



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1277403
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

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

API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

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

1277403

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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

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				

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

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

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

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

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Outlaw Well Service LLC
Well Name	Don #1
Doc ID	1277403

Tops

Name	Top	Datum
ANHYDRITE	1460	+553
TOPEKA	2963	-950
HEEBNER SHALE	3167	-1154
TORONTO	3187	-1174
LKC	3203	-1190
BKC	3424	-1411
ARBUCKLE	3463	-1450
RTD	3553	-1540

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1433

Date	7-9-15	Sec.	20	Twp.	8	Range	19	County	Rooks	State	KS	On Location		Finish	5 ³⁰ P.M.
------	--------	------	----	------	---	-------	----	--------	-------	-------	----	-------------	--	--------	----------------------

Location Zurich, 7IV to Qrd, 1 1/2 W, N12

Lease	Don	Well No.	1	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	Discovery 1			Charge To	Outlaw well service
Type Job	Surface			Street	
Hole Size	12 1/4	T.D.	221	City	
Csg.	8 5/8	Depth	221	State	
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tool		Depth		Cement Amount Ordered 150 sx 80/20, 3% cc, 2% gel	
Cement Left in Csg.		Shoe Joint	20		
Meas Line		Displace	12 3/4 bbl		

EQUIPMENT

Pumptrk	20	No.	Cementer		Common	120
			Helper	Nick	Poz. Mix	30
Bulktrk	19	No.	Driver	Doug	Gel.	3
			Driver		Calcium	6
Bulktrk	PU	No.	Driver	Travis		

JOB SERVICES & REMARKS

Remarks:	Cement did circulate	Hulls	
Rat Hole		Salt	
Mouse Hole		Flowseal	
Centralizers		Kol-Seal	
Baskets		Mud CLR 48	
D/V or Port Collar		CFL-117 or CD110 CAF 38	
		Sand	
		Handling	159
		Mileage	

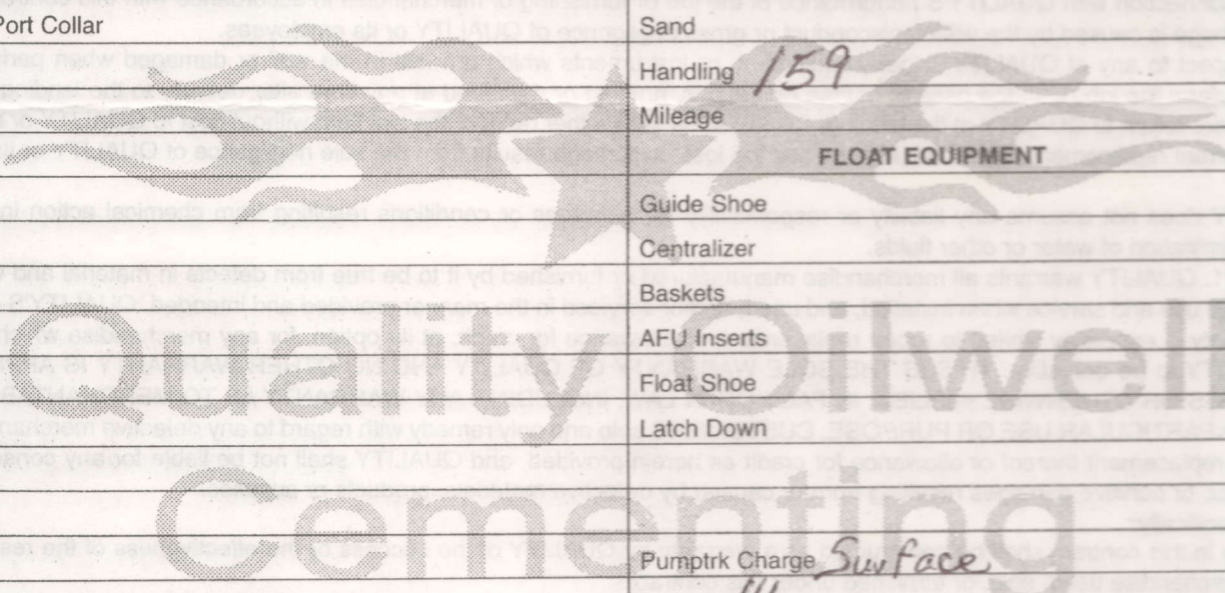
FLOAT EQUIPMENT

		Guide Shoe	
		Centralizer	
		Baskets	
		AFU Inserts	
		Float Shoe	
		Latch Down	

Pumptrk Charge	Surface
Mileage	41

	Tax	
	Discount	
	Total Charge	

X Signature *[Signature]*





QUALITY OILWELL CEMENTING, INC.
 PO Box 32 - 740 West Wichita Ave, Russell KS 67665
 Phone: 785-324-1041 fax: 785-483-1087
 Email: cementing@ruraltel.net

Date: 7/9/2015
 Invoice # 1433

P.O.#:
 Due Date: 8/8/2015
 Division: Russell

Invoice

Contact:
 OUTLAW WELL SERVICE LLC
Address/Job Location:
 OUTLAW WELL SERVICE LLC
 1408 W 42ND STREET
 HAYS KANSAS 67601

Reference:
 DON 1

Description of Work:
 SURFACE JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 620.74	No				
Common-Class A	120	\$ 1,692.00	Yes				
Calcium Chloride	6	\$ 283.66	Yes				
Pump Truck Mileage-Job to Nearest Camp	41	\$ 191.54	No				
POZ Mix-Standard	30	\$ 178.37	Yes				
Bulk Truck Matl-Material Service Charge	159	\$ 135.05	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	41	\$ 121.89	No				
Premium Gel (Bentonite)	3	\$ 41.48	Yes				

Invoice Terms:

Net 30

SubTotal: \$ 3,264.74

Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (81.62)

SubTotal for Taxable Items: \$ 2,140.63

SubTotal for Non-Taxable Items: \$ 1,042.49

Total: \$ 3,183.12

Tax: \$ 131.65

6.15% Rooks County Sales Tax

Amount Due: \$ 3,314.77

Applied Payments:

Balance Due: \$ 3,314.77

Thank You For Your Business!

Past Due Invoices are subject to a service charge (annual rate of 24%)

This does not include any applicable taxes unless it is listed.

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PD
 06/17/80

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1434

Date	7-14-15	Sec.	20	Twp.	8	Range	19	County	Rooks	State	KS	On Location		Finish	1:15 PM
------	---------	------	----	------	---	-------	----	--------	-------	-------	----	-------------	--	--------	---------

Location Zurich, 7N to Qrd, 1 1/2 W, Nn2

Lease	Don	Well No.	1	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	Discovery 1			Charge To	Outlaw well service
Type Job	Plugging	T.D.	3553		
Hole Size	7 7/8				
Csg.		Depth		Street	
Tbg. Size		Depth		City	State
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.		Shoe Joint		Cement Amount Ordered 305sx 60/40, 4% gel, 1/4 Flo	
Meas Line		Displace			

EQUIPMENT

Pumptrk	16	No.	Cementer		Common	183
			Helper	Lonnie	Poz. Mix	122
Bulktrk	4	No.	Driver		Gel.	11
			Driver	Brian		
Bulktrk	Ph	No.	Driver		Calcium	
			Driver	Travis		

JOB SERVICES & REMARKS

Remarks:		Hulls	
Rat Hole	30sx	Salt	
Mouse Hole	15sx	Flowseal	70#
Centralizers		Kol-Seal	
Baskets		Mud CLR 48	
D/V or Port Collar		CFL-117 or CD110 CAF 38	
	50sx at 3443	Sand	
	50sx at 1475	Handling	316
	100sx at 910	Mileage	

FLOAT EQUIPMENT

	50sx at 270	Guide Shoe	
	10sx at 40 with plug	Centralizer	
		Baskets	
		AFU Inserts	
		Float Shoe	
		Latch Down	
			1 wood plug
		Pumptrk Charge	plug
		Mileage	41

Tax
Discount
Total Charge

X Signature

[Handwritten Signature]



QUALITY OILWELL CEMENTING, INC.
 PO Box 32 - 740 West Wichita Ave, Russell KS 67665
 Phone: 785-324-1041 fax: 785-483-1087
 Email: cementing@ruraltel.net

Date: 7/14/2015
 Invoice # 1434
 P.O.#:
 Due Date: 8/13/2015
 Division: *Russell*

Invoice

ENTERED

Contact:
 OUTLAW WELL SERVICE LLC
Address/Job Location:
 OUTLAW WELL SERVICE LLC
 1408 W 42ND STREET
 HAYS KANSAS 67601

Reference:
 DON 1

Description of Work:
 PLUG JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 606.13	Yes				
Common-Class A	183	\$ 2,519.59	Yes				
POZ Mix-Standard	122	\$ 708.32	Yes				
Bulk Truck Matl-Material Service Charge	316	\$ 262.09	Yes				
Pump Truck Mileage-Job to Nearest Camp	41	\$ 187.03	Yes				
Premium Gel (Bentonite)	11	\$ 148.53	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	41	\$ 119.02	Yes				
Flo Seal	70	\$ 116.12	Yes				
Dry Hole Plug	1	\$ 46.45	Yes				

Invoice Terms:
 Net 30

SubTotal: \$ 4,713.28
 Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (117.83)

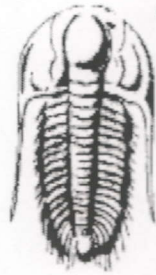
SubTotal for Taxable Items: \$ 4,595.45
 SubTotal for Non-Taxable Items: \$ -
 Total: \$ 4,595.45
 Tax: \$ 282.62
 6.15% Rooks County Sales Tax

Thank You For Your Business!

Amount Due: \$ 4,878.07
 Applied Payments:
 Balance Due: \$ 4,878.07

Past Due Invoices are subject to a service charge (annual rate of 24%)
 This does not include any applicable taxes unless it is listed.
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PD
 07/17/15



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Outlaw Well Service LLC**

1408 West 42ND
Hays KS 67601

ATTN: Preston Wolf

Don #1

20-8s-19w Rooks,KS

Start Date: 2015.07.12 @ 10:50:19

End Date: 2015.07.12 @ 17:20:43

Job Ticket #: 60592 DST #: 1

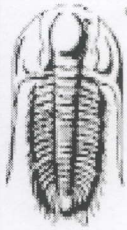
Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

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

Printed: 2015.07.14 @ 10:03:15

Outlaw Well Service LLC 20-8s-19w Rooks,KS Don #1 DST # 1 LKC C-D 2015.07.12



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Outlaw Well Service LLC

20-8s-19w Rooks, KS

1408 West 42ND
Hays KS 67601

Don #1

Job Ticket: 60592

DST#: 1

ATTN: Preston Wolf

Test Start: 2015.07.12 @ 10:50:19

GENERAL INFORMATION:

Formation: LKC C-D

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:42:29

Time Test Ended: 17:20:43

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 70

Interval: 3232.00 ft (KB) To 3278.00 ft (KB) (TVD)

Total Depth: 3278.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2014.00 ft (KB)

2006.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8018

Inside

Press@RunDepth: 353.51 psig @ 3242.00 ft (KB)

Start Date: 2015.07.12

End Date:

2015.07.12

Start Time: 10:50:19

End Time:

17:20:43

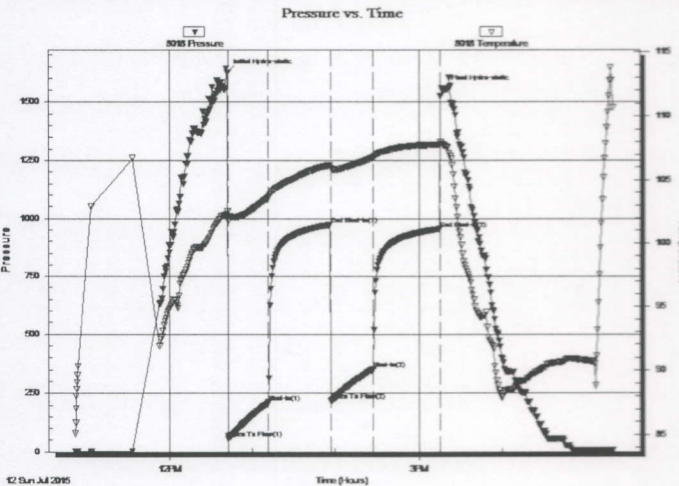
Capacity: 8000.00 psig

Last Calib.: 2015.07.12

Time On Btm: 2015.07.12 @ 12:41:59

Time Off Btm: 2015.07.12 @ 15:18:58

TEST COMMENT: 30-IFP-w k to strg in 5 min
45-ISIP-no bl bk
30-FFP-w k to strg in 9 min
45-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1624.74	102.47	Initial Hydro-static
1	55.47	101.73	Open To Flow (1)
30	212.09	103.59	Shut-In(1)
75	973.71	106.17	End Shut-In(1)
75	218.90	105.91	Open To Flow (2)
106	353.51	106.76	Shut-In(2)
154	955.86	107.80	End Shut-In(2)
157	1555.63	107.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	CO	0.01
315.00	SOCMW 1%O10%M89%W	4.42
310.00	Water	4.35

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Outlaw Well Service LLC

1408 West 42ND
Hays KS 67601

ATTN: Preston Wolf

20-8s-19w Rooks, KS

Don #1

Job Ticket: 60592

DST#: 1

Test Start: 2015.07.12 @ 10:50:19

GENERAL INFORMATION:

Formation: LKC C-D

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:42:29

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Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 70

Interval: 3232.00 ft (KB) To 3278.00 ft (KB) (TVD)

Total Depth: 3278.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2014.00 ft (KB)

2006.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8700

Outside

Press@RunDepth: psig @ 3242.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.07.12 End Date: 2015.07.12

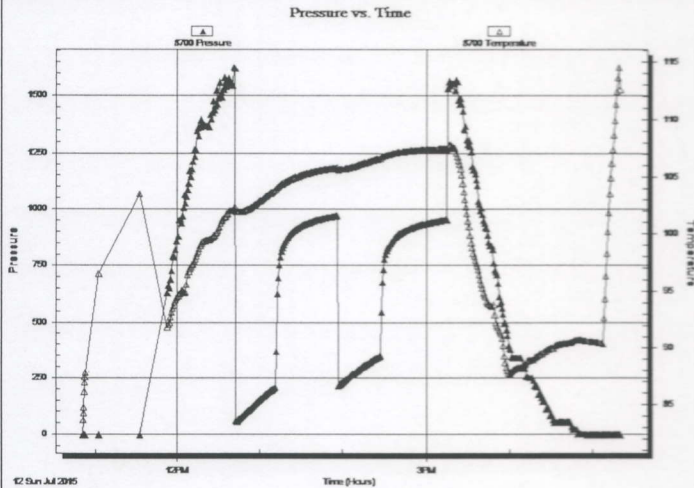
Last Calib.: 2015.07.12

Start Time: 10:50:26 End Time: 17:20:50

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP-w k to strg in 5 min
45-ISIP-no bl bk
30-FFP-w k to strg in 9 min
45-FSIP-no bl



PRESSURE SUMMARY

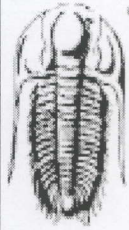
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
1.00	CO	0.01
315.00	SOCMW 1%O10%M89%W	4.42
310.00	Water	4.35

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Outlaw Well Service LLC

20-8s-19w Rooks, KS

1408 West 42ND
Hays KS 67601

Don #1

Job Ticket: 60592

DST#: 1

ATTN: Preston Wolf

Test Start: 2015.07.12 @ 10:50:19

Tool Information

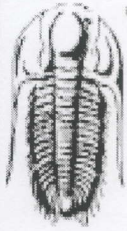
Drill Pipe:	Length: 3216.00 ft	Diameter: 3.80 inches	Volume: 45.11 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 45.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3232.00 ft			Final 39000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	67.00 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			3212.00	
Shut In Tool	5.00			3217.00	
Hydraulic tool	5.00			3222.00	
Packer	5.00			3227.00	21.00 Bottom Of Top Packer
Packer	5.00			3232.00	
Stubb	1.00			3233.00	
Perforations	9.00			3242.00	
Recorder	0.00	8018	Inside	3242.00	
Recorder	0.00	8700	Outside	3242.00	
Blank Spacing	33.00			3275.00	
Bullnose	3.00			3278.00	46.00 Bottom Packers & Anchor

Total Tool Length: 67.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Outlaw Well Service LLC

20-8s-19w Rooks,KS

1408 West 42ND
Hays KS 67601

Don #1

Job Ticket: 60592

DST#: 1

ATTN: Preston Wolf

Test Start: 2015.07.12 @ 10:50:19

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:

103000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.35 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	CO	0.014
315.00	SOCMW 1%O10%M89%W	4.419
310.00	Water	4.348

Total Length: 626.00 ft Total Volume: 8.781 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .05 @ 100F

Serial #: 8018

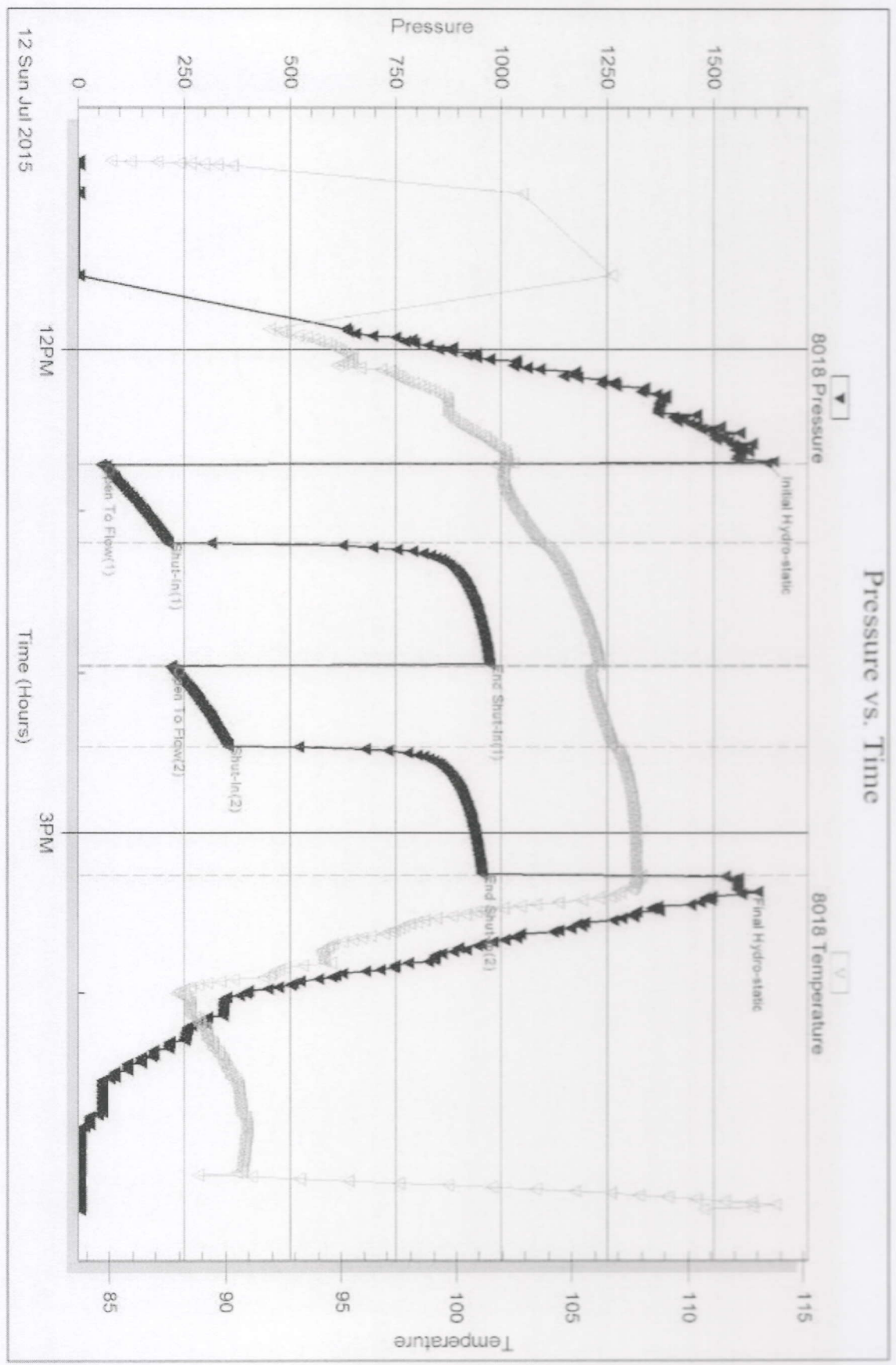
Inside

Outlaw Well Service LLC

Don #1

DST Test Number: 1

Pressure vs. Time



Tribble Testing, Inc

Ref. No: 60592

Printed: 2015.07.14 @ 10:03:17

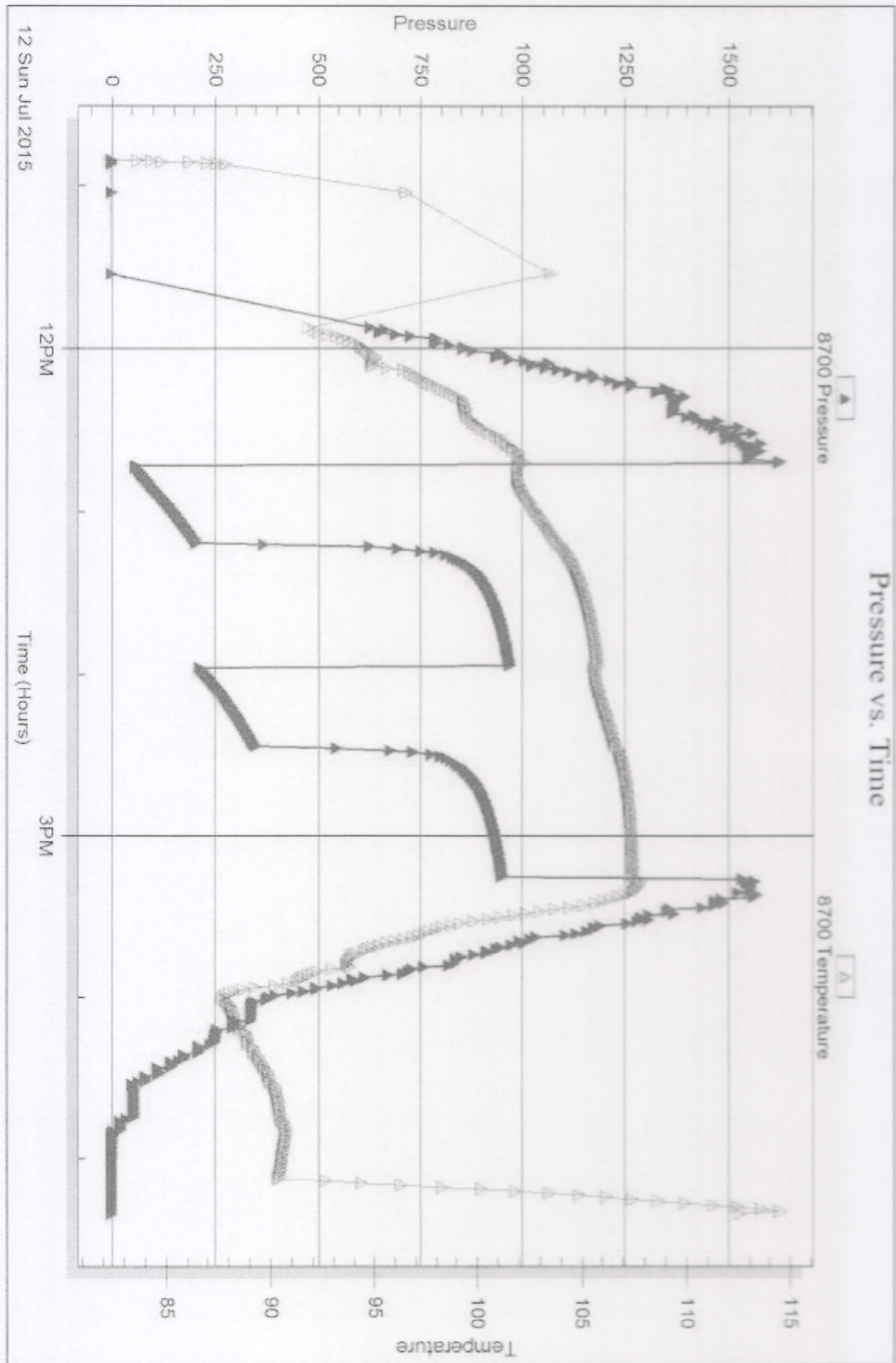
Serial #: 8700

Outside Outlaw Well Service LLC

Don #1

DST Test Number: 1

Pressure vs. Time



Tribble Testing, Inc

Ref. No: 60592

Printed: 2015.07.14 @ 10:03:17



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Outlaw Well Service LLC**

1408 West 42ND
Hays KS 67601

ATTN: Preston Wolf

Don #1

20-8s-19w Rooks,KS

Start Date: 2015.07.13 @ 10:30:26

End Date: 2015.07.13 @ 16:25:50

Job Ticket #: 60593 DST #: 2

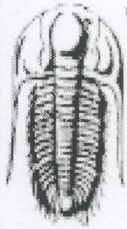
Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

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

Printed: 2015.07.14 @ 09:46:33

Outlaw Well Service LLC 20-8s-19w Rooks,KS Don #1 DST # 2 Arbuckle 2015.07.13



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Outlaw Well Service LLC

20-8s-19w Rooks, KS

1408 West 42ND
Hays KS 67601

Don #1

Job Ticket: 60593

DST#: 2

ATTN: Preston Wolf

Test Start: 2015.07.13 @ 10:30:26

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:52:06

Time Test Ended: 16:25:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 70

Interval: **3411.00 ft (KB) To 3471.00 ft (KB) (TVD)**

Total Depth: 3471.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2014.00 ft (KB)

2006.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8018

Inside

Press@RunDepth: 771.56 psig @ 3417.00 ft (KB)

Start Date: 2015.07.13

End Date: 2015.07.13

Capacity: 8000.00 psig

Last Calib.: 2015.07.13

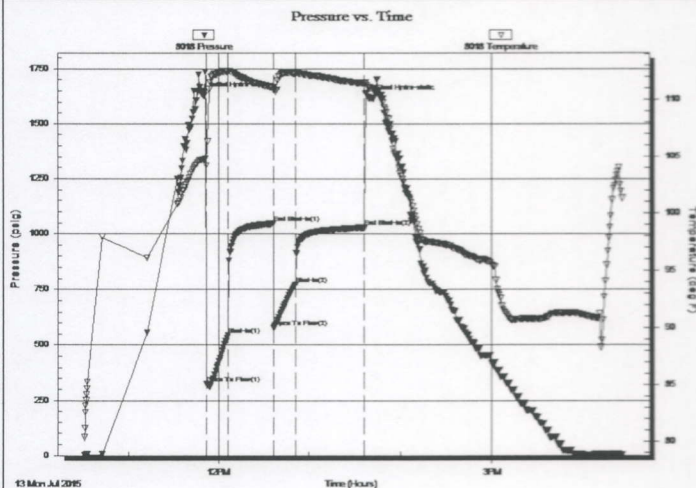
Start Time: 10:30:26

End Time: 16:25:50

Time On Btm: 2015.07.13 @ 11:50:36

Time Off Btm: 2015.07.13 @ 13:39:36

TEST COMMENT: 15-IFP-strg bl in 1 min
30-ISIP-surface to 1/8"bl bk
15-FFP-strg bl in 30 sec
45-FSIP-surface bl thru-out



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1627.67	104.73	Initial Hydro-static
2	324.66	104.16	Open To Flow (1)
16	545.17	112.43	Shut-In(1)
46	1046.78	111.07	End Shut-In(1)
46	578.94	110.86	Open To Flow (2)
61	771.56	112.29	Shut-In(2)
106	1028.61	111.38	End Shut-In(2)
109	1616.73	111.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
165.00	OCWM 5%O20%W75%M	2.31
186.00	OCMV 5%O20%M75%W	2.61
620.00	SOCW 2%O98%W	8.70
560.00	Water	7.86

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Outlaw Well Service LLC

20-8s-19w Rooks, KS

1408 West 42ND
Hays KS 67601

Don #1

Job Ticket: 60593

DST#: 2

ATTN: Preston Wolf

Test Start: 2015.07.13 @ 10:30:26

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:52:06

Time Test Ended: 16:25:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 70

Interval: 3411.00 ft (KB) To 3471.00 ft (KB) (TVD)

Total Depth: 3471.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2014.00 ft (KB)

2006.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8700

Outside

Press@RunDepth: psig @ 3417.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.07.13

End Date:

2015.07.13

Last Calib.:

2015.07.13

Start Time: 10:30:05

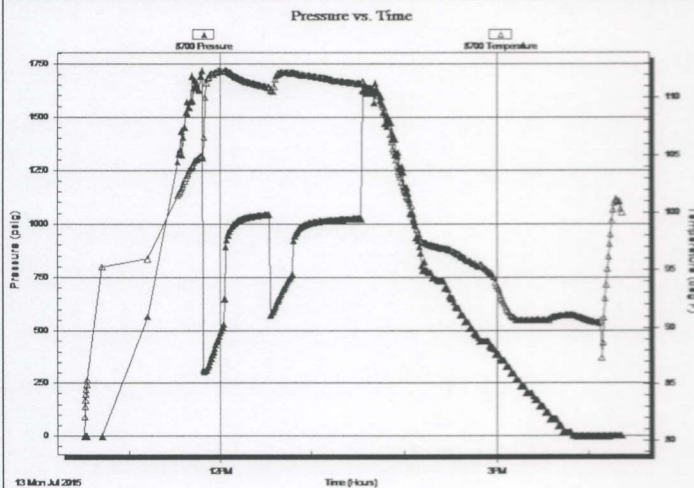
End Time:

16:22:14

Time On Btm:

Time Off Btm:

TEST COMMENT: 15-IFP-strg bl in 1 min
30-ISIP-surface to 1/8"bl bk
15-FFP-strg bl in 30 sec
45-FSIP-surface bl thru-out



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
165.00	OCWM 5%O20%W75%M	2.31
186.00	OCMW 5%O20%M75%W	2.61
620.00	SOCW 2%O98%W	8.70
560.00	Water	7.86

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Outlaw Well Service LLC

20-8s-19w Rooks, KS

1408 West 42ND
Hays KS 67601

Don #1

Job Ticket: 60593

DST#: 2

ATTN: Preston Wolf

Test Start: 2015.07.13 @ 10:30:26

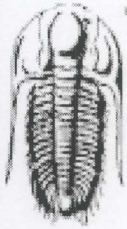
Tool Information

Drill Pipe:	Length: 3405.00 ft	Diameter: 3.80 inches	Volume: 47.76 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			Total Volume: 47.76 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3411.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	81.00 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			3391.00	
Shut In Tool	5.00			3396.00	
Hydraulic tool	5.00			3401.00	
Packer	5.00			3406.00	21.00 Bottom Of Top Packer
Packer	5.00			3411.00	
Stubb	1.00			3412.00	
Perforations	5.00			3417.00	
Recorder	0.00	8018	Inside	3417.00	
Recorder	0.00	8700	Outside	3417.00	
Blank Spacing	33.00			3450.00	
Perforations	18.00			3468.00	
Bullnose	3.00			3471.00	60.00 Bottom Packers & Anchor

Total Tool Length: 81.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Outlaw Well Service LLC

20-8s-19w Rooks,KS

1408 West 42ND
Hays KS 67601

Don #1

Job Ticket: 60593

DST#: 2

ATTN: Preston Wolf

Test Start: 2015.07.13 @ 10:30:26

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 11.16 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
165.00	OCWM 5%O20%W75%M	2.315
186.00	OCMW 5%O20%M75%W	2.609
620.00	SOCW 2%O98%W	8.697
560.00	Water	7.855

Total Length: 1531.00 ft

Total Volume: 21.476 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW.1@75F

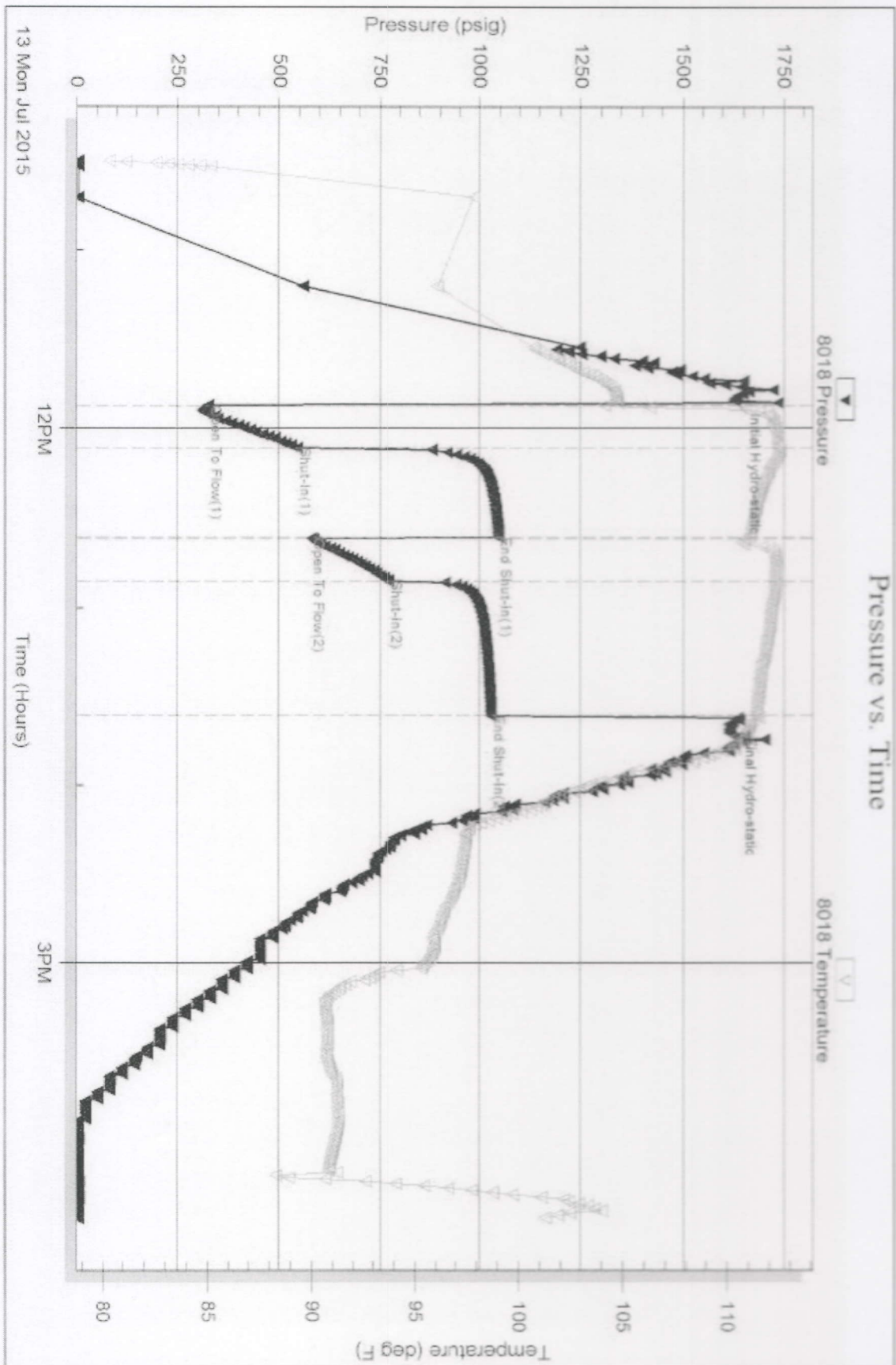
Serial #: 8018

Inside

Outlaw Well Service LLC

Don #1

DGT Test Number: 2



Tribble Testing, Inc

Ref. No: 60593

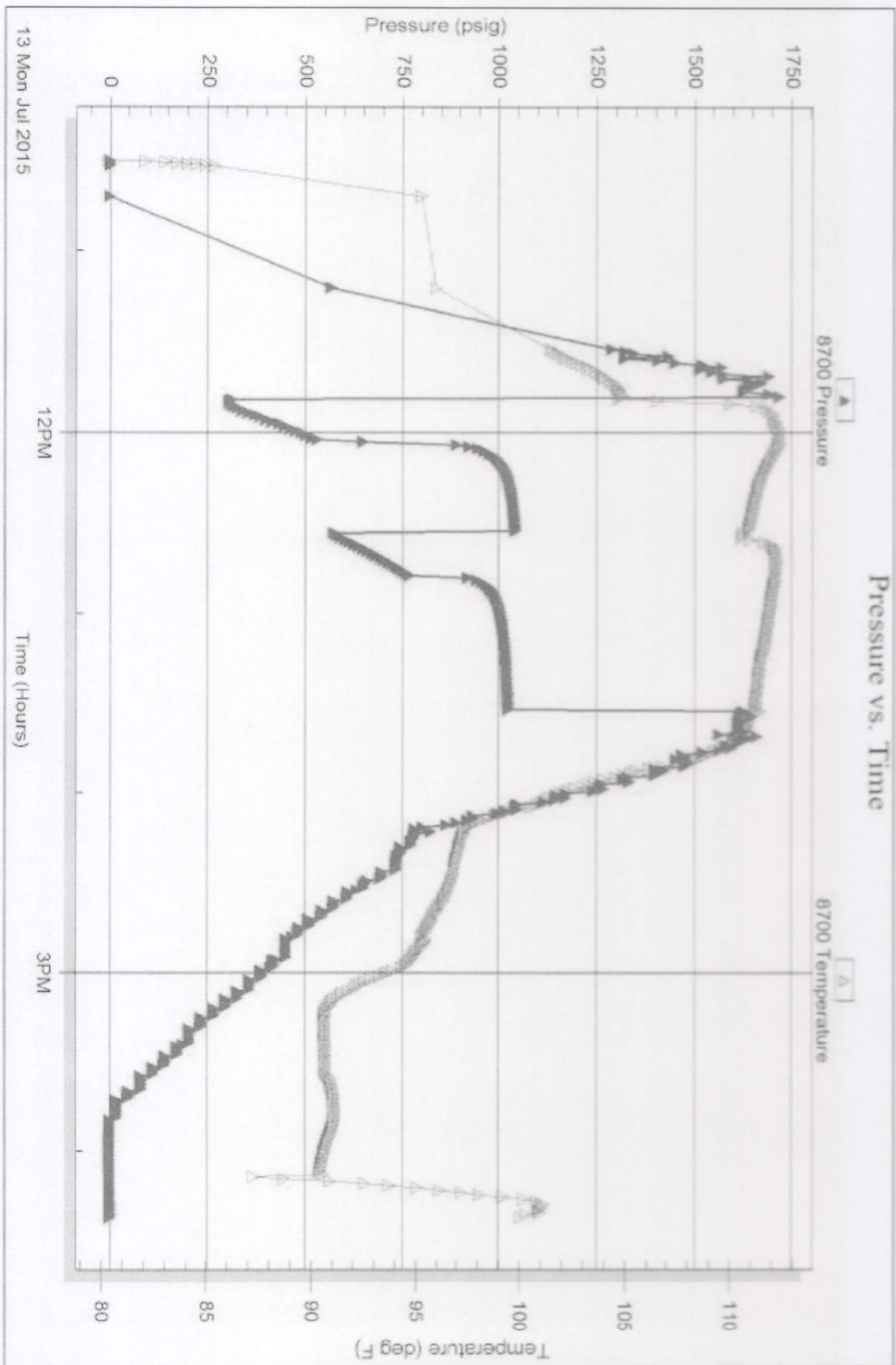
Printed: 2015.07.14 @ 09:46:35

Serial #: 8700

Outside Outlaw Well Service LLC

Don #1

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 60593

Printed: 2015.07.14 @ 09:46:35

Marc A. Downing Consulting Petroleum Geologist		Geologic Report Drilling Time and Sample Log	
Operator Outlaw Well Service LLC		Elevation KB 2013 DF 2011 GL 2005	
Lease Don		No. 1	
API # 15-163-24301-0000		Casing Record Surface 8 5/8" @ 220'	
Field Bray		Production None	
Location 330' FSL & 1060' FWL		Electrical Surveys CNDL, DII, MEL	
Sec. 20	Twp. 8S	Rge. 19W	
County Rooks		State Kansas	
Formation		Sample tops	
Top Anhydrite	1464	1460	+55
Base Anhydrite	1495	1492	+51
Topoka	2968	2963	-90
Heebner	3170	3167	-154
Toronto	3191	3187	-174
LKC	3208	3203	-190
BKC	3427	3424	-411
Arbuckle	3468	3463	-450
Total Depth	3553	3545	-1532

Drilling Contractor 7-9-15
 Samples Saved From 2950
 Drilling Time Kept From 2850
 Samples Examined From 2950
 Geological Supervision From 2950

Discovery Drilling, Rig #1 7-14-15
 Completed To RTD
 To RTD
 To RTD
 To RTD

Summary and Recommendations
 Due to structural position, DST recovery, and log evaluation, it was decided to plug and abandon the well.

Respectfully Submitted,
 Marc A. Downing

