DRILL STEM TEST REPORT

TOOL DIAGRAM

TRILOBITE TESTING, INC.

Staab Oil Co.

1607 Hopewell Rd.
Hays, KS 67601

ATTN: Janel Staab

10-8S-18W Rooks,KS

Maddy Echart #1

Job Ticket: 55398 **DST#: 1**

Test Start: 2017.10.18 @ 21:45:26

Tool Information

Drill Pipe:	Length:	2608.00 ft	Diameter:	3.82 inches	Volume:	36.97 bbl	Tool Weight:		2000.00 lb
Heavy Wt. Pipe:	Length:	466.00 ft	Diameter:	2.75 inches	Volume:	3.42 bbl	Weight set on Packer:		25000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	Weight to Pull Loose:		50000.00 lb
					Total Volume:	40.39 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		3.00 ft					String Weight:	Initial	48000.00 lb
Depth to Top Packer:		3091.00 ft						Final	48000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		54.00 ft							
Tool Length:		74.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3072.00		
Shut In Tool	5.00			3077.00		
Hydraulic tool	5.00			3082.00		
Packer	5.00			3087.00	20.00	Bottom Of Top Packer
Packer	4.00			3091.00		
Stubb	1.00			3092.00		
Recorder	0.00	6771	Inside	3092.00		
Recorder	0.00	8524	Outside	3092.00		
Perforations	16.00			3108.00		
Change Over Sub	1.00			3109.00		
Drill Pipe	32.00			3141.00		
Change Over Sub	1.00			3142.00		
Bullnose	3.00			3145.00	54.00	Bottom Packers & Anchor
Total Tool Length:	**74.00**					

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Hays, KS 67601

ATTN: Janel Staab

10-8S-18W Rooks,KS

Maddy Echart #1

Job Ticket: 55398 **DST#: 1**

Test Start: 2017.10.18 @ 21:45:26

GENERAL INFORMATION:

Formation: **LKC "D-F"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:44:17
Time Test Ended: 07:11:01

Test Type: Conventional Bottom Hole (Initial)
Tester: Brannan Lonsdale
Unit No: 73

Interval: 3091.00 ft (KB) To 3145.00 ft (KB) (TVD)
Total Depth: 3145.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

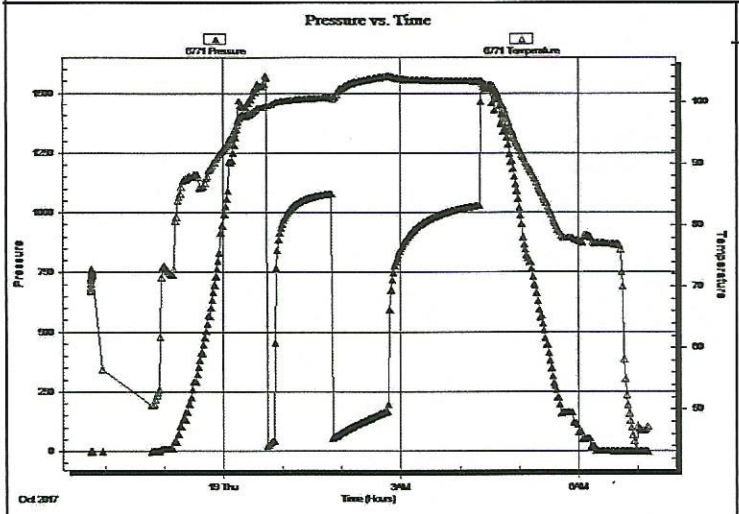
Reference Elevations: 1877.00 ft (KB)
1872.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6771 **Inside**

Press@RunDepth: psig @ 3092.00 ft (KB)
Start Date: 2017.10.18 End Date: 2017.10.19
Start Time: 21:45:37 End Time: 07:10:56

Capacity: 8000.00 psig
Last Calib.: 2017.10.19
Time On Btm:
Time Off Btm:

TEST COMMENT:
05- IF- Built to 3 1/2"
60- ISI- No blow
60- FF- Slowly built to 9 1/2"
90- FSI- No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
340.00	MW, 40%M 60%W	2.50
2.00	CO	0.01

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Staab Oil Co.

1607 Hopewell Rd.
Hays, KS 67601

ATTN: Janel Staab

10-8S-18W Rooks,KS

Maddy Echart #1

Job Ticket: 55399 **DST#: 2**

Test Start: 2017.10.19 @ 21:40:56

GENERAL INFORMATION:

Formation: **LKC "H-L"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:45:17
Time Test Ended: 05:37:17

Test Type: Conventional Bottom Hole (Reset)
Tester: Brannan Lonsdale
Unit No: 73

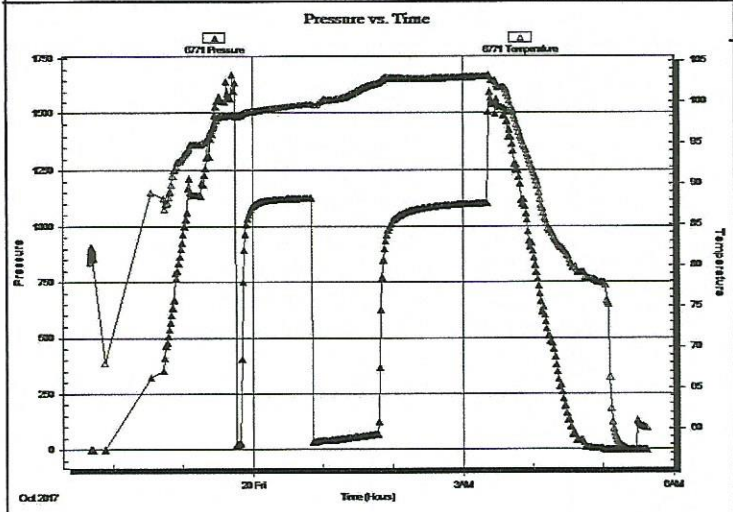
Interval: 3182.00 ft (KB) To 3268.00 ft (KB) (TVD)
Total Depth: 3268.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1877.00 ft (KB)
1872.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6771 **Inside**

Press@RunDepth:	psig @	3183.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2017.10.19	End Date:	2017.10.20	Last Calib.:	2017.10.20
Start Time:	21:41:01	End Time:	05:37:21	Time On Btm:	
				Time Off Btm:	

TEST COMMENT:
05- IF- Built to 1 1/2"
60- ISI- No blow
60- FF- Slowly built to 3 1/2"
90- FSI- No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
93.00	WMw / few oil spots, 20%W 80%M	0.68

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Staab Oil Co.

1607 Hopewell Rd.
Hays, KS 67601

ATTN: Janel Staab

10-8S-18W Rooks,KS

Maddy Echart #1

Job Ticket: 55399 **DST#: 2**

Test Start: 2017.10.19 @ 21:40:56

GENERAL INFORMATION:

Formation: **LKC "H-L"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:45:17
Time Test Ended: 05:37:17

Test Type: Conventional Bottom Hole (Reset)
Tester: Brannan Lonsdale
Unit No: 73

Interval: 3182.00 ft (KB) To 3268.00 ft (KB) (TVD)
Total Depth: 3268.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

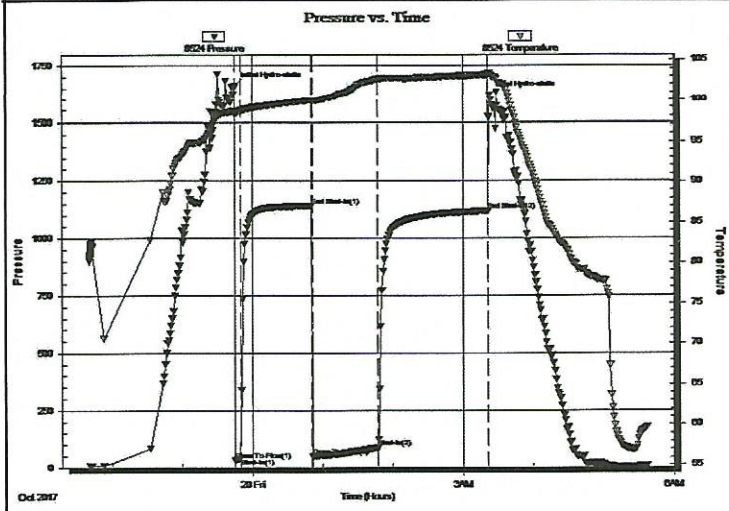
Reference Elevations: 1877.00 ft (KB)
1872.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8524 **Outside**

Press@RunDepth: 86.42 psig @ 3183.00 ft (KB)
Start Date: 2017.10.19 End Date: 2017.10.20
Start Time: 21:40:57 End Time: 05:37:17

Capacity: 8000.00 psig
Last Calib.: 2017.10.20
Time On Btm: 2017.10.19 @ 23:45:02
Time Off Btm: 2017.10.20 @ 03:22:47

TEST COMMENT:
05- IF- Built to 1 1/2"
60- ISI- No blow
60- FF- Slowly built to 3 1/2"
90- FSI- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1661.81	98.52	Initial Hydro-static
1	31.94	98.18	Open To Flow (1)
5	42.27	98.57	Shut-In(1)
66	1140.27	99.90	End Shut-In(1)
67	48.48	99.73	Open To Flow (2)
123	86.42	102.63	Shut-In(2)
217	1118.85	103.19	End Shut-In(2)
218	1618.72	103.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
93.00	WM w / few oil spots, 20%W 80%M	0.68

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Staab Oil Co.

1607 Hopewell Rd.
Hays, KS 67601

ATTN: Janel Staab

10-8S-18W Rooks,KS

Maddy Echart #1

Job Ticket: 55400 **DST#: 3**

Test Start: 2017.10.21 @ 03:27:35

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:34:41
Time Test Ended: 15:33:40

Test Type: Conventional Straddle (Reset)
Tester: Brannan Lonsdale
Unit No: 73

Interval: 3305.00 ft (KB) To 3340.00 ft (KB) (TVD)
Total Depth: 3389.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

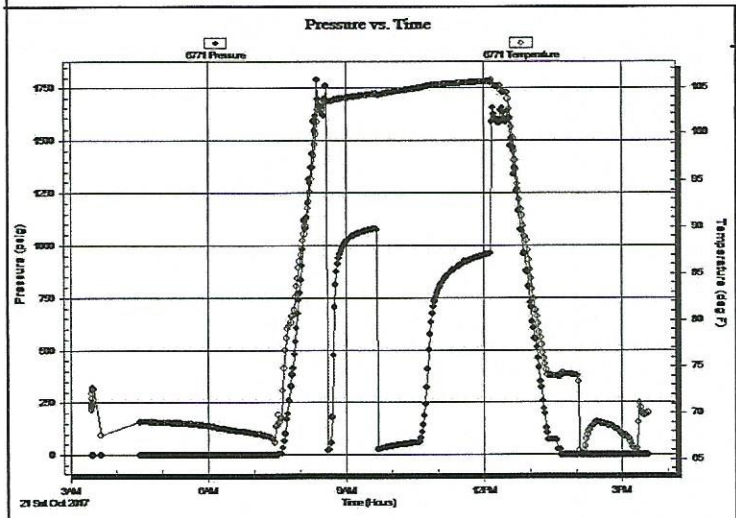
Reference Elevations: 1877.00 ft (KB)
1872.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6771 **Inside**

Press@RunDepth: psig @ 3306.00 ft (KB)
Start Date: 2017.10.21 End Date: 2017.10.21
Start Time: 03:27:39 End Time: 15:33:43

Capacity: 8000.00 psig
Last Calib.: 2017.10.21
Time On Btm:
Time Off Btm:

TEST COMMENT: h 05- IF- Built to 2"
60- ISI- No blow
60- FF- BOB 52 mins
90- FSI- Very weak surface blow died in 45 mins



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM, 20%O 80%M	0.44
65.00	CGO, 25%G 75%O	0.48

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Staab Oil Co.
1607 Hopewell Rd.
Hays, KS 67601

ATTN: Janel Staab

10-8S-18W Rooks,KS

Maddy Echart #1

Job Ticket: 55400 **DST#: 3**

Test Start: 2017.10.21 @ 03:27:35

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:34:41
Time Test Ended: 15:33:40

Test Type: Conventional Straddle (Reset)
Tester: Brannan Lonsdale
Unit No: 73

Interval: 3305.00 ft (KB) To 3340.00 ft (KB) (TVD)
Total Depth: 3389.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

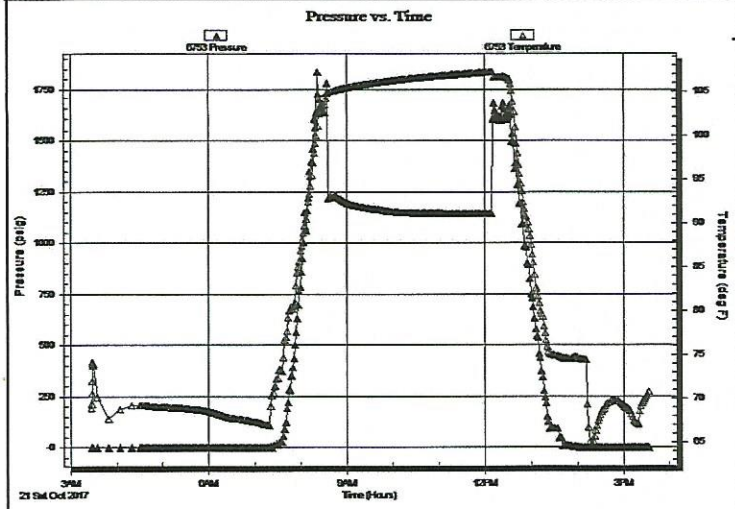
Reference Elevations: 1877.00 ft (KB)
1872.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6753 **Below (Straddle)**

Press@RunDepth: psig @ 3342.00 ft (KB)
Start Date: 2017.10.21 End Date: 2017.10.21
Start Time: 03:27:31 End Time: 15:33:26

Capacity: 8000.00 psig
Last Calib.: 2017.10.21
Time On Btm:
Time Off Btm:

TEST COMMENT: h 05- IF- Built to 2"
60- ISI- No blow
60- FF- BOB 52 mins
90- FSI- Very weak surface blow died in 45 mins



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM, 20%O 80%M	0.44
65.00	CGO, 25%G 75%O	0.48

* Recovery from multiple tests

Gas Rates

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