



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc.**

562 W State Rd 4
Olmitz KS 67564+8561

ATTN: Vern Schrag

Kalo Unit #1-29

29-18s-28w Lane,KS

Start Date: 2014.06.22 @ 08:25:00

End Date: 2014.06.22 @ 21:08:47

Job Ticket #: 56653 DST #: 1

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

Printed: 2014.06.27 @ 09:52:27



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc.

29-18s-28w Lane, KS

562 W State Rd 4
Olmitz KS 67564+8561

Kalo Unit #1-29

Job Ticket: 56653

DST#: 1

ATTN: Vern Schrag

Test Start: 2014.06.22 @ 08:25:00

GENERAL INFORMATION:

Formation: **LKC K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:24:17

Time Test Ended: 21:08:47

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Harris

Unit No: 72

Interval: 4266.00 ft (KB) To 4288.00 ft (KB) (TVD)

Reference Elevations: 2760.00 ft (KB)

Total Depth: 4280.00 ft (KB) (TVD)

2753.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 7.00 ft

Serial #: 8674 Inside

Press@RunDepth: 20.44 psig @ 4267.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.22

End Date:

2014.06.22

Last Calib.: 2014.06.22

Start Time: 16:17:29

End Time:

21:08:47

Time On Btm: 2014.06.22 @ 18:24:03

Time Off Btm: 2014.06.22 @ 19:28:17

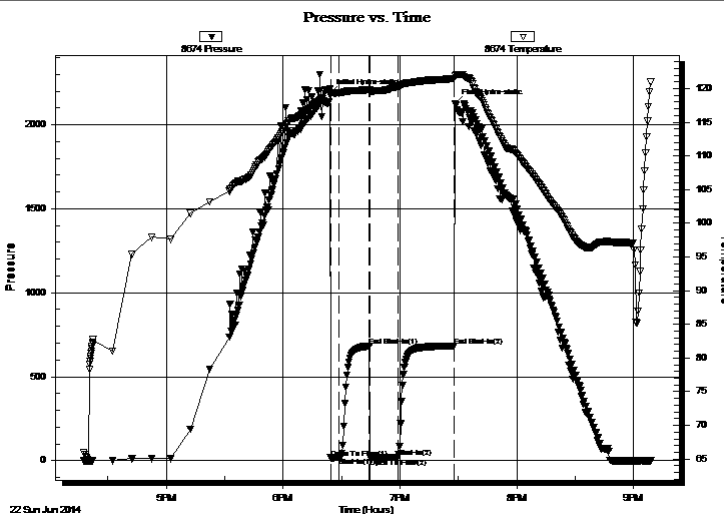
TEST COMMENT: 5: Weak Surface Blow .

15: No Return.

15: No Blow .

30: No Return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2185.71	119.93	Initial Hydro-static
1	16.34	119.18	Open To Flow (1)
5	18.22	119.37	Shut-In(1)
21	682.24	119.85	End Shut-In(1)
21	17.11	119.34	Open To Flow (2)
35	20.44	120.26	Shut-In(2)
64	683.40	121.48	End Shut-In(2)
65	2125.53	121.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud	0.01

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc.

29-18s-28w Lane, KS

562 W State Rd 4
Olmitz KS 67564+8561

Kalo Unit #1-29

Job Ticket: 56653

DST#: 1

ATTN: Vern Schrag

Test Start: 2014.06.22 @ 08:25:00

Tool Information

Drill Pipe:	Length:	4139.00 ft	Diameter:	3.80 inches	Volume:	58.06 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	inches	Volume:	0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length:	124.00 ft	Diameter:	2.25 inches	Volume:	0.61 bbl	Weight to Pull Loose:	70000.00 lb
					Total Volume:	58.67 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		24.00 ft					String Weight: Initial	60000.00 lb
Depth to Top Packer:		4266.00 ft					Final	61000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		14.00 ft						
Tool Length:		41.00 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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Change Over Sub	1.00			4240.00	
Shut In Tool	5.00			4245.00	
Hydraulic tool	5.00			4250.00	
Jars	5.00			4255.00	
Safety Joint	2.00			4257.00	
Packer	5.00			4262.00	27.00 Bottom Of Top Packer
Packer	4.00			4266.00	
Stubb	1.00			4267.00	
Recorder	0.00	8355	Outside	4267.00	
Recorder	0.00	8674	Inside	4267.00	
Perforations	8.00			4275.00	
Bullnose	5.00			4280.00	14.00 Bottom Packers & Anchor

Total Tool Length: 41.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc.

29-18s-28w Lane, KS

562 W State Rd 4
Olmitz KS 67564+8561

Kalo Unit #1-29

Job Ticket: 56653

DST#: 1

ATTN: Vern Schrag

Test Start: 2014.06.22 @ 08:25:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 7.97 in³

Resistivity: ohm.m

Salinity: 2200.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud	0.010

Total Length: 2.00 ft

Total Volume: 0.010 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8674

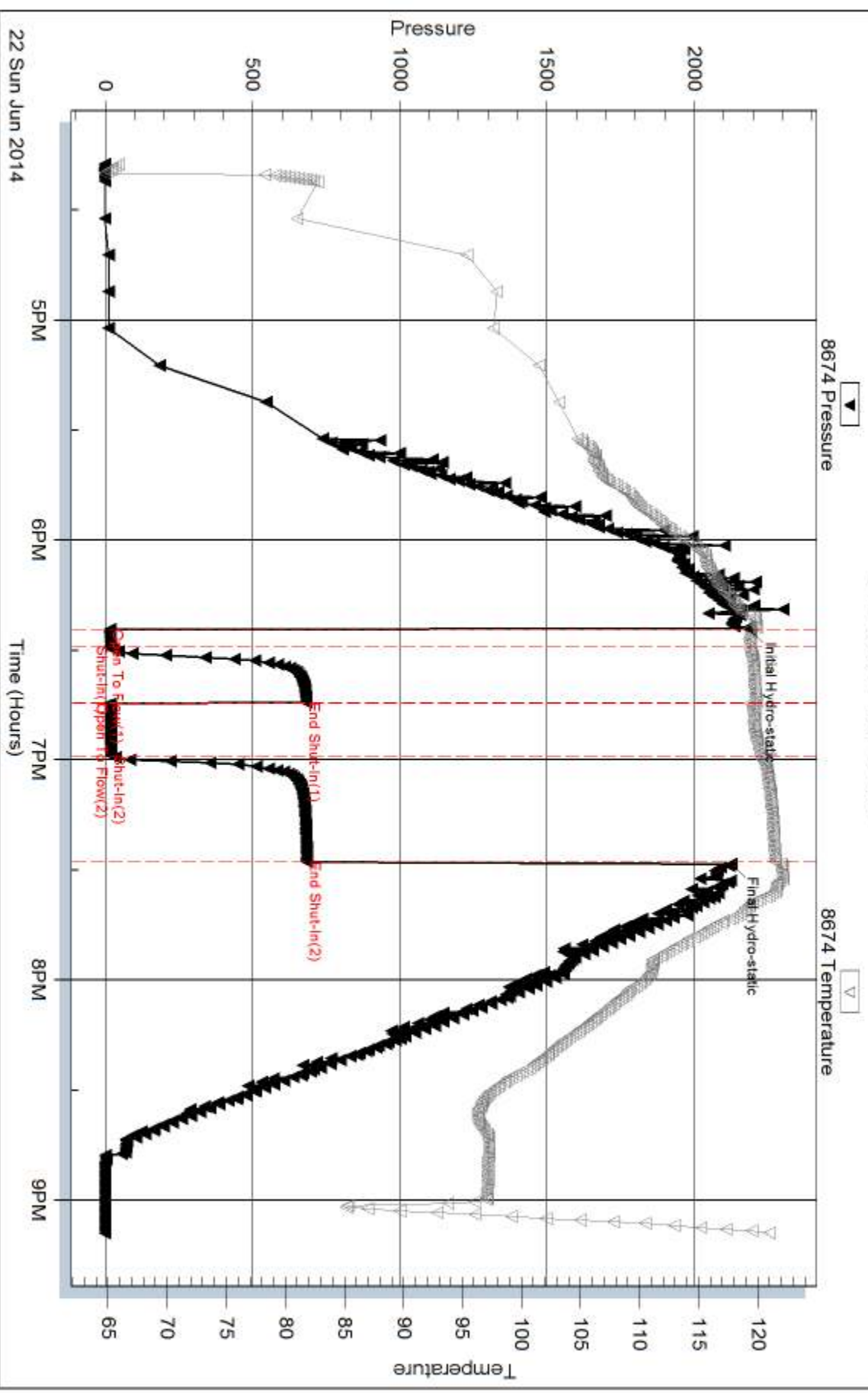
Inside

Larson Engineering, Inc.

Kalo Unit #1-29

DST Test Number: 1

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc.**

562 W State Rd 4
Olmitz KS 67564+8561

ATTN: Vern Schrag

Kalo Unit #1-29

29-18s-28w Lane,KS

Start Date: 2014.06.23 @ 21:13:00

End Date: 2014.06.24 @ 01:56:00

Job Ticket #: 56654 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.27 @ 09:52:05



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc.

562 W State Rd 4
Olmitz KS 67564+8561

ATTN: Vern Schrag

29-18s-28w Lane, KS

Kalo Unit #1-29

Job Ticket: 56654

DST#: 2

Test Start: 2014.06.23 @ 21:13:00

GENERAL INFORMATION:

Formation: **LKC L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:15:30

Time Test Ended: 01:56:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Justin Harris

Unit No: 72

Interval: 4299.00 ft (KB) To 4323.00 ft (KB) (TVD)

Reference Elevations: 2760.00 ft (KB)

Total Depth: 4323.00 ft (KB) (TVD)

2753.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8674 Inside

Press@RunDepth: 18.94 psig @ 4300.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.23

End Date:

2014.06.23

Last Calib.:

2014.06.23

Start Time: 09:13:05

End Time:

13:55:59

Time On Btm:

2014.06.23 @ 11:15:15

Time Off Btm:

2014.06.23 @ 12:22:15

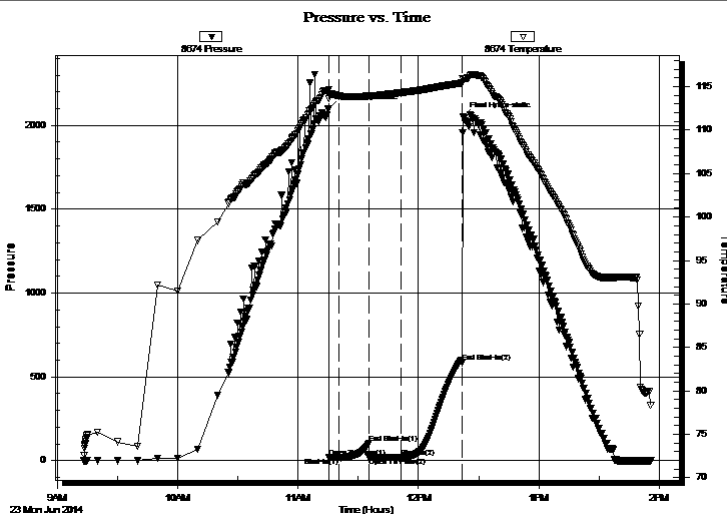
TEST COMMENT: 5: Weak Surface Blow .

15: No Return.

15: No Blow .

30: No Return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2100.41	114.63	Initial Hydro-static
1	18.72	113.60	Open To Flow (1)
6	19.32	113.91	Shut-In(1)
20	102.50	113.93	End Shut-In(1)
21	18.72	113.89	Open To Flow (2)
36	18.94	114.30	Shut-In(2)
67	585.26	115.40	End Shut-In(2)
67	2053.91	115.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud	0.01

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc.

562 W State Rd 4
Olmitz KS 67564+8561

ATTN: Vern Schrag

29-18s-28w Lane, KS

Kalo Unit #1-29

Job Ticket: 56654

DST#: 2

Test Start: 2014.06.23 @ 21:13:00

GENERAL INFORMATION:

Formation: **LKC L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:15:30

Time Test Ended: 01:56:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Justin Harris

Unit No: 72

Interval: 4299.00 ft (KB) To 4323.00 ft (KB) (TVD)

Total Depth: 4323.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2760.00 ft (KB)

2753.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8355 Outside

Press@RunDepth: psig @ 4300.00 ft (KB)

Start Date: 2014.06.23

End Date:

2014.06.23

Start Time: 09:14:40

End Time:

13:57:15

Capacity: 8000.00 psig

Last Calib.: 2014.06.23

Time On Btm:

Time Off Btm:

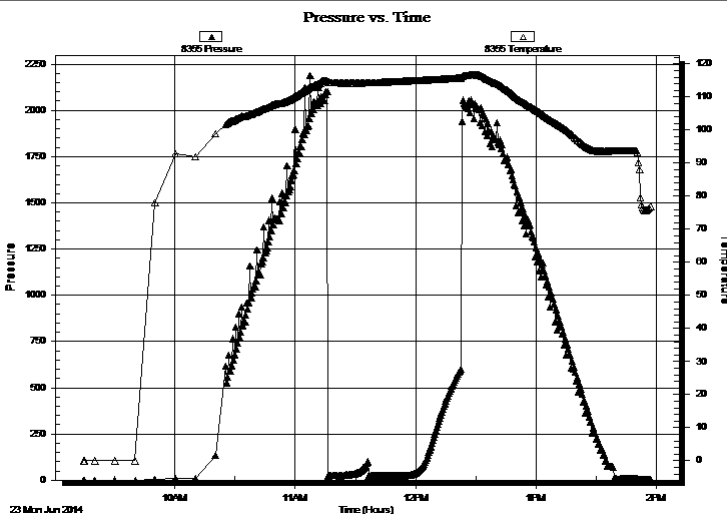
TEST COMMENT: 5: Weak Surface Blow .

15: No Return.

15: No Blow .

30: No Return.

PRESSURE SUMMARY



Time
(Min.)

Pressure
(psig)

Temp
(deg F)

Annotation

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud	0.01

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc.

29-18s-28w Lane, KS

562 W State Rd 4
Olmitz KS 67564+8561

Kalo Unit #1-29

Job Ticket: 56654

DST#: 2

ATTN: Vern Schrag

Test Start: 2014.06.23 @ 21:13:00

Tool Information

Drill Pipe:	Length:	4171.00 ft	Diameter:	3.80 inches	Volume:	58.51 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	inches	Volume:	0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length:	124.00 ft	Diameter:	2.25 inches	Volume:	0.61 bbl	Weight to Pull Loose:	70000.00 lb
					Total Volume:	59.12 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		23.00 ft					String Weight: Initial	62000.00 lb
Depth to Top Packer:		4299.00 ft					Final	62000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		24.00 ft						
Tool Length:		51.00 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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Change Over Sub	1.00			4273.00	
Shut In Tool	5.00			4278.00	
Hydraulic tool	5.00			4283.00	
Jars	5.00			4288.00	
Safety Joint	2.00			4290.00	
Packer	5.00			4295.00	27.00 Bottom Of Top Packer
Packer	4.00			4299.00	
Stubb	1.00			4300.00	
Recorder	0.00	8355	Outside	4300.00	
Recorder	0.00	8674	Inside	4300.00	
Perforations	18.00			4318.00	
Bullnose	5.00			4323.00	24.00 Bottom Packers & Anchor

Total Tool Length: 51.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc.

29-18s-28w Lane, KS

562 W State Rd 4
Olmitz KS 67564+8561

Kalo Unit #1-29

Job Ticket: 56654

DST#: 2

ATTN: Vern Schrag

Test Start: 2014.06.23 @ 21:13:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 65.00 sec/qt

Water Loss: 7.78 in³

Resistivity: ohm.m

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

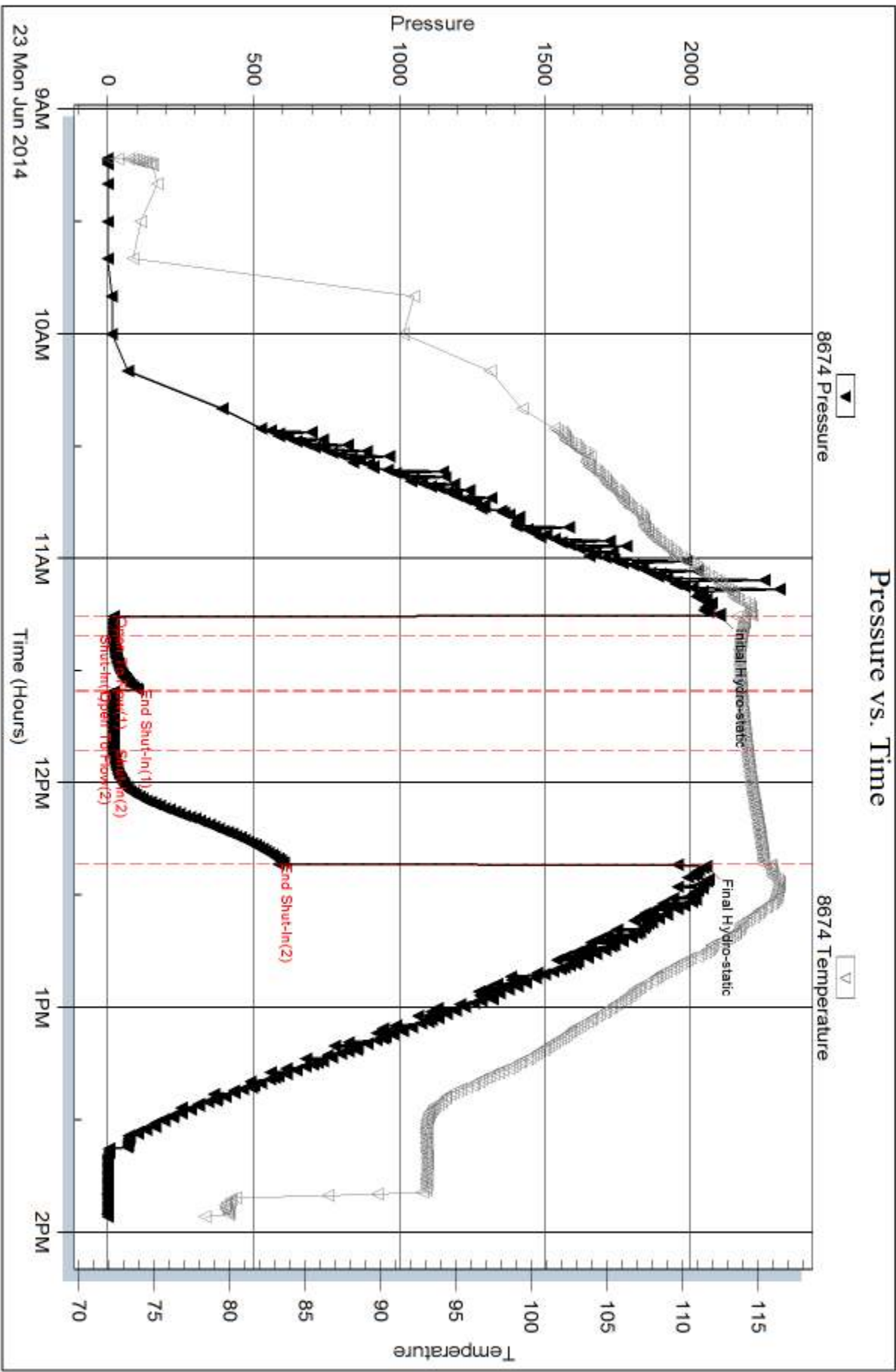
Serial #: 8674

Inside

Larson Engineering, Inc.

Kalo Unit #1-29

DST Test Number: 2

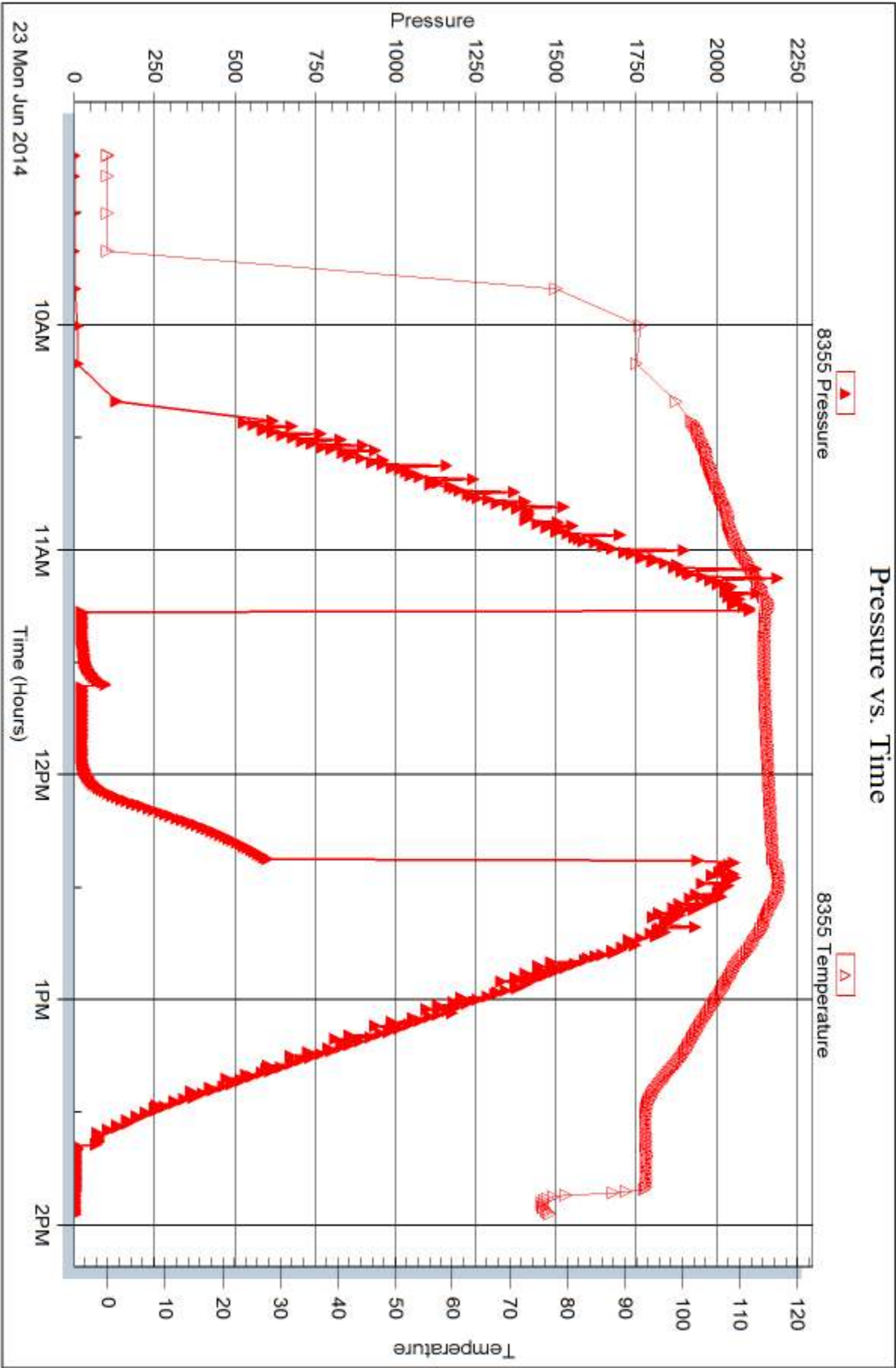


Serial #: 8355

Outside Larson Engineering, Inc.

Kalo Unit #1-29

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc.**

562 W State Rd 4
Olmitz KS 67564+8561

ATTN: Vern Schrag

Kalo Unit #1-29

29-18s-28w Lane,KS

Start Date: 2014.06.24 @ 08:58:00

End Date: 2014.06.24 @ 15:41:45

Job Ticket #: 56655 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.27 @ 09:51:28



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc.

29-18s-28w Lane, KS

562 W State Rd 4
Olmitz KS 67564+8561

Kalo Unit #1-29

Job Ticket: 56655

DST#: 3

ATTN: Vern Schrag

Test Start: 2014.06.24 @ 08:58:00

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:33:30

Time Test Ended: 15:41:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Justin Harris

Unit No: 72

Interval: 4370.00 ft (KB) To 4475.00 ft (KB) (TVD)

Reference Elevations: 2760.00 ft (KB)

Total Depth: 4475.00 ft (KB) (TVD)

2753.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 7.00 ft

Serial #: 8674 Inside

Press@RunDepth: 24.72 psig @ 4371.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.24

End Date:

2014.06.24

Last Calib.: 2014.06.24

Start Time: 08:58:05

End Time:

15:41:44

Time On Btm: 2014.06.24 @ 12:33:15

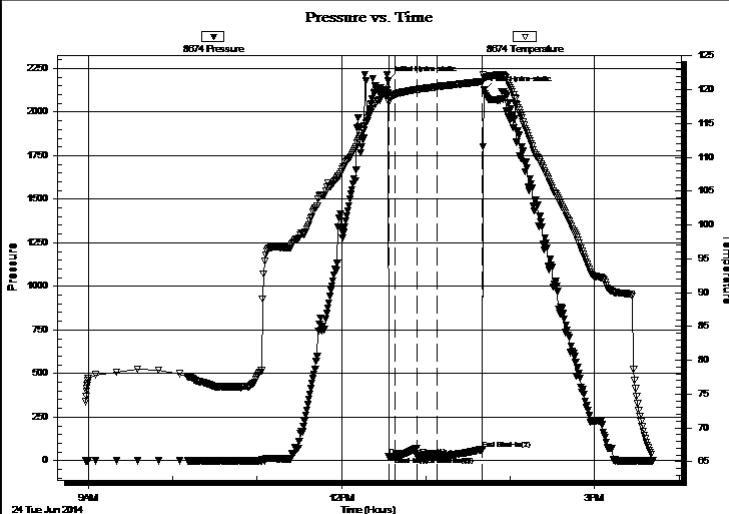
Time Off Btm: 2014.06.24 @ 13:41:15

TEST COMMENT: 5: Weak surface blow .

15: No Return.

15: No Blow .

30: No Return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2180.64	119.43	Initial Hydro-static
1	22.74	118.14	Open To Flow (1)
5	23.47	119.25	Shut-In(1)
21	73.79	120.04	End Shut-In(1)
21	22.53	120.00	Open To Flow (2)
35	24.72	120.43	Shut-In(2)
67	64.87	121.20	End Shut-In(2)
68	2124.99	121.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud	0.02

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc.

29-18s-28w Lane, KS

562 W State Rd 4
Olmitz KS 67564+8561

Kalo Unit #1-29

Job Ticket: 56655

DST#: 3

ATTN: Vern Schrag

Test Start: 2014.06.24 @ 08:58:00

Tool Information

Drill Pipe:	Length:	4233.00 ft	Diameter:	3.80 inches	Volume:	59.38 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	inches	Volume:	0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length:	124.00 ft	Diameter:	2.25 inches	Volume:	0.61 bbl	Weight to Pull Loose:	70000.00 lb
					Total Volume:	59.99 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		14.00 ft					String Weight: Initial	65000.00 lb
Depth to Top Packer:		4370.00 ft					Final	65000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		105.00 ft						
Tool Length:		132.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				
Tool Comments:								

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4344.00	
Shut In Tool	5.00			4349.00	
Hydraulic tool	5.00			4354.00	
Jars	5.00			4359.00	
Safety Joint	2.00			4361.00	
Packer	5.00			4366.00	27.00 Bottom Of Top Packer
Packer	4.00			4370.00	
Stubb	1.00			4371.00	
Recorder	0.00	8355	Outside	4371.00	
Recorder	0.00	8674	Inside	4371.00	
Perforations	3.00			4374.00	
Change Over Sub	1.00			4375.00	
Drill Pipe	94.00			4469.00	
Change Over Sub	1.00			4470.00	
Bullnose	5.00			4475.00	105.00 Bottom Packers & Anchor

Total Tool Length: 132.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc.

29-18s-28w Lane, KS

562 W State Rd 4
Olmitz KS 67564+8561

Kalo Unit #1-29

Job Ticket: 56655

DST#: 3

ATTN: Vern Schrag

Test Start: 2014.06.24 @ 08:58:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 60.00 sec/qt

Water Loss: 7.59 in³

Resistivity: ohm.m

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud	0.025

Total Length: 5.00 ft

Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8674

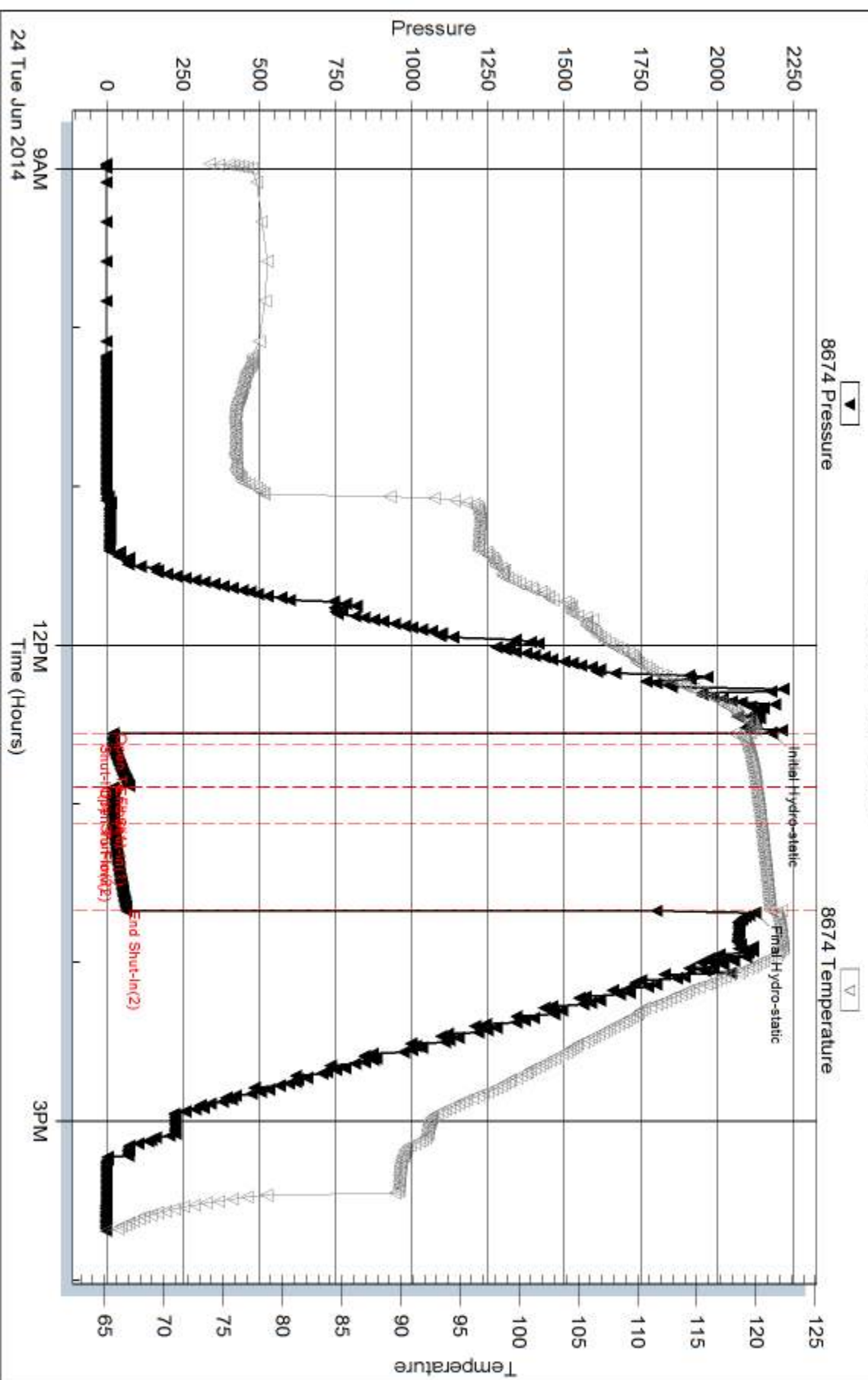
Inside

Larson Engineering, Inc.

Kalo Unit #1-29

DST Test Number: 3

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc.**

562 W State Rd 4
Olmitz KS 67564+8561

ATTN: Vern Schrag

Kalo Unit #1-29

29-18s-28w Lane,KS

Start Date: 2014.06.25 @ 09:24:00

End Date: 2014.06.25 @ 14:27:24

Job Ticket #: 57223 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.27 @ 09:50:49



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc.

562 W State Rd 4
Olmitz KS 67564+8561

ATTN: Vern Schrag

29-18s-28w Lane, KS

Kalo Unit #1-29

Job Ticket: 57223

DST#: 4

Test Start: 2014.06.25 @ 09:24:00

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:26:10

Time Test Ended: 14:27:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 72

Interval: 4476.00 ft (KB) To 4590.00 ft (KB) (TVD)

Total Depth: 4590.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2760.00 ft (KB)

2753.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8674 Inside

Press@RunDepth: 26.08 psig @ 4480.00 ft (KB)

Start Date: 2014.06.25

End Date:

2014.06.25

Start Time: 09:24:00

End Time:

14:27:24

Capacity: 8000.00 psig

Last Calib.: 2014.06.25

Time On Btm: 2014.06.25 @ 11:25:55

Time Off Btm: 2014.06.25 @ 12:33:25

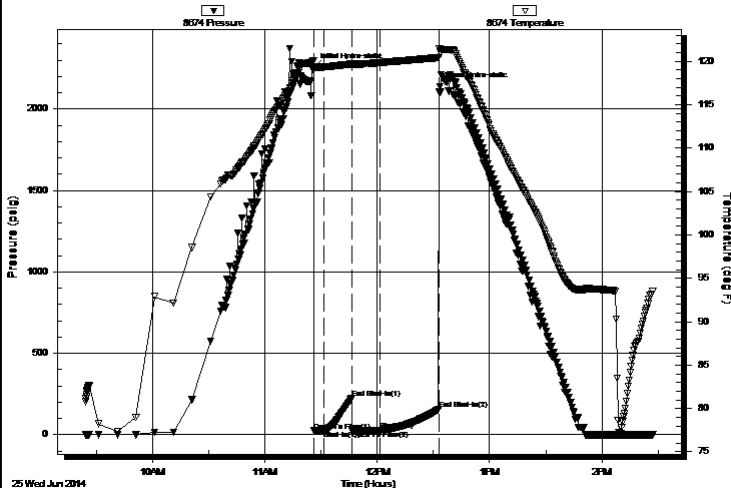
TEST COMMENT: IF- Weak Surface Blow Built to 1/2"

IS- No Blow

FF- No Blow

FS- No Blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2252.07	120.05	Initial Hydro-static
1	23.27	119.21	Open To Flow (1)
6	24.11	119.34	Shut-In(1)
21	223.91	119.68	End Shut-In(1)
21	24.86	119.53	Open To Flow (2)
36	26.08	119.86	Shut-In(2)
67	156.71	120.45	End Shut-In(2)
68	2138.00	121.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% m w ith a Few Oil Spots	0.02

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc.

562 W State Rd 4
Olmitz KS 67564+8561

ATTN: Vern Schrag

29-18s-28w Lane, KS

Kalo Unit #1-29

Job Ticket: 57223

DST#: 4

Test Start: 2014.06.25 @ 09:24:00

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:26:10

Time Test Ended: 14:27:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 72

Interval: 4476.00 ft (KB) To 4590.00 ft (KB) (TVD)

Total Depth: 4590.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2760.00 ft (KB)

2753.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8355 Outside

Press@RunDepth: psig @ 4480.00 ft (KB)

Start Date: 2014.06.25

End Date:

2014.06.25

Start Time: 09:24:05

End Time:

14:28:29

Capacity: 8000.00 psig

Last Calib.: 2014.06.25

Time On Btm:

Time Off Btm:

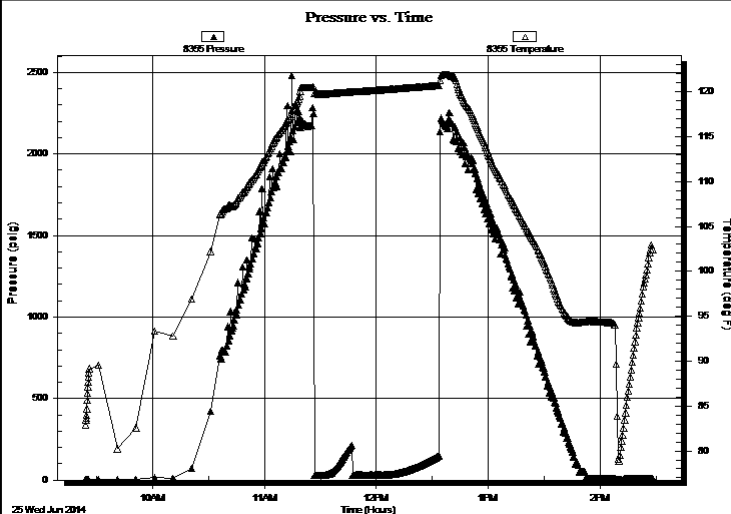
TEST COMMENT: IF- Weak Surface Blow Built to 1/2"

IS- No Blow

FF- No Blow

FS- No Blow

PRESSURE SUMMARY



Time
(Min.)

Pressure
(psig)

Temp
(deg F)

Annotation

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% m w ith a Few Oil Spots	0.02

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc.

29-18s-28w Lane, KS

562 W State Rd 4
Olmitz KS 67564+8561

Kalo Unit #1-29

Job Ticket: 57223

DST#: 4

ATTN: Vern Schrag

Test Start: 2014.06.25 @ 09:24:00

Tool Information

Drill Pipe:	Length:	4333.00 ft	Diameter:	3.80 inches	Volume:	60.78 bbl	Tool Weight:	2500.00 lb		
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	28000.00 lb		
Drill Collar:	Length:	124.00 ft	Diameter:	2.25 inches	Volume:	0.61 bbl	Weight to Pull Loose:	12000.00 lb		
					Total Volume:	61.39 bbl	Tool Chased	ft		
Drill Pipe Above KB:	8.00 ft							String Weight: Initial	64000.00 lb	
Depth to Top Packer:	4476.00 ft							Final	64000.00 lb	
Depth to Bottom Packer:	ft									
Interval between Packers:	114.00 ft									
Tool Length:	141.00 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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Change Over Sub	1.00		4450.00	
Shut In Tool	5.00		4455.00	
Hydraulic tool	5.00		4460.00	
Jars	5.00		4465.00	
Safety Joint	2.00		4467.00	
Packer	5.00		4472.00	27.00 Bottom Of Top Packer
Packer	4.00		4476.00	
Stubb	1.00		4477.00	
Perforations	3.00		4480.00	
Recorder	0.00	8355 Outside	4480.00	
Recorder	0.00	8674 Inside	4480.00	
Perforations	9.00		4489.00	
Change Over Sub	1.00		4490.00	
Drill Pipe	94.00		4584.00	
Change Over Sub	1.00		4585.00	
Bullnose	5.00		4590.00	114.00 Bottom Packers & Anchor
Total Tool Length:	141.00			



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc.

29-18s-28w Lane, KS

562 W State Rd 4
Olmitz KS 67564+8561

Kalo Unit #1-29

Job Ticket: 57223

DST#: 4

ATTN: Vern Schrag

Test Start: 2014.06.25 @ 09:24:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 60.00 sec/qt

Water Loss: 7.59 in³

Resistivity: ohm.m

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	100% m with a Few Oil Spots	0.025

Total Length: 5.00 ft

Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8674

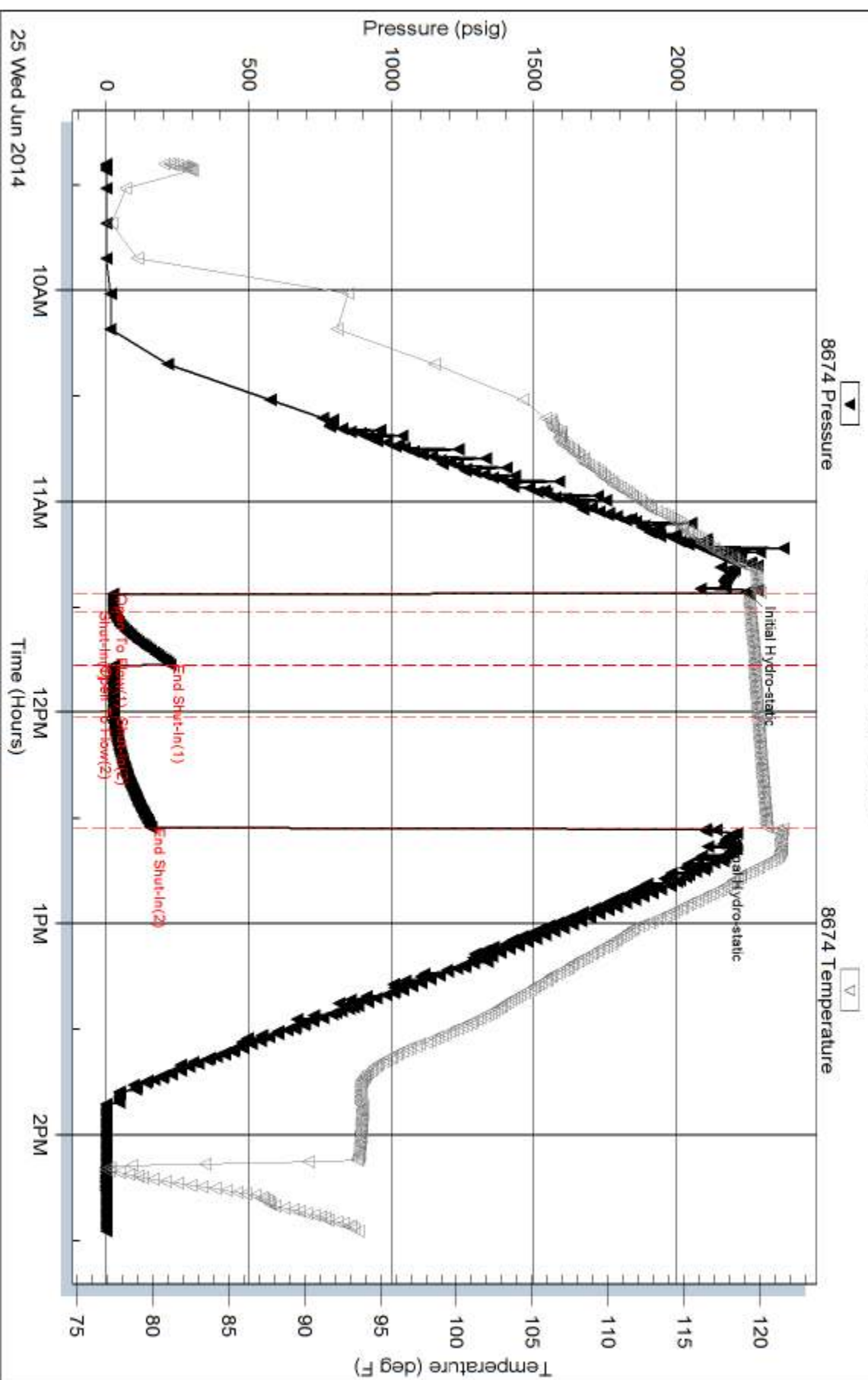
Inside

Larson Engineering, Inc.

Kalo Unit #1-29

DST Test Number: 4

Pressure vs. Time

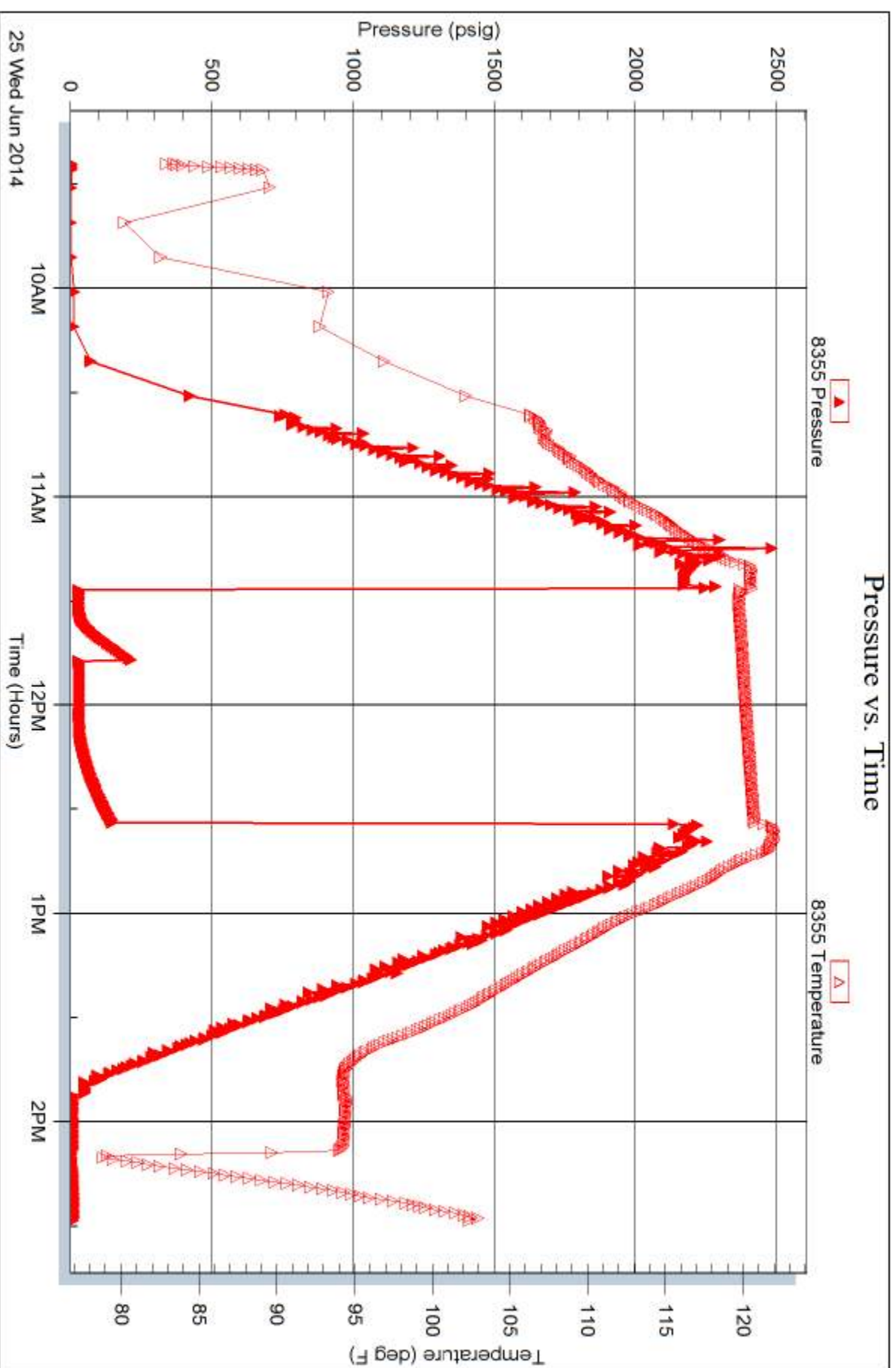


Serial #: 8355

Outside Larson Engineering, Inc.

Kalo Unit #1-29

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **56653**

Well Name & No. Karlo Unit # 1-29 Test No. 1 Date 6/22/14
 Company Larson Engineering, Inc. Elevation 2760 KB 2755 GL
 Address 562 W State RD4 Olmitz KS; 67564 + 8561
 Co. Rep / Geo. Vern Selrag Rig H. D. #3
 Location: Sec. NE/NW 29 Twp. 18S Rge. 28W Co. Jane State KS

Interval Tested 4266 4280 Zone Tested Facing K
 Anchor Length 14 Drill Pipe Run 4139 Mud Wt. 9.2
 Top Packer Depth 4261 Drill Collars Run 124 Vis 52
 Bottom Packer Depth 4266 Wt. Pipe Run 0 WL 8.0
 Total Depth 4280 Chlorides 2200 ppm System LCM #2

Blow Description 5 weak surface Blow
15 No Return
15 No Blow
30 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>2'</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

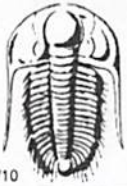
Rec Total 2 BHT 120 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>2185</u>	☒ Test <u>1250</u>	T-On Location <u>7:00</u>
(B) First Initial Flow <u>16</u>	☒ Jars <u>250</u>	T-Started <u>8:25</u>
(C) First Final Flow <u>18</u>	☒ Safety Joint <u>75</u>	T-Open <u>10:30</u>
(D) Initial Shut-In <u>682</u>	☒ Circ Sub <u>N/C</u>	T-Pulled <u>11:35</u>
(E) Second Initial Flow <u>17</u>	☐ Hourly Standby	T-Out <u>13:15</u>
(F) Second Final Flow <u>20</u>	☒ Mileage <u>56 RT</u> 86.80	Comments
(G) Final Shut-In <u>683</u>	☐ Sampler	
(H) Final Hydrostatic <u>2185</u>	☐ Straddle	

Initial Open <u>5</u>	☐ Shale Packer	☐ Ruined Shale Packer
Initial Shut-In <u>15</u>	☐ Extra Packer	☐ Ruined Packer
Final Flow <u>15</u>	☐ Extra Recorder	☐ Extra Copies
Final Shut-In <u>30</u>	☐ Day Standby	Sub Total <u>0</u>
	☐ Accessibility	Total <u>1661.80</u>
	Sub Total <u>1661.80</u>	MP/DST Disc't

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56654

Well Name & No. Karlo Unit #1-29 Test No. 2 Date 6/23/14
 Company Larson Engineering, Inc. Elevation 2760 KB 2755 GL
 Address 562 W State RD4 Omitz KS, 67564 + 8561
 Co. Rep / Geo. Vern Schrag Rig H.D. #3
 Location: Sec. NE/NW 29 Twp. 18S Rge. 28W Co. Jane State KS

Interval Tested 4299 4323 Zone Tested LKC L
 Anchor Length 24 Drill Pipe Run 4171 Mud Wt. 9.0
 Top Packer Depth 4294 Drill Collars Run 124 Vis 45
 Bottom Packer Depth 4299 Wt. Pipe Run Ø WL 6.8
 Total Depth 4323 Chlorides 2000 ppm System LCM #2

Blow Description 5: Weak surface Blow

15: No Return

15: No Blow

30: No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</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 2 BHT 116 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2100

(B) First Initial Flow 18

(C) First Final Flow 19

(D) Initial Shut-In 102

(E) Second Initial Flow 18

(F) Second Final Flow 19

(G) Final Shut-In 585

(H) Final Hydrostatic 2054

☒ Test 1250

☒ Jars 250

☒ Safety Joint 75

☒ Circ Sub N/C

☐ Hourly Standby 56 RT

☒ Mileage 86.80

☐ Sampler

☐ Straddle

☐ Shale Packer

☐ Extra Packer

☐ Extra Recorder

☐ Day Standby

☐ Accessibility

Sub Total 1661.80

T-On Location 8:15

T-Started 9:13

T-Open 11:14

T-Pulled 12:19

T-Out 13:58

Comments

☐ Ruined Shale Packer

☐ Ruined Packer

☐ Extra Copies

Sub Total 0

Total 1661.80

MP/DST Disc't

Initial Open 5

Initial Shut-In 15

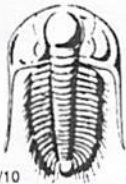
Final Flow 15

Final Shut-In 30

Approved By [Signature]

Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **56655**

4/10

Well Name & No. Kalo Unit #1-29 Test No. 3 Date 6-24-14
 Company Larson Engineering, Inc. Elevation 2760 KB 2765 GL
 Address 562 W State RD4 Chritz KS, 67564 + 8661
 Co. Rep / Geo. Vern Schrag Rig H.D. #3
 Location: Sec. 29 Twp. 18S Rge. 28W Co. lane State KS

Interval Tested 4370 4475 Zone Tested Marmaton
 Anchor Length 105 Drill Pipe Run 4233 Mud Wt. 9.2
 Top Packer Depth 4365 Drill Collars Run 128 Vis 10
 Bottom Packer Depth 4370 Wt. Pipe Run 0 WL 7.6
 Total Depth 4475 Chlorides 1,800 ppm System LCM 2

Blow Description 5 Weak surface Blow
15 NO Return
15 No Blow
30 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</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 5 BHT 121 Gravity — API RW — @ — °F Chlorides 7.7 ppm

(A) Initial Hydrostatic <u>2181</u>	☒ Test <u>1250</u>	T-On Location <u>7:45</u>
(B) First Initial Flow <u>22</u>	☒ Jars <u>250</u>	T-Started <u>8:58</u>
(C) First Final Flow <u>23</u>	☒ Safety Joint <u>75</u>	T-Open <u>12:32</u>
(D) Initial Shut-In <u>74</u>	☒ Circ Sub <u>N/C</u>	T-Pulled <u>1:37</u>
(E) Second Initial Flow <u>22</u>	☐ Hourly Standby	T-Out <u>15:30</u>
(F) Second Final Flow <u>25</u>	☒ Mileage <u>56 RT</u> 86.80	Comments
(G) Final Shut-In <u>65</u>	☐ Sampler	
(H) Final Hydrostatic <u>2125</u>	☐ Straddle	

Initial Open <u>5</u>	☒ Shale Packer <u>250</u>	☐ Ruined Shale Packer
Initial Shut-In <u>15</u>	☐ Extra Packer	☐ Ruined Packer
Final Flow <u>15</u>	☐ Extra Recorder	☐ Extra Copies
Final Shut-In <u>30</u>	☐ Day Standby	Sub Total <u>0</u>
	☐ Accessibility	Total <u>1911.80</u>
	Sub Total <u>1911.80</u>	MP/DST Disc't

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57223

Well Name & No. Kalo Unit A1-29 Test No. DST #4 Date 6-25-14
 Company Larson Engineering Inc Elevation 2760 KB 2753 GL
 Address 562 W State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D 3
 Location: Sec. 29 Twp. 18S Rge. 28W Co. Lane State KS

Interval Tested 4476-4590 Zone Tested Cherokee
 Anchor Length 114 Drill Pipe Run 4333 Mud Wt. 9.2
 Top Packer Depth 4472 Drill Collars Run 124 Vis 60
 Bottom Packer Depth 4476 Wt. Pipe Run 0 WL 7.6
 Total Depth 4590 Chlorides 1800 ppm System LCM 216
 Blow Description IF- Wear Surface Blow Built to 1/2"
ISI- No Blow
FF- No Blow
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud with a few oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 121 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 2252 ☒ Test 1250 T-On Location 7:50
 (B) First Initial Flow 23 ☒ Jars 250 T-Started 9:24
 (C) First Final Flow 24 ☒ Safety Joint 75 T-Open 11:26
 (D) Initial Shut-In 223 ☒ Circ Sub NIC T-Pulled 12:33
 (E) Second Initial Flow 24 ☐ Hourly Standby T-Out 14:27
 (F) Second Final Flow 26 ☒ Mileage 56 RIT 86.80 Comments _____
 (G) Final Shut-In 156 ☐ Sampler _____
 (H) Final Hydrostatic 2138 ☐ Straddle _____

☒ Shale Packer 250 ☐ Ruined Shale Packer _____
☐ Extra Packer _____ ☐ Ruined Packer _____
☐ Extra Recorder _____ ☐ Extra Copies _____
☐ Day Standby _____ Sub Total 0
☐ Accessibility _____ Total 1911.80
 Sub Total 1911.80 MP/DST Disc't _____

Approved By Vern C Schrag Our Representative Rui Mac

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