

Confidentiality Requested:

☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1227594

Form ACO-1

August 2013

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 ☐ SIOW
- ☐ Gas ☐ D&A ☐ ENHR ☐ SIGW
- ☐ OG ☐ GSW ☐ Temp. Abd.
- ☐ 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 ENHR ☐ Conv. to SWD
- ☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer
- ☐ Commingled Permit #: _____
- ☐ Dual Completion Permit #: _____
- ☐ SWD Permit #: _____
- ☐ ENHR Permit #: _____
- ☐ GSW Permit #: _____

Spud Date or
Recompletion Date

Date Reached TD

Completion Date or
Recompletion Date

API No. 15 - _____

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

☐ Geologist Report Received

☐ UIC Distribution

ALT ☐ I ☐ II ☐ III Approved by: _____ Date: _____

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

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).

Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☐ No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 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)*

DISPOSITION OF GAS: ☐ Vented ☐ Sold ☐ Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: ☐ Open Hole ☐ Perf. ☐ Dually Comp. ☐ Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> ☐ Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	Kalo Unit 1-29
Doc ID	1227594

Tops

Name	Top	Datum
Anhydrite	2139	+621
Base Anhydrite	2161	+599
Heebner Sh	3949	-1189
Lansing	3987	-1227
Stark Sh	4267	-1507
Marmaton	4378	-1618
Ft. Scott	4505	-1745
Cherokee Sh	4529	-1769
Mississippi	4589	-1829

Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	Kalo Unit 1-29
Doc ID	1227594

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	20	264	Class A	175	2% ge, 3% CC

QUALITY WELL SERVICE, INC.

6152

Federal Tax I.D. # 481187368

Home Office 324 Simpson St., Pratt, KS 67124

Office 620-727-3410

Fax 620-672-3663

Rich's Cell 620-727-3409

Brady's Cell 620-727-6964

Date <u>06-17-14</u>	Sec. <u>29</u>	Twp. <u>18s</u>	Range <u>28W</u>	County <u>Lone</u>	State <u>KS</u>	On Location <u>10:00AM</u>	Finish <u>11:00AM</u>
Lease <u>Kalo unit</u>		Well No. <u>1-27</u>		Location <u>Dighton, KS, 2E, 1S, W/into</u>			
Contractor <u>H-D</u>				Owner <u>Lanson</u>			
Type Job <u>Surface</u>				To Quality Well Service, Inc. You are hereby requested to rent cementing equipment and furnish cement and helper to assist owner or contractor to do work as listed.			
Hole Size <u>12 1/4</u>		T.D. <u>266</u>		Charge To <u>Lanson</u>			
Csg. <u>8 5/8</u>		Depth <u>266</u>		Street			
Tbg. Size		Depth		City			
Tool		Depth		State			
Cement Left in Csg. <u>20</u>		Shoe Joint <u>N/A</u>		The above was done to satisfaction and supervision of owner agent or contractor.			
Meas Line		Displace <u>15 1/2 BBLs Fresh</u>		Cement Amount Ordered <u>175sx A+3%cc+2%gd</u>			

EQUIPMENT

Pumptrk <u>8</u>	No. <u>David B</u>	Common <u>175</u>
Bulktrk <u>7</u>	No. <u>Mike B</u>	Poz. Mix
Bulktrk	No.	Gel. <u>3</u>
Pickup	No. <u>David F</u>	Calcium <u>6</u>

JOB SERVICES & REMARKS

Rat Hole	Hulls
Mouse Hole	Salt
Centralizers	Flowseal
Baskets	Kol-Seal
D/V or Port Collar	Mud CLR 48
<u>Pipe on BHM, Break Circ., Pump Spacer</u>	CFL-117 or CD110 CAF 38
<u>3 BBLs, Mix 175sx A-342 cement=</u>	Sand
<u>41.76 BBLs Slurry Spent Disp. w/ Fresh H₂O</u>	Handling <u>184</u>
<u>See Steady increase in PSE, slow rate,</u>	Mileage <u>35</u>
<u>Stop Pump at 15 1/2 BBLs total Disp.</u>	
<u>Shut in, Cement Did Cure.</u>	

THX ☺

FLOAT EQUIPMENT

	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down
	<u>LMV 35</u>
	<u>Service Supervisor</u>
	Pumptrk Charge <u>Surface</u>
	Mileage <u>35 x 2</u>
	Tax
	Discount
	Total Charge
Signature <u>Barryne Trone</u>	

QUALITY WELL SERVICE, INC.

6182

Federal Tax I.D. # 481187368

Home Office 324 Simpson St., Pratt, KS 67124

Office 620-727-3410

Fax 620-672-3663

Rich's Cell 620-727-3409

Brady's Cell 620-727-6964

Date <u>6-26-14</u>	Sec. <u>29</u>	Twp. <u>18</u>	Range <u>28</u>	County <u>Lane</u>	State <u>KS</u>	On Location <u>10:00 AM</u>	Finish <u>1:00 PM</u>
Lease <u>Kalo Unit</u>		Well No. <u>1-29</u>		Location <u>2E 1S 1/2W of Dighton</u>			
Contractor <u>HD 3</u>				Owner			
Type Job <u>Rotary Plug</u>				To Quality Well Service, Inc. You are hereby requested to rent cementing equipment and furnish cement and helper to assist owner or contractor to do work as listed.			
Hole Size		T.D.		Charge To <u>Larson</u>			
Csg.		Depth		To			
Tbg. Size		Depth		Street			
Tool		Depth		City State			
Cement Left in Csg.		Shoe Joint		The above was done to satisfaction and supervision of owner agent or contractor.			
Meas Line		Displace		Cement Amount Ordered <u>270sx 60/40 4% Gel 1/4 C.F.</u>			
EQUIPMENT							
Pumptrk <u>8</u>	No.	<u>David</u>		Common	<u>165</u>	<u>3 bbls</u>	<u>24 bbls</u>
Bulktrk <u>10</u>	No.	<u>Mike</u>		Poz. Mix	<u>105</u>	<u>14</u>	
Bulktrk	No.			Gel.	<u>9</u>	<u>6</u>	
Pickup	No.			Calcium			
JOB SERVICES & REMARKS				Hulls <u>1</u>			
Rat Hole <u>30sx</u>				Salt			
Mouse Hole				Flowseal <u>67.50</u>			
Centralizers				Kol-Seal			
Baskets				Mud CLR 48			
D/V or Port Collar				CFL-117 or CD110 CAF 38			
<u>1st Loaded hole with Mud.</u>				Sand			
				Handling <u>279</u>			
<u>2nd Pumped 8 bbls H²/o mixed 50sx</u>				Mileage <u>35</u>			
<u>60/40 4% Gel displaced with 3 bbls</u>				FLOAT EQUIPMENT			
<u>H²/o 24 bbls mud @ 2160'</u>				Guide Shoe			
				Centralizer			
<u>3rd Pumped 8 bbls H²/o mixed 80sx 60/40</u>				Baskets			
<u>4% Gel displaced with 14 bbls H²/o @ 1320'</u>				AFU Inserts			
				Float Shoe			
<u>4th Pumped 5 bbls H²/o mixed 40sx 60/40</u>				Latch Down			
<u>4% Gel displaced with 6 bbls H²/o @ 600'</u>				Service Supervisor			
				LMV <u>35</u>			
<u>5th Pumped 3 bbls H²/o mixed 50sx 60/40 4% Gel</u>				Pumptrk Charge <u>Rotary Plug</u>			
<u>displaced with 1 bbl H²/o @ 300'</u>				Mileage <u>35x2</u>			
				Tax			
<u>6th Pumped 20sx 60/40 4% Gel to surface from 60'</u>				Discount			
Signature <u>[Signature]</u>				Total Charge			



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 .

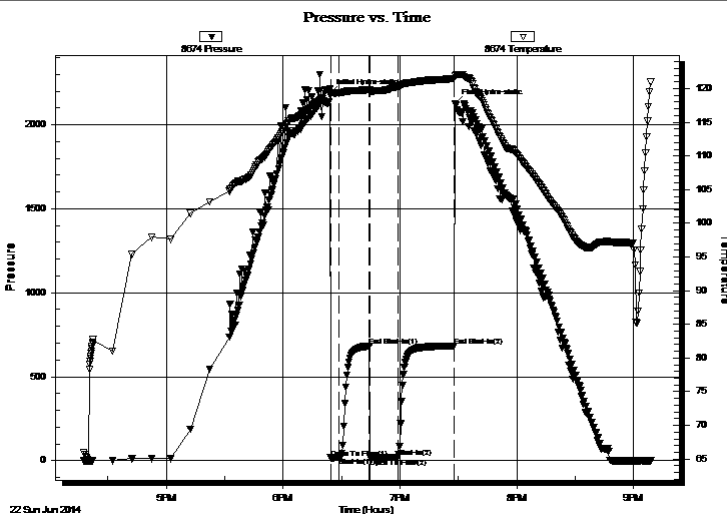
15: No Return.

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

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

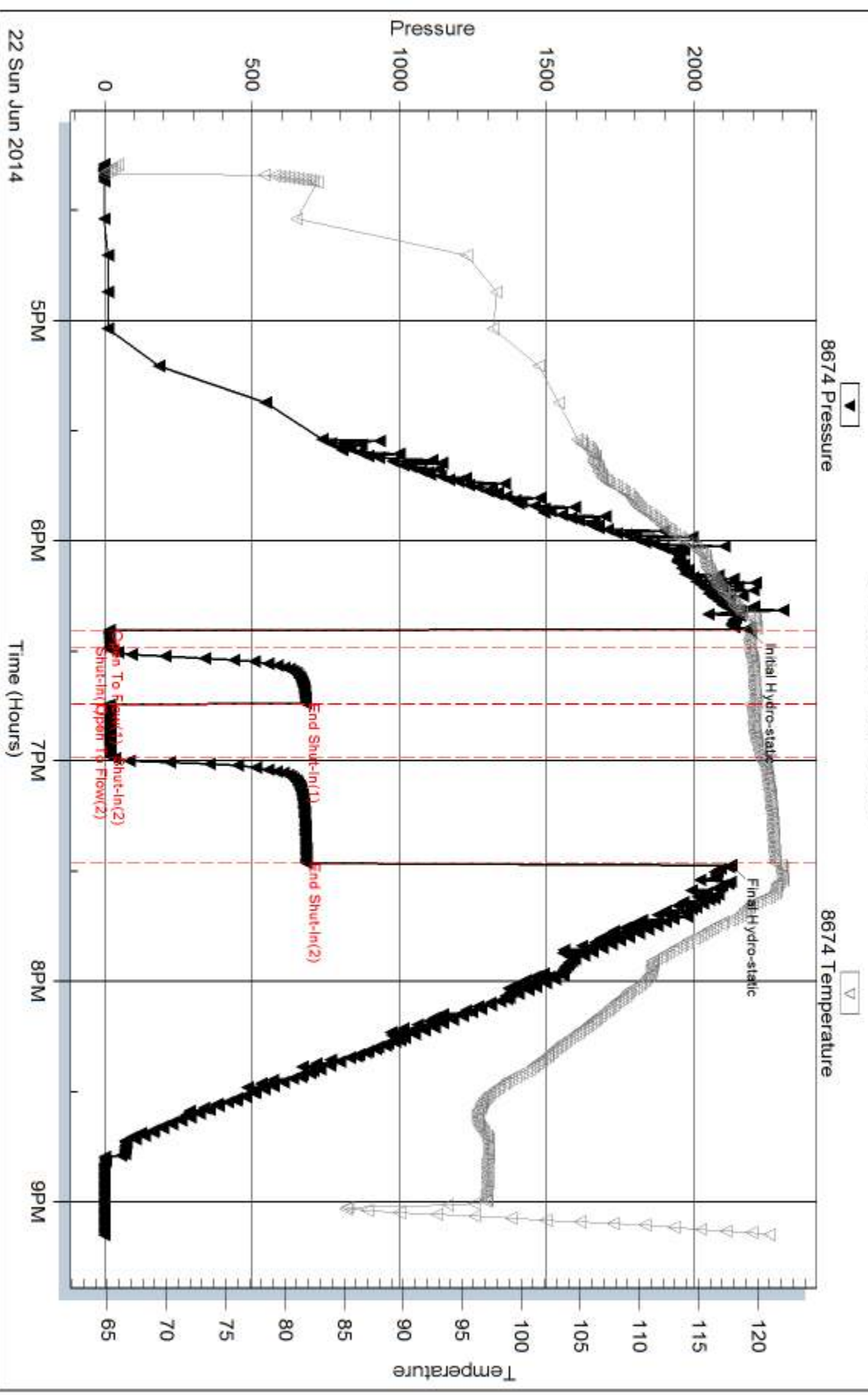
Inside

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.

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

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

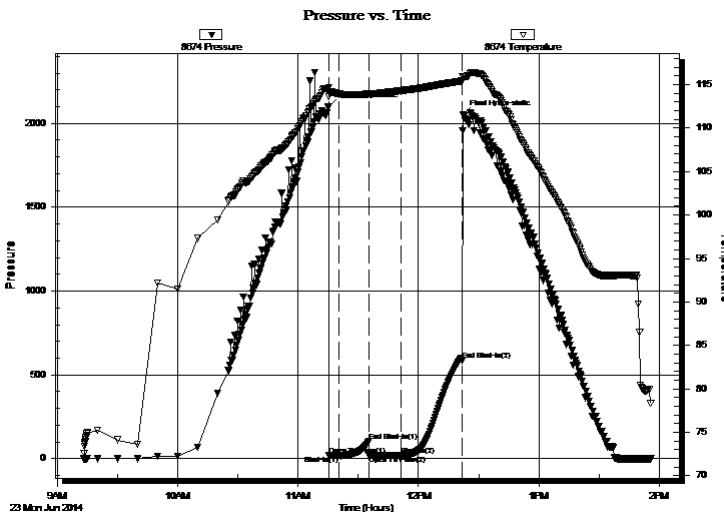
TEST COMMENT: 5: Weak Surface Blow .

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:

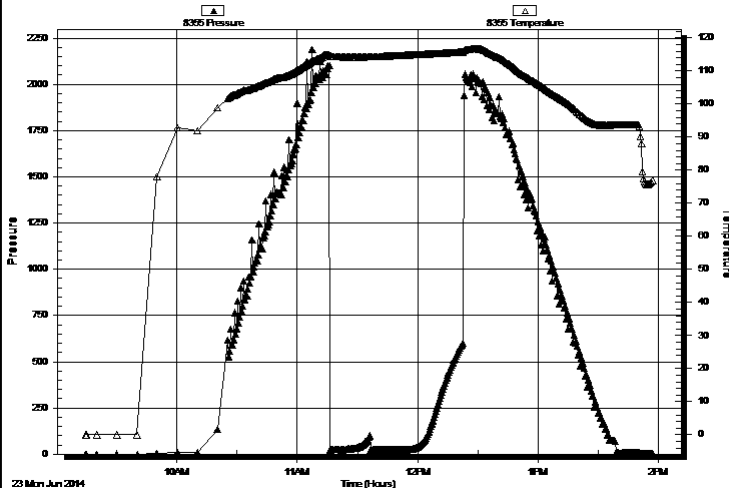
TEST COMMENT: 5: Weak Surface Blow .

15: No Return.

15: No Blow .

30: No Return.

Pressure vs. Time



PRESSURE SUMMARY

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

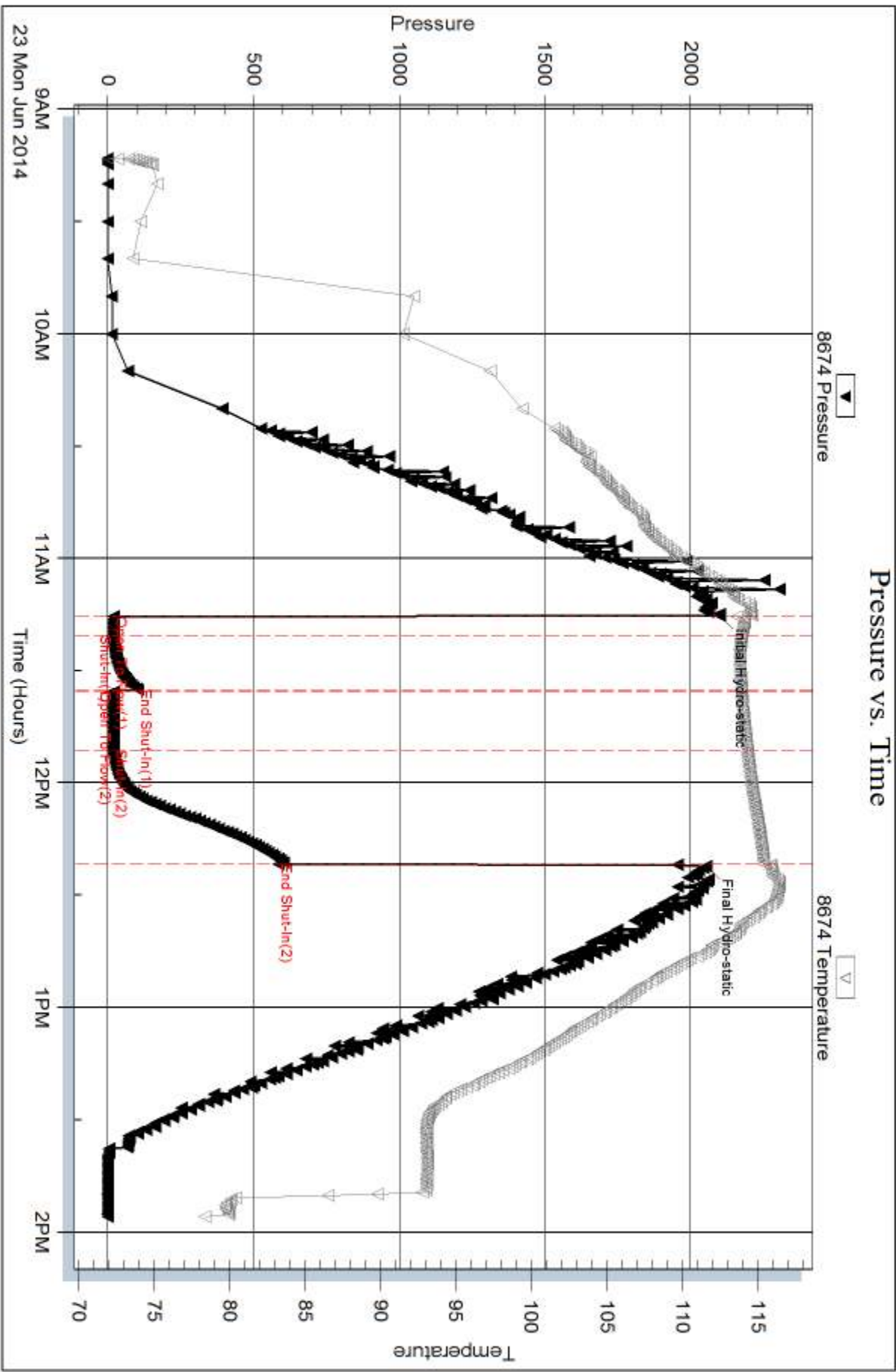
Serial #: 8674

Inside

Larson Engineering, Inc.

Kalo Unit #1-29

DST Test Number: 2

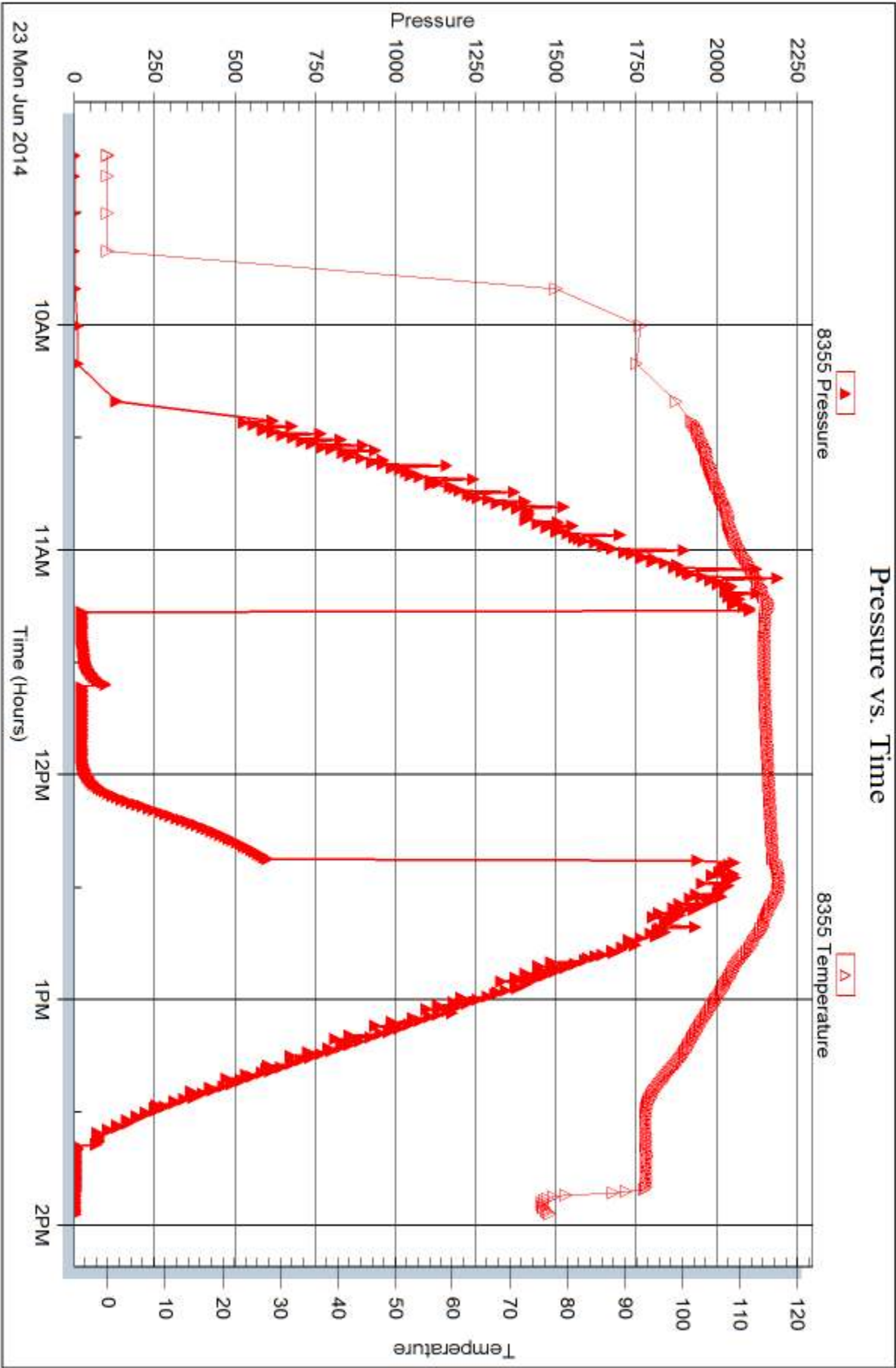


Serial #: 8355

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

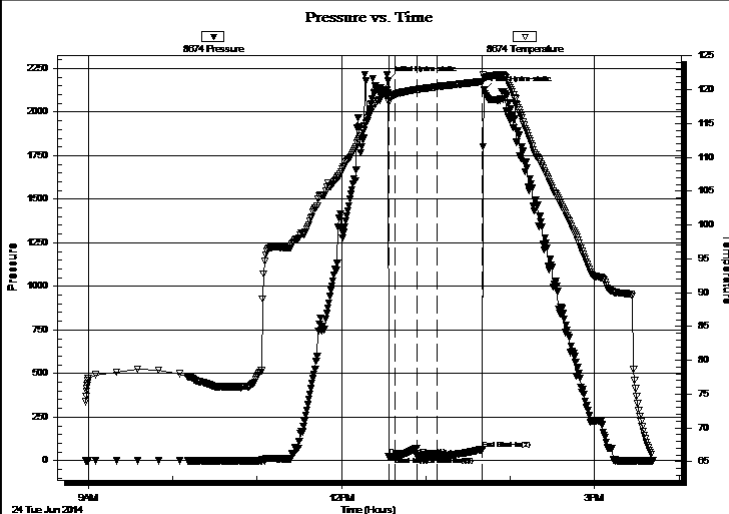
Time Off Btm: 2014.06.24 @ 13:41:15

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

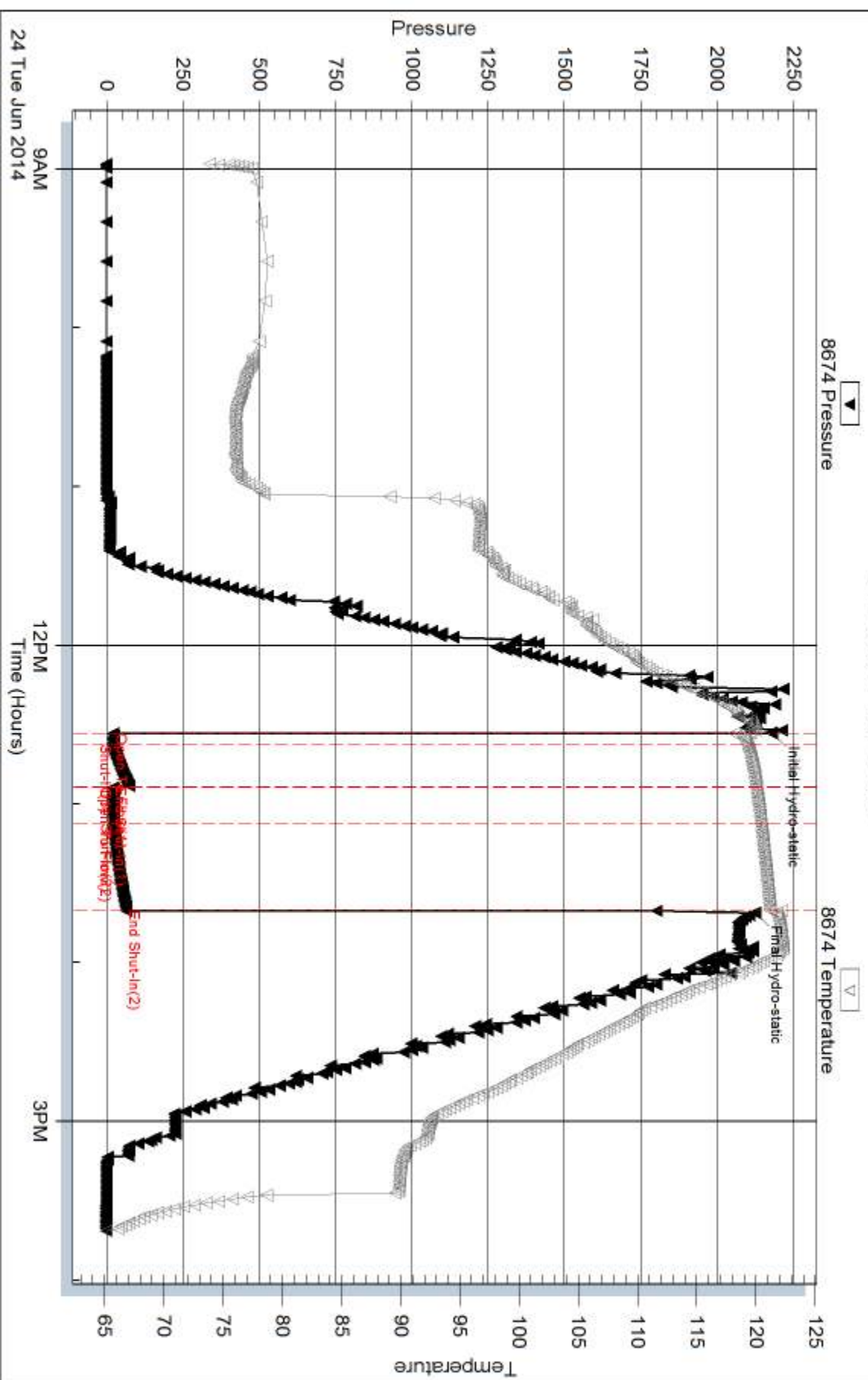
Inside

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.

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

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)

Reference Elevations: 2760.00 ft (KB)

Total Depth: 4590.00 ft (KB) (TVD)

2753.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8674 Inside

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

Capacity: 8000.00 psig

Start Date: 2014.06.25

End Date:

2014.06.25

Last Calib.: 2014.06.25

Start Time: 09:24:00

End Time:

14:27:24

Time On Btm: 2014.06.25 @ 11:25:55

Time Off Btm: 2014.06.25 @ 12:33:25

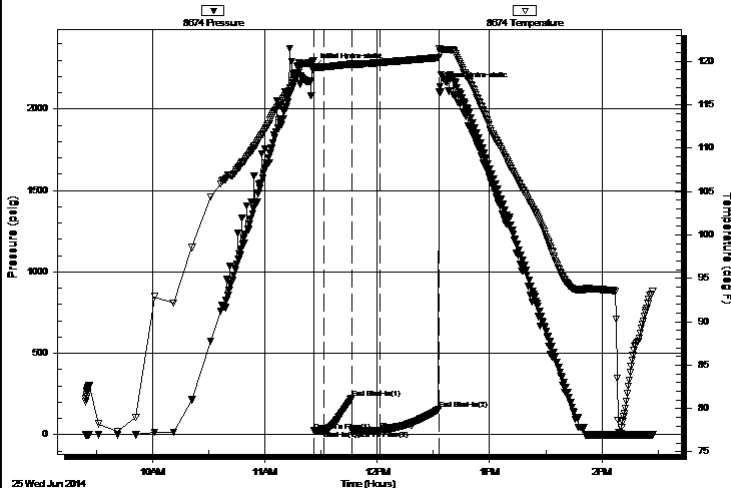
TEST COMMENT: IF- Weak Surface Blow Built to 1/2"

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

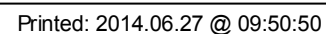
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



ATTN: Vern Schrag

KB to GR/CF: 7.00 ft





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

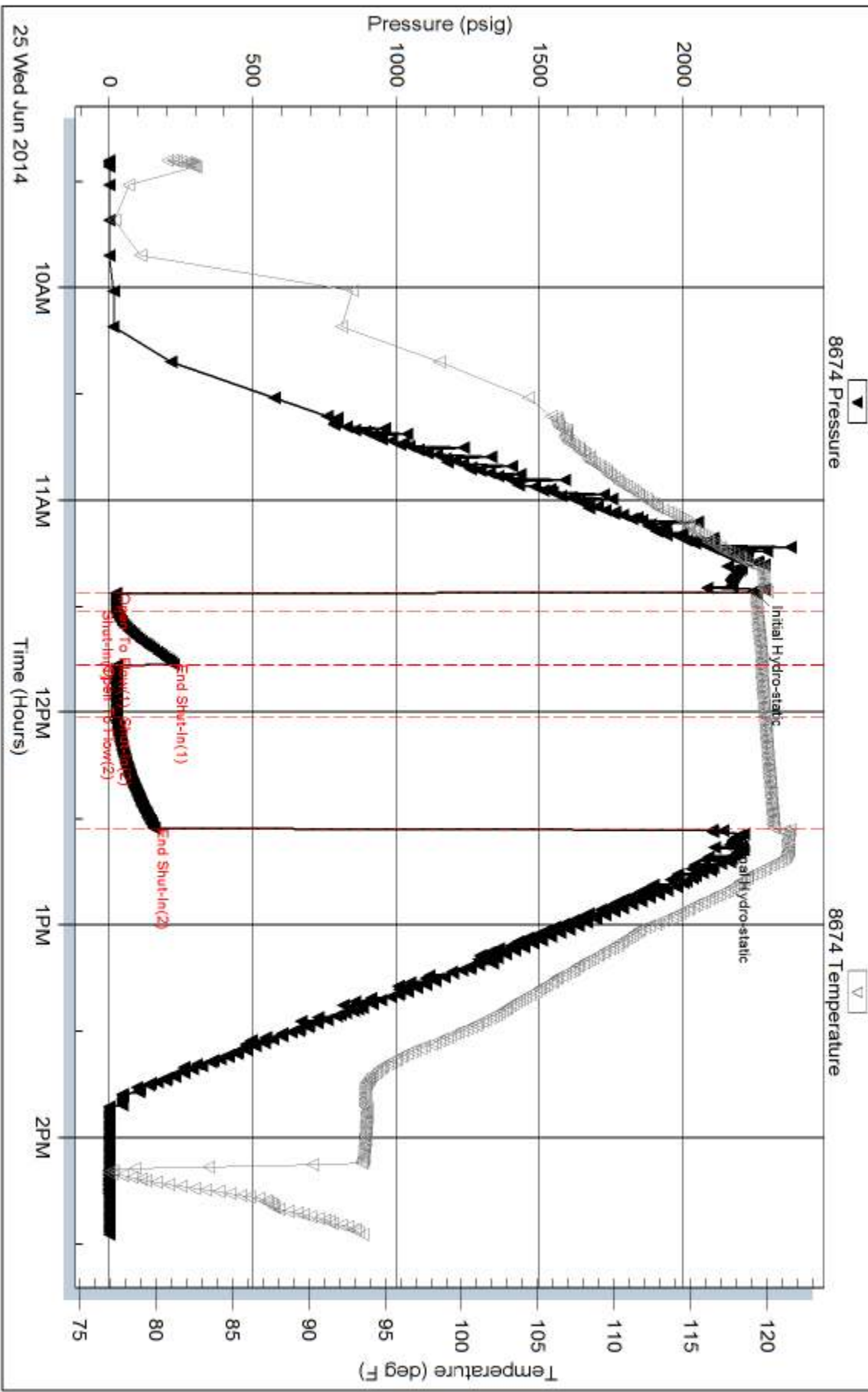
Inside

Larson Engineering, Inc.

Kalo Unit #1-29

DST Test Number: 4

Pressure vs. Time

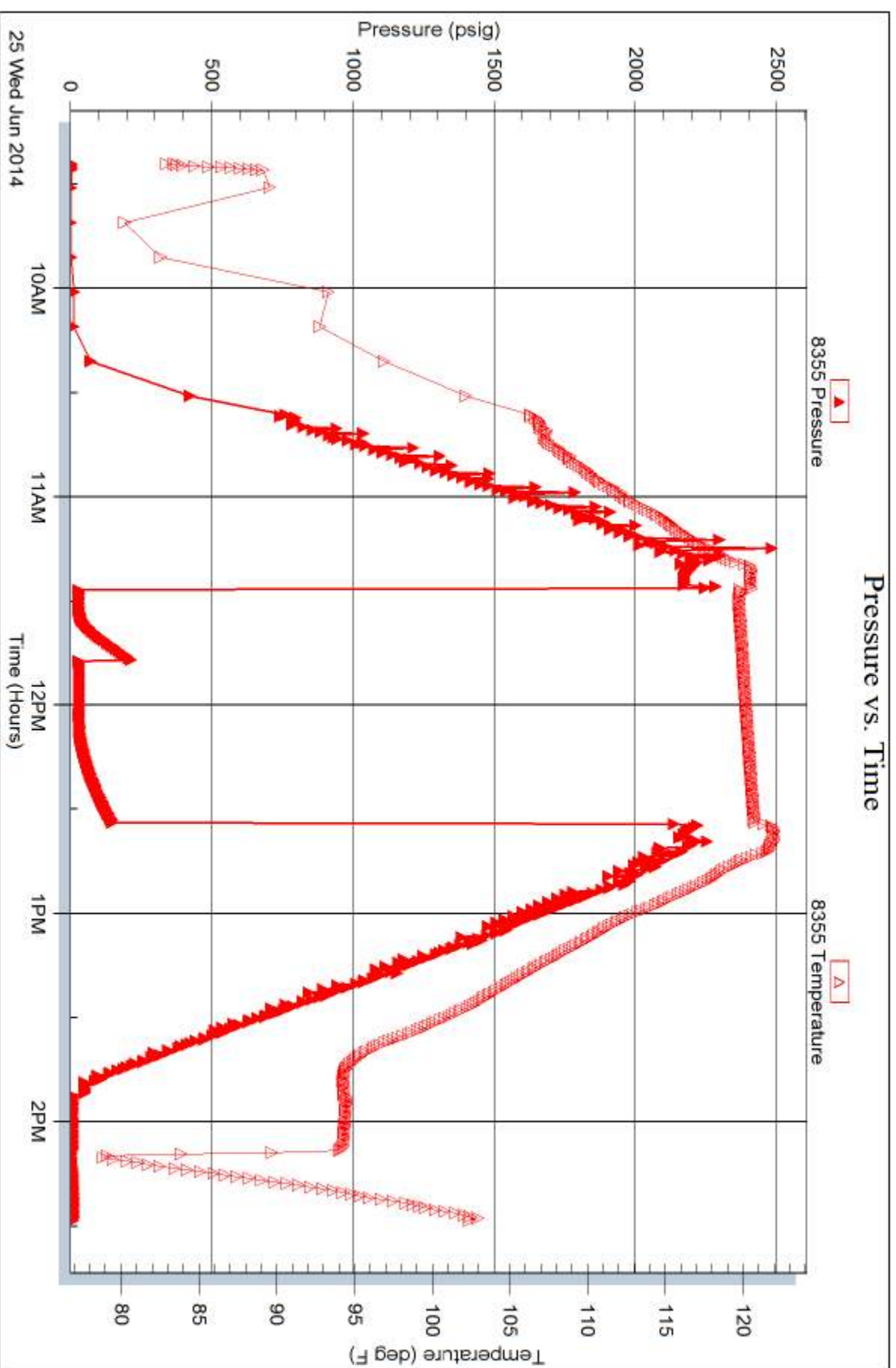


Serial #: 8355

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. Iane 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

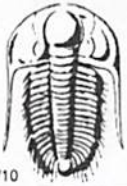
Rec Total 2 BHT 120 Gravity - API RW - @ - °F Chlorides - ppm

(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]

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. 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

Initial Open 5

Initial Shut-In 15

Final Flow 15

Final Shut-In 30

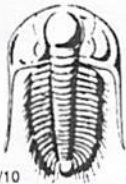
Sub Total 1661.80

Approved By Vern Schrag

Our Representative [Signature]

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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 —



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]

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. 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

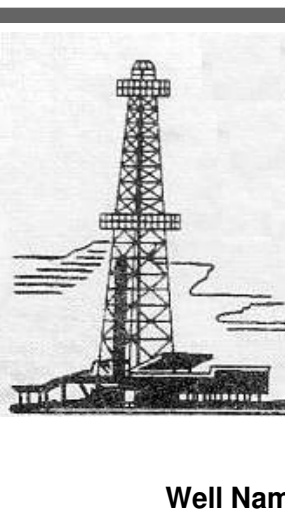
Rec Total 5 BHT 121 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

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

Initial Open <u>5</u>	☒ Shale Packer 250	☐ 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 Vern C Schrag Our Representative Rui Mac

Trilobite Testing Inc. shall not be liable for damaged or 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.



WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG
CONSULTANT GEOLOGIST



Scale 1:240 (5"=100') Imperial

Well Name: KALO UNIT #1-29
Location: NE NE NE NW OF SEC. 29-18S-28W
Licence Number: API: 15-101-22521
Spud Date: June 17, 2014
Surface Coordinates: 285' FNL & 2478' FWL

Region: Lane Co., KS
Drilling Completed: June 26, 2014

Bottom Hole
Coordinates:
Ground Elevation (ft): 2753' K.B. Elevation (ft): 2760'
Logged Interval (ft): 3800' To: RTD Total Depth (ft): 4645'
Formation: D&A, Mississippi
Type of Drilling Fluid: Chemical Premix (Displaced)

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR:

Company: Larson Engineering Inc.
Address: 562 West State Road 4
Olmitz, KS 67564-8561

DRILLING CONTRACTOR:

H. D. Drilling, LLC, Rig #3 (Co. Tools)

DP 4.5" XH (16.6#); DC 6.25" x 2.25" x 556', Kelly 40.30', Tool Joint 5.5"; Bit: JZ-HA20-Q, 7-7/8", standard jets 15-15-15; rpm 80, WOB 35k; Kelly Bushing 7' above ground level; LeWayne "Lew" Tresner (tool pusher).

CASING:

Set 8-5/8" casing at 264'

CIRCULATION SYSTEM:

Continental EMSCO D-300, duplex, 6 x 14, 60-62 spm, Chemical, premix, earth pits, Morgan Mud, Inc., Cade Lines.

OPEN HOLE LOGS:

DN, DI (SP) (Run-1); ML (Run-2); No Sonic; 5" detail LTD-3600; 2" DI to surface casing; LogTech-Pioneer Wireline, Hays, KS, D. Kerr, Log total depth (4638') was seven feet short to rotary total depth (4645').

DRILL STEM TEST #1:

LKC (K-zone): Interval: 4266-4280 (14'): Blow: weak surf IFF, no RB, no blow FFP; Times: 5-15-15-30; Recovery: 2' mud (100%M); Pressures: HP: 2185-2125; SIP: 682-683; FP: 16-18, 17-20; BHT: 120 F; Trilobite Testing, Inc., Scott City, KS, Justin Harris.

DRILL STEM TEST #2:

LKC (Middle Creek, L-zone): Interval: 4299-4323 (24'): Blow: weak surf IFF, no RB, no blow FFP; Times: 5-15-15-30; Recovery: 2' mud (100%M); Pressures: HP: 2100-2054; SIP: 102-585; FP: 18-19, 18-19; BHT: 116 F; Trilobite Testing, Inc., Scott City, KS, Justin Harris.

DRILL STEM TEST #3:

Marmaton thru Pawnee: Interval: 4370-4475 (105'): Blow: weak surf IFF, no RB, no blow FFP; Times: 5-15-15-30; Recovery: 5' mud w/oil spots (100%M); Pressures: HP: 2181-2125, SIP: 74-65, FP: 22-23, 22-25; BHT: 121 F; Trilobite Testing, Inc., Scott City, KS, Justin Harris.

DRILL STEM TEST #4:

Myrick Station thru Cherokee: Interval: 4476-4590 (114'): Blow: weak 1/2" IFF, no RB, no blow FFP; Times: 5-15-15-30; Recovery: 5' mud w/oil spots (100%M); Pressures: HP: 2252-2138; SIP: 223-156; FP: 23-24, 24-26; BHT: 121 F; Trilobite Testing, Inc., Scott City, KS, Will MacLeon.

