

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)</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	Rama Operating Co., Inc.
Well Name	J. MEYER 3-28
Doc ID	1457991

Tops

Name	Top	Datum
Heebner	3220	-1352
Brown Lime	3365	-1497
Lansing	3390	-1522
Base Lansing	3640	-1772
Viola	3708	-1840
Simpson Shale	3759	-1891
Arbuckle	3822	-1954
RTD	3950	-2082



Customer <i>Pama Operating Co.</i>	Lease No.	Date <i>4-11-2019</i>
Lease <i>J. Meyer</i>	Well # <i>3-28</i>	
Field Order #	Station <i>Pratt, KS # 1718</i>	Casing
Type Job <i>8 3/8 surface</i>	Depth	County <i>Stafford</i>
	Formation	State <i>KS.</i>
		Legal Description <i>28-235-12W</i>

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size <i>8 3/8</i>	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
Depth <i>315'</i>	Depth	From	To	Pre Pad	Max		5 Min.
Volume <i>70 Bbls</i>	Volume	From	To	Pad	Min		10 Min.
Max Press <i>20</i>	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	Gas Volume		Total Load

Customer Representative <i>Kenny Saloga</i>	Station Manager <i>Justin Westerman</i>	Treater <i>Phil PARDINE</i>
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Service Units <i>1718</i>	<i>1718</i>								
Driver Names <i>Phil</i>	<i>Phil</i>	<i>B</i>							

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
					ON location + Rig up
					Run 315' 8 3/8 casing
					Break circulation w/ Rig
	<i>200</i>		<i>3</i>	<i>3</i>	Pump 3 Bbls Freshwater
	<i>200</i>		<i>80.51</i>	<i>5</i>	MIX + Pump 375 - 5x 60/40/Poz + 3 1/2 60 + 1 cell
					Cement in slip plugs switch valves + Release plug
	<i>300</i>		<i>18 3/4</i>		Displace with 18 3/4 Bbls water
					leave 20' cement in casing + shut in.
					Cement circulate into cellar



Customer <i>Brona Operating</i>	Lease No. <i>21</i>	Date <i>4-11-2019</i>
Lease <i>J Meyer</i>	Well # <i>3-28</i>	
Field Order # <i>1</i>	Station <i>Pratt KS # 1718</i>	Casing
	Depth	County <i>Stafford</i>
Type Job <i>Current surface Top off</i>	Formation	State <i>KS</i>
		Legal Description <i>28-235-12W</i>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size <i>8 5/8</i>	Tubing Size <i>2 3/8</i>	Shots/Ft		Acid		RATE	PRESS	ISIP
Depth <i>315'</i>	Depth <i>27'</i>	From	To	Pre Pad	Max			5 Min.
Volume	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	Gas Volume			Total Load

Customer Representative <i>Lanny Saloga</i>	Station Manager <i>Justin Westerman</i>	Treater <i>Carl Balding</i>
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Service Units <i>2746</i>	<i>70952</i>	<i>21010</i>							
Driver Names <i>Ron G</i>	<i>Grant</i>	<i>Dick</i>							

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
					on location
					Have JSA + Rig up
					Run 27' 1" tubing to top off annulus on surface casing
			2	1	Start with 2 Bbls Freshwater
10:40 AM	200		25	2	Max 115' x Plan A + 20 cc Cement Circulate to surface + Fill Peller
11:00 AM					Wash up pump truck + wait 45 minutes to see if cement falls
					Cement Did not Fall Release from location

Customer <b>RAMA OPERATING</b>	Lease No.	Date <b>4-18-19</b>
Lease <b>J. MYER</b>	Well # <b>3-28</b>	
Field Order # <b>17823</b>	Station <b>Pratt</b>	Casing <b>5 1/2</b>
		Depth <b>3950</b>
Type Job <b>2-42 5/2" Lung string</b>	Formation <b>RTD + LTD</b>	County <b>STAFFORD</b>
		State <b>KS</b>
		Legal Description <b>28-235-12W</b>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size <b>5 1/2</b>	Tubing Size	Shots/Ft		Acid <b>175 SWS AA-2</b>	RATE	PRESS	ISIP	
Depth <b>3919.59</b>	Depth	From	To	Pre Pad <b>50 SVI</b>	Max <b>60/410</b>	PCZ <b>470</b>	5 Min.	
Volume <b>75.6</b>	Volume	From	To	Pad	Min		10 Min.	
Max Press <b>1,500</b>	Max Press	From	To	Frac	Avg		15 Min.	
Well Connection <b>P.C.</b>	Annulus Vol.	From	To		HHP Used		Annulus Pressure	
Plug Depth <b>3813</b>	Packer Depth	From	To	Flush <b>94.9</b>	Gas Volume		Total Load	

Customer Representative <b>RANDY GIBBS</b>	Station Manager <b>WESTERMAN</b>	Treater <b>MATTAI</b>
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Service Units <b>6335</b>	<b>77686</b>	<b>86779</b>	<b>70959</b>	<b>21010</b>
Driver Names <b>MATTAI</b>	<b>McGraw</b>	<b>BROWN</b>		

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
2:30					ON LOCATION / SAFETY MATTAI
4:15					Run 5 1/2" casing
					Turbos on
6:10					Casing on bottom
6:30					Hook to casing / Break circ w. R.L.G
7:24	300		5	5	Pump 5 bbl water
7:26	300		18	5	Pump 18 bbl mud flush
7:20	300		5	5	Pump 5 bbl water
7:22	260		48	5	Mix 175 SWS AA-2 chem
7:38			41	41	Wash Pump + L.R. / Drop Plug
7:40	<del>1800</del>			<del>180</del> 6.2	START displacement
7:50	250		70	6.2	Let Pressure
7:53	510		85	4	Stopw. Rate
7:55	1,500		94.9	-	plug down / released + held
8:05			7+5		Plug rat + mouse hole
					Circulation thru job
					JOB COMPLETE
					Thank You!
					MIKE MATTAI
					MIKE + NAD
					SCOTTY





# Joshua R. Austin

## Petroleum Geologist

Report for  
RAMA Operating CO., Inc



COMPANY: RAMA Operating Company, Inc.

LEASE: J. Meyer #3-28

FIELD: Bedford

LOCATION: SE-NE-NW-NE (510' FNL & 1360' FEL)

SEC: 28 TWSP: 23s RGE: 12w

COUNTY: Stafford STATE: Kansas

KB: 1868' GL: 1857'

API # 15-185-24042-00-00

CONTRACTOR: Sterling Drilling (rig #4)

Spud: 04/10/2019 Comp: 04/18/2019

RTD: 3950' LTD: 3950'

Mud Up: 2693' Type Mud: Chemical was displaced

Samples Saved From: 2800' to RTD

Drilling Time Kept From: 2800' to RTD

Samples Examined From: 2800' to RTD

Geological Supervision From: 2850' to RTD

Geologist on Well: Josh Austin

Surface Casing: 8 5/8" @ 315'

Production Casing: 5 1/2" @ 3930'

Electronic Surveys: By Pioneer Energy Services

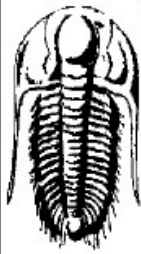
### NOTES

On the basis of the positive structure, shows in the samples and drill stem test, it was recommended by all parties involved in the J. Meyer 3-28 to run 5 1/2" production casing to test the Arbuckle, Viola, and Lansing.

**RAMA Operating Company Inc.**  
**well comparison sheet**



DRILLING WELL					COMPARISON WELL				COMPARISON WELL				COMPARISON WELL			
J. Meyers #3-28					J. Meyer 2-28				R.Meyer #7				Meyer #3			
1868 KB					1869 KB				1859 KB				1858 KB			
					Structural Relationship				Structural Relationship				Structural Relationship			
Formation	Sample	Sub-Sea	Log	Sub-Sea	Sample	Sub-Sea	Sample	Log	Sample	Sub-Sea	Sample	Log	Sample	Sub-Sea	Sample	Log
Anhydrite	670	-1198	670	-1198					650	-1209	-11		655	-1203	-5	-5
Topeka	2908	-1040	2908	-1040	2906	-1037	-3									
Heebner	3221	-1353	3220	-1352	3220	-1351	-2	-1								
Toronto	3239	-1371	3238	-1370	3238	-1369	-2									
Douglas	3257	-1389	3256	-1388	3254	-1385	-4									
Brown Lime	3365	-1497	3365	-1497	3363	-1494	-3	-3								
Lansing	3394	-1526	3390	-1522	3388	-1519	-7	-3	3389	-1530	4	8	3393	-1535	9	13
Base KC	3642	-1774	3640	-1772	3638	-1769	-5									
Viola	3707	-1839	3708	-1840	3703	-1834	-5	-6	3720	-1861	22	21	3707	-1849	10	9
Simpson Shale	3759	-1891	3759	-1891	3755	-1886	-5	-5	3769	-1910	19	19	3757	-1899	8	8
Simpson Dol.	3783	-1915	3785	-1917	3783	-1914	-1	-3								
Arbuckle	3823	-1955	3822	-1954	3819	-1950	-5	-4	3822	-1963	8	9	3817	-1959	4	5
Total Depth	3950	-2082	3950	-2082	3900	-2031			3842	-1983			3842	-1984		



**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Rama Operating Co Inc

28-23s-12w

101 S. main st Stafford KS 67578+1429

J. Meyer 3-28

ATTN: Josh Austin

Job Ticket: 65777

DST#: 1

Test Start: 2019.04.15 @ 22:34:00

### GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:20:40

Time Test Ended: 06:03:09

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

Interval: 3744.00 ft (KB) To 3828.00 ft (KB) (TVD)

Total Depth: 3828.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1868.00 ft (KB)

1857.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 6772

Inside

Press@RunDepth: 92.60 psig @ 3745.00 ft (KB)

Start Date: 2019.04.15

End Date: 2019.04.16

Capacity: 8000.00 psig

Last Calib.: 2019.04.16

Start Time: 22:34:01

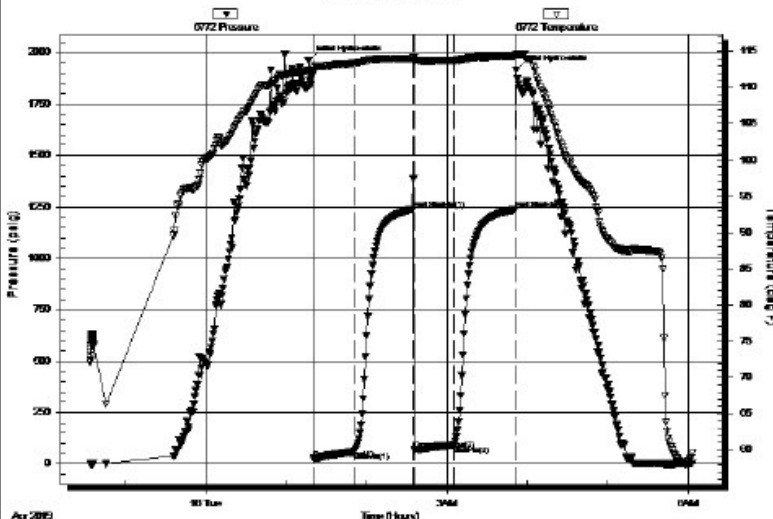
End Time: 06:03:10

Time On Btm: 2019.04.16 @ 01:16:50

Time Off Btm: 2019.04.16 @ 03:51:50

TEST COMMENT: I.F.-30- built to 5"  
I.S.I.-45- no blow back  
F.F.-30- built to 1"  
F.S.I.-45- no blow back

Pressure vs. Time



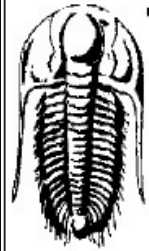
PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1961.80	112.33	Initial Hydro-static
4	24.67	112.20	Open To Flow (1)
34	58.86	113.38	Shut-In(1)
78	1238.41	114.05	End Shut-In(1)
79	66.91	113.72	Open To Flow (2)
109	92.60	113.73	Shut-In(2)
155	1237.52	114.35	End Shut-In(2)
156	1915.91	114.61	Final Hydro-static





180.00	O.S.W.M. 20%W 80%M	0.89
340.00	M. 100%M	4.45



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Rama Operating Co Inc

**28-23s-12w**

101 S. main st Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65780

**DST#: 4**

ATTN: Josh Austin

Test Start: 2019.04.17 @ 08:41:00

### GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:07:40

Time Test Ended: 15:36:50

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

Interval: **3833.00 ft (KB) To 3838.00 ft (KB) (TVD)**

Reference Elevations: 1868.00 ft (KB)

Total Depth: 3838.00 ft (KB) (TVD)

1857.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6772**

**Inside**

Press@RunDepth: 1061.61 psig @ 3835.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.04.17

End Date:

2019.04.17

Last Calib.:

2019.04.17

Start Time: 08:41:01

End Time:

15:36:50

Time On Btm:

2019.04.17 @ 10:06:30

Time Off Btm:

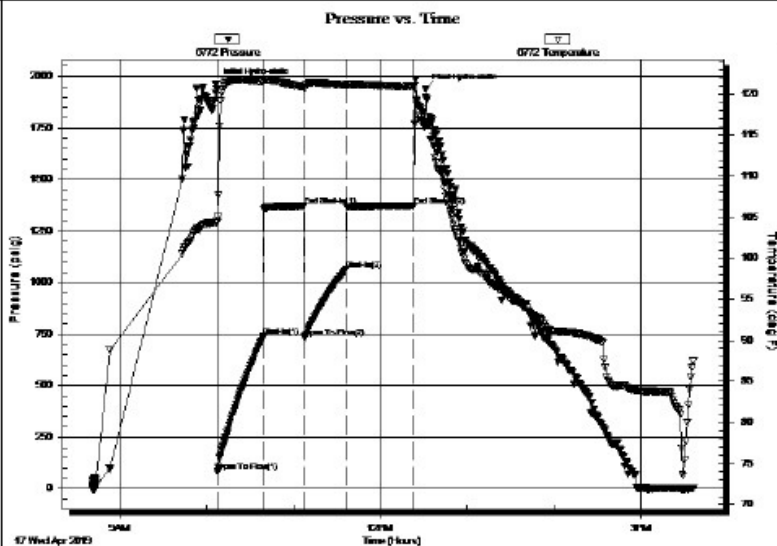
2019.04.17 @ 12:31:10

TEST COMMENT: I.F.-30- BOB 1 min 40 sec total build 247"

I.S.I.-30- weak low back

F.F.-30-BOB 1 min 45 sec total build 191"

F.S.I.-45-1/2" blow back



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1962.48	104.38	Initial Hydro-static
2	84.66	105.04	Open To Flow (1)
33	736.69	121.55	Shut-In(1)
61	1371.15	120.83	End Shut-In(1)
62	731.52	120.58	Open To Flow (2)
90	1061.61	121.10	Shut-In(2)
137	1371.38	120.88	End Shut-In(2)
145	1937.22	116.65	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
1856.00	W. 100%W	24.08
256.00	S.O.C.W. 10%O 90%W	3.59
128.00	G.W.O. 20%G 20%W 60%O	1.80

### Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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128.00	M.C.O	10%M	90%O	1.80

**ROCK TYPES**

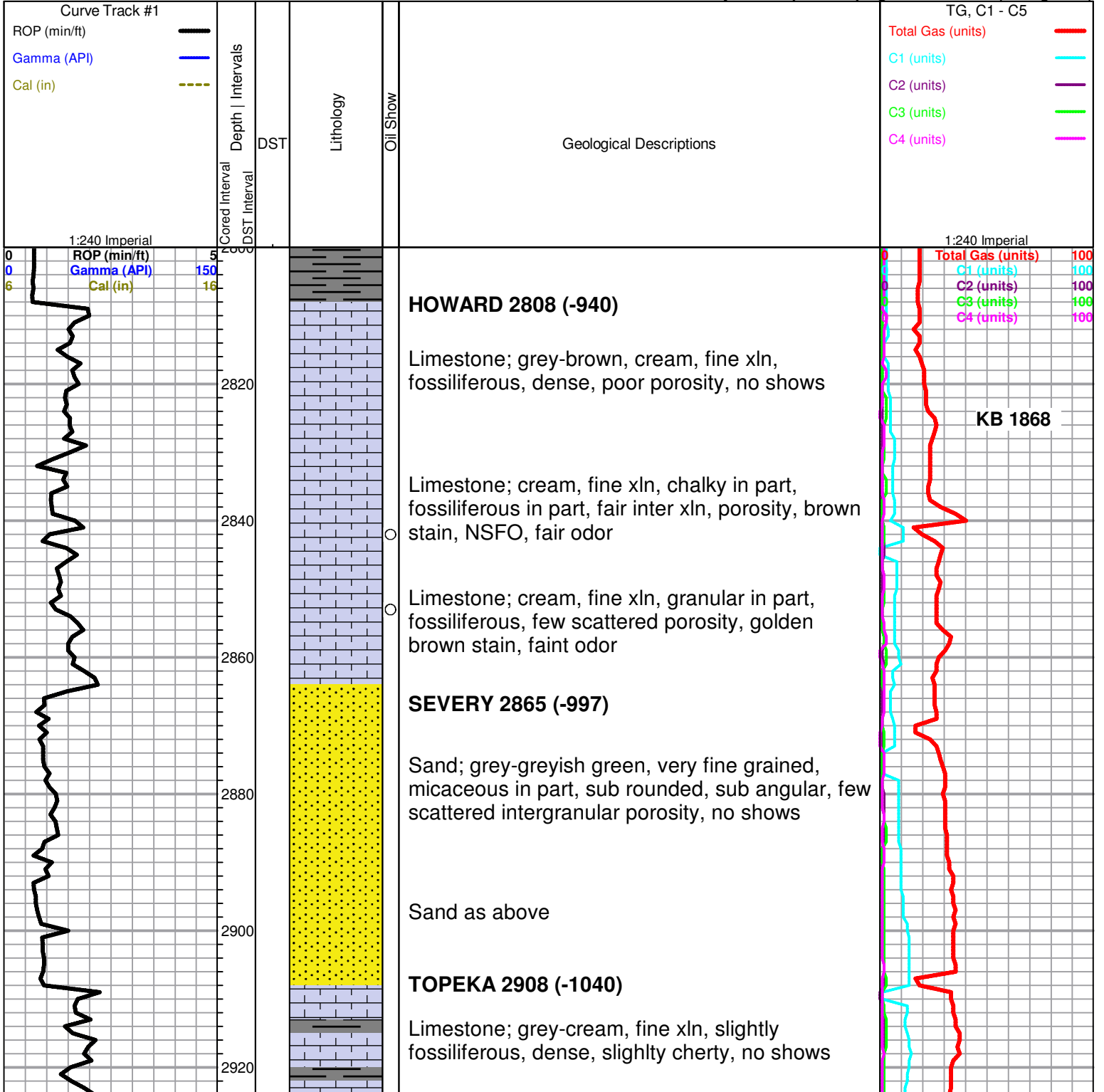
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Cht vari	Lmst fw7>	shale, gry	shale, red	

**OTHER SYMBOLS**

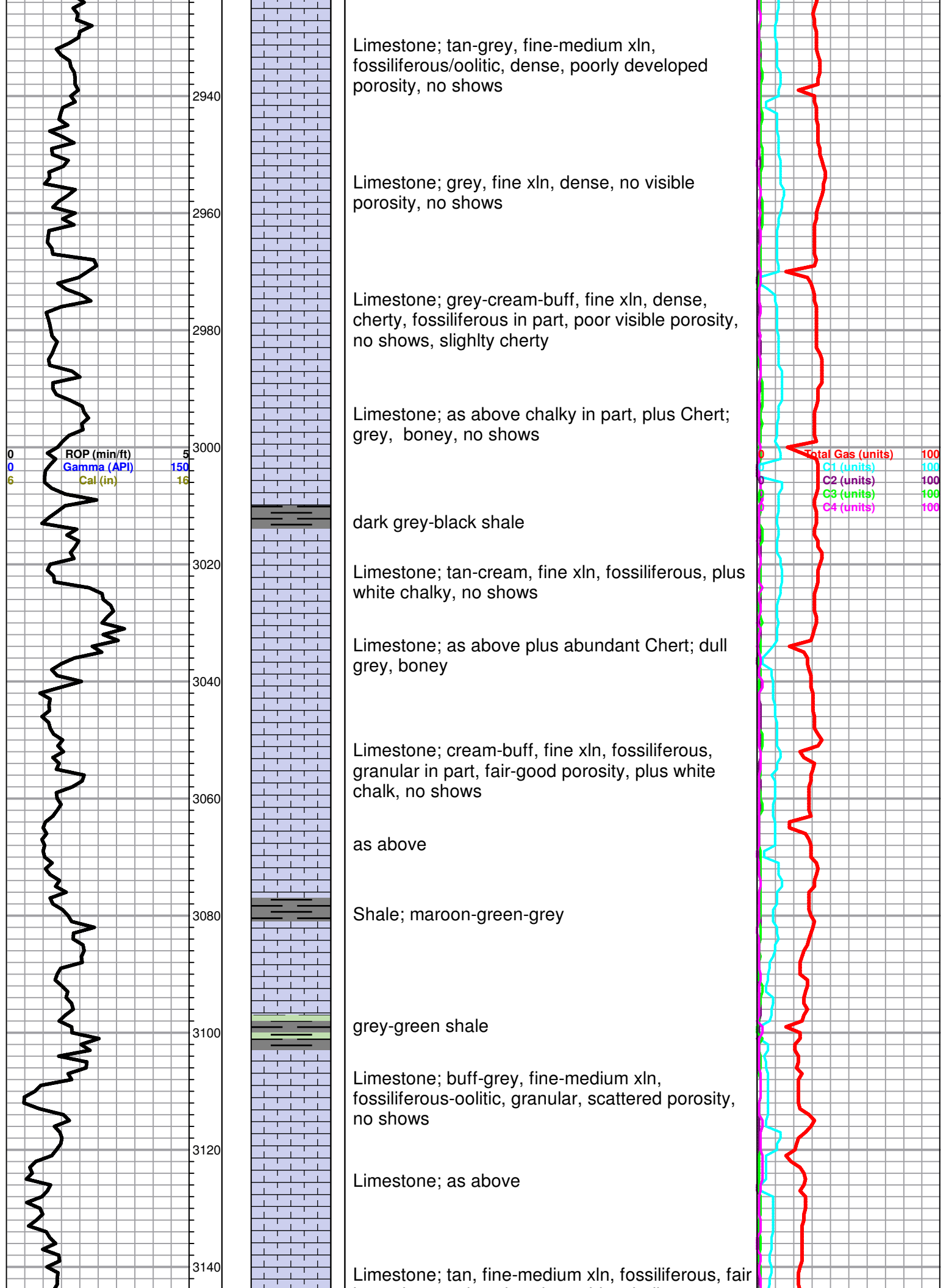
**DST**

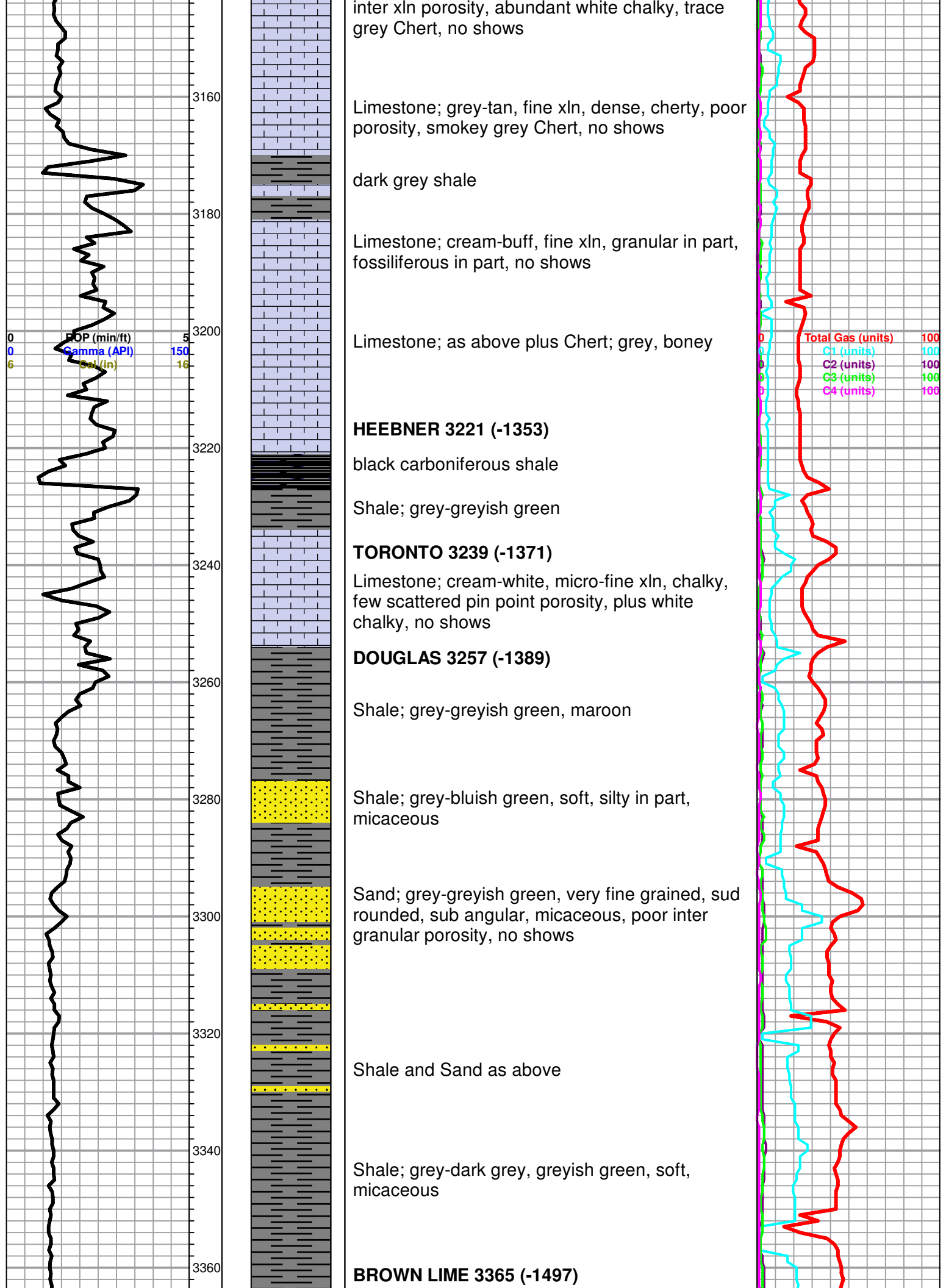
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	DST alt
	Core
	tail pipe

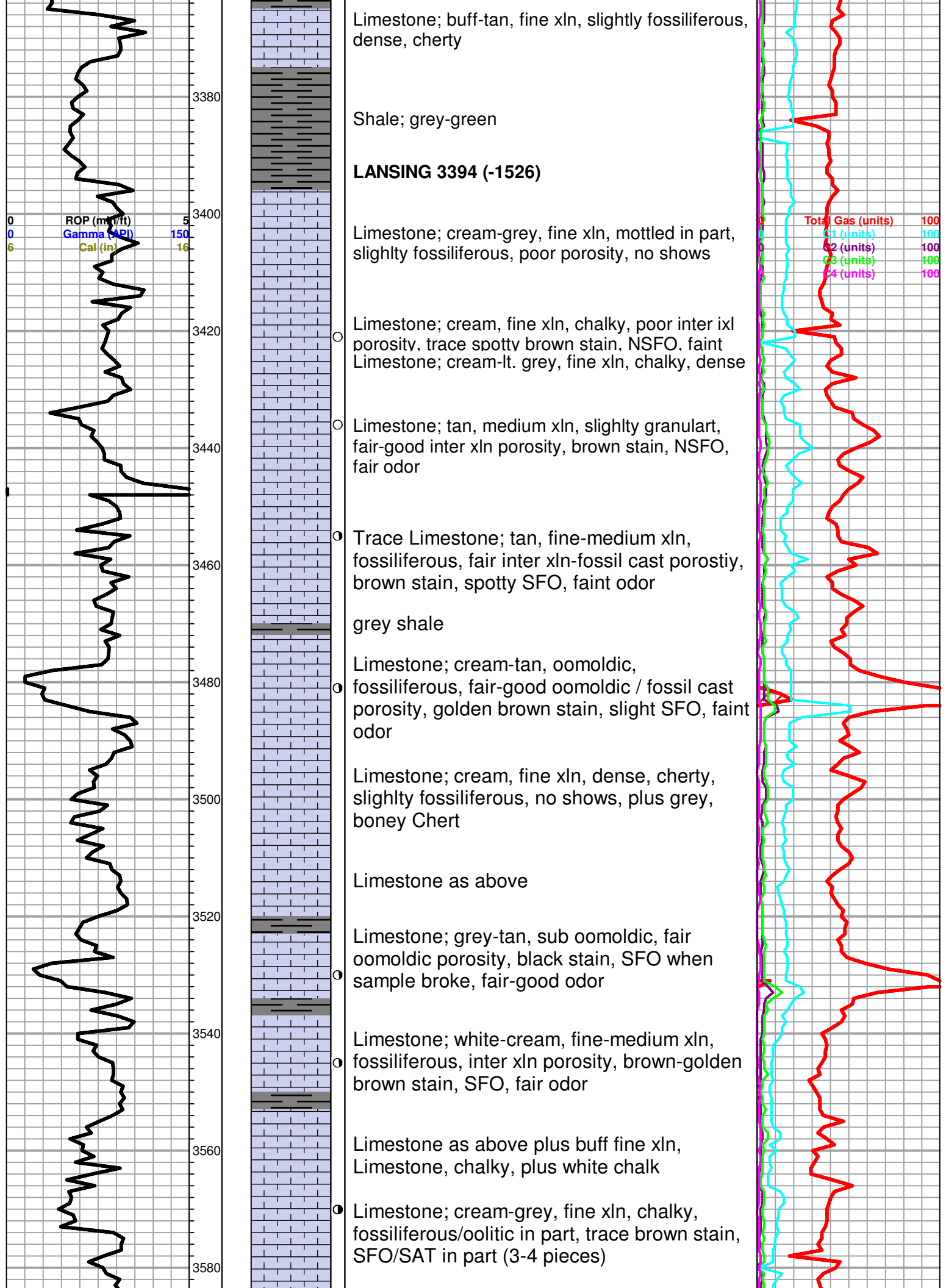
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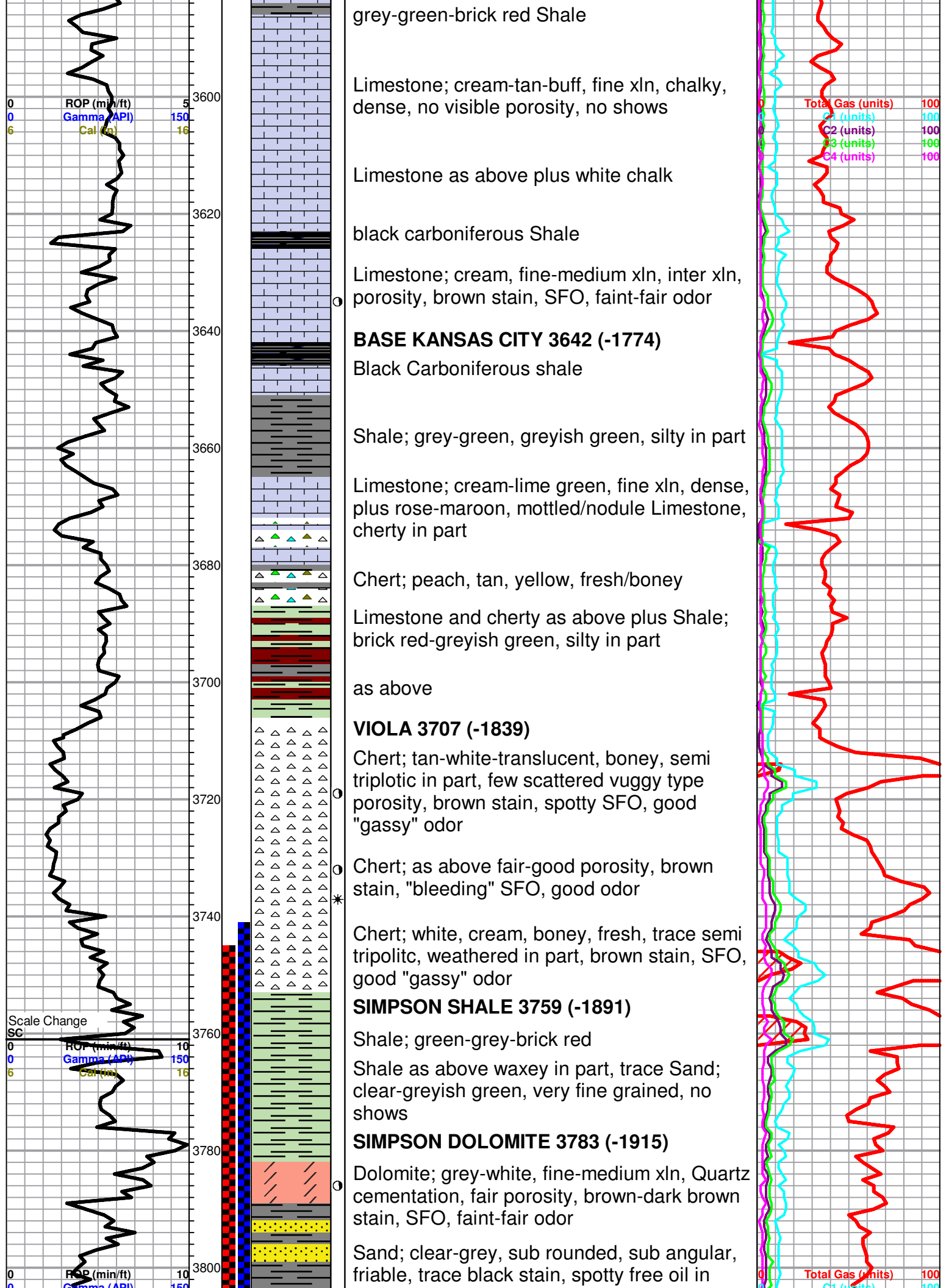




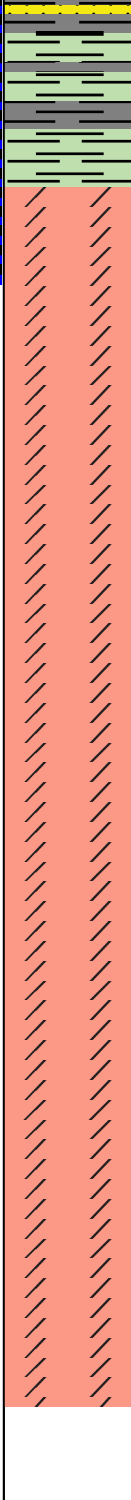
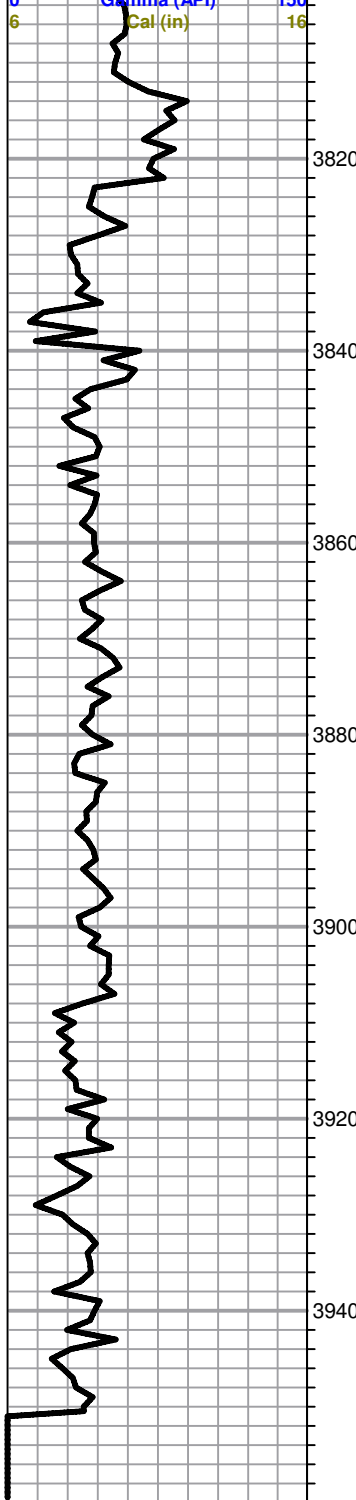












part.

Shale; grey-green, waxy

**ARBUCKLE 3823 (-1955)**

Dolomite; tan, sucrosic, fair-good inter xln porosity, brown stain, SFO/SAT, good odor

Dolomite; as above plus good oomoldic porosity, SFO/SAT, good odor

Dolomite; grey-buff, medium xln, rhombic, inter xln-vuggy porosity, quartz, brown-dark brown stain, SFO/SAT, good odor

Dolomite; cream-pink, fine-medium xln, dense, poorly developed porosity, trace black-brown stain, trace free oil, fair odor, plus Chert; white, boney

Dolomite; cream-pink, fine-mediumxln, dense, poorly developed porosity, trace black-brown stain, trace FO

Dolomite; cream, medium xln, rhombic, fair-good inter xln, porosity, black-brown stain, SFO/SAT, good odor

Dolomite; cream-buff-lt. grey, medium xln, fair inter xln porosity, rhombic, trace black-brown stain, NSFO, faint odor

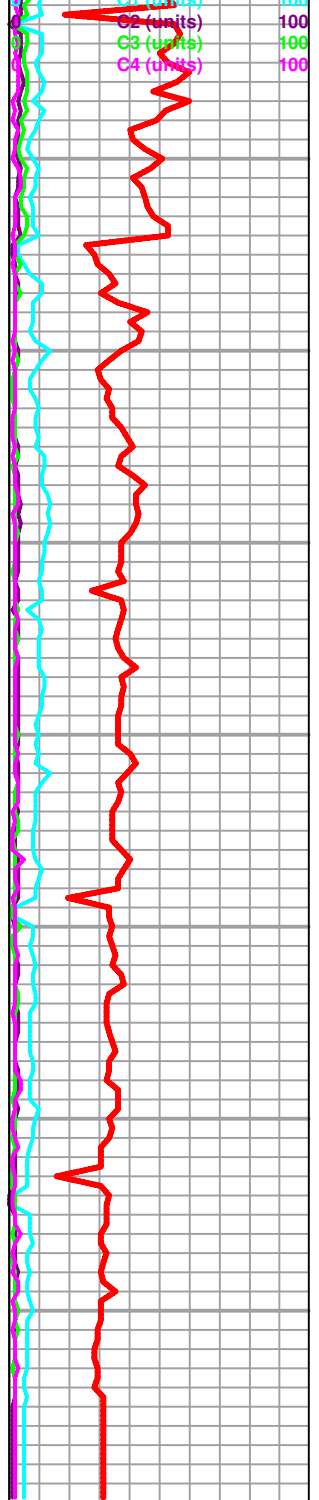
Dolomite; cream-tan, fine-medium xln, dense, poor porosity, trace stain, NSFO, no odor

Dolomite; buff-lt.grey, sucrosic, fine xln, good vuggy porosity, (barren)

Dolomite; as above

Dolomite; tan-cream, fine-medium xln, poor inter xln porosity, dense, cherty in part, no shows

**ROTARY TOTAL DEPTH 3950 (-2082)**





## DRILL STEM TEST REPORT

Prepared For: **Rama Operating Co Inc**

101 S. Main St  
Stafford KS 67578+1429

ATTN: Josh Austin

**J. Meyer 3-28**

**28-23s-12w Stafford,KS**

Start Date: 2019.04.15 @ 22:34:00

End Date: 2019.04.16 @ 06:03:09

Job Ticket #: 65777                      DST #: 1

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

Printed: 2019.04.19 @ 10:02:00



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Rama Operating Co Inc

**28-23s-12w Stafford,KS**

101 S. Main St  
Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65777

**DST#: 1**

ATTN: Josh Austin

Test Start: 2019.04.15 @ 22:34:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:20:40

Time Test Ended: 06:03:09

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

**Interval: 3744.00 ft (KB) To 3828.00 ft (KB) (TVD)**

Reference Elevations: 1868.00 ft (KB)

Total Depth: 3828.00 ft (KB) (TVD)

1857.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6772 Inside**

Press@RunDepth: 92.60 psig @ 3745.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.04.15

End Date:

2019.04.16

Last Calib.:

2019.04.16

Start Time: 22:34:01

End Time:

06:03:10

Time On Btm:

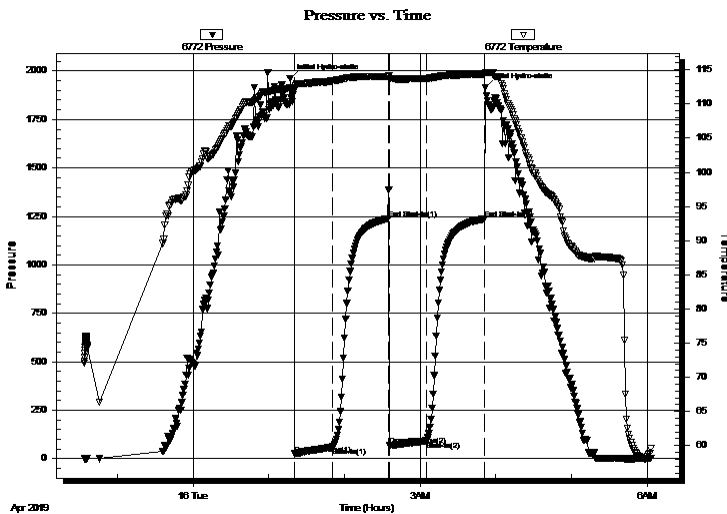
2019.04.16 @ 01:16:50

Time Off Btm:

2019.04.16 @ 03:51:50

**TEST COMMENT:** I.F.-30- built to 5"  
I.S.I.-45- no blow back  
F.F.-30- built to 1"  
F.S.I.-45- no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1961.80	112.33	Initial Hydro-static
4	24.67	112.20	Open To Flow (1)
34	58.86	113.38	Shut-In(1)
78	1238.41	114.05	End Shut-In(1)
79	66.91	113.72	Open To Flow (2)
109	92.60	113.73	Shut-In(2)
155	1237.52	114.35	End Shut-In(2)
156	1915.91	114.61	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	O.S.M. 2%O 98%M	0.59
20.00	M 100%M	0.10

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Rama Operating Co Inc

**28-23s-12w Stafford,KS**

101 S. Main St  
Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65777

**DST#: 1**

ATTN: Josh Austin

Test Start: 2019.04.15 @ 22:34:00

## Tool Information

Drill Pipe:	Length: 3526.00 ft	Diameter: 3.80 inches	Volume: 49.46 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 50.52 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3744.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	104.00 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			3725.00	
Shut In Tool	5.00			3730.00	
Hydraulic tool	5.00			3735.00	
Packer	5.00			3740.00	20.00 Bottom Of Top Packer
Packer	4.00			3744.00	
Stubb	1.00			3745.00	
Recorder	0.00	6772	Inside	3745.00	
Recorder	0.00	6769	Outside	3745.00	
Perforations	14.00			3759.00	
Change Over Sub	1.00			3760.00	
Drill Pipe	64.00			3824.00	
Change Over Sub	1.00			3825.00	
Bullnose	3.00			3828.00	84.00 Bottom Packers & Anchor

**Total Tool Length: 104.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Rama Operating Co Inc

**28-23s-12w Stafford,KS**

101 S. Main St  
Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65777

**DST#: 1**

ATTN: Josh Austin

Test Start: 2019.04.15 @ 22:34:00

## 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:

ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	O.S.M. 2%O 98%M	0.590
20.00	M 100%M	0.098

Total Length: 140.00 ft      Total Volume: 0.688 bbl

Num Fluid Samples: 0

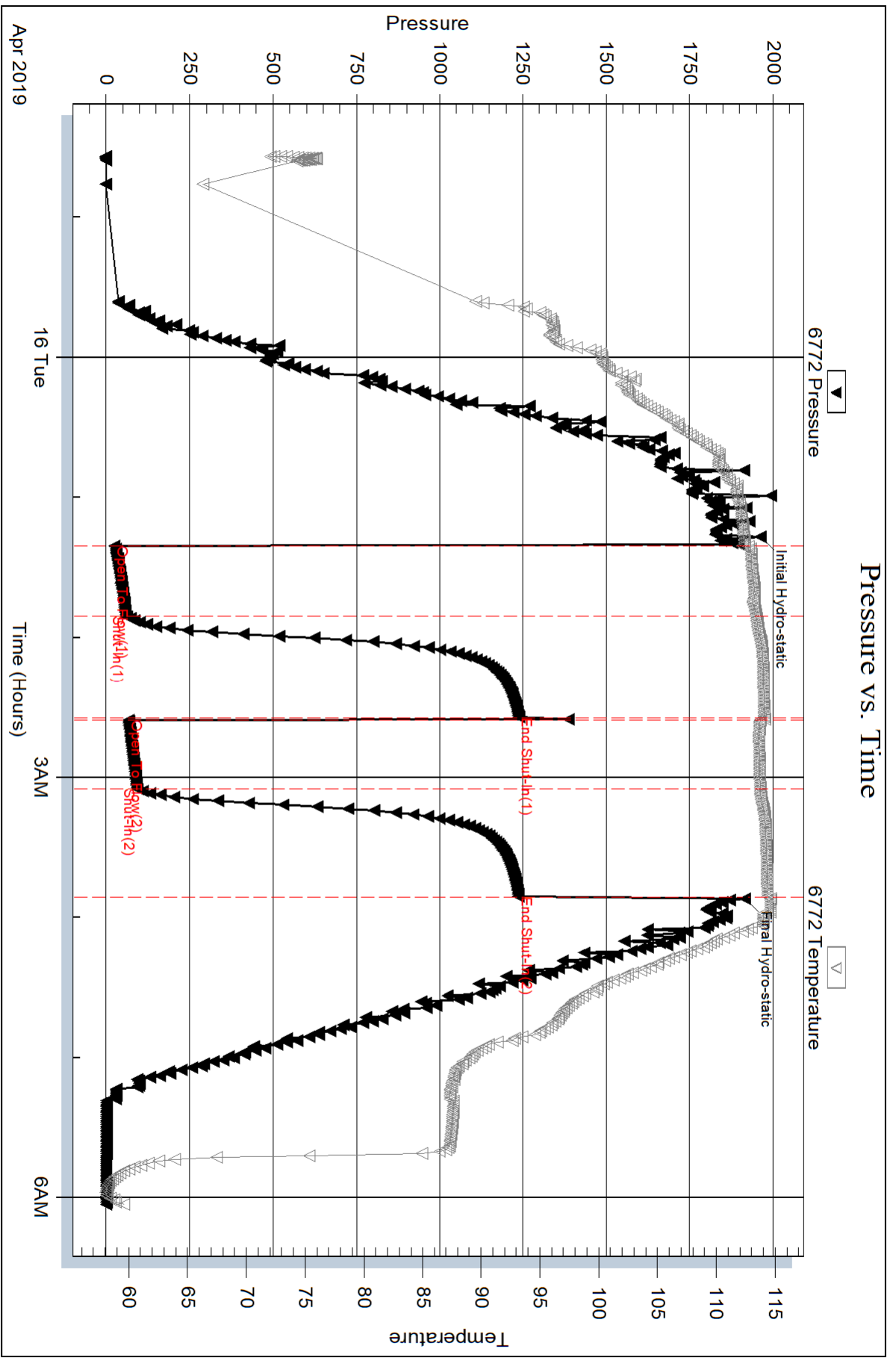
Num Gas Bombs: 0

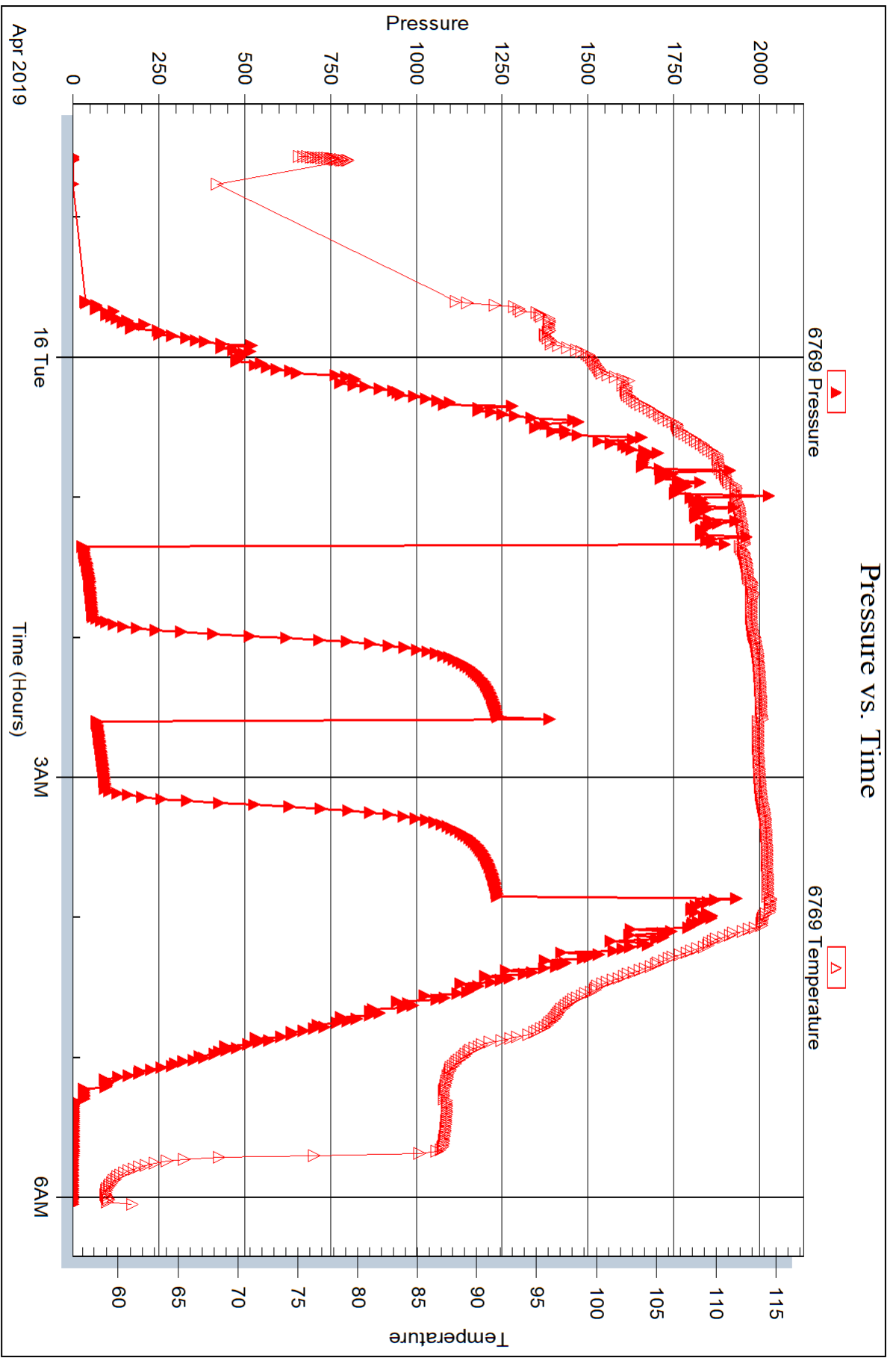
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Rama Operating Co Inc**

101 S. Main St  
Stafford KS 67578+1429

ATTN: Josh Austin

**J. Meyer 3-28**

**28-23s-12w Stafford,KS**

Start Date: 2019.04.16 @ 14:48:01

End Date: 2019.04.16 @ 19:15:20

Job Ticket #: 65778                      DST #: 2

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

Printed: 2019.04.19 @ 09:57:39









**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Rama Operating Co Inc

**28-23s-12w Stafford,KS**

101 S. Main St  
Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65778

**DST#: 2**

ATTN: Josh Austin

Test Start: 2019.04.16 @ 14:48:01

## Tool Information

Drill Pipe:	Length: 3526.00 ft	Diameter: 3.80 inches	Volume: 49.46 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 50.52 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3744.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	88.00 ft			
Tool Length:	108.00 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			3725.00	
Shut In Tool	5.00			3730.00	
Hydraulic tool	5.00			3735.00	
Packer	5.00			3740.00	20.00 Bottom Of Top Packer
Packer	4.00			3744.00	
Stubb	1.00			3745.00	
Recorder	0.00	6772	Inside	3745.00	
Recorder	0.00	6769	Outside	3745.00	
Perforations	18.00			3763.00	
Change Over Sub	1.00			3764.00	
Drill Pipe	64.00			3828.00	
Change Over Sub	1.00			3829.00	
Bullnose	3.00			3832.00	88.00 Bottom Packers & Anchor

**Total Tool Length: 108.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Rama Operating Co Inc

**28-23s-12w Stafford,KS**

101 S. Main St  
Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65778

**DST#: 2**

ATTN: Josh Austin

Test Start: 2019.04.16 @ 14:48:01

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 72.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7100.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

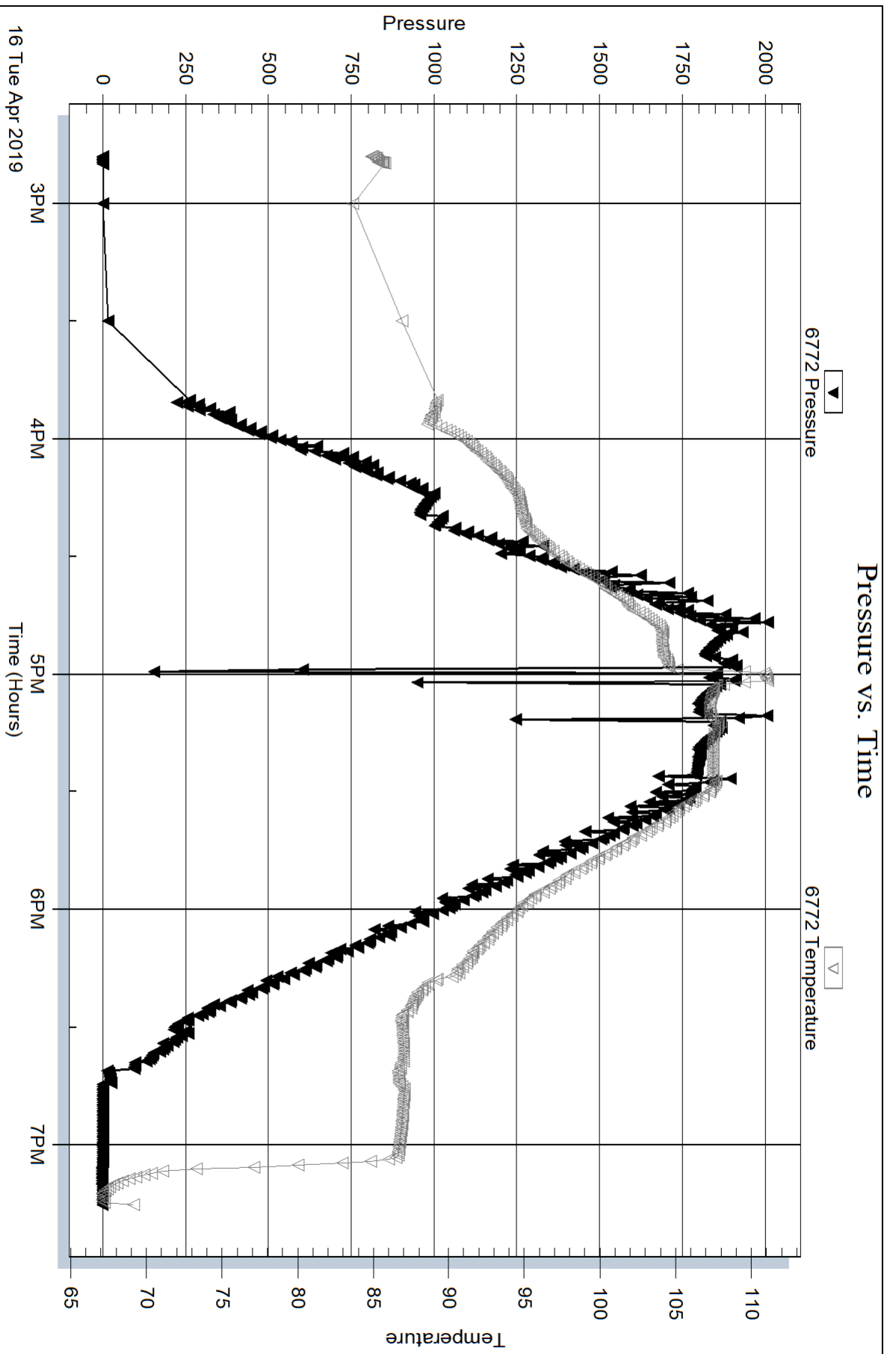
Length ft	Description	Volume bbbl

Total Length:                      ft      Total Volume:                      bbl

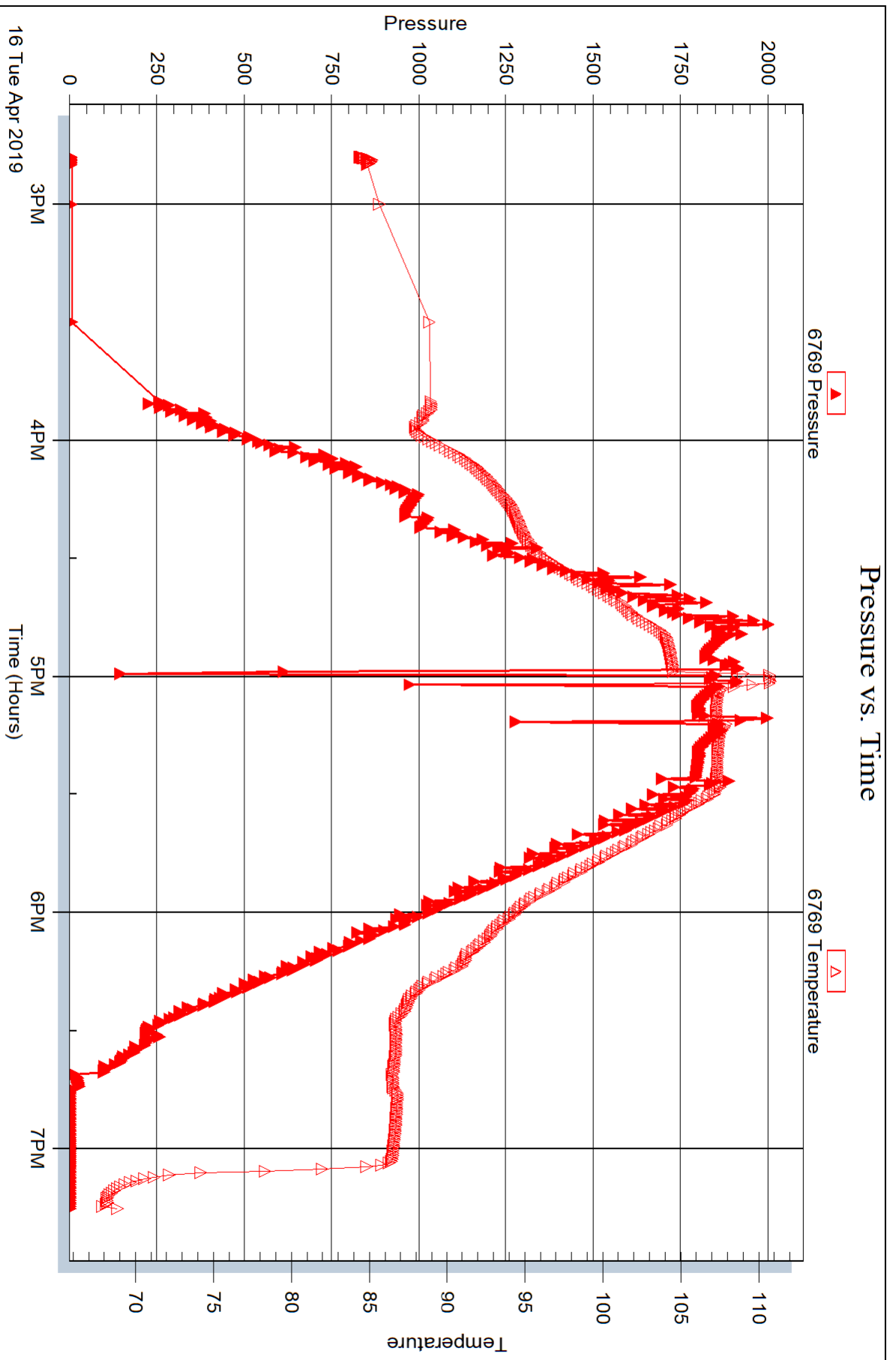
Num Fluid Samples: 0                      Num Gas Bombs:      0                      Serial #:

Laboratory Name:                      Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **Rama Operating Co Inc**

101 S. Main St  
Stafford KS 67578+1429

ATTN: Josh Austin

**J. Meyer 3-28**

**28-23s-12w Stafford,KS**

Start Date: 2019.04.16 @ 19:38:00

End Date: 2019.04.17 @ 02:32:00

Job Ticket #: 65779                      DST #: 3

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

Printed: 2019.04.19 @ 09:56:28



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Rama Operating Co Inc

**28-23s-12w Stafford,KS**

101 S. Main St  
Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65779

**DST#: 3**

ATTN: Josh Austin

Test Start: 2019.04.16 @ 19:38:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:22:50

Time Test Ended: 02:32:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

**Interval: 3740.00 ft (KB) To 3832.00 ft (KB) (TVD)**

Reference Elevations: 1868.00 ft (KB)

Total Depth: 3832.00 ft (KB) (TVD)

1857.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6772**

**Inside**

Press@RunDepth: 264.12 psig @ 3741.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.04.16

End Date:

2019.04.17

Last Calib.:

2019.04.17

Start Time:

19:38:01

End Time:

02:32:00

Time On Btm:

2019.04.16 @ 21:21:20

Time Off Btm:

2019.04.17 @ 00:09:20

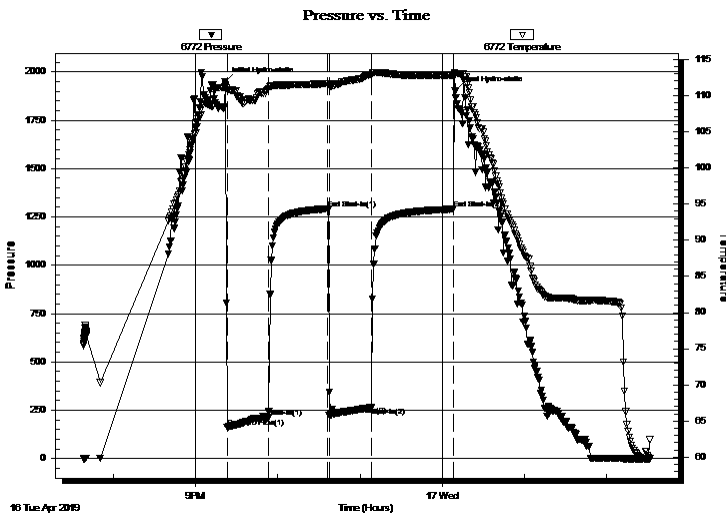
**TEST COMMENT:** I.F.-30- BOB 20 mins total build 14"

I.S.I.-45- no blow back

F.F.-30- built to 10 1/2 "

F.S.I.-60- no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1950.88	111.15	Initial Hydro-static
2	160.82	110.82	Open To Flow (1)
32	212.35	110.93	Shut-In(1)
76	1292.20	111.62	End Shut-In(1)
76	223.97	111.33	Open To Flow (2)
107	264.12	112.91	Shut-In(2)
167	1290.43	112.84	End Shut-In(2)
168	1900.93	113.04	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	O.S.W.M. 20%W 80%M	0.89
340.00	M. 100%M	4.45

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Rama Operating Co Inc

**28-23s-12w Stafford,KS**

101 S. Main St  
Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65779

**DST#: 3**

ATTN: Josh Austin

Test Start: 2019.04.16 @ 19:38:00

## Tool Information

Drill Pipe:	Length: 3526.00 ft	Diameter: 3.80 inches	Volume: 49.46 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 50.52 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3740.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	92.00 ft			
Tool Length:	112.00 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			3721.00	
Shut In Tool	5.00			3726.00	
Hydraulic tool	5.00			3731.00	
Packer	5.00			3736.00	20.00 Bottom Of Top Packer
Packer	4.00			3740.00	
Stubb	1.00			3741.00	
Recorder	0.00	6772	Inside	3741.00	
Recorder	0.00	6769	Outside	3741.00	
Perforations	22.00			3763.00	
Change Over Sub	1.00			3764.00	
Drill Pipe	64.00			3828.00	
Change Over Sub	1.00			3829.00	
Bullnose	3.00			3832.00	92.00 Bottom Packers & Anchor

**Total Tool Length: 112.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Rama Operating Co Inc

**28-23s-12w Stafford,KS**

101 S. Main St  
Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65779

**DST#: 3**

ATTN: Josh Austin

Test Start: 2019.04.16 @ 19:38:00

### 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:

18000 ppm

Viscosity: 72.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7100.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	O.S.W.M. 20%W 80%M	0.885
340.00	M. 100%M	4.450

Total Length: 520.00 ft      Total Volume: 5.335 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

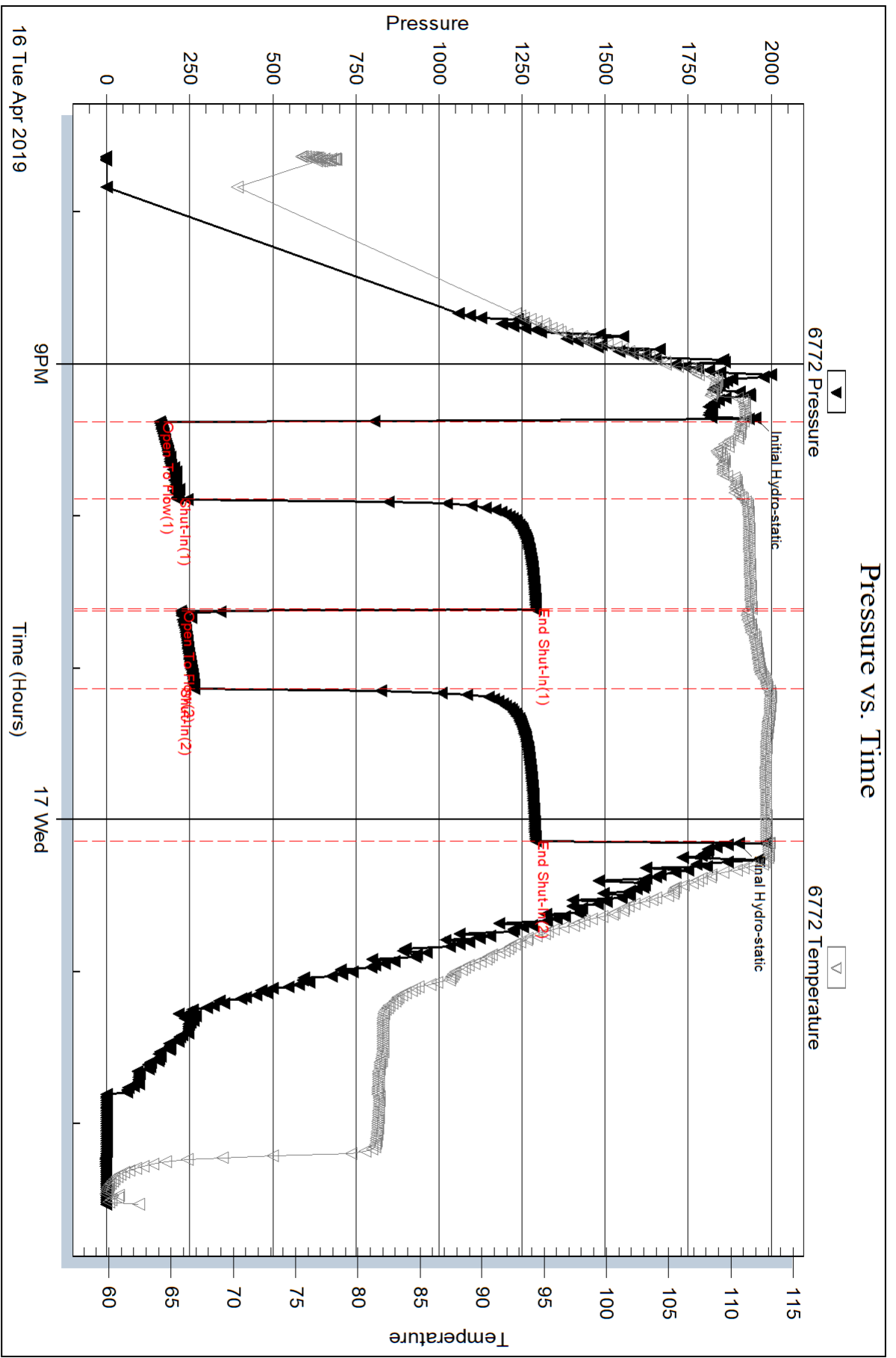
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .427@59.7



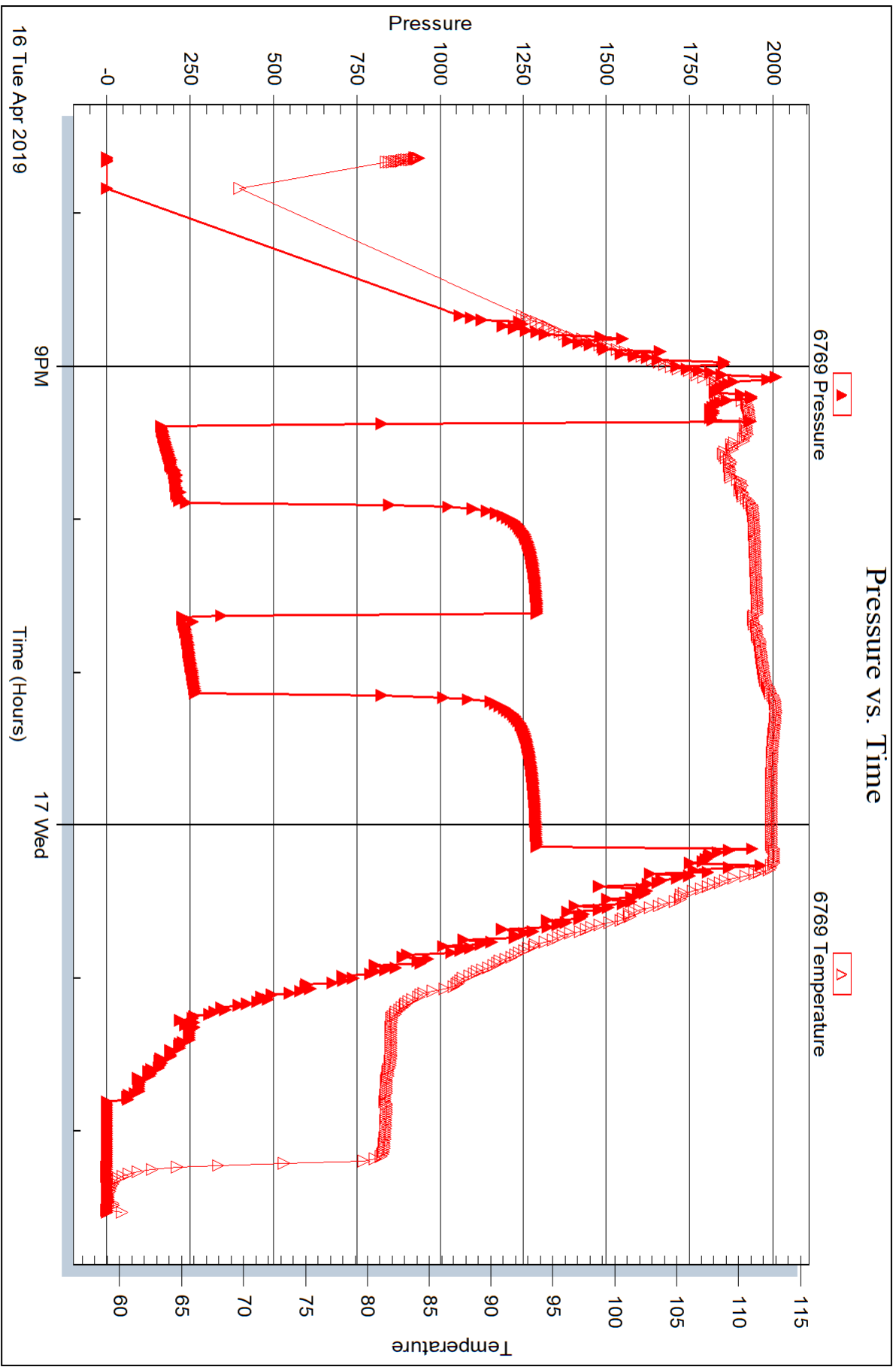


Serial #: 6769

Outside Rama Operating Co Inc

J. Meyer 3-28

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Rama Operating Co Inc**

101 S. Main St  
Stafford KS 67578+1429

ATTN: Josh Austin

**J. Meyer 3-28**

**28-23s-12w Stafford,KS**

Start Date: 2019.04.17 @ 08:41:00

End Date: 2019.04.17 @ 15:36:50

Job Ticket #: 65780                      DST #: 4

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

Printed: 2019.04.19 @ 09:52:48



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Rama Operating Co Inc

**28-23s-12w Stafford,KS**

101 S. Main St  
Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65780

**DST#: 4**

ATTN: Josh Austin

Test Start: 2019.04.17 @ 08:41:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:07:40

Time Test Ended: 15:36:50

Test Type: Conventional Bottom Hole (Initial)

Tester: Benny Mulligan

Unit No: 66

**Interval: 3833.00 ft (KB) To 3838.00 ft (KB) (TVD)**

Reference Elevations: 1868.00 ft (KB)

Total Depth: 3838.00 ft (KB) (TVD)

1857.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6772**

**Inside**

Press@RunDepth: 1061.61 psig @ 3835.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.04.17

End Date:

2019.04.17

Last Calib.:

2019.04.17

Start Time: 08:41:01

End Time:

15:36:50

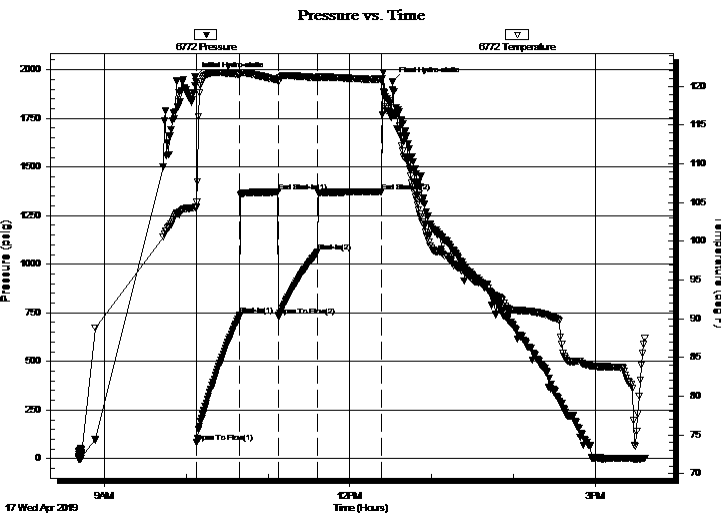
Time On Btm:

2019.04.17 @ 10:06:30

Time Off Btm:

2019.04.17 @ 12:31:10

**TEST COMMENT:** I.F.-30- BOB 1 min 40 sec total build 247"  
I.S.I.-30- weak low back  
F.F.-30-BOB 1 min 45 sec total build 191"  
F.S.I.-45-1/2" blow back



## PRESSURE SUMMARY

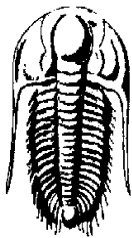
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1962.48	104.38	Initial Hydro-static
2	84.66	105.04	Open To Flow (1)
33	736.69	121.55	Shut-In(1)
61	1371.15	120.83	End Shut-In(1)
62	731.52	120.58	Open To Flow (2)
90	1061.61	121.10	Shut-In(2)
137	1371.38	120.88	End Shut-In(2)
145	1937.22	116.65	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1856.00	W. 100%W	24.08
256.00	S.O.C.W. 10%O 90%W	3.59
128.00	G.W.O. 20%G 20%W 60%O	1.80
128.00	M.C.O 10%M 90%O	1.80

## 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

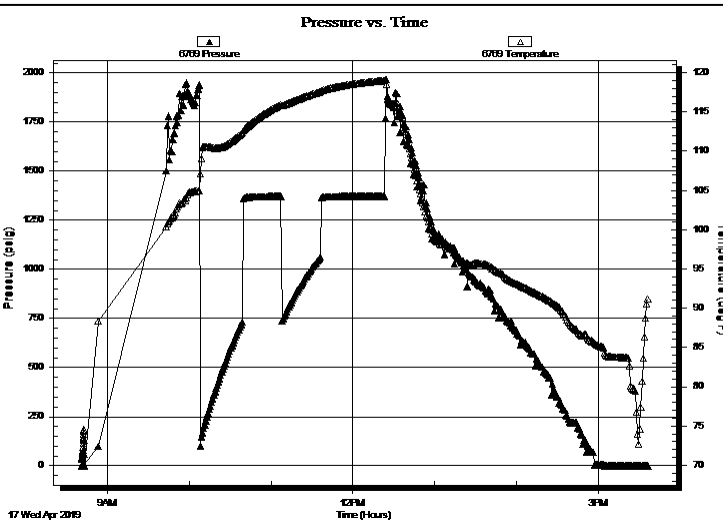
**28-23s-12w Stafford, KS**  
**J. Meyer 3-28**  
 Job Ticket: 65780      **DST#: 4**  
 Test Start: 2019.04.17 @ 08:41:00

**GENERAL INFORMATION:**

Formation: <b>Arbuckle</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Benny Mulligan
Time Tool Opened: 10:07:40	Unit No: 66
Time Test Ended: 15:36:50	
<b>Interval: 3833.00 ft (KB) To 3838.00 ft (KB) (TVD)</b>	Reference Elevations: 1868.00 ft (KB)
Total Depth: 3838.00 ft (KB) (TVD)	1857.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair	KB to GR/CF: 11.00 ft

<b>Serial #: 6769 Outside</b>	Capacity: 8000.00 psig
Press@RunDepth: psig @ 3835.00 ft (KB)	Last Calib.: 2019.04.17
Start Date: 2019.04.17 End Date: 2019.04.17	Time On Btm:
Start Time: 08:41:01 End Time: 15:36:50	Time Off Btm:

**TEST COMMENT:** I.F.-30- BOB 1 min 40 sec total build 247"  
 I.S.I.-30- weak low back  
 F.F.-30-BOB 1 min 45 sec total build 191"  
 F.S.I.-45-1/2" blow back



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
1856.00	W. 100%W	24.08
256.00	S.O.C.W. 10%O 90%W	3.59
128.00	G.W.O. 20%G 20%W 60%O	1.80
128.00	M.C.O 10%M 90%O	1.80

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Rama Operating Co Inc

**28-23s-12w Stafford,KS**

101 S. Main St  
Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65780

**DST#: 4**

ATTN: Josh Austin

Test Start: 2019.04.17 @ 08:41:00

## Tool Information

Drill Pipe:	Length: 3630.00 ft	Diameter: 3.80 inches	Volume: 50.92 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 51.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3833.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	5.00 ft			
Tool Length:	25.00 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			3814.00	
Shut In Tool	5.00			3819.00	
Hydraulic tool	5.00			3824.00	
Packer	5.00			3829.00	20.00 Bottom Of Top Packer
Packer	4.00			3833.00	
Stubb	1.00			3834.00	
Perforations	1.00			3835.00	
Recorder	0.00	6772	Inside	3835.00	
Recorder	0.00	6769	Outside	3835.00	
Bullnose	3.00			3838.00	5.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>25.00</b>				





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Rama Operating Co Inc

**28-23s-12w Stafford,KS**

101 S. Main St  
Stafford KS 67578+1429

**J. Meyer 3-28**

Job Ticket: 65780

**DST#: 4**

ATTN: Josh Austin

Test Start: 2019.04.17 @ 08:41:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

22000 ppm

Viscosity: 72.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7100.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1856.00	W. 100%W	24.076
256.00	S.O.C.W. 10%O 90%W	3.591
128.00	G.W.O. 20%G 20%W 60%O	1.796
128.00	M.C.O 10%M 90%O	1.796

Total Length: 2368.00 ft

Total Volume: 31.259 bbl

Num Fluid Samples: 0

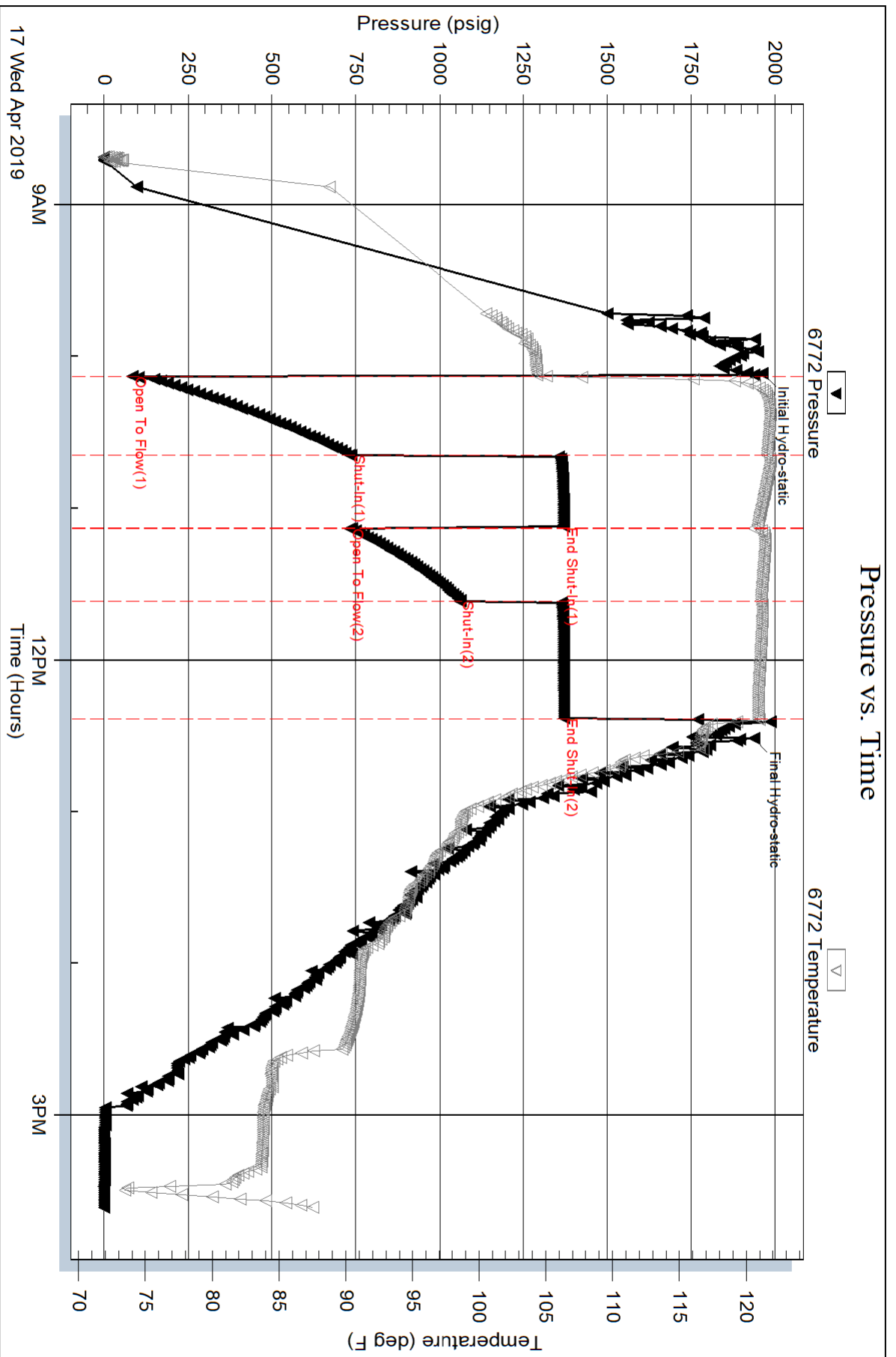
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .203@90.4

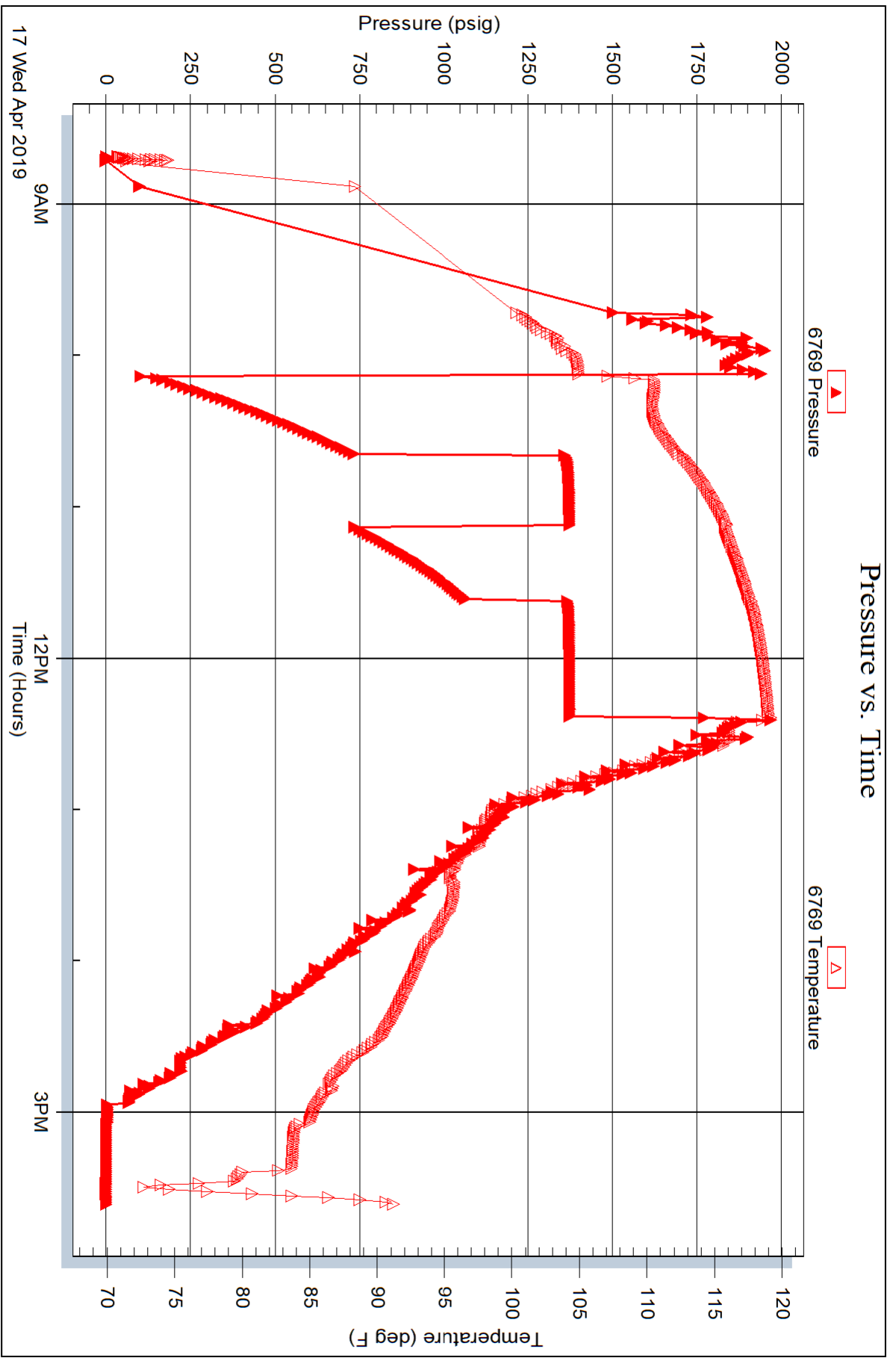


Serial #: 6769

Outside Rama Operating Co Inc

J. Meyer 3-28

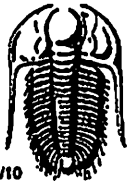
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 65780

Printed: 2019.04.19 @ 09:52:50



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 65777

NO.

Well Name & No. J. Meyer 3-28 Test No. 1 Date 4-16-2019  
 Company Rama Operating Co Inc Elevation 1868 KB 1857 GL  
 Address 101 S main St Stafford KS 67578+1429  
 Co. Rep / Geo. Josh Austin Rig Sterling 4  
 Location: Sec. 28 Twp 23s Rge. 12w Co. Stafford State KS

Interval Tested 3744-3828 Zone Tested Arbuckle  
 Anchor Length 84' Drill Pipe Run 3526 Mud Wt. 9.3  
 Top Packer Depth 3739 Drill Collars Run 215 Vls 67  
 Bottom Packer Depth 3744 Wt. Pipe Run --- WL 8.0  
 Total Depth 3828 Chlorides 5500 ppm System LCM Tr

Blow Description IF - ~~no~~ built to 5"  
ISI - no blow back  
FF - built to 1"  
FSI - no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>20'</u>	<u>M</u>			<u>100</u>	
<u>120</u>	<u>O.S.M.</u>		<u>2</u>	<u>98</u>	

Rec Total 140' BHT 114 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

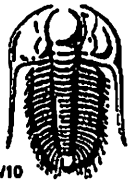
(A) Initial Hydrostatic 1961  Test 1200 T-On Location 9:45 PM  
 (B) First Initial Flow 24  Jars \_\_\_\_\_ T-Started 10:34  
 (C) First Final Flow 58  Safety Joint \_\_\_\_\_ T-Open 1:20 AM  
 (D) Initial Shut-In 1238  Circ Sub \_\_\_\_\_ T-Pulled 3:50  
 (E) Second Initial Flow 66  Hourly Standby \_\_\_\_\_ T-Out 6:03  
 (F) Second Final Flow 92  Mileage 60m. RT 60 Comments \_\_\_\_\_  
 (G) Final Shut-In 1237  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1915  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 30  
 Final Shut-In 45

Sub Total 1260 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative Renny Mulligan

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 65778

NO.

Well Name & No. J. Meyer 3-28 Test No. 2 Date 4-16-2019  
 Company Rama Operating Co Inc Elevation 1868 KB 1857 GL  
 Address 101 S main St Stafford KS 67578+1429  
 Co. Rep / Geo. Josh Austin Rig Sterling Rig 4  
 Location: Sec. 28 Twp 23S Rge. 12W Co. Stafford State KS

Interval Tested 3744-3832 Zone Tested Arbuckle  
 Anchor Length 88' Drill Pipe Run 3526 Mud Wt. 9.45  
 Top Packer Depth 3739 Drill Collars Run 215 Vls 72  
 Bottom Packer Depth 3744 Wt. Pipe Run ~ WL 9.6  
 Total Depth 3832 Chlorides 7100 ppm System LCM 1/2 #

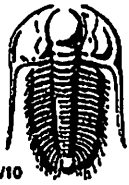
Blow Description IC-  
IST- Misc Run  
FF-  
FSI-

Rec	Feet of	%gas	%oil	%water	%mud

Rec Total \_\_\_\_\_ BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic \_\_\_\_\_  Test 950 T-On Location 2:20 PM  
 (B) First Initial Flow \_\_\_\_\_  Jars \_\_\_\_\_ T-Started 2:48  
 (C) First Final Flow \_\_\_\_\_  Safety Joint \_\_\_\_\_ T-Open \_\_\_\_\_  
 (D) Initial Shut-In \_\_\_\_\_  Circ Sub \_\_\_\_\_ T-Pulled \_\_\_\_\_  
 (E) Second Initial Flow \_\_\_\_\_  Hourly Standby \_\_\_\_\_ T-Out 7:16  
 (F) Second Final Flow \_\_\_\_\_  Mileage 60 mi RT 60 Comments \_\_\_\_\_  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic \_\_\_\_\_  Straddle \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 1010  
 Sub Total 1010 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative Benny Mulligan  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 65779

NO.

Well Name & No. J. Meyer 3-28 Test No. 3 Date 4-16-2019  
 Company Rama Operating Co Inc Elevation 1868 KB 1857 GL  
 Address 101 S main st Stafford KS 67578+1429  
 Co. Rep / Geo. Josh Austin Rig sterling Rig 4  
 Location: Sec. 28 Twp 235 Rge. 12W Co. Stafford State KS

Interval Tested 3740-3832 Zone Tested Arbucklk  
 Anchor Length 92' Drill Pipe Run 3526 Mud Wt. 9.45  
 Top Packer Depth 3735 Drill Collars Run 215 Vis 72  
 Bottom Packer Depth 3740 Wt. Pipe Run \_\_\_\_\_ WL 9.6  
 Total Depth 3832 Chlorides 7100 ppm System LCM 1/2#

Blow Description IF-BOB 20mins total build 14"  
FSI- no blow back  
FF- built to 10 1/2"  
FST- no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>380'</u>	<u>M.</u>			<u>100</u>	
<u>180'</u>	<u>O.S.W.M.</u>		<u>20</u>	<u>80</u>	
_____	_____				
_____	_____				

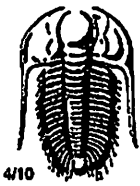
Rec Total 520' BHT 113 Gravity \_\_\_\_\_ API RW 1427 @ 59.7° F Chlorides 18,000 ppm

(A) Initial Hydrostatic 1950  Test 1200 T-On Location \_\_\_\_\_  
 (B) First Initial Flow 160  Jars \_\_\_\_\_ T-Started 7:38 PM  
 (C) First Final Flow 212  Safety Joint \_\_\_\_\_ T-Open 9:23  
 (D) Initial Shut-In 1292  Circ Sub \_\_\_\_\_ T-Pulled 12:08  
 (E) Second Initial Flow 223  Hourly Standby \_\_\_\_\_ T-Out 2:24  
 (F) Second Final Flow 264  Mileage 1 Comments \_\_\_\_\_  
 (G) Final Shut-In 1290  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1900  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 1200  
 Sub Total 1200 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 30  
 Final Shut-In 60

Approved By [Signature] Our Representative Benny Mulligan

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 65780

NO.

Well Name & No. J. Meyer 3-28 Test No. 4 Date 4-17-2019  
 Company Buma Operating Co Inc Elevation 1868 KB 1857 GL  
 Address 101 S main St Stafford KS 67578 +1429  
 Co. Rep / Geo. Josh Austin Rig Sterling Rig 4  
 Location: Sec. 28 Twp 25S Rge. 12W Co. Stafford State KS

Interval Tested 3833-3838 Zone Tested Arbuckle  
 Anchor Length ~~3838~~ 5' Drill Pipe Run 3615 Mud Wt. 9.45  
 Top Packer Depth ~~3833~~ 3828 Drill Collars Run 215 Vis 72  
 Bottom Packer Depth ~~3838~~ 3833 Wt. Pipe Run --- WL 9.6  
 Total Depth 3838 Chlorides 7100 ppm System LCM 1/2\*

Blow Description IF-BOB 1min 40sec total build 247"  
ISI-weak surface blow back  
FF-BOB 1min 45sec total build 191"  
FST-1/2" blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>128</u>	<u>m.c.o.</u>	<u>90</u>	<u>0</u>	<u>10</u>	<u>0</u>
<u>128</u>	<u>G.W.O.</u>	<u>20</u>	<u>60</u>	<u>20</u>	<u>0</u>
<u>256</u>	<u>S.O.C.W.</u>	<u>10</u>	<u>90</u>	<u>0</u>	<u>0</u>
<u>1856</u>	<u>W</u>	<u>0</u>	<u>100</u>	<u>0</u>	<u>0</u>

Rec Total 2368 BHT 116 Gravity 35 API RW .203 @ 90.4°F Chlorides 22000 ppm

(A) Initial Hydrostatic 1962  Test 1200 T-On Location 8:15 AM  
 (B) First Initial Flow 84  Jars \_\_\_\_\_ T-Started 8:41  
 (C) First Final Flow 736  Safety Joint \_\_\_\_\_ T-Open 10:07  
 (D) Initial Shut-In 1371  Circ Sub \_\_\_\_\_ T-Pulled 12:22 PM  
 (E) Second Initial Flow 731  Hourly Standby \_\_\_\_\_ T-Out 3:37  
 (F) Second Final Flow 1061  Mileage 60 mi Rt 60 Comments Loaded tools  
 (G) Final Shut-In 1371  Sampler \_\_\_\_\_ 9 FTE DST 4  
 (H) Final Hydrostatic 1937  Straddle \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Initial Shut-In 30  Extra Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Final Shut-In 45  Day Standby \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Sub Total 1260  Accessibility \_\_\_\_\_ Sub Total 0  
 Sub Total 1260 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative Benny Mulligan

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