

Confidentiality Requested:

Yes  No

**KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

**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

Gas  DH  EOR

OG  GSW

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 EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Recompletion Date \_\_\_\_\_ Date Reached TD \_\_\_\_\_ Completion Date or Recompletion Date \_\_\_\_\_

API No.: \_\_\_\_\_

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  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops 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.

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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	Kersting-Williams 1-1
Doc ID	1269767

Tops

Name	Top	Datum
Anhydrite	1323	+949
Base Anhydrite	1349	+923
Heebner Sh	4013	-1741
Douglas	4042	-1770
Lansing	4134	-1862
Stark Sh	4400	-2128
Pawnee	4612	-2340
Upper Cher Sh	4665	-2393
Lower Cher Sh	4702	-2430
Miss Warsaw	4753	-2481
Miss Osage	4800	-2528





CHARGE TO: Larson Engineering  
 ADDRESS:  
 CITY, STATE, ZIP CODE:

TICKET 28854

SERVICE LOCATIONS: 1. 1000 City KS WELL/PROJECT NO. 1-1 LEASE Kersting-Williams COUNTY/PARISH FORD STATE KS CITY OFFER/E DATE 28 SEP 15 OWNER  
 2. TICKET TYPE  SERVICE  SALES CONTRACTOR HD RIG NAME/NO. 3 SHIPPED VIA CT DELIVERED TO location ORDER NO.  
 3. WELL TYPE Oil WELL CATEGORY Development JOB PURPOSE cement surface pipe WELL PERMIT NO. WELL LOCATION 1-26-21  
 4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		UM		UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575		1			MILEAGE TRK 110	50		mi		5.00	250.00
5765		1			Pump Charge	1		lea		800.00	800.00
325		1			Standard cement	165		sk		12.25	2021.25
279		1			Bentonite gel	3		sk		25.00	75.00
278		1			Calcium Chloride	8		sk		40.00	320.00
276		1			Floccle	25		lb		2.25	56.25
290		1			D-AIR	2		gal		42.00	84.00
581		1			Service charge	165		sk		150.15	247.50
583		1			Drayage	16185		lb	404.63 TM	0.75	303.47

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X [Signature]  
 DATE SIGNED \_\_\_\_\_ TIME SIGNED \_\_\_\_\_  A.M.  P.M.  
1915

REMIT PAYMENT TO:

SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL	AMOUNT
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				5	
WE UNDERSTOOD AND MET YOUR NEEDS?					
OUR SERVICE WAS PERFORMED WITHOUT DELAY?					
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?					
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO			
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					
				Ford TAX 8.15%	208.35
				TOTAL	4365.82

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR [Signature] APPROVAL

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 28 SEP 15 PAGE NO. 1

CUSTOMER		WELL NO.		LEASE		JOB TYPE		TICKET NO.	
Hanson Engineering		#1-1		Kersting-Williams		cement surface pipe		28854	
CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS	
				T	C	TUBING	CASING		
								165 sk STD cement 2%gel 3%CC 440 8 5/8" x 20# casing 6 joints TD=267' set 265.07'	
	1600							on loc TRK 110	
	1710							start 8 5/8" x 20# casing in well	
	1805							circ 8 5/8"	
	1815	3 1/4				100		mix STD 2%3% w/ flocc @ 14.7 ppg	
		3 1/4	40			100		Kickout 165 sk mixed	
	1835	3	<del>10</del>					Displace w/ fresh H <sub>2</sub> O	
		3	10					200 - cement to surface	
			16					Kickout shut in 8 5/8" { 165 sk mixed 20 top it }	
	1845							Wash truck	
								Rack up	
	1920							job complete	
								Phin	
								Print, Blaine, & person	



CHARGE TO: LARSON Engineering  
 ADDRESS:  
 CITY, STATE, ZIP CODE:

TICKET 28859

SERVICE LOCATIONS: Ness City KS  
 WELL/PROJECT NO. 1-1 LEASE Kersting - W. Williams COUNTY/PARISH FORD STATE KS CITY ORFELY DATE 14 OCT 15 OWNER  
 TICKET TYPE  SERVICE  SALES CONTRACTOR # D RIG NAME/NO. # 3 SHIPPED WCT DELIVERED TO location ORDER NO.  
 WELL TYPE oil WELL CATEGORY PVA JOB PURPOSE plug to Abandon WELL PERMIT NO. WELL LOCATION 7-26-20  
 REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		UM		UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575		1			MILEAGE	60	mi			5.00	300.00
576P		1			Pump Charge	1	hr			800.00	800.00
328-4		1			60/40 po2 (4% gel)	200	sk			10.25	2050.00
276		1			Floccle	50	lb			2.25	112.50
290		1			D-AIR	2	gal			42.00	84.00
581		1			Service charge	200	sk			1.50	300.00
583		1			Drayage	16740	lb	502.2	771	0.75	376.65

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X  
 DATE SIGNED \_\_\_\_\_ TIME SIGNED \_\_\_\_\_  A.M.  P.M.  
1625

REMIT PAYMENT TO:

SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL	
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				4023	15
WE UNDERSTOOD AND MET YOUR NEEDS?					
OUR SERVICE WAS PERFORMED WITHOUT DELAY?					
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?					
ARE YOU SATISFIED WITH OUR SERVICE? <input type="checkbox"/> YES <input type="checkbox"/> NO					
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					
				Ford TAX 8.15%	183.09
				TOTAL	4206.24

**CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES** The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR [Signature] APPROVAL

Thank You!







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering , Inc**

562 W. State Rd. 4  
Olmitz , KS 67564-8561

ATTN: Vern Schrag

**1-26s-21w Ford,KS**

**Kersting-Williams #1-1**

Start Date: 2015.10.12 @ 13:45:17

End Date: 2015.10.12 @ 19:08:11

Job Ticket #: 62672                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.10.14 @ 08:46:36



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc  
562 W. State Rd. 4  
Olmitz, KS 67564-8561  
ATTN: Vern Schrag

**Kersting-Williams #1-1**  
**1-26s-21w Ford,KS**  
Job Ticket: 62672 **DST#: 1**  
Test Start: 2015.10.12 @ 13:45:17

## GENERAL INFORMATION:

Formation: **Cher Sd.**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 16:09:27  
Time Test Ended: 19:08:11  
Interval: **4634.00 ft (KB) To 4730.00 ft (KB) (TVD)**  
Total Depth: 4730.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Ray Schwager  
Unit No: 70  
Reference Elevations: 2272.00 ft (KB)  
2264.00 ft (CF)  
KB to GR/CF: 8.00 ft

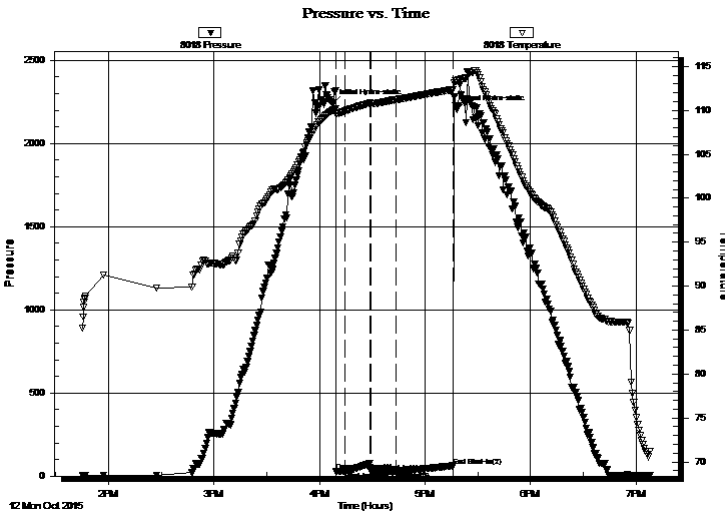
## Serial #: 8018

Inside

Press@RunDepth: 30.00 psig @ 4638.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2015.10.12 End Date: 2015.10.12 Last Calib.: 2015.10.12  
Start Time: 13:45:17 End Time: 19:08:11 Time On Btm: 2015.10.12 @ 16:07:42  
Time Off Btm: 2015.10.12 @ 17:18:12

TEST COMMENT: 5-IFP-w k bl thru-out 1/4"bl  
15-ISIP-no bl  
15-FFP-no bl  
30-FSIP-no bl

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2237.88	110.02	Initial Hydro-static
2	27.87	109.54	Open To Flow (1)
7	28.48	109.89	Shut-In(1)
21	77.60	110.80	End Shut-In(1)
22	31.35	110.78	Open To Flow (2)
36	30.00	111.19	Shut-In(2)
69	61.69	112.34	End Shut-In(2)
71	2206.11	113.38	Final Hydro-static

## Recovery

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

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering , Inc

**Kersting-Williams #1-1**

562 W. State Rd. 4  
Olmitz , KS 67564-8561

**1-26s-21w Ford,KS**

Job Ticket: 62672

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2015.10.12 @ 13:45:17

## Tool Information

Drill Pipe:	Length: 4515.00 ft	Diameter: 3.80 inches	Volume: 63.33 bbl	Tool Weight: 2200.00 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: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 120000.0 lb
			<u>Total Volume: 63.92 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4634.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	96.00 ft			
Tool Length:	125.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4606.00	
Shut In Tool	5.00			4611.00	
Hydraulic tool	5.00			4616.00	
Jars	5.00			4621.00	
Safety Joint	3.00			4624.00	
Packer	5.00			4629.00	29.00 Bottom Of Top Packer
Packer	5.00			4634.00	
Stubb	1.00			4635.00	
Perforations	3.00			4638.00	
Recorder	0.00	8018	Inside	4638.00	
Recorder	0.00	8700	Outside	4638.00	
Blank Spacing	64.00			4702.00	
Perforations	25.00			4727.00	
Bullnose	3.00			4730.00	96.00 Bottom Packers & Anchor

**Total Tool Length: 125.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering , Inc

**Kersting-Williams #1-1**

562 W. State Rd. 4  
Olmitz , KS 67564-8561

**1-26s-21w Ford,KS**

Job Ticket: 62672

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2015.10.12 @ 13:45:17

## 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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.74 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

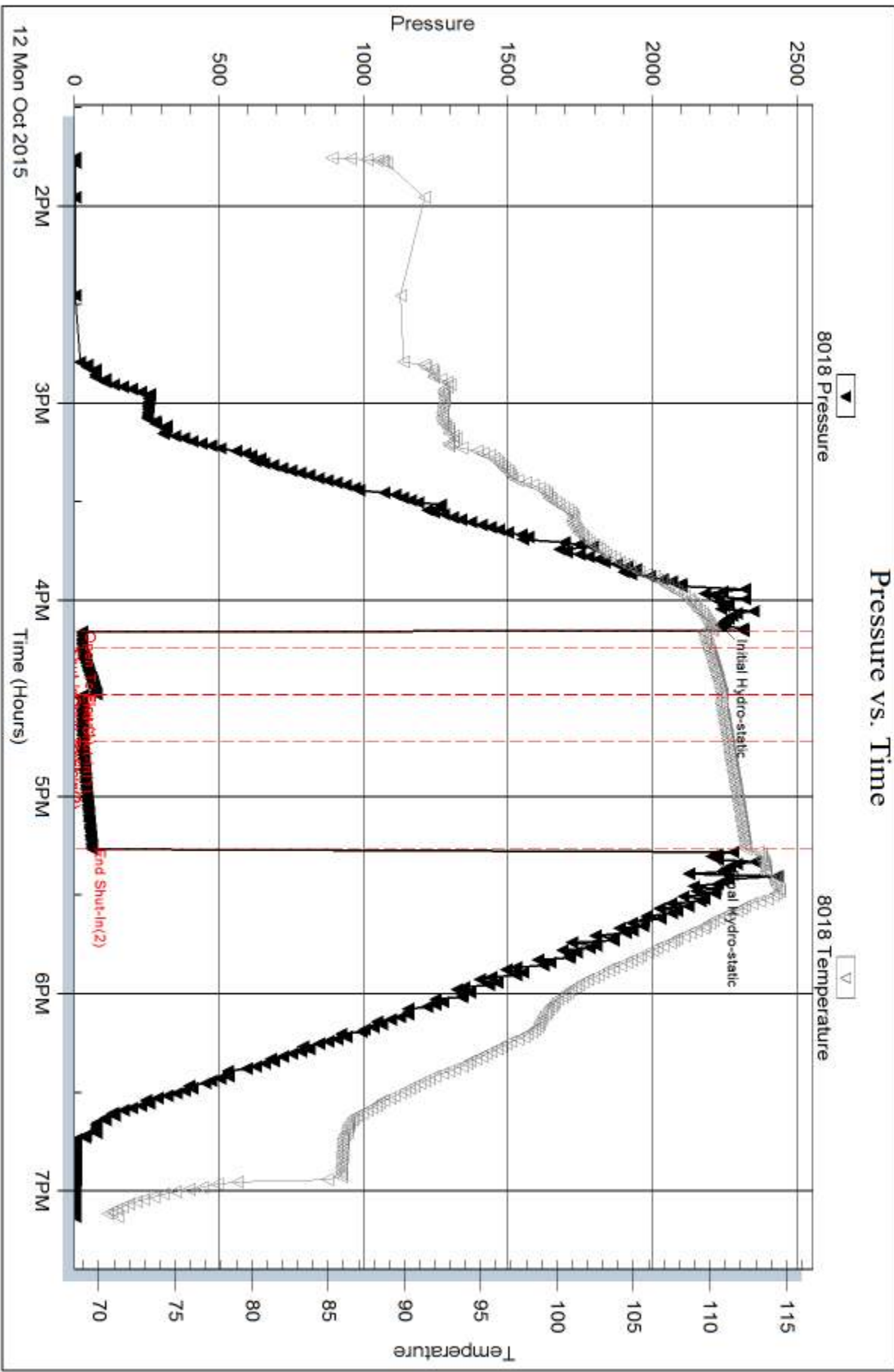
Num Gas Bombs: 0

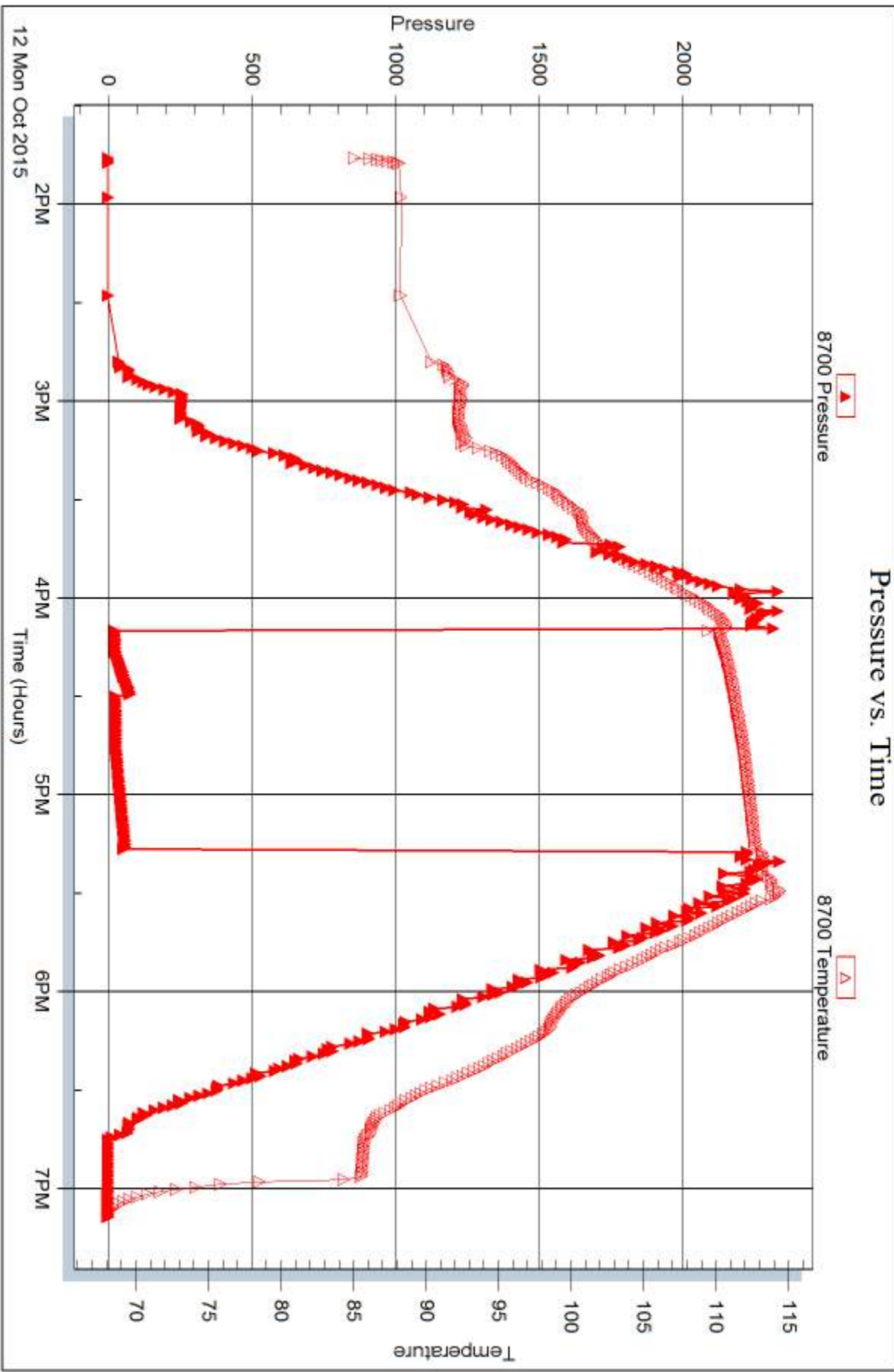
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering , Inc**

562 W. State Rd. 4  
Olmitz , KS 67564-8561

ATTN: Vern Schrag

**1-26s-21w Ford,KS**

**Kersting-Williams #1-1**

Start Date: 2015.10.13 @ 05:35:20

End Date: 2015.10.13 @ 12:42:14

Job Ticket #: 62673                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.10.14 @ 08:44:36

Larson Engineering , Inc  
Kersting-Williams #1-1  
1-26s-21w Ford,KS  
DST # 2  
Miss  
2015.10.13





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering , Inc  
 562 W. State Rd. 4  
 Olmitz , KS 67564-8561  
 ATTN: Vern Schrag

**Kersting-Williams #1-1**  
**1-26s-21w Ford,KS**  
 Job Ticket: 62673 **DST#: 2**  
 Test Start: 2015.10.13 @ 05:35:20

## GENERAL INFORMATION:

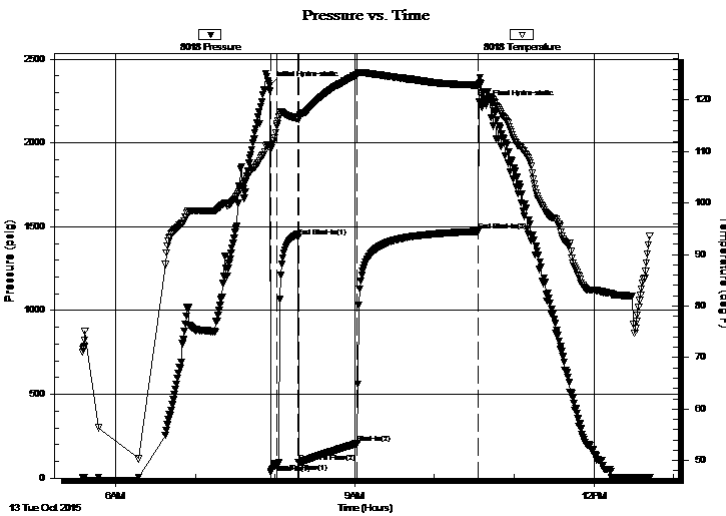
Formation: **Miss**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 07:56:45 Tester: Ray Schwager  
 Time Test Ended: 12:42:14 Unit No: 70  
 Interval: **4725.00 ft (KB) To 4774.00 ft (KB) (TVD)** Reference Elevations: 2272.00 ft (KB)  
 Total Depth: 4774.00 ft (KB) (TVD) 2264.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 8018 Inside**  
 Press@RunDepth: 206.95 psig @ 4735.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.10.13 End Date: 2015.10.13 Last Calib.: 2015.10.13  
 Start Time: 05:35:20 End Time: 12:42:14 Time On Btm: 2015.10.13 @ 07:56:00  
 Time Off Btm: 2015.10.13 @ 10:38:44

TEST COMMENT: 5-IFP-w k to a fr bl 1/2" to 3 1/2" bl  
 15-ISIP-no bl  
 45-FFP-w k to a strg bl in 41 min  
 90-FSIP-no bl

## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2342.62	111.36	Initial Hydro-static
1	36.33	110.31	Open To Flow (1)
6	84.75	115.38	Shut-In(1)
22	1438.12	116.43	End Shut-In(1)
22	94.25	116.14	Open To Flow (2)
66	206.95	124.99	Shut-In(2)
157	1472.52	122.89	End Shut-In(2)
163	2225.69	119.97	Final Hydro-static



## Recovery

Length (ft)	Description	Volume (bbl)
0.00	60' GIP	0.00
180.00	Water	1.43
210.00	MW 40%M60%W	2.95

\* 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

**Kersting-Williams #1-1**

562 W. State Rd. 4  
Olmitz , KS 67564-8561

**1-26s-21w Ford,KS**

Job Ticket: 62673

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2015.10.13 @ 05:35:20

## Tool Information

Drill Pipe:	Length: 4581.00 ft	Diameter: 3.80 inches	Volume: 64.26 bbl	Tool Weight: 2200.00 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: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 120000.0 lb
			<u>Total Volume: 64.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4725.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	49.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4697.00	
Shut In Tool	5.00			4702.00	
Hydraulic tool	5.00			4707.00	
Jars	5.00			4712.00	
Safety Joint	3.00			4715.00	
Packer	5.00			4720.00	29.00 Bottom Of Top Packer
Packer	5.00			4725.00	
Stubb	1.00			4726.00	
Perforations	9.00			4735.00	
Recorder	0.00	8018	Inside	4735.00	
Recorder	0.00	8700	Outside	4735.00	
Blank Spacing	33.00			4768.00	
Perforations	3.00			4771.00	
Bullnose	3.00			4774.00	49.00 Bottom Packers & Anchor

**Total Tool Length: 78.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering, Inc  
562 W. State Rd. 4  
Olmitz, KS 67564-8561  
ATTN: Vern Schrag

**Kersting-Williams #1-1**  
**1-26s-21w Ford, KS**  
Job Ticket: 62673      **DST#: 2**  
Test Start: 2015.10.13 @ 05:35:20

### 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:	36000 ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.71 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4500.00 ppm			
Filter Cake: 1.00 inches			

### Recovery Information

Recovery Table

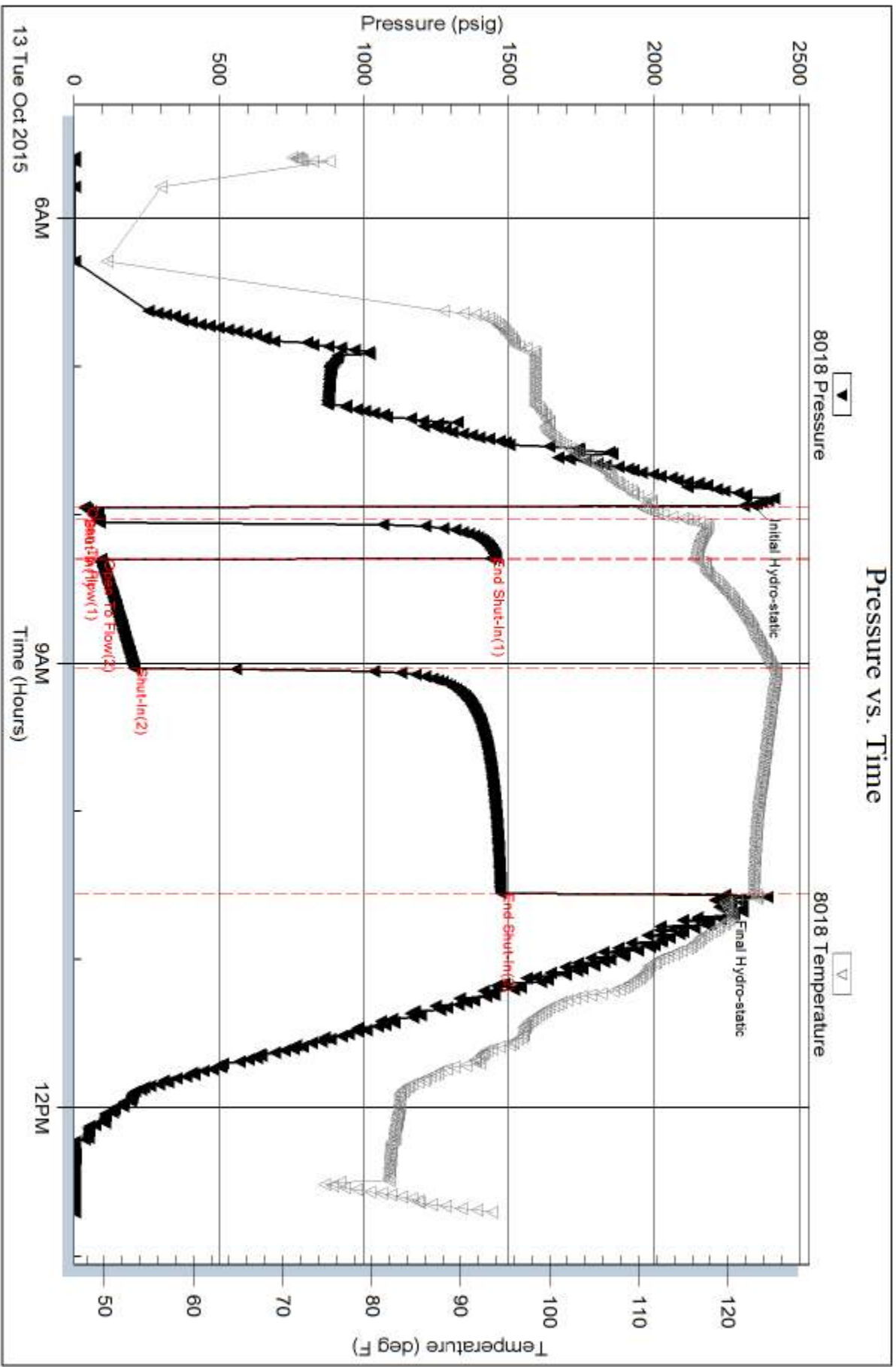
Length ft	Description	Volume bbl
0.00	60' GIP	0.000
180.00	Water	1.432
210.00	MW 40%M60%W	2.946

Total Length: 390.00 ft      Total Volume: 4.378 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: RW .16 @ 80F

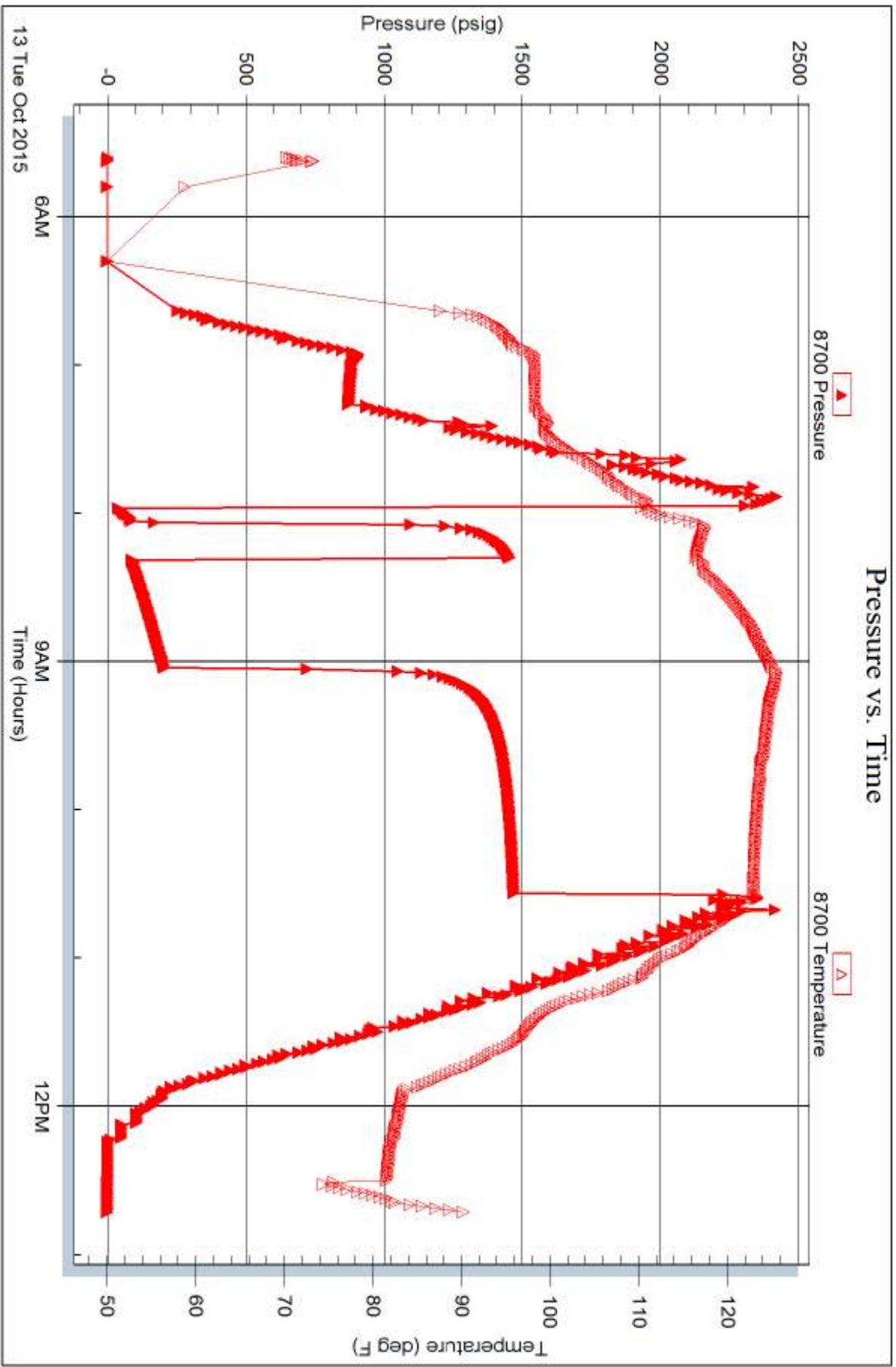


Serial #: 8700

Outside Larson Engineering, Inc

1-265-21w Ford,KS

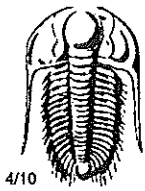
DST Test Number: 2



Tribble Testing, Inc

Ref. No: 62673

Printed: 2015.10.14 @ 08:44:37



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62672

Well Name & No. Keating Williams 1-1 Test No. 1 Date 10-12-15  
 Company LARSON ENGINEERING, INC Elevation 2272 KB 2264 GL  
 Address 562 W. STATE RD 4 OLMITZ, K067564-8561  
 Co. Rep / Geo. VERN SCHRAG Rig. H-O delg rig 3  
 Location: Sec. 1 Twp. 26<sup>s</sup> Rge. 21<sup>w</sup> Co. Ford State Ko

Interval Tested 4634-4730 Zone Tested Cher sd.  
 Anchor Length 96 Drill Pipe Run 4515 Mud Wt. 9.4  
 Top Packer Depth 4629 Drill Collars Run 120 Vis 46  
 Bottom Packer Depth 4634 Wt. Pipe Run - WL 8.8  
 Total Depth 4730 Chlorides 4500 ppm System LCM 1 1/2#

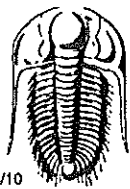
Blow Description I FP - WEAK BLOW THRU-OUT 1/4" BLOW  
I STP - NO BLOW  
F FP - NO BLOW  
F STP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>				
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 <u>2237</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1115</u>
(B) First Initial Flow <u>27</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1345</u>
(C) First Final Flow <u>28</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1550</u>
(D) Initial Shut-In <u>77</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1555</u>
(E) Second Initial Flow <u>31</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1808</u>
(F) Second Final Flow <u>30</u>	<input checked="" type="checkbox"/> Mileage <u>126 RT</u>	Comments <u>Motel stay</u>
(G) Final Shut-In <u>61</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2206</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>15</u>	<input type="checkbox"/> Extra Packer	Sub Total <u>0</u>
Final Flow <u>15</u>	<input type="checkbox"/> Extra Recorder	Total <u>1601</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	MP/DST Disc't
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1601</u>	

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62673

Well Name & No. Kearney-Williams 1-1 Test No. 2 Date 10-13-15  
 Company LARSON Engineering, Inc Elevation 2272 KB 2264 GL  
 Address 562 W. STATE Rd 4 OLMITE, Ks 67564-8561  
 Co. Rep / Geo. Vern Schrag Rig H/O drlg rig 3  
 Location: Sec. 1 Twp. 26<sup>s</sup> Rge. 21<sup>w</sup> Co. Ford State Ks

Interval Tested 4725-4774 Zone Tested MISS  
 Anchor Length 49 Drill Pipe Run 4581 Mud Wt. 9.2  
 Top Packer Depth 4720 Drill Collars Run 120 Vis 54  
 Bottom Packer Depth 4725 Wt. Pipe Run — WL 8.8  
 Total Depth 4774 Chlorides 4500 ppm System LCM 1#

Blow Description IFP - WEAK TO A FAIR BLOW 1/2" TO 3 1/2" BLOW  
ISIP - NO BLOW  
FFP - WEAK TO A STRONG BLOW IN 41 MIN  
FSTIP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>GIP</u>				
<u>210</u>	<u>MW</u>			<u>60</u>	<u>40</u>
<u>180</u>	<u>WATER</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 390 BHT 122 Gravity — API RW .16 @ 80 °F Chlorides 36000 ppm

(A) Initial Hydrostatic <u>2342</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0450</u>
(B) First Initial Flow <u>36</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0535</u>
(C) First Final Flow <u>84</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0755</u>
(D) Initial Shut-In <u>1438</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1030</u>
(E) Second Initial Flow <u>94</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1242</u>
(F) Second Final Flow <u>206</u>	<input checked="" type="checkbox"/> Mileage <u>126</u>	Comments
(G) Final Shut-In <u>1472</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2225</u>	<input type="checkbox"/> Straddle	

Initial Open 5  
 Initial Shut-In 15  
 Final Flow 45  
 Final Shut-In 90

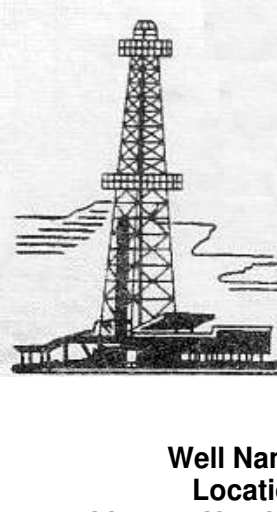
Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1601  
 MP/DST Disc't

Approved By Vern C Schrag Our Representative RAY SCHWAGER Thank you  
 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.



# WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG  
CONSULTANT GEOLOGIST



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

Well Name: KIRSTING-WILLIAMS #1-1  
Location: W2 SW SW SE SEC. 1-265-21  
Licence Number: API: 15-057-20966  
Spud Date: September 28, 2015  
Surface Coordinates: 330' FSL & 2790' FWL  
Region: Ford Co., KS  
Drilling Completed: October 14, 2015

Bottom Hole Coordinates:  
Ground Elevation (ft): 2263' K.B. Elevation (ft): 2272'  
Logged Interval (ft): 3950' To: RTD Total Depth (ft): 4850'  
Formation: D&A Mississippi  
Type of Drilling Fluid: Chemical Premix (Displaced)  
Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

### OPERATOR:

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

### DRILLING CONTRACTOR:

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

DP 4.5" XH (16.6#); DC 6-1/4" x 2-3/8" x 556', Kelly 41.00', Tool Joint 5.5"; Bit: JZ-HA20Q, 7-7/8", standard jets 16-16-16; rpm 80, WOB 35k; Kelly Bushing 9' above ground level; LeWayne "Low" Tresner (tool pusher).

### CASING:

Set 8-5/8" casing at 265'

### CIRCULATION SYSTEM:

Continental EMSCO D-300, duplex, 6 x 14, 58 spm, Chemical, premix, earth pits, Mud-Co/Service Mud, Inc., Justin Whiting.

### GAS DETECTION SYSTEM:

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

### OPEN HOLE LOGS:

DN, PE, DI (SP), MIL (stacked); No Sonic; 5" detail LTD-3950; 2" DI to surface casing; Weatherford Logging Services, Liberal, KS, Jeffrey Randle, Log total depth (4850') was flat to rotary total depth (4850').

### DRILL STEM TEST #1:

Cherokee Lime: Interval: 4634-4730 (96'); Blow: weak 1/4" IFP, no RB, no blow at second open; Times: 5-15-30; Recovery: 5' mud; Pressures: HP: 2237-2206, SIP: 77-61, FP: 27-28, 31-30; BHT: 113 F; Trilobite Testing, Inc., Hays, KS, Ray Schwager.

### DRILL STEM TEST #2:

Mississippi Warsaw Dolomite: Interval: 4225-4274 (49'); Blow: weak incr 3-1/2" IFP, no RB, weak incr BOB 41 min FFP, no RB; Times: 5-15-45-90; Recovery: 60' GIP, 390' TF; Grindouts: 210' MW (60%W, 40%M) and 180' SW (36k chlorides, Rw 0.16 at 80 deg F); Pressures: HP: 2342-2225, SIP: 1438-1472, FP: 36-84, 94-206; BHT: 122 F; Trilobite Testing, Inc., Hays, KS, Ray Schwager.

### REMARKS:

It was determined that this well should be plugged and abandoned.

