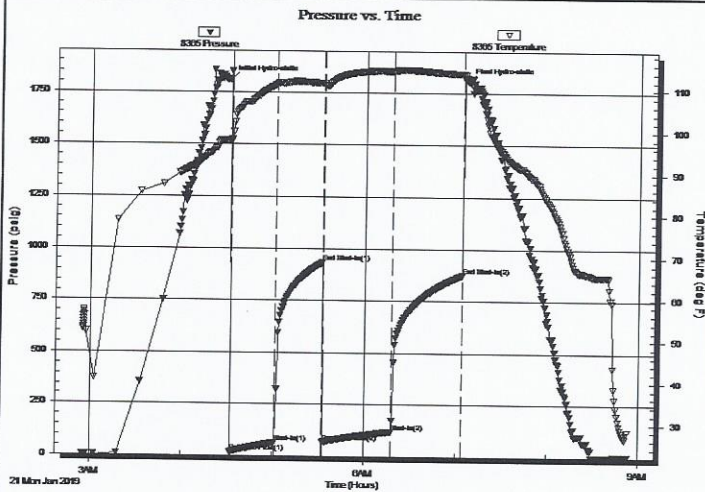
6-11S-20W Ellis,KS
Richards #15
 Job Ticket: 65087 **DST#: 4**
 Test Start: 2019.01.21 @ 02:55:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:32:02
 Time Test Ended: 08:53:02
 Interval: **3701.00 ft (KB) To 3720.00 ft (KB) (TVD)**
 Total Depth: 3720.00 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: 2098.00 ft (KB)
 2090.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8365 Inside
 Press@RunDepth: 119.78 psig @ 3702.00 ft (KB) Capacity: psig
 Start Date: 2019.01.21 End Date: 2019.01.21 Last Calib.: 2019.01.21
 Start Time: 02:55:01 End Time: 08:53:02 Time On Btm: 2019.01.21 @ 04:30:47
 Time Off Btm: 2019.01.21 @ 07:06:17

TEST COMMENT: IFP 30 Minutes Blow built to BOB in 20 minutes - Total build 14"
 ISI 30 Minutes No blow back
 FFP 45 Minutes Blow built to BOB in 35 minutes - Total build 13 1/2"
 FSI 45 Minutes No blow back



PRESSURE SUMMARY

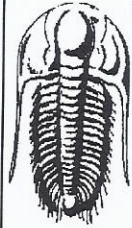
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1807.06	97.84	Initial Hydro-static
2	16.02	97.88	Open To Flow (1)
31	64.82	111.38	Shut-In(1)
62	935.72	111.57	End Shut-In(1)
62	67.68	111.21	Open To Flow (2)
107	119.78	114.57	Shut-In(2)
153	875.75	113.88	End Shut-In(2)
156	1803.73	112.73	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Oil 100%	0.07
230.00	Muddy Water w /skim oil/ M 15 W 85	3.23

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

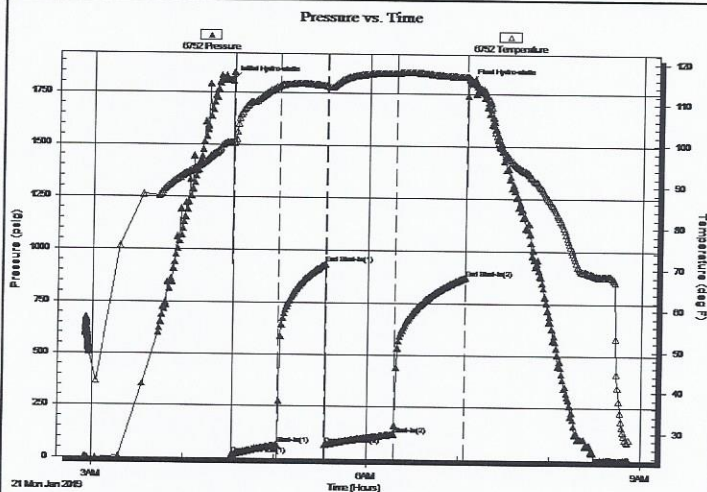
6-11S-20W Ellis, KS
Richards #15
Job Ticket: 65087 **DST#: 4**
Test Start: 2019.01.21 @ 02:55:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:32:02
Time Test Ended: 08:53:02
Interval: **3701.00 ft (KB) To 3720.00 ft (KB) (TVD)**
Total Depth: 3720.00 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: 2098.00 ft (KB)
2090.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 6752 Outside
Press@RunDepth: 874.23 psig @ 3703.00 ft (KB) Capacity: psig
Start Date: 2019.01.21 End Date: 2019.01.21 Last Calib.: 2019.01.21
Start Time: 02:55:01 End Time: 08:52:02 Time On Btm: 2019.01.21 @ 04:30:47
Time Off Btm: 2019.01.21 @ 07:05:47

TEST COMMENT: IFP 30 Minutes Blow built to BOB in 20 minutes - Total build 14"
ISI 30 Minutes No blow back
FFP 45 Minutes Blow built to BOB in 35 minutes - Total build 13 1/2"
FSI 45 Minutes No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1806.26	100.49	Initial Hydro-static
2	16.17	100.47	Open To Flow (1)
31	66.40	114.40	Shut-In(1)
62	934.89	114.43	End Shut-In(1)
62	68.36	114.24	Open To Flow (2)
107	119.87	117.56	Shut-In(2)
153	874.23	116.80	End Shut-In(2)
155	1802.13	116.28	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Oil 100%	0.07
230.00	Muddy Water w /skim oil/ M 15 W 85	3.23

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

6-11S-20W Ellis,KS
Richards #15
Job Ticket: 65087 **DST#: 4**
Test Start: 2019.01.21 @ 02:55:00

Tool Information

Drill Pipe:	Length: 3704.00 ft	Diameter: 3.80 inches	Volume: 51.96 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: 48000.00 lb
			<u>Total Volume: 51.96 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3701.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.00 ft			
Tool Length:	39.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3686.00	
Hydraulic tool	5.00			3691.00	
Packer - Shale	5.00			3696.00	
Packer	5.00			3701.00	20.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3702.00	
Recorder	1.00	6752	Outside	3703.00	
Anchor	14.00			3717.00	
Bullnose	3.00			3720.00	19.00 Anchor Tool

Total Tool Length: 39.00



**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

6-11S-20W Ellis,KS
Richards #15
Job Ticket: 65087 **DST#: 4**
Test Start: 2019.01.21 @ 02:55:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 60.00 sec/qt
Water Loss: 7.19 in³
Resistivity: ohm.m
Salinity: 3000.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: 17000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Oil 100%	0.070
230.00	Muddy Water w /skim oil/ M 15 W 85	3.226

Total Length: 235.00 ft Total Volume: 3.296 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

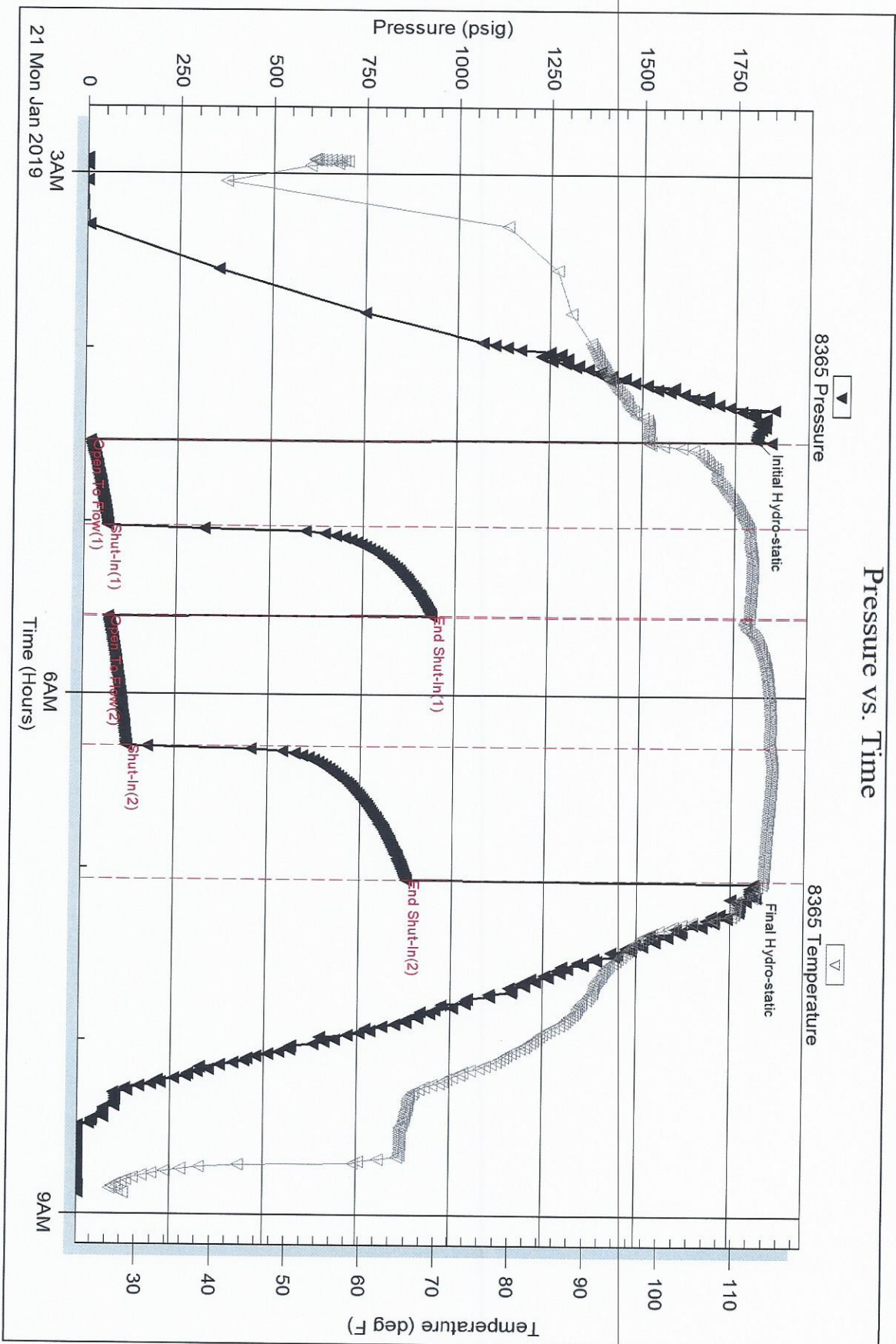
Recovery Comments: Recovery Resistivity .780 ohms @ 34 deg.

Serial #: 8365

Inside Mai Oil Operations Inc

Richards #15

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 65087

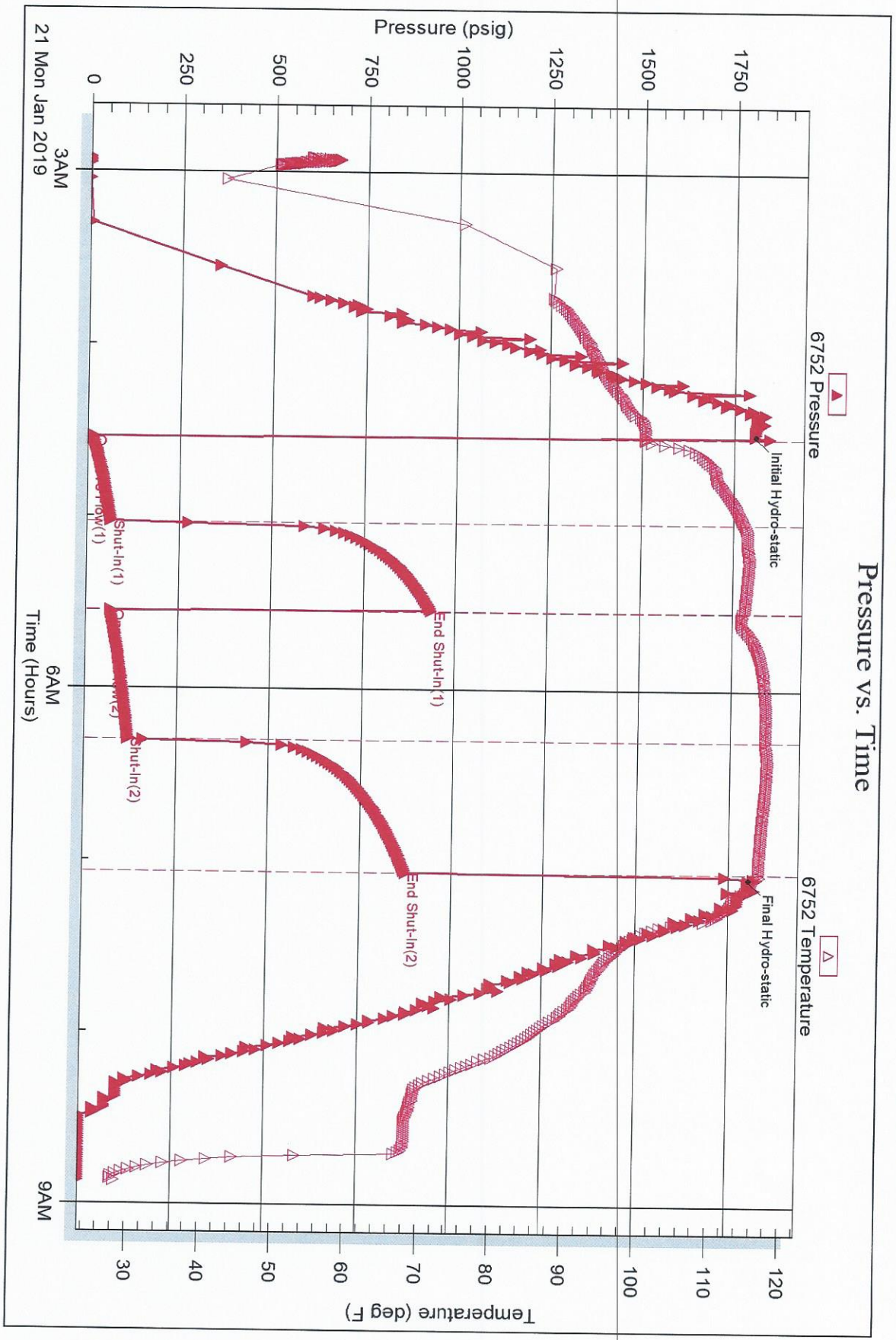
Printed: 2019.01.22 @ 11:29:13

Serial #: 6752

Outside Mai Oil Operations Inc

Richards #15

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 65087

Printed: 2019.01.22 @ 11:29:13



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65084

Well Name & No. <u>Richards #15</u>	Test No. <u>1</u>	Date <u>18 JAN 19</u>
Company <u>Mari Oil Operations Inc</u>	Elevation <u>2098</u> KB <u>2090</u> GL	
Address <u>8411 Preston Rd Suite 800 Dallas Texas 75225-5520</u>		
Co. Rep / Geo. <u>Wyst+ Urban</u>	Rig <u>Southwind Rig 3</u>	
Location: Sec. <u>6</u> Twp <u>11S</u> Rge. <u>20W</u> Co. <u>Ellis</u> State <u>KS</u>		

Interval Tested <u>3395-3430</u>	Zone Tested <u>Lansing A-C</u>
Anchor Length <u>35</u>	Drill Pipe Run <u>338.5</u> Mud Wt. <u>9.1</u>
Top Packer Depth <u>3390</u>	Drill Collars Run <u>-</u> Vis <u>57</u>
Bottom Packer Depth <u>3395</u>	Wt. Pipe Run <u>-</u> WL <u>6.2</u>
Total Depth <u>3430</u>	Chlorides <u>1500</u> ppm System LCM <u>2#</u>

Blow Description I.F. Blow to BOB 11 min / Total build 27 inches
I.S.I. 1.5 inch blow back
F.F. Blow built to BOB 15 min / Total build 32 1/2 inches
I.S.I. 5 inch blow back

Rec <u>67</u>	Feet of <u>Mud Cut Water Oil</u>	%gas <u>90</u>	%oil <u>15</u>	%water <u>5</u>	%mud <u>5</u>
Rec <u>248</u>	Feet of <u>Oil Cut Mud Water</u>	%gas <u>5</u>	%oil <u>90</u>	%water <u>5</u>	%mud <u>5</u>
Rec <u>243</u>	Feet of <u>GIP</u>	<u>100</u> %gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total _____ BHT 109 Gravity 37 API RW .515 @ 37 °F Chlorides 24000 ppm

(A) Initial Hydrostatic <u>1671</u>	<input checked="" type="checkbox"/> Test <u>1050</u>
(B) First Initial Flow <u>17</u>	<input type="checkbox"/> Jars
(C) First Final Flow <u>85</u>	<input type="checkbox"/> Safety Joint
(D) Initial Shut-In <u>650</u>	<input type="checkbox"/> Circ Sub
(E) Second Initial Flow <u>89</u>	<input type="checkbox"/> Hourly Standby
(F) Second Final Flow <u>161</u>	<input checked="" type="checkbox"/> Mileage <u>62</u> <u>62</u>
(G) Final Shut-In <u>643</u>	<input type="checkbox"/> Sampler
(H) Final Hydrostatic <u>1641</u>	<input type="checkbox"/> Straddle
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby
	<input type="checkbox"/> Accessibility
	Sub Total <u>1112</u>

T-On Location 9:58 am
T-Started 12:37 pm
T-Open 2:20 pm
T-Pulled 4:50 pm
T-Out 6:51 pm

Comments _____

EM Tool _____

Ruined Shale Packer _____

Ruined Packer _____

Extra Copies _____

Sub Total 0

Total 1112

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

NO. 65085

Well Name & No. Richards #15 Test No. 2 Date 19 JAN 19
 Company Mo. Oil Operations Inc Elevation 2098 KB 2090 GL
 Address 8411 Preston Rd Suite 800 Dallas TX 75225-5520
 Co. Rep / Geo. Wyatt Urban Rig Southwind Rig 3
 Location: Sec. 6 Twp 11S Rge. 20W Co. Ellis State KS

Interval Tested 3444-3485 Zone Tested Lansing/Kansas City D-6
 Anchor Length 42 Drill Pipe Run 3448 Mud Wt. 9.1
 Top Packer Depth 3439 Drill Collars Run - Vis 57
 Bottom Packer Depth 3444 Wt. Pipe Run - WL 6.2
 Total Depth 3485 Chlorides 1500 ppm System LCM 2A

Blow Description IF Blw built to 2 inches
Z.S.I. No blow back
E.F. Dead Flush tool surface blow 2 min then dead Pull test

Rec	Feet of	%gas	%oil	%water	%mud
<u>8</u>	<u>Mud</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 8 BHT 94 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 168.5 Test 1050
 (B) First Initial Flow 11 Jars _____
 (C) First Final Flow 13 Safety Joint _____
 (D) Initial Shut-In 4.57 Circ Sub _____
 (E) Second Initial Flow 13 Hourly Standby _____
 (F) Second Final Flow 15 Mileage 62 62
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic 1670 Straddle _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 30 Extra Packer _____
 Final Flow 23 Extra Recorder _____
 Final Shut-In _____ Day Standby _____
 Accessibility _____
 Sub Total 1112

T-On Location 4:32 am
 T-Started 5:15 am
 T-Open 7:02 am
 T-Pulled 8:26 am
 T-Out 9:58 am

Comments _____
 EM Tool _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1112
 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

NO. 65086

Well Name & No. Richards #15 Test No. 3 Date 19 JAN 19
 Company Maj Oil Operations Inc Elevation 2018 KB 2090 GL
 Address 8411 Preston Rd Suite 800 Dallas Texas 7522515520
 Co. Rep / Geo. Wyatt Urban Rig Southwind Rig 3
 Location: Sec. 6 Twp 11S Rge. 20W Co. Ellis State KS

Interval Tested 3497-3600 Zone Tested Leasing/Kansas City H-L
 Anchor Length 103 Drill Pipe Run 3510 Mud Wt. 9.0
 Top Packer Depth 3492 Drill Collars Run - Vis 53
 Bottom Packer Depth 3497 Wt. Pipe Run - WL 7.2
 Total Depth 3600 Chlorides 2800 ppm System LCM 1#

Blow Description I.F. Blow built to 6 1/2 inches
I.S.I. No blow back
F.F. Blow built to 8 1/2 inch
F.S.I. No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>Oil cut mud</u>	<u>20</u>	<u>80</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 62 BHT 102 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1702 Test 1050
 (B) First Initial Flow 14 Jars _____
 (C) First Final Flow 26 Safety Joint _____
 (D) Initial Shut-In 917 Circ Sub _____
 (E) Second Initial Flow 30 Hourly Standby _____
 (F) Second Final Flow 40 Mileage 62
 (G) Final Shut-In 845 Sampler _____
 (H) Final Hydrostatic 1698 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1112

T-On Location 10:11 pm
 T-Started 11:21 am
 T-Open 1:02 am
 T-Pulled 4:02 am
 T-Out 5:50 am
 Comments _____
 EM Tool _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1112
 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

NO. 65087

Well Name & No. Richards #15 Test No. 4 Date 21 JAN 19
 Company Mai Oil Operations Inc Elevation 2098 KB 2090 GL
 Address 8411 Preston Rd Suite 800 Dallas Texas 75225+5520
 Co. Rep / Geo. Wyatt Urban Rig Southwind Rig 3
 Location: Sec. 6 Twp 11S Rge. 20W Co. Ellis State KS

Interval Tested 3701-3720 Zone Tested Arbuckle
 Anchor Length 19 Drill Pipe Run 3704 Mud Wt. 9.3
 Top Packer Depth 3696 Drill Collars Run - Vis 60
 Bottom Packer Depth 3701 Wt. Pipe Run - WL 7.2
 Total Depth 3720 Chlorides 3000 ppm System LCM 1#

Blow Description I.F. Blow built to BCB in 20 min / Total build 14"
I.S.I. No blow back
E.F. Blow built to BCB in 35 min / Total build 13 1/2"
F.S.I. No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Oil</u>	<u>100</u>			
<u>230</u>	<u>Muddy Water skin oil</u>		<u>85</u>	<u>15</u>	

Rec Total 235 BHT 114 Gravity 1.050 API RW .780 @ 34 °F Chlorides 17000 ppm

- (A) Initial Hydrostatic 1807 Test 1050
- (B) First Initial Flow 16 Jars
- (C) First Final Flow 64 Safety Joint
- (D) Initial Shut-In 93.5 Circ Sub
- (E) Second Initial Flow 67 Hourly Standby
- (F) Second Final Flow 119 Mileage 124 62
- (G) Final Shut-In 87.5 Sampler
- (H) Final Hydrostatic 1803 Straddle
- Shale Packer 250
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1424

T-On Location 2:00 a.m
 T-Started 2:55 a.m
 T-Open 4:32 a.m
 T-Pulled 7:02 a.m
 T-Out 6:54 a.m

Comments loaded tools 1/21 23:00

- EM Tool
- Ruined Shale Packer
- Ruined Packer
- Extra Copies
- Sub Total 0
- Total 1424
- MP/DST Disc't

Approved By _____ Our Representative _____

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