KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1098092

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 3842
Name: Larson Engineering, Inc. dba Larson Operating Company
Address 1: 562 W STATE RD 4
Address 2:
City: OLMITZ State: KS Zip: 67564 + 8561
Contact Person: Thomas Larson
Phone: (620) 653-7368
CONTRACTOR: License # 33935
Name: H. D. Drilling, LLC
Wellsite Geologist: Rober Lewellyn
Purchaser:

Designate Type of Completion:

- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [ ] Oil
- [ ] WSW
- [ ] SWD
- [ ] SIOW
- [ ] Gas
- [x] D&A
- [ ] ENHR
- [ ] SIGW
- [ ] OG
- [ ] GSW
- [ ] Temp. Abd.
- [ ] CM *(Coal Bed Methane)*
- [ ] Cathodic
- [ ] Other *(Core. Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:

Operator:
Well Name:
Original Comp. Date: Original Total Depth:

- [ ] Deepening
- [ ] Re-perf.
- [ ] Conv. to ENHR
- [ ] Conv. to SWD
- [ ] Conv. to GSW
- [ ] Plug Back: Plug Back Total Depth
- [ ] Commingled Permit #:
- [ ] Dual Completion Permit #:
- [ ] SWD Permit #:
- [ ] ENHR Permit #:
- [ ] GSW Permit #:

8/4/2012	8/18/2012	8/18/2012
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-101-22395-00-00
Spot Description:
SE - SE - SW - NW Sec. 21 Twp. 17 S. R. 30 [ ] East [x] West
2454 Feet from [x] North / [ ] South Line of Section
1285 Feet from [ ] East / [x] West Line of Section
Footages Calculated from Nearest Outside Section Corner:
[ ] NE [x] NW [ ] SE [ ] SW
County: Lane
Lease Name: Joe Well #: 1-21
Field Name:
Producing Formation: n/a
Elevation: Ground: 2873 Kelly Bushing: 2880
Total Depth: 4630 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 261 Feet
Multiple Stage Cementing Collar Used? [ ] Yes [x] 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: 18500 ppm Fluid volume: 1200 bbls
Dewatering method used: Evaporated

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

- [x] Letter of Confidentiality Received
  Date: 12/04/2012
- [ ] Confidential Release Date:
- [x] Wireline Log Received
- [x] Geologist Report Received
- [ ] UIC Distribution

ALT [ ] I [x] II [ ] III Approved by: NAOMI JAMES Date: 12/04/2012

Side Two

1098092

Operator Name: Larson Engineering, Inc. dba Larson Operating Company Lease Name: Joe Well #: 1-21

Sec. 21 Twp. 17 S. R. 30 ☐ East ☑ West County: Lane

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

Drill Stem Tests Taken (Attach Additional Sheets)	☑ Yes	☐ No
Samples Sent to Geological Survey	☑ Yes	☐ No
Cores Taken	☐ Yes	☑ No
Electric Log Run	☑ Yes	☐ No
Electric Log Submitted Electronically (If no, Submit Copy)	☑ Yes	☐ No

List All E. Logs Run:

Dual Induction
Dual Comp Porosity
Microresistivity

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Attached	Attached	Attached

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
Surface	12.25	8.625	20	261	Class A	175	2% gel, 3% CC

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
____ Perforate ____ Protect Casing ____ Plug Back TD ____ Plug Off Zone	-			
	-			

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

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. (Submit ACO-5) ☐ Commingled (Submit ACO-4)
☑ Other (Specify) D & A

PRODUCTION INTERVAL:

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	Joe 1-21
Doc ID	1098092

Tops

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

ALLIED OIL & GAS SERVICES, LLC 053716

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

SERVICE POINT: Great Bend

DATE 8-7-12	SEC. 21	TWP. 17	RANGE 30	CALLED OUT	ON LOCATION	JOB START 930 pm	JOB FINISH 10:00 pm
LEASE Sac	WELL # 1-21	LOCATION Dighton 10 west To Bison				COUNTY Lane	STATE KS
OLD OR NEW (Circle one)		5 North East into					

1-01 6.3

CONTRACTOR H-D Rig 3
TYPE OF JOB Surface
HOLE SIZE 12 1/4 T.D. 264
CASING SIZE 8 5/8 DEPTH 264
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15
PERFS.
DISPLACEMENT 15.75 BBLS

OWNER Larson

EQUIPMENT

PUMP TRUCK CEMENTER Wayne Davis
366 HELPER Kevin Eddy 2
BULK TRUCK
#344/170 DRIVER Joshua Isaac 2
BULK TRUCK
DRIVER

CEMENT

AMOUNT ORDERED 175 SX 60/40 4
+ 3% cc + 2% Gel

COMMON	175	@16.25	2,843.75
POZMIX		@	
GEL	3	@21.25	63.75
CHLORIDE	6	@58.20	349.20
ASC		@	
HANDLING	188 X	@2.10	394.80
MILEAGE	8.62 x 30 X	2.85	607.11
		TOTAL	4,259.31

258.60

REMARKS:

Pipe on bottom Break Circulation with Rig mud pump Run 5 BBLS water Ahead Mix 175 SX Class A 4.3% cc + 2% Gel Displace 15.75 BBLS fresh water Shut in Cement did circulate Rig Down

SERVICE

DEPTH OF JOB 264
PUMP TRUCK CHARGE 1125.00
EXTRA FOOTAGE @
MILEAGE HVM 30 @7.00 210.00
MANIFOLD @
HVM 30 @4.00 120.00
@
TOTAL 1455.00

CHARGE TO: Larson 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.

SALES TAX (If Any) 205.17
TOTAL CHARGES 5714.21
29% DISCOUNT 1657.14 IF PAID IN 30 DAYS
4057.07

PRINTED NAME LEWAYNE TAESNER

SIGNATURE

ALLIED OIL & GAS SERVICES, LLC 053773

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

SERVICE POINT: Great Bend, KS

DATE 8-18-12	SEC. 21	TWP. 17s	RANGE 30w	CALLED OUT	ON LOCATION	JOB START 4:00 pm	JOB FINISH 5:00 pm
LEASE Joe	WELL # 1-21	LOCATION Dighton, KS 8w 5N E into				COUNTY Lane	STATE KS
OLD OR NEW (Circle one)							

1.03 6.3

CONTRACTOR H2 Drilling LLC Rig #3 OWNER
TYPE OF JOB Rotary Plug
HOLE SIZE 12 1/4 T.D.
CASING SIZE 8 5/8 DEPTH
TUBING SIZE DEPTH
DRILL PIPE 4 1/2 DEPTH 2280
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. All
PERFS.
DISPLACEMENT Freshwater

CEMENT
AMOUNT ORDERED 280 sks Class A 60/40 poz 4% gel 1/4 flo

COMMON	168	@ 16.25	2,730.00
POZMIX	112	@ 8.50	952.00
GEL	10	@ 21.25	212.50
CHLORIDE		@	
ASC		@	
HANDLING	301	@ 2.10	632.10
MILEAGE	12.57 x 30 x 2.35		886.18

377.09 TOTAL 5412.78

EQUIPMENT

PUMP TRUCK	CEMENTER	Dustin E	1
# 3981	HELPER	Josh E	2
BULK TRUCK # 364-170	DRIVER	Kevin W	3
BULK TRUCK #	DRIVER		

REMARKS:

Fill Hole with Rig mud
1. 2280 - 50 sks
2. 1530 - 50 sks
3. 750 - 50 sks
4. 300 - 50 sks
5. 60 - 20 sks
RH 30 sks
Plug Down 4:10 pm

SERVICE

DEPTH OF JOB			
PUMP TRUCK CHARGE			1250.00
EXTRA FOOTAGE		@	
MILEAGE	Hum 30	@ 7.00	210.00
MANIFOLD		@	
	hum 30	@ 4.00	120.00

TOTAL 1580.00

CHARGE TO: Larson Engineering Inc
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

TOTAL

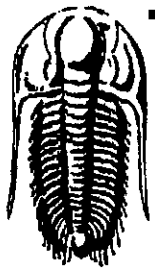
To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL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

SALES TAX (If Any) 440.54
TOTAL CHARGES ~~6992.78~~ 6992.78
DISCOUNT 25% ~~1748.19~~ 1748.19 IF PAID IN 30 DAYS
~~[illegible]~~ 5,244.59

PRINTED NAME A LeWayne Tresner

SIGNATURE X [signature]

Thank You!!



TRILOBITE TESTING, INC.

Larson Engineering, Inc

Larson Engineering

21-17s-30w Lane, KS

Joe #1-21

21-17s-30w Lane, KS

Joe #1-21

DST # 1

LKC - L

2012.08.14

Printed: 2012.08.22 @ 10:17:24

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48428 **DST#: 1**

Test Start: 2012.08.14 @ 09:13:00

GENERAL INFORMATION:

Formation: **LKC - L**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:46:30
Time Test Ended: 14:53:15

Test Type: Conventional Bottom Hole (Initial)
Tester: Bradley Walter
Unit No: 53

Interval: 4256.00 ft (KB) To 4274.00 ft (KB) (TVD)
Total Depth: 4274.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

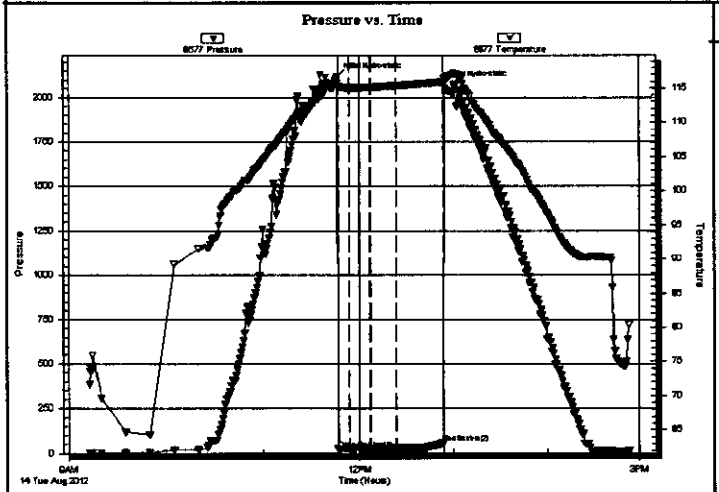
Reference Elevations: 2880.00 ft (KB)
2874.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8677 **Inside**

Press@RunDepth: 27.29 psig @ 4257.00 ft (KB)
Start Date: 2012.08.14 End Date: 2012.08.14
Start Time: 09:13:05 End Time: 14:53:14

Capacity: 8000.00 psig
Last Calib.: 2012.08.14
Time On Btm: 2012.08.14 @ 11:46:15
Time Off Btm: 2012.08.14 @ 12:54:00

TEST COMMENT: IF: Surface blow, Died @ 4 min.
ISI: No return.
FF: No blow.
FSI: No return.



PRESSURE SUMMARY

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

Recovery

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

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48428 **DST#: 1**

Test Start: 2012.08.14 @ 09:13:00

GENERAL INFORMATION:

Formation: **LKC - L**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:46:30
Time Test Ended: 14:53:15

Test Type: Conventional Bottom Hole (Initial)
Tester: Bradley Walter
Unit No: 53

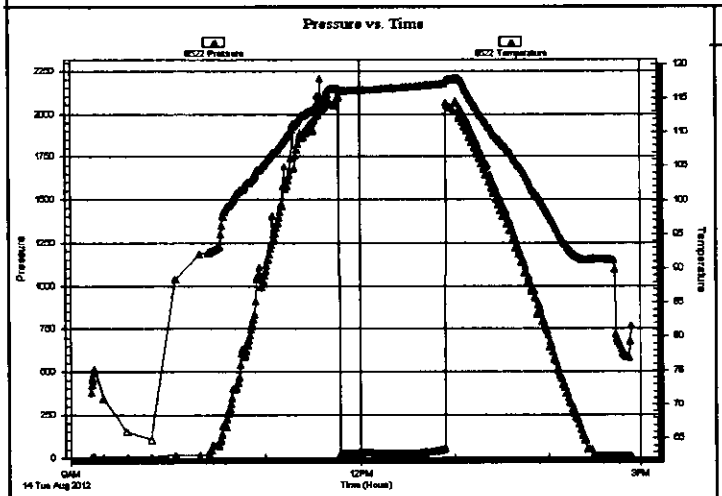
Interval: 4256.00 ft (KB) To 4274.00 ft (KB) (TVD)
Total Depth: 4274.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2880.00 ft (KB)
2874.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8522 **Outside**
Press@RunDepth: psig @ 4257.00 ft (KB)
Start Date: 2012.08.14 End Date: 2012.08.14
Start Time: 09:13:05 End Time: 14:54:14

Capacity: 8000.00 psig
Last Calib.: 2012.08.14
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Surface blow , Died @ 4 min.
ISI: No return.
FF: No blow .
FSI: No return.



PRESSURE SUMMARY

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

Recovery

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

Gas Rates

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

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48428 **DST#: 1**

Test Start: 2012.08.14 @ 09:13:00

Tool Information

Drill Pipe:	Length:	4114.00 ft	Diameter:	3.80 inches	Volume:	57.71 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	147.00 ft	Diameter:	2.25 inches	Volume:	0.72 bbl	
					Total Volume:	58.43 bbl	

Drill Pipe Above KB:	32.00 ft
Depth to Top Packer:	4256.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	18.00 ft
Tool Length:	45.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:	2500.00 lb
Weight set on Packer:	25000.00 lb
Weight to Pull Loose:	72000.00 lb
Tool Chased	0.00 ft
String Weight: Initial	62000.00 lb
Final	62000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4230.00		
Shut In Tool	5.00			4235.00		
Hydraulic tool	5.00			4240.00		
Jars	5.00			4245.00		
Safety Joint	2.00			4247.00		
Packer	5.00			4252.00	27.00	Bottom Of Top Packer
Packer	4.00			4256.00		
Stubb	1.00			4257.00		
Recorder	0.00	8677	Inside	4257.00		
Recorder	0.00	8522	Outside	4257.00		
Perforations	14.00			4271.00		
Bullnose	3.00			4274.00	18.00	Bottom Packers & Anchor
Total Tool Length:	**45.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48428 **DST#: 1**

Test Start: 2012.08.14 @ 09:13:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	59.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.58 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2700.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

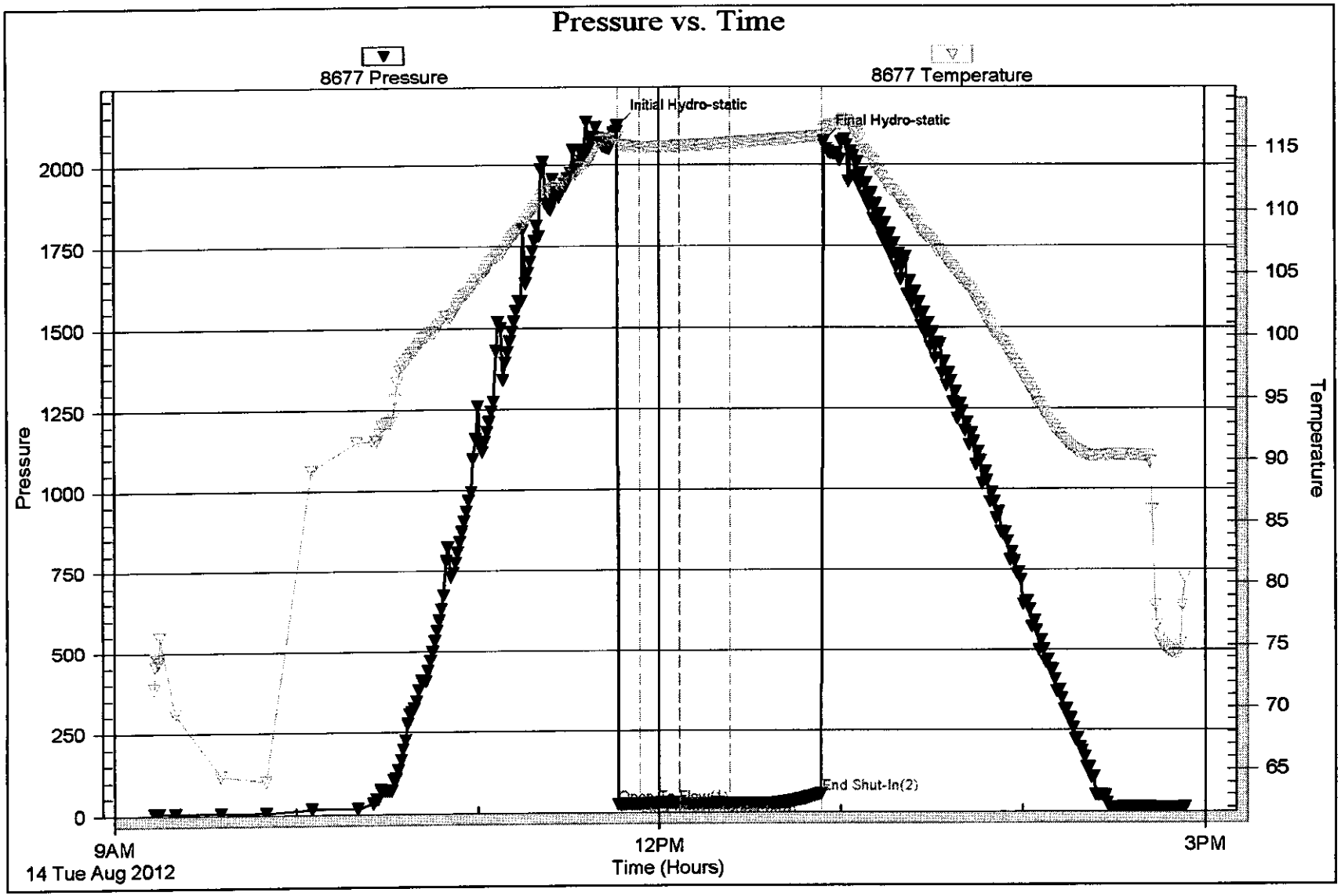
Recovery Table

Length ft	Description	Volume bbl
1.00	mud 100m	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl

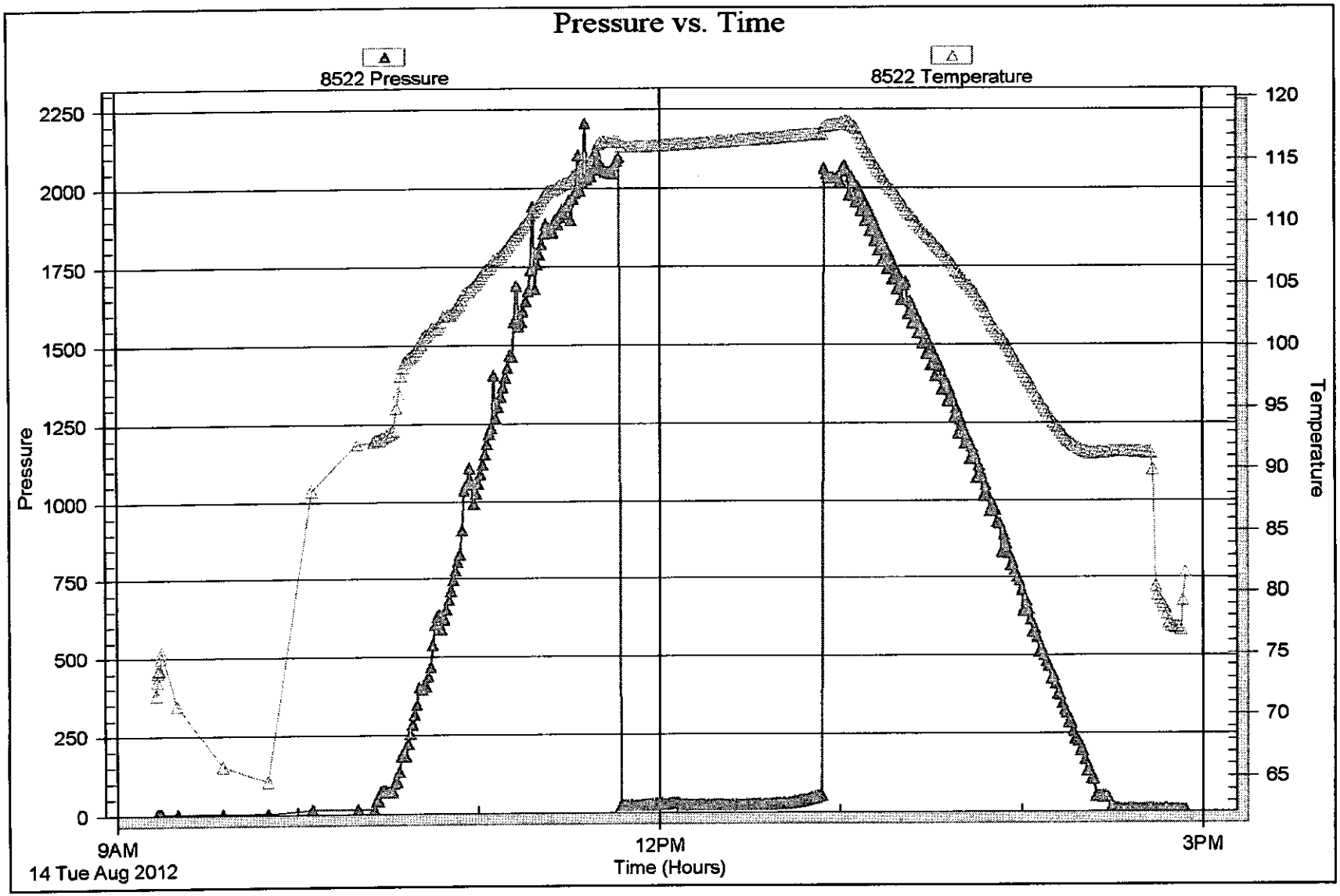
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8677 Inside Larson Engineering, Inc Joe #1-21 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 48428 Printed: 2012.08.22 @ 10:17:27

Serial #: 8522 Outside Larson Engineering, Inc Joe #1-21 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 48428 Printed: 2012.08.22 @ 10:17:28

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

Joe #1-21

21-17s-30w Lane, KS

Start Date: 2012.08.14 @ 21:46:00
End Date: 2012.08.15 @ 03:13:15
Job Ticket #: 48429 DST #: 2

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

Printed: 2012.08.22 @ 10:16:42

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48429 **DST#: 2**

Test Start: 2012.08.14 @ 21:46:00

GENERAL INFORMATION:

Formation: **LKC - L**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:58:45
Time Test Ended: 03:13:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 53

Interval: 4250.00 ft (KB) To 4279.00 ft (KB) (TVD)
Total Depth: 4279.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

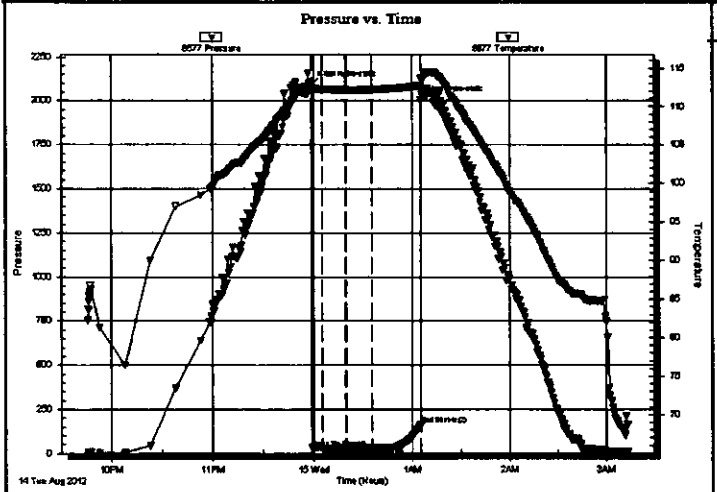
Reference Elevations: 2880.00 ft (KB)
2874.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8677 **Inside**

Press@RunDepth: 29.18 psig @ 4251.00 ft (KB)
Start Date: 2012.08.14 End Date: 2012.08.15
Start Time: 21:46:05 End Time: 03:13:14

Capacity: 8000.00 psig
Last Calib.: 2012.08.15
Time On Btm: 2012.08.14 @ 23:58:30
Time Off Btm: 2012.08.15 @ 01:05:15

TEST COMMENT: IF: Surface blow.
ISI: No return.
FF: No blow.
FSI: No return.



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48429 **DST#: 2**

Test Start: 2012.08.14 @ 21:46:00

GENERAL INFORMATION:

Formation: **LKC - L**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:58:45
Time Test Ended: 03:13:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 53

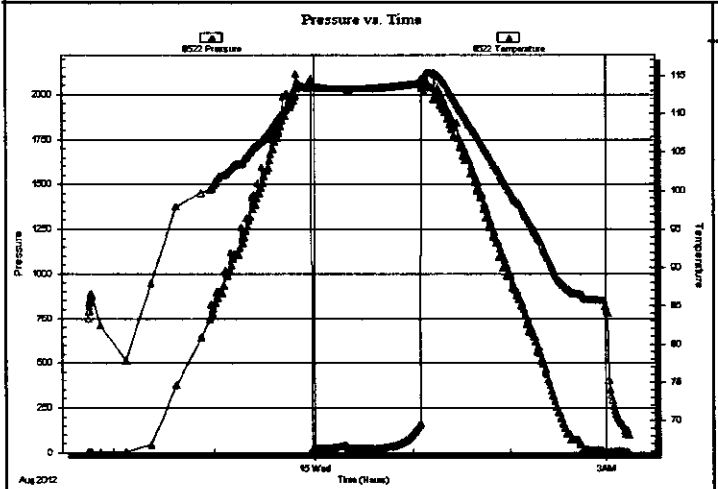
Interval: 4250.00 ft (KB) To 4279.00 ft (KB) (TVD)
Total Depth: 4279.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2880.00 ft (KB)
2874.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8522 **Outside**
Press@RunDepth: psig @ 4251.00 ft (KB)
Start Date: 2012.08.14 End Date: 2012.08.15
Start Time: 21:45:35 End Time: 03:13:44

Capacity: 8000.00 psig
Last Calib.: 2012.08.15
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Surface blow .
ISI: No return.
FF: No blow .
FSI: No return.



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48429 **DST#: 2**

Test Start: 2012.08.14 @ 21:46:00

Tool Information

Drill Pipe:	Length:	4085.00 ft	Diameter:	3.80	inches	Volume:	57.30 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	147.00 ft	Diameter:	2.25	inches	Volume:	0.72 bbl	Weight to Pull Loose:	73000.00 lb
						Total Volume:	58.02 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		9.00 ft						String Weight: Initial	60000.00 lb
Depth to Top Packer:		4250.00 ft						Final	60000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		29.00 ft							
Tool Length:		56.00 ft							
Number of Packers:		2	Diameter:	6.75	inches				

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4224.00		
Shut In Tool	5.00			4229.00		
Hydraulic tool	5.00			4234.00		
Jars	5.00			4239.00		
Safety Joint	2.00			4241.00		
Packer	5.00			4246.00	27.00	Bottom Of Top Packer
Packer	4.00			4250.00		
Stubb	1.00			4251.00		
Recorder	0.00	8677	Inside	4251.00		
Recorder	0.00	8522	Outside	4251.00		
Perforations	25.00			4276.00		
Bullnose	3.00			4279.00	29.00	Bottom Packers & Anchor
Total Tool Length:	**56.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48429 **DST#: 2**

Test Start: 2012.08.14 @ 21:46:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	56.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.58 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1600.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

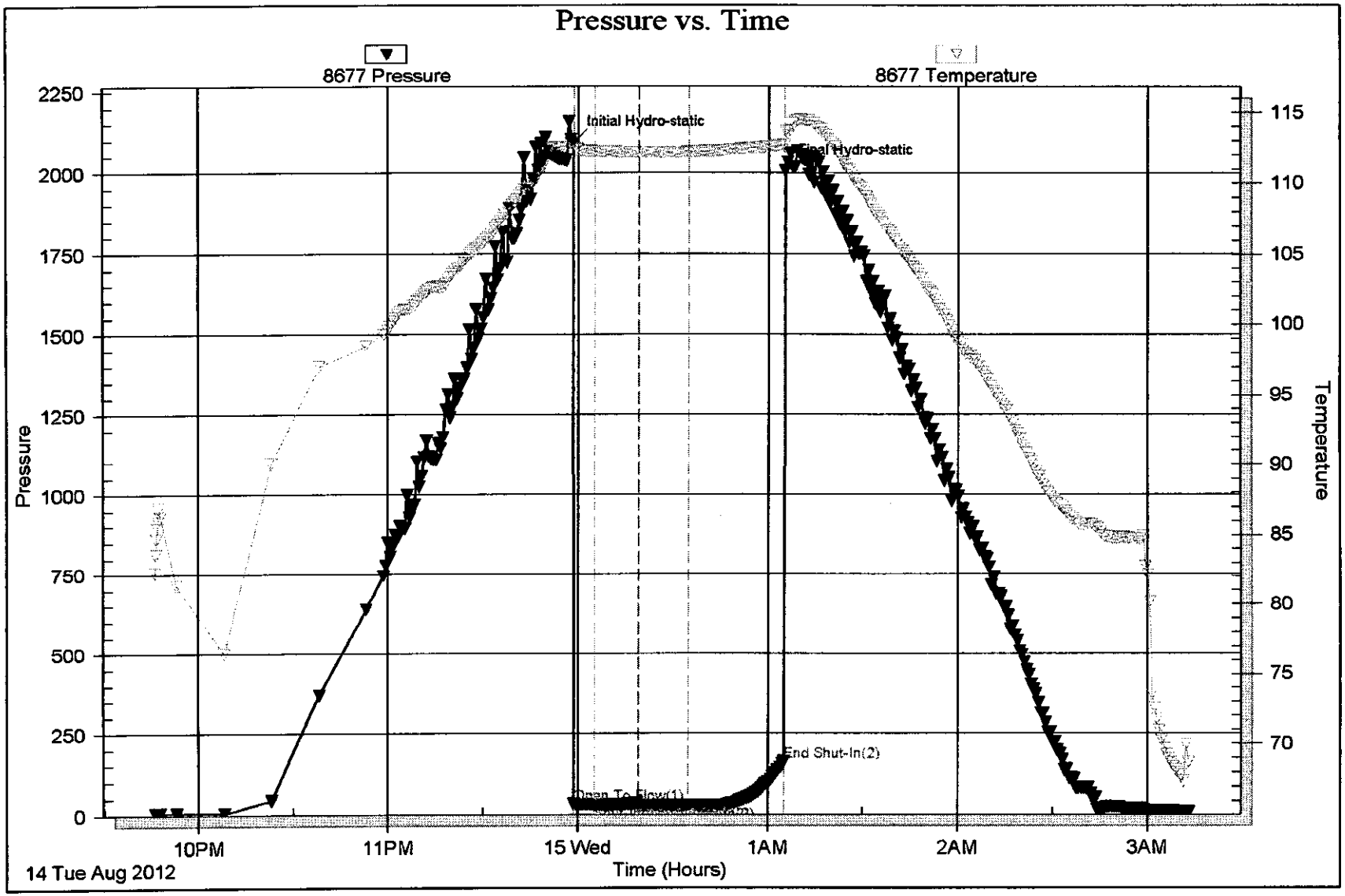
Recovery Table

Length ft	Description	Volume bbl
3.00	mud 100m	0.015

Total Length: 3.00 ft Total Volume: 0.015 bbl

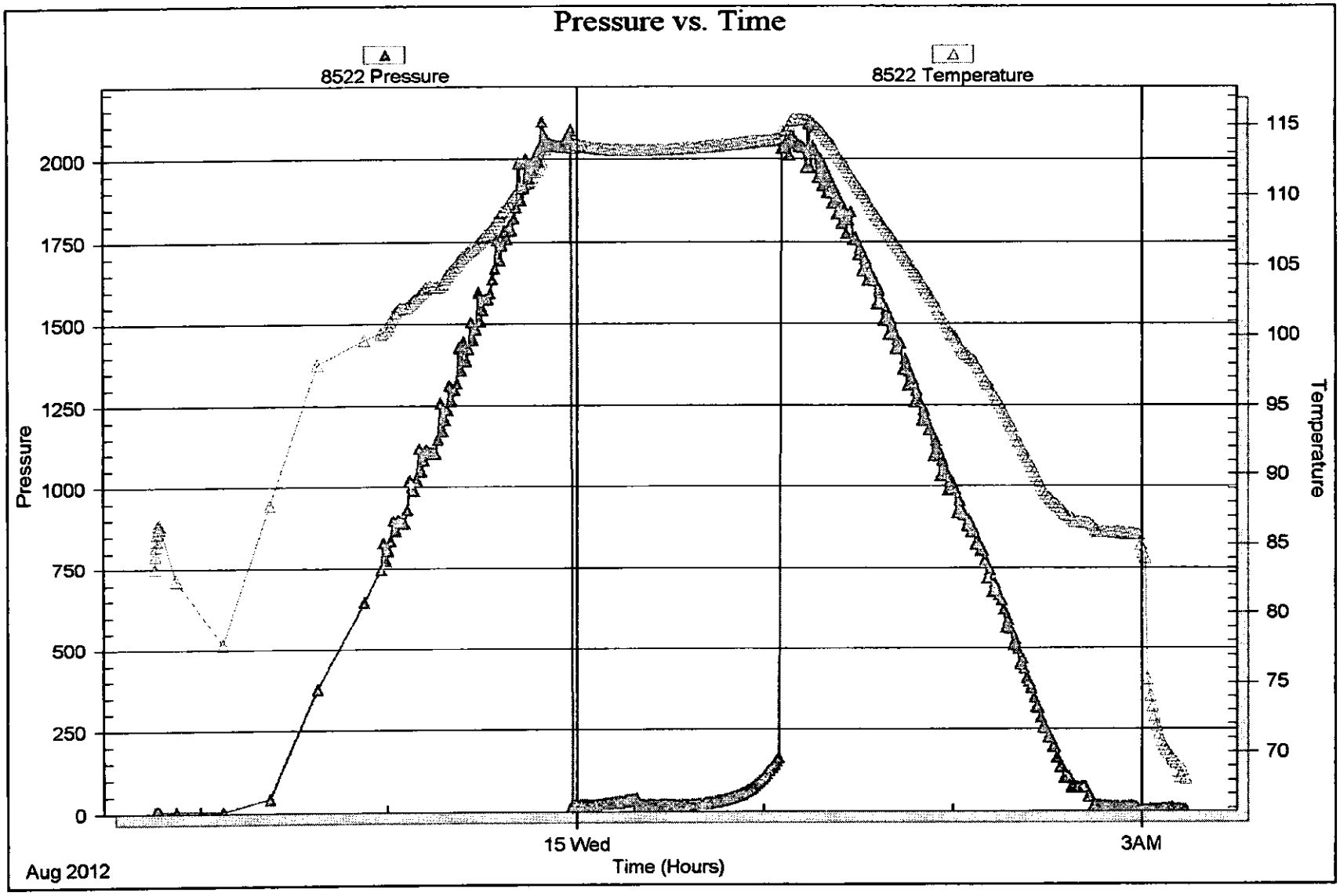
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8677 Inside Larson Engineering, Inc Joe #1-21 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 48429 Printed: 2012.08.22 @ 10:16:45

Serial #: 8522 **Outside** Larson Engineering, Inc Joe #1-21 DST Test Number: 2



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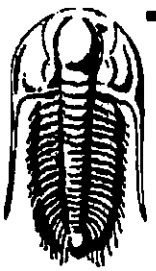


TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

Joe #1-21

21-17s-30w Lane, KS

Start Date: 2012.08.15 @ 18:46:00
End Date: 2012.08.16 @ 01:21:30
Job Ticket #: 48430 DST #: 3

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

Printed: 2012.08.22 @ 10:16:02

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48430 **DST#: 3**

Test Start: 2012.08.15 @ 18:46:00

GENERAL INFORMATION:

Formation: **Pleasanton - Altamon**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:03:30
Time Test Ended: 01:21:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 53

Interval: 4300.00 ft (KB) To 4390.00 ft (KB) (TVD)
Total Depth: 4390.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

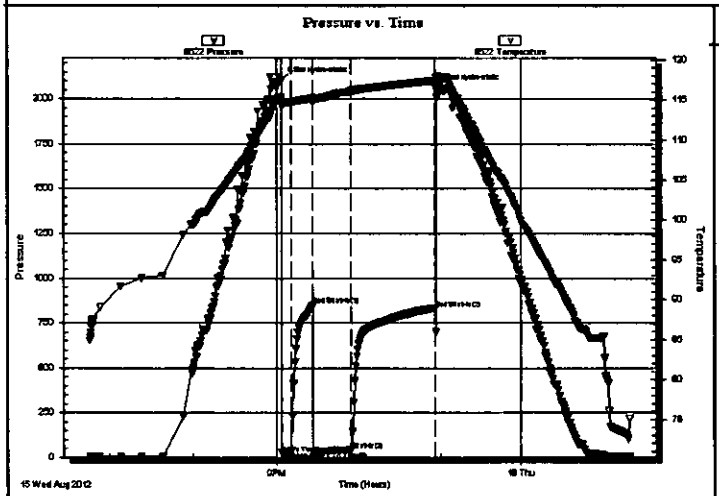
Reference Elevations: 2880.00 ft (KB)
2874.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8522 **Outside**

Press@RunDepth: 43.52 psig @ 4301.00 ft (KB)
Start Date: 2012.08.15 End Date: 2012.08.16
Start Time: 18:46:05 End Time: 01:21:29

Capacity: 8000.00 psig
Last Calib.: 2012.08.16
Time On Btm: 2012.08.15 @ 21:03:15
Time Off Btm: 2012.08.15 @ 22:56:45

TEST COMMENT: IF: Surface blow.
ISI: No return.
FF: 1/2" blow.
FSI: No return.



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48430 **DST#: 3**

Test Start: 2012.08.15 @ 18:46:00

GENERAL INFORMATION:

Formation: **Pleasanton - Altamon**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:03:30
Time Test Ended: 01:21:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 53

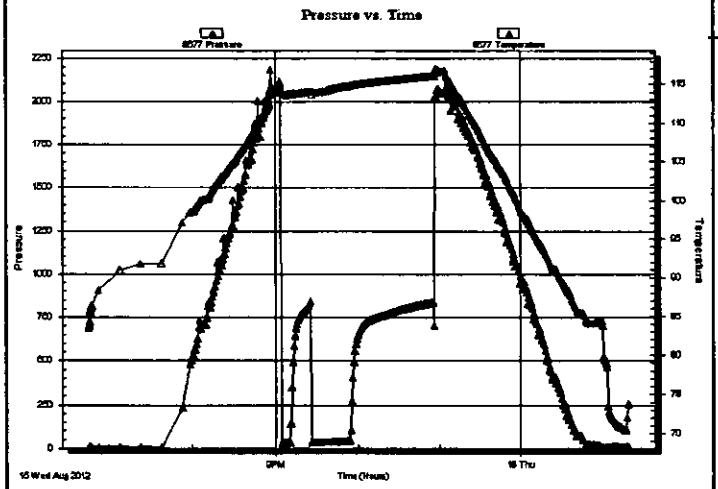
Interval: 4300.00 ft (KB) To 4390.00 ft (KB) (TVD)
Total Depth: 4390.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2880.00 ft (KB)
2874.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8677 **Inside**
Press@RunDepth: psig @ 4301.00 ft (KB)
Start Date: 2012.08.15 End Date: 2012.08.16
Start Time: 18:46:20 End Time: 01:20:29

Capacity: 8000.00 psig
Last Calib.: 2012.08.16
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Surface blow.
ISI: No return.
FF: 1/2" blow.
FSI: No return.



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48430 **DST#: 3**

Test Start: 2012.08.15 @ 18:46:00

Tool Information

Drill Pipe:	Length:	4146.00 ft	Diameter:	3.80	inches	Volume:	58.16	bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
Drill Collar:	Length:	147.00 ft	Diameter:	2.25	inches	Volume:	0.72	bbl	
						Total Volume:	58.88	bbl	

Drill Pipe Above KB:	20.00 ft
Depth to Top Packer:	4300.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	90.00 ft
Tool Length:	117.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:	2500.00 lb
Weight set on Packer:	25000.00 lb
Weight to Pull Loose:	70000.00 lb
Tool Chased	0.00 ft
String Weight: Initial	60000.00 lb
Final	60000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4274.00		
Shut In Tool	5.00			4279.00		
Hydraulic tool	5.00			4284.00		
Jars	5.00			4289.00		
Safety Joint	2.00			4291.00		
Packer	5.00			4296.00	27.00	Bottom Of Top Packer
Packer	4.00			4300.00		
Stubb	1.00			4301.00		
Recorder	0.00	8677	Inside	4301.00		
Recorder	0.00	8522	Outside	4301.00		
Perforations	21.00			4322.00		
Change Over Sub	1.00			4323.00		
Drill Pipe	63.00			4386.00		
Change Over Sub	1.00			4387.00		
Bullnose	3.00			4390.00	90.00	Bottom Packers & Anchor
Total Tool Length:	**117.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48430 **DST#: 3**

Test Start: 2012.08.15 @ 18:46:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	51.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.18 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2000.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	mud 100m	0.148

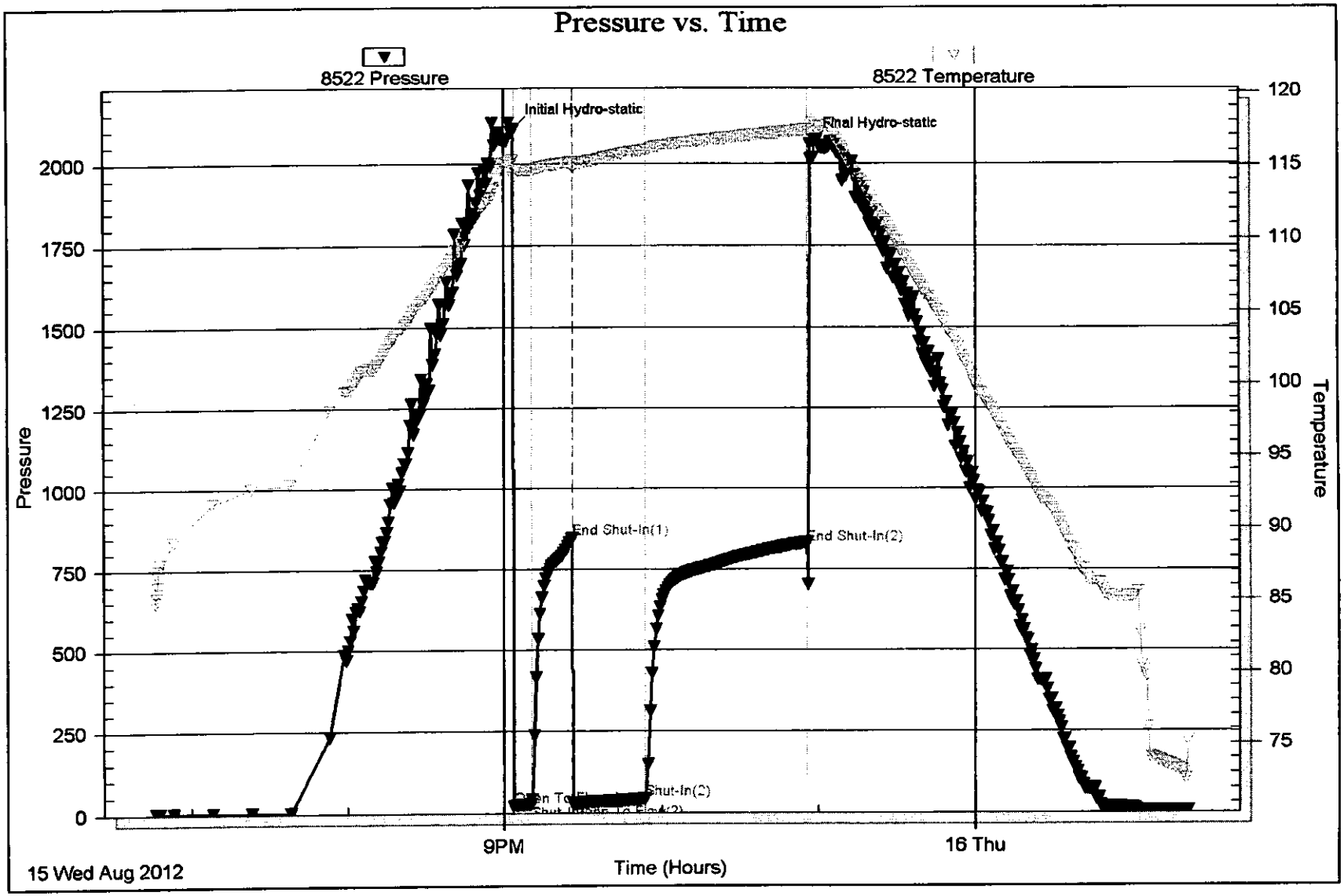
Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

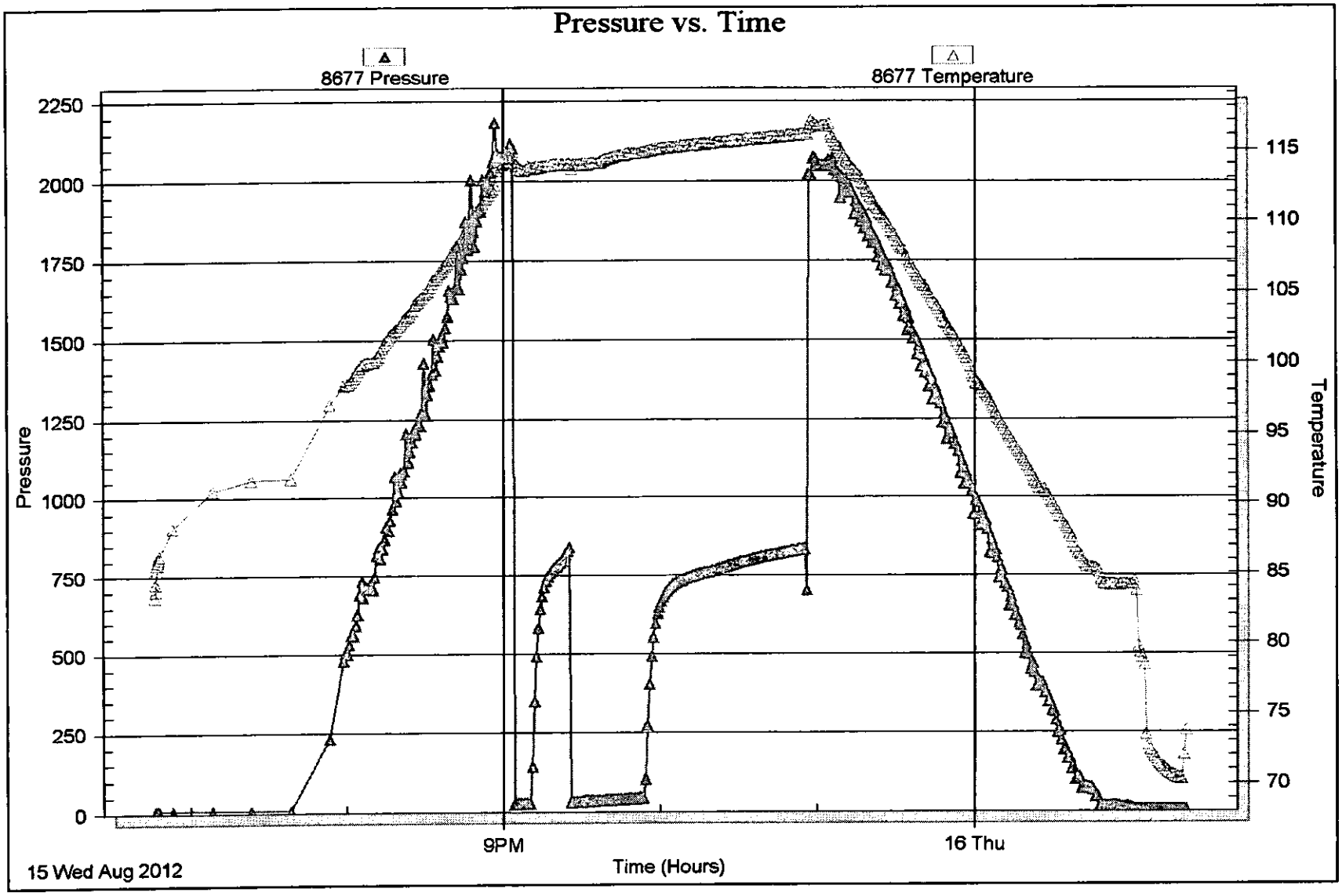
Recovery Comments:

Serial #: 8522 Outside Larson Engineering, Inc Joe #1-21 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 48430 Printed: 2012.08.22 @ 10:16:05

Serial #: 8677 Inside Larson Engineering, Inc Joe #1-21 DST Test Number: 3



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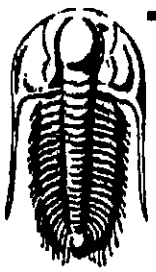


TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

Joe #1-21

21-17s-30w Lane, KS

Start Date: 2012.08.16 @ 17:35:00
End Date: 2012.08.16 @ 23:15:15
Job Ticket #: 48431 DST #: 4

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

Printed: 2012.08.22 @ 10:15:12

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48431 **DST#: 4**

Test Start: 2012.08.16 @ 17:35:00

GENERAL INFORMATION:

Formation: **Pawnee - Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:42:45
Time Test Ended: 23:15:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 53

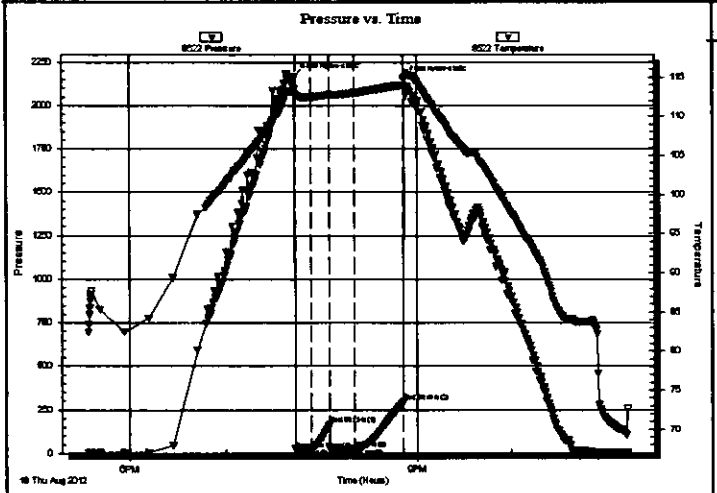
Interval: 4410.00 ft (KB) To 4510.00 ft (KB) (TVD)
Total Depth: 4510.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2880.00 ft (KB)
2874.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8522 **Outside**
Press@RunDepth: 25.08 psig @ 4411.00 ft (KB)
Start Date: 2012.08.16 End Date: 2012.08.16
Start Time: 17:35:05 End Time: 23:15:14

Capacity: 8000.00 psig
Last Calib.: 2012.08.16
Time On Btm: 2012.08.16 @ 19:42:30
Time Off Btm: 2012.08.16 @ 20:51:15

TEST COMMENT: IF: Surface blow.
ISI: No return.
FF: No blow.
FSI: No return.



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48431 **DST#: 4**

Test Start: 2012.08.16 @ 17:35:00

GENERAL INFORMATION:

Formation: **Pawnee - Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:42:45
Time Test Ended: 23:15:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 53

Interval: 4410.00 ft (KB) To 4510.00 ft (KB) (TVD)
Total Depth: 4510.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

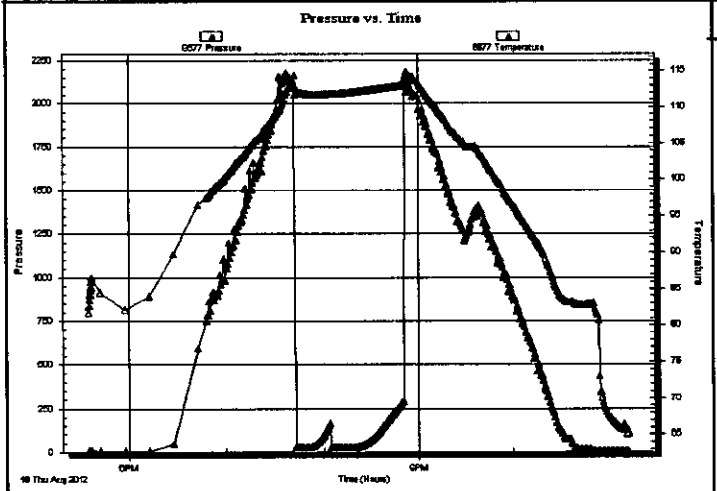
Reference Elevations: 2880.00 ft (KB)
2874.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8677 **Inside**

Press@RunDepth: psig @ 4411.00 ft (KB)
Start Date: 2012.08.16 End Date: 2012.08.16
Start Time: 17:35:35 End Time: 23:14:44

Capacity: 8000.00 psig
Last Calib.: 2012.08.16
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Surface blow.
ISI; No return.
FF: No blow.
FSI: No return.



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48431 **DST#: 4**

Test Start: 2012.08.16 @ 17:35:00

Tool Information

Drill Pipe:	Length:	4240.00 ft	Diameter:	3.80	inches	Volume:	59.48	bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
Drill Collar:	Length:	147.00 ft	Diameter:	2.25	inches	Volume:	0.72	bbl	
						Total Volume:	60.20	bbl	

Drill Pipe Above KB:	4.00 ft
Depth to Top Packer:	4410.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	100.00 ft
Tool Length:	127.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:	2500.00 lb
Weight set on Packer:	25000.00 lb
Weight to Pull Loose:	74000.00 lb
Tool Chased	0.00 ft
String Weight: Initial	62000.00 lb
Final	62000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4384.00		
Shut In Tool	5.00			4389.00		
Hydraulic tool	5.00			4394.00		
Jars	5.00			4399.00		
Safety Joint	2.00			4401.00		
Packer	5.00			4406.00	27.00	Bottom Of Top Packer
Packer	4.00			4410.00		
Stubb	1.00			4411.00		
Recorder	0.00	8677	Inside	4411.00		
Recorder	0.00	8522	Outside	4411.00		
Perforations	31.00			4442.00		
Change Over Sub	1.00			4443.00		
Drill Pipe	63.00			4506.00		
Change Over Sub	1.00			4507.00		
Bullnose	3.00			4510.00	100.00	Bottom Packers & Anchor
Total Tool Length:	**127.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48431 **DST#: 4**

Test Start: 2012.08.16 @ 17:35:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	52.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.98 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1000.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

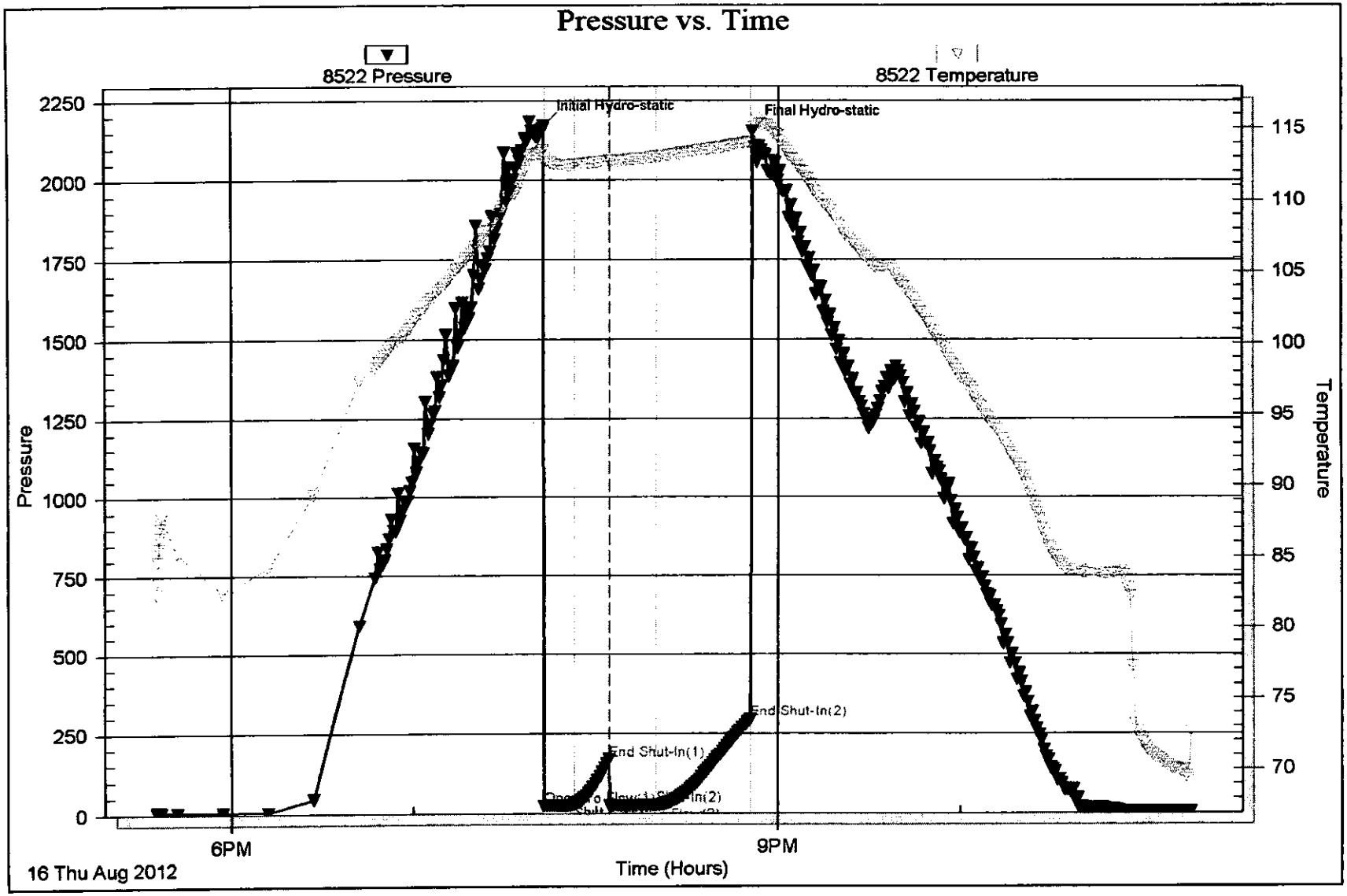
Recovery Table

Length ft	Description	Volume bbl
10.00	mud 100m	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

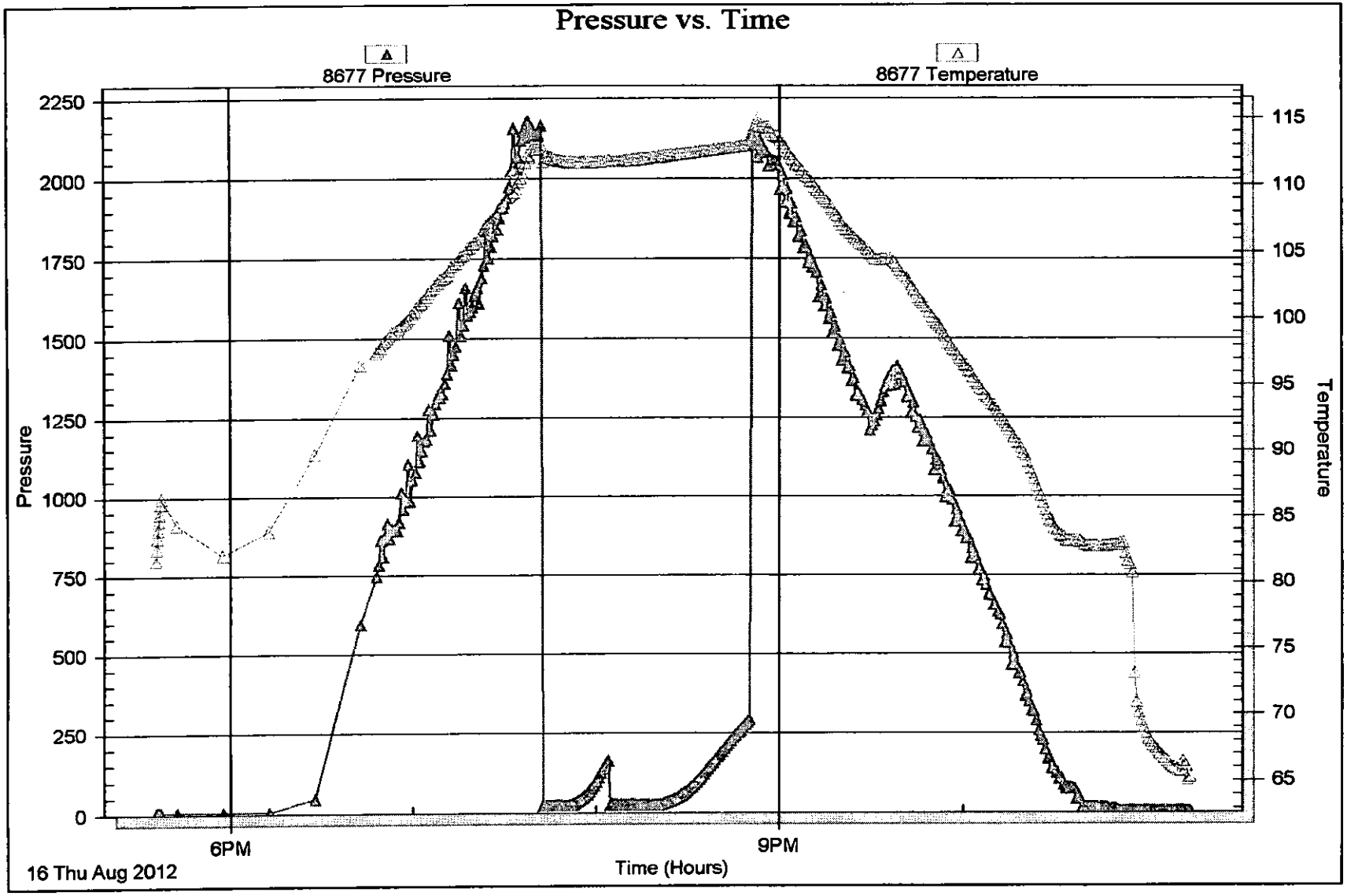
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8522 Outside Larson Engineering, Inc Joe #1-21 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 48431 Printed: 2012.08.22 @ 10:15:15

Serial #: 8677 Inside Larson Engineering, Inc Joe #1-21 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 48431 Printed: 2012.08.22 @ 10:15:16

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

Joe #1-21

21-17s-30w Lane, KS

Start Date: 2012.08.17 @ 09:04:00
End Date: 2012.08.17 @ 15:18:45
Job Ticket #: 48432 DST #: 5

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

Printed: 2012.08.22 @ 10:13:42

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48432 **DST#: 5**

Test Start: 2012.08.17 @ 09:04:00

GENERAL INFORMATION:

Formation: **Johnson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:01:00
Time Test Ended: 15:18:45

Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 53

Interval: 4510.00 ft (KB) To 4551.00 ft (KB) (TVD)
Total Depth: 4551.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

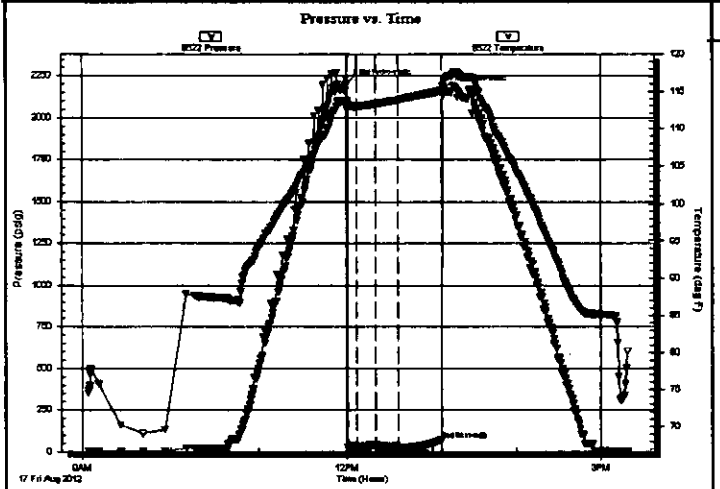
Reference Elevations: 2880.00 ft (KB)
2874.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8522 **Outside**

Press@RunDepth: 23.25 psig @ 4511.00 ft (KB)
Start Date: 2012.08.17 End Date: 2012.08.17
Start Time: 09:04:05 End Time: 15:18:44

Capacity: 8000.00 psig
Last Calib.: 2012.08.17
Time On Btm: 2012.08.17 @ 12:00:45
Time Off Btm: 2012.08.17 @ 13:08:45

TEST COMMENT: IF: Surface blow.
ISI: No return.
FF: No blow.
FSI: No return.



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48432 **DST#: 5**

Test Start: 2012.08.17 @ 09:04:00

GENERAL INFORMATION:

Formation: **Johnson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:01:00
Time Test Ended: 15:18:45

Test Type: Conventional Bottom Hole (Reset)
Tester: Bradley Walter
Unit No: 53

Interval: 4510.00 ft (KB) To 4551.00 ft (KB) (TVD)
Total Depth: 4551.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

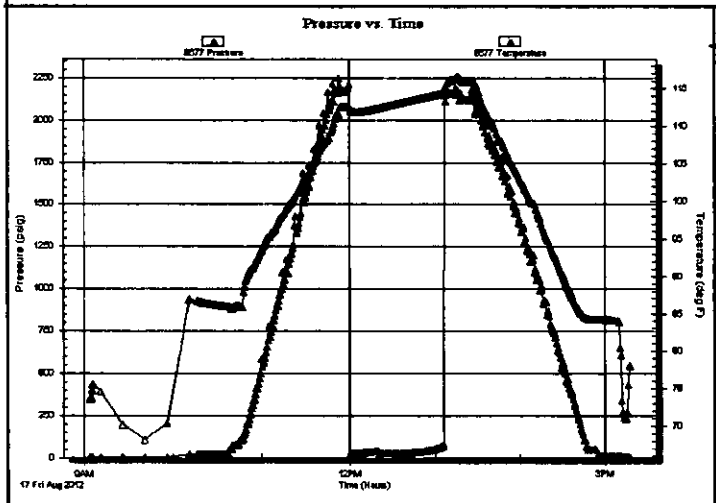
Reference Elevations: 2880.00 ft (KB)
2874.00 ft (CF)
KB to GR/CF: 6.00 ft

Serial #: 8677 **Inside**

Press@RunDepth: psig @ 4511.00 ft (KB)
Start Date: 2012.08.17 End Date: 2012.08.17
Start Time: 09:04:05 End Time: 15:17:29

Capacity: 8000.00 psig
Last Calib.: 2012.08.17
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Surface blow.
ISI: No return.
FF: No blow.
FSI: No return.



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48432 **DST#: 5**

Test Start: 2012.08.17 @ 09:04:00

Tool Information

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

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4484.00		
Shut In Tool	5.00			4489.00		
Hydraulic tool	5.00			4494.00		
Jars	5.00			4499.00		
Safety Joint	2.00			4501.00		
Packer	5.00			4506.00	27.00	Bottom Of Top Packer
Packer	4.00			4510.00		
Stubb	1.00			4511.00		
Recorder	0.00	8677	Inside	4511.00		
Recorder	0.00	8522	Outside	4511.00		
Perforations	4.00			4515.00		
Change Over Sub	1.00			4516.00		
Drill Pipe	31.00			4547.00		
Change Over Sub	1.00			4548.00		
Bullnose	3.00			4551.00	41.00	Bottom Packers & Anchor
Total Tool Length:	**68.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering, Inc

562 W State Rd. 4
Olmitz, KS 67564

ATTN: Bob Lewellyn

21-17s-30w Lane, KS

Joe #1-21

Job Ticket: 48432 **DST#: 5**

Test Start: 2012.08.17 @ 09:04:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	53.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1000.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

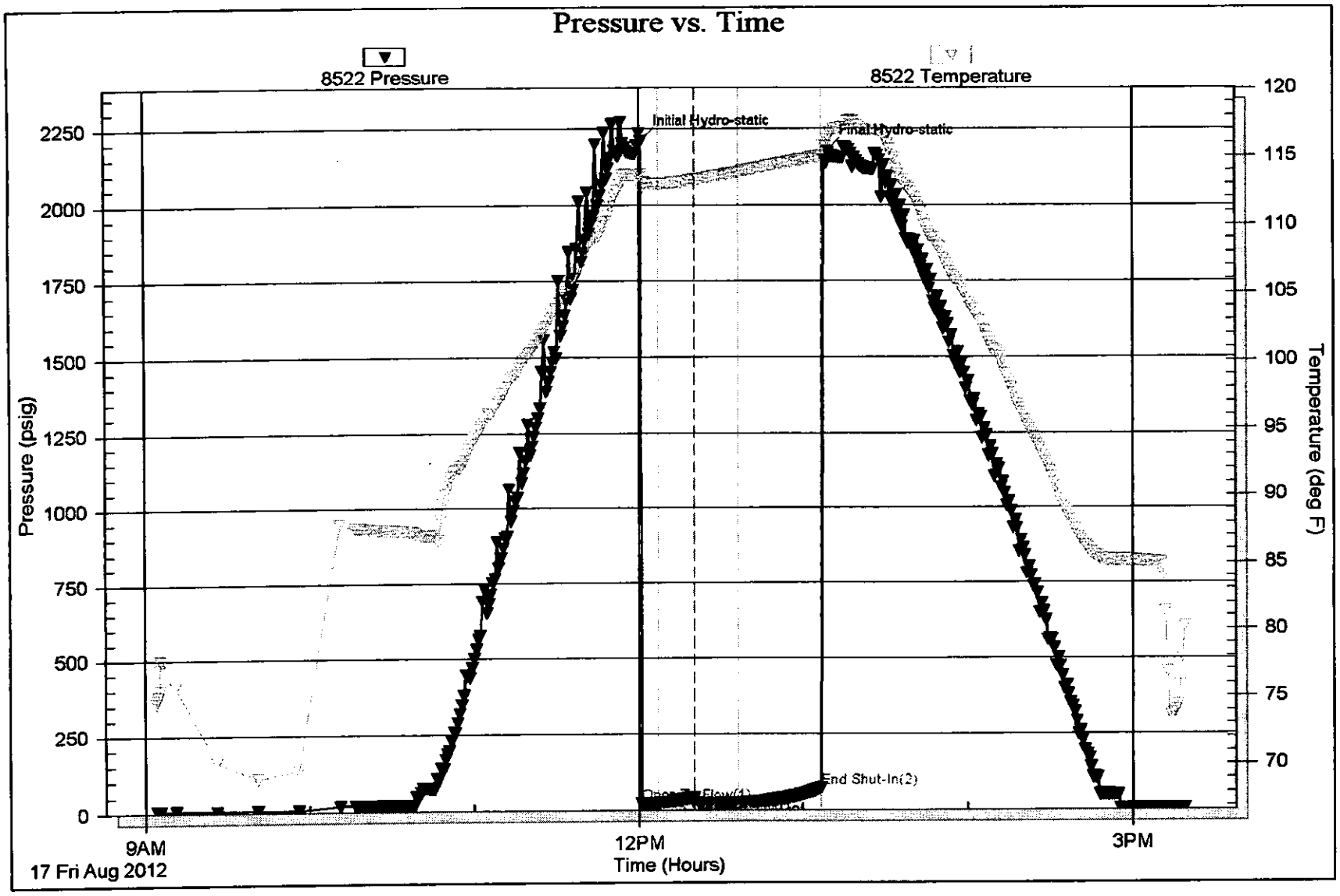
Recovery Table

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

Total Length: 2.00 ft Total Volume: 0.010 bbl

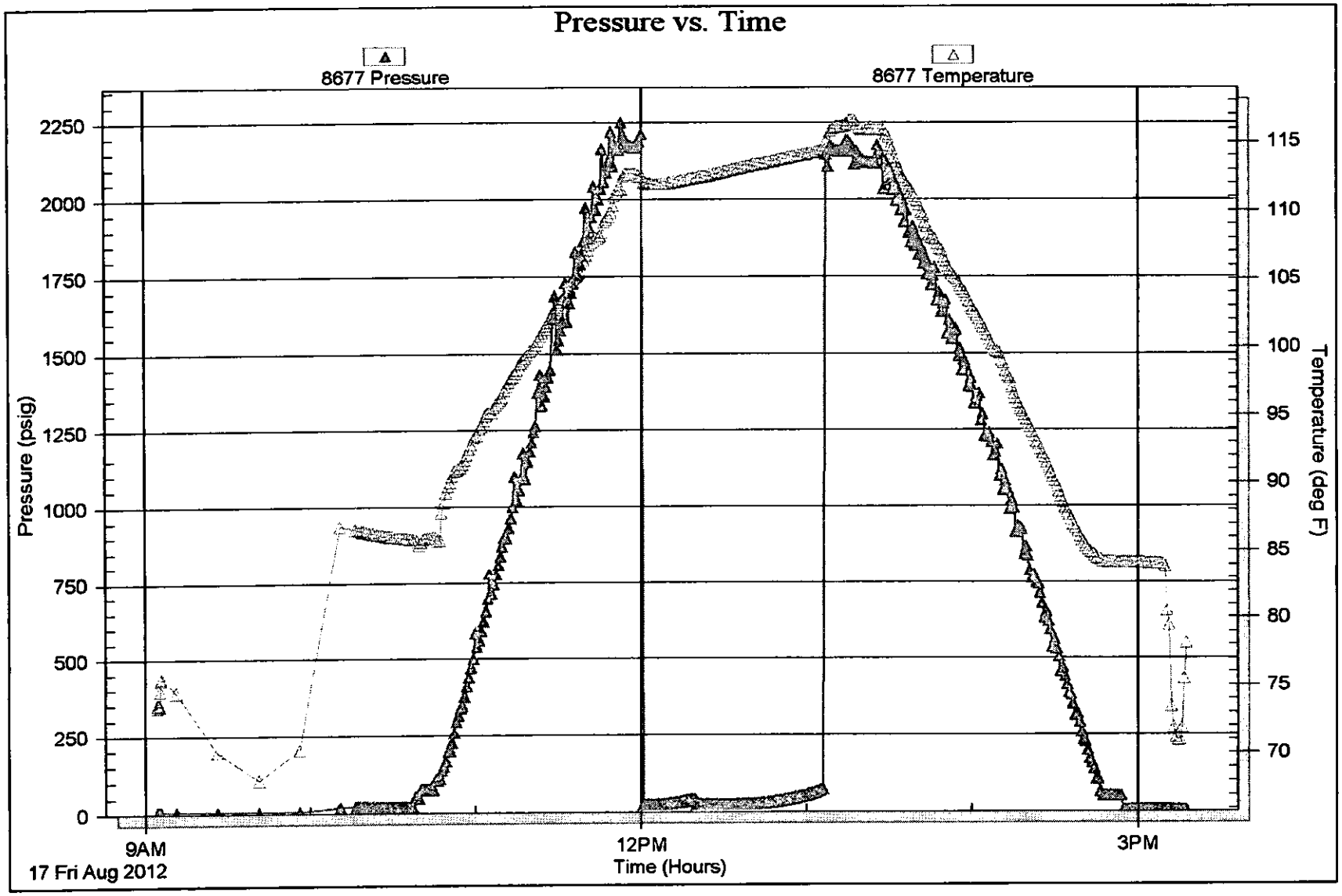
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8522 **Outside** Larson Engineering, Inc Joe #1-21 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 48432 Printed: 2012.08.22 @ 10:13:46

Serial #: 8677 Inside Larson Engineering, Inc Joe #1-21 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 48432 Printed: 2012.08.22 @ 10:13:47

TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 4862

Well Name & No. Joe # 1-21 Test No. 1 Date 8/14/12

Company Larson Engineering, Inc. Elevation 2880 KB 2874 GL

Address 562 W. State Rd 4 Olmitz, Ks 67564

Co. Rep / Geo. Bob Lewellyn Rig HD #3

Location: Sec. 21 Twp. 17S Rge. 30 W Co. Lane State KS

Interval Tested 4256 - 4274 Zone Tested LKC - L

Anchor Length 18 Drill Pipe Run 4114 Mud Wt. 9.2

Top Packer Depth 4251 Drill Collars Run 147 Vis 59

Bottom Packer Depth 4256 Wt. Pipe Run 0 Wt. 7.6

Total Depth 4274 Chlorides 2700 ppm System LCM 1#

Blow Description IF: Surface blow, died @ 4 min.

ISI: No return.

FF: No blow.

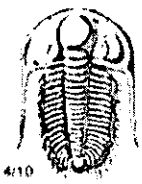
FSI: No return.

Rec 1	Feet of MUD	%gas	%oil	%water	100	%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 117 Gravity — API RW — @ — F Chlorides — ppm

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

Approved By [signature] Our Representative [signature]



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 1812

Well Name & No. Joe # 1-21 Test No. 2 Date 8/15/12

Company Larson Engineering, Inc Elevation 2880 KB 2874 GL

Address 562 W. State Rd 4 Olmitz, KS 67564

Co. Rep / Geo. Bob Lewellyn Rig HD #3

Location: Sec. 21 Twp. 17S Rge. 30W Co. Lane State KS

Interval Tested 4250 - 4279 Zone Tested LKC - L

Anchor Length 29' Drill Pipe Run 4085 Mud Wt. 9.2

Top Packer Depth 4245 Drill Collars Run 147 Vis 56

Bottom Packer Depth 4250 Wt. Pipe Run 0 WL 7.6

Total Depth 4279 Chlorides 1600 ppm System LCM 1#

Blow Description IF: Surface blow.

ISI: No return.

FF: No blow.

FSI: No return.

Rec 3	Feet of MUD	%gas	%oil	%water 100	%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 3 BHT 113 Gravity — API RW ~ @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2094	☒ Test	T-On Location 2115 8/14/12	
(B) First Initial Flow 33	☒ Jars 250	T-Started 2146	
(C) First Final Flow 30	☒ Safety Joint 75	T-Open 0000	
(D) Initial Shut-In 35	☒ Circ Sub N/C	T-Pulled 0105	
(E) Second Initial Flow 28	☐ Hourly Standby	T-Out 0314	
(F) Second Final Flow 29	☒ Mileage 37 RT 57.35	Comments	
(G) Final Shut-In 163	☐ Sampler		
(H) Final Hydrostatic 2008	☐ Straddle	☐ Ruined Shale Packer	
	☐ Shale Packer	☐ Ruined Packer	
Initial Open 5	☐ Extra Packer	☐ Extra Copies	
Initial Shut-In 15	☐ Extra Recorder	Sub Total 0	
Final Flow 15	☐ Day Standby	Total 1632.35	
Final Shut-In 30	☐ Accessibility	MP/DST Disc't	
	Sub Total 1632.35		

Approved By _____ Our Representative _____

TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 4843C

Well Name & No. Joe #1-21 Test No. 3 Date 3/16/12

Company Larson Engineering, Inc Elevation 2880 KB 2874 GL

Address 562 W State Rd #4 Olmitz, KS 67564

Co. Rep / Geo. Bob Lewellyn Rig HD #3

Location: Sec. 21 Twp. 17s Rge. 30w Co. Lane State Ks

Interval Tested 4300 - 4390 Zone Tested Pleasanton - Altamont

Anchor Length ~~4295~~ 90' Drill Pipe Run 4146 Mud Wt. 9.1

Top Packer Depth ~~4300~~ 4295 Drill Collars Run 147 Vis 51

Bottom Packer Depth 4300 Wt. Pipe Run 0 WL 7.2

Total Depth 4390 Chlorides 7,000 ppm System LCM 1#

Blow Description IF: Surface blow

ISI: No return.

FF: ½" blow.

FSI: No return.

Rec 50	Feet of mud	%gas	%oil	%water 100	%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 30 BHT 118 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2103	☒ Test 1250	T-On Location 1730	
(B) First Initial Flow 22	☒ Jars 250	T-Started 1846	
(C) First Final Flow 28	☒ Safety Joint 75	T-Open 2112	
(D) Initial Shut-In 849	☒ Circ Sub H/C	T-Pulled 2302	
(E) Second Initial Flow 29	☐ Hourly Standby	T-Out 0127	
(F) Second Final Flow 44	☒ Mileage 37 R/T 57.35	Comments	
(G) Final Shut-In 829	☐ Sampler		
(H) Final Hydrostatic 2058	☐ Straddle	☐ Ruined Shale Packer	
	☒ Shale Packer 250	☐ Ruined Packer	
Initial Open 5	☐ Extra Packer	☐ Extra Copies	
Initial Shut-In 15	☐ Extra Recorder	Sub Total 0	
Final Flow 30	☐ Day Standby	Total	
Final Shut-In 60	☐ Accessibility	MP/DST Disc't	
	Sub Total 1882.35		

Approved By _____ Our Representative Bob Lewellyn

TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 4843

Well Name & No. Joe # 1-21 Test No. 4 Date 8/16/12

Company Larson Engineering, Inc. Elevation 2880 KB 2874 GL

Address 562 W State Rd 4 Olmitz, Ks 67564

Co. Rep / Geo. Bob Lewellyn Rig HD #3

Location: Sec. 21 Twp. 17S Rge. 30W Co. Lane State Ks

Interval Tested 4410 - 4510 Zone Tested Pawnee - Ft. Scott

Anchor Length 100' Drill Pipe Run 4240 Mud Wt. 9.3

Top Packer Depth 4405 Drill Collars Run 147 Vis 52

Bottom Packer Depth 4410 Wt. Pipe Run 0 WL 8.0

Total Depth 4510 Chlorides 1,000 ppm System LCM 1#

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

Rec 10	Feet of Mud	%gas	%oil	%water	100 %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 10 BHT 115 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	2170	☒ Test 1250	T-On Location 1700
(B) First Initial Flow	23	☒ Jars 250	T-Started 1735
(C) First Final Flow	29	☒ Safety Joint 75	T-Open 1945
(D) Initial Shut-In	167	☒ Circ Sub N/C	T-Pulled 2050
(E) Second Initial Flow	24	☐ Hourly Standby	T-Out 2314
(F) Second Final Flow	25	☒ Mileage 37 mi 57.35	Comments
(G) Final Shut-In	295	☐ Sampler	
(H) Final Hydrostatic	2153	☐ Straddle	☐ Ruined Shale Packer
		☒ Shale Packer 250	☐ Ruined Packer
Initial Open	30	☐ Extra Packer	☐ Extra Copies
Initial Shut-In	15	☐ Extra Recorder	Sub Total 0
Final Flow	15	☐ Day Standby	Total
Final Shut-In	30	☐ Accessibility	MP/DST Disc't
		Sub Total 1882.35	

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 4843

Well Name & No. Joe #1-21 Test No. 5 Date 8/17/12

Company Larson Engineering, Inc Elevation 2880 KB 2874 GL

Address 562 W. State Rd #4 Olmitz, Ks 67564

Co. Rep / Geo. Bob Lewellyn Rig HD #3

Location: Sec. 21 Twp. 17S Rge. 30 W Co. Lane State KS

Interval Tested 4510 - 4551 Zone Tested Johnson

Anchor Length 41 Drill Pipe Run 4366 Mud Wt. 9.2

Top Packer Depth 4505 Drill Collars Run 147 Vis 53

Bottom Packer Depth 4510 Wt. Pipe Run 0 WL 8.0

Total Depth 4551 Chlorides 1,000 ppm System LCM 1#

Blow Description IF: Surface blow

ISI: No return

FF: No blow

FSI: No return

Rec 2	Feet of MUD (Cut specs in tool)	%gas	%oil	%water 100	%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 2 BHT 117 Gravity — API RW — @ — °F Chlorides — ppm

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

Approved By [signature] Our Representative [signature]

Trilobite Testing Inc. shall not be liable for damages 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.

Robert C. Lewellyn

Consulting Petroleum Geologist

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

GEOLOGICAL REPORT

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

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

FORMATION TOPS: (Electric Log)

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

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

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

Lansing-Kansas City Zones:

3951-3959 (A Zone)

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

3986-3990 (B Zone)

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

4004-4032 (C/D Zone)

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

4035-4048 (E Zone)

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

4057-4064 (F Zone)

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

4070-4076 (G Zone)

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

4139-4147 (H Zone)

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

4165-4191 (I Zone)

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

4196-4218 (J Zone)

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

4238-4244 (K Zone)

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

4264-4270 (Middle Creek Zone)

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

Drill Stem Test No. 1 4256-4274
5-15-15-30; surface blow died in four minutes; blow did not return on second flow. Recovered one foot of mud. ISIP 31# FSIP 57# IFP 25-26# FFP 27-27# IHP 2118# FHP 2071# BHT 117 degrees F.

4273-4284 (L Zone)

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

Drill Stem Test No. 2 4250-4279
5-15-15-30; surface blow, died on first flow; blow did not return on second flow. Recovered three feet of mud. ISIP 35# FSIP 163# IFP 33-30# FFP 28-29# IHP 2094# FHP 2008# BHT 113 degrees F.

4284-4290 (Lower L Zone)

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

4303-4324 (Pleasanton Zone)

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

4328-4373 (Marmaton Zone)

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

4374-4383 (Altamont "A" Zone)

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

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

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

4420-4430 (Pawnee Zone)

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

4448-4468 (Myrick Station Zone)

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

4472-4495 (Fort Scott Zone)

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

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

4498-4526 (Cherokee Lime Zones)

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

4526-4556 (Johnson Zone)

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

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

4563-4582 (Detrital Zone)

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

4582-4630 (Mississipipi Zone)

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

4630 Electric Log Total Depth

Conclusions and Recommendations:

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

Respectfully submitted,

Robert C. Lewellyn
Petroleum Geologist

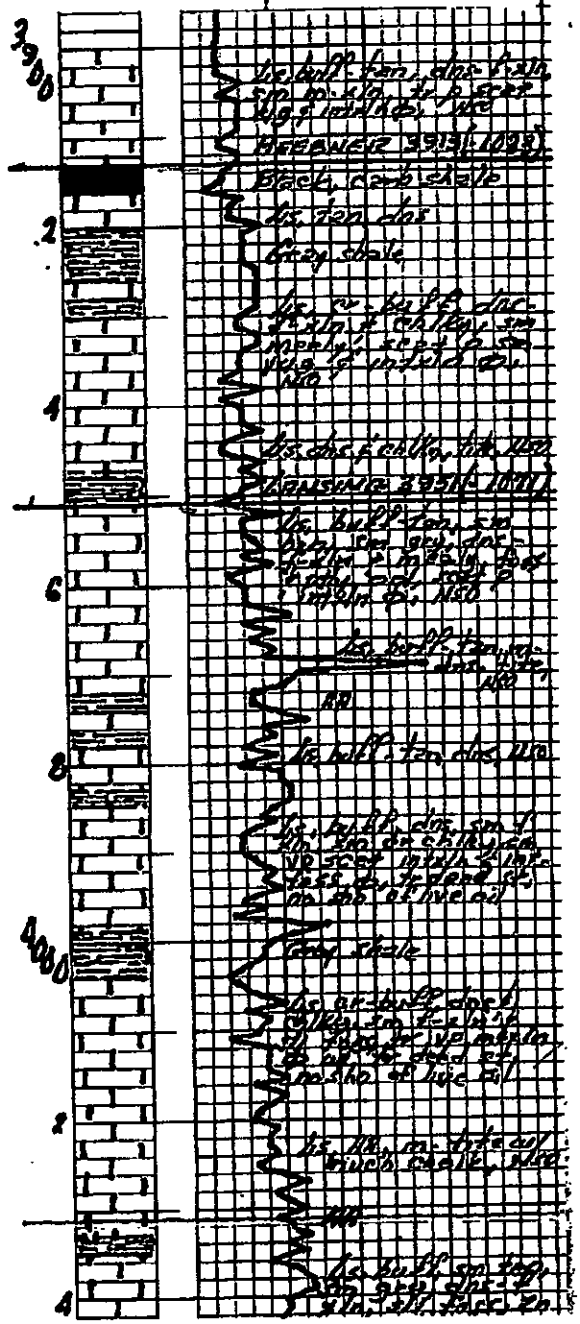
RCL:me

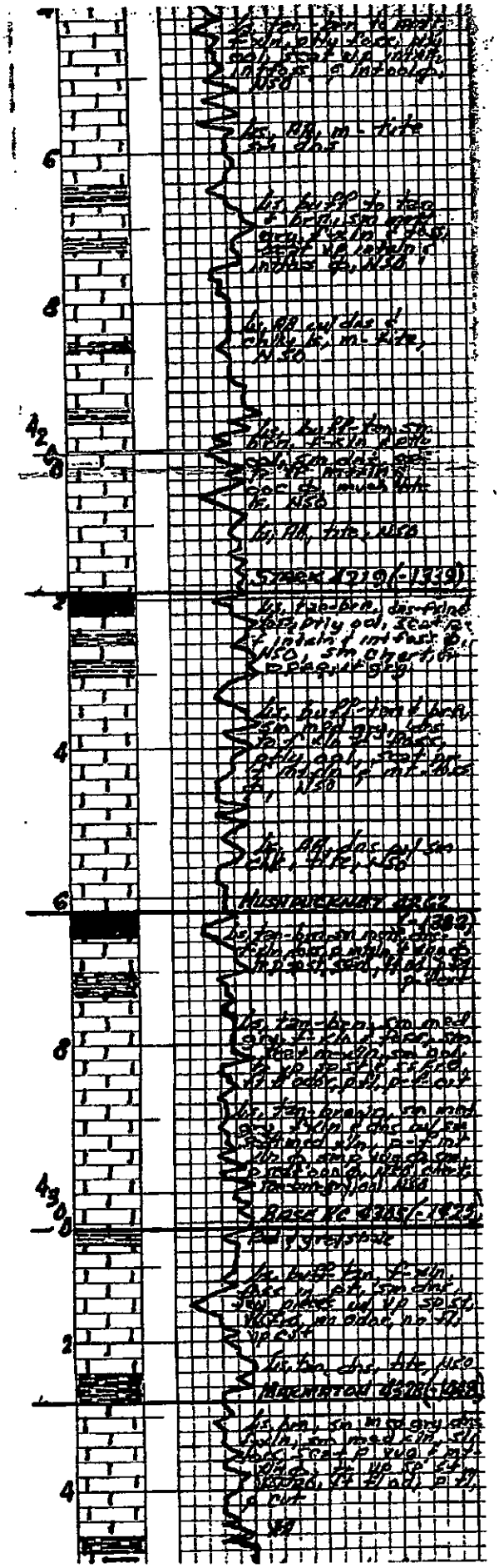
STATE: KANSAS
COUNTY: LANE
BLOCK:
SEC.: 21
T.: 17S
R.: 30W
ALTITUDE: 2880 KB
PRODUCTION: D & A

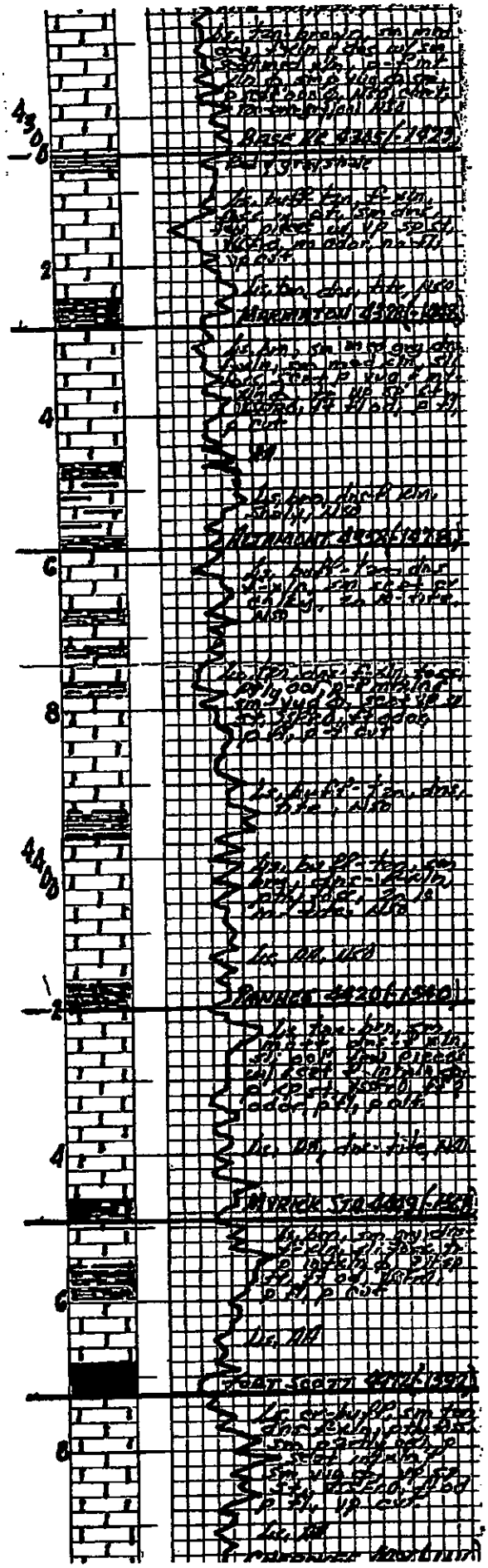
COMPANY: LARSON ENGINEERING, INC.
FARM: JOE
WELL NO.: 1-21
SURVEY: 2454' FNL & 1285' FWL
TOTAL DEPTH: 4630
CONTRACTOR: HD Drilling, Inc.
COMMENCED: 08-07-2012
COMPLETED: 08-18-2012
REMARKS:
Robert C. Llewellyn - Geol

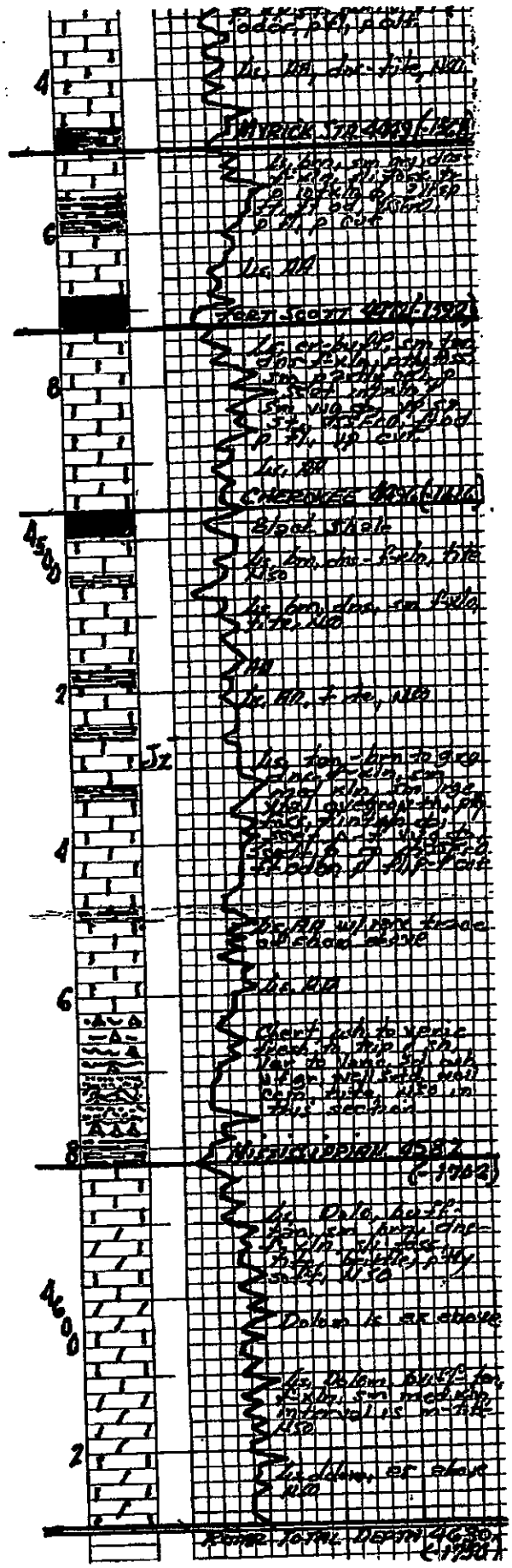
CASING RECORD

8 5/8" @ 261 KBM/175 sx









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

Kansas
Corporation Commission

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

December 04, 2012

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

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

Dear Production Department:

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

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

Respectfully,
Thomas Larson

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

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

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

Dear Thomas Larson:

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

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

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

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

Sincerely,

Production Department