



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
- Conv. to GSW
- Plug Back: _____ Plug Back Total Depth _____
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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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

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total 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

- Letter of Confidentiality Received
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



1098092

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

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

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

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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other (Explain) _____

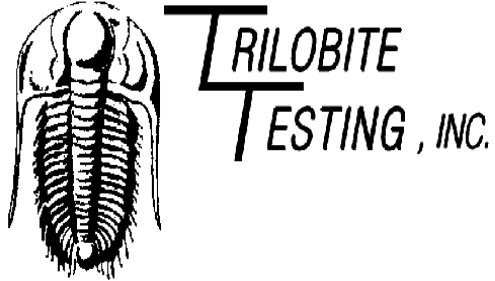
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other (Specify) _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	Joe 1-21
Doc ID	1098092

Tops

Name	Top	Datum
Anhydrite	2219	+661
Base Anhydrite	2279	+601
Heebner Sh	3913	-1033
Lansing-KC	3951	-1071
Stark Sh	4218	-1338
Base KC	4303	-1423
Marmaton	4328	-1448
Pawnee	4420	-1540
Ft Scott	4472	-1592
Cherokee	4495	-1615
Mississippi	4582	-1702



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

Joe #1-21

21-17s-30w Lane, KS

Start Date: 2012.08.14 @ 09:13:00

End Date: 2012.08.14 @ 14:53:15

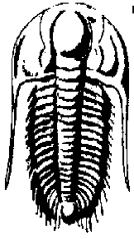
Job Ticket #: 48428 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.22 @ 10:17:24



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc

21-17s-30w Lane, KS

562 W State Rd. 4
Olmitz, KS 67564

Joe #1-21

Job Ticket: 48428

DST#: 1

ATTN: Bob Lew ellyn

Test Start: 2012.08.14 @ 09:13:00

GENERAL INFORMATION:

Formation: **LKC - L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:46:30

Time Test Ended: 14:53:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 53

Interval: **4256.00 ft (KB) To 4274.00 ft (KB) (TVD)**

Reference Elevations: 2880.00 ft (KB)

Total Depth: 4274.00 ft (KB) (TVD)

2874.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 6.00 ft

Serial #: **8677**

Inside

Press @ RunDepth: 27.29 psig @ 4257.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.08.14

End Date:

2012.08.14

Last Calib.: 2012.08.14

Start Time: 09:13:05

End Time:

14:53:14

Time On Btm: 2012.08.14 @ 11:46:15

Time Off Btm: 2012.08.14 @ 12:54:00

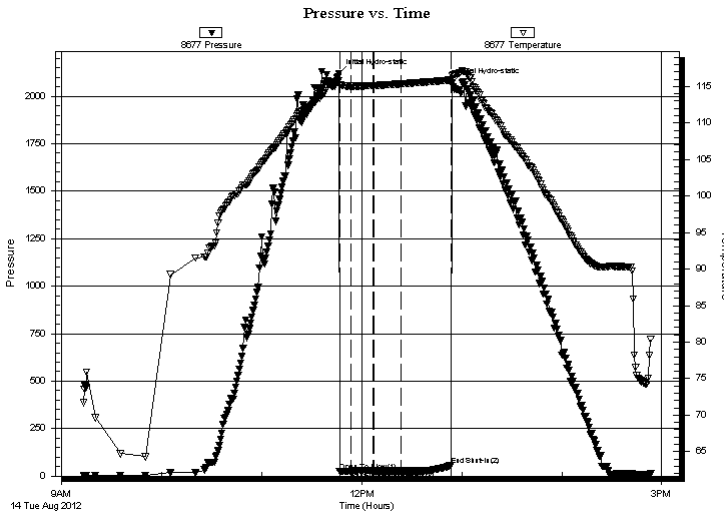
TEST COMMENT: IF: Surface blow , Died @ 4 min.

IS: No return.

FF: No blow .

FS: No return.

PRESSURE SUMMARY



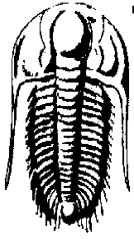
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2118.15	115.81	Initial Hydro-static
1	24.89	115.20	Open To Flow (1)
8	26.37	115.05	Shut-In(1)
21	30.65	115.14	End Shut-In(1)
21	26.82	115.13	Open To Flow (2)
38	27.29	115.36	Shut-In(2)
68	57.06	115.91	End Shut-In(2)
68	2070.64	116.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	mud 100m	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

21-17s-30w Lane, KS

562 W State Rd. 4
Olmitz, KS 67564

Joe #1-21

Job Ticket: 48428

DST#: 1

ATTN: Bob Lew ellyn

Test Start: 2012.08.14 @ 09:13:00

Tool Information

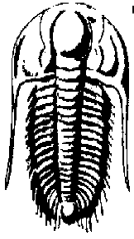
Drill Pipe:	Length: 4114.00 ft	Diameter: 3.80 inches	Volume: 57.71 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose:	72000.00 lb
			<u>Total Volume: 58.43 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	4256.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	18.00 ft				
Tool Length:	45.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4230.00	
Shut In Tool	5.00			4235.00	
Hydraulic tool	5.00			4240.00	
Jars	5.00			4245.00	
Safety Joint	2.00			4247.00	
Packer	5.00			4252.00	27.00 Bottom Of Top Packer
Packer	4.00			4256.00	
Stubb	1.00			4257.00	
Recorder	0.00	8677	Inside	4257.00	
Recorder	0.00	8522	Outside	4257.00	
Perforations	14.00			4271.00	
Bullnose	3.00			4274.00	18.00 Bottom Packers & Anchor

Total Tool Length: 45.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

21-17s-30w Lane, KS

562 W State Rd. 4
Olmitz, KS 67564

Joe #1-21

Job Ticket: 48428

DST#: 1

ATTN: Bob Lew ellyn

Test Start: 2012.08.14 @ 09:13:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	mud 100m	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

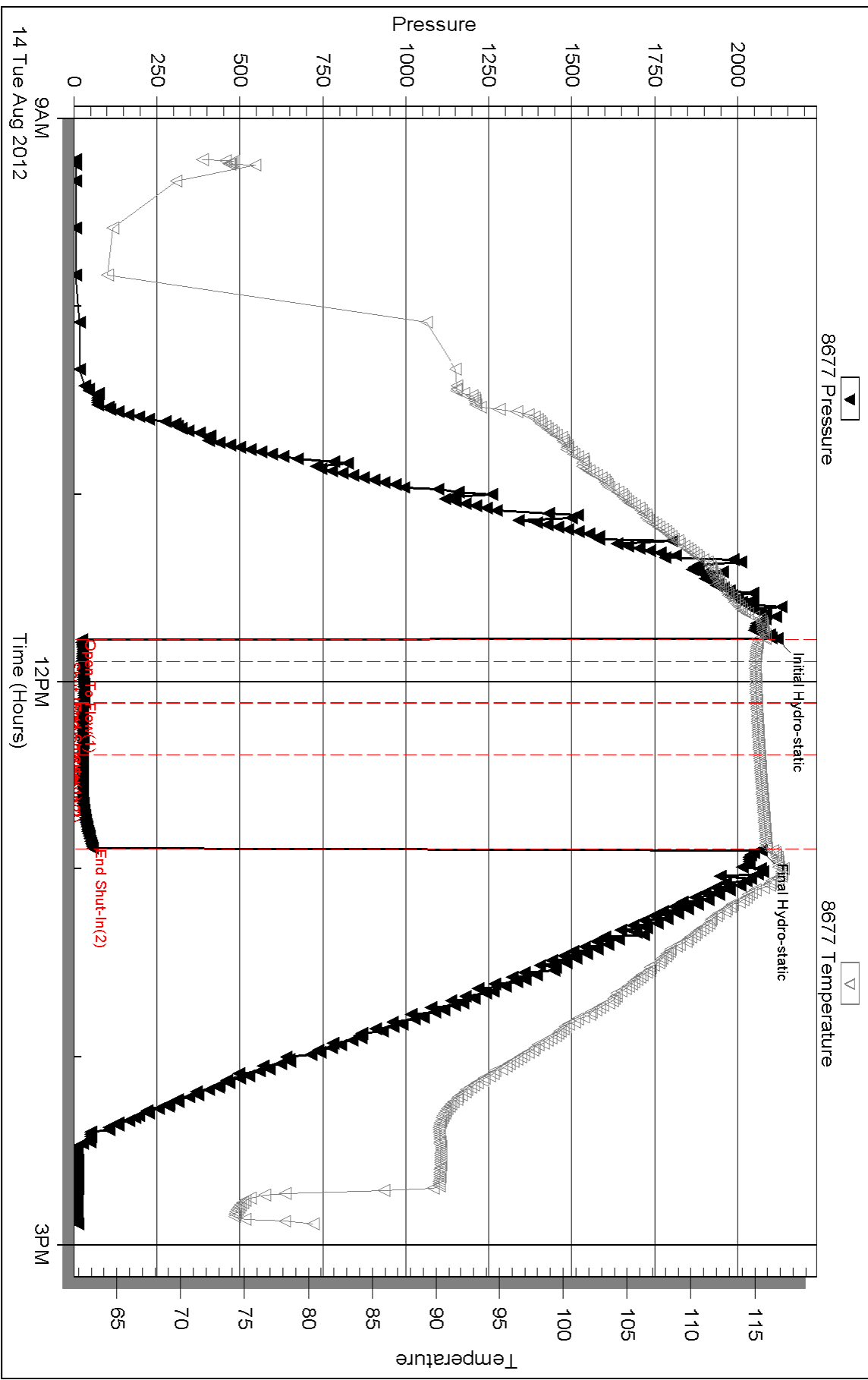
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

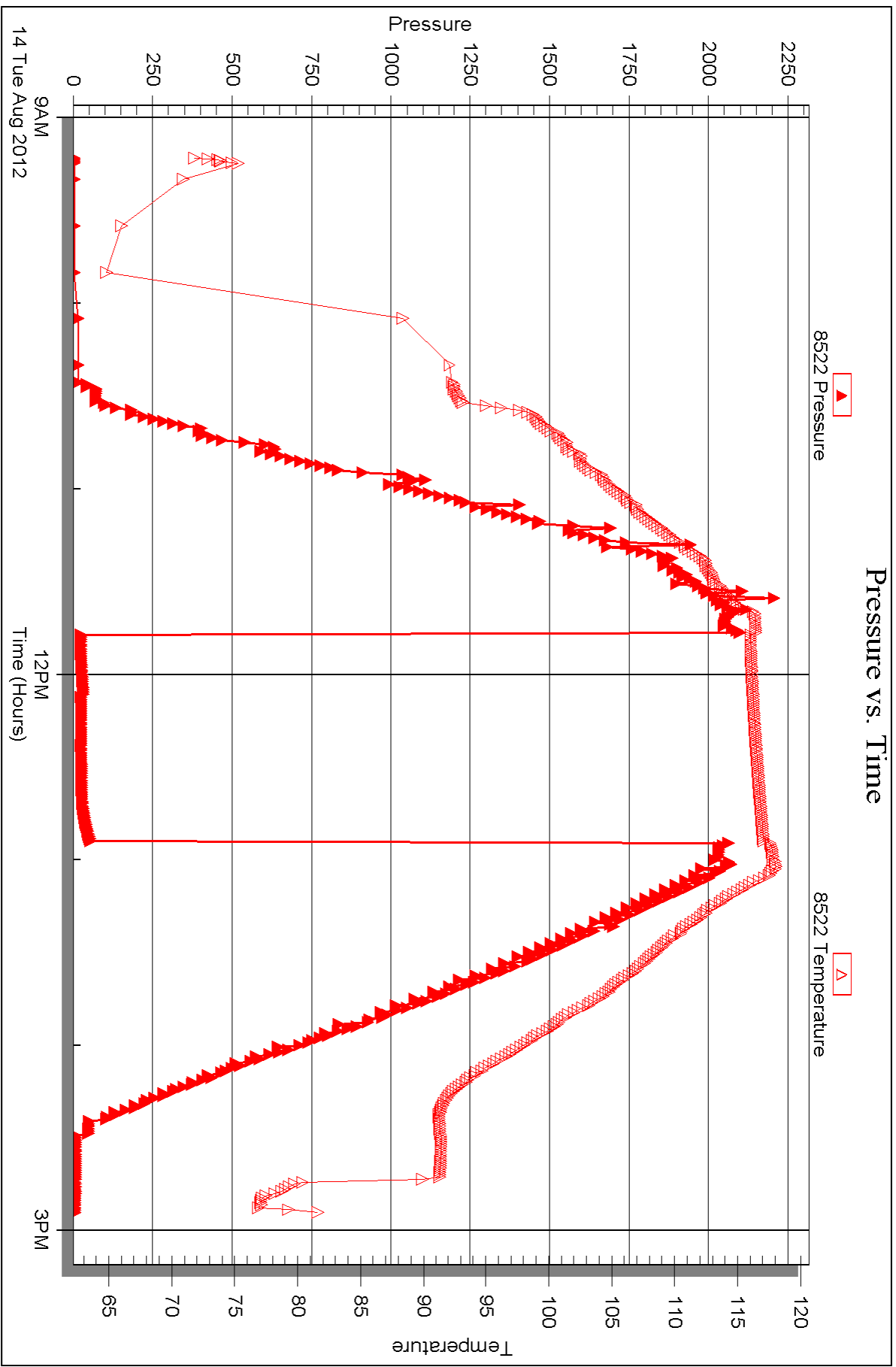


Serial #: 8522

Outside Larson Engineering, Inc

Joe #1-21

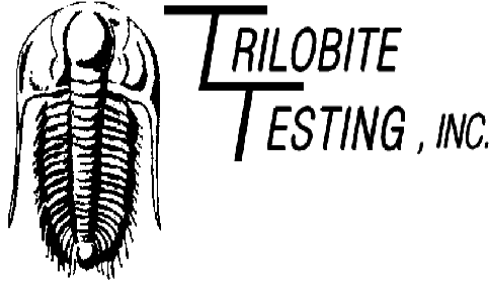
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 48428

Printed: 2012.08.22 @ 10:17:28



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

Joe #1-21

21-17s-30w Lane, KS

Start Date: 2012.08.14 @ 21:46:00

End Date: 2012.08.15 @ 03:13:15

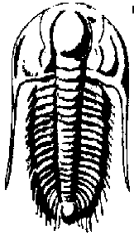
Job Ticket #: 48429 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.22 @ 10:16:42



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc
 562 W State Rd. 4
 Olmitz, KS 67564
 ATTN: Bob Lewellyn

21-17s-30w Lane, KS
Joe #1-21
 Job Ticket: 48429 **DST#: 2**
 Test Start: 2012.08.14 @ 21:46:00

GENERAL INFORMATION:

Formation: **LKC - L**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:58:45
 Time Test Ended: 03:13:15
Interval: 4250.00 ft (KB) To 4279.00 ft (KB) (TVD)
 Total Depth: 4279.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 53
 Reference Elevations: 2880.00 ft (KB)
 2874.00 ft (CF)
 KB to GR/CF: 6.00 ft

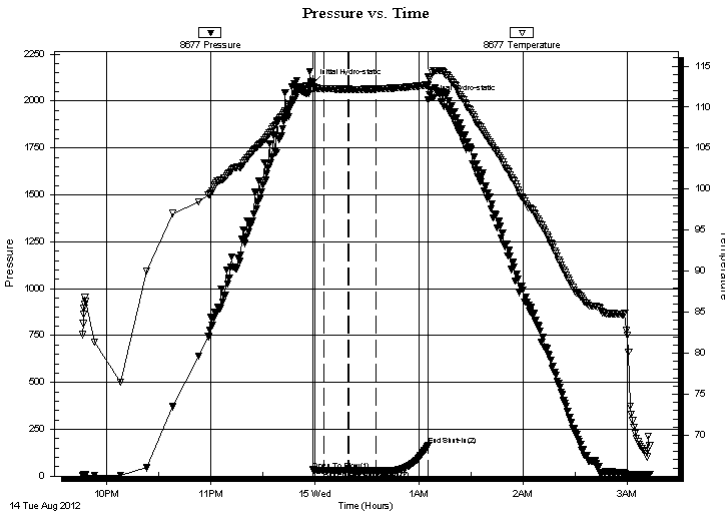
Serial #: 8677

Inside

Press @ Run Depth: 29.18 psig @ 4251.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.08.14 End Date: 2012.08.15 Last Calib.: 2012.08.15
 Start Time: 21:46:05 End Time: 03:13:14 Time On Btm: 2012.08.14 @ 23:58:30
 Time Off Btm: 2012.08.15 @ 01:05:15

TEST COMMENT: IF: Surface blow .
 IS: No return.
 FF: No blow .
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2093.69	112.98	Initial Hydro-static
1	33.05	112.09	Open To Flow (1)
7	30.07	112.25	Shut-In(1)
21	35.39	112.18	End Shut-In(1)
21	28.38	112.17	Open To Flow (2)
37	29.18	112.21	Shut-In(2)
67	162.91	112.71	End Shut-In(2)
67	2007.57	113.68	Final Hydro-static

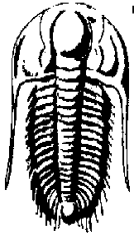
Recovery

Length (ft)	Description	Volume (bbl)
3.00	mud 100m	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

21-17s-30w Lane, KS

562 W State Rd. 4
Olmitz, KS 67564

Joe #1-21

Job Ticket: 48429

DST#: 2

ATTN: Bob Lew ellyn

Test Start: 2012.08.14 @ 21:46:00

Tool Information

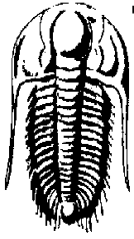
Drill Pipe:	Length: 4085.00 ft	Diameter: 3.80 inches	Volume: 57.30 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 73000.00 lb
			<u>Total Volume: 58.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4250.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	29.00 ft			
Tool Length:	56.00 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			4224.00	
Shut In Tool	5.00			4229.00	
Hydraulic tool	5.00			4234.00	
Jars	5.00			4239.00	
Safety Joint	2.00			4241.00	
Packer	5.00			4246.00	27.00 Bottom Of Top Packer
Packer	4.00			4250.00	
Stubb	1.00			4251.00	
Recorder	0.00	8677	Inside	4251.00	
Recorder	0.00	8522	Outside	4251.00	
Perforations	25.00			4276.00	
Bullnose	3.00			4279.00	29.00 Bottom Packers & Anchor

Total Tool Length: 56.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

21-17s-30w Lane, KS

562 W State Rd. 4
Olmitz, KS 67564

Joe #1-21

Job Ticket: 48429

DST#: 2

ATTN: Bob Lew ellyn

Test Start: 2012.08.14 @ 21:46:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	mud 100m	0.015

Total Length: 3.00 ft Total Volume: 0.015 bbl

Num Fluid Samples: 0

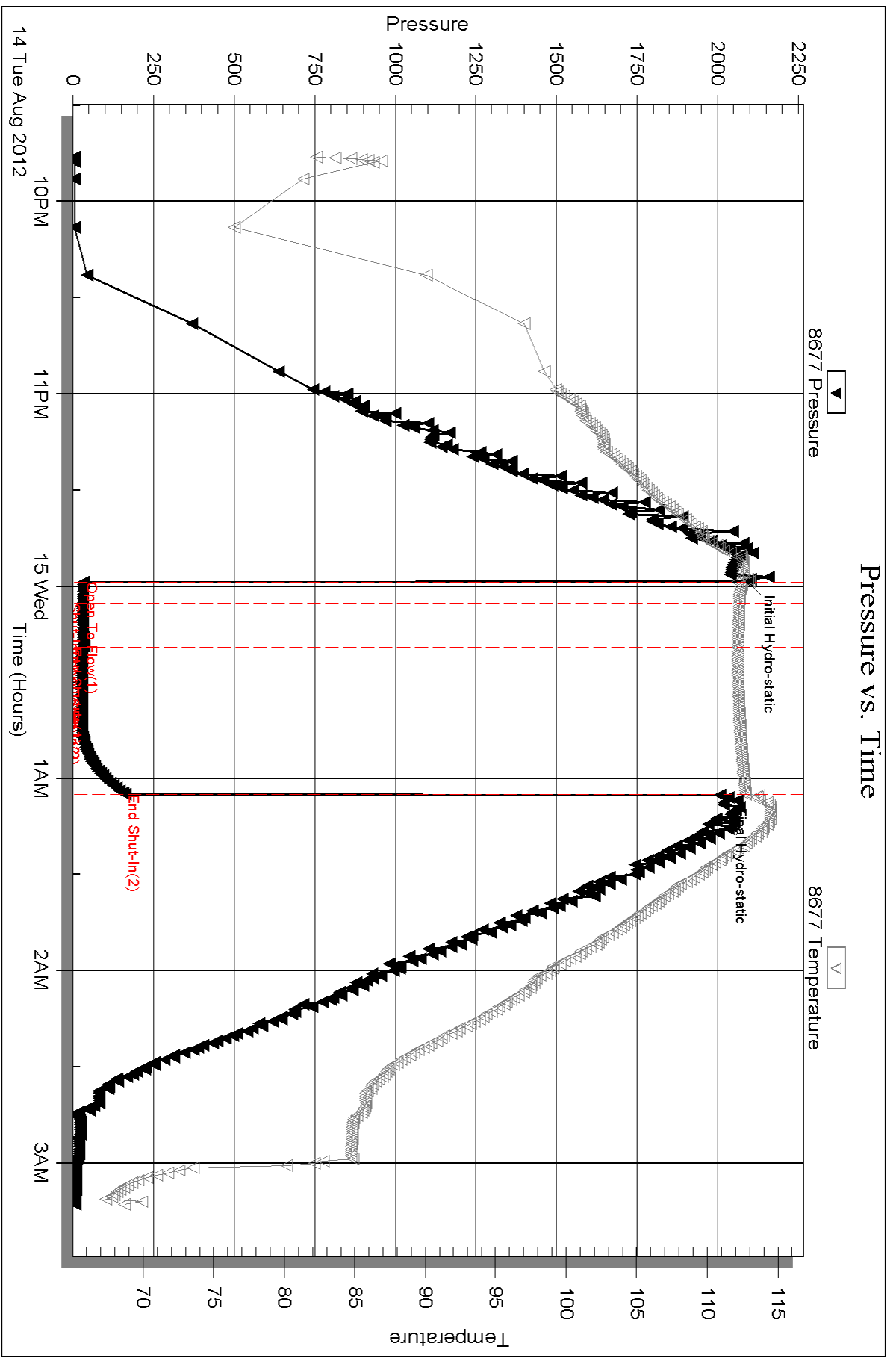
Num Gas Bombs: 0

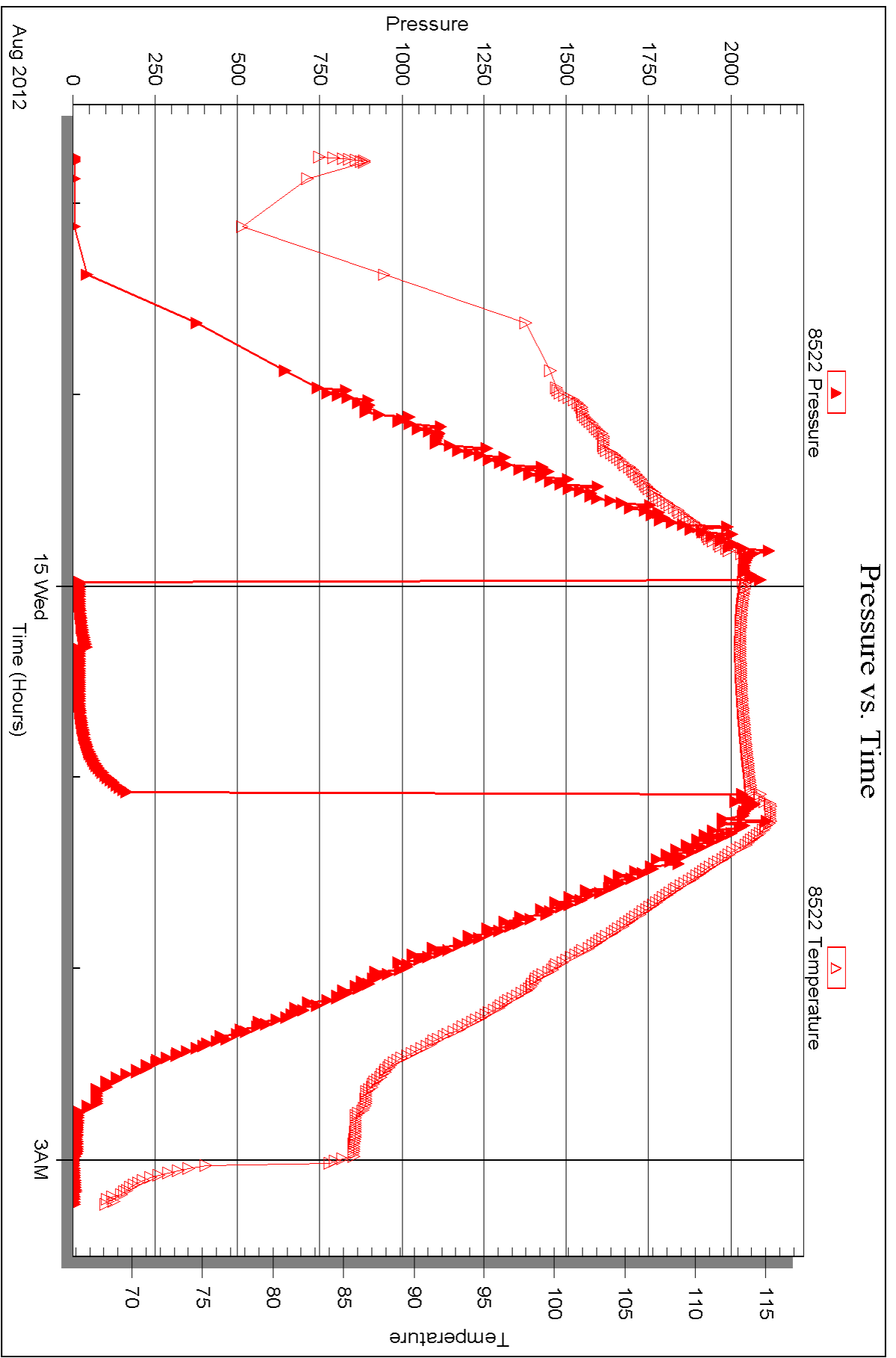
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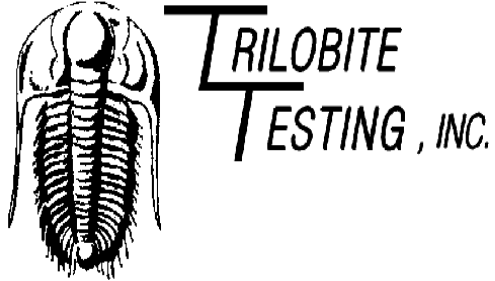
Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

Joe #1-21

21-17s-30w Lane, KS

Start Date: 2012.08.15 @ 18:46:00

End Date: 2012.08.16 @ 01:21:30

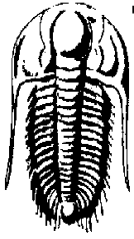
Job Ticket #: 48430 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.22 @ 10:16:02



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc
 562 W State Rd. 4
 Olmitz, KS 67564
 ATTN: Bob Lew ellyn

21-17s-30w Lane, KS
Joe #1-21
 Job Ticket: 48430 **DST#: 3**
 Test Start: 2012.08.15 @ 18:46:00

GENERAL INFORMATION:

Formation: **Pleasanton - Altamon**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 21:03:30 Tester: Bradley Walter
 Time Test Ended: 01:21:30 Unit No: 53
 Interval: **4300.00 ft (KB) To 4390.00 ft (KB) (TVD)** Reference Elevations: 2880.00 ft (KB)
 Total Depth: 4390.00 ft (KB) (TVD) 2874.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 6.00 ft

Serial #: 8522 Outside
 Press @ Run Depth: 43.52 psig @ 4301.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.08.15 End Date: 2012.08.16 Last Calib.: 2012.08.16
 Start Time: 18:46:05 End Time: 01:21:29 Time On Btm: 2012.08.15 @ 21:03:15
 Time Off Btm: 2012.08.15 @ 22:56:45

TEST COMMENT: IF: Surface blow .
 IS: No return.
 FF: 1/2" blow .
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2102.51	115.34	Initial Hydro-static
1	21.94	114.12	Open To Flow (1)
7	27.95	114.65	Shut-In(1)
23	848.55	115.18	End Shut-In(1)
23	29.38	114.80	Open To Flow (2)
51	43.52	116.03	Shut-In(2)
113	829.24	117.37	End Shut-In(2)
114	2058.22	117.80	Final Hydro-static

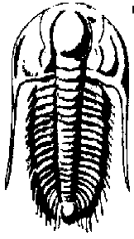
Recovery

Length (ft)	Description	Volume (bbl)
30.00	mud 100m	0.15

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

21-17s-30w Lane, KS

562 W State Rd. 4
Olmitz, KS 67564

Joe #1-21

Job Ticket: 48430

DST#: 3

ATTN: Bob Lew ellyn

Test Start: 2012.08.15 @ 18:46:00

Tool Information

Drill Pipe:	Length: 4146.00 ft	Diameter: 3.80 inches	Volume: 58.16 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: 25000.00 lb
Drill Collar:	Length: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4300.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.00 ft			
Tool Length:	117.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

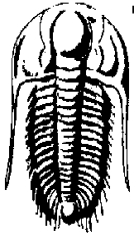
Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4274.00	
Shut In Tool	5.00			4279.00	
Hydraulic tool	5.00			4284.00	
Jars	5.00			4289.00	
Safety Joint	2.00			4291.00	
Packer	5.00			4296.00	27.00 Bottom Of Top Packer
Packer	4.00			4300.00	
Stubb	1.00			4301.00	
Recorder	0.00	8677	Inside	4301.00	
Recorder	0.00	8522	Outside	4301.00	
Perforations	21.00			4322.00	
Change Over Sub	1.00			4323.00	
Drill Pipe	63.00			4386.00	
Change Over Sub	1.00			4387.00	
Bullnose	3.00			4390.00	90.00 Bottom Packers & Anchor

Total Tool Length: 117.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

21-17s-30w Lane, KS

562 W State Rd. 4
Olmitz, KS 67564

Joe #1-21

Job Ticket: 48430

DST#: 3

ATTN: Bob Lew ellyn

Test Start: 2012.08.15 @ 18:46:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
30.00	mud 100m	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

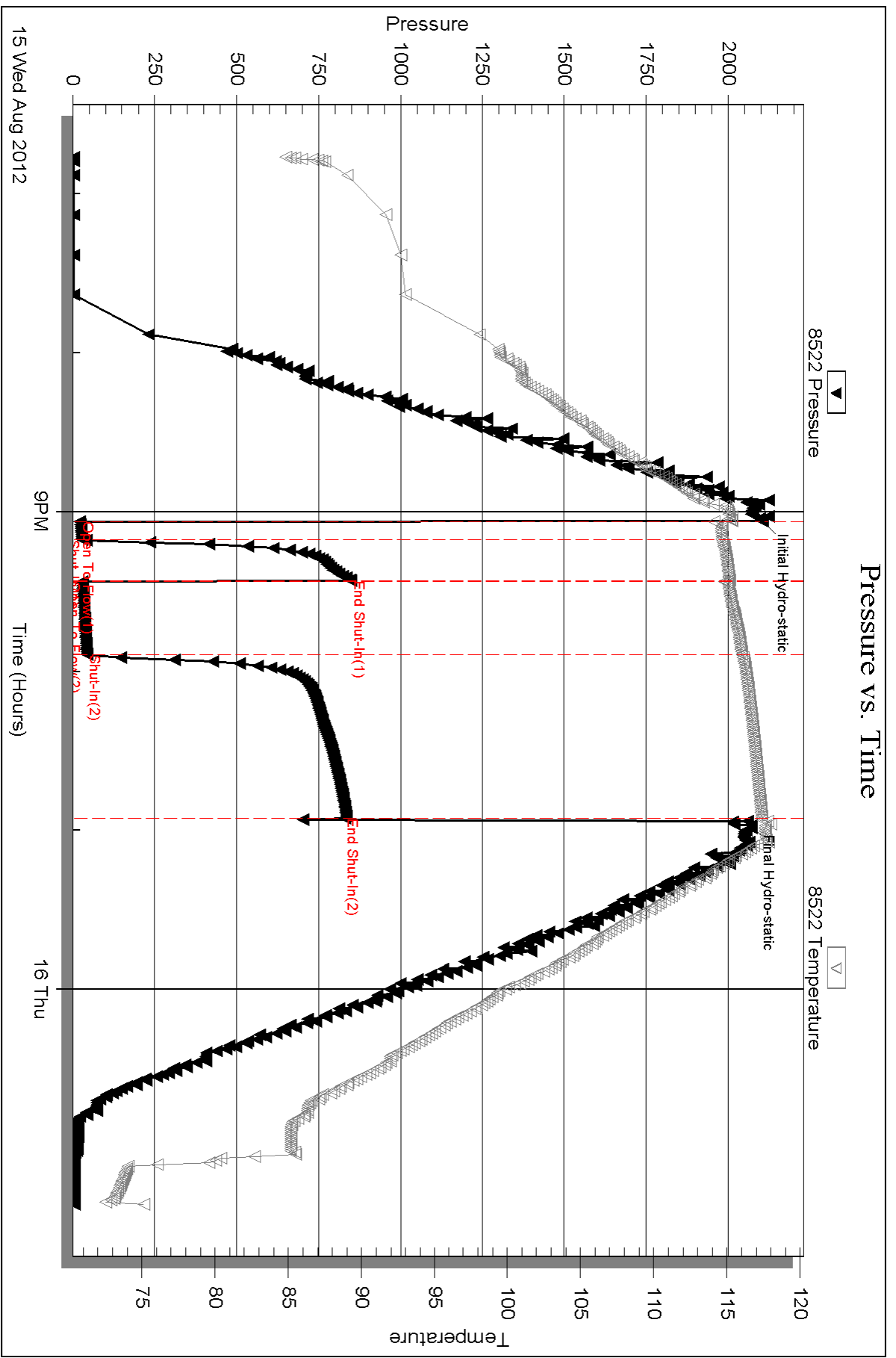
Num Gas Bombs: 0

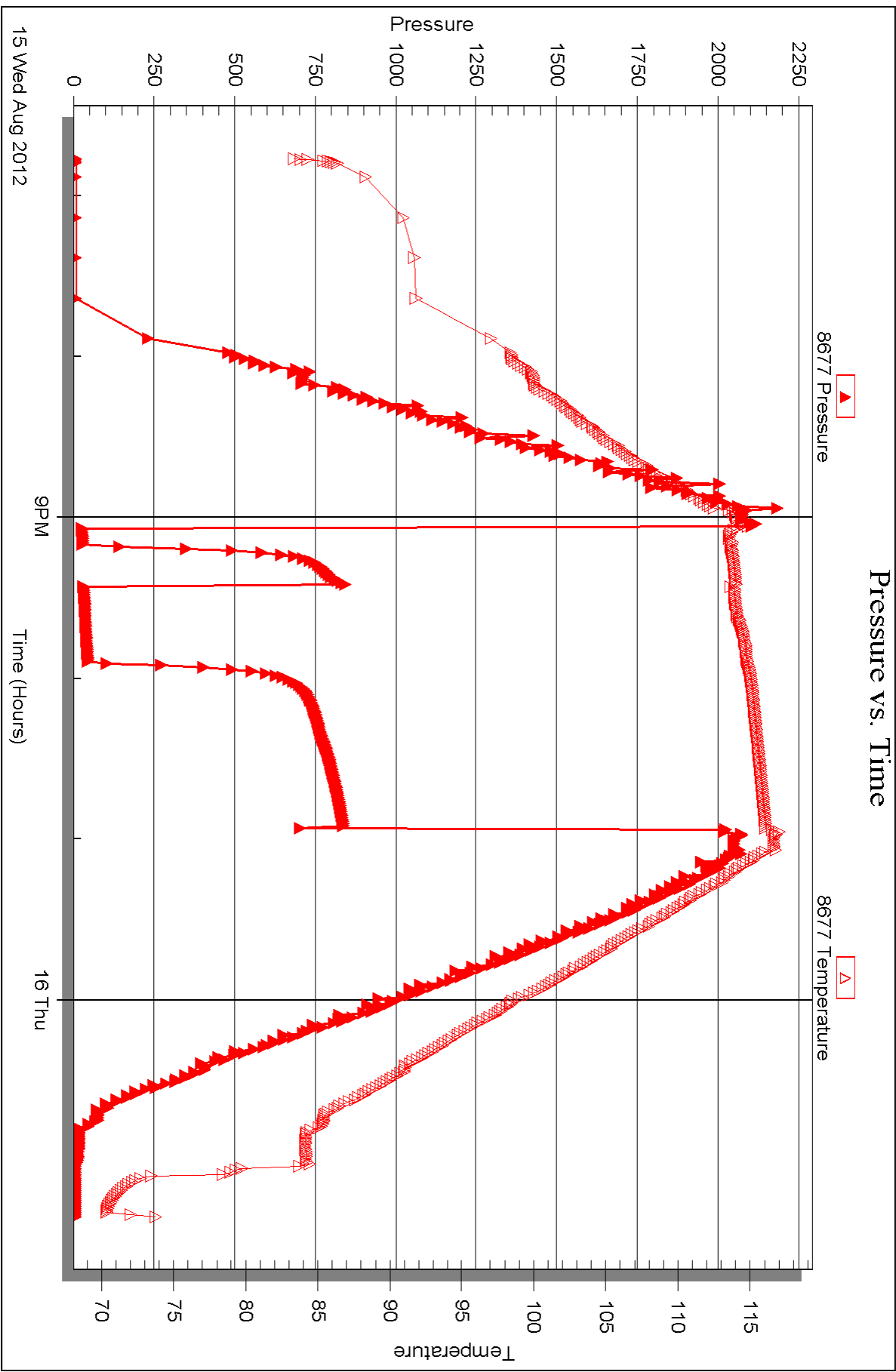
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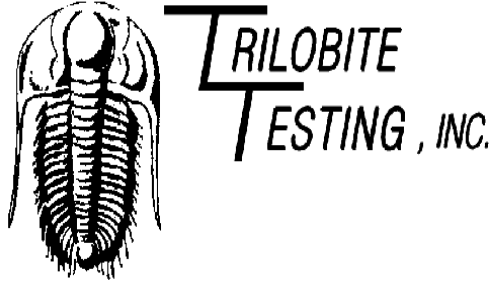
Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

Joe #1-21

21-17s-30w Lane, KS

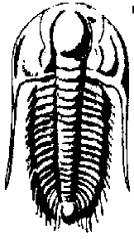
Start Date: 2012.08.16 @ 17:35:00

End Date: 2012.08.16 @ 23:15:15

Job Ticket #: 48431 DST #: 4

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

Printed: 2012.08.22 @ 10:15:12



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc
562 W State Rd. 4
Olmitz, KS 67564
ATTN: Bob Lew ellyn

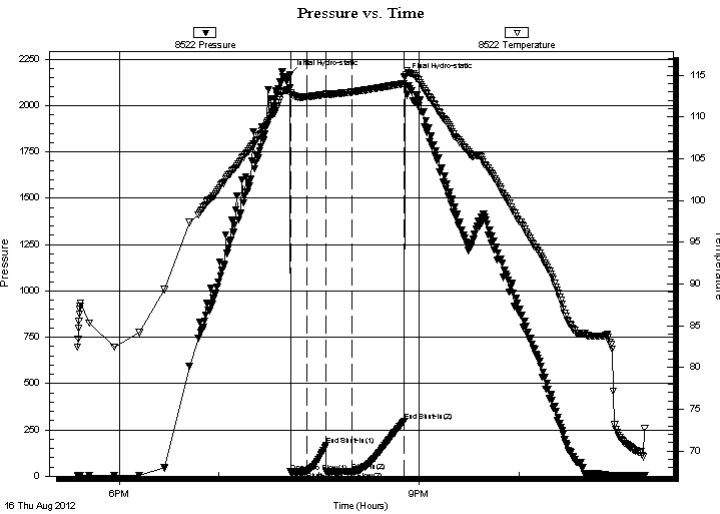
21-17s-30w Lane, KS
Joe #1-21
Job Ticket: 48431 **DST#: 4**
Test Start: 2012.08.16 @ 17:35:00

GENERAL INFORMATION:

Formation: **Pawnee - Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:42:45
Time Test Ended: 23:15:15
Interval: **4410.00 ft (KB) To 4510.00 ft (KB) (TVD)**
Total Depth: 4510.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 53
Reference Elevations: 2880.00 ft (KB)
2874.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8522 Outside
Press @ Run Depth: 25.08 psig @ 4411.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.08.16 End Date: 2012.08.16 Last Calib.: 2012.08.16
Start Time: 17:35:05 End Time: 23:15:14 Time On Btm: 2012.08.16 @ 19:42:30
Time Off Btm: 2012.08.16 @ 20:51:15

TEST COMMENT: IF: Surface blow .
IS: No return.
FF: No blow .
FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2169.56	113.46	Initial Hydro-static
1	22.83	112.67	Open To Flow (1)
10	28.53	112.42	Shut-In(1)
22	167.14	112.72	End Shut-In(1)
22	24.04	112.67	Open To Flow (2)
37	25.08	112.98	Shut-In(2)
69	294.79	114.00	End Shut-In(2)
69	2153.26	114.71	Final Hydro-static

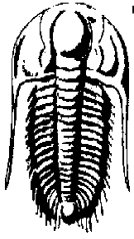
Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100m	0.05

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

21-17s-30w Lane, KS

562 W State Rd. 4
Olmitz, KS 67564

Joe #1-21

Job Ticket: 48431

DST#: 4

ATTN: Bob Lew ellyn

Test Start: 2012.08.16 @ 17:35:00

Tool Information

Drill Pipe:	Length: 4240.00 ft	Diameter: 3.80 inches	Volume: 59.48 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: 25000.00 lb
Drill Collar:	Length: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 60.20 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4410.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	100.00 ft			
Tool Length:	127.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

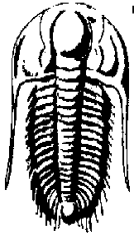
Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4384.00	
Shut In Tool	5.00			4389.00	
Hydraulic tool	5.00			4394.00	
Jars	5.00			4399.00	
Safety Joint	2.00			4401.00	
Packer	5.00			4406.00	27.00 Bottom Of Top Packer
Packer	4.00			4410.00	
Stubb	1.00			4411.00	
Recorder	0.00	8677	Inside	4411.00	
Recorder	0.00	8522	Outside	4411.00	
Perforations	31.00			4442.00	
Change Over Sub	1.00			4443.00	
Drill Pipe	63.00			4506.00	
Change Over Sub	1.00			4507.00	
Bullnose	3.00			4510.00	100.00 Bottom Packers & Anchor

Total Tool Length: 127.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

21-17s-30w Lane, KS

562 W State Rd. 4
Olmitz, KS 67564

Joe #1-21

Job Ticket: 48431

DST#: 4

ATTN: Bob Lew ellyn

Test Start: 2012.08.16 @ 17:35:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud 100m	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

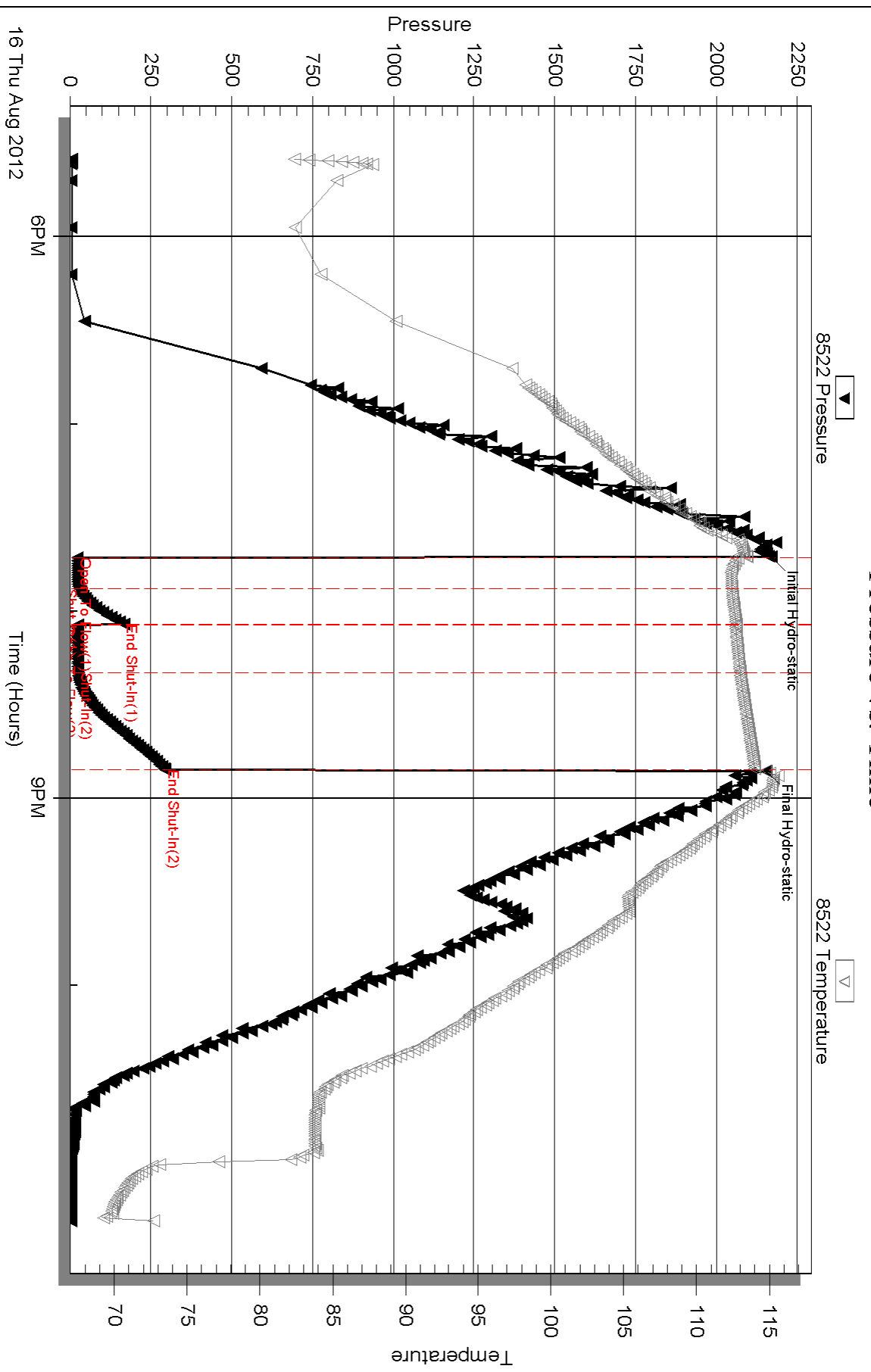
Serial #:

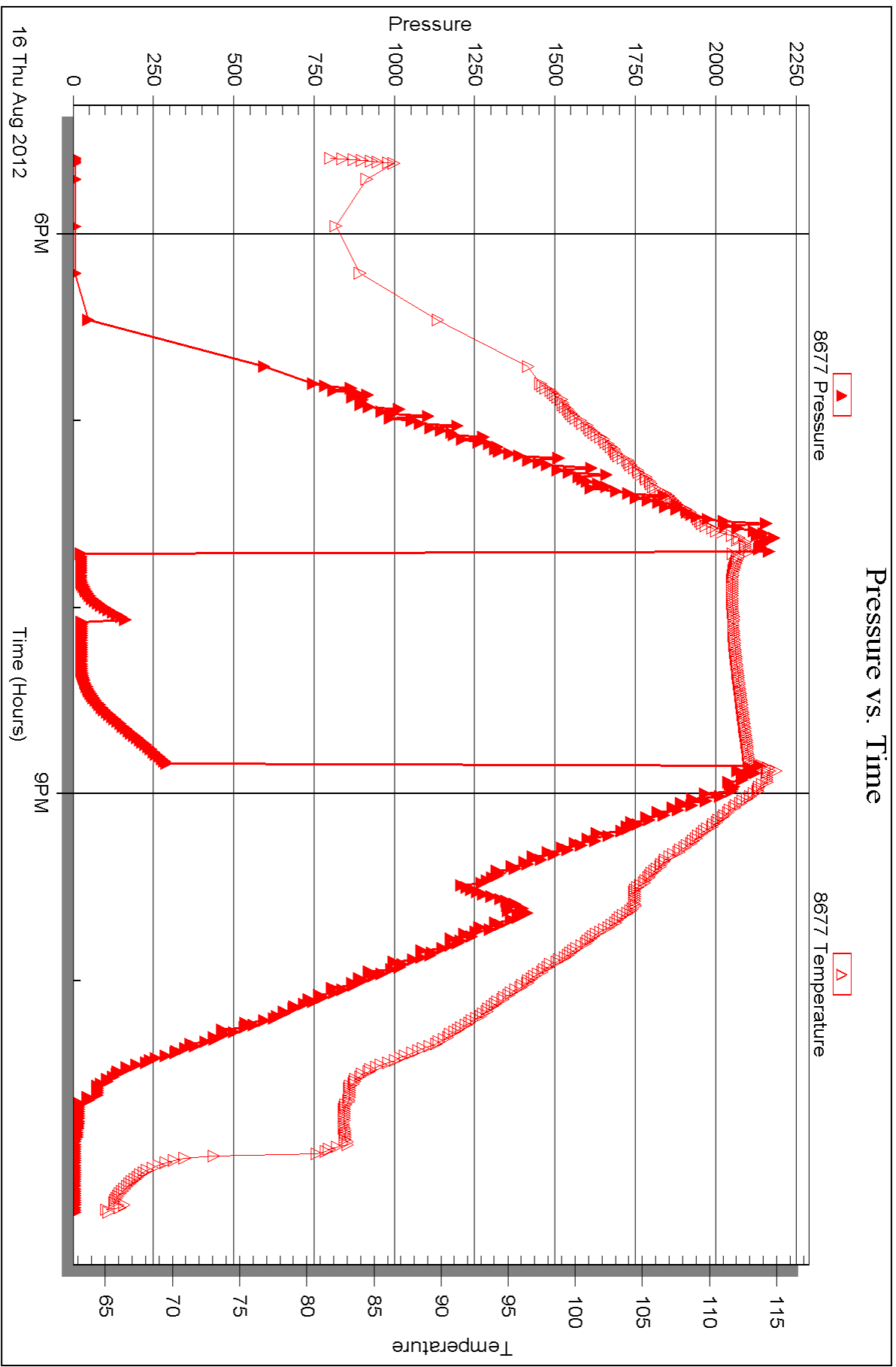
Laboratory Name:

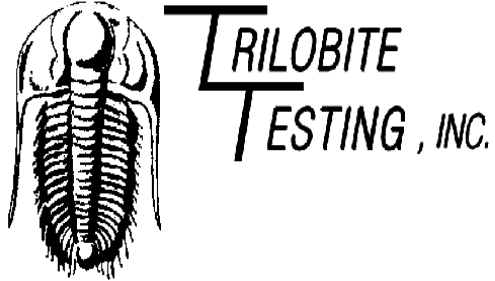
Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

Joe #1-21

21-17s-30w Lane, KS

Start Date: 2012.08.17 @ 09:04:00

End Date: 2012.08.17 @ 15:18:45

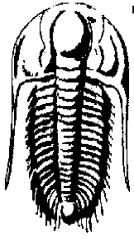
Job Ticket #: 48432 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.08.22 @ 10:13:42



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc
562 W State Rd. 4
Olmitz, KS 67564
ATTN: Bob Lew ellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48432

DST#: 5

Test Start: 2012.08.17 @ 09:04:00

GENERAL INFORMATION:

Formation: **Johnson**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:01:00
 Time Test Ended: 15:18:45
 Interval: **4510.00 ft (KB) To 4551.00 ft (KB) (TVD)**
 Total Depth: 4551.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 53
 Reference Elevations: 2880.00 ft (KB)
 2874.00 ft (CF)
 KB to GR/CF: 6.00 ft

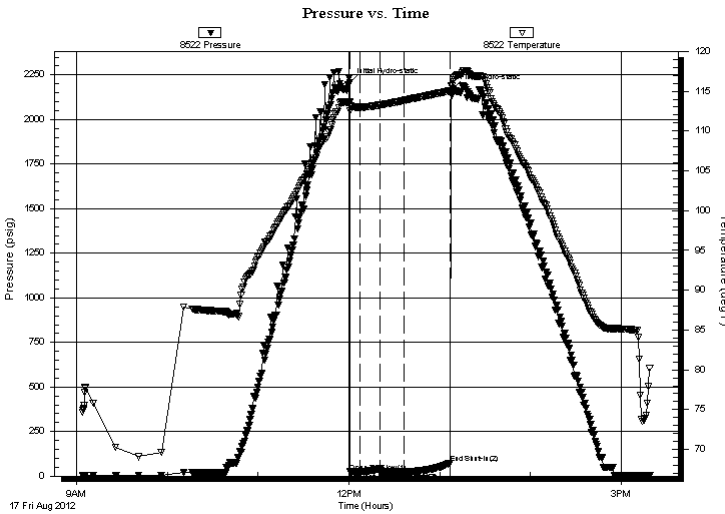
Serial #: 8522

Outside

Press @ RunDepth: 23.25 psig @ 4511.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.08.17 End Date: 2012.08.17 Last Calib.: 2012.08.17
 Start Time: 09:04:05 End Time: 15:18:44 Time On Btm: 2012.08.17 @ 12:00:45
 Time Off Btm: 2012.08.17 @ 13:08:45

TEST COMMENT: IF: Surface blow .
 IS: No return.
 FF: No blow .
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2209.10	113.64	Initial Hydro-static
1	23.05	112.58	Open To Flow (1)
7	23.16	112.98	Shut-In(1)
20	37.56	113.27	End Shut-In(1)
20	22.91	113.27	Open To Flow (2)
36	23.25	113.85	Shut-In(2)
66	73.07	115.03	End Shut-In(2)
68	2175.39	116.19	Final Hydro-static

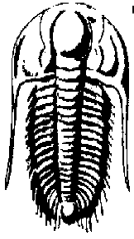
Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100m (oil specs in tool)	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

21-17s-30w Lane, KS

562 W State Rd. 4
Olmitz, KS 67564

Joe #1-21

Job Ticket: 48432

DST#: 5

ATTN: Bob Lew ellyn

Test Start: 2012.08.17 @ 09:04:00

Tool Information

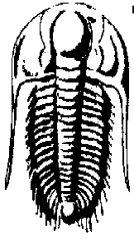
Drill Pipe:	Length: 4366.00 ft	Diameter: 3.80 inches	Volume: 61.24 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 147.00 ft	Diameter: 2.25 inches	Volume: 0.72 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 61.96 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4510.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	41.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4484.00	
Shut In Tool	5.00			4489.00	
Hydraulic tool	5.00			4494.00	
Jars	5.00			4499.00	
Safety Joint	2.00			4501.00	
Packer	5.00			4506.00	27.00 Bottom Of Top Packer
Packer	4.00			4510.00	
Stubb	1.00			4511.00	
Recorder	0.00	8677	Inside	4511.00	
Recorder	0.00	8522	Outside	4511.00	
Perforations	4.00			4515.00	
Change Over Sub	1.00			4516.00	
Drill Pipe	31.00			4547.00	
Change Over Sub	1.00			4548.00	
Bullnose	3.00			4551.00	41.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

21-17s-30w Lane, KS

562 W State Rd. 4
Olmitz, KS 67564

Joe #1-21

Job Ticket: 48432

DST#: 5

ATTN: Bob Lew ellyn

Test Start: 2012.08.17 @ 09:04:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud 100m (oil specs in tool)	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

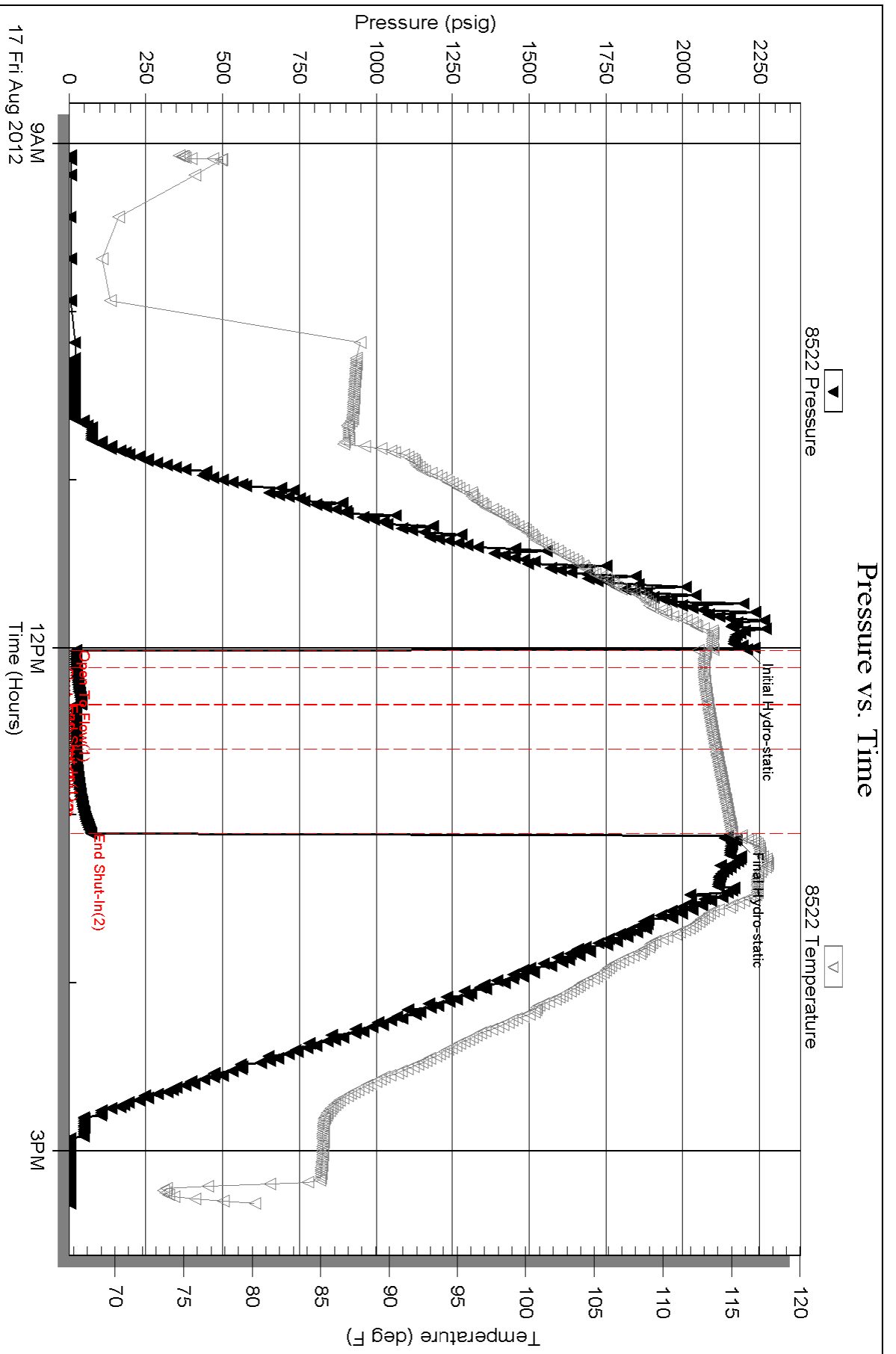
Num Gas Bombs: 0

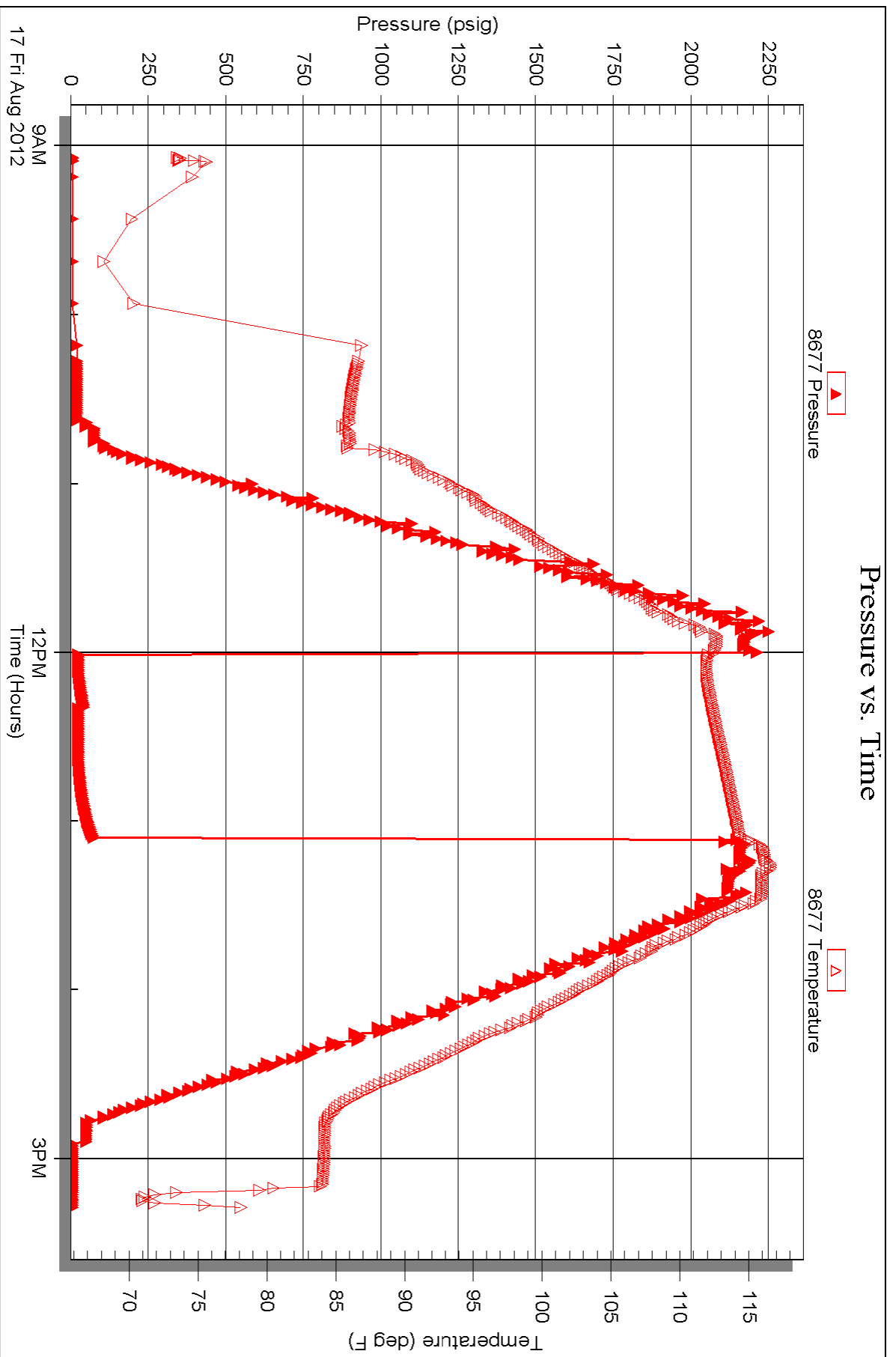
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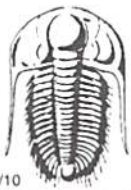
Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48428

Well Name & No. Joe # 1-21 Test No. 1 Date 8/14/12
 Company Larson Engineering, Inc. Elevation 2880 KB 2874 GL
 Address 562 W. State Rd. 4 Olmitz, Ks 67564
 Co. Rep / Geo. Bob Lewellyn Rig HD #3
 Location: Sec. 21 Twp. 17s Rge. 30 w Co. Lane State Ks

Interval Tested 4256 - 4274 Zone Tested LKC - L
 Anchor Length 18 Drill Pipe Run 4114 Mud Wt. 9.2
 Top Packer Depth 4251 Drill Collars Run 147 Vis 59
 Bottom Packer Depth 4256 Wt. Pipe Run Ø WL 7.6
 Total Depth 4274 Chlorides 2700 ppm System LCM 1st

Blow Description IF: Surface Blow, died @ 4 min.
ISI: No return.
FF: No blow.
FSI: No return.

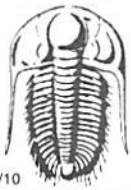
Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>MUD</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1 BHT 117 Gravity — API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic <u>2118</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>0800</u>
(B) First Initial Flow <u>25</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0913</u>
(C) First Final Flow <u>26</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1148</u>
(D) Initial Shut-In <u>31</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1253</u>
(E) Second Initial Flow <u>27</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1455</u>
(F) Second Final Flow <u>27 27</u>	<input checked="" type="checkbox"/> Mileage <u>37 R/T</u> 57.35	Comments
(G) Final Shut-In <u>57</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2071</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Packer	Sub Total <u>0</u>
Final Flow <u>15</u>	<input type="checkbox"/> Extra Recorder	Total <u>1632.35</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	MP/DST Disc't
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1632.35</u>	

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.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48429

Well Name & No. Joc # 1-21 Test No. 2 Date 8/15/12
 Company Larson Engineering, Inc Elevation 2880 KB 2874 GL
 Address 562 W. State Rd 4 Olmitz, Ks 67564
 Co. Rep / Geo. Bob Lewellyn Rig HD #3
 Location: Sec. 21 Twp. 17S Rge. 30W Co. Lane State Ks

Interval Tested 4250 - 4279 Zone Tested LKC - L
 Anchor Length 29' Drill Pipe Run 4085 Mud Wt. 9.2
 Top Packer Depth 4245 Drill Collars Run 147. Vis 56
 Bottom Packer Depth 4250 Wt. Pipe Run Ø WL 7.6
 Total Depth 4279 Chlorides 1600 ppm System LCM 1#

Blow Description IF! Surface blow.
ISI! No return.
FF! No blow.
FSI! No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</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 3 BHT 113 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 2094
 (B) First Initial Flow 33
 (C) First Final Flow 30
 (D) Initial Shut-In 35
 (E) Second Initial Flow 28
 (F) Second Final Flow 29
 (G) Final Shut-In 163
 (H) Final Hydrostatic 2008

Test 1250
 Jars 250
 Safety Joint 75
 Circ Sub N/C
 Hourly Standby
 Mileage 37 hr 57.35
 Sampler
 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility
 Sub Total 1632.35

T-On Location 2115 8/14/12
 T-Started 2146
 T-Open 0000
 T-Pulled 0105
 T-Out 0314

Comments _____
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1632.35
 MP/DST Disc't _____

Initial Open 5
 Initial Shut-In 15
 Final Flow 15
 Final Shut-In 30

Approved By _____ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48430

Well Name & No. Joe #1-21 Test No. 3 Date 3/16/12
 Company Larson Engineering, Inc Elevation 2880 KB 2874 GL
 Address 562 W. State Rd #4 Olmitz, Ks 67564
 Co. Rep / Geo. Bob Lewellyn Rig HD #3
 Location: Sec. 21 Twp. 17s Rge. 30w Co. Lane State Ks

Interval Tested 4300 - 4390 Zone Tested Pleasanton - Altamont
 Anchor Length 4295 90' Drill Pipe Run 4146 Mud Wt. 9.1
 Top Packer Depth 4300 4295 Drill Collars Run 147 Vis 51
 Bottom Packer Depth 4300 Wt. Pipe Run 0 WL 7.2
 Total Depth 4390 Chlorides 2,000 ppm System LCM 1#
 Blow Description IF: Surface blow.
ISI: No return.
FF: 1/2" blow.
FST: No return.

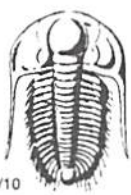
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>mun</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 118 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2103</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>1830</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>1846</u>
(C) First Final Flow <u>28</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>2112</u>
(D) Initial Shut-In <u>849</u>	<input checked="" type="checkbox"/> Circ Sub <u>H/c</u>	T-Pulled <u>2302</u>
(E) Second Initial Flow <u>29</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0127</u>
(F) Second Final Flow <u>44</u>	<input checked="" type="checkbox"/> Mileage <u>3744</u> 57.35	Comments
(G) Final Shut-In <u>829</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2058</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
Initial Open <u>5</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1882.35</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1882.35</u>	

Approved By _____ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48431

Well Name & No. Joe # 1-21 Test No. 4 Date 8/16/12
 Company Larson Engineering, Inc. Elevation 2880 KB 2874 GL
 Address 562 W. State Rd 4 Olmitz, Ks 67564
 Co. Rep / Geo. Bob Lewellyn Rig HD #3
 Location: Sec. 2C Twp. 17S Rge. 30W Co. Lane State Ks

Interval Tested 4410 - 4510 Zone Tested Pawnee - Ft. Scott
 Anchor Length 100' Drill Pipe Run 4240 Mud Wt. 9.3
 Top Packer Depth 4405 Drill Collars Run 147 Vis 52
 Bottom Packer Depth 4410 Wt. Pipe Run Ø WL 8.0
 Total Depth 4510 Chlorides 1,000 ppm System LCM 1#

Blow Description IF: Surface blow.
FSI: No return.
FF: No blow
FSI! No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud</u>			<u>100</u>	

Rec Total 10 BHT 115 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2170</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>170d</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1735</u>
(C) First Final Flow <u>29</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1945</u>
(D) Initial Shut-In <u>167</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>2050</u>
(E) Second Initial Flow <u>24</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>2314</u>
(F) Second Final Flow <u>25</u>	<input checked="" type="checkbox"/> Mileage <u>37 RT</u> <u>57.35</u>	Comments
(G) Final Shut-In <u>295</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2153</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Open <u>3</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Initial Shut-In <u>15</u>	<input type="checkbox"/> Day Standby	Total <u>1882.35</u>
Final Flow <u>15</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
Final Shut-In <u>30</u>	Sub Total <u>1882.35</u>	

Approved By _____ Our Representative [Signature]

TriLOBite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48432

Well Name & No. Joe # 1-21 Test No. 5 Date 8/17/12
 Company Larsen Engineering, Inc Elevation 2880 KB 2874 GL
 Address 562 W. State Rd #4 Olmitz, Ks 67564
 Co. Rep / Geo. Bob Lewellyn Rig HD #3
 Location: Sec. 21 Twp. 17s Rge. 30 w Co. Lane State Ks

Interval Tested 4510 - 4551 Zone Tested Johnson
 Anchor Length 41 Drill Pipe Run 4366 Mud Wt. 9.2
 Top Packer Depth 4505 Drill Collars Run 147 Vis 53
 Bottom Packer Depth 4510 Wt. Pipe Run 0 WL 8.0
 Total Depth 4551 Chlorides 1,000 ppm System LCM 1#
 Blow Description IF: Surface blow
ISI: No return.
FF: No blow.
FSI: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>MUD (see specs in tool)</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 117 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>2209</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>0745</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0904</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1201</u>
(D) Initial Shut-In <u>38</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1306</u>
(E) Second Initial Flow <u>23</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1517</u>
(F) Second Final Flow <u>23</u>	<input checked="" type="checkbox"/> Mileage <u>37 1/2</u> 57.35	Comments
(G) Final Shut-In <u>73</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2175</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>5</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>15</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1882.35</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1882.35</u>	

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.

P. O. Box 375
Kechi, Kansas 67067-0375
316-518-0495
boblewellyn@yahoo.com

GEOLOGICAL REPORT

Larson Engineering, Inc.

No. 1-21 Joe
2454' FNL & 1285' FWL Sec. 21-17S-30W
Lane County, Kansas

CONTRACTOR: H D Drilling, LLC Rig 3
SPUDDED: August 07, 2012
DRILLING COMPLETED: August 18, 2012
SURFACE CASING: 8 5/8" @ 261 KBM/175 sx.
ELECTRIC LOGS: DIL CNL/CDL MEL
ELEVATIONS: 2880 KB 2873 GL
FORMATION TOPS: (Electric Log)

Anhydrite	2219 (+ 661)
Base Anhydrite	2279 (+ 601)
Heebner Shale	3913 (-1033)
Lansing-Kansas City Group	3951 (-1071)
Muncie Creek Shale	4122 (-1242)
Stark Shale	4218 (-1338)
Hushpuckney Shale	4261 (-1381)
Base Kansas City	4303 (-1423)
Marmaton	4328 (-1448)
Altamont	4357 (-1477)
Pawnee	4420 (-1540)
Myrick Station	4448 (-1568)
Fort Scott	4472 (-1592)
Cherokee	4495 (-1615)
Mississippian	4582 (-1702)
Electric Log Total Depth	4630 (-1750)

Samples were examined microscopically from 3800 to Rotary Total Depth. Samples were examined wet and dry and samples from potentially productive zones were viewed under a fluoroscope and checked for oil cut. Following is a description of zones of interest, Drill Stem Tests, etc. For a complete lithologic description of all formations refer to the sample log in the back pages of this report.

Samples were very poor from the Pleasanton section to Total Depth and carried an abnormal amount of shale in the system.

Lansing-Kansas City Zones:

3951-3959 (A Zone)

Limestone, buff to tan, some brown, some gray, dense to finely crystalline and mealy, fossiliferous and partly oolitic, scattered poor intercrystalline porosity, no show of oil.

3986-3990 (B Zone)

Limestone, buff, dense, some finely crystalline, some cream chalky, some very poor scattered intercrystalline and interfossil porosity with a trace of dead stain, no show of live oil,

4004-4032 (C/D Zone)

Limestone, cream to buff, dense and chalky, some finely crystalline and slightly fossiliferous, trace of very poor intercrystalline porosity with traces of dead stain, no show of live oil.

4035-4048 (E Zone)

Limestone, buff, some tan, some gray, dense to finely crystalline, slightly fossiliferous, zone is mostly tight with no shows of oil.

4057-4064 (F Zone)

Limestone, limestone, buff to gray, some brown, dense to finely crystalline and slightly oolitic, some fossiliferous, zone is mostly tight with scattered dead stain, no show of live oil.

4070-4076 (G Zone)

Limestone, cream to buff, some medium gray, finely crystalline and partly oolitic, scattered poor oolitic porosity with considerable tight limestone, no show of oil.

4139-4147 (H Zone)

Limestone, tan to brown to mottled, finely crystalline, partly fossiliferous and oolitic, scattered very poor intercrystalline, interfossil, and interoolitic porosity, no show of oil.

4165-4191 (I Zone)

Limestone, buff to tan and brown, some mottled gray, finely crystalline and fossiliferous, scattered very poor intercrystalline and interfossil porosity, no show of oil.

4196-4218 (J Zone)

Limestone, buff to tan, some brown, finely crystalline and partly oolitic, some dense, scattered trace of very poor intercrystalline and oolitic porosity, much of zone is tight, no show of oil.

4238-4244 (K Zone)

Limestone, buff to tan to brown, some medium gray, dense to finely crystalline and fossiliferous, partly oolitic, scattered poor to fair intercrystalline and interfossil porosity, no show of oil.

4264-4270 (Middle Creek Zone)

Limestone, tan to brown, some mottled, dense to finely crystalline and fossiliferous, poor intercrystalline porosity and scattered poor vugular porosity, trace of scattered poor spotted stain, slight show of free oil, faint fleeting odor, poor fluorescence, poor to fair cut.

Drill Stem Test No. 1 4256-4274

5-15-15-30; surface blow died in four minutes; blow did not return on second flow. Recovered one foot of mud. ISIP 31# FSIP 57# IFP 25-26# FFP 27-27# IHP 2118# FHP 2071# BHT 117 degrees F.

4273-4284 (L Zone)

Limestone, tan to brown, some medium gray, finely crystalline and fossiliferous, some scattered medium crystalline, some oolitic, top portion has trace of very poor spotted stain and slight show of free oil, faint fleeting odor, poor fluorescence, poor to fair cut.

Drill Stem Test No. 2 4250-4279

5-15-15-30; surface blow, died on first flow; blow did not return on second flow. Recovered three feet of mud. ISIP 35# FSIP 163# IFP 33-30# FFP 28-29# IHP 2094# FHP 2008# BHT 113 degrees F.

4284-4290 (Lower L Zone)

Limestone, tan to brown, some medium gray, finely crystalline with some scattered medium crystalline, poor to fair intercrystalline porosity, some poor vugular porosity, some poor scattered oolitic porosity, partly fossiliferous and oolitic with tan to brown oolitic chert and scattered gray oolitic chert, this lower portion where the best log porosity is present contains no shows of oil.

4303-4324 (Pleasanton Zone)

The Pleasanton section consisted of limestone, buff to tan, finely crystalline, fossiliferous in part, some dense, few pieces with very poor spotted stain, very slight show of free oil, no odor, no fluorescence, very poor cut.

4328-4373 (Marmaton Zone)

Limestone, brown, some medium gray, dense to finely crystalline, some medium crystalline, slightly fossiliferous in part, scattered poor vugular and intercrystalline porosity, trace of very poor spotted stain with very slight show of free oil, faint fleeting odor, poor fluorescence, poor cut.

4374-4383 (Altamont "A" Zone)

Limestone, buff to tan, finely crystalline and fossiliferous, partly oolitic, poor to fair intercrystalline

and small vug porosity, scattered very poor spotted stain, slight show of free oil, faint odor, poor fluorescence, poor to fair cut.

Drill Stem Test No. 3 4300-4390
5-15-30-60; weak surface blow on first flow, no blowback; built to half-inch blow on second flow, no blowback. Recovered 30 feet of mud. ISIP 849# FSIP 829# IFP 22-28# FFP 29-44# IHP 2103#
FHP 2058# BHT 118 degrees F.

4420-4430 (Pawnee Zone)

Limestone, tan to brown, some mottled, dense to finely crystalline, slightly oolitic, few pieces with scattered fair intercrystalline porosity and poor spotted stain, very slight show of free oil, faint questionable odor, poor fluorescence, poor cut.

4448-4468 (Myrick Station Zone)

Limestone, brown, some gray, dense to finely crystalline, slightly fossiliferous, trace of poor intercrystalline porosity, questionable spotted light stain, faint odor, very slight show of free oil, poor fluorescence, poor cut.

4472-4495 (Fort Scott Zone)

Limestone, cream to buff, some tan, dense to finely crystalline and partly fossiliferous, some partly oolitic, poor scattered intercrystalline and small vug porosity, very poor spotted stain, very slight show of free oil, faint odor, poor fluorescence, very poor cut.

Drill Stem Test No. 4 4410-4510
5-15-15-30; weak surface blow on first flow, no blowback; blow did not return on second flow period. Recovered 10 feet of mud. ISIP 167# FSIP 295# IFP 23-29# FFP 24-25# IHP 2170# FHP 2153#
BHT 115 degrees F.

4498-4526 (Cherokee Lime Zones)

Limestone, brown, dense, some finely crystalline, the entire section is mostly tight and contained no shows of oil.

4526-4556 (Johnson Zone)

Limestone, tan to brown and gray, dense to finely crystalline, some medium crystalline and some large crystal overgrowth, partly fossiliferous, fair intercrystalline porosity with scattered poor to fair vugular porosity, scattered poor spotted stain, slight show of free oil, faint odor, poor fluorescence, poor to fair cut.

Drill Stem Test No. 5 4510-4551
5-15-15-30; weak surface blow on first flow, no blowback; blow did not return on second flow. Recovered two feet of mud with specks of oil in the tool. ISIP 38# FSIP 73# IFP 23-23# FFP 23-23#
IHP 2209# FHP 2175# BHT 117 degrees F.

4563-4582 (Detrital Zone)

Chert, white to varicolored, fresh to tripolitic, various and varicolored shales, and sand, white, very fine grained, well sorted, well cemented, tight, no show of oil.

4582-4630 (Mississipi Zone)

Limestone, dolomitic, buff to tan, some brown, dense to finely crystalline, some medium crystalline, slightly fossiliferous, tight, brittle, partly soft, mostly tight with trace of scattered poor intercrystalline porosity, no show of oil, some scattered chert, gray, fresh, opaque.w

4630 Electric Log Total Depth

Conclusions and Recommendations:

Sample examination, drill stem testing, and electric logging revealed no zones of possible commercial production of oil or gas in this well. It was therefore recommended the No. 1 Joe be plugged and abandoned.

Respectfully submitted,

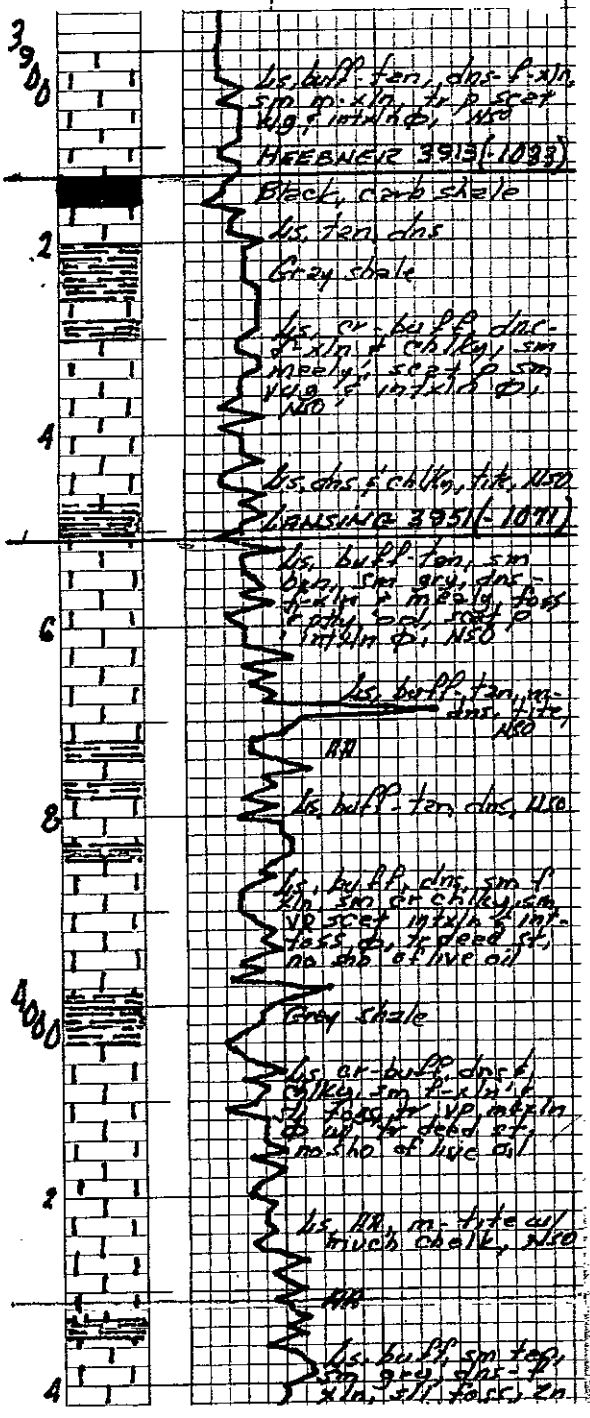
Robert C. Lewellyn
Petroleum Geologist

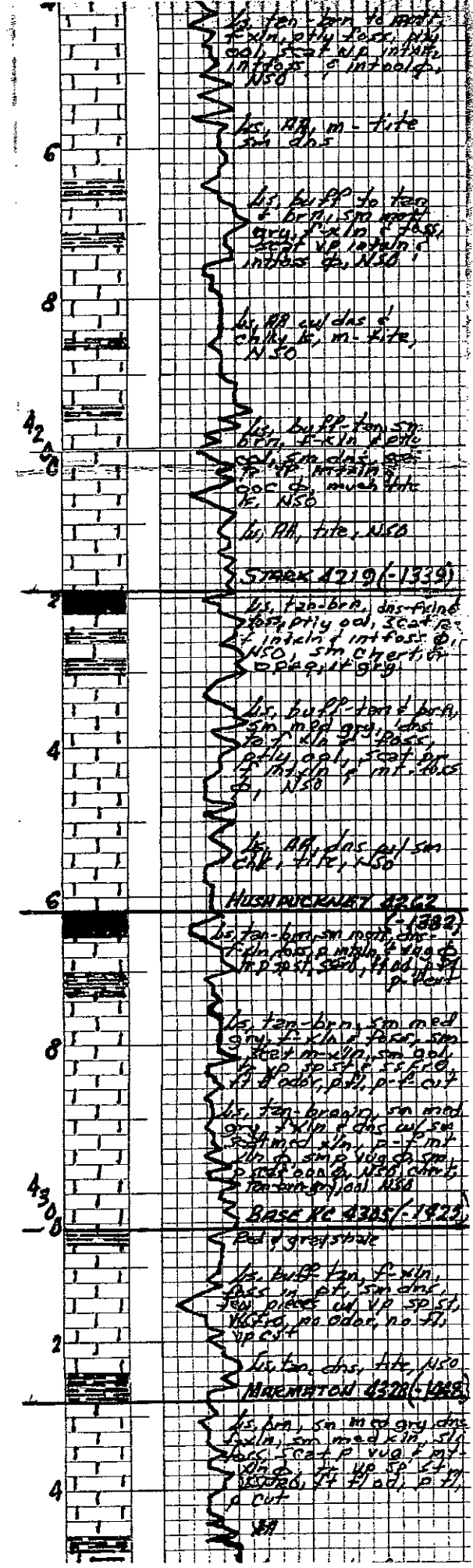
RCL:me

STATE KANSAS		COMPANY LARSON ENGINEERING, INC.	
COUNTY LANE	FARM JOE	WELL NO. 1-21	
BLOCK	SURVEY 2454' FNL & 1285' FWL		
SEC. 21			
T. 175	R. 30 W	TOTAL DEPTH 4630	
CONTRACTOR HD Drilling, Inc.			
COMMENCED 08-07-2012			
COMPLETED 08-18-2012			
REMARKS			
ALTITUDE 2880 KB			
PRODUCTION D & A			
REMARKS Robert C. Bewallyn - Geol			

CASING RECORD

8 5/8" @ 261 KBM / 175 SX





4300

ls. tan-brn, sm med
gr, sh, & chs w/ sm
scattered sh, in part
thin, sm p. yug. sh, sm
p. sh. (also, N.S.D. chert,
in part, also, N.S.D.)
BASE VE 4385 (1923)
Red gray shale

2

ls. buff tan, f. xln,
foss. in pt., sm. chert
few pieces of VP. sp. sh,
N.S.D., in odor, no sh
VP cut

ls. tan, chs, sh, N.S.D.
MURKIN 4378 (1923)

4

ls. brn, sm med gray chs
foss. in pt., sm med. sh, sh
scat. p. yug. sh, in
part, VP. sp. sh, in
part, VP. sh, in part,
p. cut

ls. brn, chs, sh, N.S.D.
shaly, N.S.D.
ALTMONT 4358 (1918)

6

ls. buff-tan, chs
f. xln, sm. sh, sh, sh
sh, sh, sh, sh, sh, sh,
N.S.D., in part, N.S.D.

ls. tan, chs, f. xln, foss.
sh, sh, sh, sh, sh, sh,
sm. yug. sh, sh, sh, sh,
sh, sh, sh, sh, sh, sh,
p. sh, p. cut

8

ls. buff-tan, chs,
sh, sh, N.S.D.

4300

ls. buff-tan, chs, sm
foss. in pt., sh, sh, sh,
sh, sh, sh, sh, sh, sh,
N.S.D., in part, N.S.D.

ls. brn, chs, sh, N.S.D.
PANNEK 4420 (1940)

2

ls. tan-brn, sm
foss. in pt., sh, sh, sh,
sh, sh, sh, sh, sh, sh,
sh, sh, sh, sh, sh, sh,
p. sh, p. cut

ls. brn, chs, sh, N.S.D.

4

MATRICK STA 4419 (1928)

6

ls. brn, sm gray chs
foss. in pt., sh, sh, sh,
sh, sh, sh, sh, sh, sh,
sh, sh, sh, sh, sh, sh,
p. sh, p. cut

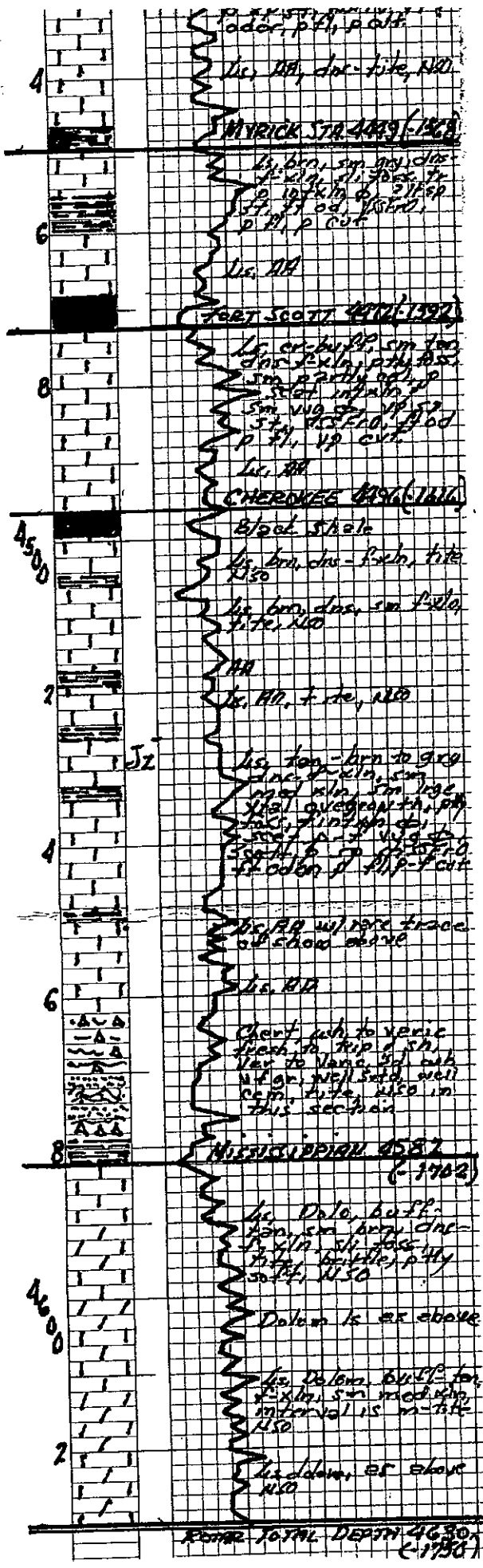
ls. sh

FOOT SCOTT 4412 (1927)

8

ls. buff-tan, sm tan
foss. in pt., sh, sh, sh,
sm. partly buff, p.
sh, sh, sh, sh, sh, sh,
sm. yug. sh, sh, sh, sh,
sh, sh, sh, sh, sh, sh,
p. sh, VP. cut

ls. sh
MURKIN 4378 (1923)



Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

December 04, 2012

Thomas Larson
Larson Engineering, Inc. dba Larson Operating
Company
562 W STATE RD 4
OLMITZ, KS 67564-8561

Re: ACO1
API 15-101-22395-00-00
Joe 1-21
NW/4 Sec.21-17S-30W
Lane County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Thomas Larson

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

December 04, 2012

Thomas Larson
Larson Engineering, Inc. dba Larson Operating
Company
562 W STATE RD 4
OLMITZ, KS 67564-8561

Re: ACO-1
API 15-101-22395-00-00
Joe 1-21
NW/4 Sec.21-17S-30W
Lane County, Kansas

Dear Thomas Larson:

K.A.R. 82-3-107 provides for all completion information to be filed within 120 days of the spud date. Subsection(e)(2) of that regulation states "All rights to confidentiality shall be lost if the filings are not timely."

The above referenced well was spudded on 8/4/2012 and the ACO-1 was received on December 04, 2012 (not within the 120 days timely requirement).

Therefore, your request for confidential treatment of data contained within the ACO-1 filing cannot be granted at this time.

If you should have any questions, please do not hesitate to contact me at (316)337-6200.

Sincerely,

Production Department