

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 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) (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	Rama Operating Co., Inc.
Well Name	REWERTS 1-27
Doc ID	1428966

Tops

Name	Top	Datum
Heebner	3218	-1348
Brown Lime	3360	-1490
Lansing	3390	-1520
Base Lansing	3640	-1770
Viola	3705	-1835
Simpson Shale	3756	-1886
Arbuckle	3824	-1954
RTD	3915	-2045



Joshua R. Austin

Petroleum Geologist

report for

RAMA Operating CO., Inc



COMPANY: RAMA Operating Company, Inc.

LEASE: Rewerts # 1-27

FIELD: Bedford

LOCATION: N2-SW-SW-NW (2185' FNL & 330' FWL)

SEC: 27 TWSP: 23s RGE: 12w

COUNTY: Stafford STATE: Kansas

KB: 1870' GL: 1859'

API # 15-185-24041-00-00

CONTRACTOR: Sterling Drilling (rig #4)

Spud: 11/24/2018 Comp: 12/02/2018

RTD: 3915 LTD: 3913

Mud Up: 2631' Type Mud: Chemical was displaced

Samples Saved From: 3100' to RTD

Drilling Time Kept From: 3100' to RTD

Samples Examined From: 3100' to RTD

Geological Supervision From: 3100' to RTD

Geologist on Well: Josh Austin

Surface Casing: 8 5/8" @ 307'

Production Casing: 5 1/2" @ 3914'

Electronic Surveys: Pioneer Energy Services

NOTES

On the basis of the positive structural position, drill stem test and after evaluating the electric logs it was recommended by all parties involved in the Rewerts 1-27 to set 5 1/2" production casing to further test the Arbuckle and Lansing zones.

RAMA Operating Company Inc.

well comparison sheet

DRILLING WELL

COMPARISON WELL

COMPARISON WELL

Rewerts #1-27

Margaret Meyer #1

Roy Meyer #10

1870 KB					1857 KB				Structural Relationship		1872 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Sample	Sub-Sea	Sample	Log	Sample	Sub-Sea	Sample	Log		
Heebner	3222	-1352	3218	-1348	3212	-1355	3	7	3220	-1348	-4	0		
Toronto	3241	-1371	3236	-1366					3240	-1368	-3	2		
Douglas	3262	-1392	3252	-1382					3257	-1385	-7	3		
Brown Lime	3363	-1493	3360	-1490	3360	-1503	10	13	3362	-1490	-3	0		
Lansing	3394	-1524	3390	-1520	3390	-1533	9	13	3392	-1520	-4	0		
Base KC	3640	-1770	3640	-1770					3642	-1770	0	0		
Viola	3705	-1835	3705	-1835	3704	-1847	12	12	3707	-1835	0	0		
Simpson Shale	3759	-1889	3756	-1886	3753	-1896	7	10	3754	-1882	-7	-4		
Simpson Dol.	3785	-1915	3782	-1912					3784	-1912	-3	0		
Arbuckle	3827	-1957	3824	-1954	3818	-1961	4	7	3821	-1949	-8	-5		
Total Depth	3915	-2045	3913	-2043	3838	-1981			3823	-1951				



TRIOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Rama Operating Co. Inc.

27/23S/12W/Stafford

101 S Main St
Stafford, Kansas
67578+1429

Rewerts 1-27

Job Ticket: 64566

DST#: 1

ATTN: Josh Austin

Test Start: 2018.11.28 @ 21:29:00

GENERAL INFORMATION:

Formation: Lansing H,I,J

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:42:47

Time Test Ended: 04:25:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72 Great Bend/ 60

Interval: 3515.00 ft (KB) To 3580.00 ft (KB) (TVD)

Total Depth: 3580.00 ft (KB) (TVD)

Hole Diameter: 7.80 inches Hole Condition: Fair

Reference Elevations: 1870.00 ft (KB)

1859.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8365

Inside

Press@RunDepth: 131.21 psig @ 3516.00 ft (KB)

Start Date: 2018.11.28

End Date: 2018.11.29

Capacity: psig

Start Time: 21:29:01

End Time: 04:25:02

Last Calib.: 2018.11.29

Time On Btm: 2018.11.28 @ 23:42:17

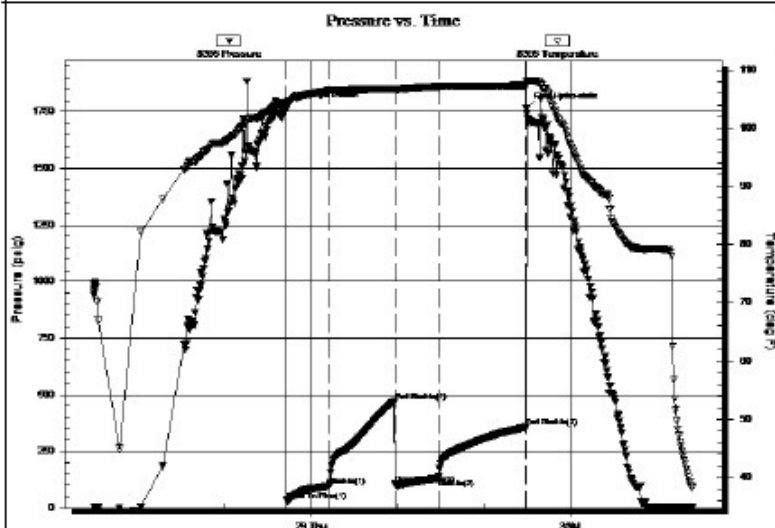
Time Off Btm: 2018.11.29 @ 02:29:47

TEST COMMENT: I.F. 30 Minutes/ Blow built to BOB in 2 minutes

I.S.I. 45 Minutes/ No blow back

F.F. 30 Minutes/ Blow built to BOB in 2 1/2 minutes

F.S.I. 60 Minutes/ No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1771.25	104.27	Initial Hydro-static
1	33.91	103.48	Open To Flow (1)
31	99.05	106.44	Shut-In(1)
76	471.18	106.66	End Shut-In(1)
77	104.39	106.62	Open To Flow (2)
106	131.21	107.13	Shut-In(2)
167	356.48	107.33	End Shut-In(2)
168	1765.81	107.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	Water cut Mud/ W20 M80	0.30
169.00	Oil c Gas Mud Water/ O5 G10 M20 W65	0.98
0.00	699 feet GIP	0.00

Gas Rates

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

DRILL STEM TEST REPORT

Rama Operating Co. Inc.

27/23S/12W/Stafford

101 S Main St
Stafford, Kansas
67578+1429

Rewerts 1-27

Job Ticket: 64567

DST#: 2

ATTN: Josh Austin

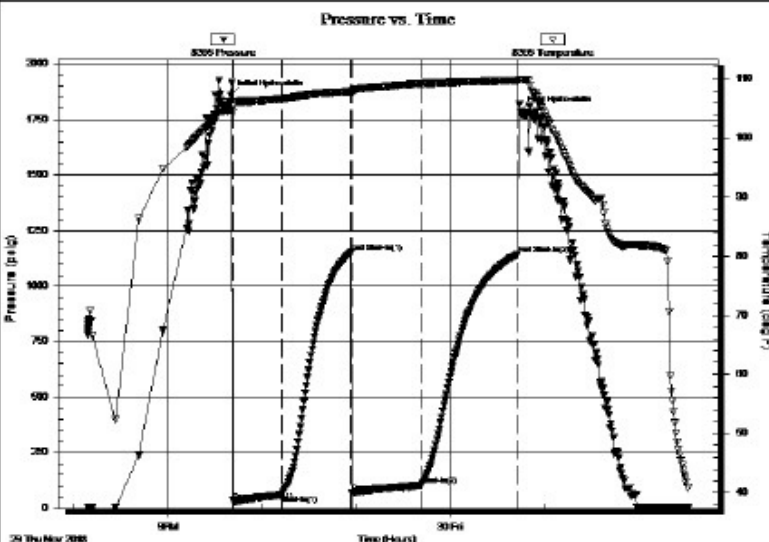
Test Start: 2018.11.29 @ 20:09:00

GENERAL INFORMATION:

Formation: **Viola**
 Deviated: **No** Whipstock: ft (KB)
 Time Tool Opened: 21:41:32
 Time Test Ended: 02:31:02
 Interval: **3708.00 ft (KB) To 3765.00 ft (KB) (TVD)**
 Total Depth: **3765.00 ft (KB) (TVD)**
 Hole Diameter: **7.80 inches** Hole Condition: **Fair**
 Test Type: **Conventional Bottom Hole (Initial)**
 Tester: **Ken Swinney**
 Unit No: **72**
 Reference Elevations: **1870.00 ft (KB)**
1859.00 ft (CF)
 KB to GR/CF: **11.00 ft**

Serial #: 8365 **Inside**
 Press@RunDepth: **104.81 psig @ 3709.00 ft (KB)** Capacity: psig
 Start Date: **2018.11.29** End Date: **2018.11.30** Last Calib.: **2018.11.30**
 Start Time: **20:09:01** End Time: **02:31:02** Time On Btn: **2018.11.29 @ 21:40:02**
 Time Off Btn: **2018.11.30 @ 00:44:17**

TEST COMMENT: I.F. 30 Minutes/ Blow built to BOB in 15 1/2 minutes/ Total build 16 inches
 I.S.I. 45 Minutes/ Blow back built additional 1 inch
 F.F. 45 Minutes/ Blow built to 11 inches
 F.S.I. 60 Mintues/ No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1858.92	104.67	Initial Hydro-static
2	34.27	104.22	Open To Flow (1)
33	58.88	106.62	Shut-In(1)
77	1151.97	107.82	End Shut-In(1)
77	70.23	107.65	Open To Flow (2)
122	104.81	109.20	Shut-In(2)
183	1143.83	109.74	End Shut-In(2)
185	1787.50	109.88	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
62.00	Mud w /skim oil/ Mud 100%	0.30
124.00	Muddy Water w /skim oil/ M40 W 60	0.61
0.00	124 feet GIP	0.00

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Rama Operating Co. Inc.

27/23S/12W/Stafford

101 S Main St
Stafford, Kansas
67578+1429

Rewerts 1-27

Job Ticket: 64568

DST#: 3

ATTN: Josh Austin

Test Start: 2018.11.30 @ 13:31:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: **No Whipstock:** ft (KB)

Time Tool Opened: 14:51:32

Time Test Ended: 19:39:02

Test Type: **Conventional Bottom Hole (Initial)**

Tester: **Ken Swinney**

Unit No: **72**

Interval: **3756.00 ft (KB) To 3832.00 ft (KB) (TVD)**

Total Depth: **3832.00 ft (KB) (TVD)**

Hole Diameter: **7.80 inches** Hole Condition: **Fair**

Reference Elevations: **1870.00 ft (KB)**

1859.00 ft (CF)

KB to GR/CF: **11.00 ft**

Serial #: 8365

Inside

Press@RunDepth: **145.04 psig @ 3757.00 ft (KB)**

Capacity: psig

Start Date: **2018.11.30**

End Date: **2018.11.30**

Last Calib.: **2018.11.30**

Start Time: **13:31:01**

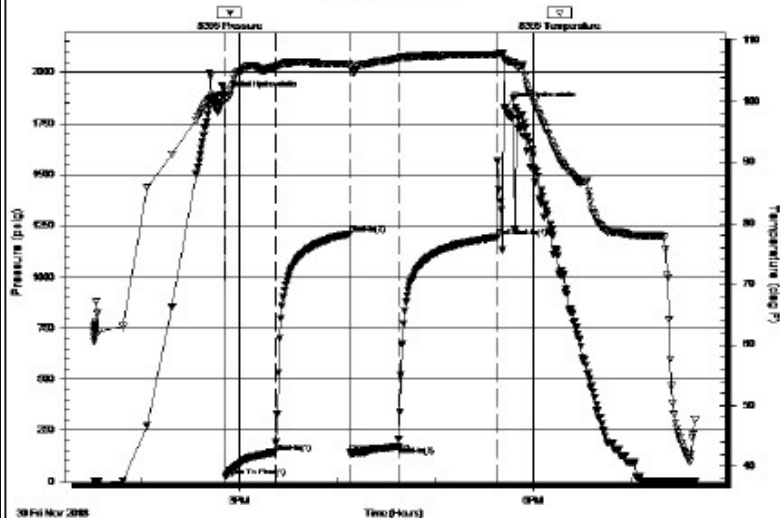
End Time: **19:39:02**

Time On Btm: **2018.11.30 @ 14:51:02**

Time Off Btm: **2018.11.30 @ 17:42:17**

TEST COMMENT: I.F. 30 Minutes/ Blow built to BOB in 14 minutes/ Total build 21 inches
 I.S.I. 45 Minutes/ Blow back built 1/2 inch
 F.F. 30 Minutes/ Blow built to BOB in 10 minutes/ Total build 34 inches
 F.S.I. 60 Minutes/ Blow back built 9 inches

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1881.48	101.17	Initial Hydro-static
1	25.34	100.39	Open To Flow (1)
31	145.04	105.67	Shut-In(1)
77	1211.19	106.19	Shut-In(2)
77	145.21	105.64	Open To Flow (2)
106	176.77	107.16	Shut-In(3)
166	1194.08	107.67	End Shut-In(1)
172	1831.41	106.91	Final Hydro-static

Recovery

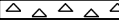






Length (ft)	Description	Volume (bbl)
30.00	Gassy Oil/ G 20 O 80	0.15
124.00	GW cut MO/ G10 W10 M30 O50	0.61
124.00	GW cut MO/ G10 W10 M30 O50	0.61

Gas Rates

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

124.00	GVV cut OW G5 W15 O30 M50	1.18
124.00	G cut OW G10 O40 M50	1.74
0.00	340 feet GIP	0.00

ROCK TYPES

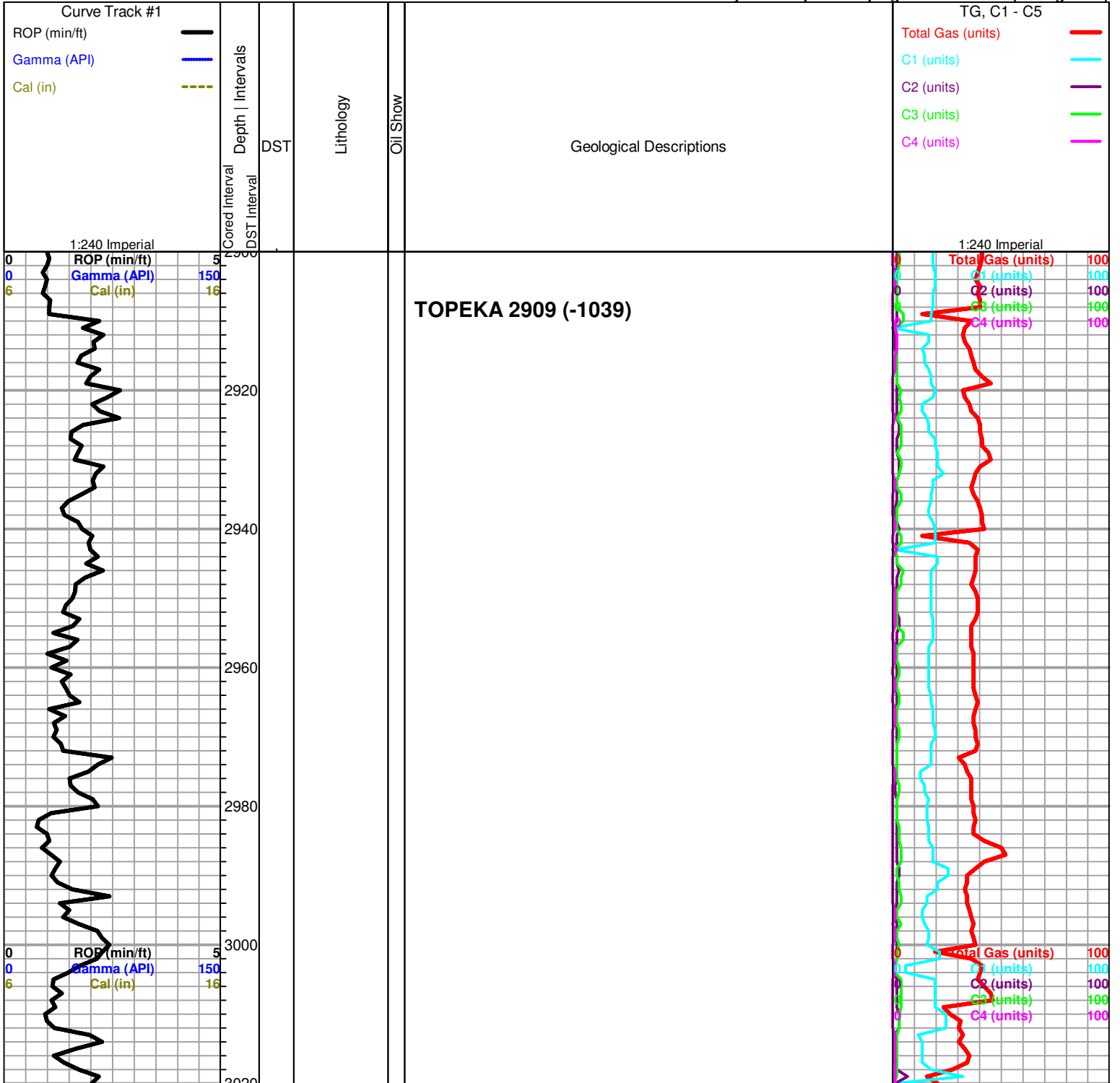
 Cht	 Lmst fw7>	 shale, gry	 Ss
 Dolsec	 shale, grn	 Carbon Sh	

OTHER SYMBOLS

DST

-  DST Int
-  DST alt
-  Core
-  tail pipe

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)



3020
3040
3060
3080
3100
3120
3140
3160
3180
3200
3220
3240

Wet and Dry Samples 3100' to RTD

Caught sample at 2860' (Howard LS 2845-48)
Limestone; tan-cream, fossiliferous, scattered
inter xln-finely vuggy porosity, brown stain, SFO,
faint odor

Black carboniferous Shale

Limestone; grey, fine xln, chalky, dense, no
shows

Limestone; cream, highly fossiliferous, scattered
fossilcast porosity, no shows

Limestone; cream-buff, fine-medium xln, granular
in part, fossiliferous-oolitic chalky, scattered
porosity, plus white Chalk

Limestone; as above

Shale; dark grey

Limestone; tan, fine xln, poorly developed
porosity, cherty in part, dense, plus Chert; grey,
opaque, boney

Limestone; tan, fine xln, dense, fossiliferous,
poor visible porosity, no shows

HEEBNER SHALE 3222 (-1352)

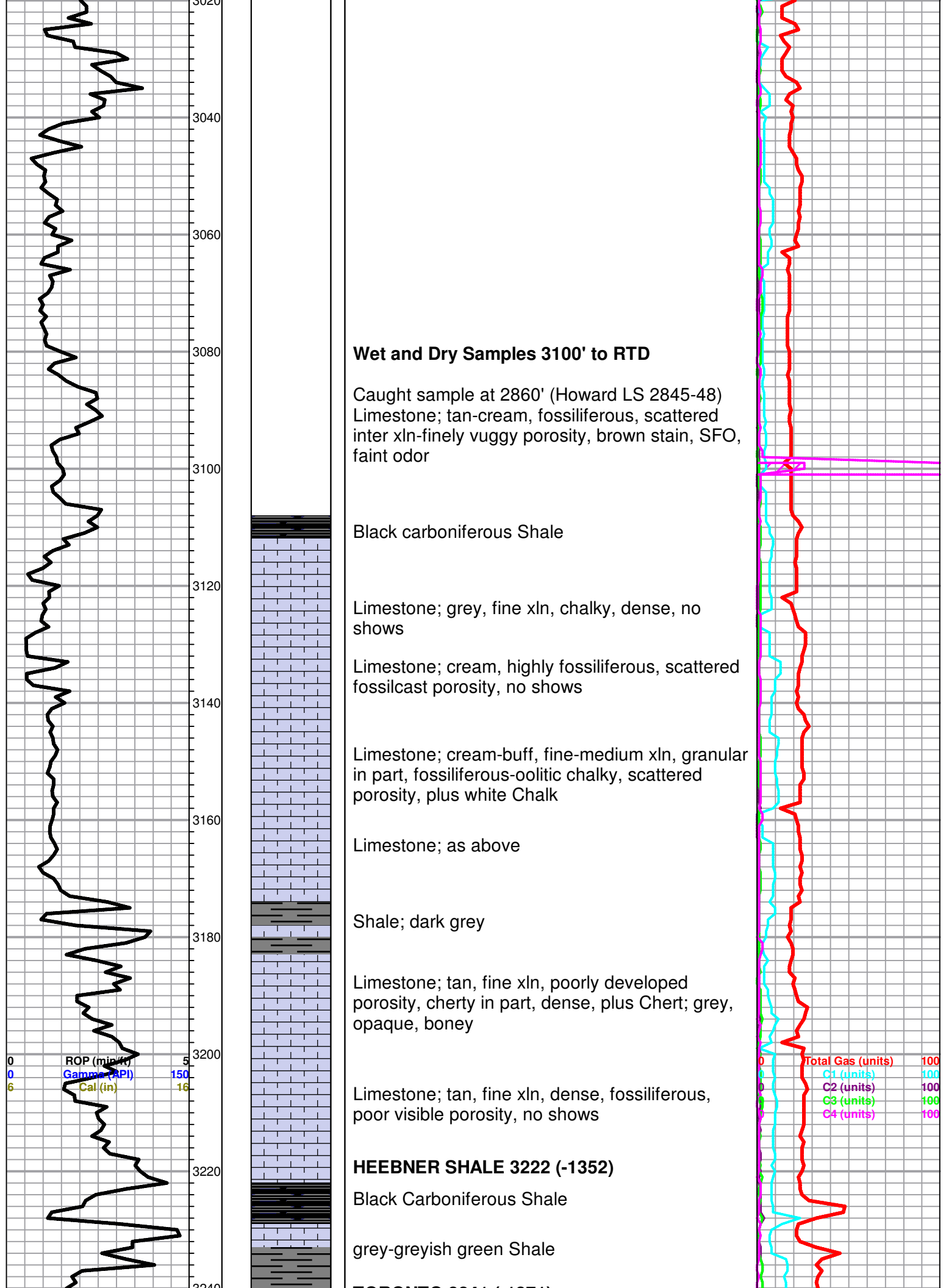
Black Carboniferous Shale

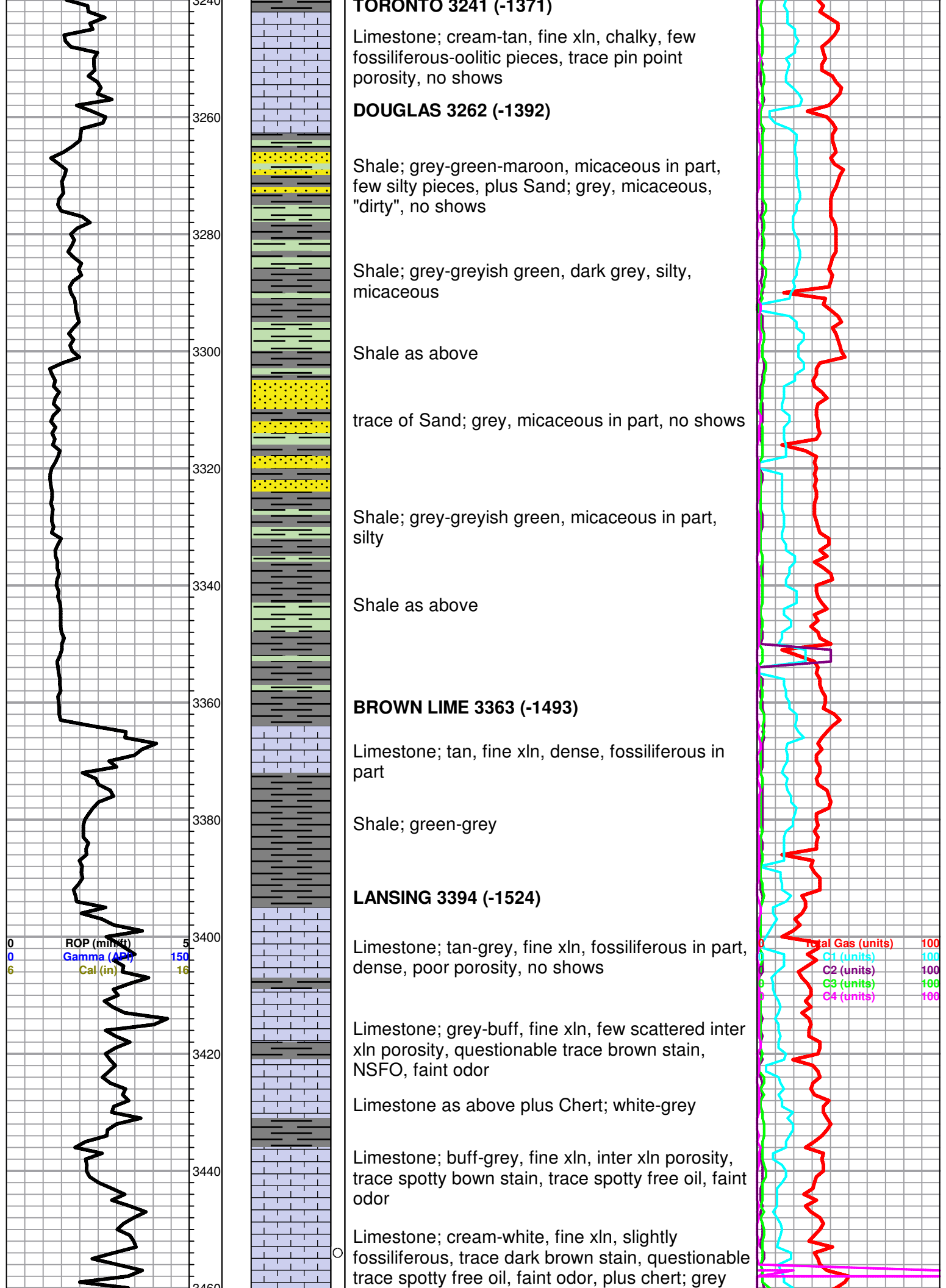
grey-greyish green Shale

FORBES 3241 (-1352)

ROP (min) 5
Gamma (API) 150
Cal (in) 16

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





Limestone; cream-tan, fine xln, chalky, few fossiliferous-oolitic pieces, trace pin point porosity, no shows

DOUGLAS 3262 (-1392)

Shale; grey-green-maroon, micaceous in part, few silty pieces, plus Sand; grey, micaceous, "dirty", no shows

Shale; grey-greyish green, dark grey, silty, micaceous

Shale as above

trace of Sand; grey, micaceous in part, no shows

Shale; grey-greyish green, micaceous in part, silty

Shale as above

BROWN LIME 3363 (-1493)

Limestone; tan, fine xln, dense, fossiliferous in part

Shale; green-grey

LANSING 3394 (-1524)

Limestone; tan-grey, fine xln, fossiliferous in part, dense, poor porosity, no shows

Limestone; grey-buff, fine xln, few scattered inter xln porosity, questionable trace brown stain, NSFO, faint odor

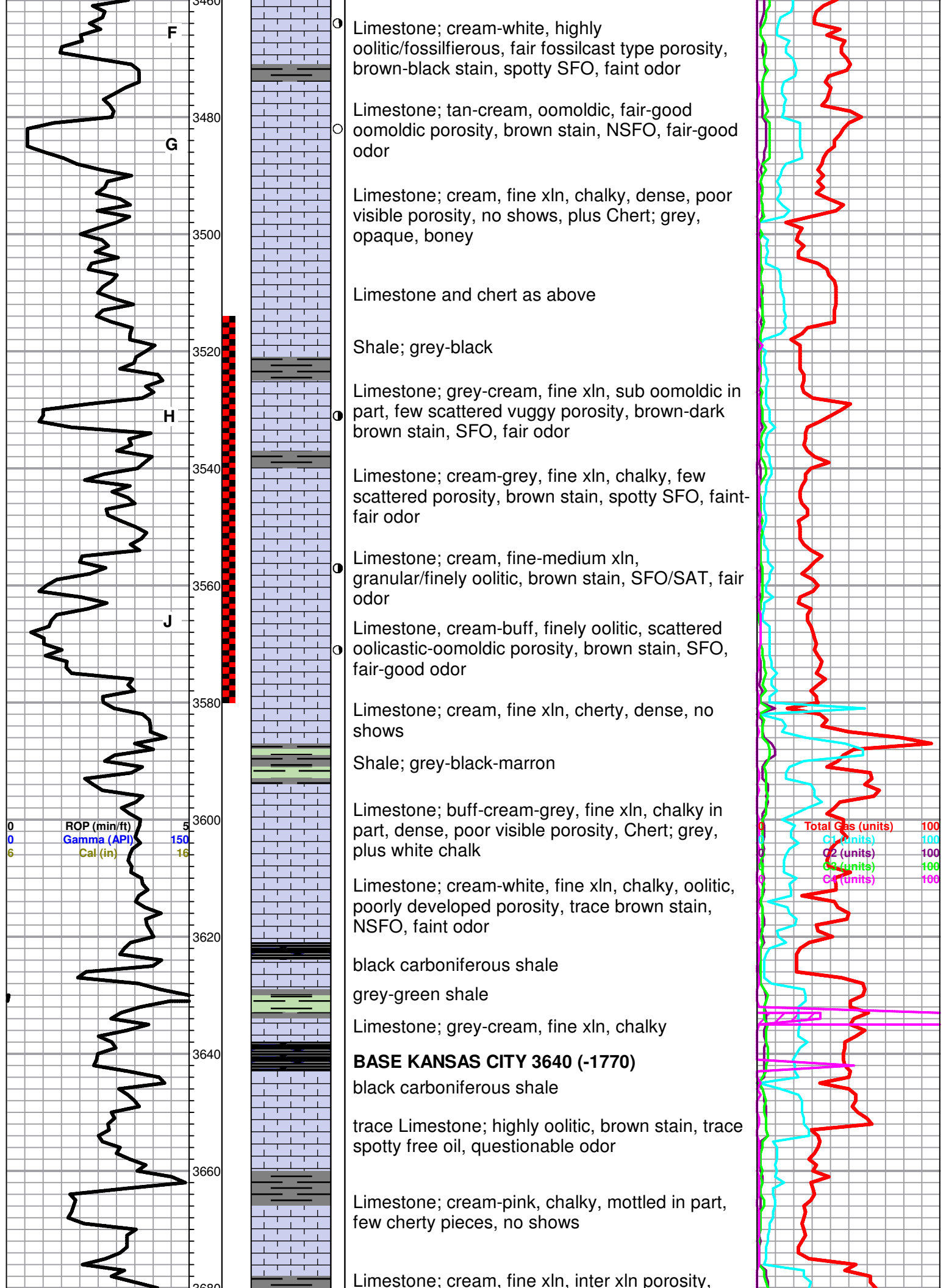
Limestone as above plus Chert; white-grey

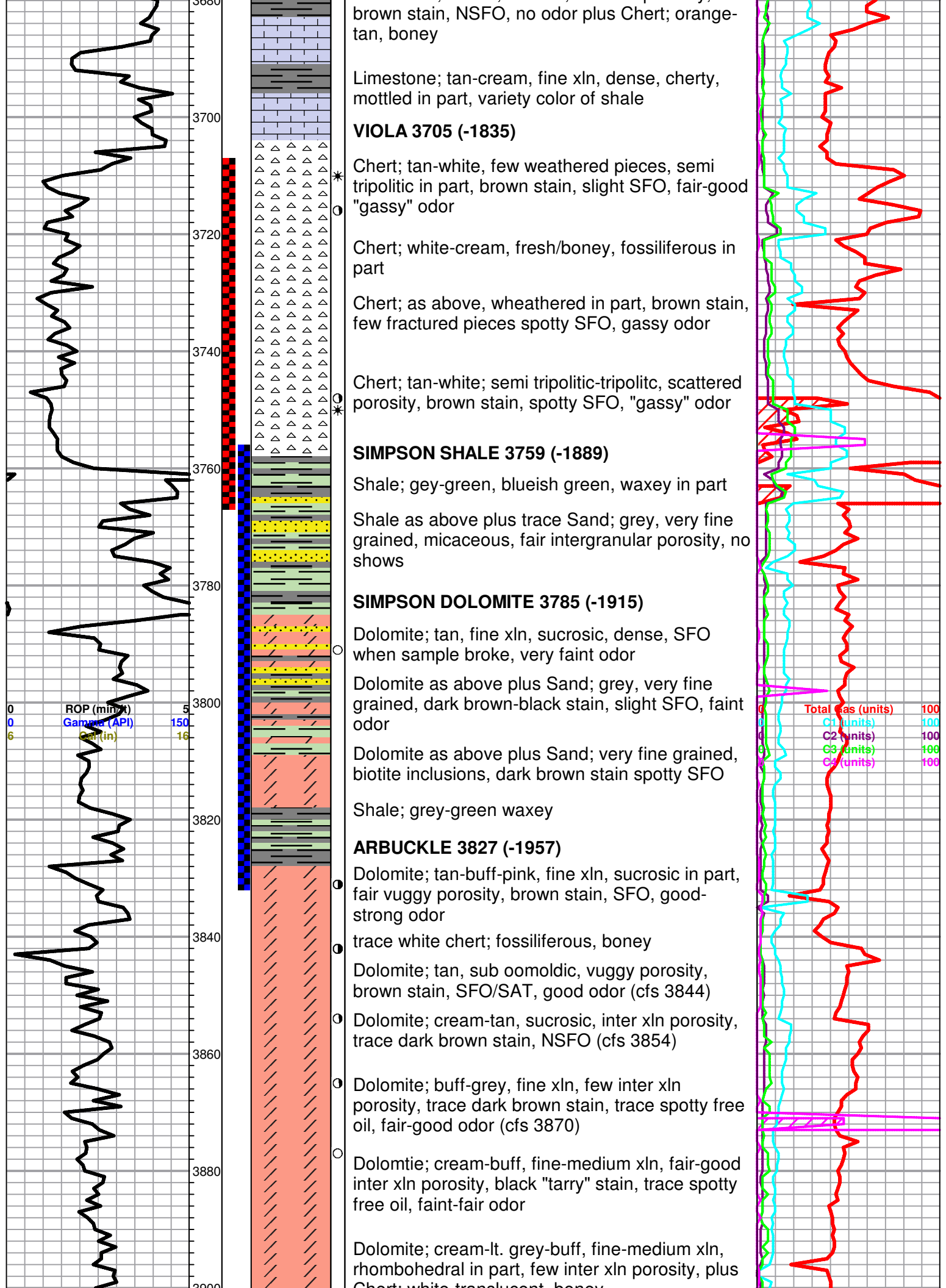
Limestone; buff-grey, fine xln, inter xln porosity, trace spotty brown stain, trace spotty free oil, faint odor

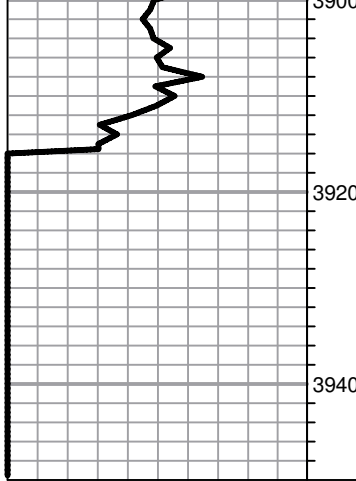
Limestone; cream-white, fine xln, slightly fossiliferous, trace dark brown stain, questionable trace spotty free oil, faint odor, plus chert; grey

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

ROP (m/min) 5
 Gamma (API) 150
 Cal (in) 16

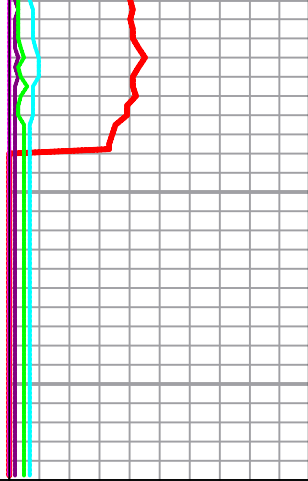






Chert, white-translucent, boney
Dolomite and Chert as above scattered porosity,
no shows

ROTARY TOTAL DEPTH 3915 (-2045)



Customer <i>King Operating</i>	Lease No.	Date <i>11/24/2018</i>
Lease <i>Rewerts</i>	Well # <i>1-27</i>	
Field Order # <i>17488</i>	Station <i>Pratt, KS</i>	Casing <i>8 5/8</i>
		Depth <i>307</i>
Type Job <i>242/8 5/8 surface</i>	Formation <i>TD-310</i>	Legal Description <i>27-235-12w</i>
		County <i>St George</i>
		State <i>KS</i>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<i>8 5/8</i>								
Depth <i>307</i>	Depth	From	To	Pre Pad	Max		5 Min.	
Volume <i>19.5</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 <i>281</i>	Packer Depth	From	To	Flush <i>Water</i>	Gas Volume		Total Load	

Customer Representative *Lenny Schloss* Station Manager *Justin Westerman* Treater *Darin Franklin*

Service Units	<i>92911</i>	<i>84981</i>	<i>20920</i>	<i>19960</i>	<i>19918</i>					
Driver Names	<i>Darin</i>	<i>Ed</i>	<i>Ed</i>	<i>Daria</i>	<i>Daria</i>					

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>3:00pm</i>					<i>ON LOCATION / safety meeting</i>
					<i>350 SK 60/40 P02, 3% cc, 1/4# CF</i>
					<i>14.8 pps, 1.21 void, 5.18 water</i>
<i>6:00pm</i>	<i>200</i>		<i>3</i>	<i>4</i>	<i>Pump 3 bbls water</i>
	<i>200</i>		<i>75</i>	<i>4</i>	<i>mix 350 SK cement</i>
					<i>Shut down</i>
					<i>Release Plus</i>
	<i>200</i>		<i>18</i>	<i>3</i>	<i>Displace</i>
<i>6:45pm</i>					<i>Shut in</i>
					<i>Cement did Circulate - 2 bbls</i>
					<i>Job Complete / Darin & crew</i>
					<i>Thank you!!</i>

Customer RAMA OPERATING	Lease No.	Date 12-2-18
Lease REWEITS	Well # 1-27	
Field Order # 17580	Station PRATT	Casing 5 1/2
	Depth 3915	County STAFFORD
Type Job Z-42 5 1/2" LONG STRING	Formation LTD 3912	State TX
		Legal Description 27-23S-12W

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME	
Casing Size 5 1/2	Tubing Size	Shots/Ft		Acid 200 SLS AA-2	RATE RAMA	PRESS RAMA	ISIP
Depth 3904	Depth	From	To	Pre Pad 50 SLS	Max 60/40 P02	490	5 Min.
Volume 95.3	Volume	From	To	Pad	Min		10 Min.
Max Press 150	Max Press	From	To	Frac	Avg		15 Min.
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth 3872	Packer Depth	From	To	Flush 94.9	Gas Volume		Total Load

Customer Representative Randy Smith	Station Manager WESTERMAN	Treater MATTAI
--	------------------------------	-------------------

Service Units 8335	27463	19903	19862				
Driver Names MATTAI	DAVID	Luis	TREVINO				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
12:55					ON LOCATION / SAFETY MEETING
5:00					Run US on 5 1/2 14" CSNG
					BASKET ON SHOPE + #2
					TURBOS ON 3, 5, 7, 9, 11, 29
7:00					CSNG ON BOTTOM
7:09					HOOK TO CSNG / BREAK CIRC W. RIG
7:59	350		18	5.28	PUMP 750 GAL. MUD FLUSH
8:04	350		5	5	PUMP 5 bbl WATER
8:08	300		55	5	MIX 200 SLS AA-2
8:18			4	4	DROP PLUG / WASH PUMP + LINES
8:22	200			6	STATIC displacement
8:33	300		60	5.8	LIFT PRESSURE
8:38	700		85	3	SLOW RATE
8:40	1500		94.9		PLUG DOWN, RELEASED + HOLD
8:50			7.5		PLUG RAT + mouse hole CIRC, THRU JOB
					JOB COMPLETE
					MING MATTAI
					DAVID TREVINO Luis



DRILL STEM TEST REPORT

Prepared For: **Rama Operating Co. Inc.**

101 S Main St
Stafford, KS 67578+1429

ATTN: Josh Austin

Rewerts #1-27

27-23S-12W Stafford,KS

Start Date: 2018.11.28 @ 21:29:00

End Date: 2018.11.29 @ 04:25:02

Job Ticket #: 64566 DST #: 1

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

Printed: 2018.12.03 @ 16:12:51



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Rama Operating Co. Inc.
 101 S Main St
 Stafford, KS 67578+1429
 ATTN: Josh Austin

27-23S-12W Stafford,KS

Rewerts #1-27

Job Ticket: 64566

DST#: 1

Test Start: 2018.11.28 @ 21:29:00

GENERAL INFORMATION:

Formation: **LKC H - J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:42:47
 Time Test Ended: 04:25:02
 Interval: **3515.00 ft (KB) To 3580.00 ft (KB) (TVD)**
 Total Depth: 3580.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 1870.00 ft (KB)
 1859.00 ft (CF)
 KB to GR/CF: 11.00 ft

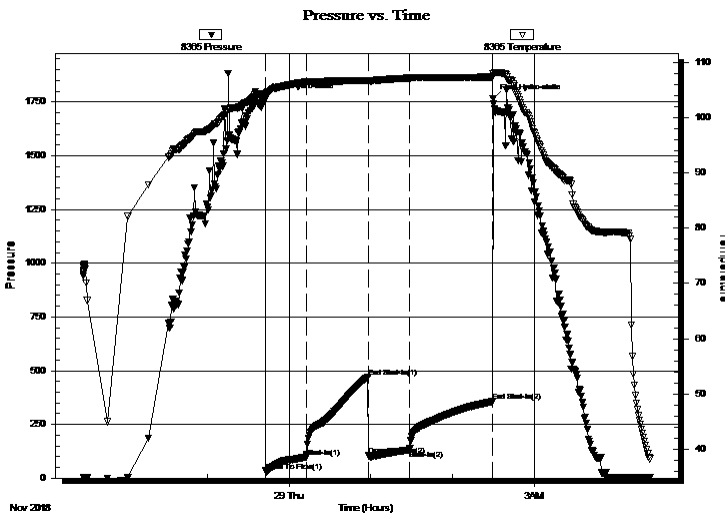
Serial #: 8365

Inside

Press@RunDepth: 131.21 psig @ 3516.00 ft (KB) Capacity: psig
 Start Date: 2018.11.28 End Date: 2018.11.29 Last Calib.: 2018.11.29
 Start Time: 21:29:01 End Time: 04:25:02 Time On Btm: 2018.11.28 @ 23:42:17
 Time Off Btm: 2018.11.29 @ 02:29:47

TEST COMMENT: IFP 30 Minutes Blow built to BOB in 2 minutes
 ISI 45 Minutes No blow back
 FFP 30 Minutes Blow built to BOB in 2 1/2 minutes
 FSI 60 Minutes No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1771.25	104.27	Initial Hydro-static
1	33.91	103.48	Open To Flow (1)
31	99.05	106.44	Shut-In(1)
76	471.18	106.66	End Shut-In(1)
77	104.39	106.62	Open To Flow (2)
106	131.21	107.13	Shut-In(2)
167	356.48	107.33	End Shut-In(2)
168	1765.81	107.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	WCM 20%W 80%M	0.30
169.00	GOMCW 5%O 10%G 20%M 65%W	0.98
0.00	699' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Rama Operating Co. Inc.
101 S Main St
Stafford, KS 67578+1429
ATTN: Josh Austin

27-23S-12W Stafford,KS

Rewerts #1-27

Job Ticket: 64566

DST#: 1

Test Start: 2018.11.28 @ 21:29:00

GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:42:47

Time Test Ended: 04:25:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

Interval: 3515.00 ft (KB) To 3580.00 ft (KB) (TVD)

Reference Elevations: 1870.00 ft (KB)

Total Depth: 3580.00 ft (KB) (TVD)

1859.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 6752 Outside

Press@RunDepth: 357.66 psig @ 3517.00 ft (KB)

Capacity: psig

Start Date: 2018.11.28

End Date:

2018.11.29

Last Calib.:

2018.11.29

Start Time: 21:29:01

End Time:

04:24:02

Time On Btm:

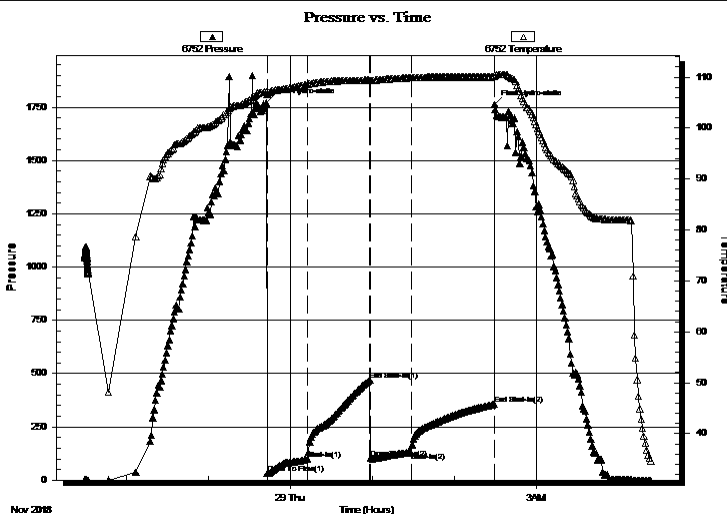
2018.11.28 @ 23:42:17

Time Off Btm:

2018.11.29 @ 02:29:47

TEST COMMENT: IFP 30 Minutes Blow built to BOB in 2 minutes
ISI 45 Minutes No blow back
FFP 30 Minutes Blow built to BOB in 2 1/2 minutes
FSI 60 Minutes No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1769.24	107.07	Initial Hydro-static
1	32.41	106.60	Open To Flow (1)
31	99.51	108.61	Shut-In(1)
76	470.33	109.39	End Shut-In(1)
77	103.39	109.35	Open To Flow (2)
106	130.83	109.91	Shut-In(2)
167	357.66	110.12	End Shut-In(2)
168	1762.21	110.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	WCM 20%W 80%M	0.30
169.00	GOMCW 5%O 10%G 20%M 65%W	0.98
0.00	699' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Rama Operating Co. Inc.
101 S Main St
Stafford, KS 67578+1429
ATTN: Josh Austin

27-23S-12W Stafford,KS
Rewerts #1-27
Job Ticket: 64566 **DST#: 1**
Test Start: 2018.11.28 @ 21:29:00

Tool Information

Drill Pipe:	Length: 3312.00 ft	Diameter: 3.80 inches	Volume: 46.46 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 47.52 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3515.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.87 ft			
Tool Length:	84.87 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut-In Tool	5.00			3500.00	
Hydraulic tool	5.00			3505.00	
Top Packer	5.00			3510.00	
Packer	5.00			3515.00	20.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3516.00	
Recorder	1.00	6752	Outside	3517.00	
Anchor	26.00			3543.00	
Change Over Sub	1.00			3544.00	
Drill Pipe	31.87			3575.87	
Change Over Sub	1.00			3576.87	
Bullnose	3.00			3579.87	64.87 Anchor Tool

Total Tool Length: 84.87



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Rama Operating Co. Inc.

27-23S-12W Stafford,KS

101 S Main St
Stafford, KS 67578+1429

Rewerts #1-27

Job Ticket: 64566

DST#: 1

ATTN: Josh Austin

Test Start: 2018.11.28 @ 21:29:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

60000 ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	WCM 20%W 80%M	0.305
169.00	GOMCW 5%O 10%G 20%M 65%W	0.977
0.00	699' GIP	0.000

Total Length: 231.00 ft Total Volume: 1.282 bbl

Num Fluid Samples: 0

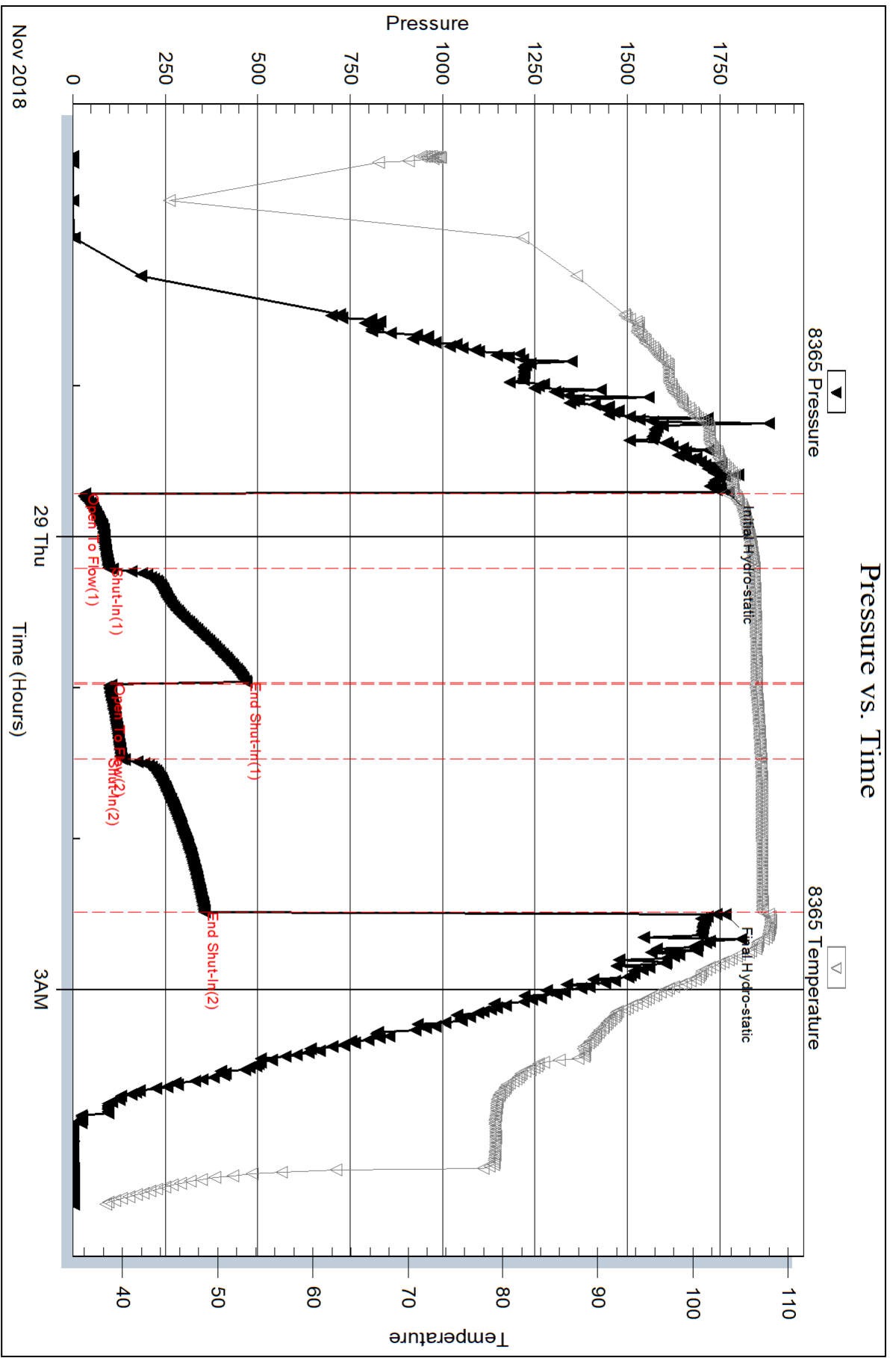
Num Gas Bombs: 0

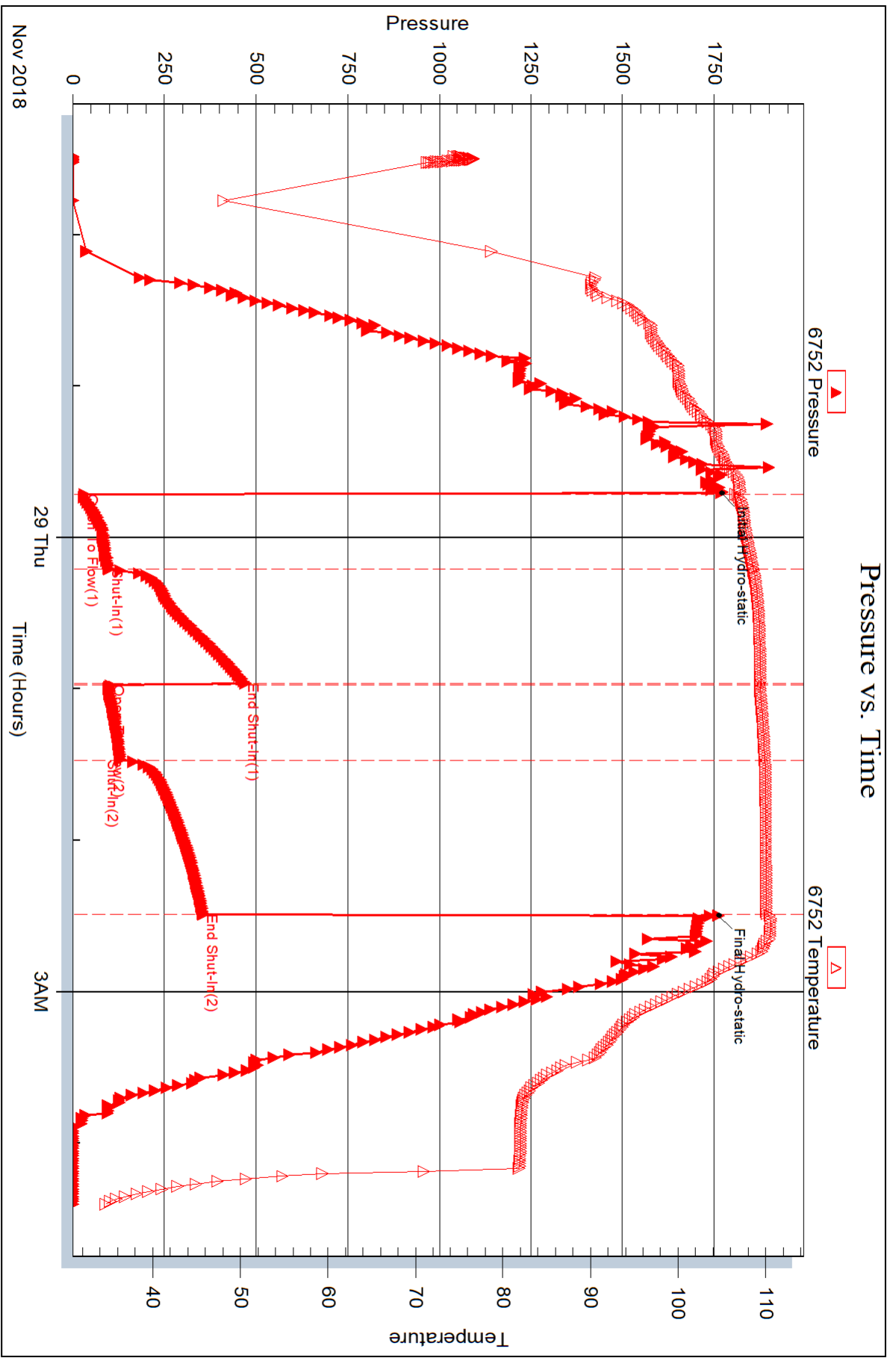
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Recovery Resistivity .179 ohms @ 47 deg.







DRILL STEM TEST REPORT

Prepared For: **Rama Operating Co. Inc.**

101 S Main St
Stafford, KS 67578+1429

ATTN: Josh Austin

Rewerts #1-27

27-23S-12W Stafford,KS

Start Date: 2018.11.29 @ 20:09:00

End Date: 2018.11.30 @ 02:31:02

Job Ticket #: 64567 DST #: 2

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

Printed: 2018.12.03 @ 16:12:26



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Rama Operating Co. Inc.
 101 S Main St
 Stafford, KS 67578+1429
 ATTN: Josh Austin

27-23S-12W Stafford,KS

Rewerts #1-27

Job Ticket: 64567

DST#: 2

Test Start: 2018.11.29 @ 20:09:00

GENERAL INFORMATION:

Formation: **Viola**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:41:32
 Time Test Ended: 02:31:02
 Interval: **3708.00 ft (KB) To 3765.00 ft (KB) (TVD)**
 Total Depth: 3765.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 1870.00 ft (KB)
 1859.00 ft (CF)
 KB to GR/CF: 11.00 ft

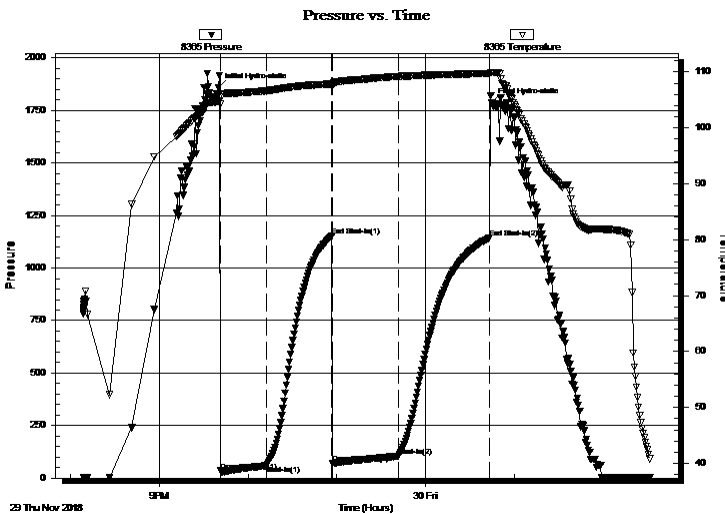
Serial #: 8365

Inside

Press@RunDepth: 104.81 psig @ 3709.00 ft (KB) Capacity: psig
 Start Date: 2018.11.29 End Date: 2018.11.30 Last Calib.: 2018.11.30
 Start Time: 20:09:01 End Time: 02:31:02 Time On Btm: 2018.11.29 @ 21:40:02
 Time Off Btm: 2018.11.30 @ 00:44:17

TEST COMMENT: IFP 30 Minutes Blow built to BOB in 15 1/2 minutes Total build 16"
 ISI 45 Minutes Blow back built additional 1"
 FFP 45 Minutes Blow built to 11"
 FSI 60 Mintues No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1858.92	104.67	Initial Hydro-static
2	34.27	104.22	Open To Flow (1)
33	58.88	106.62	Shut-In(1)
77	1151.97	107.82	End Shut-In(1)
77	70.23	107.65	Open To Flow (2)
122	104.81	109.20	Shut-In(2)
183	1143.83	109.74	End Shut-In(2)
185	1787.50	109.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	Mud w /skim oil 100% M	0.30
124.00	MW w /skim oil 40%M 60%W	0.61
0.00	124' GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Rama Operating Co. Inc.
 101 S Main St
 Stafford, KS 67578+1429
 ATTN: Josh Austin

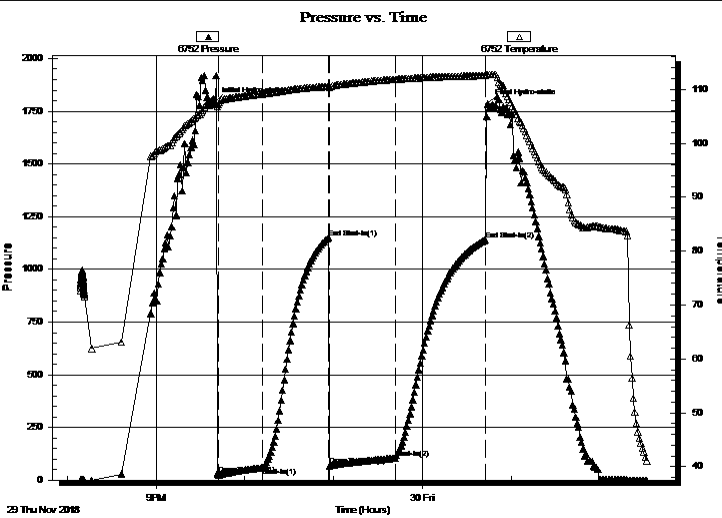
27-23S-12W Stafford,KS
Rewerts #1-27
 Job Ticket: 64567 **DST#: 2**
 Test Start: 2018.11.29 @ 20:09:00

GENERAL INFORMATION:

Formation: **Viola**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 21:41:32 Tester: Ken Swinney
 Time Test Ended: 02:31:02 Unit No: 72
 Interval: **3708.00 ft (KB) To 3765.00 ft (KB) (TVD)** Reference Elevations: 1870.00 ft (KB)
 Total Depth: 3765.00 ft (KB) (TVD) 1859.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

Serial #: 6752 Outside
 Press@RunDepth: 1141.86 psig @ 3710.00 ft (KB) Capacity: psig
 Start Date: 2018.11.29 End Date: 2018.11.30 Last Calib.: 2018.11.30
 Start Time: 20:09:01 End Time: 02:32:02 Time On Btm: 2018.11.29 @ 21:40:02
 Time Off Btm: 2018.11.30 @ 00:44:17

TEST COMMENT: IFP 30 Minutes Blow built to BOB in 15 1/2 minutes Total build 16"
 ISI 45 Minutes Blow back built additional 1"
 FFP 45 Minutes Blow built to 11"
 FSI 60 Mintues No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1794.16	107.28	Initial Hydro-static
2	28.12	107.15	Open To Flow (1)
32	58.87	109.15	Shut-In(1)
77	1151.09	110.48	End Shut-In(1)
78	68.73	110.38	Open To Flow (2)
122	104.73	111.85	Shut-In(2)
183	1141.86	112.54	End Shut-In(2)
185	1784.24	112.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	Mud w /skim oil 100% M	0.30
124.00	MW w /skim oil 40%M 60%W	0.61
0.00	124' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Rama Operating Co. Inc.
101 S Main St
Stafford, KS 67578+1429
ATTN: Josh Austin

27-23S-12W Stafford,KS
Rewerts #1-27
Job Ticket: 64567 **DST#: 2**
Test Start: 2018.11.29 @ 20:09:00

Tool Information

Drill Pipe:	Length: 3505.00 ft	Diameter: 3.80 inches	Volume: 49.17 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 50.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3708.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.85 ft			
Tool Length:	76.85 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut-In Tool	5.00			3693.00	
Hydraulic tool	5.00			3698.00	
Top Packer	5.00			3703.00	
Packer	5.00			3708.00	20.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3709.00	
Recorder	1.00	6752	Outside	3710.00	
Anchor	18.00			3728.00	
Change Over Sub	1.00			3729.00	
Drill Pipe	31.85			3760.85	
Change Over Sub	1.00			3761.85	
Bullnose	3.00			3764.85	56.85 Anchor Tool

Total Tool Length: 76.85



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Rama Operating Co. Inc.
101 S Main St
Stafford, KS 67578+1429
ATTN: Josh Austin

27-23S-12W Stafford,KS
Rewerts #1-27
Job Ticket: 64567 **DST#: 2**
Test Start: 2018.11.29 @ 20:09:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	19000 ppm
Viscosity: 76.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.19 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7100.00 ppm			
Filter Cake: 2.00 inches			

Recovery Information

Recovery Table

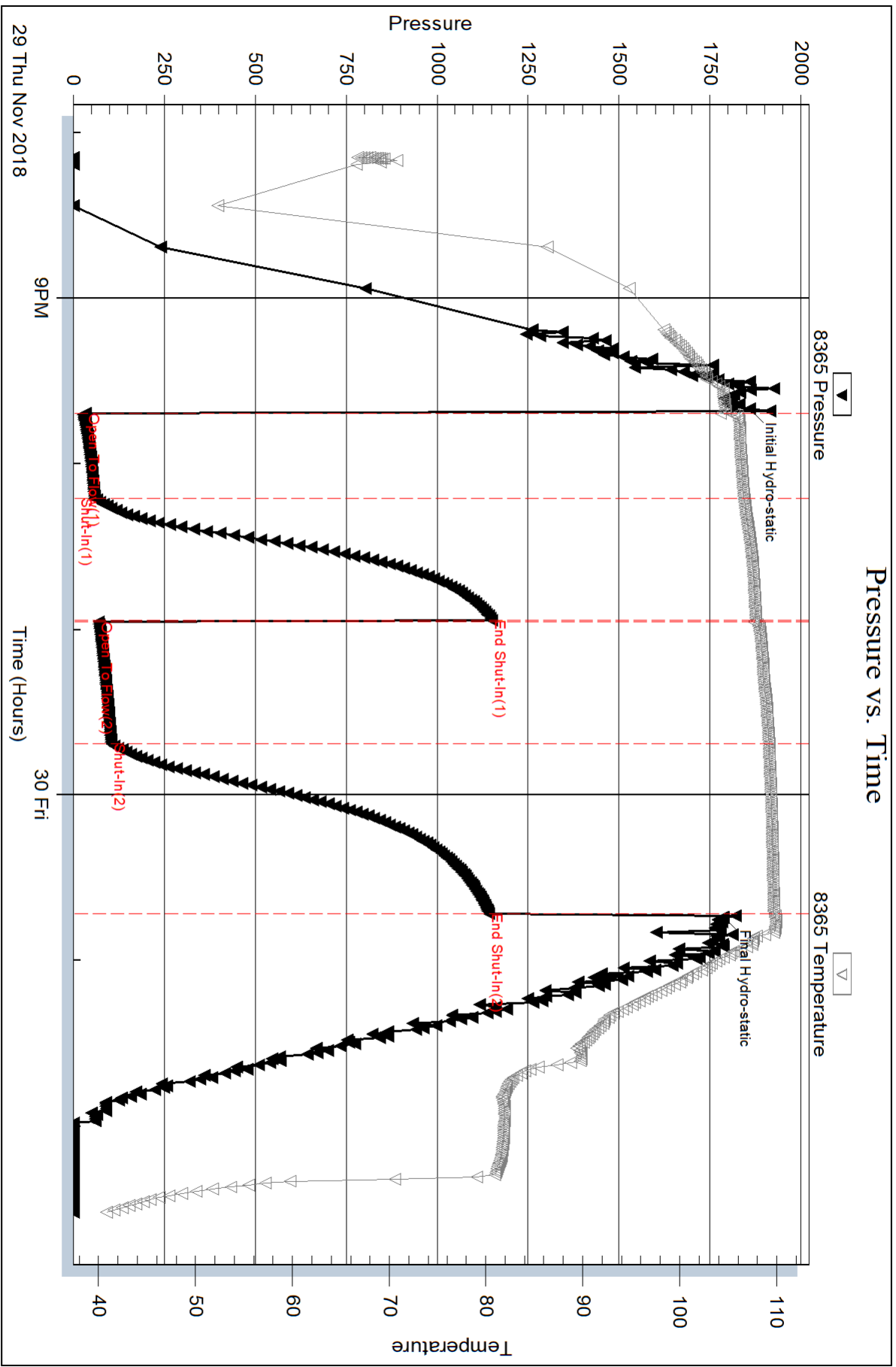
Length ft	Description	Volume bbl
62.00	Mud w /skim oil 100% M	0.305
124.00	MW w /skim oil 40%M 60%W	0.610
0.00	124' GIP	0.000

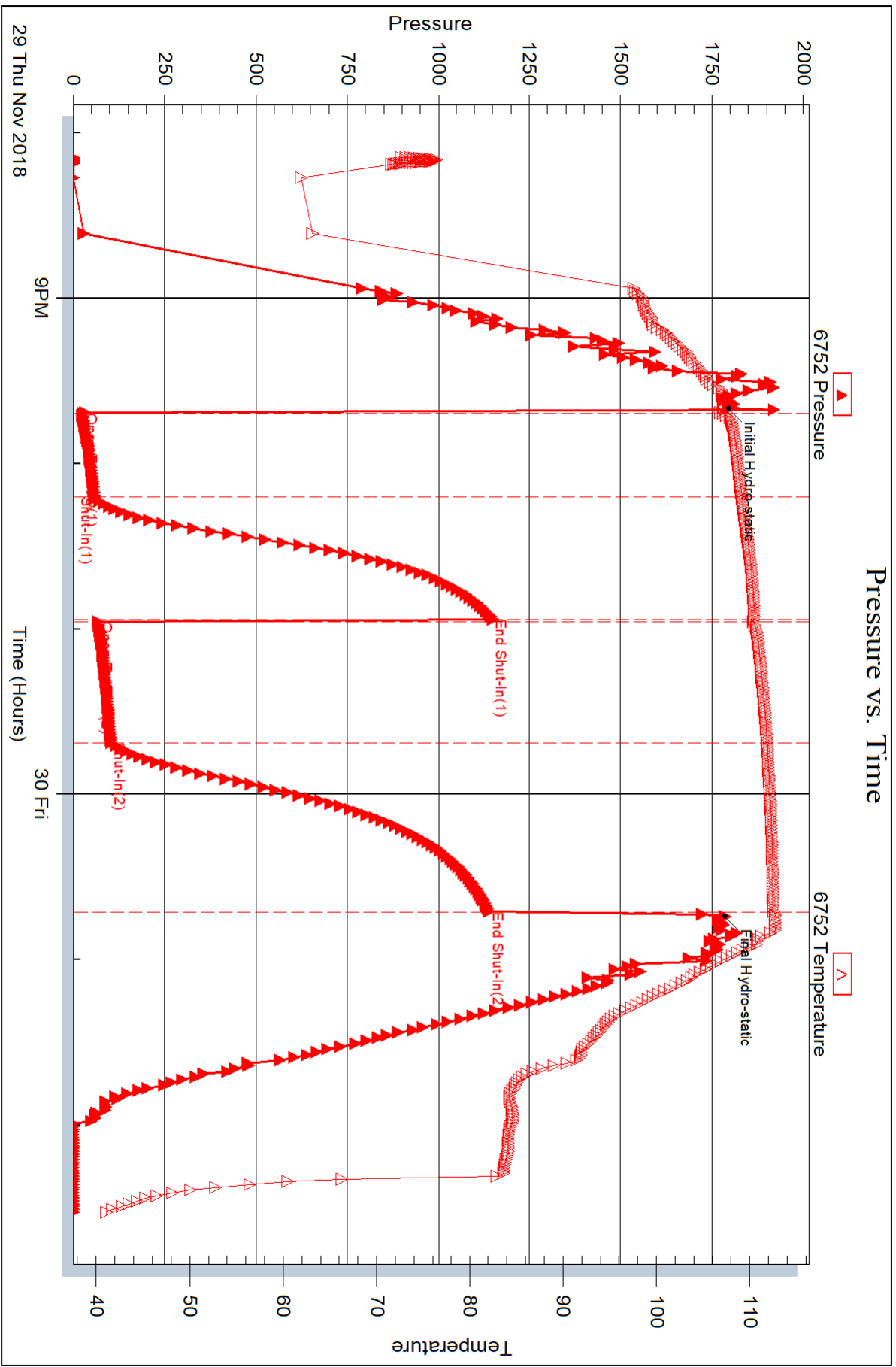
Total Length: 186.00 ft Total Volume: 0.915 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Recovery Resistivity .498 ohms @ 47 deg.







DRILL STEM TEST REPORT

Prepared For: **Rama Operating Co. Inc.**

101 S Main St
Stafford, KS 67578+1429

ATTN: Josh Austin

Rewerts #1-27

27-23S-12W Stafford,KS

Start Date: 2018.11.30 @ 13:31:00

End Date: 2018.11.30 @ 19:39:02

Job Ticket #: 64568 DST #: 3

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

Printed: 2018.12.03 @ 16:12:02



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Rama Operating Co. Inc.
 101 S Main St
 Stafford, KS 67578+1429
 ATTN: Josh Austin

27-23S-12W Stafford,KS

Rewerts #1-27

Job Ticket: 64568

DST#: 3

Test Start: 2018.11.30 @ 13:31:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 14:51:32
 Tester: Ken Swinney
 Time Test Ended: 19:39:02
 Unit No: 72
 Interval: **3756.00 ft (KB) To 3832.00 ft (KB) (TVD)**
 Reference Elevations: 1870.00 ft (KB)
 Total Depth: 3832.00 ft (KB) (TVD)
 1859.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 11.00 ft

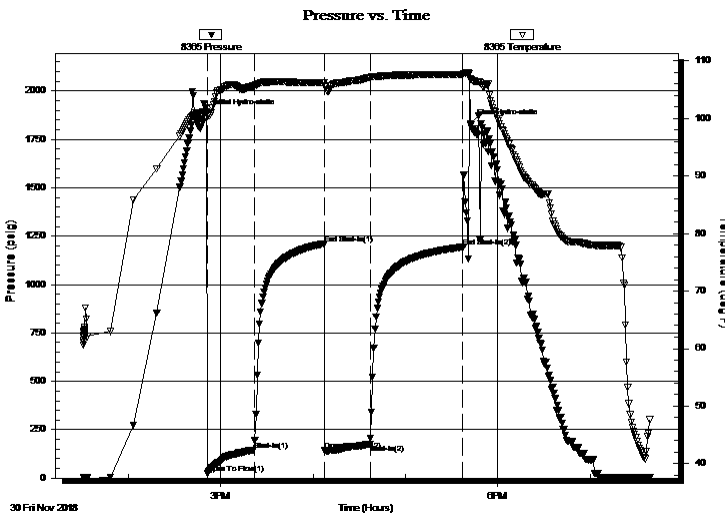
Serial #: 8365

Inside

Press@RunDepth: 176.77 psig @ 3757.00 ft (KB) Capacity: psig
 Start Date: 2018.11.30 End Date: 2018.11.30 Last Calib.: 2018.11.30
 Start Time: 13:31:01 End Time: 19:39:02 Time On Btm: 2018.11.30 @ 14:51:02
 Time Off Btm: 2018.11.30 @ 17:42:17

TEST COMMENT: IFP 30 Minutes Blow built to BOB in 14 minutes Total build 21"
 ISI 45 Minutes Blow back built 1/2"
 FFP 30 Minutes Blow built to BOB in 10 minutes Total build 34"
 FSI 60 Minutes Blow back built 9"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1881.48	101.17	Initial Hydro-static
1	25.34	100.39	Open To Flow (1)
31	145.04	105.67	Shut-In(1)
77	1211.19	106.19	End Shut-In(1)
77	145.21	105.64	Open To Flow (2)
106	176.77	107.16	Shut-In(2)
166	1194.08	107.67	End Shut-In(2)
172	1831.41	106.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	GO 20%G 80%O	0.15
124.00	GWMCO 10%G 10%W 30%M 50%O	0.61
124.00	GWOCM 5%G 15%W 30%O 50%M	1.18
124.00	GHOCM 10%G 40%O 50%M	1.74
0.00	340' GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Rama Operating Co. Inc.
 101 S Main St
 Stafford, KS 67578+1429
 ATTN: Josh Austin

27-23S-12W Stafford,KS

Rewerts #1-27

Job Ticket: 64568

DST#: 3

Test Start: 2018.11.30 @ 13:31:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:51:32

Time Test Ended: 19:39:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

Interval: 3756.00 ft (KB) To 3832.00 ft (KB) (TVD)

Reference Elevations: 1870.00 ft (KB)

Total Depth: 3832.00 ft (KB) (TVD)

1859.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 6752 Outside

Press@RunDepth: 1192.82 psig @ 3758.00 ft (KB)

Capacity: psig

Start Date: 2018.11.30

End Date: 2018.11.30

Last Calib.: 2018.11.30

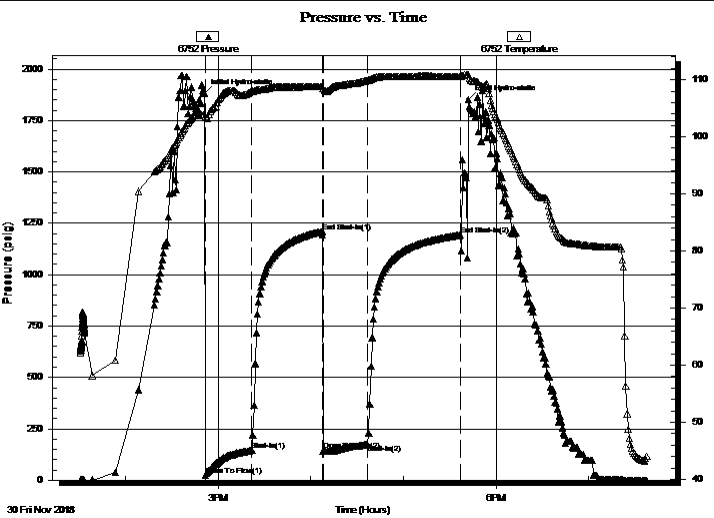
Start Time: 13:31:01

End Time: 19:38:02

Time On Btm: 2018.11.30 @ 14:51:17

Time Off Btm: 2018.11.30 @ 17:42:02

TEST COMMENT: IFP 30 Minutes Blow built to BOB in 14 minutes Total build 21"
 ISI 45 Minutes Blow back built 1/2"
 FFP 30 Minutes Blow built to BOB in 10 minutes Total build 34"
 FSI 60 Minutes Blow back built 9"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1882.75	103.89	Initial Hydro-static
1	23.90	103.60	Open To Flow (1)
31	145.19	107.93	Shut-In(1)
76	1210.00	108.80	End Shut-In(1)
77	143.13	108.49	Open To Flow (2)
106	174.61	109.88	Shut-In(2)
166	1192.82	110.61	End Shut-In(2)
171	1852.16	110.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	GO 20%G 80%O	0.15
124.00	GWMCO 10%G 10%W 30%M 50%O	0.61
124.00	GWOCM 5%G 15%W 30%O 50%M	1.18
124.00	GHOCM 10%G 40%O 50%M	1.74
0.00	340' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Rama Operating Co. Inc.
101 S Main St
Stafford, KS 67578+1429
ATTN: Josh Austin

27-23S-12W Stafford,KS
Rewerts #1-27
Job Ticket: 64568 **DST#: 3**
Test Start: 2018.11.30 @ 13:31:00

Tool Information

Drill Pipe:	Length: 3536.00 ft	Diameter: 3.80 inches	Volume: 49.60 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 130000.0 lb
			<u>Total Volume: 50.66 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	3756.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	75.85 ft			
Tool Length:	95.85 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			3741.00	
Hydraulic tool	5.00			3746.00	
Top Packer	5.00			3751.00	
Packer	5.00			3756.00	20.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3757.00	
Recorder	1.00	6752	Outside	3758.00	
Anchor	37.00			3795.00	
Change Over Sub	1.00			3796.00	
Drill Pipe	31.85			3827.85	
Change Over Sub	1.00			3828.85	
Bullnose	3.00			3831.85	75.85 Anchor Tool

Total Tool Length: 95.85



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Rama Operating Co. Inc.
101 S Main St
Stafford, KS 67578+1429
ATTN: Josh Austin

27-23S-12W Stafford,KS
Rewerts #1-27
Job Ticket: 64568 **DST#: 3**
Test Start: 2018.11.30 @ 13:31:00

Mud and Cushion Information

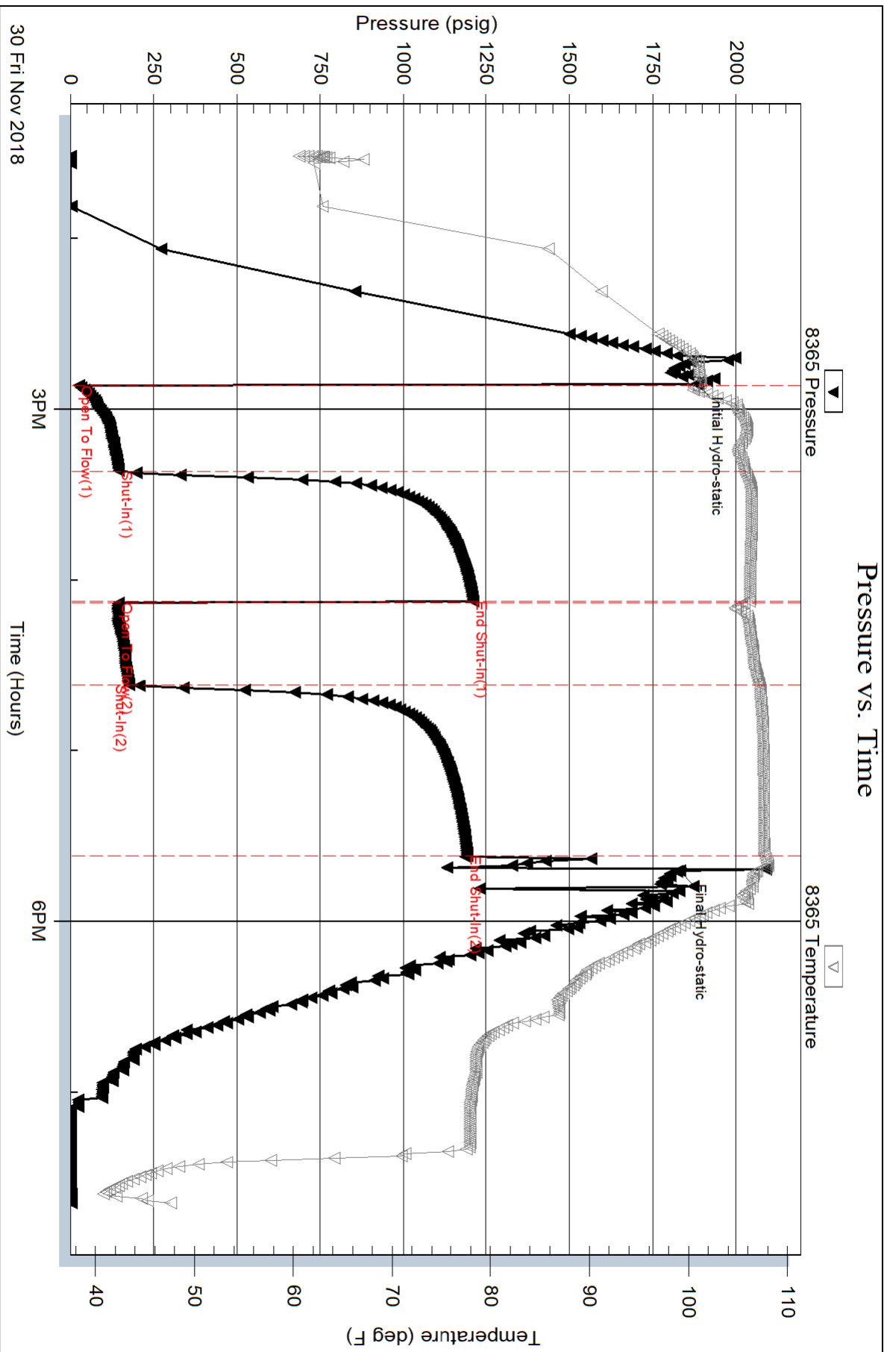
Mud Type: Gel Chem	Cushion Type:	Oil API: 36 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl	
Water Loss: 10.19 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 6300.00 ppm		
Filter Cake: 1.00 inches		

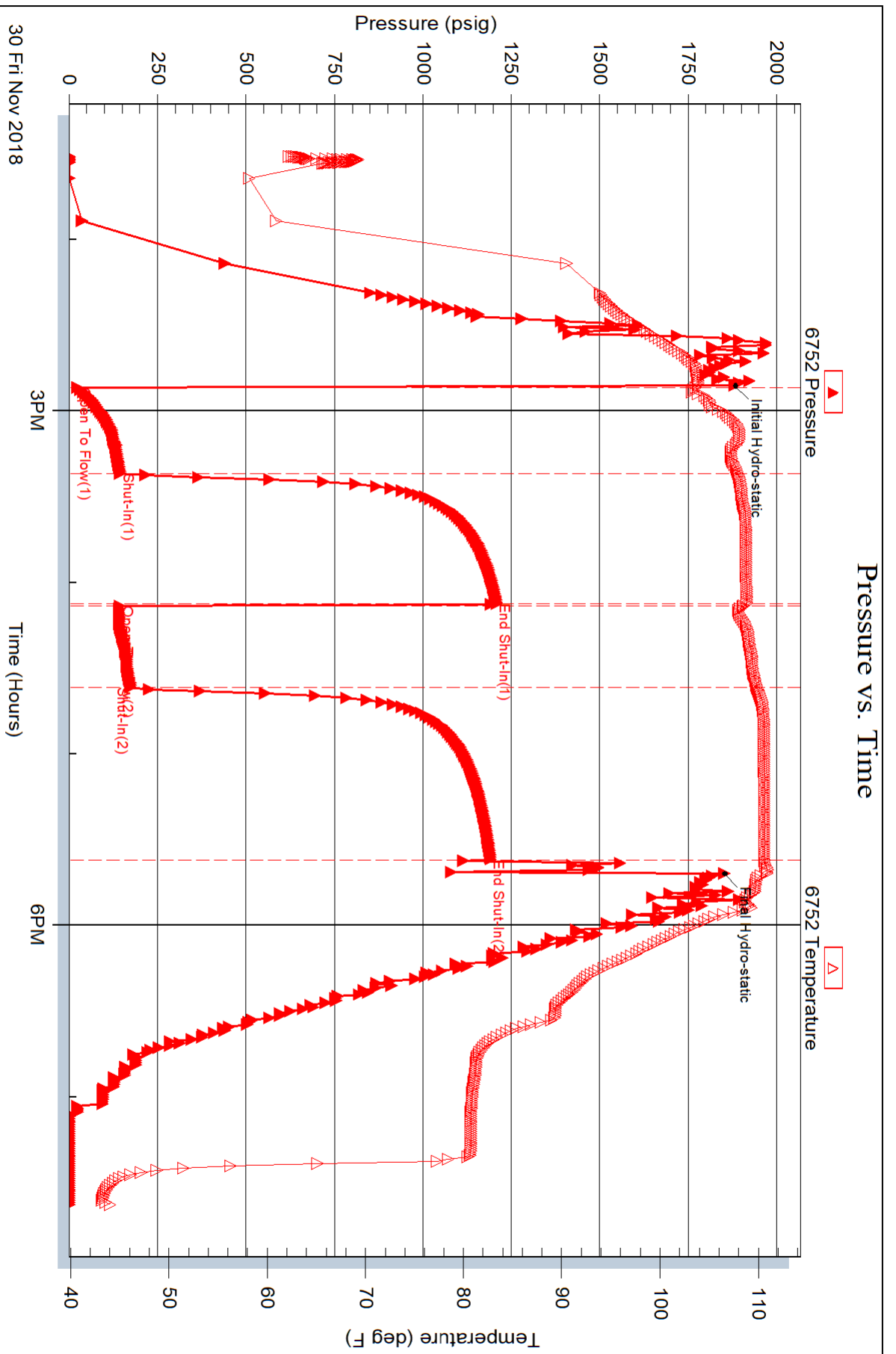
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	GO 20%G 80%O	0.148
124.00	GWMCO 10%G 10%W 30%M 50%O	0.610
124.00	GWOCM 5%G 15%W 30%O 50%M	1.184
124.00	GHOCM 10%G 40%O 50%M	1.739
0.00	340' GIP	0.000

Total Length: 402.00 ft Total Volume: 3.681 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64566**

Well Name & No. Rewerts #1-27 Test No. 1 Date 28 NOV 18
 Company Rana Operating Co. Inc. Elevation 1870 KB 1859 GL
 Address 101 S main st. Stafford KS 67578-1429
 Co. Rep / Geo. Josh Austin Rig Sterling Rig 4
 Location: Sec. 27 Twp 23S Rge. 12W Co. Stafford State KS

Interval Tested 3515-3580 Zone Tested Lansing zones H-J
 Anchor Length 65 Drill Pipe Run 3312 Mud Wt. 9.2
 Top Packer Depth 3570 Drill Collars Run 215 Vis 64
 Bottom Packer Depth 3515 Wt. Pipe Run - WL 9.2
 Total Depth 3580 Chlorides 6400 ppm System LCM 1#

Blow Description I.F. Blow built to BOB in 2 minutes
I.S.I. No blow back
FF Blow built to BOB in 2 1/2 minutes
F.S.I. No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>Water cut Mud</u>			<u>70</u>	<u>80</u>
<u>169</u>	<u>Oil cut Gassy Muddy Water</u>	<u>10</u>	<u>5</u>	<u>65</u>	<u>20</u>
<u>699</u>	<u>GIP</u>	<u>100</u>			

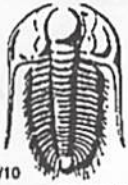
Rec Total 231 BHT 107 Gravity 1.050 API RW 179 @ 47° F Chlorides 60,000 ppm

(A) Initial Hydrostatic 1771 Test 1050 T-On Location 8:53 pm
 (B) First Initial Flow 33 Jars _____ T-Started 9:29 pm
 (C) First Final Flow 99 Safety Joint _____ T-Open 11:43 pm
 (D) Initial Shut-In 471 Circ Sub _____ T-Pulled 2:28 am
 (E) Second Initial Flow 104 Hourly Standby _____ T-Out 4:25 am
 (F) Second Final Flow 131 Mileage 60 60
 (G) Final Shut-In 356 Sampler _____
 (H) Final Hydrostatic 1765 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Extra Packer _____
 Initial Shut-In 45 Extra Recorder _____
 Final Flow 30 Day Standby _____
 Final Shut-In 60 Accessibility _____
 Sub Total 1110

Approved By [Signature] Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64567**

Well Name & No. Rewerts #1-27 Test No. 2 Date 29 NOV 18
 Company Rama Operating Co. Inc Elevation 1870 KB 1859 GL
 Address 101 S Main St. Stafford Kansas 67578+1429
 Co. Rep / Geo. Josh Austin Rig Sterling Rig 4
 Location: Sec. 27 Twp 23S Rge. 12W Co. Stafford State KS

Interval Tested 3708-3765 Zone Tested Viola
 Anchor Length 57 Drill Pipe Run 3505 Mud Wt. 9.2
 Top Packer Depth 3703 Drill Collars Run 215 Vis 76
 Bottom Packer Depth 3708 Wt. Pipe Run - WL 10.2
 Total Depth 3765 Chlorides 7100 ppm System LCM 2#

Blow Description I.F. Blow built to BOB in 15 1/2 minutes / Total build 16 inches
I.S.I. Blow back built additional 1 inch
P.F. Blow built to 11 inches
F.S.I. No blow back

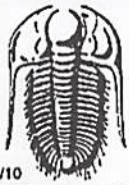
Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>Muddy Water w/skin oil</u>			<u>60</u>	<u>40</u>
<u>124</u>	<u>GIP</u>	<u>100</u>			
<u>62</u>	<u>Mud w/skin oil</u>				<u>100</u>

Rec Total 186 BHT 109 Gravity _____ API RW .498 @ 47 °F Chlorides 19000 ppm

(A) Initial Hydrostatic 1858 Test 1050 T-On Location 7:10 PM
 (B) First Initial Flow 34 Jars _____ T-Started 8:09 PM
 (C) First Final Flow 58 Safety Joint _____ T-Open 9:42 PM
 (D) Initial Shut-In 1151 Circ Sub _____ T-Pulled 12:42 PM
 (E) Second Initial Flow 70 Hourly Standby _____ T-Out 2:33 PM
 (F) Second Final Flow 104 Mileage 60 60
 (G) Final Shut-In 1143 Sampler _____
 (H) Final Hydrostatic 1787 Straddle _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 45 Shale Packer _____
 Final Flow 45 Extra Packer _____
 Final Shut-In 60 Extra Recorder _____
 Sub Total 1110 Day Standby _____
 Total 1110 Accessibility _____
 MP/DST Disc't _____

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64568**

4/10

Well Name & No. Rewerts #1-27 Test No. 3 Date 30 Nov 18
 Company Rama Operating Co. Inc. Elevation 1870 KB 1859 GL
 Address 101 S Main St Stafford KS 67578-1429
 Co. Rep / Geo. Josh Austin Rig Sterling Rig 4
 Location: Sec. 27 Twp 23S Rge. 12W Co. Stafford State KS

Interval Tested 3756-3832 Zone Tested Arbuckle
 Anchor Length 76 Drill Pipe Run 3536 Mud Wt. 9.1
 Top Packer Depth 3751 Drill Collars Run 215 Vis 55
 Bottom Packer Depth 3756 Wt. Pipe Run - WL 10.2
 Total Depth 3832 Chlorides 6300 ppm System LCM 1#

Blow Description I.F. Blow built to BOB in 14 minutes / Total build 21 inches
I.S.I. 1/2" blow back
F.F. Blow built to BOB in 10 minutes / total build 34 inches
F.S.I. 9" blow back

Rec	Feet of	%gas	%oil	%water	%mud
30	Gas Oil	20	80		
124	Gas Water cut Muddy Oil	10	50	10	30
124	Gas Water cut Oily Mud	5	30	15	50
174	Gas cut Oily Mud	10	40		50
340	GIP	100			

Rec Total 410.3 BHT 107 Gravity 36 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 1881 Test 1050 T-On Location 12:12 pm
 (B) First Initial Flow 25 Jars _____ T-Started 1:31 pm
 (C) First Final Flow 145 Safety Joint _____ T-Open 2:51 pm
 (D) Initial Shut-In 1211 Circ Sub _____ T-Pulled 5:36 pm
 (E) Second Initial Flow 145 Hourly Standby _____ T-Out 7:39 pm
 (F) Second Final Flow 176 Mileage 60 Comments _____
 (G) Final Shut-In 1194 Sampler _____
 (H) Final Hydrostatic 1831 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

Initial Open 30 Extra Recorder _____ Sub Total _____
 Initial Shut-In 45 Day Standby _____ Total 1110
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1110

Approved By _____ Our Representative [Signature]

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