

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	Shelby Resources LLC
Well Name	FROETSCHNER 1-12
Doc ID	1417140

All Electric Logs Run

Dual Induction
Compensated Neutron
Sonic
Micro



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shelby Resources, LLC
13949 W. Colfax Ave.
Bldg. 1 Ste. 120
Lakewood, CO 80401
ATTN: Jeremy Schwartz

12-22S-17W Pawnee, KS

Froetschner #1-12

Job Ticket: 63127

DST#: 1

Test Start: 2018.07.03 @ 02:18:20

GENERAL INFORMATION:

Formation: **Lansing "A&B"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:40:11

Time Test Ended: 08:20:41

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 73

Interval: **3557.00 ft (KB) To 3604.00 ft (KB) (TVD)**

Reference Elevations: 2031.00 ft (KB)

Total Depth: 3604.00 ft (KB) (TVD)

2020.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 11.00 ft

Serial #: 6771

Inside

Press@RunDepth: 80.76 psig @ 3563.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.07.03

End Date:

2018.07.03

Last Calib.:

2018.07.03

Start Time: 02:18:21

End Time:

08:20:41

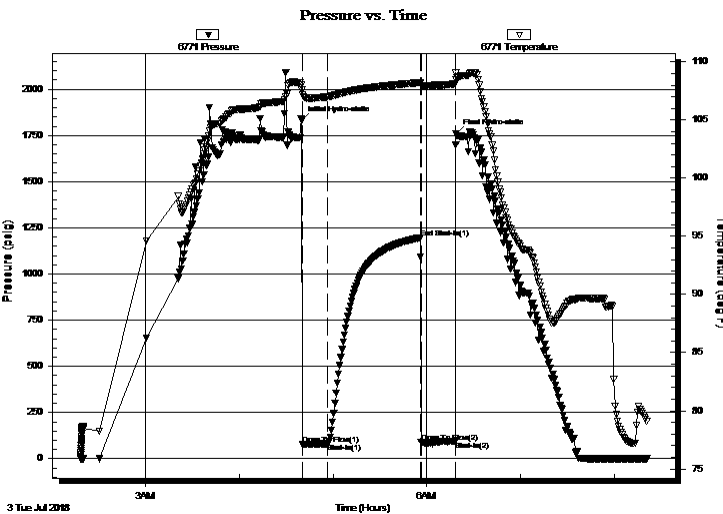
Time On Btm:

2018.07.03 @ 04:39:56

Time Off Btm:

2018.07.03 @ 06:18:41

TEST COMMENT: 15- IF- .25" blow
60- IS- No blow
20- FF- No blow Flushed tool No blow Pulled tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1831.66	107.57	Initial Hydro-static
1	75.93	107.14	Open To Flow (1)
17	80.76	106.99	Shut-In(1)
76	1196.07	108.21	End Shut-In(1)
77	87.74	107.98	Open To Flow (2)
99	93.81	108.11	Shut-In(2)
99	1759.54	108.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	M	0.59

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shelby Resources, LLC

12-22S-17W Pawnee, KS

13949 W. Colfax Ave.
Bldg. 1 Ste. 120
Lakewood, CO 80401
ATTN: Jeremy Schwartz

Froetschner #1-12

Job Ticket: 63127

DST#: 1

Test Start: 2018.07.03 @ 02:18:20

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 57.00 sec/qt

Water Loss: 9.19 in³

Resistivity: ohm.m

Salinity: 4700.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	M	0.590

Total Length: 120.00 ft Total Volume: 0.590 bbl

Num Fluid Samples: 0

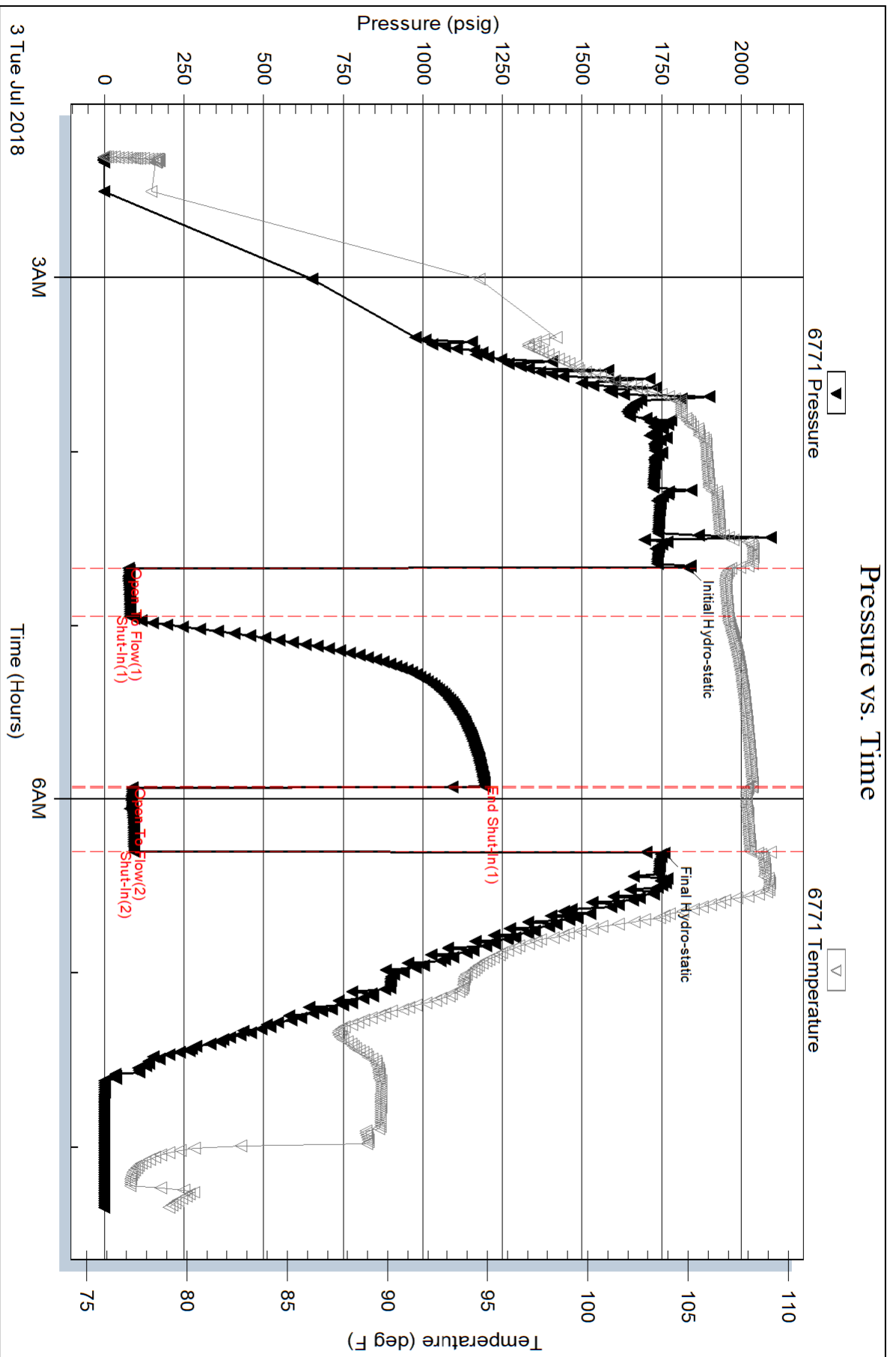
Num Gas Bombs: 0

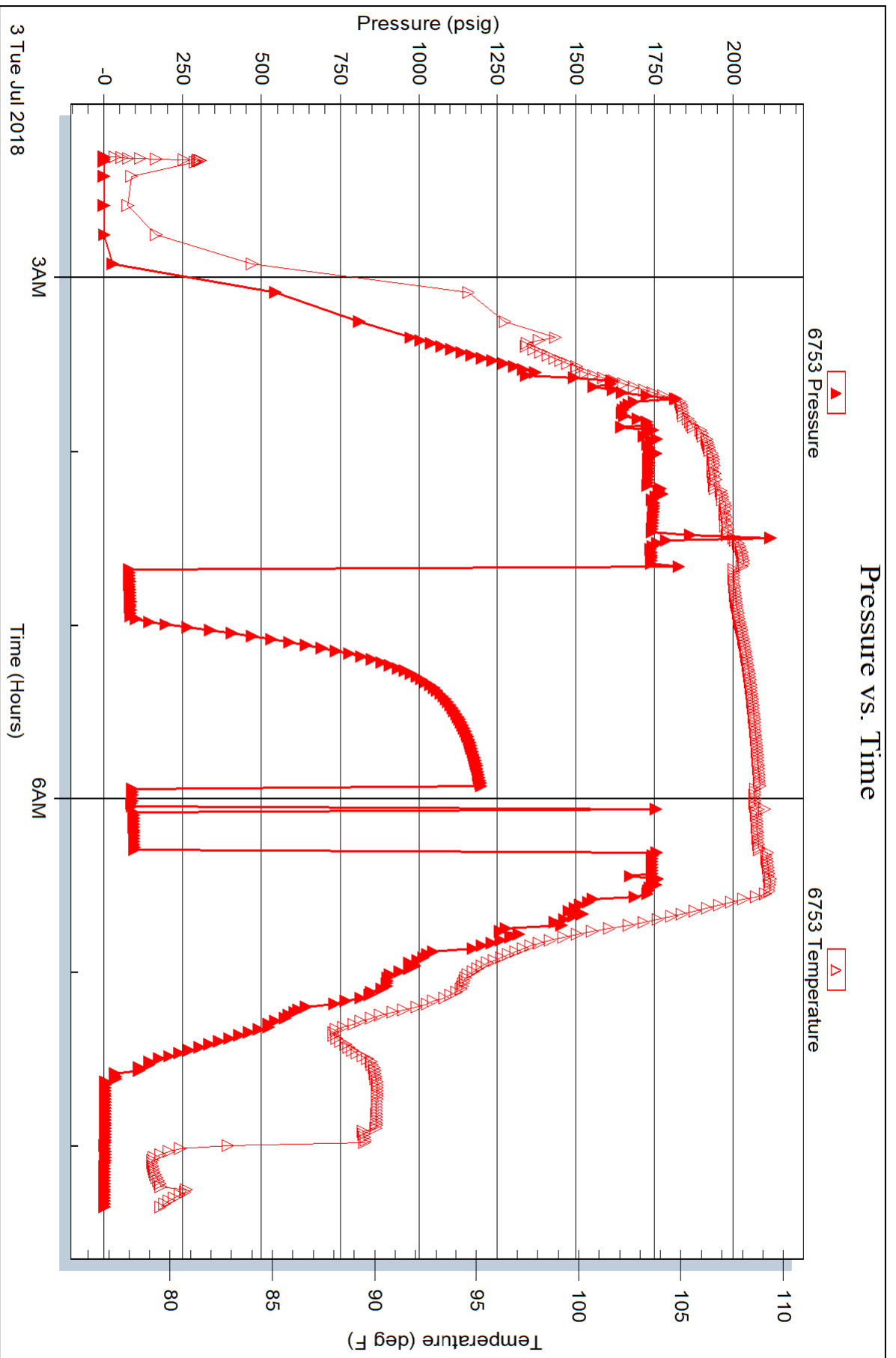
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shelby Resources, LLC
 13949 W. Colfax Ave.
 Bldg. 1 Ste. 120
 Lakewood, CO 80401
 ATTN: Jeremy Schwartz

12-22S-17W Pawnee, KS
Froetschner #1-12
 Job Ticket: 63128 **DST#: 2**
 Test Start: 2018.07.04 @ 14:12:06

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 16:11:12
 Tester: Brannan Lonsdale
 Time Test Ended: 21:42:27
 Unit No: 73
 Interval: **3841.00 ft (KB) To 3951.00 ft (KB) (TVD)**
 Reference Elevations: 2031.00 ft (KB)
 Total Depth: 3951.00 ft (KB) (TVD)
 2020.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: KB to GR/CF: 11.00 ft

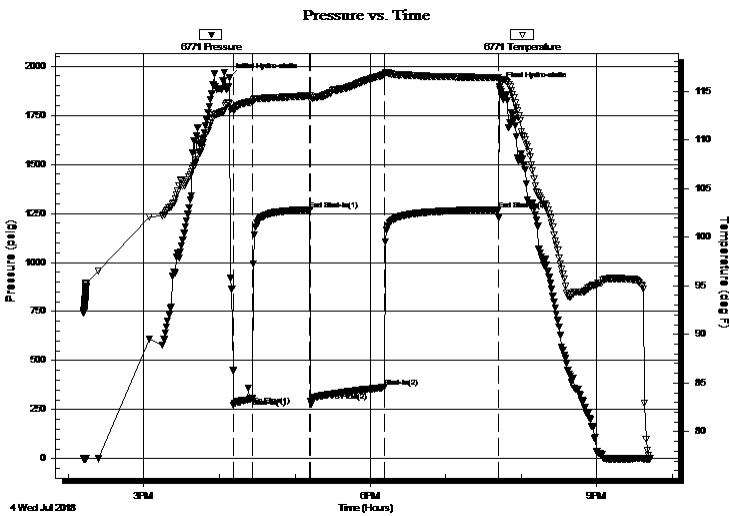
Serial #: 6771

Inside

Press@RunDepth: 363.11 psig @ 3847.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.07.04 End Date: 2018.07.04 Last Calib.: 1899.12.30
 Start Time: 14:12:07 End Time: 21:42:27 Time On Btm: 2018.07.04 @ 16:07:57
 Time Off Btm: 2018.07.04 @ 19:42:42

TEST COMMENT: 15- IF- Slowly built to 5"
 45- IS- No blow
 60- FF- BOB 42mins. Built to 13"
 90- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1939.37	113.70	Initial Hydro-static
4	272.53	113.06	Open To Flow (1)
19	305.73	113.92	Shut-In(1)
64	1269.62	114.54	End Shut-In(1)
65	293.68	114.14	Open To Flow (2)
123	363.11	116.69	Shut-In(2)
214	1269.85	116.38	End Shut-In(2)
215	1893.70	116.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
480.00	mud	4.81
200.00	muddy water 70% water 30% mud	2.84

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Shelby Resources, LLC

12-22S-17W Pawnee, KS

13949 W. Colfax Ave.
Bldg. 1 Ste. 120
Lakewood, CO 80401
ATTN: Jeremy Schwartz

Froetschner #1-12

Job Ticket: 63128

DST#: 2

Test Start: 2018.07.04 @ 14:12:06

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:

37000 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
480.00	mud	4.814
200.00	muddy water 70% water 30% mud	2.835

Total Length: 680.00 ft Total Volume: 7.649 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

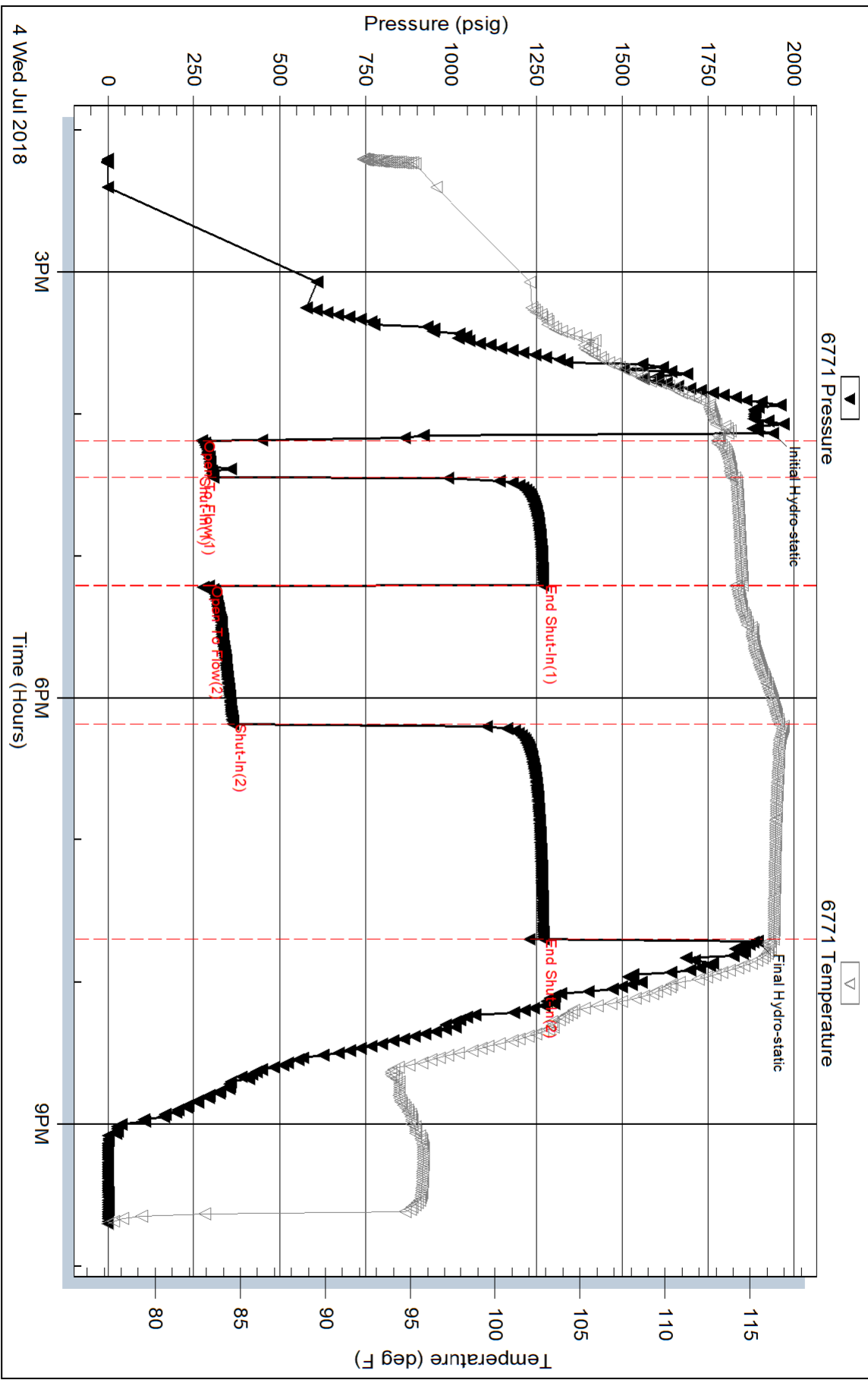
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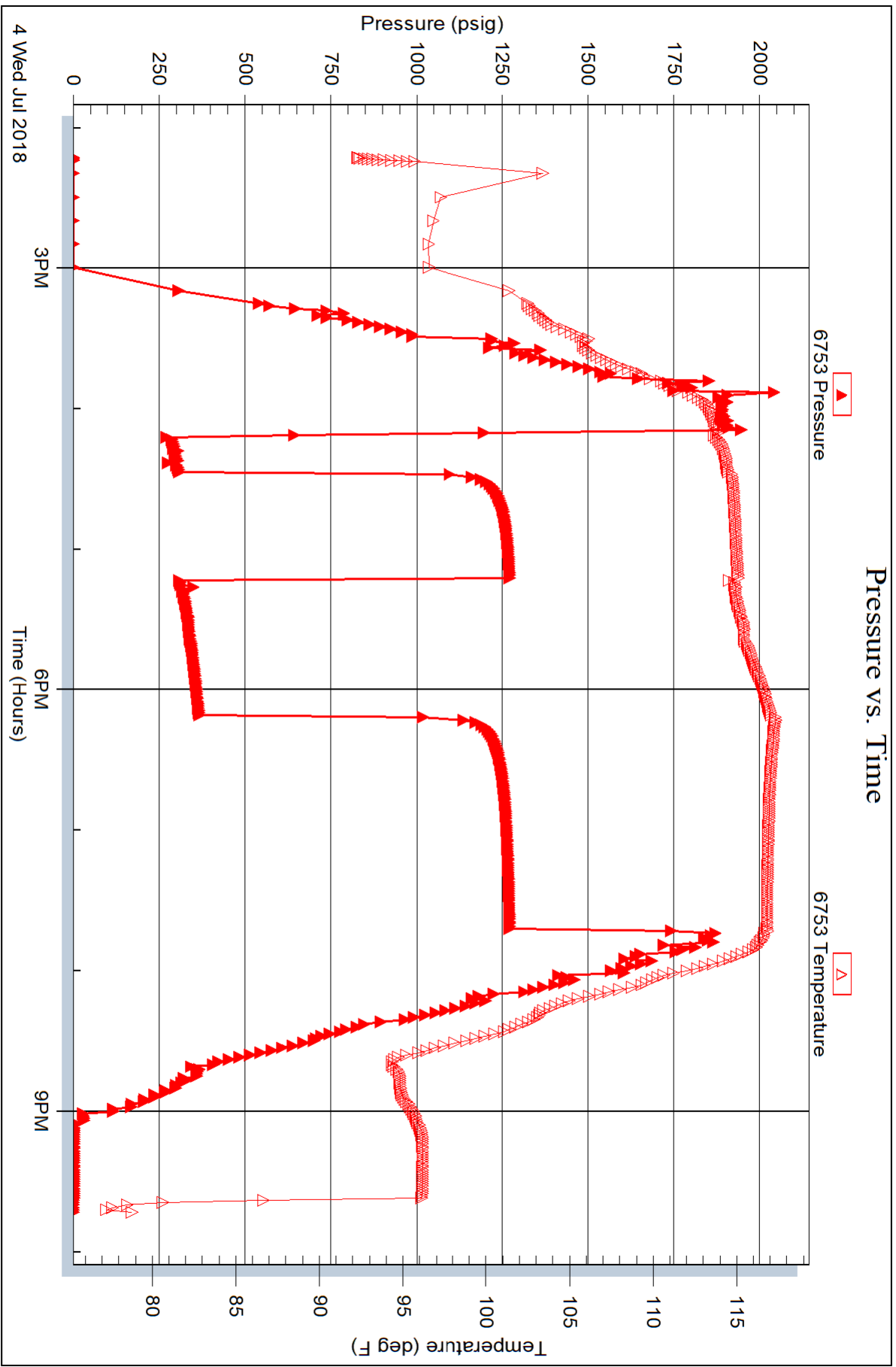
Laboratory Name:

Laboratory Location:

Recovery Comments: Rw .15@82

Pressure vs. Time





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. 850

Date	6-30-18	Sec.	12	Twp.	22	Range	17	County	Pawnee	State	KS	On Location		Finish	5:30pm
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Lease Froetschmer Well No. 1-12 Location Pawnee Rock #56 Hwy 25 Winto

Contractor	<u>Stefing</u>	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.
Type Job	<u>Surface</u>	Charge To	<u>Shelby Reservoir</u>

Hole Size	<u>12 1/4</u>	T.D.	<u>1060'</u>	Street	
Csg.	<u>8 5/8</u>	Depth	<u>1057</u>	City	
Tbg. Size		Depth		State	
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	

Cement Left in Csg.	<u>29.03</u>	Shoe Joint	<u>29.03</u>	Cement Amount Ordered	<u>450</u> ^{Coil} / <u>40</u> <u>4/02</u> <u>2/02</u>
Meas Line		Displace	<u>65 BC</u>		<u>1/2# F10</u>

EQUIPMENT				Common	<u>190</u>
Pumptrk	<u>17</u>	No.	Cement Helper	Poz. Mix	<u>180</u>
Bulktrk		No.	Driver	Gel.	<u>9</u>
Bulktrk	<u>13</u>	No.	Driver	Calcium	<u>20</u>
			Driver		

JOB SERVICES & REMARKS				Hulls	
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Remarks:		Salt	
Rat Hole		Flowseal	<u>225#</u>
Mouse Hole		Kol-Seal	
Centralizers		Mud CLR 48	
Baskets		CFL-117 or CD110 CAF 38	
D/V or Port Collar		Sand	

8 5/8 on bottom. Best Circulation.
Mix 450 SIC & Displace.
Bottom 1028

Cement Circulated
Shot in 200#

FLOAT EQUIPMENT			
Guide Shoe	<u>Slip on</u>		
Centralizer	<u>Rubber Plug</u>		
Baskets	<u>Ball Plate</u>		
AFU Inserts			
Float Shoe			
Latch Down			

Pumptrk Charge	<u>Long Surface</u>
Mileage	<u>27</u>

Signature	<u>[Signature]</u>	Tax	
		Discount	
		Total Charge	

Customer <i>Shelby Resources</i>	Lease No.	Date <i>7/5/2018</i>	
Lease <i>Froetschner</i>	Well # <i>1-12</i>		
Field Order # <i>16598</i>	Station <i>Pratt, KS</i>	Casing	Depth
Type Job	Formation	County <i>Powder</i>	State <i>KS</i>
		Legal Description <i>12-225-170</i>	

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
<i>4 1/2" DF</i>							
Depth <i>3941</i>	Depth	From	To	Pre Pad	Max		5 Min.
Volume <i>56</i>	Volume	From	To	Pad	Min		10 Min.
Max Press	Max Press	From	To	Frac	Avg		15 Min.
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth	Packer Depth	From	To	Flush <i>water/mud</i>	Gas Volume		Total Load

Customer Representative <i>Dan Loftis</i>	Station Manager <i>Justin Westerman</i>	Treater <i>Darin Franklin</i>
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Service Units	<i>92911</i>	<i>84991</i>	<i>19843</i>	<i>19889</i>	<i>21010</i>				
Driver Names	<i>Darin</i>	<i>Josh</i>	<i>Josh</i>	<i>D. G.</i>	<i>D. G.</i>				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>4:15pm</i>					ON LOCATION ON LOCATION / SPT, meetings 210SK 60/40 P02, 40% G01 13.78 PPS, 1.43 VEB, 6.92 W910
					3941 - 50SK
<i>6:10pm</i>	<i>300</i>		<i>8</i>	<i>4</i>	Pump 8 water
	<i>300</i>		<i>13</i>	<i>4</i>	mix 50SK cement
	<i>300</i>		<i>3</i>	<i>4</i>	Displace 3 bbls water
	<i>300</i>		<i>46</i>	<i>4</i>	46 bbls mud
					1090' - 50SK
	<i>200</i>		<i>8</i>	<i>4</i>	Pump 8 water
	<i>200</i>		<i>13</i>	<i>4</i>	mix 50SK cement
	<i>200</i>		<i>3</i>	<i>4</i>	Displace 3 water
	<i>200</i>		<i>9</i>	<i>4</i>	9 mud
					250'
	<i>100</i>		<i>3</i>		3 water Adhes
	<i>100</i>		<i>11</i>		mix 40SK cement
	<i>100</i>		<i>1</i>		Displace 1 bbl water
	<i>50</i>		<i>17</i>	<i>3</i>	60' - 20SK, PH-30SK, MH-20SK



Scale 1:240 Imperial

Well Name: Froetschner 1-12
 Surface Location: 1860' FNL, 526' FEL, Sec. 12-T22s-R17w
 Bottom Location:
 API: 15-145-21833-00-00
 License Number:
 Spud Date: 6/29/2018 Time: 7:15 PM
 Region: Pawnee County
 Drilling Completed: 7/5/2018 Time: 4:45 AM
 Surface Coordinates:
 Bottom Hole Coordinates:
 Ground Elevation: 2020.00ft
 K.B. Elevation: 2031.00ft
 Logged Interval: 3100.00ft To: 4020.00ft
 Total Depth: 4020.00ft
 Formation: Arbuckle
 Drilling Fluid Type: Chemical/Fresh Water Gel

OPERATOR

Company: Shelby Resources, LLC
 Address: 13949 W Colfax Ave., Bldg 1, Ste 120
 Lakewood, CO 80401
 Contact Geologist: Janine Sturdavant
 Contact Phone Nbr: 303-907-2209 / 720-274-4682
 Well Name: Froetschner 1-12
 Location: 1860' FNL, 526' FEL, Sec. 12-T22s-R17w
 API: 15-145-21833-00-00
 Pool: Field: Wildcat
 State: Kansas Country: USA

LOGGED BY



Company: Shelby Resources, LLC
 Address: 13949 W Colfax Ave., Bldg 1, Ste 120
 Lakewood, CO 80401
 Phone Nbr: 203-671-6034
 Logged By: Geologist Name: Jeremy Schwartz

NOTES

The Shelby Resources, LLC Froetschner #1-12 was drilled to a total depth of 4020', bottoming in the Arbuckle. A TookeDaq gas detector was employed in the drilling of said well.

2 DST's were conducted throughout the Lansing and Arbuckle zones during the drilling of this well. The DST reports can be found at the bottom of this log.

Due to negative DST results, lack of sample shows, gas kicks, and log analysis it was determined by all parties involved to further test the well through production casing. The dry samples were saved and will be available for further review at the Kansas Geological Society Well Sample Library, located in Wichita, KS.

Respectfully Submitted,
Jeremy Schwartz
Geologist

CONTRACTOR

Contractor: Sterling Drilling Co

Rig #: 4
 Rig Type: mud rotary
 Spud Date: 6/29/2018
 TD Date: 7/5/2018
 Rig Release:

Time: 7:15 PM
 Time: 4:45 AM
 Time:








ELEVATIONS

K.B. Elevation: 2031.00ft Ground Elevation: 2020.00ft
 K.B. to Ground: 11.00ft

DATE	DEPTH	ACTIVITY
Monday, July 02, 2018	2200'	Geologist Jeremy Schwartz on location @ 1115hrs, ~2200', Drlg ahead through Topeka,
	3604'	Heebner, Toronto, Douglas, Brown Lime, LKC, CFS @ 3586', resume Drlg, CFS @ 3604'
		Conduct short trip, CTCH 1.5hrs,
Tuesday, July 03, 2018	3604'	Drop survey, strap out for DST #1 in the Lansing A-B, successful test, resume drlg
Wednesday, July 04, 2018	3927'	Drlg ahead through BKC, Marmaton, CFS @ 3914', resume drlg, CFS @ 3927',
	3951'	CFS @ 3943', resume drlg, CFS @ 3951', TOOH for DST #2 in the Arbuckle,
		Successful test, TIH, CTCH 1hr
Thursday, July 05, 2018	4020'	Resume drlg ahead to TD, TD of 4020' reached @ 0445hrs, CTCH 1hr, TOOH for logs,
		Conduct logging operations, logging operations complete @ 1120hrs
		Geologist Jeremy Schwartz off location @ 1300hrs

FORMATION	Captiva II, LLC												D&A										
	F-F Unit #1-7						Eakin Unit #1-7						Chief Drlg Co.										
	NE-NW-NW Sec. 7-T225-R16W						W2-E2-E2 Sec. 7-T225-R16W						Haage #1										
	Froetschner #1-12		2031		2021		2018		2022		NE-NE-NE Sec. 13-T225-R17W												
	KB	2031	KB	2021	KB	2018	KB	2022															
	LOG TOPS		SAMPLE TOPS		COMP. CARD		LOG		SMPL.		COMP. CARD		LOG		SMPL.								
	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM							
ANHYDRITE TOP	1039	992	1040	991	1018	1003	-	11	-	12	1015	1003	-	11	-	12	1060	962	+	30	+	29	
BASE	1052	979	1055	976	1042	979	+	0	-	3	1032	986	-	7	-	10	1084	938	+	41	+	38	
TOPEKA	3188	-1157	3188	-1157	3156	-1135	-	22	-	22	3156	-1138	-	19	-	19							
HEEBNER SHALE	3454	-1423	3454	-1423	3419	-1398	-	25	-	25	3424	-1406	-	17	-	17	3489	-1467	+	44	+	44	
TORONTO	3473	-1442	3473	-1442	3437	-1416	-	26	-	26	3443	-1425	-	17	-	17	3507	-1485	+	43	+	43	
DOUGLAS SHALE	3487	-1456	3487	-1456	3451	-1430	-	26	-	26	3460	-1442	-	14	-	14	3522	-1500	+	44	+	44	
BROWN LIME	3555	-1524	3556	-1525	3518	-1497	-	27	-	28	3525	-1507	-	17	-	18	3590	-1568	+	44	+	43	
LKC	3564	-1533	3565	-1534	3527	-1506	-	27	-	28	3534	-1516	-	17	-	18	3598	-1576	+	43	+	42	
LKC G POROSITY	3650	-1619	3650	-1619	3618	-1597	-	22	-	22	3618	-1600	-	19	-	19							
MUNCIE CREEK	3689	-1658	3690	-1659	3652	-1631	-	27	-	28	3661	-1643	-	15	-	16	3724	-1702	+	44	+	43	
STARK SHALE	3763	-1732	3764	-1733	3724	-1703	-	29	-	30	3729	-1711	-	21	-	22	3799	-1777	+	45	+	44	
BKC	3824	-1793	3824	-1793	3781	-1760	-	33	-	33	3786	-1768	-	25	-	25	3855	-1833	+	40	+	40	
MARMATON	3833	-1802	3833	-1802	3796	-1775	-	27	-	27	3801	-1783	-	19	-	19	3868	-1846	+	44	+	44	
ARBUCKLE	3941	-1910	3940	-1909	3876	-1855	-	55	-	54	3884	-1866	-	44	-	43	4101	-2079	+	169	+	170	
RTD			4020	-1989	3985	-1964	-		-	25	4000	-1982	-		-	7	4155	-2133				+	144
LTD	4020	-1989			3983	-1962	-	27	-		3988	-1970	-	19	-								

ROCK TYPES

 Dolprim	 shale, grn	 Carbon Sh	 Shcol
 Lmst fw<7	 shale, gry	 shale, red	

ACCESSORIES

MINERAL

- △ Chert White
- ∴ Varicolored chert

FOSSIL

- Bioclastic or Fragmental
- ⊕ Oomoldic

STRINGER









-  Limestone
-  Sandstone
-  Siltstone

TEXTURE

- C Chalky

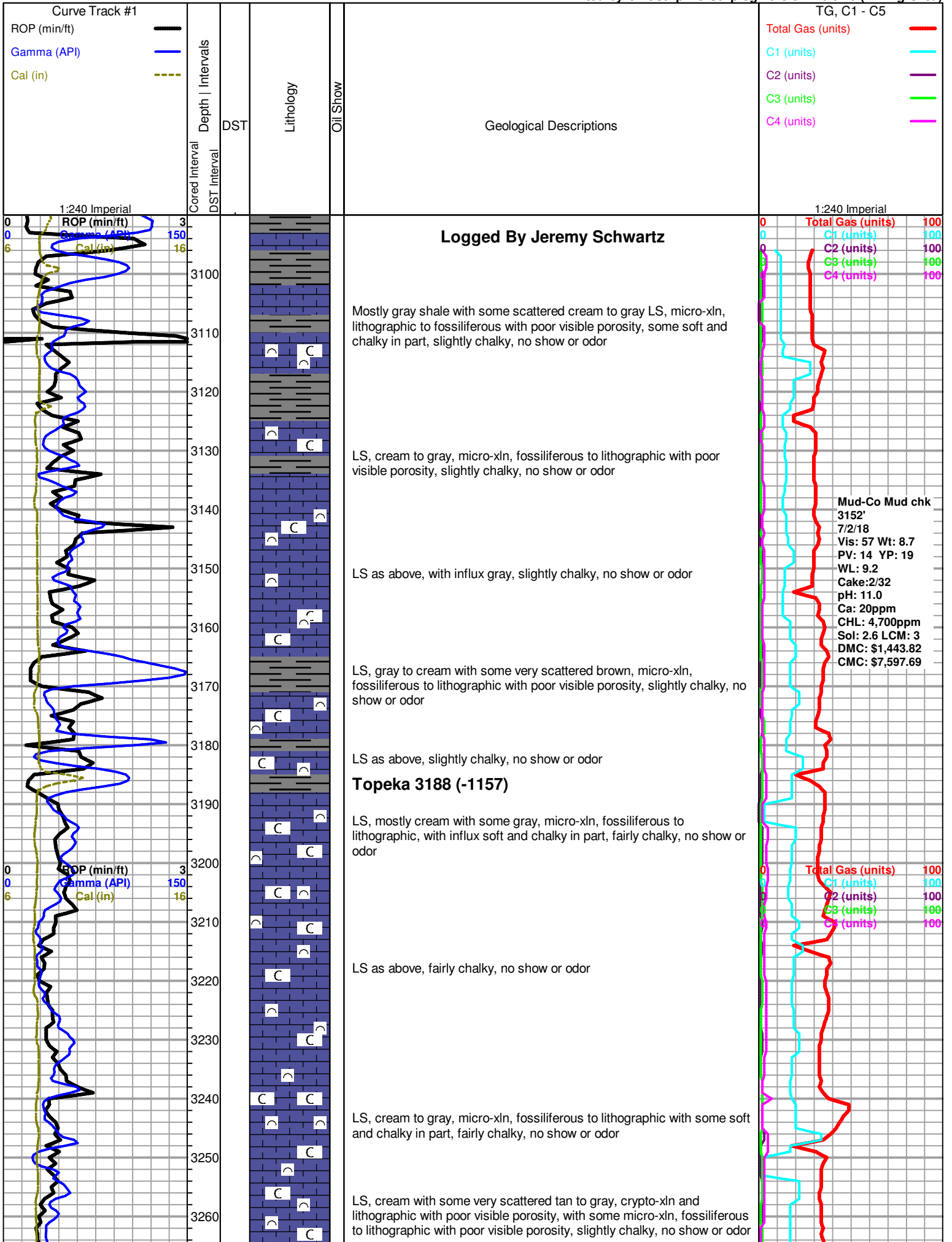
OTHER SYMBOLS

MISC

-  Daily Report
-  Digital Photo
-  Document
-  Folder
-  Link
-  Vertical Log File
-  Horizontal Log File
-  Core Log File

DST

-  DST Int
-  DST alt



Logged By Jeremy Schwartz

Mostly gray shale with some scattered cream to gray LS, micro-xln, lithographic to fossiliferous with poor visible porosity, some soft and chalky in part, slightly chalky, no show or odor

LS, cream to gray, micro-xln, fossiliferous to lithographic with poor visible porosity, slightly chalky, no show or odor

LS as above, with influx gray, slightly chalky, no show or odor

LS, gray to cream with some very scattered brown, micro-xln, fossiliferous to lithographic with poor visible porosity, slightly chalky, no show or odor

LS as above, slightly chalky, no show or odor

Topeka 3188 (-1157)

LS, mostly cream with some gray, micro-xln, fossiliferous to lithographic, with influx soft and chalky in part, fairly chalky, no show or odor

LS as above, fairly chalky, no show or odor

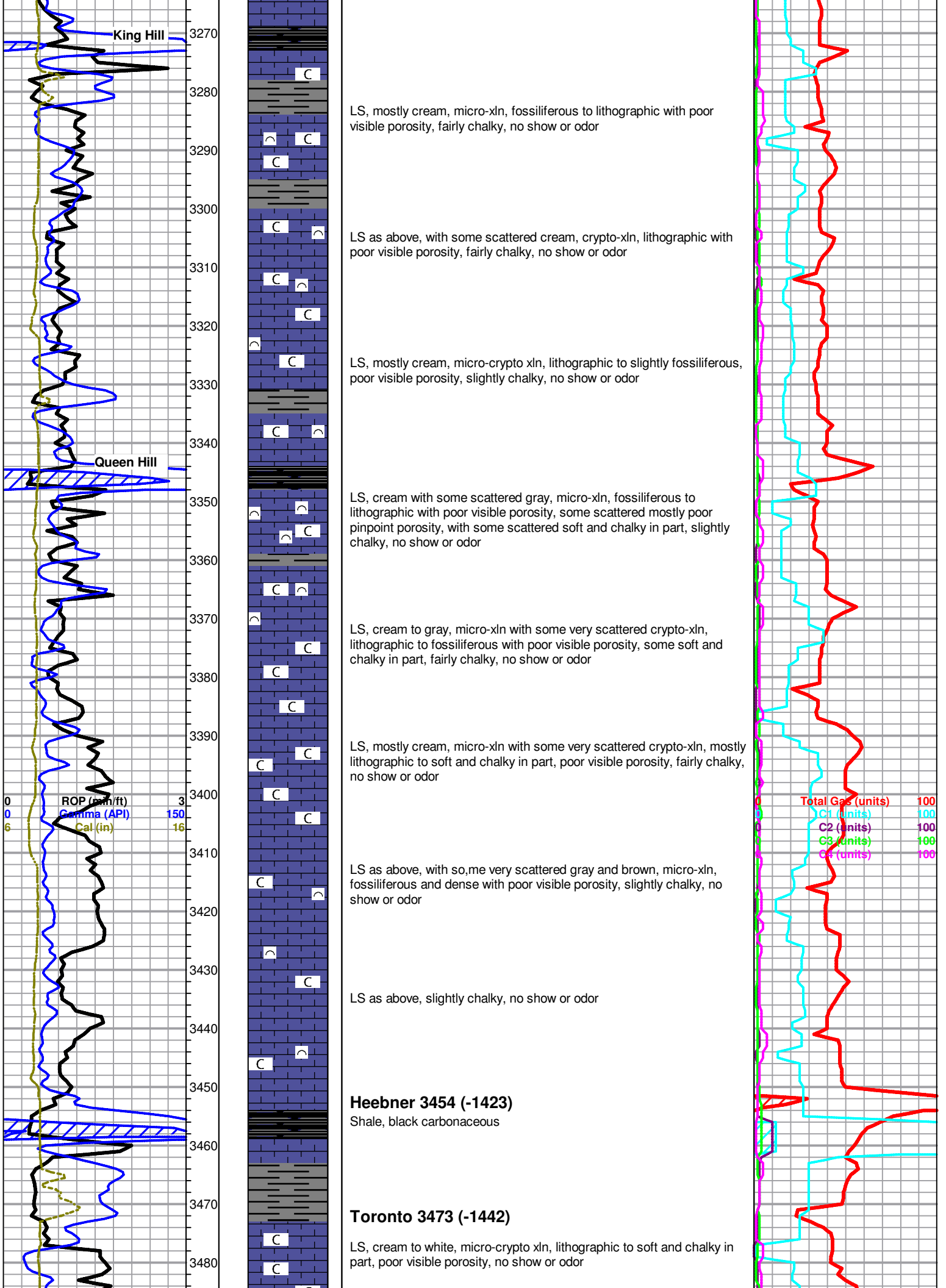
LS, cream to gray, micro-xln, fossiliferous to lithographic with some soft and chalky in part, fairly chalky, no show or odor

LS, cream with some very scattered tan to gray, crypto-xln and lithographic with poor visible porosity, with some micro-xln, fossiliferous to lithographic with poor visible porosity, slightly chalky, no show or odor

Mud-Co Mud chk
3152'
7/2/18
Vis: 57 Wt: 8.7
PV: 14 YP: 19
WL: 9.2
Cake: 2/32
pH: 11.0
Ca: 20ppm
CHL: 4,700ppm
Sol: 2.6 LCM: 3
DMC: \$1,443.82
CMC: \$7,597.69

1:240 Imperial

0 Total Gas (units) 100
0 C1 (units) 100
0 C2 (units) 100
0 C3 (units) 100
0 C4 (units) 100



LS, mostly cream, micro-xln, fossiliferous to lithographic with poor visible porosity, fairly chalky, no show or odor

LS as above, with some scattered cream, crypto-xln, lithographic with poor visible porosity, fairly chalky, no show or odor

LS, mostly cream, micro-crypto xln, lithographic to slightly fossiliferous, poor visible porosity, slightly chalky, no show or odor

LS, cream with some scattered gray, micro-xln, fossiliferous to lithographic with poor visible porosity, some scattered mostly poor pinpoint porosity, with some scattered soft and chalky in part, slightly chalky, no show or odor

LS, cream to gray, micro-xln with some very scattered crypto-xln, lithographic to fossiliferous with poor visible porosity, some soft and chalky in part, fairly chalky, no show or odor

LS, mostly cream, micro-xln with some very scattered crypto-xln, mostly lithographic to soft and chalky in part, poor visible porosity, fairly chalky, no show or odor

LS as above, with some very scattered gray and brown, micro-xln, fossiliferous and dense with poor visible porosity, slightly chalky, no show or odor

LS as above, slightly chalky, no show or odor

Heebner 3454 (-1423)
 Shale, black carbonaceous

Toronto 3473 (-1442)
 LS, cream to white, micro-crypto xln, lithographic to soft and chalky in part, poor visible porosity, no show or odor

Douglas Shale 3487 (-1456)

Shale, gray and red, mostly soft and waxy, some silty/sandy

Shale as above

As above

Brown Lime 3556 (-1525)

LS, brown with some gray, micro-xln, fossiliferous and dense with no visible porosity, no show or odor

Lansing 3565 (-1534)

 Shelby Froetschner 1-12 dst 1.jpg

3586' 20" LS, cream, crypto-micro-xln, mostly lithographic to slightly fossiliferous, with poor visible porosity, some soft and chalky in part, few very small chips cream, with scattered fair to good visible pinpoint to vuggy porosity, appear mostly barren, with few very scattered free oil droplets in porosity, when left under lamp scattered light golden brown stain increases, good streaming cut with bright white fluor., NSFO in tray, fair fleeting odor in wet cup

3586' 40 & 60" LS as above, with influx gray, micro-xln, fossiliferous to lithographic with poor visible porosity, no show, fluor., or odor

3604' 30" LS, cream to gray, micro-xln, mostly lithographic and barren with poor visible porosity, with some scattered chips cream, with scattered mostly poor pinpoint porosity and scattered stain around areas of porosity, some fairly gassy with free oil droplets very slowly bleeding to surface, upon break S-FSFO (light brown to opaque droplets) and some show fair visible inter-xln porosity with very scattered stain/free oil, slow cut with milky white fluor., poor odor

3604' 60" As above, poor fleeting odor

LS, cream to gray, micro-xln, lithographic to fossiliferous with poor visible porosity, no show or odor

LS, mostly cream with some scattered gray and brown, micro-xln, lithographic to fossiliferous with poor visible porosity, no show or odor

LS as above, no show or odor

LS, mostly cream to white, crypto-micro xln, mostly lithographic with some very scattered fossiliferous, poor visible porosity, some scattered soft and chalky in part, no show or odor

LS, cream, micro-crypto xln, most lithographic and soft and chalky, no show or odor

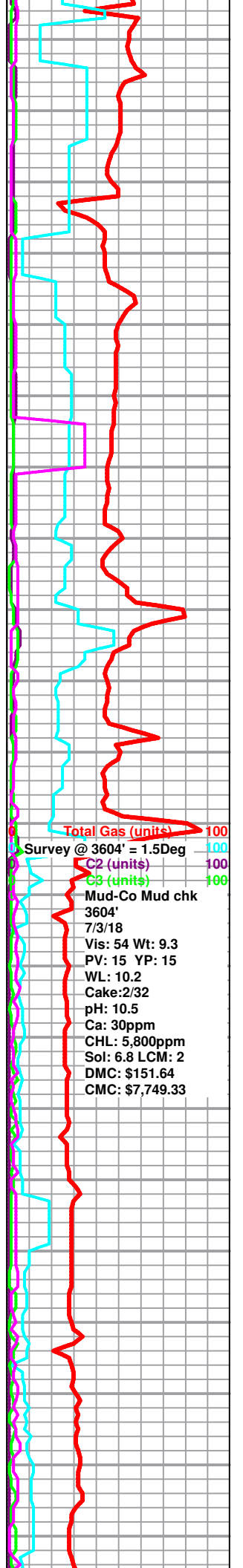
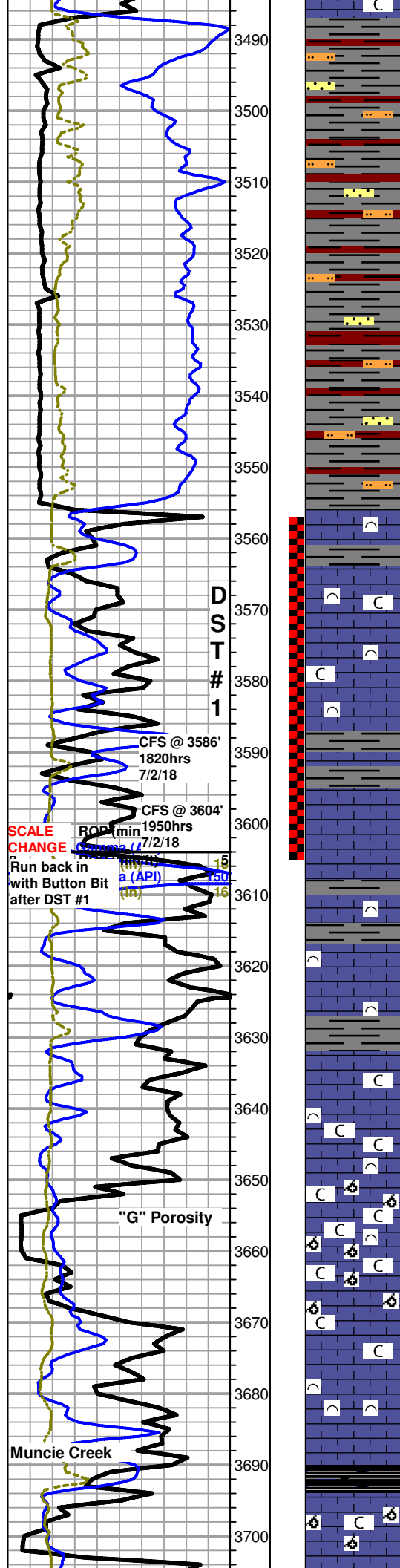
LS as above, with influx oomoldic, some fair to good oomold poroaity, barren, fairly chalky, no show or odor

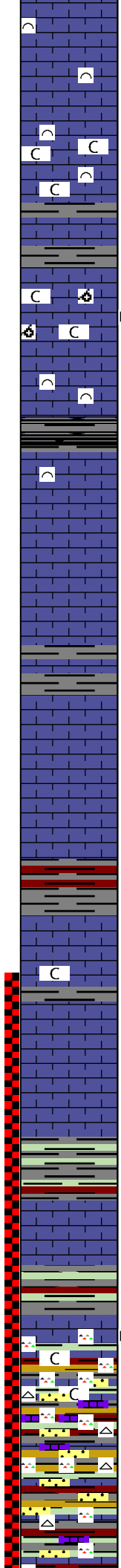
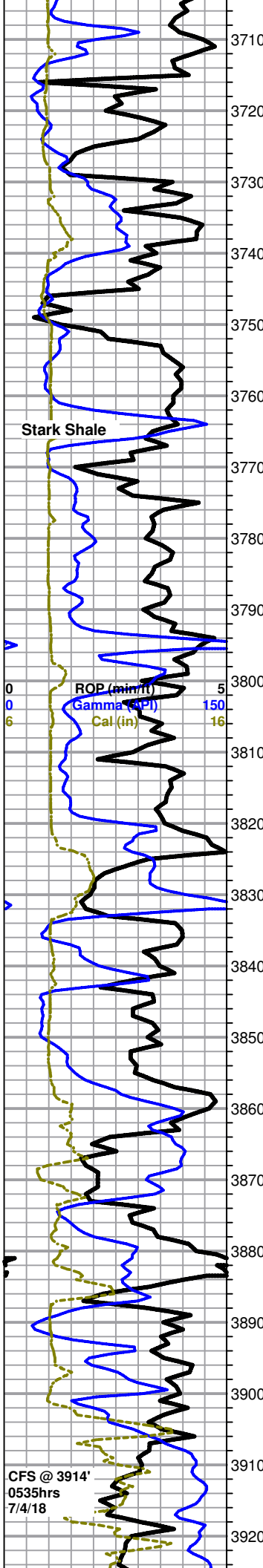
LS, cream, micro-xln, lithographic and dense with poor visible porosity, still carrying some oomoldic as above, fairly chalky, no show or odor

LS as above, with oomoldic dropping out and influx gray to brown, fossiliferous and very dense with no visible porosity, no show or odor

Shale, black carbonaceous

LS, mostly cream with some scattered gray, micro-xln, mostly oomoldic with poor to fair oomoldic porosity, barren, slightly chalky, no show, fluor., or odor





LS, cream with some scattered gray, mostly lithographic and dense with poor visible porosity, some scattered slightly fossiliferous, no show or odor

LS as above, no show or odor

LS, cream, micro-xln, mostly lithographic with some very scattered slightly fossiliferous and dense with poor visible porosity, some soft and chalky in part, fairly chalky, no show or odor

LS, cream, micro-xln, mostly lithographic with poor visible porosity, some scattered oomoldic with mostly poor and some scattered fair visible oomoldic porosity, slightly chalky, no show or odor

LS as above, with influx cream oomoldic, micro-xln, most with poor to fair oomold porosity and fairly dense, barren, fair scattered yellow fluor., in oomoldic chips, fairly chalky, no odor

LS, cream with some scattered gray, micro-crypto xln, mostly lithographic and dense with poor visible porosity, some very scattered slightly fossiliferous, no show, fluor., or odor

LS as above, no show or odor

LS, cream to gray, micro-xln, mostly lithographic with some scattered slightly fossiliferous and oolitic, dense with poor visible porosity, no show or odor

LS, cream to gray, micro-xln, mostly lithographic with poor visible porosity, no show or odor

LS as above, no show or odor

LS, cream to gray, micro-xln, lithographic with poor visible porosity, no show or odor

LS, cream to gray, micro-xln, mostly lithographic and dense with poor visible porosity, no show or odor

BKC 3824 (-1793)

Marmaton 3833 (-1802)

LS, cream with some scattered light gray and gray, micro-xln, mostly lithographic with poor visible porosity, some scattered soft and chalky in part, no show, fluor., or odor

LS, cream, micro-crypto xln, mostly lithographic with poor visible porosity, some very scattered oomoldic, dense with poor oomoldic porosity, no show, fluor., or odor

LS, cream to gray with some scattered brown, micro-xln, mostly lithographic with poor visible porosity, no show, fluor., or odor

LS, cream with some scattered brown and gray, micro-xln, lithographic with poor visible porosity, with some very scattered gray and white to tan chert, no show, some scattered dull yellow fluor., no odor

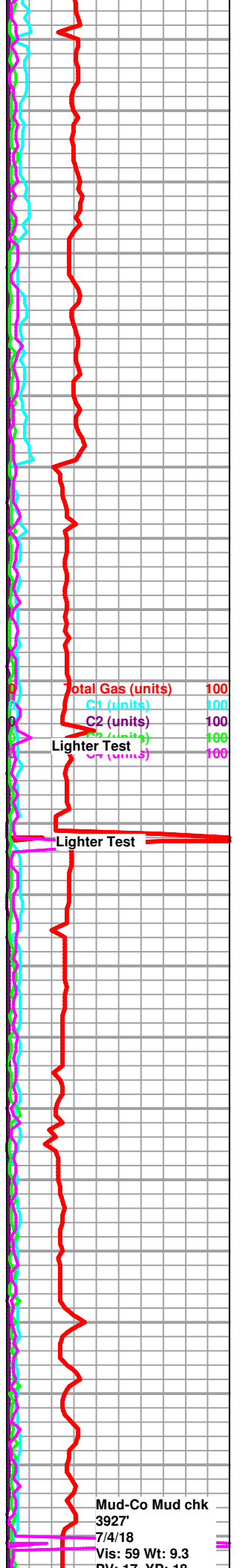
LS as above, with influx vari-colored tan to gray, white, and yellow chert, as well as gray, red, and green shale, with some very scattered SS, clear to brown, f-med grained and poorly sorted with shale, chert, and occasional pyrite inclusions, some clean and fairly well sorted, most sub-rounded, some fairly well cemented and dense, some fairly friable, fairly chalky sample, no show, fluor., or odor (3914' sample washes red)

3914' 30" Conglomerate as above, no show, fluor., or odor

3914' 60" Conglomerate, no show, fluor., or odor

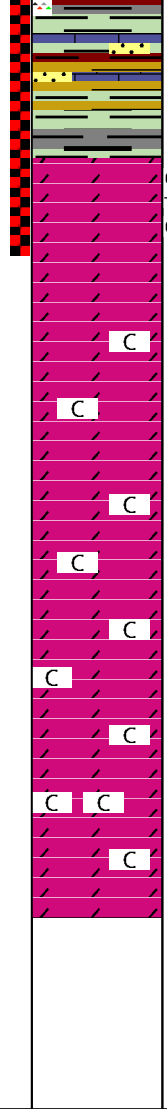
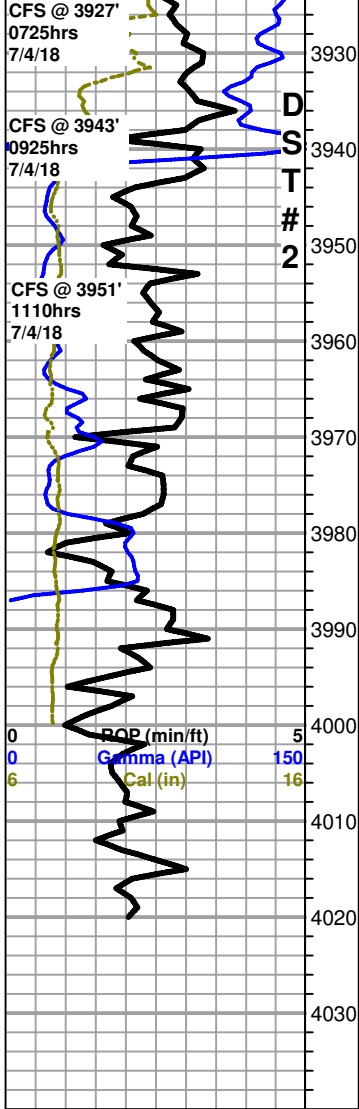
3927' 30" Conglomerate, no show or odor

3927' 60" Conglomerate, chert appears to have dropped out with influx of



CFS @ 3914'
0535hrs
7/4/18

Mud-Co Mud chk
3927'
7/4/18
Vis: 59 Wt: 9.3
pH: 12.00



Shelby Froetschner 1-12 dst 2.jpg

Arbuckle 3940 (-1905)

3943' 30" Cong., chert appears to have dropped out, with influx vari-colored shales and some very scattered DOLOMITE, cream, micro-xln, sucrosic to sub-sucrosic and mostly dense with poor visible porosity, most chips appear barren, few very scattered chips fairly friable with very scattered sub-rhombic to rhombic development and poor very scattered stain, upon break chips show VSSFO, fair pungent odor

3943' 60" As above, with few chips light brown, med-xln and friable, fair to good sub-rhombic to rhombic with fair visible porosity and scattered to very scattered stain, upon break fair to good show free oil, fair pungent odor

3951' 30" As above, with influx cream to light brown dolomite, med-xln, sub-rhombic to rhombic, most friable with fair and some scattered good visible porosity with scattered to very scattered stain, upon break chips have GSFO and slight show gas bubbles, when left under lamp some chips become saturated with brown stain, fair pungent odor

3851' 60" Dolomite, cream to light brown and white, micro-med xln, some sucrosic to sub-sucrosic, dense and barren, some med-xln, sub-rhombic to rhombic with fair to good visible porosity and stain as above, few chips with several large vugs, upon break chips friable to fairly friable with fair to good show free oil and slight show gas bubbles in some, good pungent odor

3960' Dolomite, cream to white, micro-xln, mostly sucrosic and dense with poor visible porosity, few very scattered chips sub-rhombic with very scattered stain, FSFO upon break, slightly chalky, poor odor

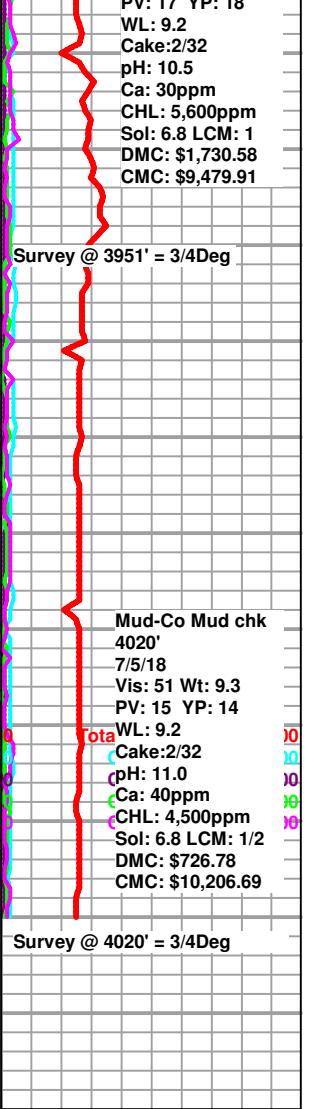
3970' Dolomite as above, with shows appearing to have dropped out, poor odor

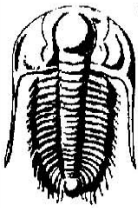
~3980'- ~4000' Dolomite, cream to white, with influx white (~50/50), micro-xln, sucrosic and dense with poor visible porosity, fairly chalky, no show or odor

Dolomite as above, with slight influx light brown, micro-med xln, some scattered sub-rhombic development, very dense with poor visible porosity, fairly chalky, no show or odor

Dolomite, cream to white with some scattered brown, micro-xln, mostly sucrosic and dense with poor visible porosity, fairly chalky, no show or odor

Rotary TD 4020' @ 0455hrs 7/5/18
Eli Wireline Services Logging TD @ 4020'
Complete Logging Operations @ 1120hrs 7/5/18
Geologist Jeremy Schwartz off location @ 1300hrs 7/5/17





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Shelby Resources, LLC
13949 W. Colfax Ave.
Bldg. 1 Ste. 120
Lakewood, CO 80401
ATTN: Jeremy Schwartz

12-22S-17W Pawnee, KS

Froetschner #1-12

Job Ticket: 63127

DST#: 1

Test Start: 2018.07.03 @ 02:18:20

GENERAL INFORMATION:

Formation: **Lansing "A&B"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:40:11

Time Test Ended: 08:20:41

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3557.00 ft (KB) To 3604.00 ft (KB) (TV D)

Total Depth: 3604.00 ft (KB) (TV D)

Hole Diameter: 7.88 inches Hole Condition:

Reference Elevations: 2031.00 ft (KB)

2020.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 6771

Inside

Press@RunDepth: 80.76 psig @ 3563.00 ft (KB)

Start Date: 2018.07.03 End Date: 2018.07.03

Start Time: 02:18:21 End Time: 08:20:41

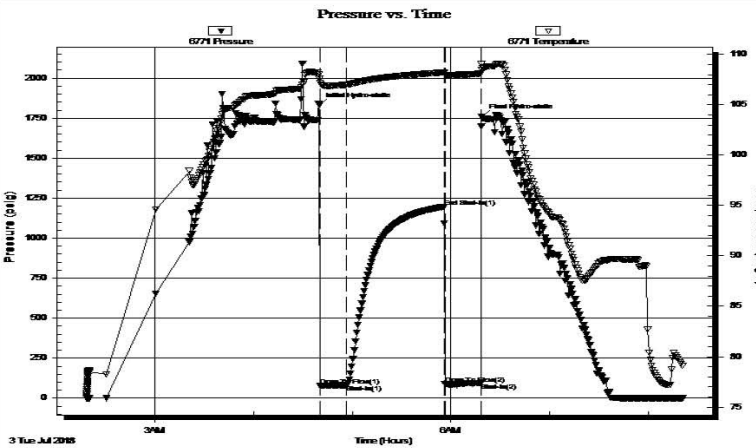
Capacity: 8000.00 psig

Last Calib.: 2018.07.03

Time On Btm: 2018.07.03 @ 04:39:56

Time Off Btm: 2018.07.03 @ 06:18:41

TEST COMMENT: 15- IF- .25" blow
60- IS- No blow
20- FF- No blow Flushed tool No blow Pulled tool



PRESSURE SUMMARY

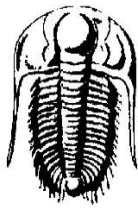
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1831.66	107.57	Initial Hydro-static
1	75.93	107.14	Open To Flow (1)
17	80.76	106.99	Shut-In(1)
76	1196.07	108.21	End Shut-In(1)
77	87.74	107.98	Open To Flow (2)
99	93.81	108.11	Shut-In(2)
99	1759.54	108.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	M	0.59

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Shelby Resources, LLC
13949 W. Colfax Ave.
Bldg. 1 Ste. 120
Lakewood, CO 80401
ATTN: Jeremy Schwartz

12-22S-17W Pawnee, KS

Froetschner #1-12

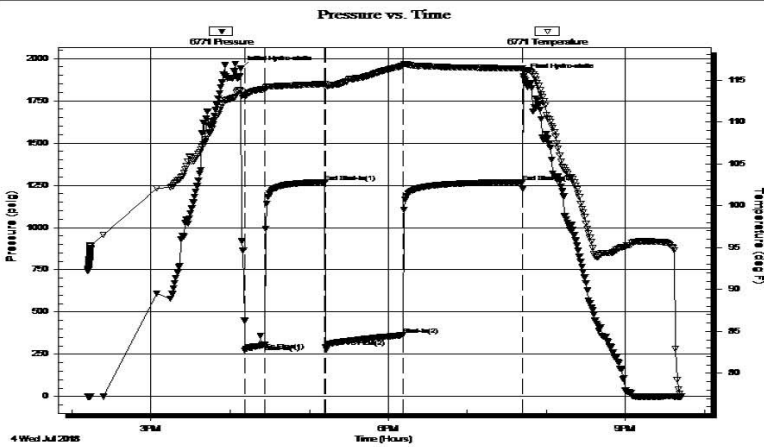
Job Ticket: 63128 **DST#: 2**
Test Start: 2018.07.04 @ 14:12:06

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:11:12
Time Test Ended: 21:42:27
Test Type: Conventional Bottom Hole (Reset)
Tester: Brannan Lonsdale
Unit No: 73
Interval: **3841.00 ft (KB) To 3951.00 ft (KB) (TVD)**
Total Depth: 3951.00 ft (KB) (TVD)
Reference Elevations: 2031.00 ft (KB)
2020.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: KB to GR/CF: 11.00 ft

Serial #: 6771 Inside
Press@RunDepth: 363.11 psig @ 3847.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.07.04 End Date: 2018.07.04 Last Calib.: 1899.12.30
Start Time: 14:12:07 End Time: 21:42:27 Time On Btm: 2018.07.04 @ 16:07:57
Time Off Btm: 2018.07.04 @ 19:42:42

TEST COMMENT: 15- IF- Slowly built to 5"
45- IS- No blow
60- FF- BOB 42mins. Built to 13"
90- FS- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1939.37	113.70	Initial Hydro-static
4	272.53	113.06	Open To Flow (1)
19	305.73	113.92	Shut-In(1)
64	1269.62	114.54	End Shut-In(1)
65	293.68	114.14	Open To Flow (2)
123	363.11	116.69	Shut-In(2)
214	1269.85	116.38	End Shut-In(2)
215	1893.70	116.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
480.00	mud	4.81
200.00	muddy water 70% water 30% mud	2.84

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (M cf/d)