

Confidentiality Requested:

☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1090434

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).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	☐ Yes	☐ No	☐ Log	Formation (Top), Depth and Datum	☐ Sample
Samples Sent to Geological Survey	☐ Yes	☐ No	Name	Top	Datum
Cores Taken	☐ Yes	☐ No			
Electric Log Run	☐ Yes	☐ No			
List All E. Logs Run:					

CASING RECORD ☐ New ☐ 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				

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)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	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	Bbbs.	Gas	Mcf	Water	Bbbs.	Gas-Oil Ratio	Gravity	

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> ☐ Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
--	--	--	---

Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	L York 1-13
Doc ID	1090434

Tops

Name	Top	Datum
Anhydrite	2154	+667
Base Anhydrite	2185	+636
Heebner	3967	-1146
Lansing	4008	-1187
Stark Sh	4294	-1473
Marmaton	4405	-1584
Fort Scott	4544	-1723
Cherokee	4570	-1749
Miss	4634	-1813

ALLIED CEMENTING CO., LLC. 042468

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:
Great Bend KS

DATE <u>4-16-12</u>	SEC. <u>13</u>	TWP. <u>19</u>	RANGE <u>29</u>	CALLED OUT	ON LOCATION	JOB START <u>7:15p</u>	JOB FINISH <u>9:45p</u>
LEASEL <u>York</u>		WELL# <u>1-1.3</u>		LOCATION <u>Dighton KS, 6 S, 1 W, 1/2 N, E</u>		COUNTY <u>Lane</u>	STATE <u>KS</u>
OLD OR NEW (Circle one)				<u>into</u>			

CONTRACTOR <u>Larson HD</u>	OWNER <u>Larson</u>
TYPE OF JOB <u>Surface</u>	
HOLE SIZE <u>12 1/4</u>	T.D. <u>267</u>
CASING SIZE <u>8 5/8</u>	DEPTH <u>260 + 12 = 272</u>
TUBING SIZE	DEPTH
DRILL PIPE <u>4 1/2</u>	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG. <u>15 Feet</u>	
PERFS.	
DISPLACEMENT <u>Freshwater</u>	

EQUIPMENT

PUMP TRUCK	CEMENTER <u>Shane K</u>
# <u>398</u>	HELPER <u>Kerry R</u>
BULK TRUCK	
# <u>341</u>	DRIVER <u>Marlynn S.</u>
BULK TRUCK	
#	DRIVER

REMARKS:
Arrive on location, hold safety meeting, Rig
up. Circulate casing with rig mud,
Hook up. Mix 175 sx comm 3% cc,
2% gel. Displace with 16.37 bbls.
Cement did circulate & shut in
Rig down. Leave location

CHARGE TO: Larson

STREET _____

CITY _____ STATE _____ ZIP _____

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment
and furnish cementer and helper(s) to assist owner or
contractor to do work as is listed. The above work was
done to satisfaction and supervision of owner agent or
contractor. I have read and understand the "GENERAL
TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME X LEWYNE TRESNER

SIGNATURE X [Signature]

CEMENT

AMOUNT ORDERED 175 sx Comm 3% cc,
2% gel

COMMON	<u>175 sx</u>	@ <u>16.25</u>	<u>2843.75</u>
POZMIX		@	
GEL	<u>3 % sx</u>	@ <u>21.25</u>	<u>63.75</u>
CHLORIDE	<u>6 sx</u>	@ <u>58.20</u>	<u>349.20</u>
ASC		@	
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	<u>188.79</u>	@ <u>2.10</u>	<u>396.35</u>
MILEAGE	<u>8.62 x 136.5</u>	@ <u>2.35</u>	<u>526.68</u>
TOTAL			<u>4179.73</u>

SERVICE

DEPTH OF JOB	<u>272</u>		
PUMP TRUCK CHARGE			<u>1125.00</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>HVM 26</u>	@ <u>7.00</u>	<u>182.00</u>
MANIFOLD		@	
	<u>Lum 26</u>	@ <u>4.00</u>	<u>104.00</u>
		@	
TOTAL			<u>1411.00</u>

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
TOTAL		

SALES TAX (If Any) _____

TOTAL CHARGES 5590.73

DISCOUNT 20% 20% 1667.82

IF PAID IN 30 DAYS

3.922.91

ALLIED OIL & GAS SERVICES, LLC 053522

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Great Bend, KS

DATE <u>4-30-12</u>	SEC <u>13</u>	TWP <u>19</u>	RANGE <u>29</u>	CALLED OUT	ON LOCATION	JOB START <u>7:00 AM</u>	JOB FINISH <u>5:00 PM</u>
LEASE <u>York</u>	WELL # <u>177</u>	LOCATION <u>Dighton, KS S South</u>			COUNTY <u>Dodge</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one) <u>NEW</u>			<u>West, North into</u>				

CONTRACTOR LD Rig #3

TYPE OF JOB Repair Plug

HOLE SIZE T.D.

CASING SIZE DEPTH

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG.

PERFS.

DISPLACEMENT

EQUIPMENT

PUMP TRUCK CEMENTER Greg P

366 HELPER Jon P

BULK TRUCK

744-170 DRIVER Kevin W.

BULK TRUCK

DRIVER

REMARKS:

1st plug mix 50 sks C 2160'

2nd plug mix 80 sks S 1330'

3rd plug mix 50 sks C 650'

4th plug mix 50 sks S 290'

5th plug mix 20 sks C 60'

MIX 20 sks in Rothole

OWNER Lorson Engineering

CEMENT

AMOUNT ORDERED 290 sks 66/40 per.

440 gal 174 Jlosses!

COMMON	<u>168</u>	@ <u>26.25</u>	<u>2,730.00</u>
POZMIX	<u>112</u>	@ <u>8.50</u>	<u>952.00</u>
GEL	<u>10</u>	@ <u>21.25</u>	<u>212.50</u>
CHLORIDE		@	
ASC		@	
<u>Fla Seal</u>	<u>70</u>	@ <u>2.70</u>	<u>189.00</u>
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	<u>300.72</u>	@ <u>2.10</u>	<u>631.51</u>
MILEAGE	<u>12.56 X 26</u>	<u>2.35</u>	<u>767.17</u>
TOTAL			<u>5,482.18</u>

SERVICE

DEPTH OF JOB	<u>2160</u>		
PUMP TRUCK CHARGE			<u>1250.00</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>HVM 26</u>	@ <u>7.00</u>	<u>182.00</u>
MANIFOLD		@	
	<u>Lvm 26</u>	@ <u>4.00</u>	<u>104.00</u>
		@	

TOTAL 1536.00

CHARGE TO: Lorson Engineering

STREET _____

CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

	@		
	@		
	@		
	@		
	@		

TOTAL _____

To: Allied Oil & Gas Services, LLC.

You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME X LEONARD TRESENER

SIGNATURE X [Signature]

Thank You!

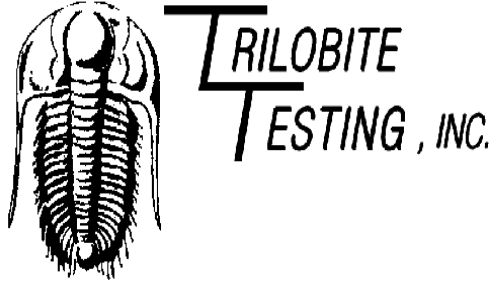
SALES TAX (If Any) _____

TOTAL CHARGES 7,018.18

70% 20% 1,930.29

DISCOUNT _____ IF PAID IN 30 DAYS

5,087.89



DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

L York #1-13

13-19s-29w Lane, KS

Start Date: 2012.04.22 @ 17:03:33

End Date: 2012.04.22 @ 22:53:18

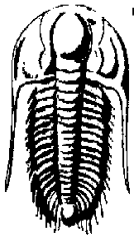
Job Ticket #: 46503 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.02 @ 15:55:13



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 46503

DST#: 1

Test Start: 2012.04.22 @ 17:03:33

GENERAL INFORMATION:

Formation: **H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:17:48

Time Test Ended: 22:53:18

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 60

Interval: 4115.00 ft (KB) To 4136.00 ft (KB) (TVD)

Total Depth: 4198.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8356 Outside

Press@RunDepth: 296.45 psig @ 4116.00 ft (KB)

Start Date: 2012.04.22

End Date:

2012.04.22

Start Time: 17:03:38

End Time:

22:53:17

Capacity: 8000.00 psig

Last Calib.: 2012.04.22

Time On Btm: 2012.04.22 @ 19:16:18

Time Off Btm: 2012.04.22 @ 20:23:33

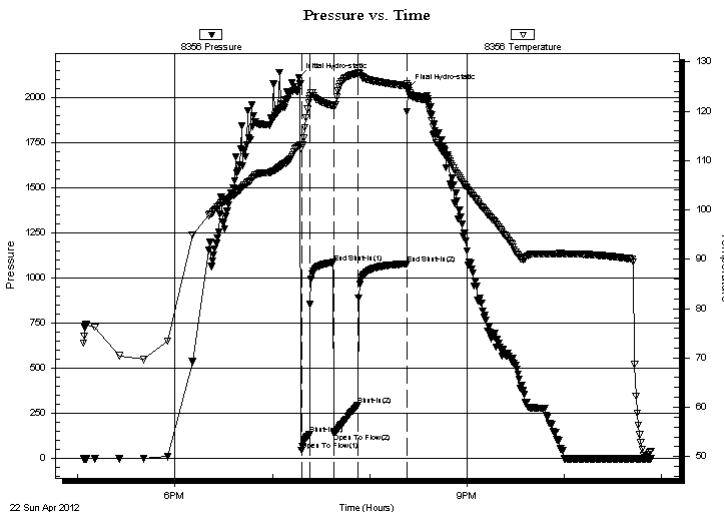
TEST COMMENT: IF: BOB in 4 min.

IS: No return.

FF: BOB in 4 min.

FS: No return.

PRESSURE SUMMARY



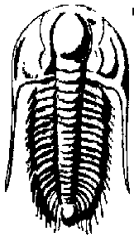
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2108.08	112.94	Initial Hydro-static
2	45.47	112.54	Open To Flow (1)
7	135.87	122.56	Shut-In(1)
22	1085.91	121.11	End Shut-In(1)
22	140.17	120.88	Open To Flow (2)
37	296.45	127.67	Shut-In(2)
67	1079.50	125.10	End Shut-In(2)
68	2049.22	125.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
248.00	mcw 95%w 5%m	2.13
186.00	mcw 80%w 20%m	2.61
186.00	w cm 40%w 60%m	2.61

Gas Rates

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

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 46503

DST#: 1

Test Start: 2012.04.22 @ 17:03:33

GENERAL INFORMATION:

Formation: **H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:17:48

Time Test Ended: 22:53:18

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 60

Interval: 4115.00 ft (KB) To 4136.00 ft (KB) (TVD)

Total Depth: 4198.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8373 Inside

Press@RunDepth: psig @ 4116.00 ft (KB)

Start Date: 2012.04.22

End Date:

2012.04.22

Start Time: 17:03:16

End Time:

22:52:55

Capacity: 8000.00 psig

Last Calib.: 2012.04.22

Time On Btm:

Time Off Btm:

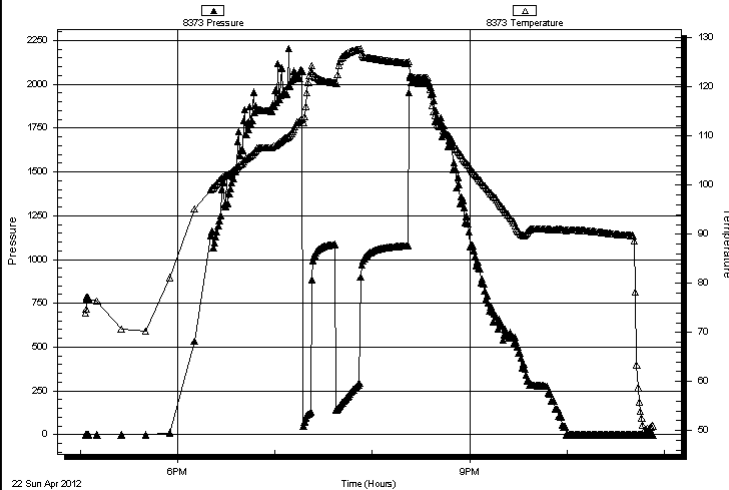
TEST COMMENT: IF: BOB in 4 min.

IS: No return.

FF: BOB in 4 min.

FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

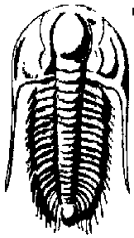
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
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Recovery

Length (ft)	Description	Volume (bbl)
248.00	mcw 95%w 5%m	2.13
186.00	mcw 80%w 20%m	2.61
186.00	w cm 40%w 60%m	2.61

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 46503

DST#: 1

ATTN: Vern Schrag

Test Start: 2012.04.22 @ 17:03:33

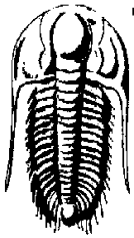
Tool Information

Drill Pipe:	Length:	4007.00 ft	Diameter:	3.80 inches	Volume:	56.21 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	148.00 ft	Diameter:	2.25 inches	Volume:	0.73 bbl	Weight to Pull Loose:	55000.00 lb
					Total Volume:	56.94 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		68.00 ft					String Weight: Initial	45000.00 lb
Depth to Top Packer:		4115.00 ft					Final	50000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		21.00 ft						
Tool Length:		49.00 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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Stubb	1.00			4088.00	
Shut In Tool	5.00			4093.00	
Hydraulic tool	5.00			4098.00	
Jars	5.00			4103.00	
Safety Joint	3.00			4106.00	
Packer	5.00			4111.00	28.00 Bottom Of Top Packer
Packer	4.00			4115.00	
Stubb	1.00			4116.00	
Recorder	0.00	8373	Inside	4116.00	
Recorder	0.00	8356	Outside	4116.00	
Perforations	15.00			4131.00	
Bullnose	5.00			4136.00	21.00 Bottom Packers & Anchor

Total Tool Length: 49.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 46503

DST#: 1

ATTN: Vern Schrag

Test Start: 2012.04.22 @ 17:03:33

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:

50000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.49 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
248.00	mcw 95%w 5%m	2.131
186.00	mcw 80%w 20%m	2.609
186.00	w cm 40%w 60%m	2.609

Total Length: 620.00 ft

Total Volume: 7.349 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .22@53=50000

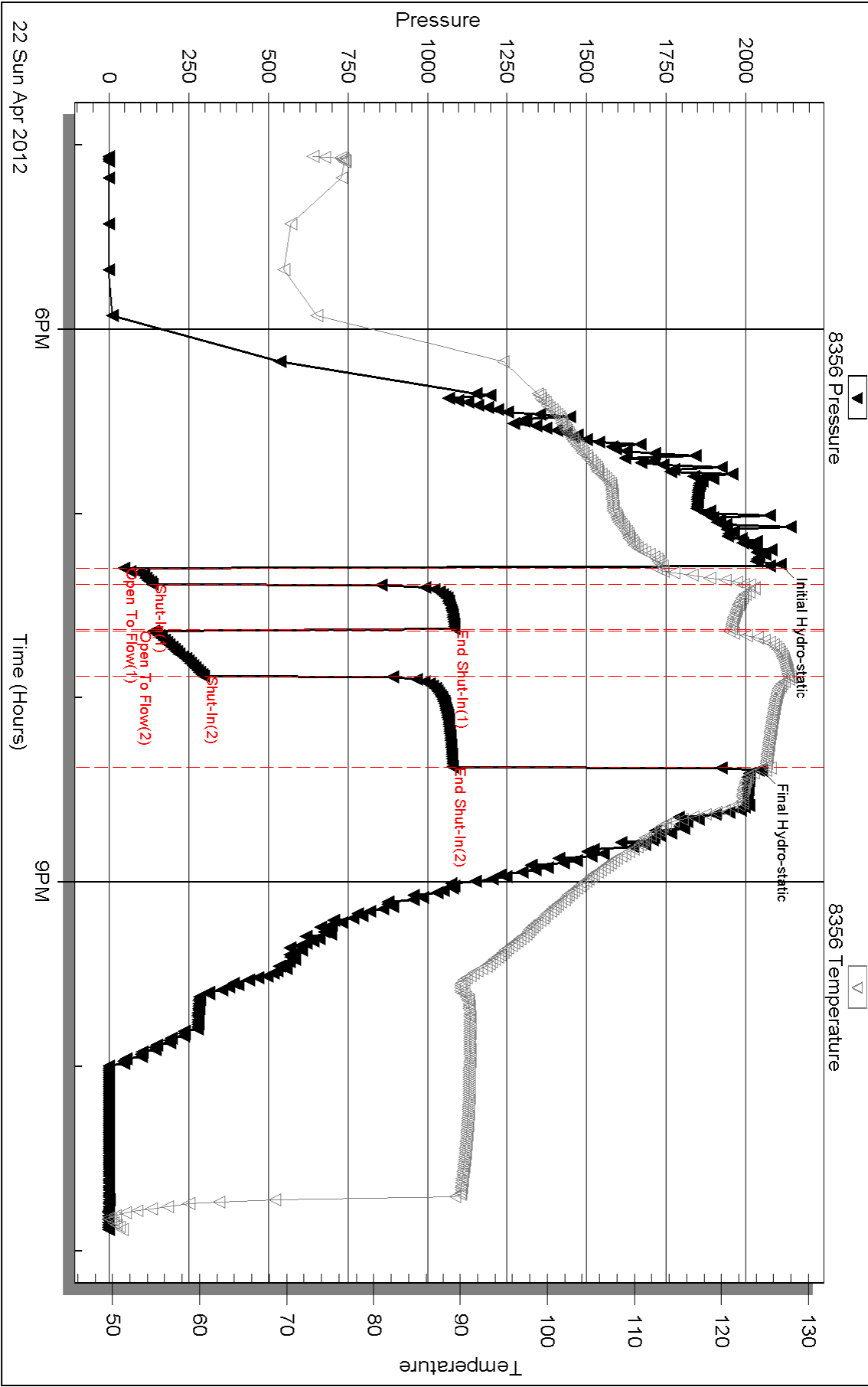
Serial #: 8356

Outside Larson Engineering, Inc

L York #1-13

DST Test Number: 1

Pressure vs. Time



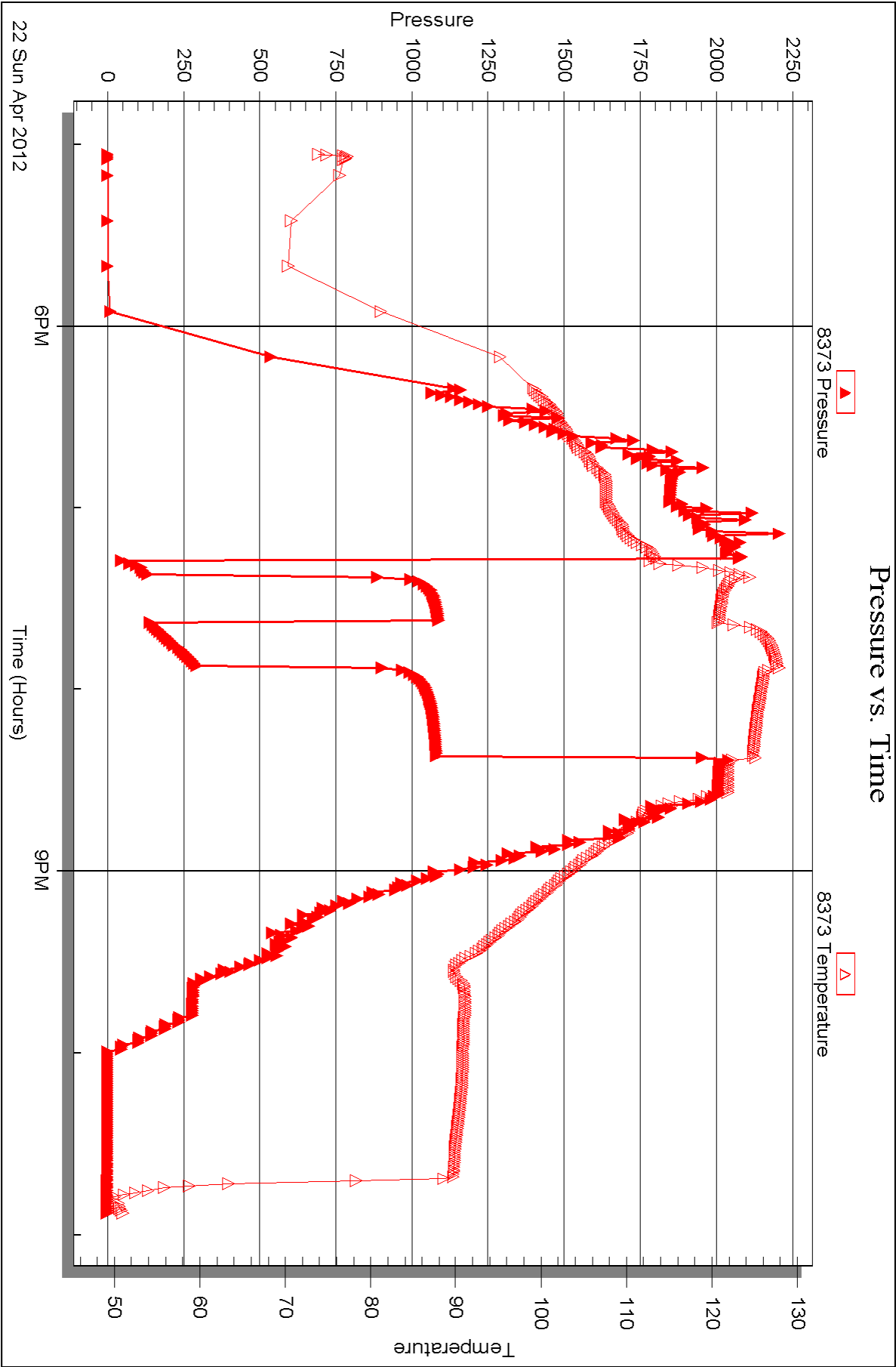
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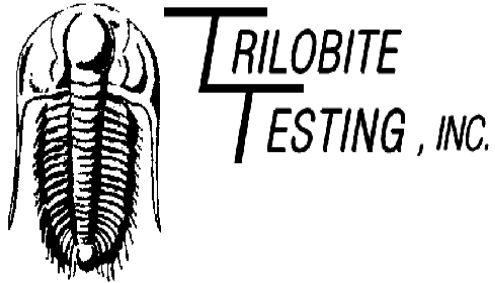
Inside

Larson Engineering, Inc

L York #1-13

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

L York #1-13

13-19s-29w Lane, KS

Start Date: 2012.04.23 @ 11:15:17

End Date: 2012.04.23 @ 15:55:11

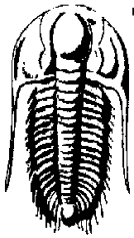
Job Ticket #: 46504 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.02 @ 15:53:57



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 46504

DST#: 2

Test Start: 2012.04.23 @ 11:15:17

GENERAL INFORMATION:

Formation: **H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:09:27

Time Test Ended: 15:55:11

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 60

Interval: 4192.00 ft (KB) To 4212.00 ft (KB) (TVD)

Total Depth: 4212.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8373 Inside

Press@RunDepth: 17.21 psig @ 4193.00 ft (KB)

Start Date: 2012.04.23

End Date:

2012.04.23

Start Time: 11:15:17

End Time:

15:55:11

Capacity: 8000.00 psig

Last Calib.: 2012.04.23

Time On Btm: 2012.04.23 @ 13:07:57

Time Off Btm: 2012.04.23 @ 14:21:57

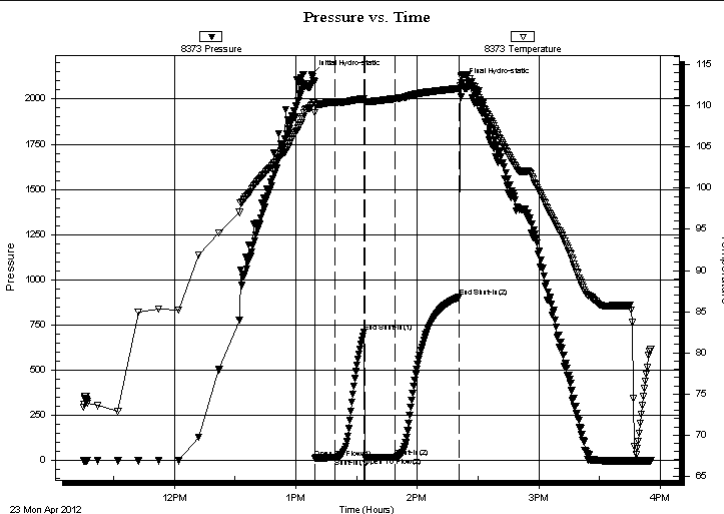
TEST COMMENT: IF: Surface blow died in 4 min.

IS: No return.

FF: No blow.

FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2132.70	110.14	Initial Hydro-static
2	13.21	109.15	Open To Flow (1)
12	15.94	110.46	Shut-In(1)
26	709.71	110.85	End Shut-In(1)
27	16.59	110.48	Open To Flow (2)
42	17.21	110.86	Shut-In(2)
73	904.11	112.12	End Shut-In(2)
74	2088.37	113.65	Final Hydro-static

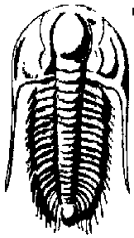
Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100% m	0.02

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 46504

DST#: 2

Test Start: 2012.04.23 @ 11:15:17

GENERAL INFORMATION:

Formation: **H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:09:27

Time Test Ended: 15:55:11

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 60

Interval: 4192.00 ft (KB) To 4212.00 ft (KB) (TVD)

Reference Elevations: 2821.00 ft (KB)

Total Depth: 4212.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8356 Outside

Press@RunDepth: psig @ 4193.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.04.23

End Date:

2012.04.23

Last Calib.:

2012.04.23

Start Time: 11:15:02

End Time:

15:55:11

Time On Btm:

Time Off Btm:

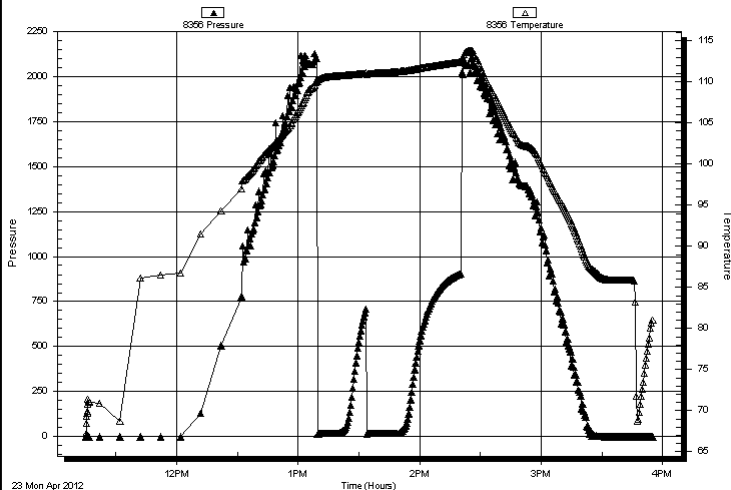
TEST COMMENT: IF: Surface blow died in 4 min.

IS: No return.

FF: No blow.

FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

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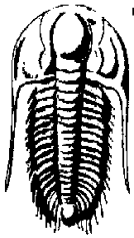
Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100% m	0.02

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 46504

DST#: 2

ATTN: Vern Schrag

Test Start: 2012.04.23 @ 11:15:17

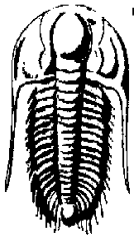
Tool Information

Drill Pipe:	Length:	4024.00 ft	Diameter:	3.80 inches	Volume:	56.45 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	148.00 ft	Diameter:	2.25 inches	Volume:	0.73 bbl	Weight to Pull Loose:	55000.00 lb
					Total Volume:	57.18 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		8.00 ft					String Weight: Initial	48000.00 lb
Depth to Top Packer:		4192.00 ft					Final	48000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		20.00 ft						
Tool Length:		48.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				
Tool Comments:								

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00			4165.00	
Shut In Tool	5.00			4170.00	
Hydraulic tool	5.00			4175.00	
Jars	5.00			4180.00	
Safety Joint	3.00			4183.00	
Packer	5.00			4188.00	28.00 Bottom Of Top Packer
Packer	4.00			4192.00	
Stubb	1.00			4193.00	
Recorder	0.00	8373	Inside	4193.00	
Recorder	0.00	8356	Outside	4193.00	
Perforations	14.00			4207.00	
Bullnose	5.00			4212.00	20.00 Bottom Packers & Anchor

Total Tool Length: 48.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 46504

DST#: 2

ATTN: Vern Schrag

Test Start: 2012.04.23 @ 11:15:17

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 63.00 sec/qt

Water Loss: 7.49 in³

Resistivity: 0.00 ohm.m

Salinity: 2300.00 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 100%m	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 #: 8373

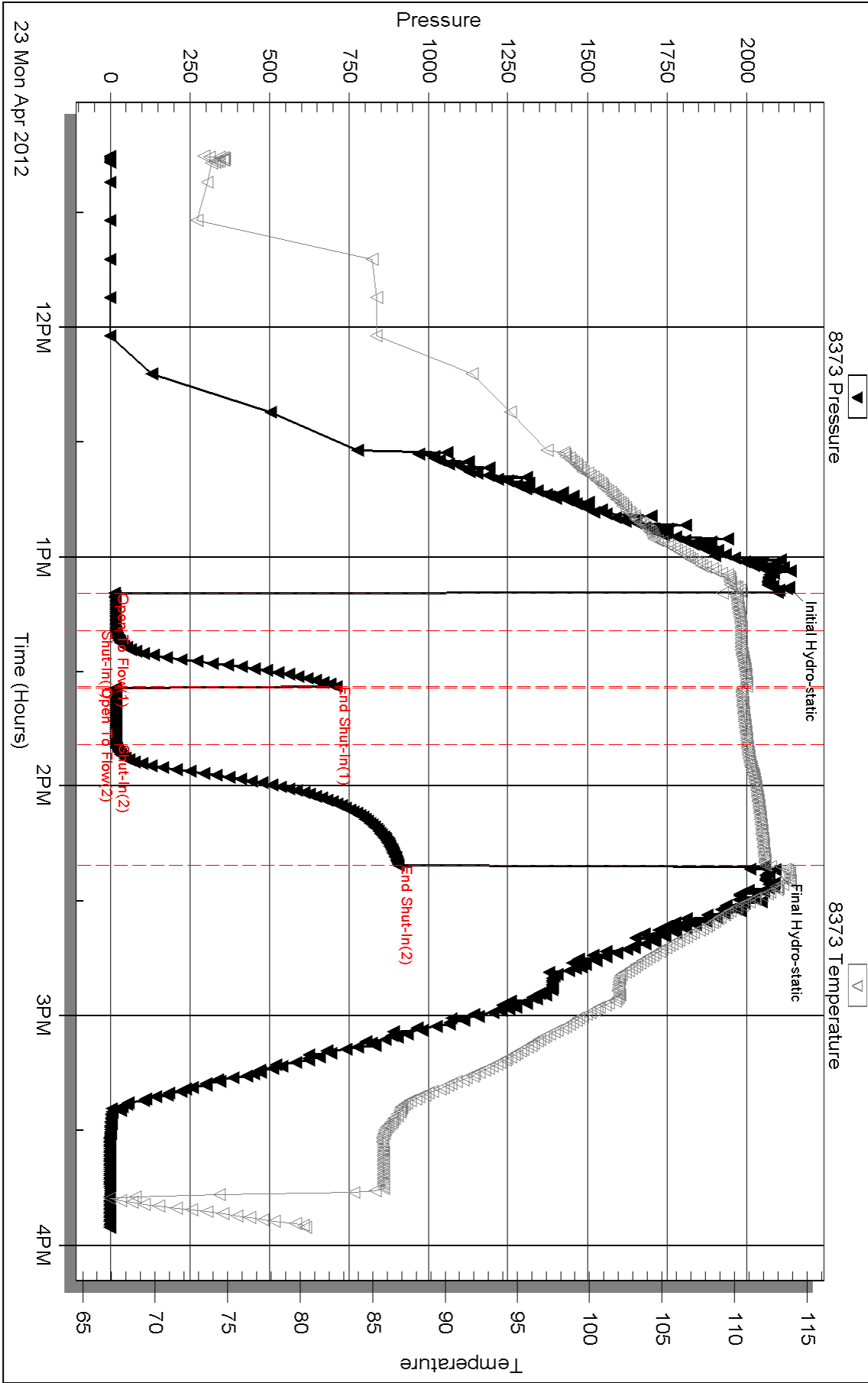
Inside

Larson Engineering, Inc

L York #1-13

DST Test Number: 2

Pressure vs. Time

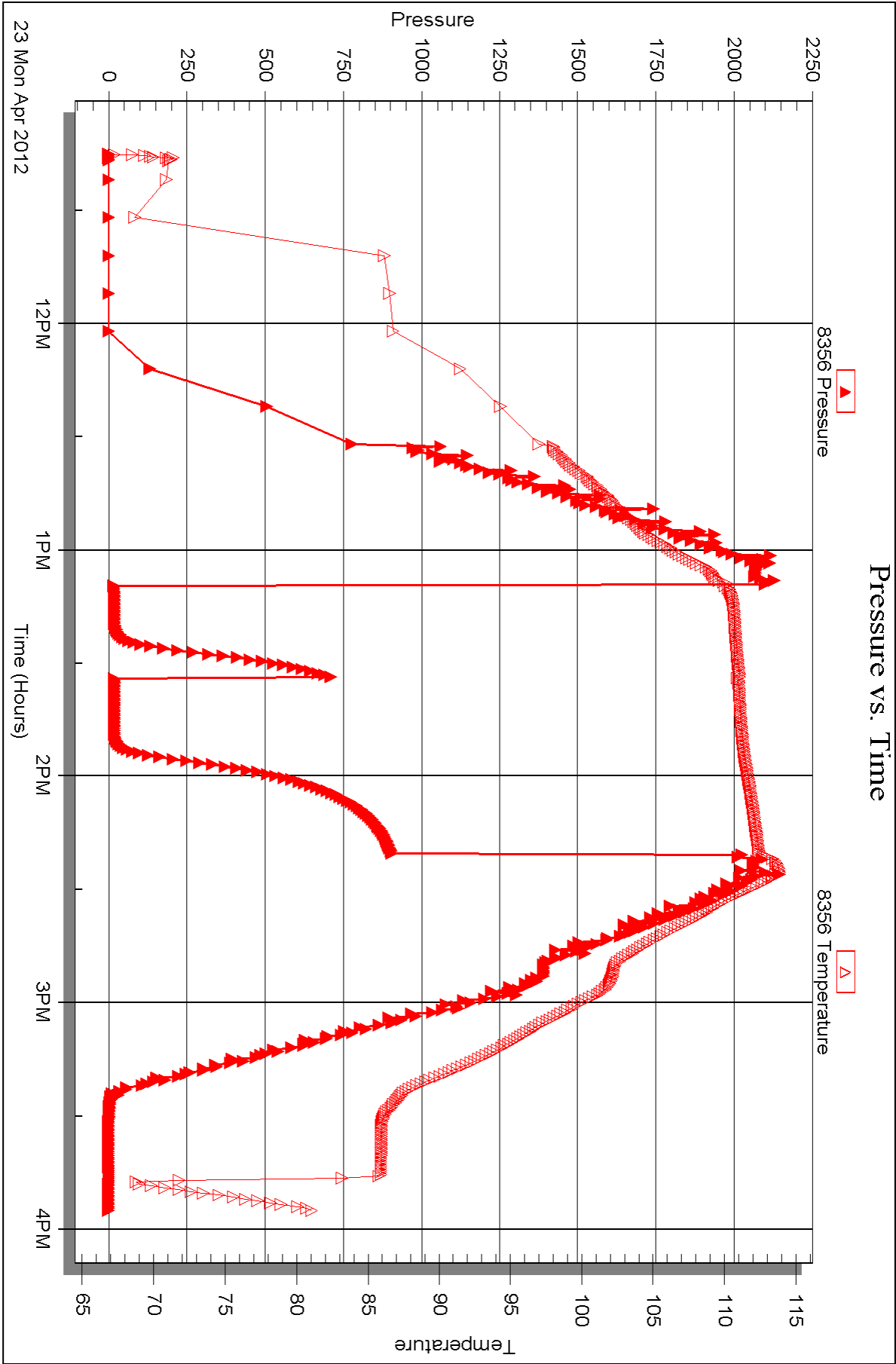


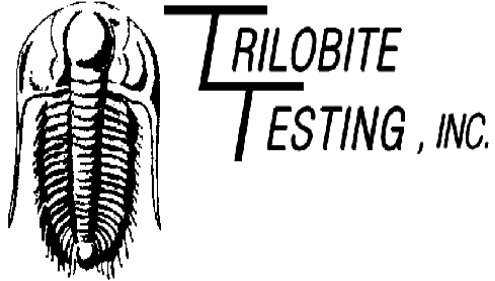
Serial #: 8356

Outside Larson Engineering, Inc

L York #1-13

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

L York #1-13

13-19s-29w Lane, KS

Start Date: 2012.04.24 @ 02:10:17

End Date: 2012.04.24 @ 07:12:47

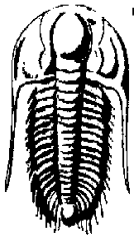
Job Ticket #: 46505 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.02 @ 15:53:09



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 46505

DST#: 3

Test Start: 2012.04.24 @ 02:10:17

GENERAL INFORMATION:

Formation: **I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:16:47

Time Test Ended: 07:12:47

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 60

Interval: 4227.00 ft (KB) To 4257.00 ft (KB) (TVD)

Total Depth: 4257.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8356 Outside

Press@RunDepth: 17.69 psig @ 4228.00 ft (KB)

Start Date: 2012.04.24

End Date:

2012.04.24

Start Time: 02:10:22

End Time:

07:12:46

Capacity: 8000.00 psig

Last Calib.: 2012.04.24

Time On Btm: 2012.04.24 @ 04:15:17

Time Off Btm: 2012.04.24 @ 05:22:17

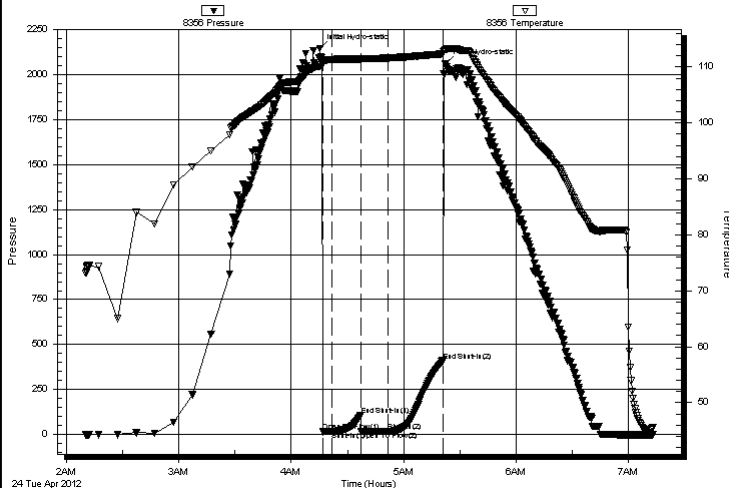
TEST COMMENT: IF: Surface blow died in 3 min.

IS: No return.

FF: No blow.

FS: No return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2145.28	110.12	Initial Hydro-static
2	15.79	110.52	Open To Flow (1)
7	16.82	111.34	Shut-In(1)
22	108.82	111.44	End Shut-In(1)
22	15.60	111.42	Open To Flow (2)
37	17.69	111.61	Shut-In(2)
66	410.09	112.36	End Shut-In(2)
67	2062.50	113.10	Final Hydro-static

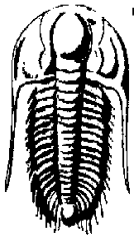
Recovery

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

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

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 46505

DST#: 3

Test Start: 2012.04.24 @ 02:10:17

GENERAL INFORMATION:

Formation: **I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:16:47

Time Test Ended: 07:12:47

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 60

Interval: 4227.00 ft (KB) To 4257.00 ft (KB) (TVD)

Total Depth: 4257.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8373 Inside

Press@RunDepth: psig @ 4228.00 ft (KB)

Start Date: 2012.04.24

End Date:

2012.04.24

Start Time: 02:10:22

End Time:

07:12:46

Capacity: 8000.00 psig

Last Calib.: 2012.04.24

Time On Btm:

Time Off Btm:

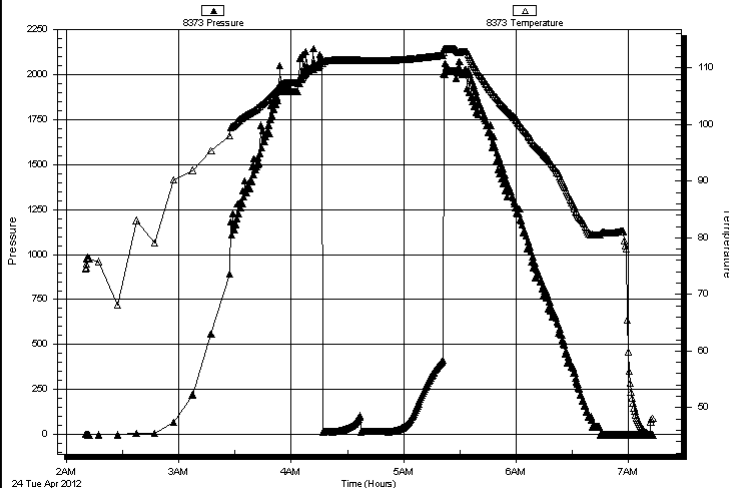
TEST COMMENT: IF: Surface blow died in 3 min.

IS: No return.

FF: No blow.

FS: No return

Pressure vs. Time



PRESSURE SUMMARY

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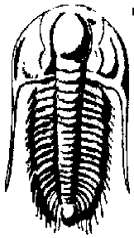
Recovery

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

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

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 46505

DST#: 3

ATTN: Vern Schrag

Test Start: 2012.04.24 @ 02:10:17

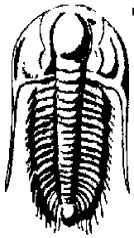
Tool Information

Drill Pipe:	Length:	4058.00 ft	Diameter:	3.80 inches	Volume:	56.92 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	148.00 ft	Diameter:	2.25 inches	Volume:	0.73 bbl	Weight to Pull Loose:	60000.00 lb
					Total Volume:	57.65 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		7.00 ft					String Weight: Initial	50000.00 lb
Depth to Top Packer:		4227.00 ft					Final	50000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		30.00 ft						
Tool Length:		58.00 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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Stubb	1.00			4200.00	
Shut In Tool	5.00			4205.00	
Hydraulic tool	5.00			4210.00	
Jars	5.00			4215.00	
Safety Joint	3.00			4218.00	
Packer	5.00			4223.00	28.00 Bottom Of Top Packer
Packer	4.00			4227.00	
Stubb	1.00			4228.00	
Recorder	0.00	8373	Inside	4228.00	
Recorder	0.00	8356	Outside	4228.00	
Perforations	24.00			4252.00	
Bullnose	5.00			4257.00	30.00 Bottom Packers & Anchor

Total Tool Length: 58.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 46505

DST#: 3

ATTN: Vern Schrag

Test Start: 2012.04.24 @ 02:10:17

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.88 in³

Gas Cushion Type:

Resistivity: 0.00 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 100%m	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:

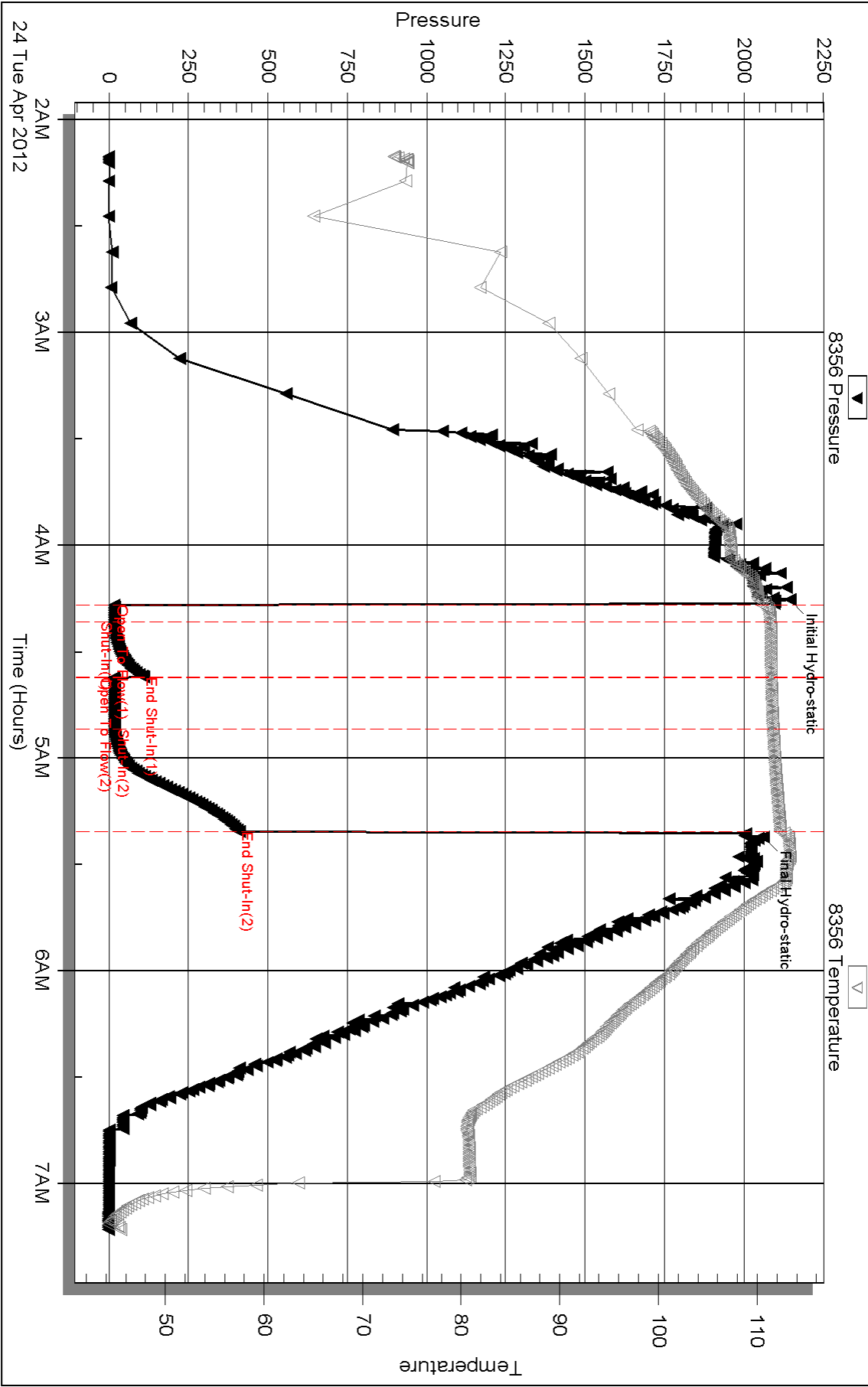
Serial #: 8356

Outside Larson Engineering, Inc

L York #1-13

DST Test Number: 3

Pressure vs. Time



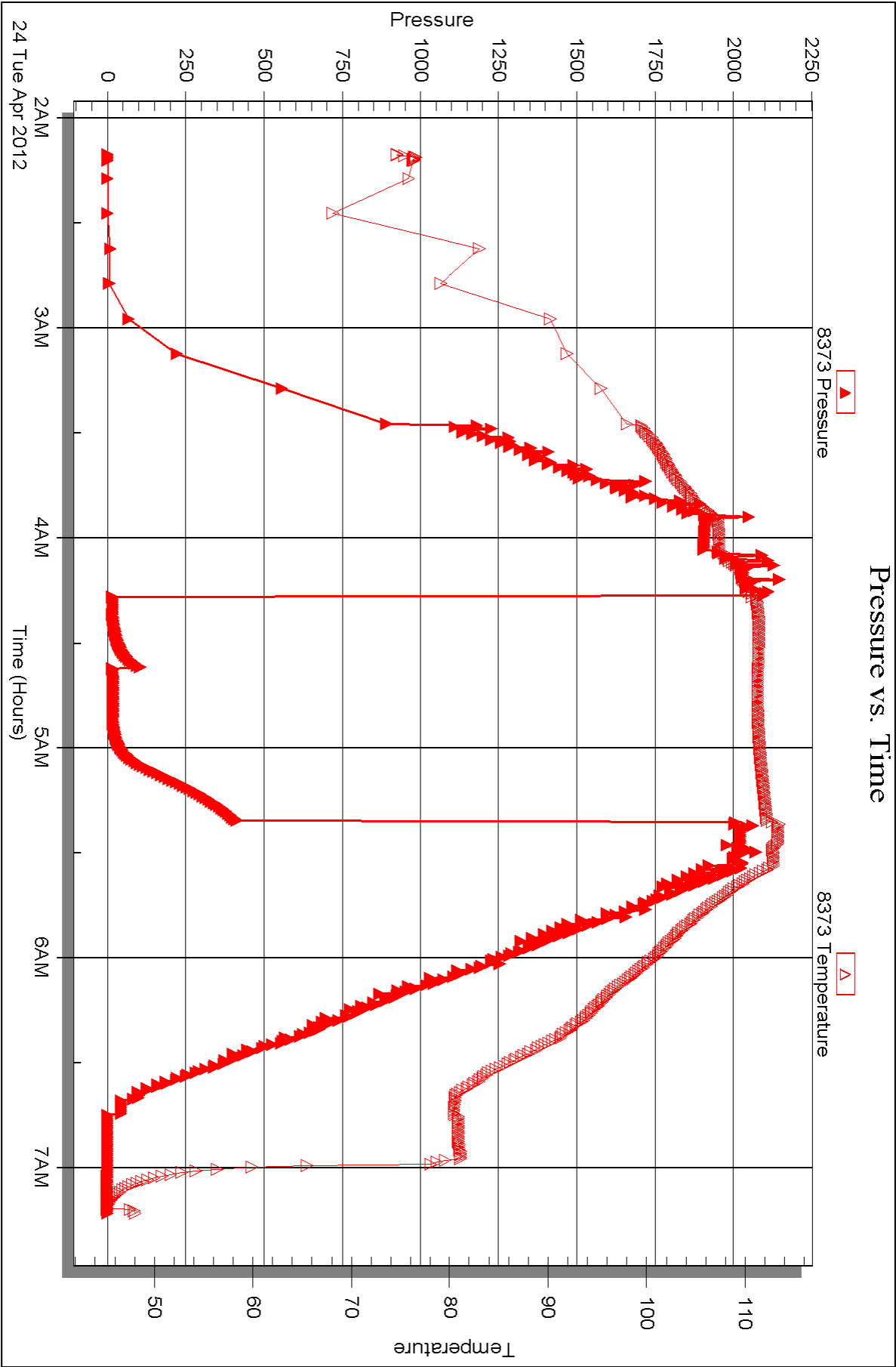
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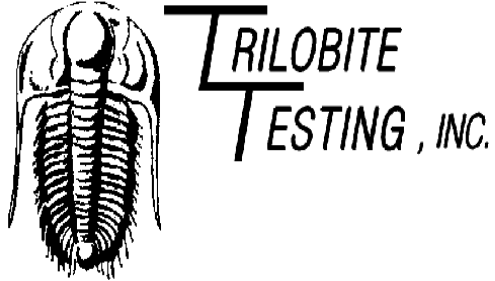
Inside

Larson Engineering, Inc

L York #1-13

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

L York #1-13

13-19s-29w Lane, KS

Start Date: 2012.04.24 @ 14:46:00

End Date: 2012.04.24 @ 20:39:54

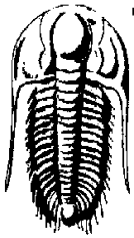
Job Ticket #: 45836 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.02 @ 15:52:13



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45836

DST#: 4

Test Start: 2012.04.24 @ 14:46:00

GENERAL INFORMATION:

Formation: **Lansing J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:58:55

Time Test Ended: 20:39:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4261.00 ft (KB) To 4271.00 ft (KB) (TVD)

Total Depth: 4271.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8652 Inside

Press@RunDepth: 142.01 psig @ 4262.00 ft (KB)

Start Date: 2012.04.24

End Date:

2012.04.24

Start Time: 14:46:00

End Time:

20:39:54

Capacity: 8000.00 psig

Last Calib.: 2012.04.24

Time On Btm: 2012.04.24 @ 16:58:40

Time Off Btm: 2012.04.24 @ 18:51:40

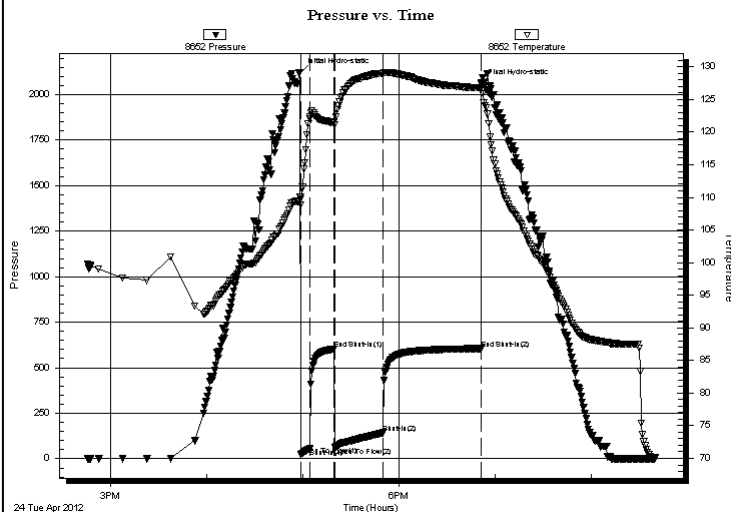
TEST COMMENT: IF- Surface Blow Built to 3 1/4"

IS- No Blow

FF- Surface Blow Built to BOB in 22 min

FS- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2118.80	110.11	Initial Hydro-static
1	21.12	108.85	Open To Flow (1)
6	56.76	122.34	Shut-In(1)
21	601.38	121.45	End Shut-In(1)
22	60.39	121.18	Open To Flow (2)
52	142.01	128.99	Shut-In(2)
113	605.15	126.77	End Shut-In(2)
113	2062.58	127.48	Final Hydro-static

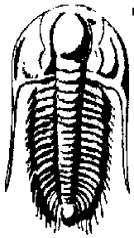
Recovery

Length (ft)	Description	Volume (bbl)
120.00	MCW 29%w 71%w	0.59
60.00	MCW 26%,m 74%w	0.59
95.00	WCM 18%w 82%m	1.33

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45836

DST#: 4

Test Start: 2012.04.24 @ 14:46:00

GENERAL INFORMATION:

Formation: **Lansing J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:58:55

Time Test Ended: 20:39:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4261.00 ft (KB) To 4271.00 ft (KB) (TVD)

Total Depth: 4271.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 4262.00 ft (KB)

Start Date: 2012.04.24

End Date:

2012.04.24

Start Time: 14:45:45

End Time:

20:39:54

Capacity: 8000.00 psig

Last Calib.: 2012.04.24

Time On Btm:

Time Off Btm:

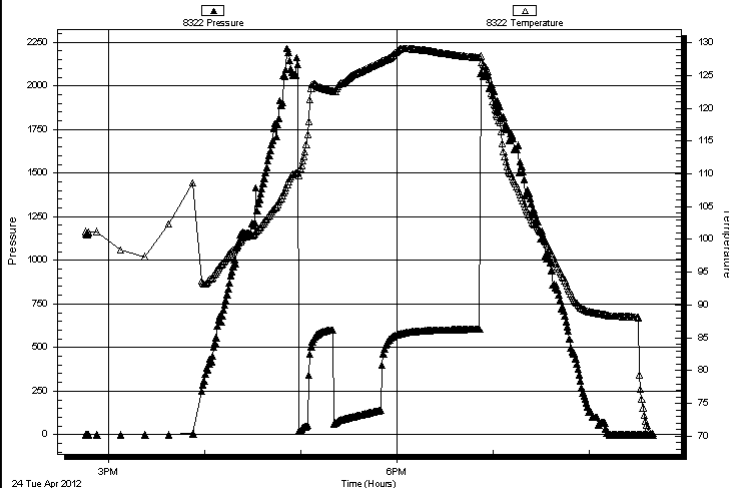
TEST COMMENT: IF- Surface Blow Built to 3 1/4"

ISI- No Blow

FF- Surface Blow Built to BOB in 22 min

FSI- No Blow

Pressure vs. Time



PRESSURE SUMMARY

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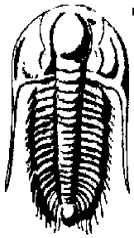
Recovery

Length (ft)	Description	Volume (bbl)
120.00	MCW 29% <i>m</i> 71% <i>w</i>	0.59
60.00	MCW 26% <i>m</i> 74% <i>w</i>	0.59
95.00	WCM 18% <i>w</i> 82% <i>m</i>	1.33

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45836

DST#: 4

ATTN: Vern Schrag

Test Start: 2012.04.24 @ 14:46:00

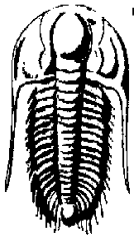
Tool Information

Drill Pipe:	Length:	4092.00 ft	Diameter:	3.80 inches	Volume:	57.40 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length:	148.00 ft	Diameter:	2.25 inches	Volume:	0.73 bbl	Weight to Pull Loose:	8000.00 lb
					Total Volume:	58.13 bbl	Tool Chased	ft
Drill Pipe Above KB:		6.00 ft					String Weight: Initial	52000.00 lb
Depth to Top Packer:		4261.00 ft					Final	52000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		10.00 ft						
Tool Length:		37.00 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			4235.00	
Shut In Tool	5.00			4240.00	
Hydraulic tool	5.00			4245.00	
Jars	5.00			4250.00	
Safety Joint	2.00			4252.00	
Packer	5.00			4257.00	27.00 Bottom Of Top Packer
Packer	4.00			4261.00	
Stubb	1.00			4262.00	
Recorder	0.00	8652	Inside	4262.00	
Recorder	0.00	8322	Outside	4262.00	
Perforations	6.00			4268.00	
Bullnose	3.00			4271.00	10.00 Bottom Packers & Anchor

Total Tool Length: 37.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45836

DST#: 4

ATTN: Vern Schrag

Test Start: 2012.04.24 @ 14:46:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 47.00 sec/qt

Water Loss: 8.28 in³

Resistivity: 0.00 ohm.m

Salinity: 2100.00 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

4900 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MCW 29%m 71%w	0.590
60.00	MCW 26%,m 74%w	0.587
95.00	WCM 18%w 82%m	1.333

Total Length: 275.00 ft Total Volume: 2.510 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW is 1. @ 81f = 4900

Serial #: 8652

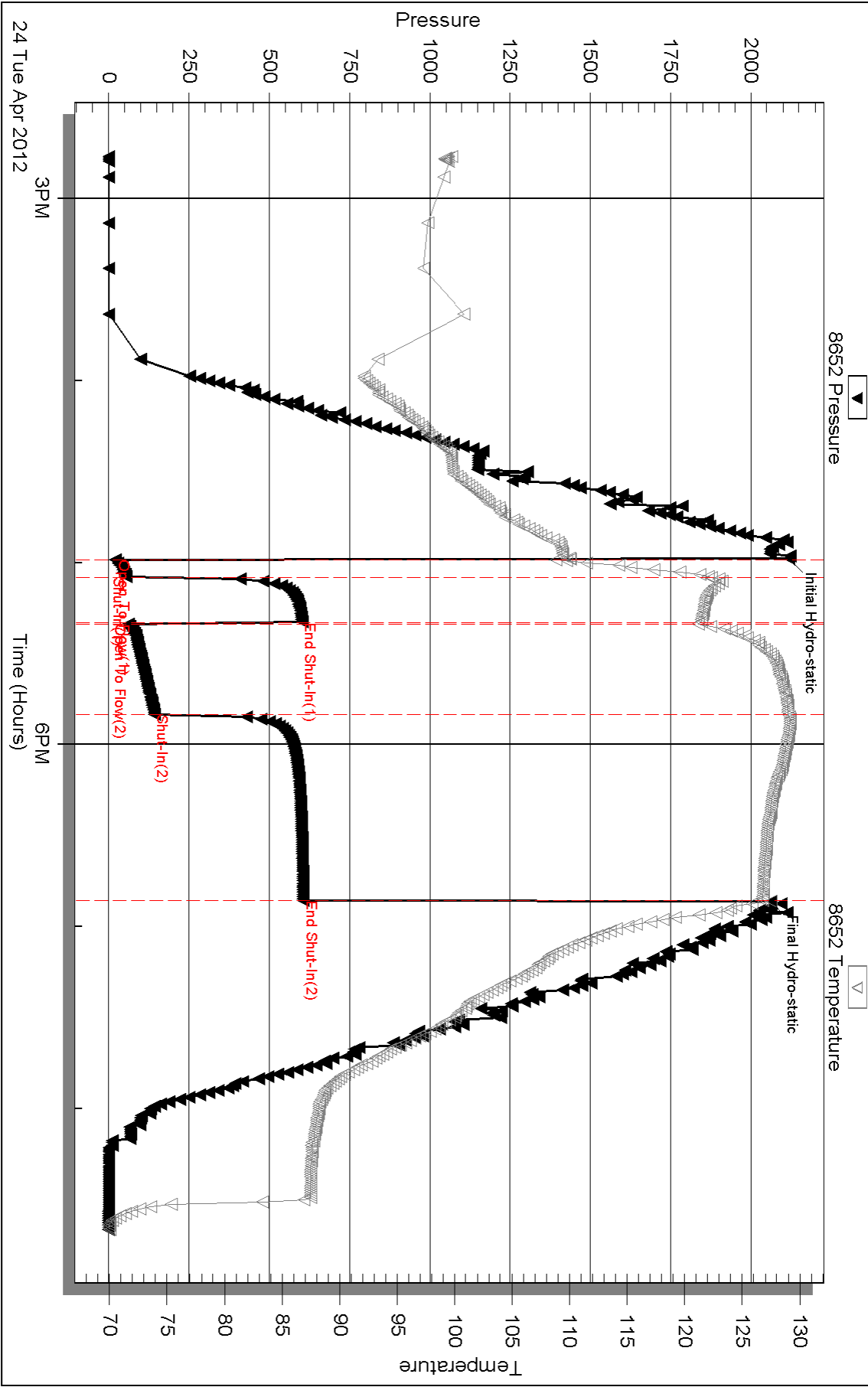
Inside

Larson Engineering, Inc

L York #1-13

DST Test Number: 4

Pressure vs. Time

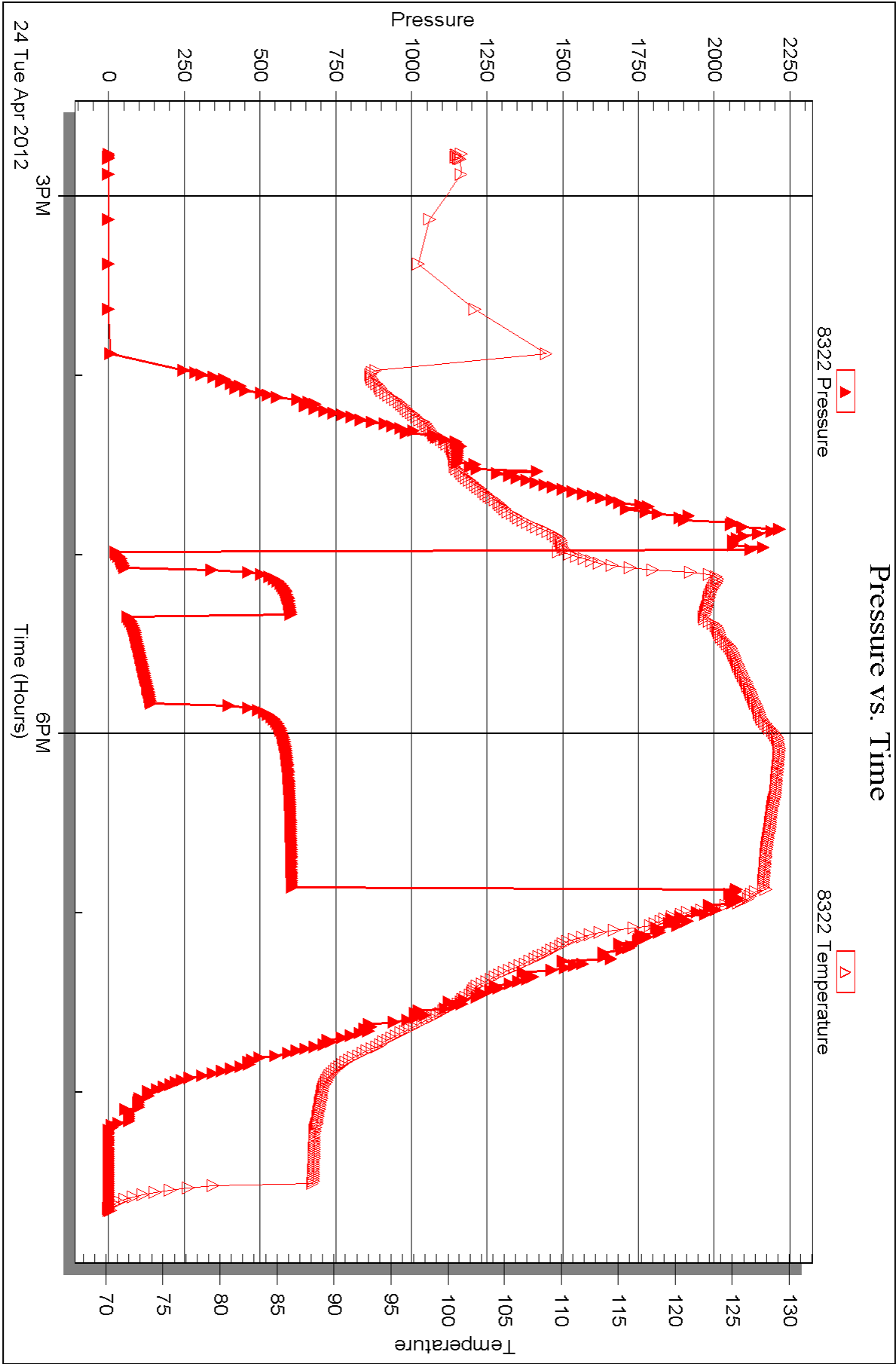


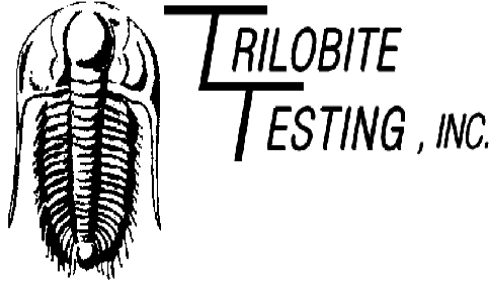
Serial #: 8322

Outside Larson Engineering, Inc

L York #1-13

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

L York #1-13

13-19s-29w Lane, KS

Start Date: 2012.04.25 @ 07:54:00

End Date: 2012.04.25 @ 13:00:09

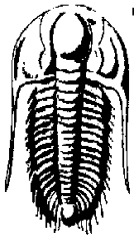
Job Ticket #: 45837 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.02 @ 15:51:27



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45837

DST#: 5

Test Start: 2012.04.25 @ 07:54:00

GENERAL INFORMATION:

Formation: **Lansing K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:42:55

Time Test Ended: 13:00:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4294.00 ft (KB) To 4315.00 ft (KB) (TVD)

Total Depth: 4315.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8652 Inside

Press@RunDepth: 178.26 psig @ 4297.00 ft (KB)

Start Date: 2012.04.25

End Date:

2012.04.25

Start Time: 07:54:00

End Time:

13:00:09

Capacity: 8000.00 psig

Last Calib.: 2012.04.25

Time On Btm: 2012.04.25 @ 09:42:40

Time Off Btm: 2012.04.25 @ 10:50:55

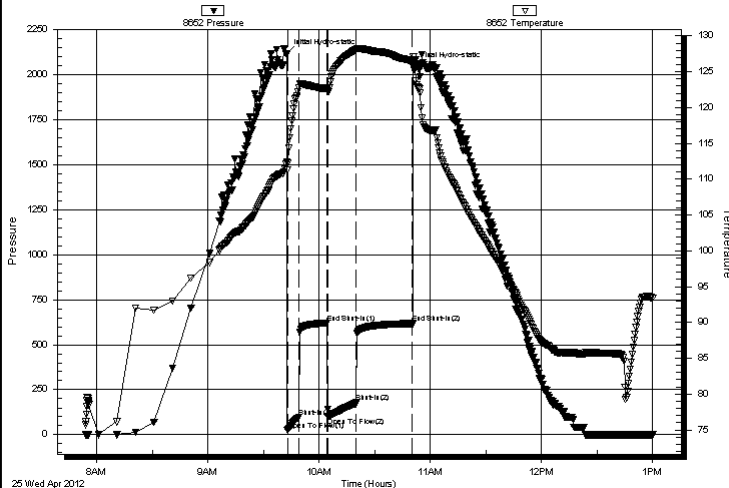
TEST COMMENT: IF- Surface Blow Built to 6 1/2"

IS- No Blow

FF- Surface Blow Built to 7 3/4"

FS- No Blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2114.17	112.36	Initial Hydro-static
1	24.49	111.26	Open To Flow (1)
7	95.47	122.76	Shut-In(1)
22	620.88	122.60	End Shut-In(1)
23	99.16	122.30	Open To Flow (2)
38	178.26	128.09	Shut-In(2)
68	618.07	126.53	End Shut-In(2)
69	2042.35	127.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	MCW 25%w 75%w	0.59
120.00	MCW 32%w 68%w	1.43
110.00	WCM 45%w 55%w	1.54

Gas Rates

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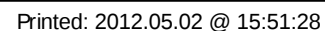
* Recovery from multiple tests

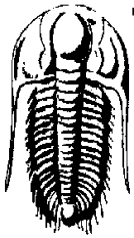


Test Start: 2012.04.25 @ 07:54:00

KB to GR/CF: 7.00 ft

FSI- No Blow





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45837

DST#: 5

ATTN: Vern Schrag

Test Start: 2012.04.25 @ 07:54:00

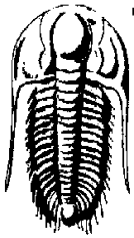
Tool Information

Drill Pipe:	Length:	4123.00 ft	Diameter:	3.80 inches	Volume:	57.83 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	26000.00 lb
Drill Collar:	Length:	148.00 ft	Diameter:	2.25 inches	Volume:	0.73 bbl	Weight to Pull Loose:	4000.00 lb
					Total Volume:	58.56 bbl	Tool Chased	ft
Drill Pipe Above KB:		4.00 ft					String Weight: Initial	52000.00 lb
Depth to Top Packer:		4294.00 ft					Final	52000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		21.00 ft						
Tool Length:		48.00 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			4268.00	
Shut In Tool	5.00			4273.00	
Hydraulic tool	5.00			4278.00	
Jars	5.00			4283.00	
Safety Joint	2.00			4285.00	
Packer	5.00			4290.00	27.00 Bottom Of Top Packer
Packer	4.00			4294.00	
Stubb	1.00			4295.00	
Perforations	2.00			4297.00	
Recorder	0.00	8652	Inside	4297.00	
Recorder	0.00	8322	Outside	4297.00	
Perforations	15.00			4312.00	
Bullnose	3.00			4315.00	21.00 Bottom Packers & Anchor

Total Tool Length: 48.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45837

DST#: 5

ATTN: Vern Schrag

Test Start: 2012.04.25 @ 07:54:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 47.00 sec/qt

Water Loss: 8.30 in³

Resistivity: 0.00 ohm.m

Salinity: 2100.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API: deg API

Water Salinity: 37000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MCW 25%m 75%w	0.590
120.00	MCW 32%m 68%w	1.428
110.00	WCM 45%w 55%m	1.543

Total Length: 350.00 ft Total Volume: 3.561 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

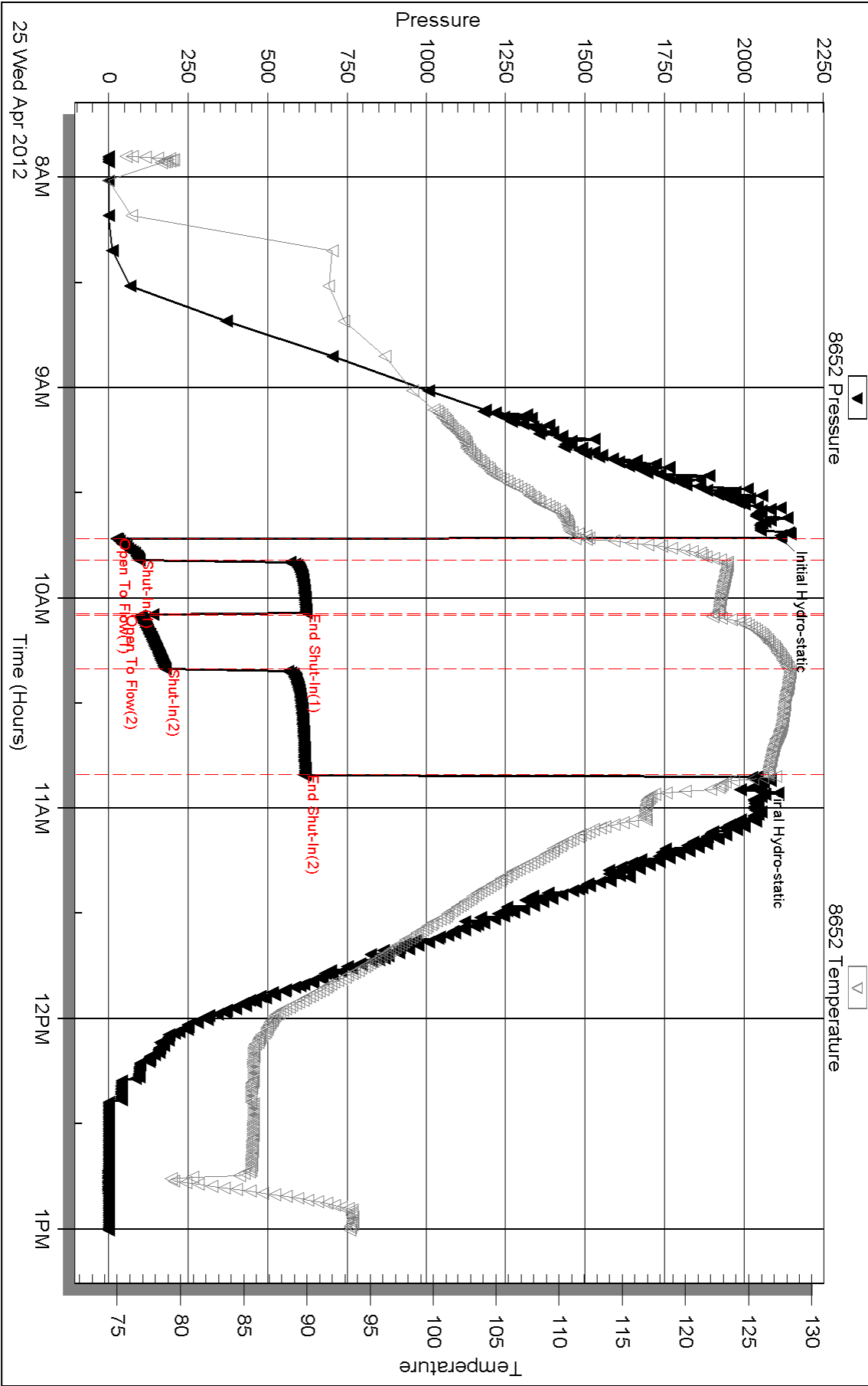
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW is .130 @ 98f = 37000

Pressure vs. Time

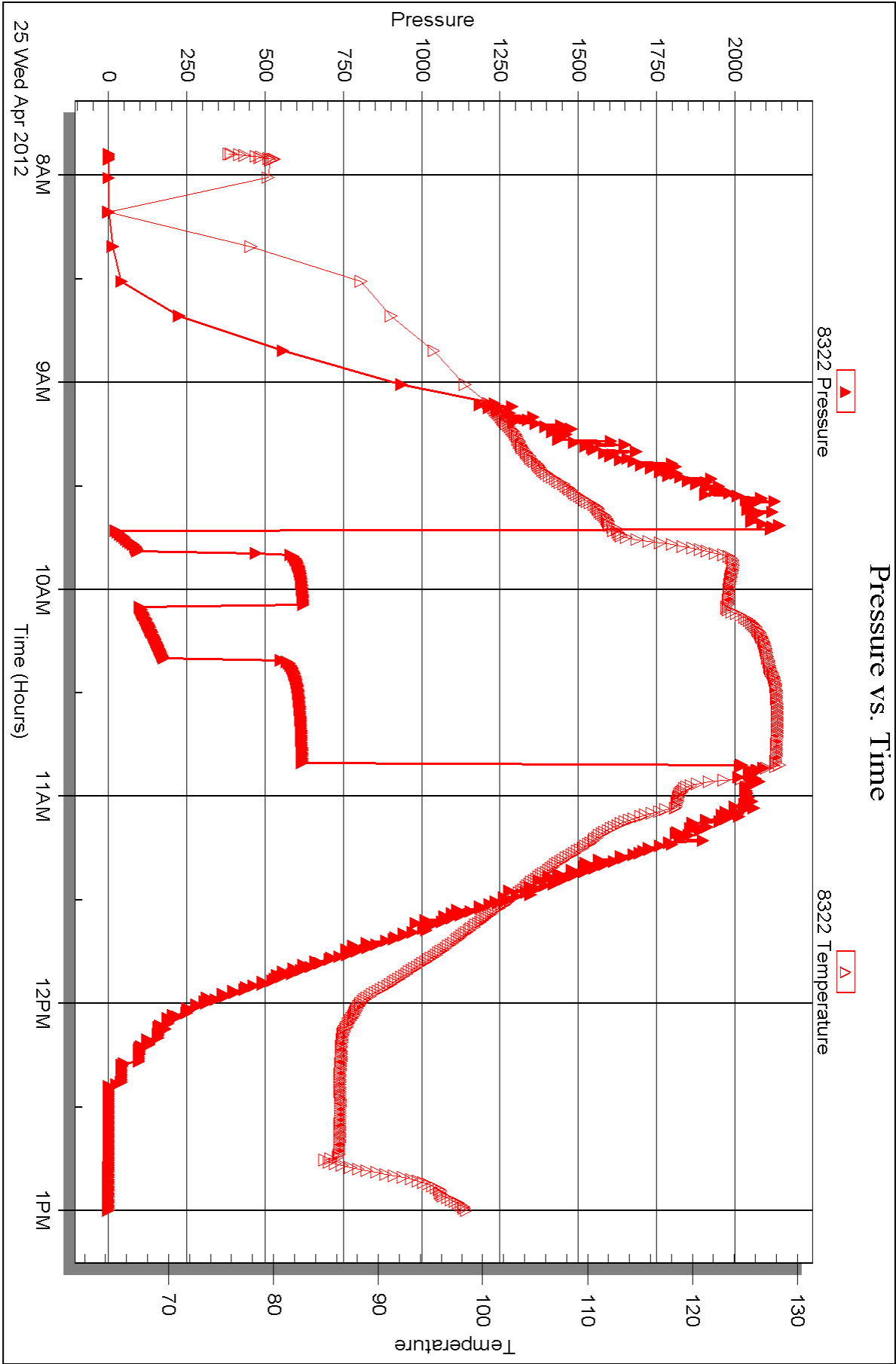


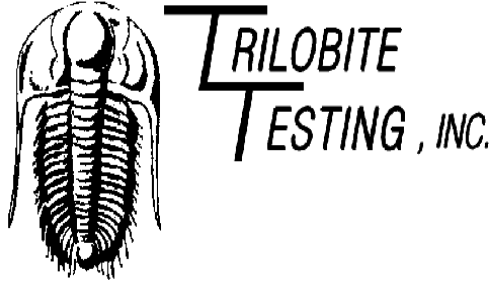
Serial #: 8322

Outside Larson Engineering, Inc

L York #1-13

DST Test Number: 5





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

L York #1-13

13-19s-29w Lane, KS

Start Date: 2012.04.25 @ 20:59:00

End Date: 2012.04.26 @ 01:57:54

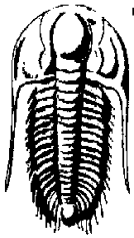
Job Ticket #: 45838 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.02 @ 15:50:46



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45838

DST#: 6

Test Start: 2012.04.25 @ 20:59:00

GENERAL INFORMATION:

Formation: **Lower K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:54:55

Time Test Ended: 01:57:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4320.00 ft (KB) To 4331.00 ft (KB) (TVD)

Reference Elevations: 2821.00 ft (KB)

Total Depth: 4331.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8652 Inside

Press@RunDepth: 22.62 psig @ 4323.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.04.25

End Date:

2012.04.26

Last Calib.: 2012.04.26

Start Time: 20:59:00

End Time:

01:57:54

Time On Btm: 2012.04.25 @ 22:54:40

Time Off Btm: 2012.04.26 @ 00:03:25

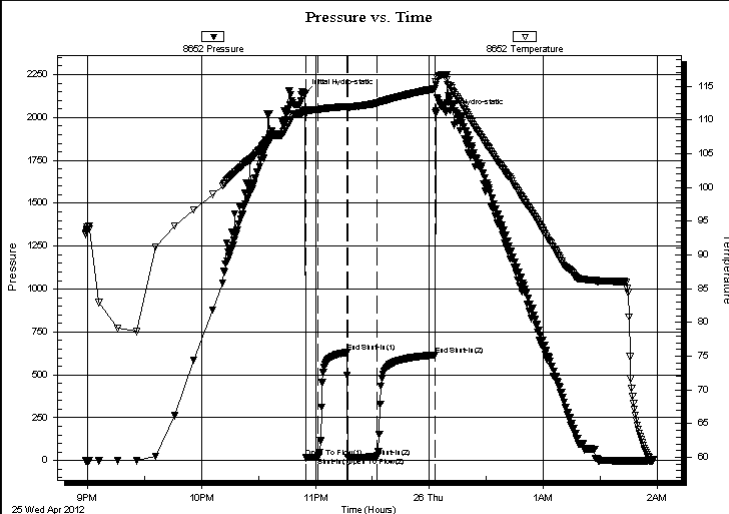
TEST COMMENT: IF- Weak Suurface Blow

IS- No Blow

FF- No Blow

FS- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2137.66	111.51	Initial Hydro-static
1	17.15	110.83	Open To Flow (1)
7	18.96	111.55	Shut-In(1)
22	630.17	112.05	End Shut-In(1)
23	19.07	111.87	Open To Flow (2)
38	22.62	112.52	Shut-In(2)
69	615.90	114.69	End Shut-In(2)
69	2024.88	115.67	Final Hydro-static

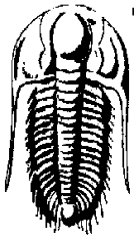
Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% mud with Few Oil Spots	0.02

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45838

DST#: 6

Test Start: 2012.04.25 @ 20:59:00

GENERAL INFORMATION:

Formation: **Lower K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:54:55

Time Test Ended: 01:57:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4320.00 ft (KB) To 4331.00 ft (KB) (TVD)

Total Depth: 4331.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 4323.00 ft (KB)

Start Date: 2012.04.25

End Date:

2012.04.26

Start Time: 20:59:05

End Time:

01:58:14

Capacity: 8000.00 psig

Last Calib.: 2012.04.26

Time On Btm:

Time Off Btm:

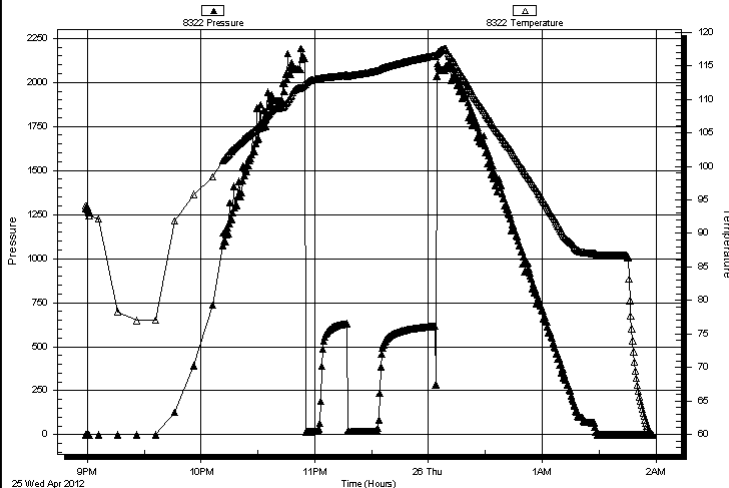
TEST COMMENT: IF- Weak Suurface Blow

IS- No Blow

FF- No Blow

FS- No Blow

Pressure vs. Time



PRESSURE SUMMARY

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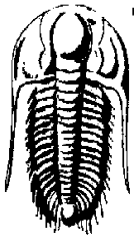
Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% mud with Few Oil Spots	0.02

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45838

DST#: 6

ATTN: Vern Schrag

Test Start: 2012.04.25 @ 20:59:00

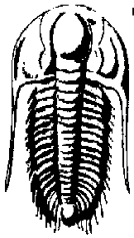
Tool Information

Drill Pipe:	Length:	4152.00 ft	Diameter:	3.80 inches	Volume:	58.24 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length:	148.00 ft	Diameter:	2.25 inches	Volume:	0.73 bbl	Weight to Pull Loose:	8000.00 lb
					Total Volume:	58.97 bbl	Tool Chased	ft
Drill Pipe Above KB:		7.00 ft					String Weight: Initial	54000.00 lb
Depth to Top Packer:		4320.00 ft					Final	54000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		11.00 ft						
Tool Length:		38.00 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			4294.00	
Shut In Tool	5.00			4299.00	
Hydraulic tool	5.00			4304.00	
Jars	5.00			4309.00	
Safety Joint	2.00			4311.00	
Packer	5.00			4316.00	27.00 Bottom Of Top Packer
Packer	4.00			4320.00	
Stubb	1.00			4321.00	
Perforations	2.00			4323.00	
Recorder	0.00	8652	Inside	4323.00	
Recorder	0.00	8322	Outside	4323.00	
Perforations	5.00			4328.00	
Bullnose	3.00			4331.00	11.00 Bottom Packers & Anchor

Total Tool Length: 38.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45838

DST#: 6

ATTN: Vern Schrag

Test Start: 2012.04.25 @ 20:59:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.14 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	100% mud with 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 #: 8652

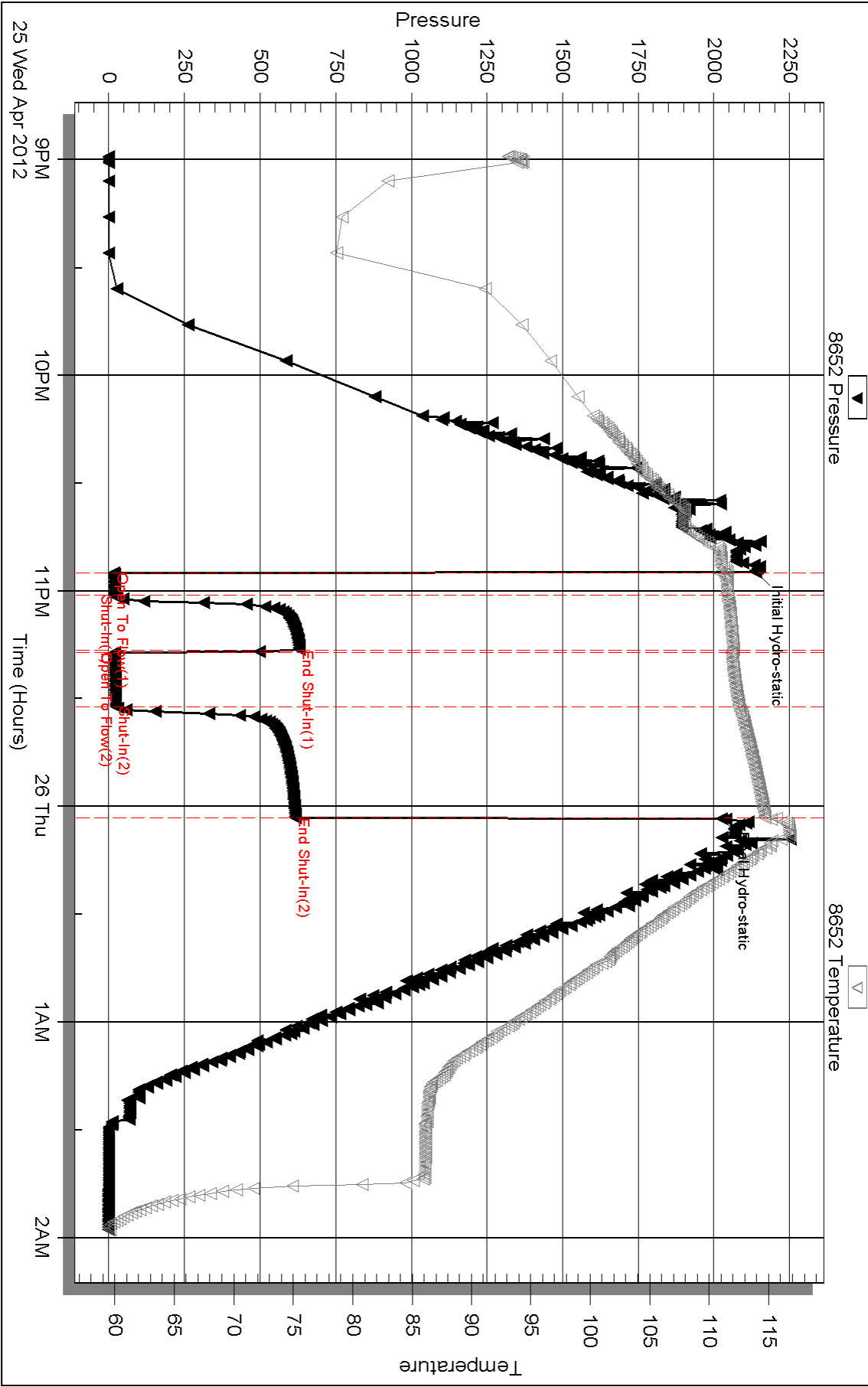
Inside

Larson Engineering, Inc

L York #1-13

DST Test Number: 6

Pressure vs. Time

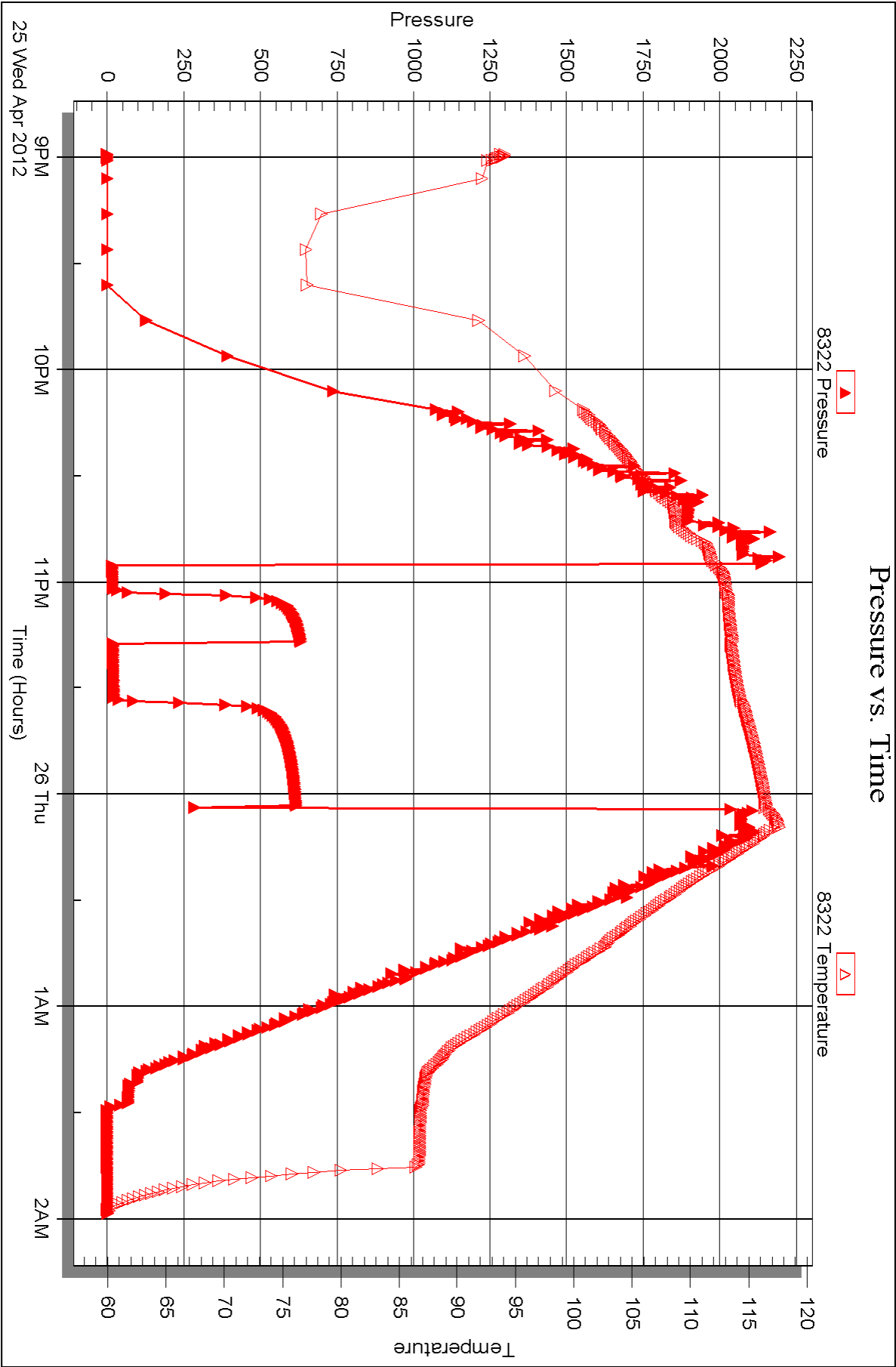


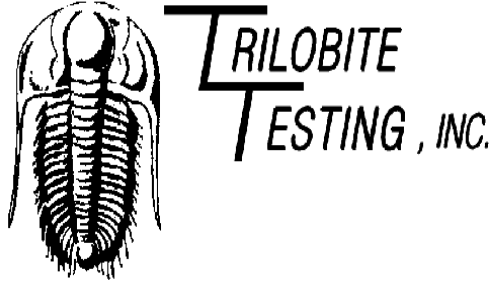
Serial #: 8322

Outside Larson Engineering, Inc

L York #1-13

DST Test Number: 6





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

L York #1-13

13-19s-29w Lane, KS

Start Date: 2012.04.26 @ 11:18:00

End Date: 2012.04.26 @ 17:39:54

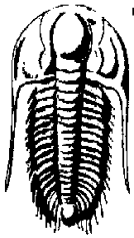
Job Ticket #: 45839 DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.02 @ 15:50:04



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45839

DST#: 7

Test Start: 2012.04.26 @ 11:18:00

GENERAL INFORMATION:

Formation: **Middle Creek**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:32:25

Time Test Ended: 17:39:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4333.00 ft (KB) To 4341.00 ft (KB) (TVD)

Total Depth: 4341.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8652 Inside

Press@RunDepth: 182.97 psig @ 4335.00 ft (KB)

Start Date: 2012.04.26

End Date:

2012.04.26

Start Time: 11:18:00

End Time:

17:39:54

Capacity: 8000.00 psig

Last Calib.: 2012.04.26

Time On Btm: 2012.04.26 @ 13:32:10

Time Off Btm: 2012.04.26 @ 15:25:25

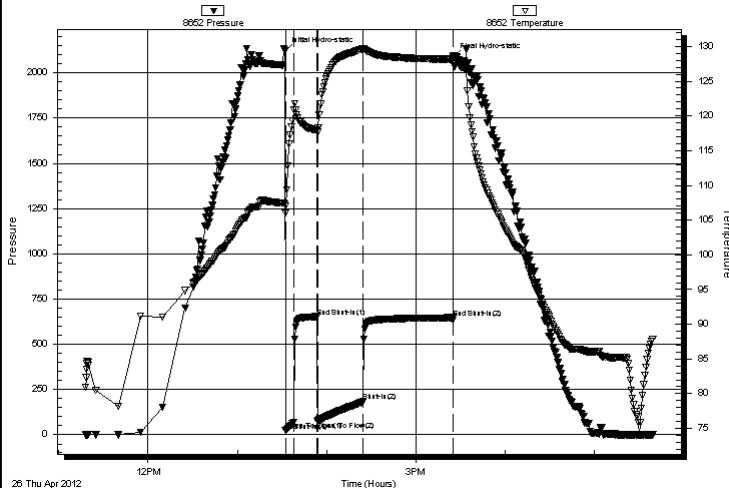
TEST COMMENT: IF- Surface Blow Built to 3 1/2"

IS- No Blow

FF- Surface Blow Built to BOB in 14 1/2"

FS- No Blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2118.90	107.28	Initial Hydro-static
1	24.23	106.06	Open To Flow (1)
6	67.18	120.85	Shut-In(1)
22	652.30	117.99	End Shut-In(1)
22	72.81	117.63	Open To Flow (2)
53	182.97	129.64	Shut-In(2)
113	647.14	128.16	End Shut-In(2)
114	2086.85	128.68	Final Hydro-static

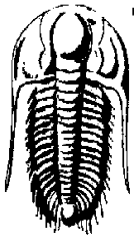
Recovery

Length (ft)	Description	Volume (bbl)
180.00	MCW 15%w 85%w	1.18
60.00	OMCW 1%oil 6%w 93%w	0.84
120.00	GOMCW 2%g 3%oil 30%w 65%w	1.68
2.00	GO 4%g 96%oil	0.03

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45839

DST#: 7

Test Start: 2012.04.26 @ 11:18:00

GENERAL INFORMATION:

Formation: **Middle Creek**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:32:25

Time Test Ended: 17:39:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4333.00 ft (KB) To 4341.00 ft (KB) (TVD)

Reference Elevations: 2821.00 ft (KB)

Total Depth: 4341.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 4335.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.04.26

End Date:

2012.04.26

Last Calib.:

2012.04.26

Start Time: 11:17:45

End Time:

17:39:54

Time On Btm:

Time Off Btm:

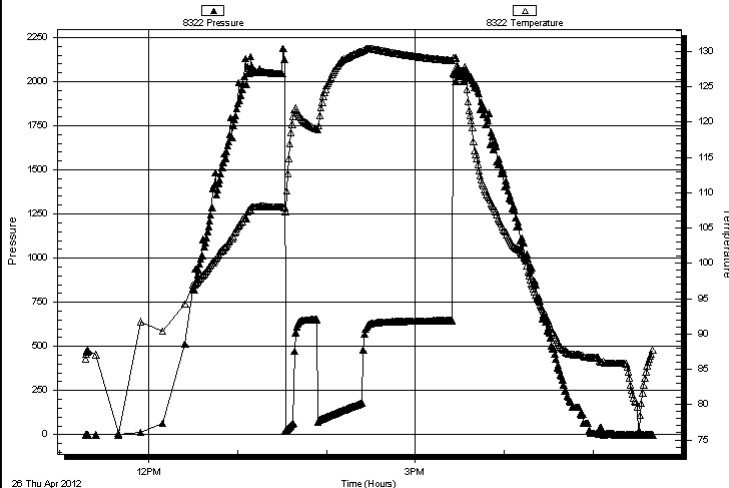
TEST COMMENT: IF- Surface Blow Built to 3 1/2"

IS- No Blow

FF- Surface Blow Built to BOB in 14 1/2"

FS- No Blow

Pressure vs. Time



PRESSURE SUMMARY

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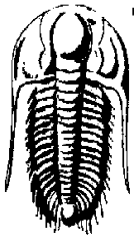
Recovery

Length (ft)	Description	Volume (bbl)
180.00	MCW 15% <i>m</i> 85% <i>w</i>	1.18
60.00	OMCW 1% <i>oil</i> 6% <i>m</i> 93% <i>w</i>	0.84
120.00	GOMCW 2% <i>g</i> 3% <i>oil</i> 30% <i>m</i> 65% <i>w</i>	1.68
2.00	GO 4% <i>g</i> 96% <i>oil</i>	0.03

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45839

DST#: 7

ATTN: Vern Schrag

Test Start: 2012.04.26 @ 11:18:00

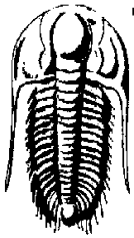
Tool Information

Drill Pipe:	Length:	4182.00 ft	Diameter:	3.80 inches	Volume:	58.66 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	26000.00 lb
Drill Collar:	Length:	148.00 ft	Diameter:	2.25 inches	Volume:	0.73 bbl	Weight to Pull Loose:	14000.00 lb
					Total Volume:	59.39 bbl	Tool Chased	ft
Drill Pipe Above KB:		24.00 ft					String Weight: Initial	52000.00 lb
Depth to Top Packer:		4333.00 ft					Final	54000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		8.00 ft						
Tool Length:		35.00 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			4307.00	
Shut In Tool	5.00			4312.00	
Hydraulic tool	5.00			4317.00	
Jars	5.00			4322.00	
Safety Joint	2.00			4324.00	
Packer	5.00			4329.00	27.00 Bottom Of Top Packer
Packer	4.00			4333.00	
Stubb	1.00			4334.00	
Perforations	1.00			4335.00	
Recorder	0.00	8652	Inside	4335.00	
Recorder	0.00	8322	Outside	4335.00	
Perforations	3.00			4338.00	
Bullnose	3.00			4341.00	8.00 Bottom Packers & Anchor

Total Tool Length: 35.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45839

DST#: 7

ATTN: Vern Schrag

Test Start: 2012.04.26 @ 11:18:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 7.15 in³

Resistivity: 0.00 ohm.m

Salinity: 2100.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

ft

bbl

psig

deg API

Water Salinity: 49000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	MCW 15%m 85%w	1.177
60.00	OMCW 1%oil 6%m 93%w	0.842
120.00	GOMCW 2%g 3%oil 30%m 65%w	1.683
2.00	GO 4%g 96%oil	0.028

Total Length: 362.00 ft Total Volume: 3.730 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW is .118 @ 87f = 49000

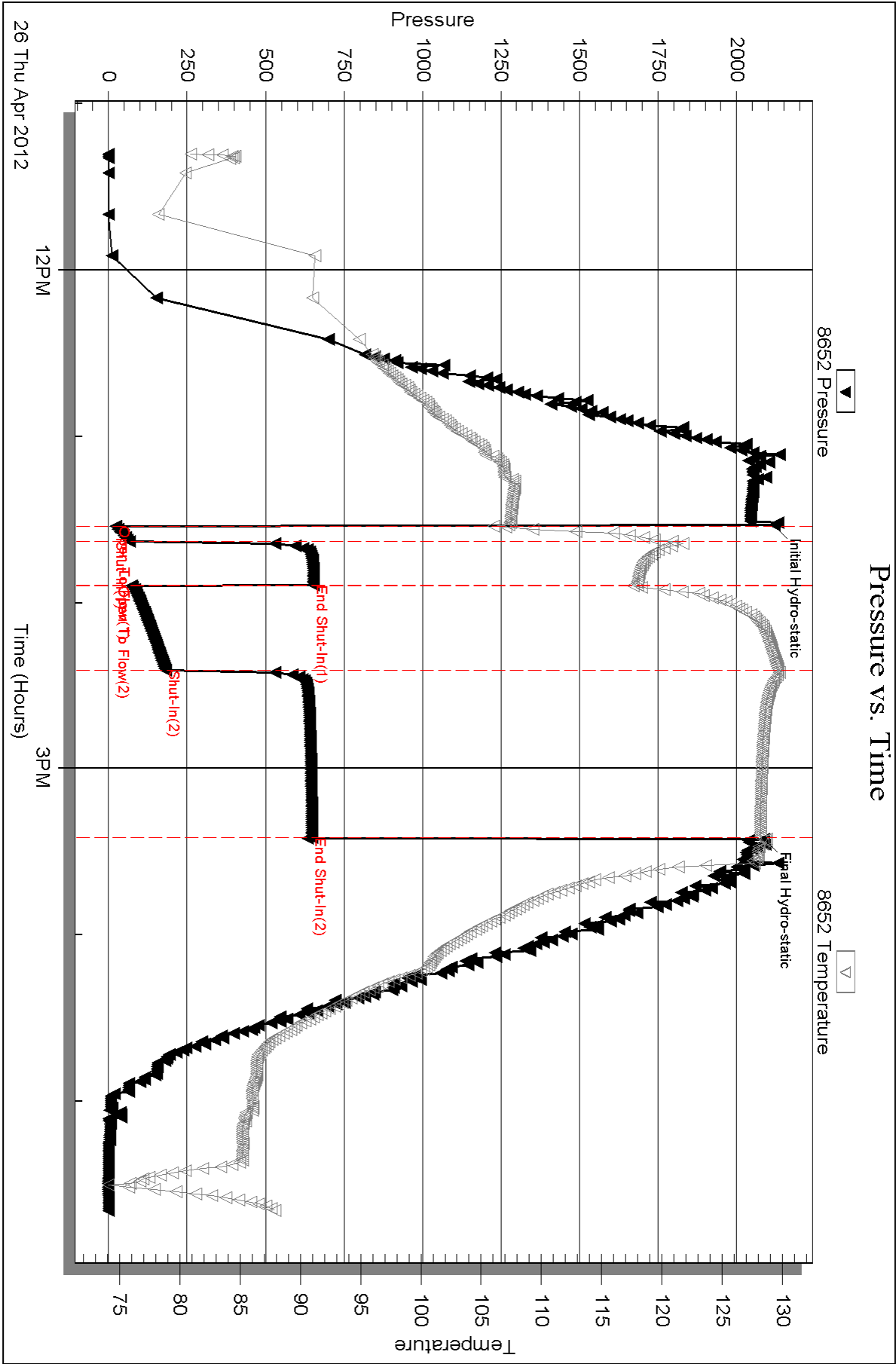
Serial #: 8652

Inside

Larson Engineering, Inc

L York #1-13

DST Test Number: 7

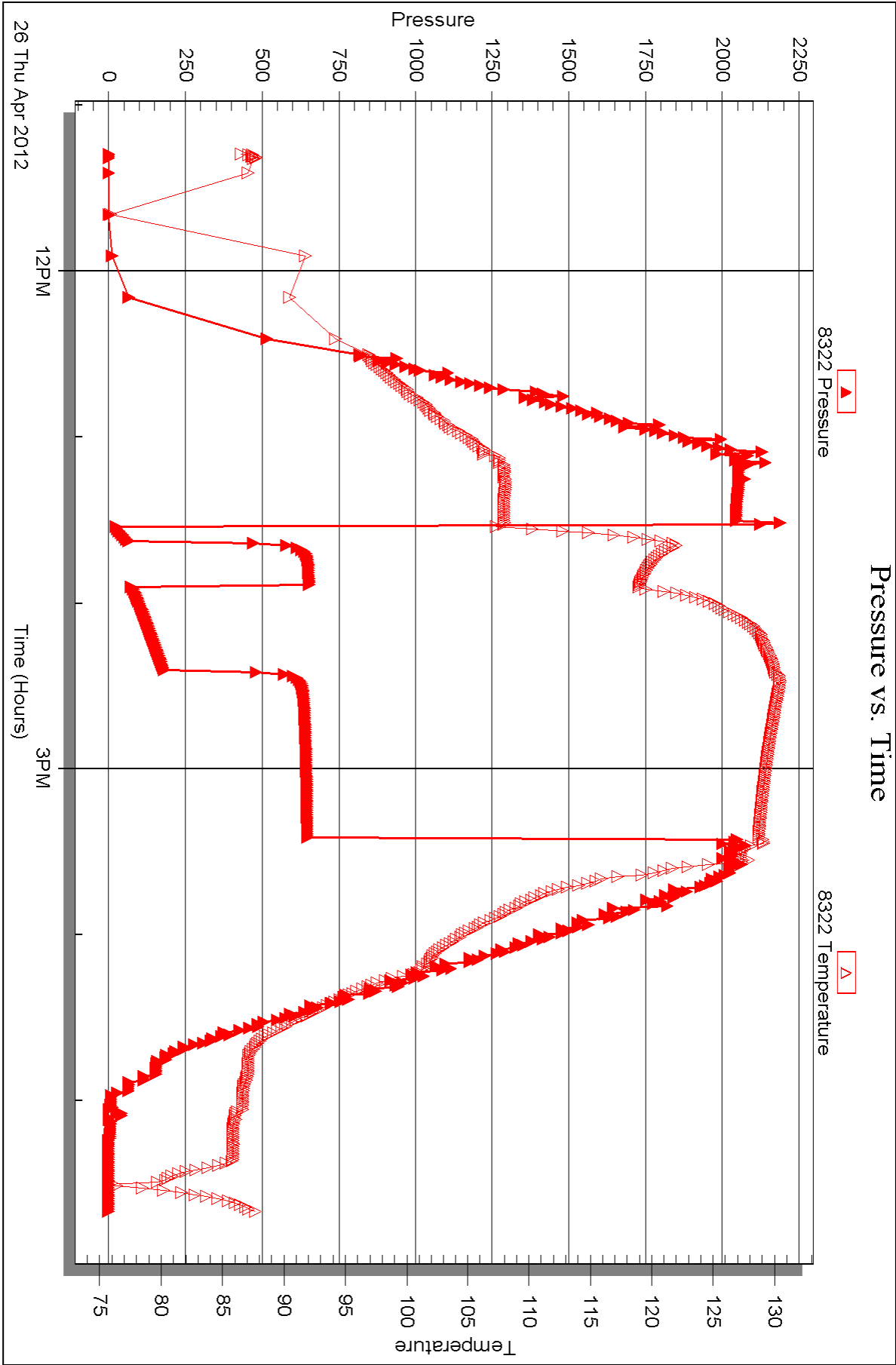


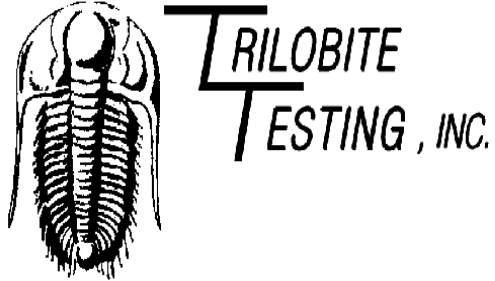
Serial #: 8322

Outside Larson Engineering, Inc

L York #1-13

DST Test Number: 7





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

L York #1-13

13-19s-29w Lane, KS

Start Date: 2012.04.27 @ 00:59:00

End Date: 2012.04.27 @ 06:32:39

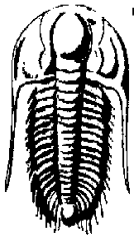
Job Ticket #: 45840 DST #: 8

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.02 @ 15:49:18



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45840

DST#: 8

Test Start: 2012.04.27 @ 00:59:00

GENERAL INFORMATION:

Formation: **Lansing L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:24:55

Time Test Ended: 06:32:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4341.00 ft (KB) To 4349.00 ft (KB) (TVD)

Total Depth: 4349.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8652 Inside

Press@RunDepth: 17.18 psig @ 4343.00 ft (KB)

Start Date: 2012.04.27

End Date:

2012.04.27

Start Time: 00:59:00

End Time:

06:32:39

Capacity: 8000.00 psig

Last Calib.: 2012.04.27

Time On Btm: 2012.04.27 @ 03:24:40

Time Off Btm: 2012.04.27 @ 04:34:25

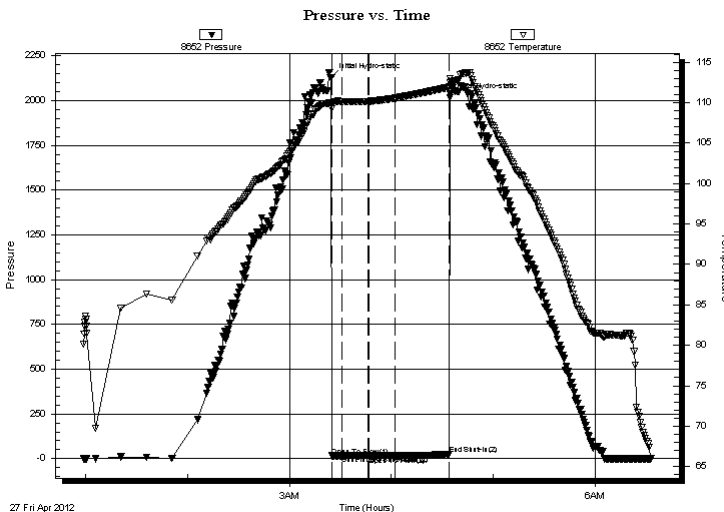
TEST COMMENT: IF- Weak Surface Blow

IS- No Blow

FF- No Blow

FS- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2129.61	109.97	Initial Hydro-static
1	15.89	109.29	Open To Flow (1)
6	16.82	110.17	Shut-In(1)
22	20.52	110.17	End Shut-In(1)
22	16.45	110.17	Open To Flow (2)
38	17.18	110.57	Shut-In(2)
70	23.34	111.95	End Shut-In(2)
70	2016.24	112.96	Final Hydro-static

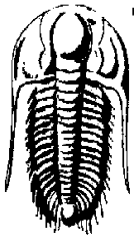
Recovery

Length (ft)	Description	Volume (bbl)
2.00	100% m (Few Oil Spots in Tool	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

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45840

DST#: 8

Test Start: 2012.04.27 @ 00:59:00

GENERAL INFORMATION:

Formation: **Lansing L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:24:55

Time Test Ended: 06:32:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4341.00 ft (KB) To 4349.00 ft (KB) (TVD)

Reference Elevations: 2821.00 ft (KB)

Total Depth: 4349.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 4343.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.04.27

End Date:

2012.04.27

Last Calib.:

2012.04.27

Start Time: 00:59:05

End Time:

06:32:59

Time On Btm:

Time Off Btm:

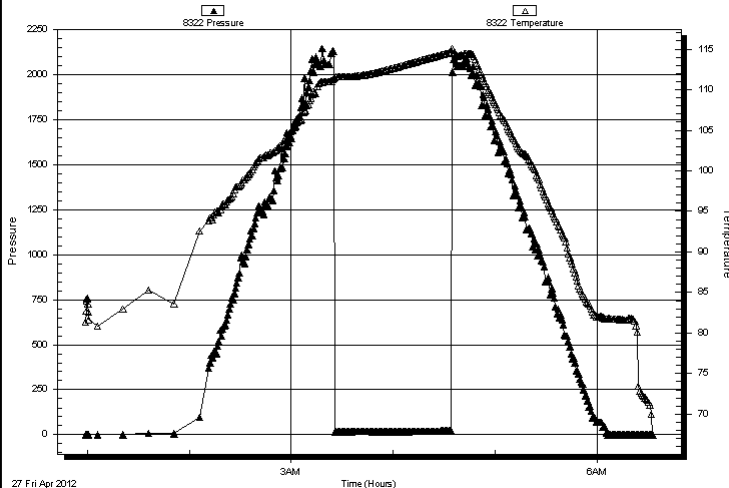
TEST COMMENT: IF- Weak Surface Blow

IS- No Blow

FF- No Blow

FS- No Blow

Pressure vs. Time



PRESSURE SUMMARY

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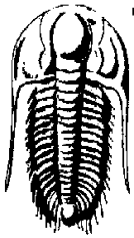
Recovery

Length (ft)	Description	Volume (bbl)
2.00	100%m (Few Oil Spots in Tool	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

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45840

DST#: 8

ATTN: Vern Schrag

Test Start: 2012.04.27 @ 00:59:00

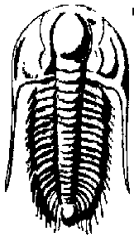
Tool Information

Drill Pipe:	Length: 4181.00 ft	Diameter: 3.80 inches	Volume: 58.65 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	28000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose:	4000.00 lb
		Total Volume:	59.38 bbl	Tool Chased	ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	54000.00 lb
Depth to Top Packer:	4341.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	8.00 ft				
Tool Length:	35.00 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			4315.00	
Shut In Tool	5.00			4320.00	
Hydraulic tool	5.00			4325.00	
Jars	5.00			4330.00	
Safety Joint	2.00			4332.00	
Packer	5.00			4337.00	27.00 Bottom Of Top Packer
Packer	4.00			4341.00	
Stubb	1.00			4342.00	
Perforations	1.00			4343.00	
Recorder	0.00	8652	Inside	4343.00	
Recorder	0.00	8322	Outside	4343.00	
Perforations	3.00			4346.00	
Bullnose	3.00			4349.00	8.00 Bottom Packers & Anchor

Total Tool Length: 35.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45840

DST#: 8

ATTN: Vern Schrag

Test Start: 2012.04.27 @ 00:59:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.93 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	100%m (Few Oil Spots in Tool	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:

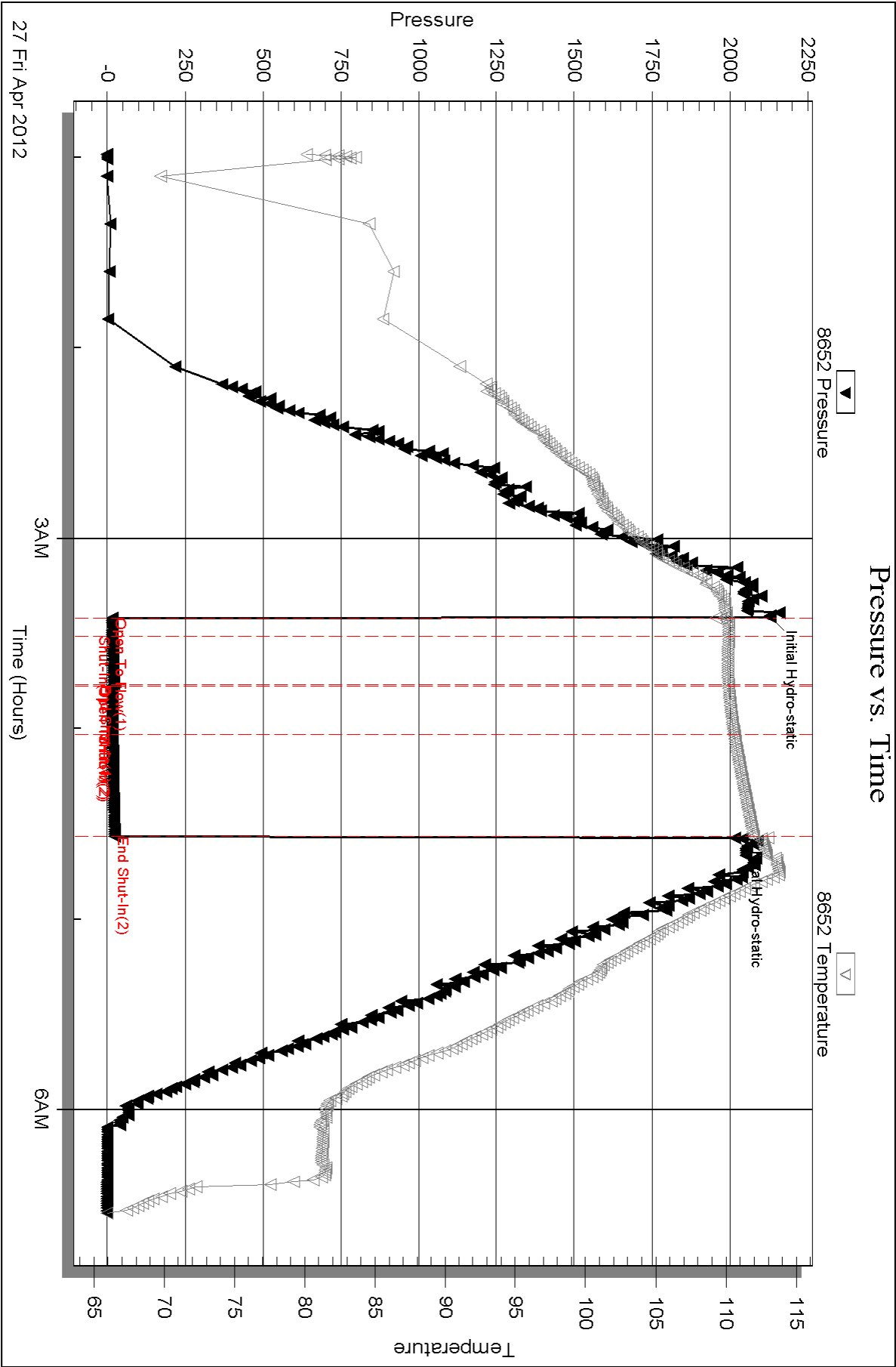
Serial #: 8652

Inside

Larson Engineering, Inc

L York #1-13

DST Test Number: 8

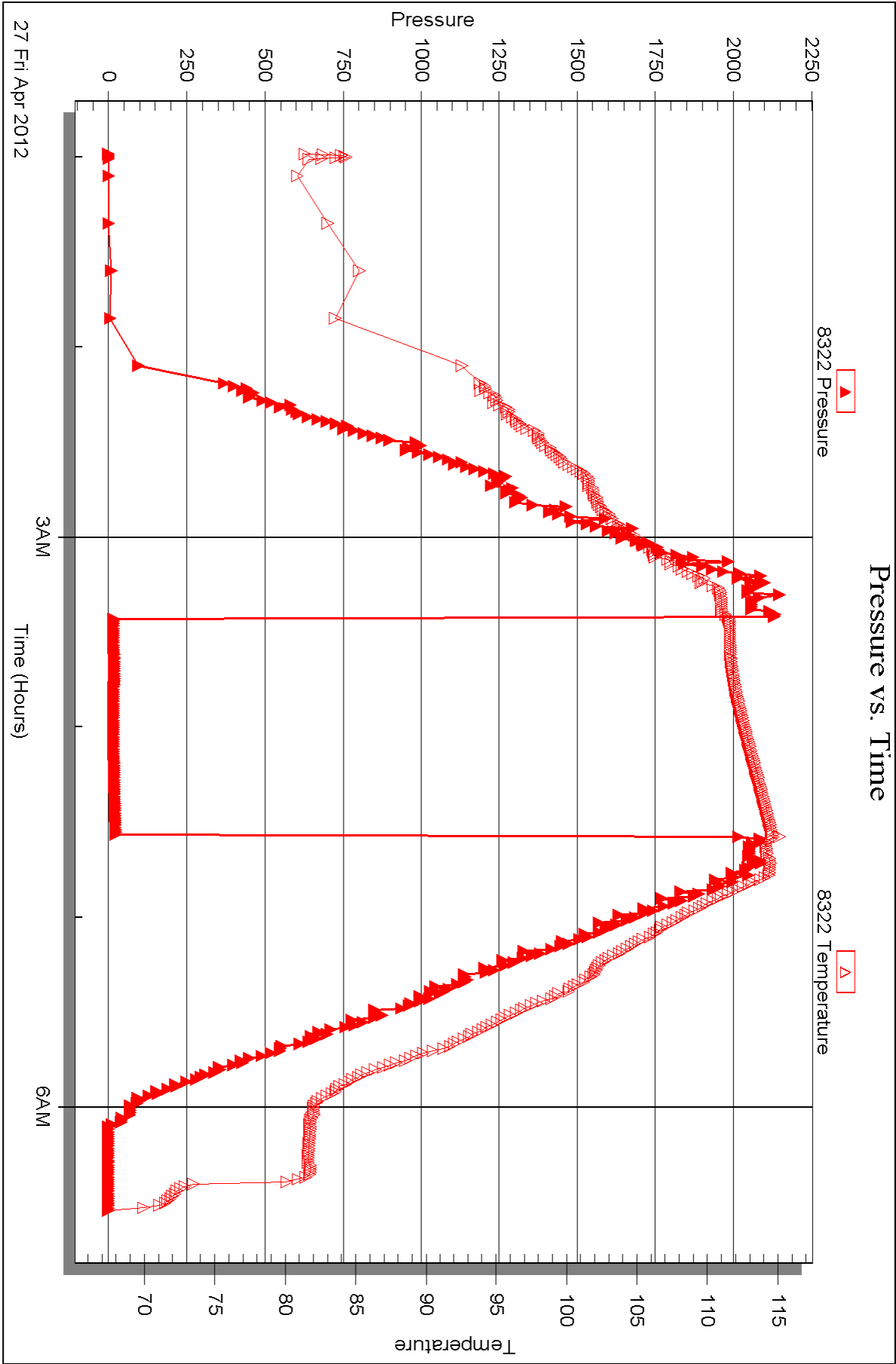


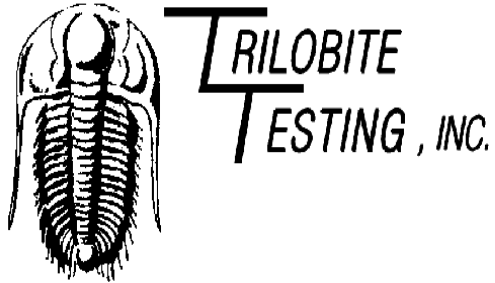
Serial #: 8322

Outside Larson Engineering, Inc

L York #1-13

DST Test Number: 8





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

L York #1-13

13-19s-29w Lane, KS

Start Date: 2012.04.28 @ 03:02:00

End Date: 2012.04.28 @ 09:13:39

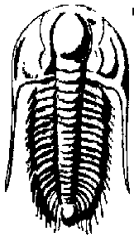
Job Ticket #: 45841 DST #: 9

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.02 @ 15:48:39



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45841

DST#: 9

Test Start: 2012.04.28 @ 03:02:00

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:26:55

Time Test Ended: 09:13:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4369.00 ft (KB) To 4460.00 ft (KB) (TVD)

Total Depth: 4460.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8652 Inside

Press@RunDepth: 24.57 psig @ 4371.00 ft (KB)

Start Date: 2012.04.28

End Date:

2012.04.28

Start Time: 03:02:00

End Time:

09:13:39

Capacity: 8000.00 psig

Last Calib.: 2012.04.28

Time On Btm: 2012.04.28 @ 05:26:40

Time Off Btm: 2012.04.28 @ 06:36:10

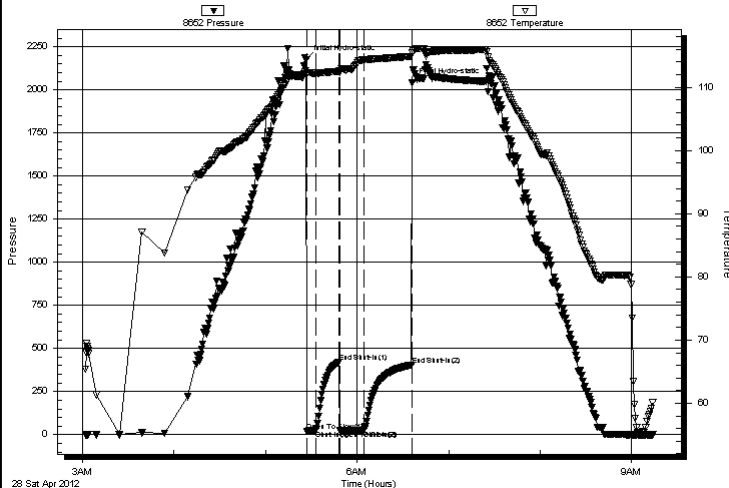
TEST COMMENT: IF- Weak Surface Blow (1/4")

IS- No Blow

FF- Weak Surface Died in 5 1/2 min

FS- No Blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2173.87	112.66	Initial Hydro-static
1	20.59	111.97	Open To Flow (1)
6	22.22	112.22	Shut-In(1)
22	421.99	112.53	End Shut-In(1)
22	22.61	112.38	Open To Flow (2)
38	24.57	114.33	Shut-In(2)
69	404.74	114.90	End Shut-In(2)
70	2041.65	115.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
8.00	100% mud	0.04

Gas Rates

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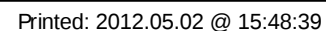
* Recovery from multiple tests

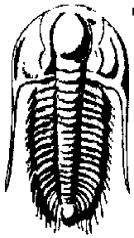


Test Start: 2012.04.28 @ 03:02:00

KB to GR/CF: 7.00 ft

FSI- No Blow





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45841

DST#: 9

ATTN: Vern Schrag

Test Start: 2012.04.28 @ 03:02:00

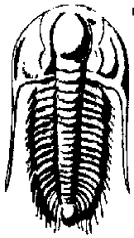
Tool Information

Drill Pipe:	Length:	4216.00 ft	Diameter:	3.80 inches	Volume:	59.14 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	26000.00 lb
Drill Collar:	Length:	148.00 ft	Diameter:	2.25 inches	Volume:	0.73 bbl	Weight to Pull Loose:	6000.00 lb
					Total Volume:	59.87 bbl	Tool Chased	ft
Drill Pipe Above KB:		22.00 ft					String Weight: Initial	56000.00 lb
Depth to Top Packer:		4369.00 ft					Final	56000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		91.00 ft						
Tool Length:		118.00 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			4343.00		
Shut In Tool	5.00			4348.00		
Hydraulic tool	5.00			4353.00		
Jars	5.00			4358.00		
Safety Joint	2.00			4360.00		
Packer	5.00			4365.00	27.00	Bottom Of Top Packer
Packer	4.00			4369.00		
Stubb	1.00			4370.00		
Perforations	1.00			4371.00		
Recorder	0.00	8652	Inside	4371.00		
Recorder	0.00	8322	Outside	4371.00		
Perforations	20.00			4391.00		
Change Over Sub	1.00			4392.00		
Drill Pipe	61.00			4453.00		
Change Over Sub	1.00			4454.00		
Perforations	3.00			4457.00		
Bullnose	3.00			4460.00	91.00	Bottom Packers & Anchor
Total Tool Length:	118.00					



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45841

DST#: 9

ATTN: Vern Schrag

Test Start: 2012.04.28 @ 03:02:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.36 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
8.00	100% mud	0.039

Total Length: 8.00 ft

Total Volume: 0.039 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8652

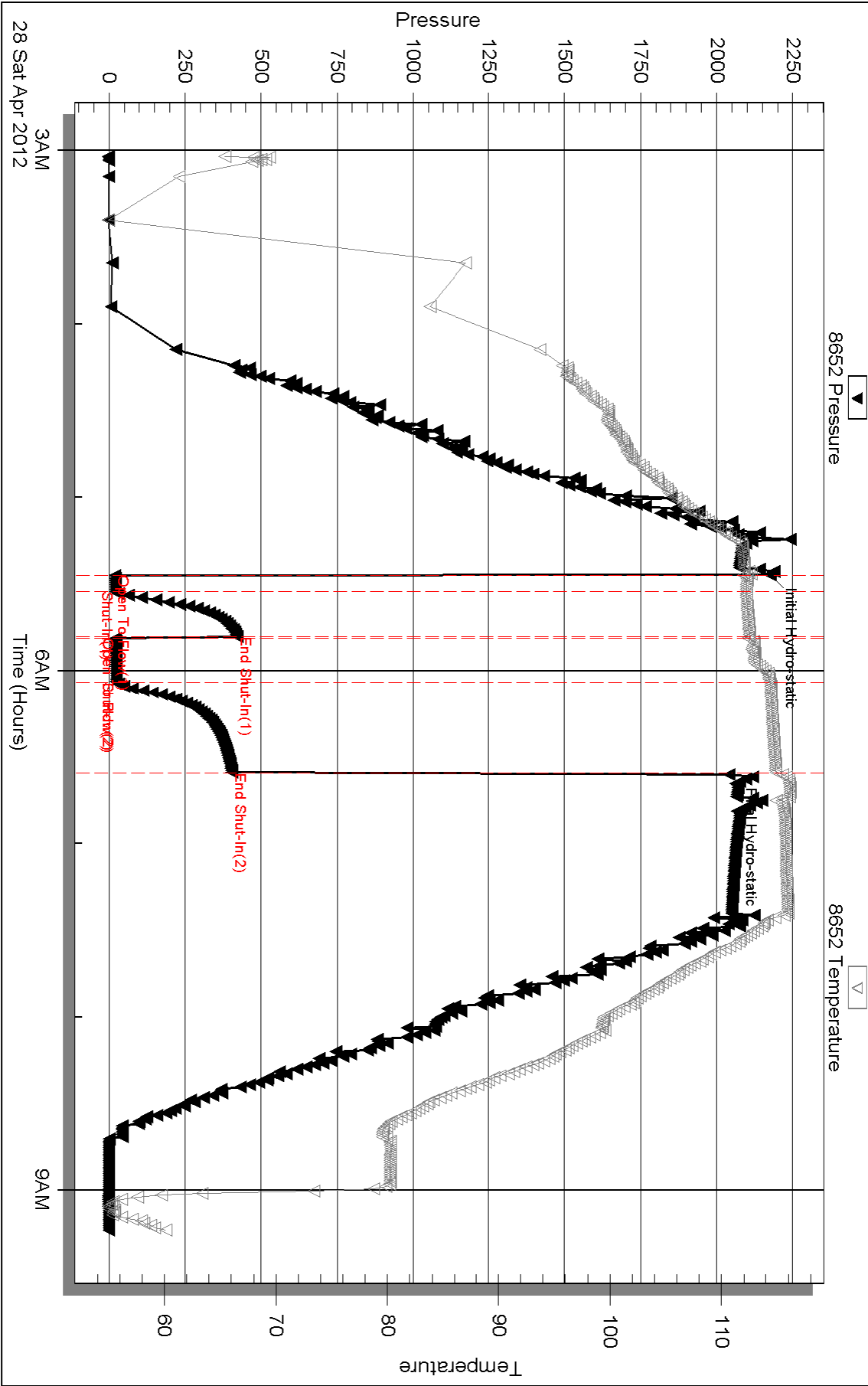
Inside

Larson Engineering, Inc

L York #1-13

DST Test Number: 9

Pressure vs. Time

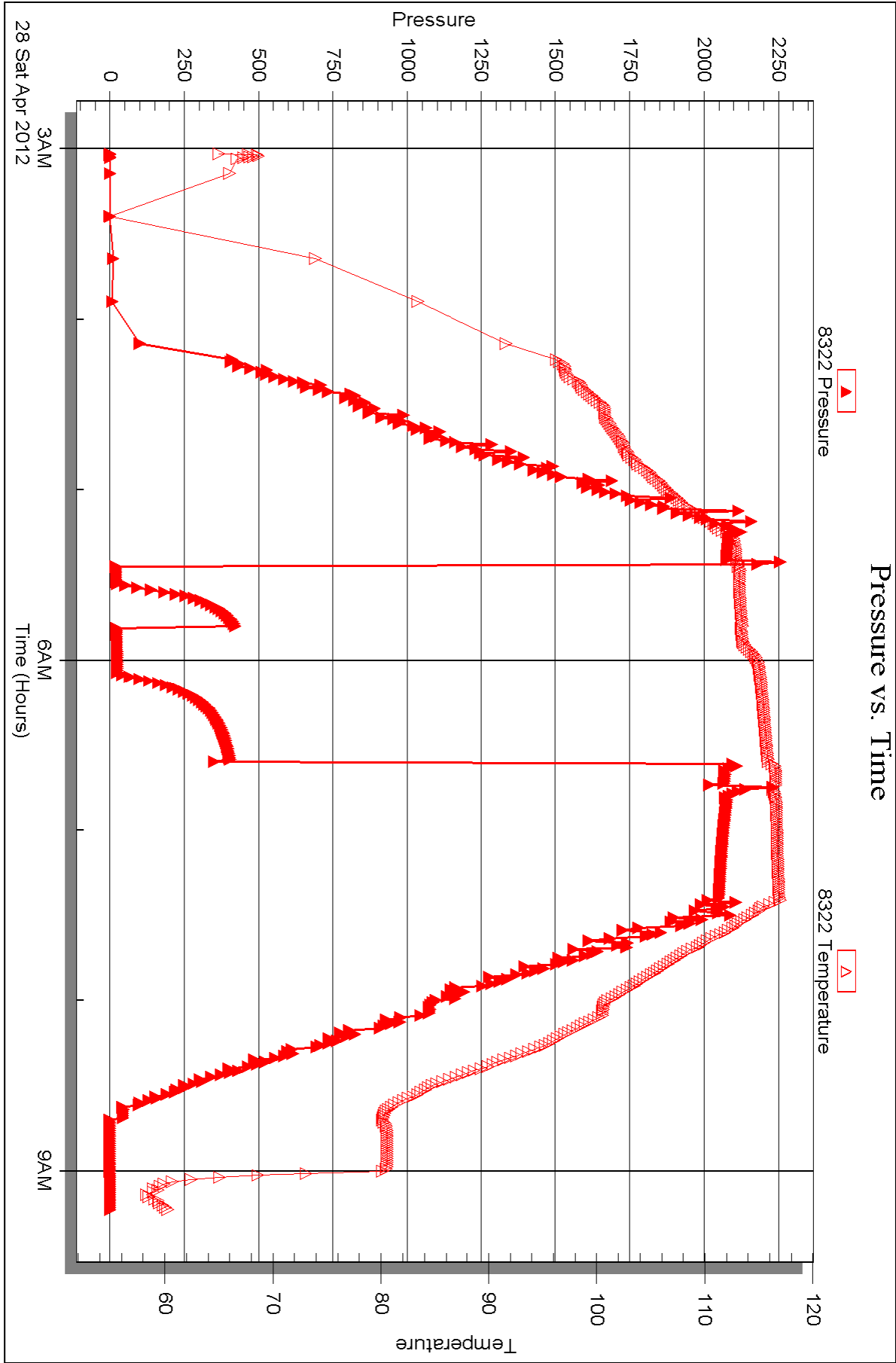


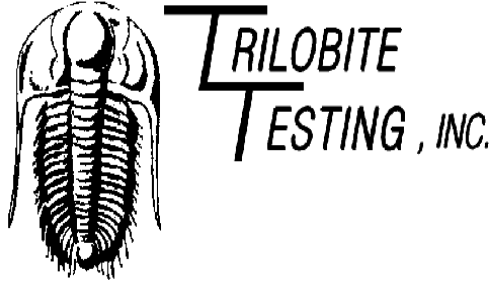
Serial #: 8322

Outside Larson Engineering, Inc

L York #1-13

DST Test Number: 9





DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

L York #1-13

13-19s-29w Lane, KS

Start Date: 2012.04.29 @ 12:58:00

End Date: 2012.04.29 @ 18:21:24

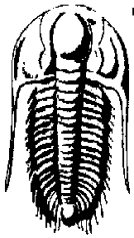
Job Ticket #: 45842 DST #: 10

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.02 @ 15:47:21



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45842

DST#: 10

Test Start: 2012.04.29 @ 12:58:00

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:10:55

Time Test Ended: 18:21:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4516.00 ft (KB) To 4620.00 ft (KB) (TVD)

Reference Elevations: 2821.00 ft (KB)

Total Depth: 4620.00 ft (KB) (TVD)

2814.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8652 Inside

Press@RunDepth: 27.77 psig @ 4517.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.04.29

End Date:

2012.04.29

Last Calib.: 2012.04.29

Start Time: 12:58:00

End Time:

18:21:24

Time On Btm: 2012.04.29 @ 15:10:40

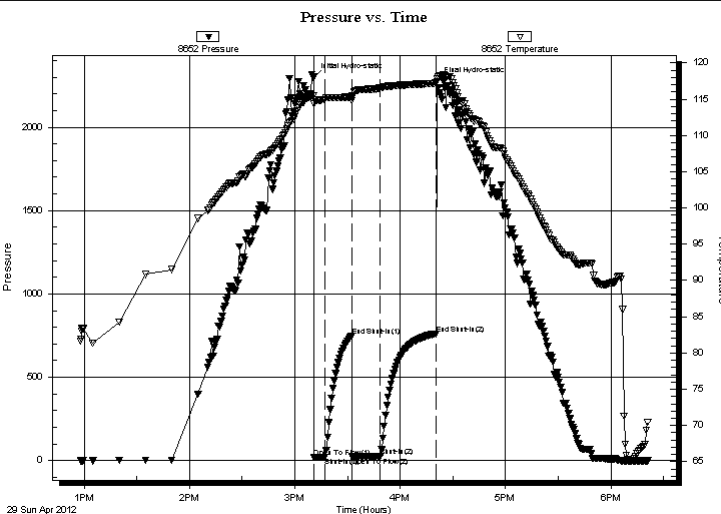
Time Off Btm: 2012.04.29 @ 16:20:55

TEST COMMENT: IF- Weak Surface Blow (1/4")

IS- No Blow

FF- Weak Surface Blow Died in 1 3/4 min

FS- No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2298.36	115.44	Initial Hydro-static
1	20.74	114.32	Open To Flow (1)
7	22.18	114.95	Shut-In(1)
22	748.14	115.33	End Shut-In(1)
22	23.07	114.83	Open To Flow (2)
38	27.77	116.52	Shut-In(2)
70	761.71	117.20	End Shut-In(2)
71	2272.93	117.83	Final Hydro-static

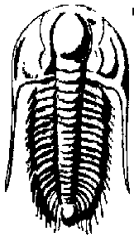
Recovery

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

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd 4
Olmitz, KS 67564

ATTN: Vern Schrag

13-19s-29w Lane, KS

L York #1-13

Job Ticket: 45842

DST#: 10

Test Start: 2012.04.29 @ 12:58:00

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:10:55

Time Test Ended: 18:21:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Will MacLean

Unit No: 40

Interval: 4516.00 ft (KB) To 4620.00 ft (KB) (TVD)

Total Depth: 4620.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2821.00 ft (KB)

2814.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 4517.00 ft (KB)

Start Date: 2012.04.29

End Date:

2012.04.29

Start Time: 12:57:45

End Time:

18:21:24

Capacity: 8000.00 psig

Last Calib.: 2012.04.29

Time On Btm:

Time Off Btm:

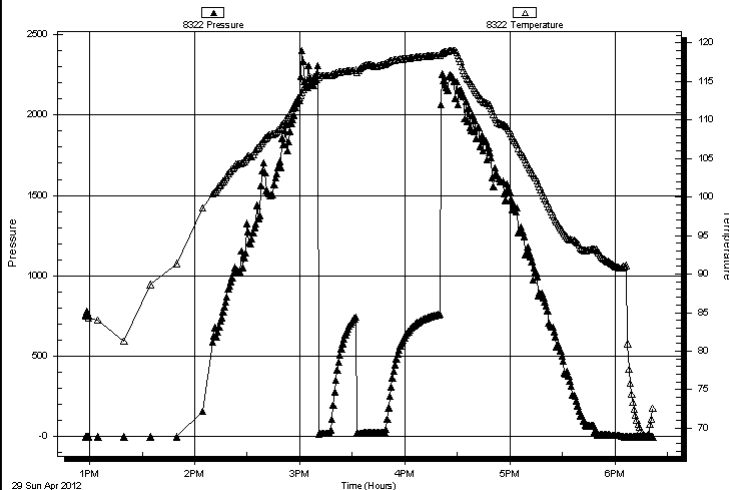
TEST COMMENT: IF- Weak Surface Blow (1/4")

IS- No Blow

FF- Weak Surface Blow Died in 1 3/4 min

FS- No Blow

Pressure vs. Time



PRESSURE SUMMARY

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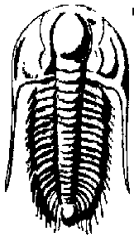
Recovery

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

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45842

DST#: 10

ATTN: Vern Schrag

Test Start: 2012.04.29 @ 12:58:00

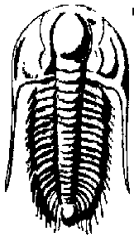
Tool Information

Drill Pipe:	Length:	4368.00 ft	Diameter:	3.80 inches	Volume:	61.27 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length:	148.00 ft	Diameter:	2.25 inches	Volume:	0.73 bbl	Weight to Pull Loose:	12000.00 lb
					Total Volume:	62.00 bbl	Tool Chased	ft
Drill Pipe Above KB:	27.00 ft							
Depth to Top Packer:	4516.00 ft							
Depth to Bottom Packer:	ft							
Interval between Packers:	104.00 ft							
Tool Length:	131.00 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			4490.00	
Shut In Tool	5.00			4495.00	
Hydraulic tool	5.00			4500.00	
Jars	5.00			4505.00	
Safety Joint	2.00			4507.00	
Packer	5.00			4512.00	27.00 Bottom Of Top Packer
Packer	4.00			4516.00	
Stubb	1.00			4517.00	
Recorder	0.00	8652	Inside	4517.00	
Recorder	0.00	8322	Outside	4517.00	
Perforations	6.00			4523.00	
Change Over Sub	1.00			4524.00	
Drill Pipe	92.00			4616.00	
Change Over Sub	1.00			4617.00	
Bullnose	3.00			4620.00	104.00 Bottom Packers & Anchor

Total Tool Length: 131.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

13-19s-29w Lane, KS

562 W State Rd 4
Olmitz, KS 67564

L York #1-13

Job Ticket: 45842

DST#: 10

ATTN: Vern Schrag

Test Start: 2012.04.29 @ 12:58:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.48 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2300.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	100% mud	0.049

Total Length: 10.00 ft

Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

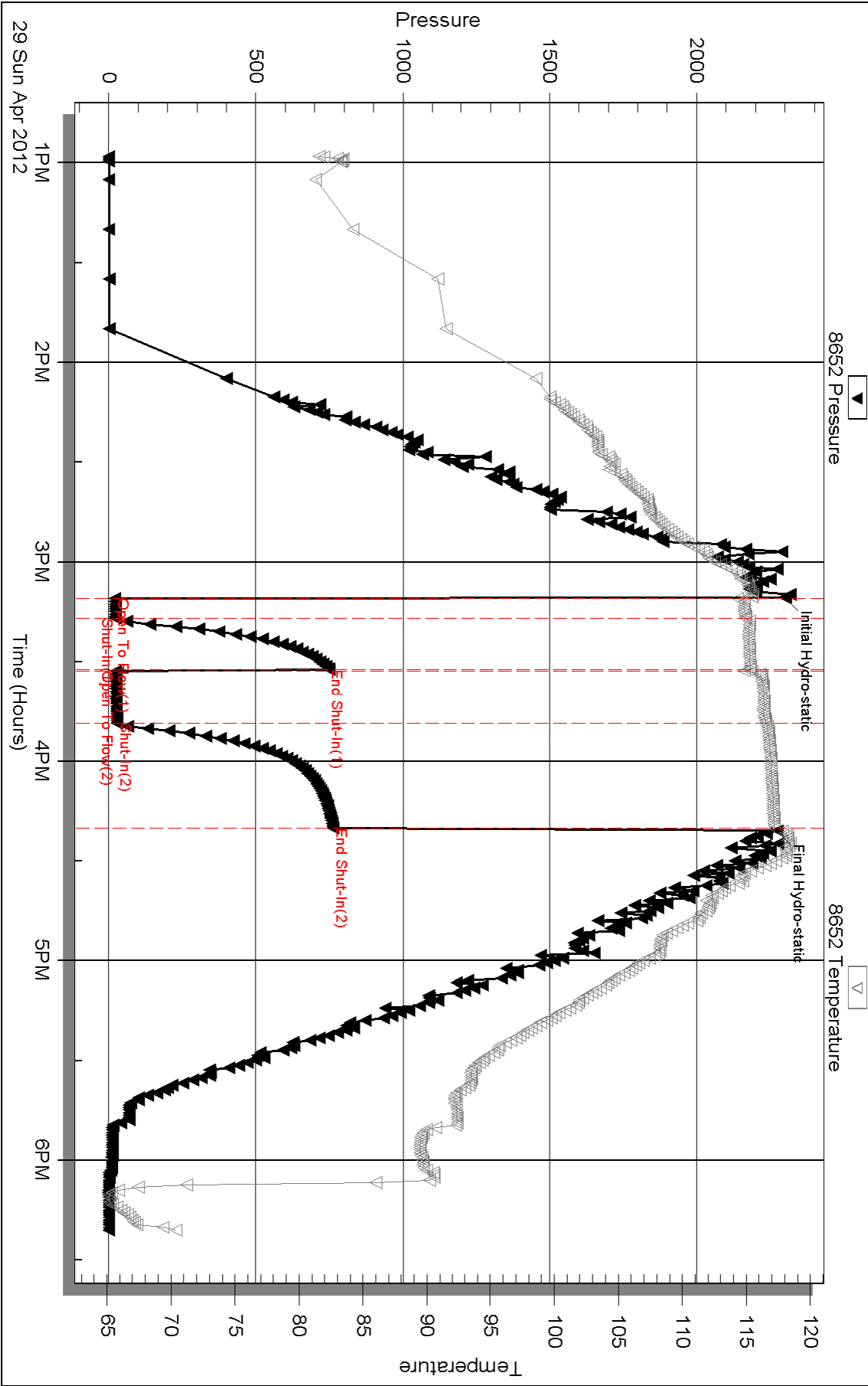
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

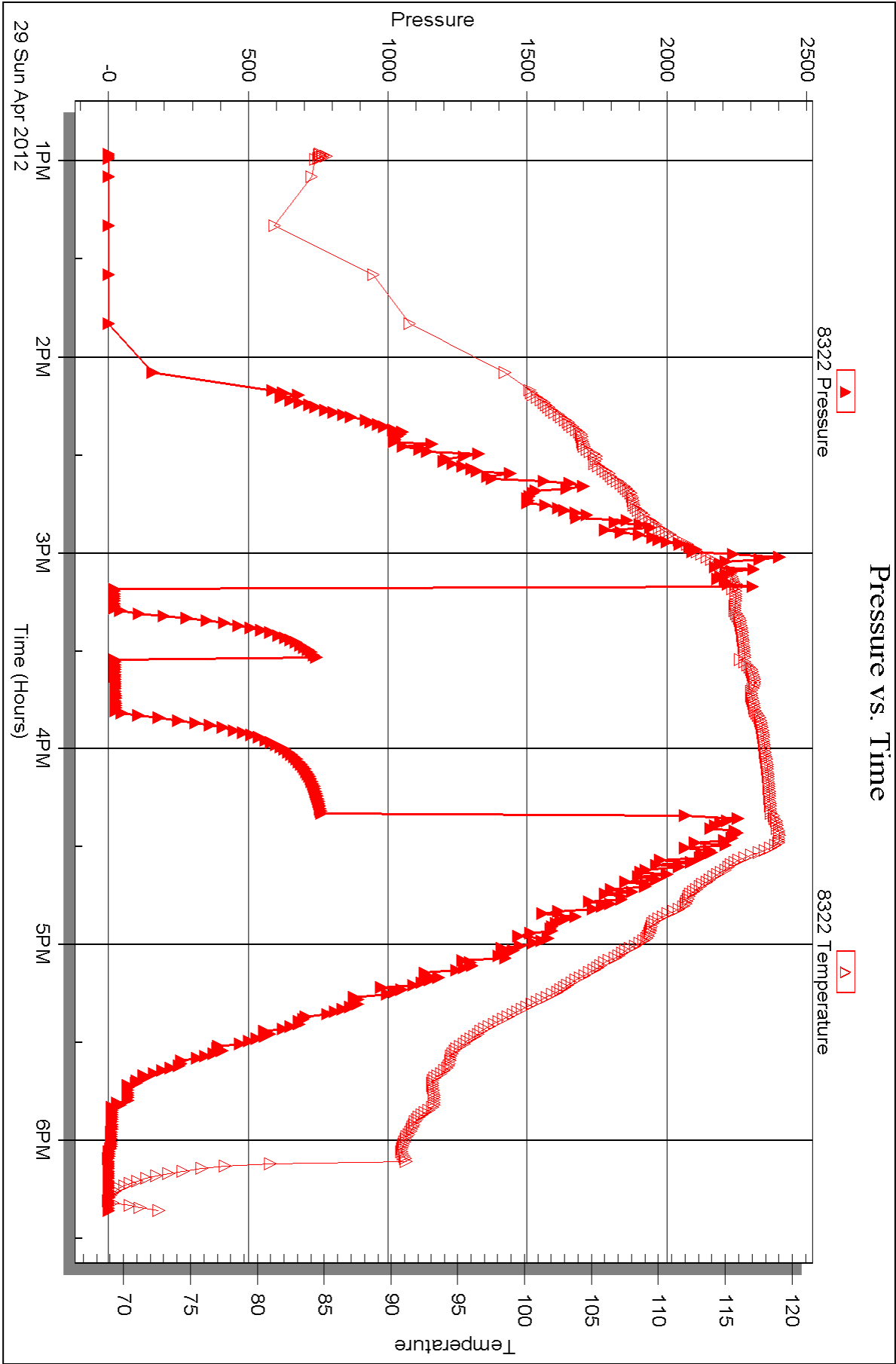


Serial #: 8322

Outside Larson Engineering, Inc

L York #1-13

DST Test Number: 10





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
APR 24 2012

Test Ticket

NO. 46503

Well Name & No. L. York 1-13 Test No. 1 Date 4-22-12
 Company Larson Engineering, Inc. Elevation 2821 KB 2814 GL
 Address 562 W State Rd 4 Olmitz, KS 67564
 Co. Rep / Geo. Vern Schrag Rig HD #3
 Location: Sec. 13 Twp. 19S Rge. 29W Co. Lme State KS

Interval Tested 4197 4198 Zone Tested H
 Anchor Length 21 Drill Pipe Run 4007 Mud Wt. 9.4
 Top Packer Depth 4172 Drill Collars Run 148 Vis 63
 Bottom Packer Depth 4177 Wt. Pipe Run — WL 7.6
 Total Depth 4198 Chlorides 2300 ppm System LCM 2

Blow Description IF: BoB in 4 min.
IS: No return.
FF: BoB in 4 min.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>186</u>	<u>WCM</u>		<u>40</u>	<u>60</u>	
<u>186</u>	<u>MCW</u>		<u>80</u>	<u>20</u>	
<u>248</u>	<u>MCW</u>		<u>95</u>	<u>5</u>	

Rec Total 620 BHT 127 Gravity 1.25 API RW 53.12 @ 53 °F Chlorides 50,000 ppm

(A) Initial Hydrostatic	<u>2108</u>	☒ Test	<u>1250</u>	T-On Location	<u>16:00</u>
(B) First Initial Flow	<u>45</u>	☒ Jars	<u>250</u>	T-Started	<u>17:03</u>
(C) First Final Flow	<u>135</u>	☒ Safety Joint	<u>75</u>	T-Open	<u>19:17</u>
(D) Initial Shut-In	<u>1085</u>	☒ Circ Sub	<u>N/C</u>	T-Pulled	<u>20:23</u>
(E) Second Initial Flow	<u>140</u>	☐ Hourly Standby		T-Out	<u>22:50</u>
(F) Second Final Flow	<u>296</u>	☒ Mileage	<u>64- 99.20</u>	Comments	
(G) Final Shut-In	<u>1079</u>	☐ Sampler			
(H) Final Hydrostatic	<u>2049</u>	☐ Straddle			

Initial Open _____
 Initial Shut-In _____
 Final Flow _____
 Final Shut-In _____

☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
 Sub Total 0
 Total 11674.20
 MP/DST Disc't _____

Sub Total 11674.20

Approved By Vern C Schrag Our Representative [Signature]
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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
APR 24 2012
BY: _____

Test Ticket

NO. 46504

Well Name & No. L. York 1-13 Test No. 2 Date 4-23-12
Company Larson Engineering Inc Elevation 2821 KB 2814 GL
Address _____
Co. Rep / Geo. Dan Schrey Rig HD#3
Location: Sec. 13 Twp. 19S Rge. 29W Co. Lane State KS

Interval Tested 4192 4212 Zone Tested H
Anchor Length 20 Drill Pipe Run 4624 Mud Wt. 9.4
Top Packer Depth 4187 Drill Collars Run 148 Vis 63
Bottom Packer Depth 4192 Wt. Pipe Run — WL 7.6
Total Depth 4212 Chlorides 2800 ppm System LCM 2
Blow Description IF: surface blow died in 4 min.

IS: No return,
EF: No blow,
FS: 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 112 Gravity — API RW — @ — °F Chlorides — ppm
(A) Initial Hydrostatic 2132 ☒ Test 1250 T-On Location 10:50
(B) First Initial Flow 13 ☒ Jars 250 T-Started 11:15
(C) First Final Flow 15 ☒ Safety Joint 75' T-Open 13:09
(D) Initial Shut-In 709 ☒ Circ Sub N/C T-Pulled 14:19
(E) Second Initial Flow 16 ☐ Hourly Standby T-Out 16:00
(F) Second Final Flow 17 ☒ Mileage 64RT 99.20 Comments _____
(G) Final Shut-In 904 ☐ Sampler _____
(H) Final Hydrostatic 2088 ☐ Straddle _____

Initial Open 10
Initial Shut-In 15
Final Flow 15
Final Shut-In 30

☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility

☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
Sub Total 0
Total 11674.20
MP/DST Disc'l _____

Sub Total 11674.20

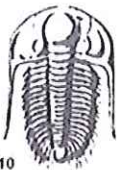
Approved By

Dan C Schrey

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.



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RECEIVED
APR 24 2012

Test Ticket

NO. 46505

Well Name & No. L. York 1-13 BY: _____ Test No. 3 Date 4-24-12
 Company Larson Engineering Elevation 2821 KB 2814 GL _____
 Address _____
 Co. Rep / Geo. Vern Schreyer Rig HD #3
 Location: Sec. 13 Twp. 19S Rge. 29W Co. Lane State KS

Interval Tested 4227 4257 Zone Tested I
 Anchor Length 30 Drill Pipe Run 4058 Mud Wt. 9.4
 Top Packer Depth 4222 Drill Collars Run 148 Vis 50
 Bottom Packer Depth 4227 Wt. Pipe Run _____ WL 8.0
 Total Depth 4257 Chlorides 2700 ppm System LCM 2
 Blow Description IF: surface blow died in 3 min.
IS: NO return,
FK: No blow,
FS: NO return,

Rec <u>1</u>	Feet of <u>mud</u>	%gas	%oil	%water <u>100</u>	%mud
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 1 BHT 112 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 2145 ☒ Test 1250 T-On Location 1:40
 (B) First Initial Flow 15 ☒ Jars 250 T-Started 2:10
 (C) First Final Flow 16 ☒ Safety Joint 75 T-Open 4:16
 (D) Initial Shut-In 108 ☒ Circ Sub NIL T-Pulled 5:21
 (E) Second Initial Flow 15 ☐ Hourly Standby _____ T-Out 7:15
 (F) Second Final Flow 17 ☒ Mileage 64 RT 99.20 Comments _____
 (G) Final Shut-In 410 ☐ Sampler _____
 (H) Final Hydrostatic 2062 ☐ Straddle _____

Initial Open 5 ☐ Shale Packer _____
 Initial Shut-In 15 ☐ Shale Packer _____
 Final Flow 15 ☐ Extra Packer _____
 Final Shut-In 30 ☐ Extra Recorder _____
 Sub Total 11674.20 ☐ Day Standby _____
☐ Accessibility _____
 MP/DST Disc't _____

Approved By Vern Schreyer 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

RECEIVED
APR 30 2012
BY: _____

Test Ticket

NO. 45836

Well Name & No. L. York #1-13 Test No. DST #4 Date 4-24-12
Company Larson Engineering Inc Elevation 2821 KB 2814 GL
Address 562 W State Rd 4 Olmitz, KS 67564
Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
Location: Sec. 13 Twp. 19s Rge. 29w Co. Lane State KS

Interval Tested 4261 - 4271 Zone Tested Lansing J
Anchor Length 10 Drill Pipe Run 4092 Mud Wt. 9.3
Top Packer Depth 4257 Drill Collars Run 148 Vis 47
Bottom Packer Depth 4261 Wt. Pipe Run 0 WL 8.4
Total Depth 4271 Chlorides 2100 ppm System LCM 216

Blow Description IF - Surface Blow Built to 3 1/4
TST - No Blow
EF - Surface Blow Built to BOB in 22 min
FST - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>95</u>	<u>WCM</u>			<u>18</u>	<u>82</u>
<u>60</u>	<u>MCW</u>			<u>74</u>	<u>26</u>
<u>120</u>	<u>MCW</u>			<u>71</u>	<u>27</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 275 BHT 127 Gravity API RW 1 @ 81 °F Chlorides 4900 ppm
(A) Initial Hydrostatic 2118 ☒ Test 1250
(B) First Initial Flow 21 ☒ Jars 250
(C) First Final Flow 56 ☒ Safety Joint 75
(D) Initial Shut-In 601 ☒ Circ Sub N/C
(E) Second Initial Flow 60 ☐ Hourly Standby
(F) Second Final Flow 142 ☒ Mileage 64 R/T 99.20
(G) Final Shut-In 605 ☐ Sampler
(H) Final Hydrostatic 2062 ☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility

T-On Location 13:46
T-Started 14:46
T-Open 16:58
T-Pulled 18:52
T-Out 20:39

Comments _____

Initial Open 5
Initial Shut-In 15
Final Flow 30
Final Shut-In 60

☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
Sub Total 0
Total 1674.20
MP/DST Disc't _____

Sub Total 1674.20

Approved By Vern Schrag
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Our Representative W. M. Mac



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
APR 30 2012
BY: _____

Test Ticket

NO. 45837

Well Name & No. L. York #1-13 Test No. DST #5 Date 4-25-12
Company Larson Engineering Inc Elevation 2821 KB 2814 GL
Address 562 W State Rd 4 Olmitz KS 67564
Co. Rep / Geo. Vern Schrag Rig H-D R5 #3
Location: Sec. 13 Twp. 19s Rge. 29w Co. Lane State KS

Interval Tested 4294 - 4315 Zone Tested Lansing K
Anchor Length 21 Drill Pipe Run 4123 Mud Wt. 9.3
Top Packer Depth 4290 Drill Collars Run 148 Vis 47
Bottom Packer Depth 4294 Wt. Pipe Run 0 WL 8.4
Total Depth 4315 Chlorides 2100 ppm System LCM 2/b

Blow Description IF - Surface Blow Built to 6 1/2"
TSI - No Blow
FF - Surface Blow Built to 7 3/4"
FSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>110</u>	<u>WCM</u>		<u>45</u>	<u>55</u>	
<u>120</u>	<u>MCW</u>		<u>68</u>	<u>32</u>	
<u>120</u>	<u>MCW</u>		<u>75</u>	<u>25</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 350 BHT 126 Gravity API RW 1.30 @ 98 °F Chlorides 37000 ppm
(A) Initial Hydrostatic 2114 ☒ Test 1250 T-On Location 6:16
(B) First Initial Flow 24 ☒ Jars 250 T-Started 7:54
(C) First Final Flow 95 ☒ Safety Joint 75 T-Open 9:42
(D) Initial Shut-In 620 ☒ Circ Sub N/C T-Pulled 10:50
(E) Second Initial Flow 99 ☐ Hourly Standby T-Out 13:00
(F) Second Final Flow 178 ☒ Mileage 64 R/T 99.20 Comments
(G) Final Shut-In 618 ☐ Sampler
(H) Final Hydrostatic 2042 ☐ Straddle ☐ Ruined Shale Packer
☐ Shale Packer ☐ Ruined Packer
☐ Extra Packer ☐ Extra Copies

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

Sub Total 1674.20
MP/DST Disc't

Approved By Vern Schrag

Our Representative Will Mc

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
APR 30 2012

Test Ticket

NO. 45838

Well Name & No. L. York #1-13 Test No. DST #6 Date 4-25-12
Company Larson Engineering Inc Elevation 2821 KB 2814 GL
Address 562 W State Rd 4 Olmitz KS 67564
Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
Location: Sec. 13 Twp. As Rge. 29N Co. Lane State KS

Interval Tested 4320-4331 Zone Tested Lower K
Anchor Length 11 Drill Pipe Run 4152 Mud Wt. 9.4
Top Packer Depth 4316 Drill Collars Run 148 Vis 48
Bottom Packer Depth 4320 Wt. Pipe Run 0 WL 7.2
Total Depth 4331 Chlorides 2100 ppm System LCM 216

Blow Description IF- Weak Surface Blow
ISI- No Blow
EF- No Blow
FSI- No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud with 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	BHT	Gravity	API RW	@	°F	Chlorides	ppm
<u>5</u>	<u>111</u>	<u>12.50</u>					
(A) Initial Hydrostatic	<u>2137</u>	<u>Test</u>					
(B) First Initial Flow	<u>2137 17</u>	<u>Jars</u>					
(C) First Final Flow	<u>17 18</u>	<u>Safety Joint</u>					
(D) Initial Shut-In	<u>18 630</u>	<u>Circ Sub</u>					
(E) Second Initial Flow	<u>630 19</u>	<u>Hourly Standby</u>					
(F) Second Final Flow	<u>19 22</u>	<u>Mileage</u>					
(G) Final Shut-In	<u>22 615</u>	<u>Sampler</u>					
(H) Final Hydrostatic	<u>615 2024</u>	<u>Straddle</u>					

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

☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
Sub Total 1674.20

T-On Location 20:42
T-Started 20:59
T-Open 22:54
T-Pulled
T-Out 1:57 AM
Comments
☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
Sub Total 0
Total 1674.20
MP/DST Disc't

Approved By Vern Schrag Our Representative Vern Schrag
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**TRILOBITE
TESTING INC.**

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APR 30 2012

Test Ticket

NO. 45839

Well Name & No. L. York #1-13 Test No. DST #7 Date 4-26-12
Company Larson Engineering Inc Elevation 2821 KB 2814 GL
Address 562 W State Rd 4 Olmitz KS 67564
Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
Location: Sec. 13 Twp. 19s Rge. 29W Co. Lane State KS

Interval Tested 4333-4341 Zone Tested Middle Creek
Anchor Length 8 Drill Pipe Run 4182 Mud Wt. 9.4
Top Packer Depth 4329 Drill Collars Run 148 Vis 48
Bottom Packer Depth 4333 Wt. Pipe Run 0 WL 7.2
Total Depth 4341 Chlorides 2100 ppm System LCM 216

Blow Description IF - Surface Blow Built to 3 1/2"

IS2 - No Blow

FF - Surface Blow Built to BOB in 14 1/2 min

FS1 - Surface Blow Built to BOB in 14 1/2 min No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>GO</u>	<u>4</u>	<u>96</u>		
<u>120</u>	<u>G-OMCW</u>	<u>2</u>	<u>3</u>	<u>65</u>	<u>30</u>
<u>60</u>	<u>OMCW</u>		<u>1</u>	<u>93</u>	<u>6</u>
<u>180</u>	<u>MCW</u>			<u>85</u>	<u>15</u>

Rec Total 362 BHT 128 Gravity API RW, 118 @ 87 °F Chlorides 49000 ppm

(A) Initial Hydrostatic 2118
(B) First Initial Flow 24
(C) First Final Flow 67
(D) Initial Shut-In 652
(E) Second Initial Flow 72
(F) Second Final Flow 182
(G) Final Shut-In 647
(H) Final Hydrostatic 2086

☒ Test 1250
☒ Jars 250
☒ Safety Joint 75
☒ Circ Sub N/C
☐ Hourly Standby
☒ Mileage 64 R/T 99.20

T-On Location 10:16 AM
T-Started 11:18 AM
T-Open 13:32
T-Pulled 15:24
T-Out 17:39

Initial Open 5
Initial Shut-In 15
Final Flow 30
Final Shut-In 60

☐ Sampler
☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility

Comments
☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
Sub Total 0
Total 1674.20
MP/DST Disc't

Sub Total 1674.20

Approved By Vernon Schrag

Our Representative Ken Mc

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APR 30 2012

Test Ticket

NO. 45840

Well Name & No. L. York #1-13 Test No. DST #8 Date 4-27-12
Company Larson Engineering Inc. Elevation 2821 KB 2814 GL
Address 562 W. State Rd 4 Olmitz KS 67564
Co. Rep / Geo. Vern Schrag Rig H-D R5 #3
Location: Sec. 13 Twp. 19s Rge. 29w Co. Lane State KS

Interval Tested 4341-4349 Zone Tested Lansins L
Anchor Length 8 Drill Pipe Run 4181 Mud Wt. 9.2
Top Packer Depth 4337 Drill Collars Run 148 Vis 55
Bottom Packer Depth 4341 Wt. Pipe Run 0 WL 8.0
Total Depth 4349 Chlorides 2700 ppm System LCM 116

Blow Description IF - Weak Surface Blow

ISI - No Blow

EF - No Blow

FST - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud (Few Oil Spots 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 111 Gravity 1250 API RW 250 @ 75 °F Chlorides N/C ppm
(A) Initial Hydrostatic 2129 ☒ Test 1250
(B) First Initial Flow 15 ☒ Jars 250
(C) First Final Flow 16 ☒ Safety Joint 75
(D) Initial Shut-In 20 ☒ Circ Sub N/C
(E) Second Initial Flow 16 ☐ Hourly Standby
(F) Second Final Flow 17 ☒ Mileage 64 R/T 99.20
(G) Final Shut-In 23 ☐ Sampler
(H) Final Hydrostatic 2016 ☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility

T-On Location 00:14 AM
T-Started 00:59 AM
T-Open 3:24 PM
T-Pulled 4:29 AM
T-Out 6:32 AM

Comments

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

☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
Sub Total 0
Total 1674.20
MP/DST Disc't

Sub Total 1674.20

Approved By Vern Schrag

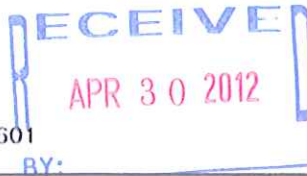
Our Representative Jim M...

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Test Ticket

NO. **45841**

BY:

Well Name & No. L. York Test No. DST #9 Date 4-28-12
 Company Larson Engineering Inc Elevation 2821 KB 2814 GL
 Address 562 W State Rd 4 Olmitz KS 67564
 Co. Rep / Geo. Vern Schrag Rig H-D Rg #3
 Location: Sec. 13 Twp. 19s Rge. 29w Co. Lane State KS

Interval Tested 4369-4460 Zone Tested Marmaton
 Anchor Length 91 Drill Pipe Run 4216 Mud Wt. 9.2
 Top Packer Depth 4365 Drill Collars Run 148 Vis 52
 Bottom Packer Depth 4369 Wt. Pipe Run 0 WL 8.4
 Total Depth 4460 Chlorides 2500 ppm System LCM 116
 Blow Description IF- Weak Surface Blow (1/4")
ISI- No Blow
EF- Weak Surface Blow Prod in 5-1/2 hr
FSI- No Blow

Rec <u>8</u>	Feet of <u>Mud</u>	%gas	%oil	%water <u>100</u>	%mud
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 _____ BHT 110 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

- (A) Initial Hydrostatic 2173
 (B) First Initial Flow 20
 (C) First Final Flow 22
 (D) Initial Shut-In 421
 (E) Second Initial Flow 22
 (F) Second Final Flow 24
 (G) Final Shut-In 404
 (H) Final Hydrostatic 2041

- ☒ Test 1250'
☒ Jars 250'
☒ Safety Joint 75'
☒ Circ Sub NIC
☐ Hourly Standby
☒ Mileage 64 RIT 99.20
☐ Sampler
☐ Straddle
☒ Shale Packer 250'
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
 Sub Total 1924.

- T-On Location 2:14
 T-Started 3:02
 T-Open 5:26
 T-Pulled 6:36
 T-Out 9:13
 Comments _____
☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
 Sub Total 0
 Total 1924-
 MP/DST Disc't _____

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

Approved By Vern Schrag Our Representative Bill Mar
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RECEIVED
APR 30 2012

Test Ticket

NO. 45842

Well Name & No. L. York #1-13 BY: _____
 Company Larson Engineering Test No. DST #10 Date 4-29-12
 Address 562 W. State Rd 4 Olmitz KS 67564 Elevation 2821 KB 2814 GL _____
 Co. Rep / Geo. Vern Schrag Rig H-D Rig #3
 Location: Sec. 13 Twp. 19s Rge. 29W Co. Lane State KS

Interval Tested 4516 - 4620 Zone Tested Cherokee
 Anchor Length 104 Drill Pipe Run 4368 Mud Wt. 9.4
 Top Packer Depth 4512 Drill Collars Run 148 Vis 62
 Bottom Packer Depth 4516 Wt. Pipe Run 0 WL 8.8
 Total Depth 4620 Chlorides 2500 ppm System LCM 115

Blow Description IF - Weak Surface Blow (1/4")
TSI - No Blow
FF - Weak Surface Blow Died in 1.34 min
FSI - No Blow

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

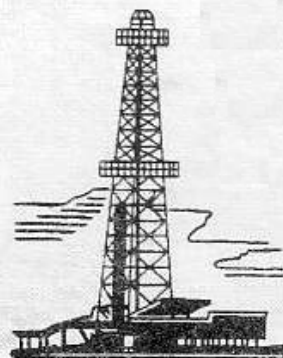
Rec Total 10 BHT 117 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 2298 ☒ Test 1250 T-On Location 12:34
 (B) First Initial Flow 20 ☒ Jars 250 T-Started 12:58
 (C) First Final Flow 22 ☒ Safety Joint 75' T-Open 15:10
 (D) Initial Shut-In 748 ☒ Circ Sub N/C T-Pulled 16:20
 (E) Second Initial Flow 23 ☐ Hourly Standby _____ T-Out 18:21
 (F) Second Final Flow 27 ☒ Mileage 64 R/T 99.20 Comments _____
 (G) Final Shut-In 761 ☐ Sampler _____
 (H) Final Hydrostatic 2272 ☐ Straddle _____

Initial Open 5 ☐ Shale Packer _____ ☐ Ruined Shale Packer _____
 Initial Shut-In 15 ☐ Extra Packer _____ ☐ Ruined Packer _____
 Final Flow 15 ☐ Extra Recorder _____ ☐ Extra Copies _____
 Final Shut-In 30 ☐ Day Standby _____ Sub Total 0
 Total 1674.20
 MP/DST Disc't _____
 Sub Total 1674.20

Approved By Vern C Schrag

Our Representative [Signature]

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WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG
CONSULTANT GEOLOGIST



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

Well Name: L. York #1-13
Location: SW NE NW SW Sec. 13-19s-29w
Licence Number: API: 15-101-22365
Spud Date: April 16, 2012
Surface Coordinates: 2294' FSL & 704' FWL

Region: Lane Co., KS
Drilling Completed: April 30, 2012

Bottom Hole Vertical
Coordinates:
Ground Elevation (ft): 2814' K.B. Elevation (ft): 2821'
Logged Interval (ft): 3800' To: RTD Total Depth (ft): 4685'
Formation: 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. (#3842)
Address: 562 West State Road 4
Olmitz, KS 67564-8561

DRILLING CONTRACTOR:

H. D. Drilling, LLC, Rig #3 (#33935)

DP 4.5" XH (16.6#); DC 6.25" x 2.25" x 560.97', Kelly 40.30', Tool Joint 5.5" ; Bit: JZ-QX21 to 3698, JZ-QX20 to RTD, 7-7/8", jets 15-15-15; rpm 80, WOB 35k; Kelly Bushing 7' above ground level; LeWayne "Lew" Tresner (tool pusher).

CIRCULATION SYSTEM:

Pump: Continental EMSCO D-300, duplex, 6 x 14, 60 spm, Chemical, premix, displaced about 3449'; earth pits, Morgan Mud, Inc., Cade Lines.

Set 8-5/8" (20#) casing at 260'

GAS DETECTION SYSTEM:

USB-1208LS-41, portable hot-wire, Delphian 3.0 volt catalytic bead combustible gas detector.

DRILL STEM TEST #1:

Lansing "F" & "G": 4115-4136: (21'); BOB 4 min IFP, no RB, BOB 4 min FFP, no RB; Time: 5-15-15-30; Recovery: 620' TF, 186' WCM (40%W, 60%M), 186' MCW (20%M, 80%W), 248' MCW (5%M, 95%W, R_w 0.22 at 53 F, chlorides 50k); HP: 2108-2049; SIP: 1085-1079; FP: 45-135, 140-296; BHT: 127 F; dual packers, 148' DC; Trilobite Testing, Inc., Brandon Turley.

DRILL STEM TEST #2:

Kansas City "H": 4192-4212 (20'): weak blow died 4 min IFP, no RB, no blow FFP; Time: 5-15-15-30; Recovery: 5' mud, no show; HP: 2132-2088; SIP: 709-904; FP: 13-15, 16-17; BHT: 112 F; dual packers, 148' DC; Trilobite Testing, Inc., Brandon Turley.

DRILL STEM TEST #3:

Kansas City "I": 4227-4257 (30'); weak blow died 3 min IFP, no RB, no blow FFP; Time: 5-15-15-30; Recovery: 1' mud, no show; HP: 2145-2062; SIP: 108-410; FP: 15-16, 15-17; BHT: 112 F; dual packers, 148' DC; Trilobite Testing, Inc., Brandon Turley.

DRILL STEM TEST #4:

Kansas City "J": 4261-4271 (10'): weak incr blow 3.25" IFP, no RB, BOB 22 min FFP, no RB; Time: 5-15-30-60; Recovery: 275' TF, 95' WCM (18%W, 82%M), 60' MCW (26%M, 74%W), 120' MCW (29%M, 71%W, Rw 1.0 at 81 F, chlorides 49k); HP: 2118-2062, SIP: 601-605, FP: 21-56, 60-142; BHT 127 F; dual packers, 148' DC; Trilobite Testing, Inc., Will MacLean.

DRILL STEM TEST #5:

Kansas City "K": 4294-4315 (21'): weak incr blow 6.5" IFP, no RB, weak incr blow 7.75" FFP, no RB; Time: 5-15-15-30; Recovery: 350' TF, 110' WCM (45%W, 55%M), 120' MCW (32%M, 68%W), 120' MCW (25%M, 75%W, Rw 0.13 at 98 F, chlorides 37k); HP: 2114-2042, SIP: 620-618, FP: 24-95, 99-178; BHT: 126 F; dual packers, 148' DC; Trilobite Testing, Inc., Will MacLean.

DRILL STEM TEST #6:

Kansas City Lower "K": 4320-4331 (11'): weak surf blow IFP, no RB, no blow FFP; Time: 5-15-15-30; Recovery: 5' mud w/oil spots; HP: 2137-2024, SIP: 630-615; FP: 17-18, 19-22; BHT: 111 F; dual packers, 148' DC; Trilobite Testing, Inc., Will MacLean.

DRILL STEM TEST #7:

Kansas City "Middle Creek": 4333-4341 (8'): weak blow incr 3.5" IFP, no RB, weak blow incr BOB 14.5 min, no RB; Time: 5-15-30-60; Recovery: 362' TF: 2' GO (4%G, 96%O), 120' GOMCW (2%G, 3%O, 30%M, 65%W), 60' OMCW (1%O, 6%M, 93%W), 180' MCW (15%M, 85%W, Rw 0.118 at 87 F, Chlorides 49k); HP: 2118-2086, SIP: 652-647, FP: 24-67, 72-182; BHT: 128 F; dual packers, 148' DC; Trilobite Testing, Inc., Will MacLean.

DRILL STEM TEST #8:

Kansas City "L": 4341-4349 (8'): weak surf blow IFP, no RB, no blow FFP, no RB; Time: 5-15-15-30; Recovery: 2' mud w/oil spots; HP: 2129-2016; SIP: 20-17; FP: 15-16, 16-17; BHT: 111 F; dual packers, 148' DC; Trilobite Testing, Inc., Will MacLean.

DRILL STEM TEST #9:

Pleasanton thru upper Marmaton: 4369-4460 (91'): weak surf blow IFP, no RB, weak surf blow died 5.5 min FFP; Time: 5-15-15-30; Recovery: 8' mud no show; HP: 2173-2041; SIP: 421-404; FP: 20-22, 22-24; BHT: 110 F; dual packers (w/shale packer), 148' DC; Trilobite Testing, Inc., Will MacLean.

DRILL STEM TEST #10:

Myrick Station thru Cherokee Lime: 4516-4620 (104'): weak surf blow IFP, no RB, weak surf blow died 2 min FFP; Time: 5-15-15-30; Recovery: 10' mud no show; HP: 2298-2272; SIP: 748-761; FP: 20-22, 23-27; BHT: 117 F; dual packers, 148' DC; Trilobite Testing, Inc., Will MacLean.

OPEN HOLE LOGS:

DN (DGA), DI (SP) (Run-1); ML (Run-2); 5" detail LTD-3600; 2" DI to surface casing; No Sonic Log; LogTech-Pioneer Wireline, Hays, KS, K. Bange, Log total depth (4684') was one foot high to rotary total depth (4685').

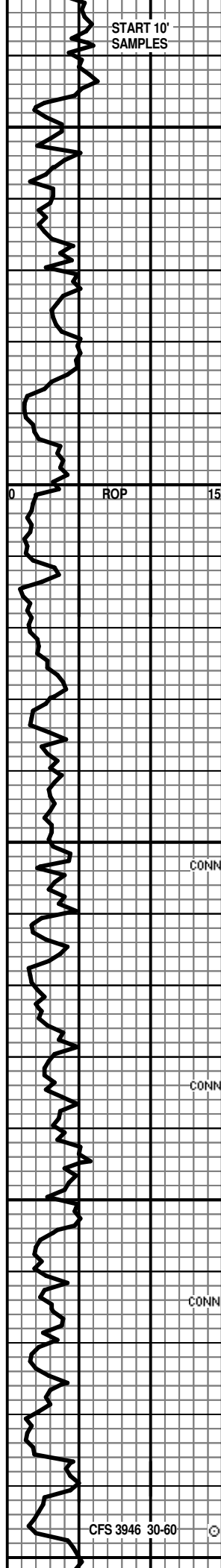
COMPLETION:

Dry & Abandoned

7AM DAILY ACTIVITY:

04/16: MIRT, SPUD
 04/17: 305' Drilling
 04/18: 1873' Drilling
 04/19: 2720' Drilling
 04/20: 3410' Drilling, Call 3400' 6:27 am
 04/21: 3850' Drilling
 04/22: 4140' Drilling
 04/23: 4198' Drilling
 04/24: 4257 DST 3
 04/25: 4315 DST 5
 04/26: 4341' DST 7
 04/27: 4349' DST 8
 04/28: 4460' DST 9
 04/29: 4596' Drilling
 04/30: 4685' RTD 2:29 am
 04/30: Released 12:13 pm

ROP ROP (min/ft) _____					Geological Descriptions	Total Gas TG (units) _____
	DST	Lithology	Porosity and Show	Depth		
0 15 DIGITAL ROP				3700	ANHYDRITE 2154 (+667) B/ANHY 2185 (+636)	0 100 Hot-Wire
						REFERENCE WELLS: LARSON ENGINEERING, INC., JOYCE ANN UNIT #1-13, NW NW NE NE SEC. 13-19S-29W. & BEREN CORPORATION, VOSHELL #1, NE NW SW 13-19S-29W.



3750

3800

3850

3900

3950

LS: lt-grayish brn; vf-f xtal; sli fos; fine vugular & tight int xtal porosity; N.S.

Shale: gray, dk gray; pyritic; pyritized fos;

LS: lt-grayish brown; vf-xtal; chalky in part; poor vug porosity; trace dry stain (will cut); no oil or odor.

LS: grayish brown; vf-xtal; dense to chalky in part; no visible porosity; N.S.

LS: grayish brown; vf-xtal; rough textured; sli chalky; fine vug porosity; N.S.

LS: grayish-brown; vf-xtal; no visible porosity; N.S.

LS: white, lt grayish brown; vf-xtal, scat m-c xtaline; granular in part; fine-med vug porosity; N.S.

LS: as above but somewhat chalky;

LS: grayish brown; vf-xtal; dense to chalky in part; no visible porosity; N.S.

LS: grayish brown; vf-xtal; rough; v-fine vug porosity & tight int xtal porosity; N.S.

LS: grayish brown; vf-xtal; minor white, opaq chert; rough textured; v- fine vug & trace fos-moldic porosity; N.S.

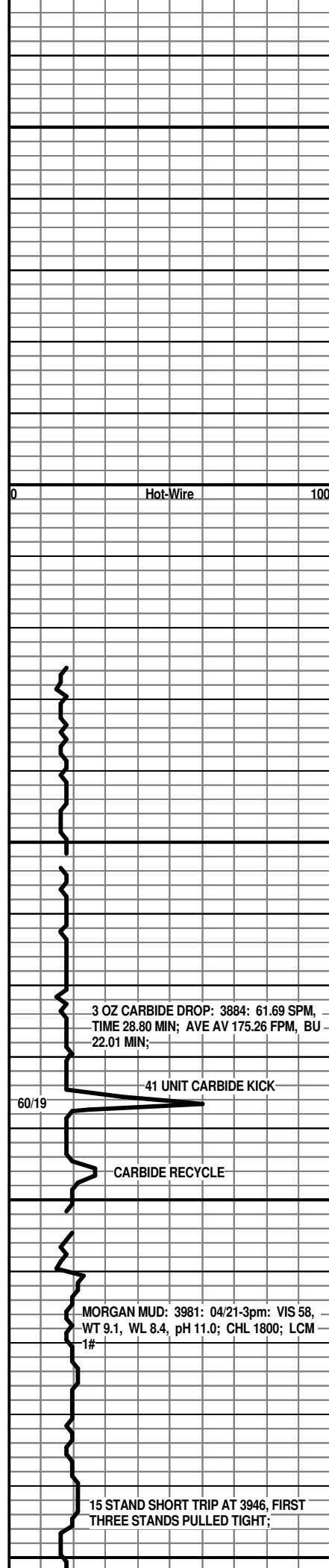
LS: grayish brown; vf-xtal; mostly dense; shaley in part; no visible porosity; N.S.

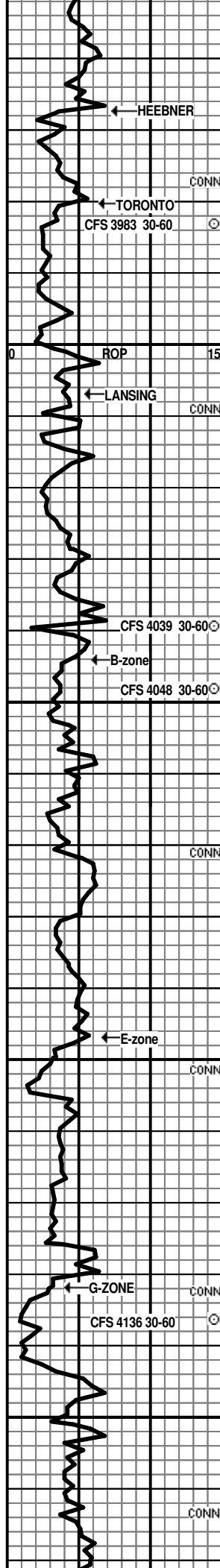
LS: lt-md grayish brown; vf-xtal; dense; no visible porosity; N.S.

LS: off white, lt brown; mic-vf xtal; dense; chalky in part; poor apparent porosity; N.S.

LS: as above.

Shale: green, gray





LS: lt-md grayish brown; vf-xtal; fair vug porosity; N.S.

HEEBNER 3967 (-1146)

LS: grayish brown; mic-vf xtal; mostly dense; no visible porosity; N.S.

LS: white, lt brown; mic-vf xtal; soft chalk in part; scattered vug porosity; N.S.

LS: as above.

LANSING 4008 (-1187)

LS: white, lt brown; mic-vf xtal; chalky; no visible porosity; N.S.

LS: white, lt brown; mic-vf xtal; oolitic; chalky to dense in part; trc white opaq chert; no visible porosity; N.S.

LS: white, lt brown; mic-vf xtal; oolitic; scattered vug porosity; N.S.

LS: md-dk gray; vf-xtal; dense; cherty; no visible porosity; N.S.

LS: lt-brown; vf-xtal; dense; cherty; no visible porosity; N.S.

LS: lt-brown; vf-xtal; finely oomoldic in part; chalky; poor oom porosity at best; N.S.

LS: lt-brown; vf-xtal; dense; no visible porosity; N.S.

LS: white, lt brown; mic-vf xtal; rough; cherty; fine vug porosity; N.S.

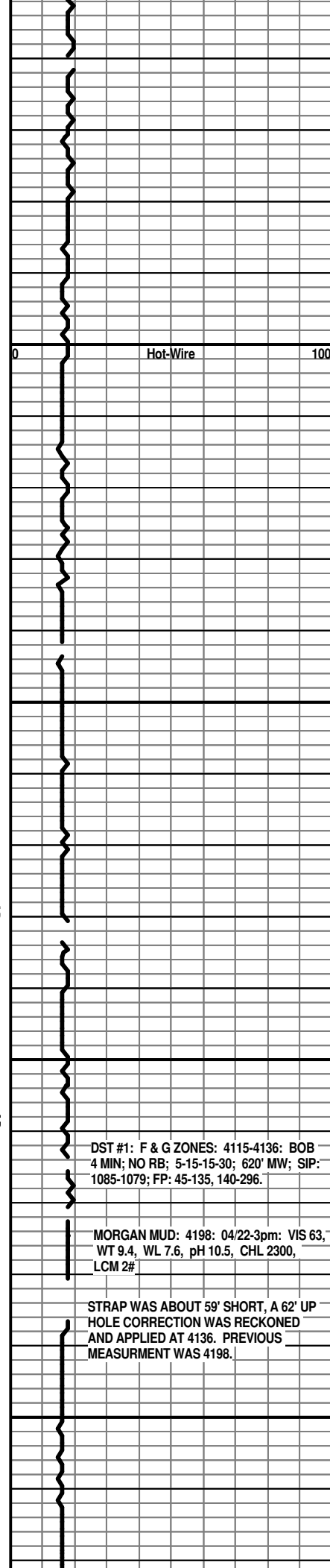
LS: white, lt brown, lt gray; mic-vf xtal; mostly dense; chalky in part; opaq chert; no visible porosity; N.S.

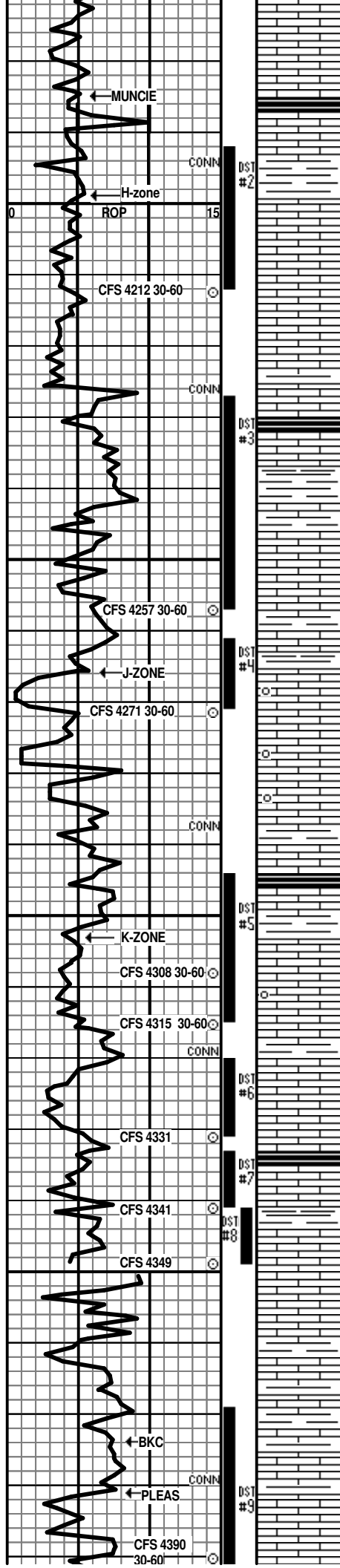
LS: lt-brown; vf-xtal; coarse oomoldic porosity; few chips w/spotted stain, crush dk brn oil show; no odor; 4190 to 4198-30, incr barren porosity 4136-60.

LS: lt-brown; vf-xtal; coarse oomoldic porosity; N.S.

LS: white, lt-gray; mic-vf xtal; dense to very chalky in part; only scattered pin-point porosity; N.S.

LS: white, lt gray; mic-vf xtal; dense to chalky; no visible porosity; N.S.





4200

4250

4300

4350

LS: as above but granular in part;

LS: lt-md gray; vf-xtal; dense; no visible porosity; N.S.

MUNCIE CREEK 4185 (-1364) (Corrected Top)

Shale: dk-gray, green; no carbon;

LS: lt-md grayish brown; vf-xtal; sli fos; dense; no visible porosity; N.S.

LS: lt-brown, lt gray; vf-xtal; oolitic to fos-frag; mostly fine vug porosity 7 trace capillary por w/spotted stains, crush fair show oil, no odor; 4212-30.

LS: white, lt gray; mic-vf xtal; chalky; only trace vug porosity; N.S. 4230.

LS: ltbrown, lt gray; vf-xtal; dense; no visible porosity; N.S.

Shale: dk gray;

LS: md-dk brown; vf-xtal; dense; no visible porosity; N.S.

Shale: green, gray; silty;

LS: lt gray; mic-vf xtal; dense to chalky; trace fine packed oolite; poor int ool porosity w/dk brown int gran stain; v sli show oil; no odor; 4257 stop.

LS: lt-grayish brown; vf-xtal; coarsely oom to oolitic; 1/5th spotted to sat stain; fair show oil; strong odor; 4271-30.

LS: lt-grayish brown; vf-xtal; coarse oomoldic porosity; N.S.

LS: lt-grayish brown; vf-xtal; dense; chalky in part; no visible porosity; N.S.

STARK SH 4294 (-1473)

LS: grayish brown; vf-xtal; chalky to dense; poor apparent porosity; N.S.; much soft chalk 4308-60.

K-zone: LS: white, lt grayish brown, mottled in part; vf-xtal; chalky portions; coarse oolitic-oom in part w/spotted stain & sli show oil; no odor; much barren porosity; 4315-30.

Lower K: LS: white, lt grayish brown; vf-xtal; mostly dense, minor chalk; trace oomoldic porosity; few chips spotted stain; no odor; 4331-30.

HUSHPUCKNEY 4333 (-1512)

Middle Crk: LS: lt-md grayish brown; vf-xtal w/med-coarse calcite & druse; spotted dk brown stain, sli show oil; no odor; 4341-30.

L-Zone: LS: lt-brown; mic-xtal; micritic; fine-med vug porosity; dk brown spotted stain; sli show oil; strong odor; only dull fluor;

LS: lt-md grayish brown; vf-xtal; sli granular; scattered vug porosity; spotted stain; few chips; strong odor as above; 4360.

LS: as above, no odor or show, 4370.

LS: grayish brown; vf-xtal; mostly dense; scattered tight vug & int xtal porosity; N.S.

MORGAN MUD: 4212: 04/23-1pm: VIS 50, WT 9.4, WL 8.0, pH 10.0, CHL 2700, LCM 2#.

DST #2: H-ZONE: 4192-4212: WEAK BLOW DIED; 5-15-15-30; 5' MUD; SIP: 709-904; FP: 13-15, 16-17;

Hot-Wire

DST #3: I-ZONE: 4227-4257: WEAK BLOW DIED; 5-15-15-30; 1' MUD; SIP: 108-410; FP: 15-16, 15-17.

DST #4: J-ZONE: 4261-4271: WEAK INCR BLOW 3" IFP, BOB 22 MIN FFP; 5-15-30-60; 275' MW; SIP: 601-605; FP: 21-56, 60-142.

MORGAN MUD: 4271: 04/24-1pm: VIS 47, WT 9.3, WL 8.4, pH 10.0, CHL 2100, LCM 2#.

PC SYSTEM REPAIRS

DST #5: K-ZONE: 4294-4315: WEAK INCR BLOW 6"; 5-15-15-30; 350' MW; SIP: 620-618, FP: 24-95, 99-178.

VIS 48

DST #6: LOWER K-ZONE: 4320-4331: WEAK BLOW; 5' MUD; SIP: 630-613, FP: 17-18, 19-22.

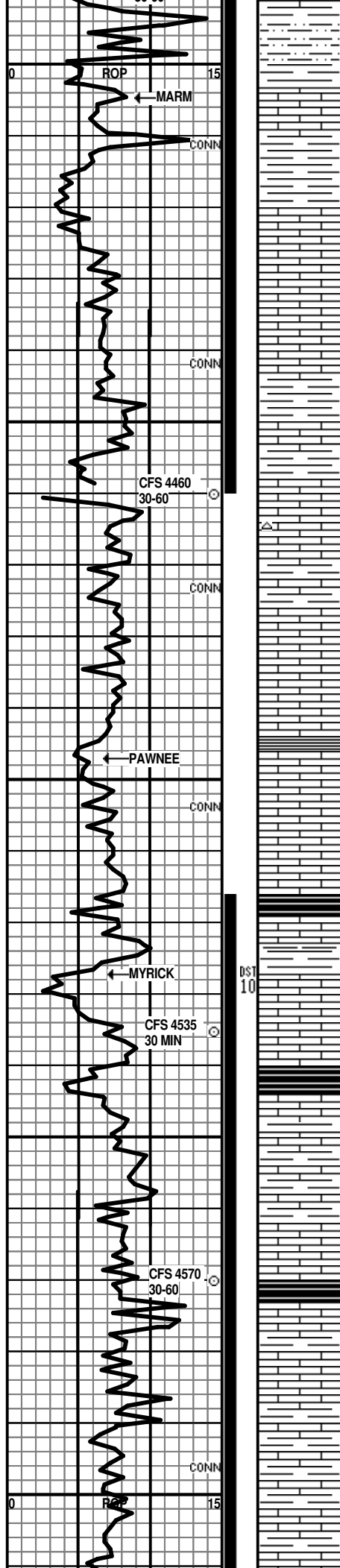
PULLED TIGHT ON TOH FOR DST-7 10 STAND SHORT TRIP, CIRC 60 M.

DST #7: MIDDLE CREEK: 4333-4341: BOB 14 MIN FFP; 2' OIL, 180 OCW, 180 MW; SIP: 652-647; FP: 24-67, 72-182.

DST #8: L-ZONE: 4341-4349: WEAK BLOW DIED AT 2ND OP; 5-15-15-30; 2' MUD; SIP: 20-23; FP: 15-16, 16-17;

VIS 55

MORGAN MUD: 4366: 04/27-12pm: VIS 52, WT 9.2, WL 8.4, pH 10.0, CHL 2500, LCM 1#.



4400

Siltst: green; 4410.

MARMATON 4405 (-1584)

LS: lt brown; vf-xtal; sli fos; mostly dense; cherty; no visible porosity; N.S.

LS: lt-brown; vf-xtal; corals; trace fos-moldic & fine vug porosity with dk brn stain; no oil; no odor; 4430.

LS: brown, mottled green; vf-xtal; dense to shaley; no visible porosity; N.S. 4440.

LS: shaley as above.

4450

LS: white, lt grayish brown; mic-vf xtal; dense to chalky; sli fos; no visible porosity; N.S.

LS: white to lt-brown; vf-xtal; trace orange- red chert; no visible porosity; N.S. 4460.

LS: lt-md brown; vf-xtal; coarsely granular in part; smokey, semi-trans chert & trace orange red chert inclusions; poor int gran porosity; N.S. 4470, 4480.

LS: white, lt grayish brown; mic-vf xtal; dense to chalky in part; trc orange chert; no visible porosity; N.S.

4500

PAWNEE 4497 (-1676)

LS: white, lt brown; mic-vf xtal; minor white, opaqt to semi-trans chert; no visible porosity; N.S. 4510.

LS: lt brown, lt grayish brown; vf-xtal; dense; no visible porosity; N.S.

Shale: black; carbonaceous; 4530.

LS: md-dk grayish brown; vf-xtal; trc crinoidal; sli shaley; dense; no visible porosity; N.S.

LS: lt-brown; vf-xtal; trace vf-ool w/tight int ool por, trace fine vug por w/dk brn stain, v-sli show oil at best; no odor; 1 pc 4535-30 & 4540.

Shale: black; carbonaceous; 4550.

4550

FT. SCOTT 4544 (-1723)

LS: md-dk grayish brown; vf-xtal; dense grain suptd oolite; v-tight int ool porosity; N.S. trace 4550, incr 4560.

LS: as above, chalky in part;

LS: md-dk grayish brown; vf-xtal; dense; oolitic; no visible porosity; N.S.

CHEROKEE 4570 (-1749)

LS: lt-md grayish brown; vf-xtal; chalky in part; sli fos, sli ool; no visible porosity; N.S.

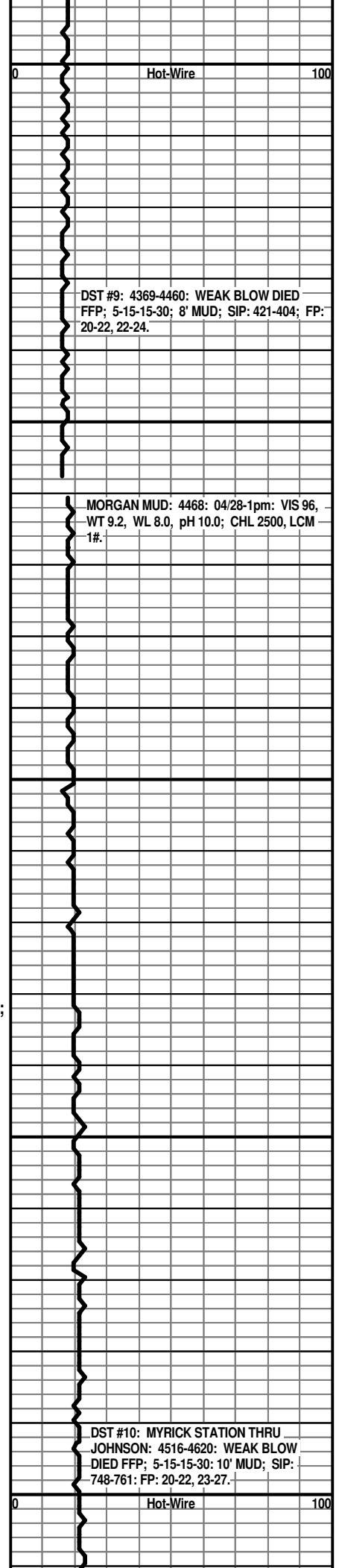
LS: as above;

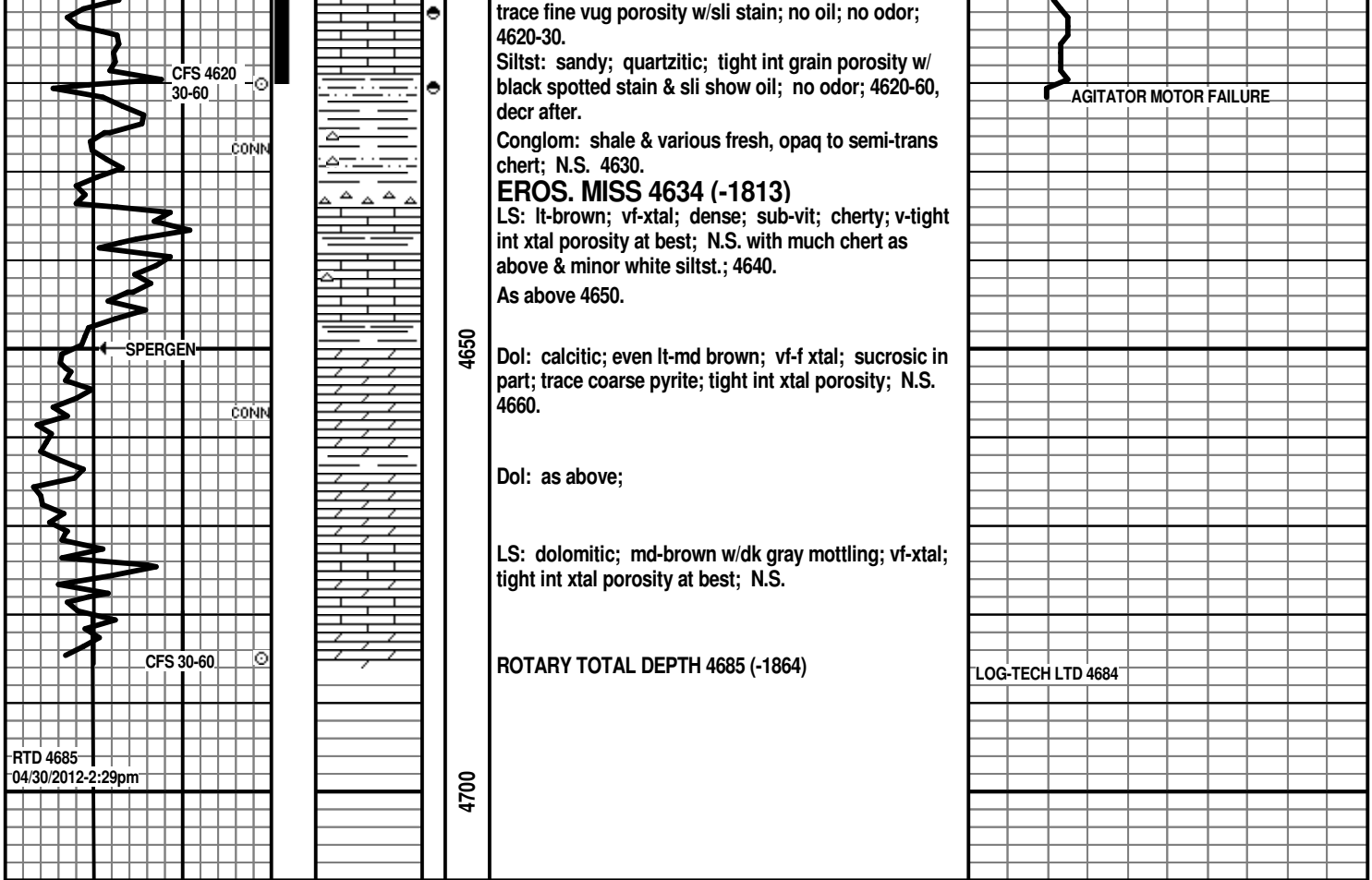
LS: as above w/much dk gray & green shale;

4600

LS & Shale as above;

LS: grayish brown; vf-xtal; mostly dense; trc chalk;





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

Sam Brownback, Governor

August 13, 2012

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

Re: ACO1
API 15-101-22365-00-00
L York 1-13
SW/4 Sec.13-19S-29W
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