

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 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	F. G. Holl Company L.L.C.
Well Name	CALCARA 2-19
Doc ID	1376683

All Electric Logs Run

DIL
DNL
CDL
DCL

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
November 2016

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All blanks must be Filled

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Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or _____ Date Reached TD _____ Completion Date or
Recompletion Date _____ 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: _____
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Datum: NAD27 NAD83 WGS84

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Lease Name: _____ Well #: _____

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Location of fluid disposal if hauled offsite: _____

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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: _____

Summary of Changes

Lease Name and Number: CALCARA 2-19

API/Permit #: 15-009-26187-00-00

Doc ID: 1376683

Correction Number: 1

Approved By: Karen Ritter

Field Name	Previous Value	New Value
TopsDatum2	-12873	-1287

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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ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
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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> _____			
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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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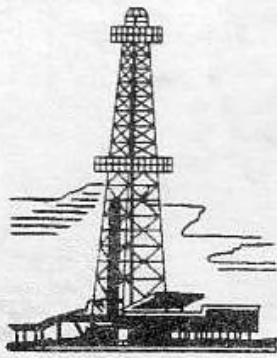
Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____

Form	ACO1 - Well Completion
Operator	F. G. Holl Company L.L.C.
Well Name	CALCARA 2-19
Doc ID	1370269

All Electric Logs Run

DIL
DNL
CDL
DCL



WELLSITE GEOLOGIST'S REPORT

J. R. Husted
Consulting Geologist



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

Well Name: Calcara No. 2-19
Location: SEC 19-T19S-R14W
License Number: 15-009-26,187-0000
Spud Date:
Surface Coordinates: 1650' FSL, 770' FEL, 110' W of C S/2 NE SE
Region: Barton
Drilling Completed:

Bottom Hole Vertical Hole
Coordinates:
Ground Elevation (ft): 1902' K.B. Elevation (ft): 1911'
Logged Interval (ft): To: Total Depth (ft):
Formation: Kansas City, Arbuckle
Type of Drilling Fluid: Starch, Chemical Premix (Displaced)

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR:

Company: F.G. HOLL COMPANY LLC
Address: 9431 E. CENTRAL STE 100
WICHITA, KANSAS 67206-2563

DRILLING CONTRACTOR:

Duke Drilling Company, Rig #7
Drill Pipe 4.5 X H; DRILL COLLARS 6.25 x 2.25, 494' BHA
BIT #1: 7-7/8" PDC Q506F; WOB: 12-14; RPM 110; KELLY BUSHING 13' ABOVE GROUND
LEVEL-MIRT-JULY-2011
TOTAL DEPTH ROTARY 6750'/TOTAL LOG DEPTH 6747'

SURFACE CASING:

CONDUCTOR CASING 13 3/8 @ 34.5 LB SET AT 148 FT TOTAL CEMENT 160 SACS-SURFACE CASING 8 5/8 IN
WT. 231 LB SET AT 868 FT WITH 400 SACS OF CEMENT-PRODUCTION CASING 4 1/2 IN WT. 10.5 LB SET AT
6745 FT WITH CEMENT 275 SACS

CIRCULATION SYSTEM:

NATIONAL 500, DUPLEX 6.0 X 15, 56 SPM, 343 GPM, SPP: 600 PSI; STEELE PITS; MUD-CO/SERVICE MUD
INC. BRAD BORTZ

GAS DETECTION SYSTEM:

MBC WELL LOGGING AND LEASING
ANALOG HOTWIRE AND CHROMATOGRAPH

OPEN HOLE LOGS:

DUAL INDUCTION/POROSITY/MICRO/SONIC/FAC FINDER-HIGH RES ABOVE VIOLA-HIGH RES MISSISSIPPI AND MARMATON-DOLOMITE MATRIX FROM THE TOP OF VIOLA TO TD.

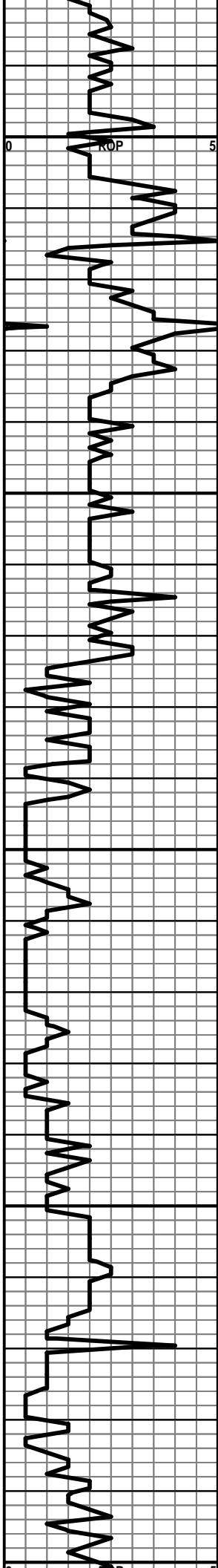
COMPLETION:

PRODUCTION CASING WAS SET ON MISSISSIPPI

WELLSITE GEOLOGIST:

Rene Husted
600 N. WINWOOD ST
GARDNER, KS 66030
(913) 908-3390

ROP ROP (min/ft) —		DST	Lithology	Porosity and Show	Depth	Geological Descriptions	TG, C1-C4 / REMARKS
0	ROP	5			16		
					1700		
					1750		



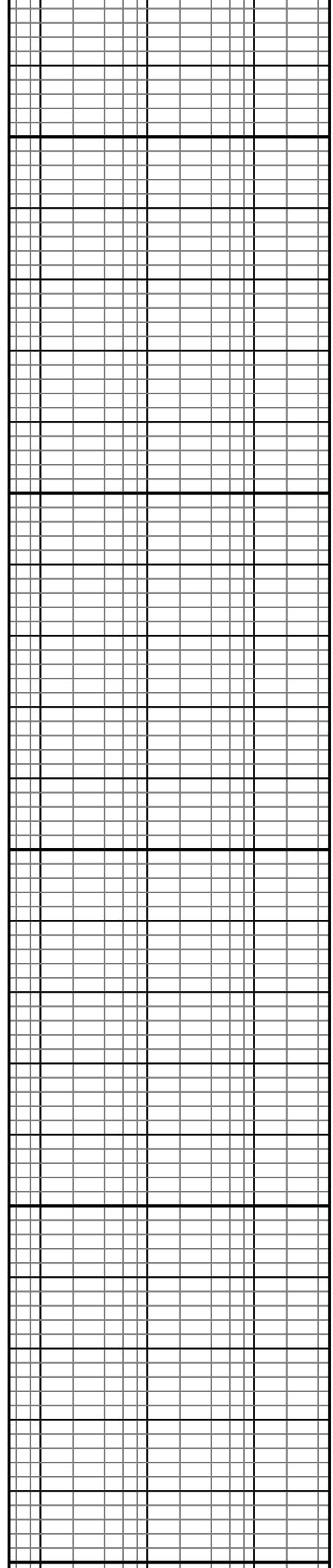
1800

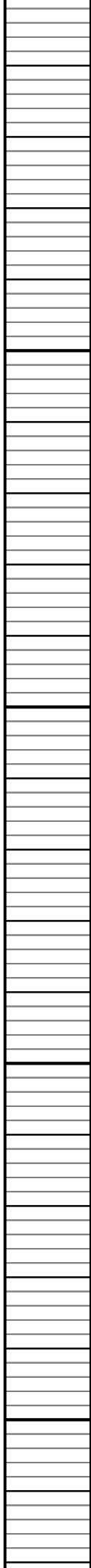
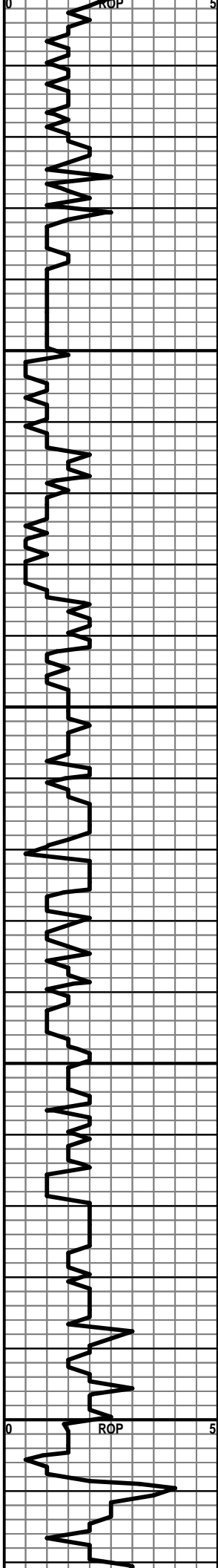
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1900

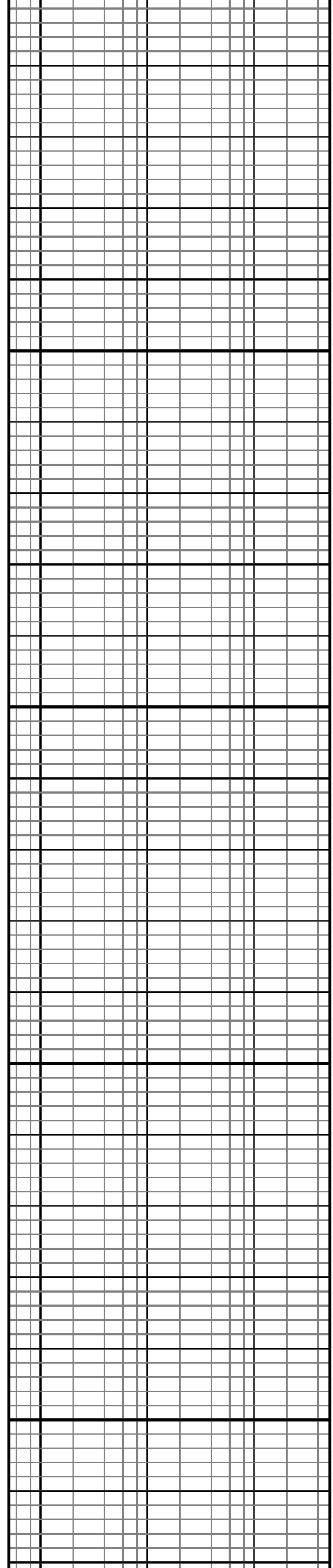
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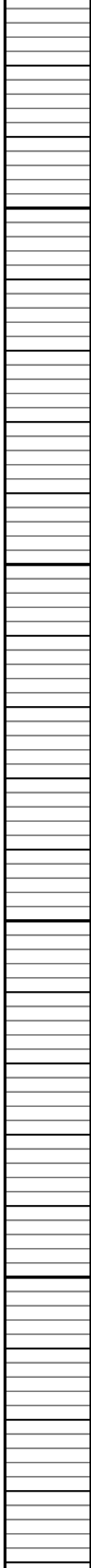
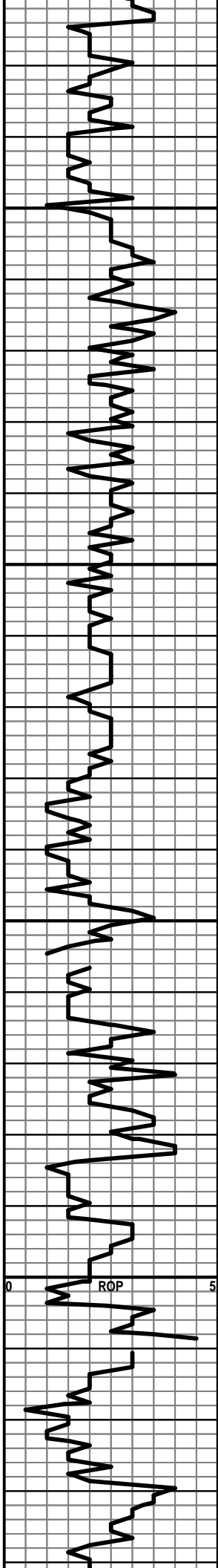
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2200 2150 2100 2050



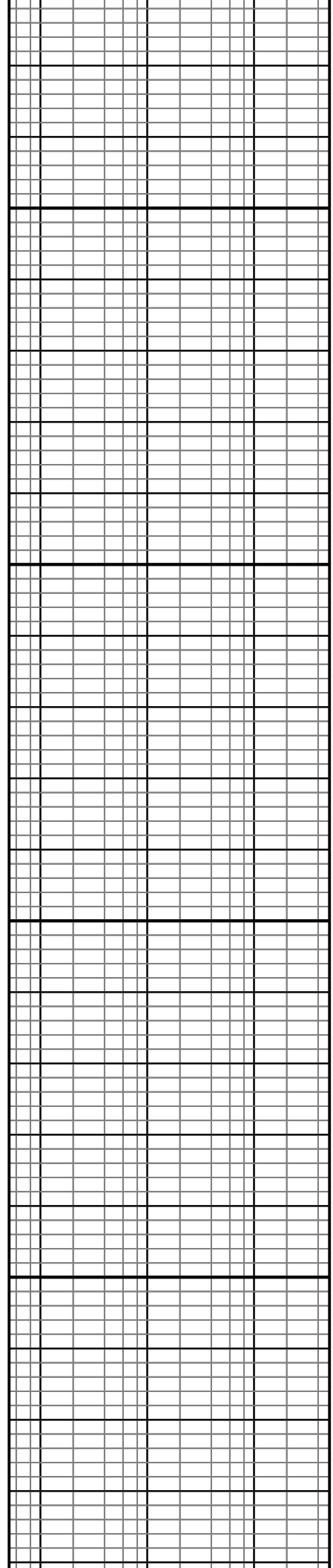


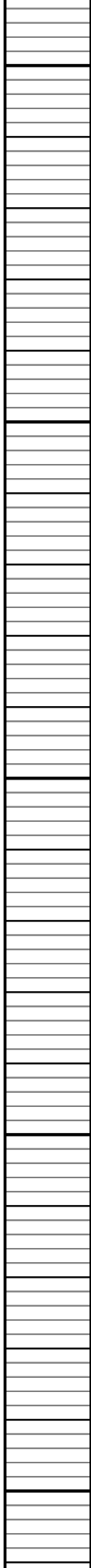
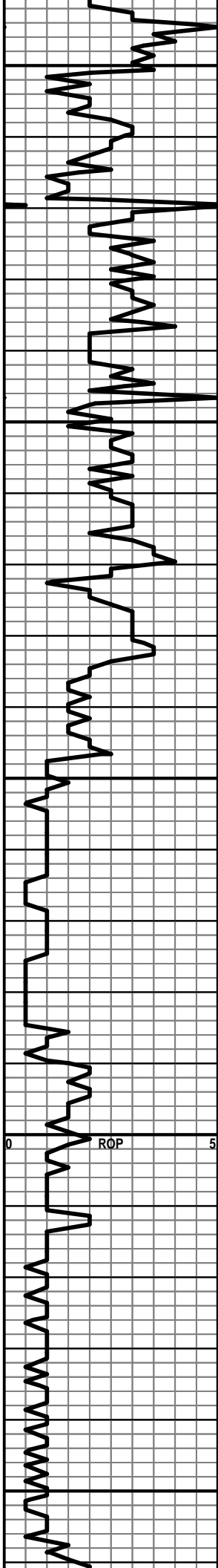
2250

2300

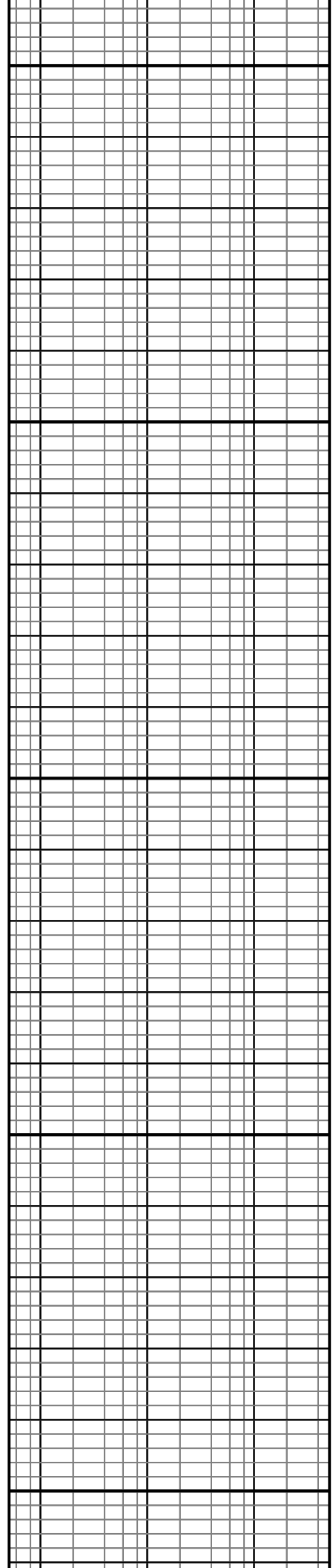
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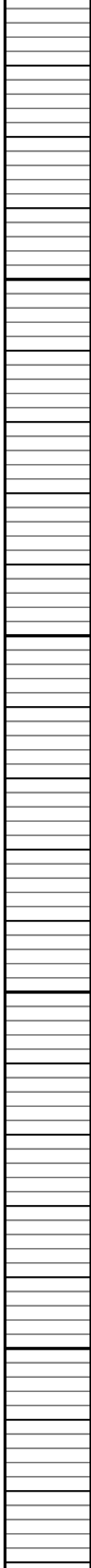
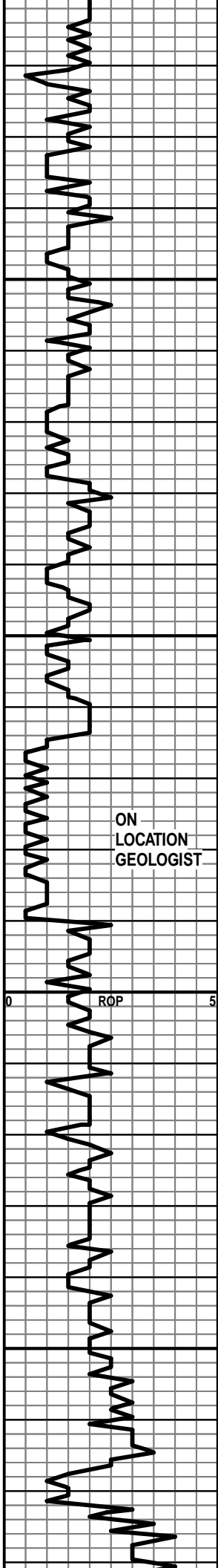
2400





2650 2600 2550 2500 2450





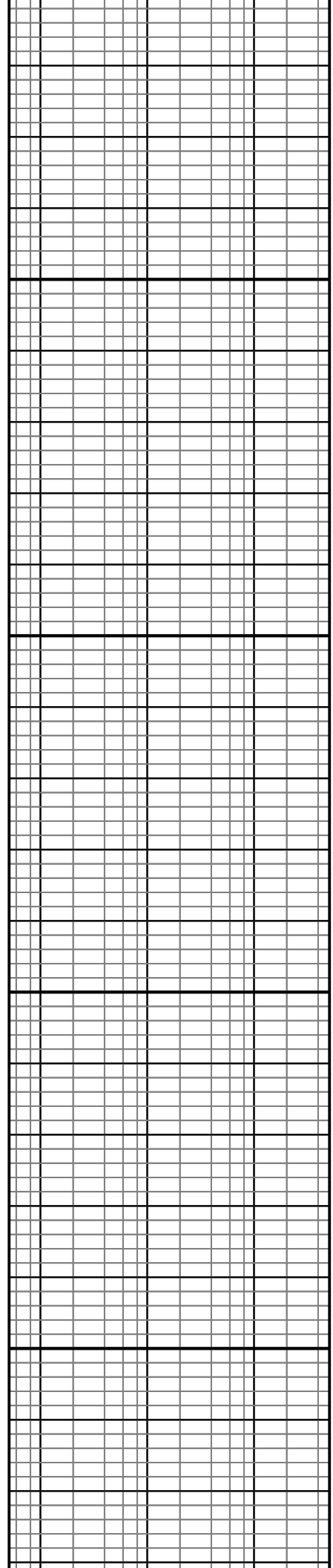
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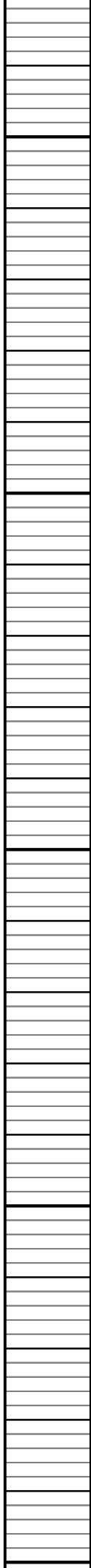
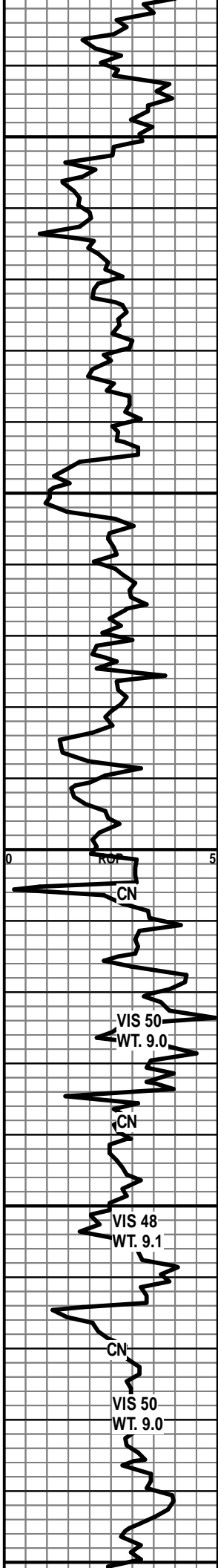
2750

2800

2850

TOPEKA 2790' (879')





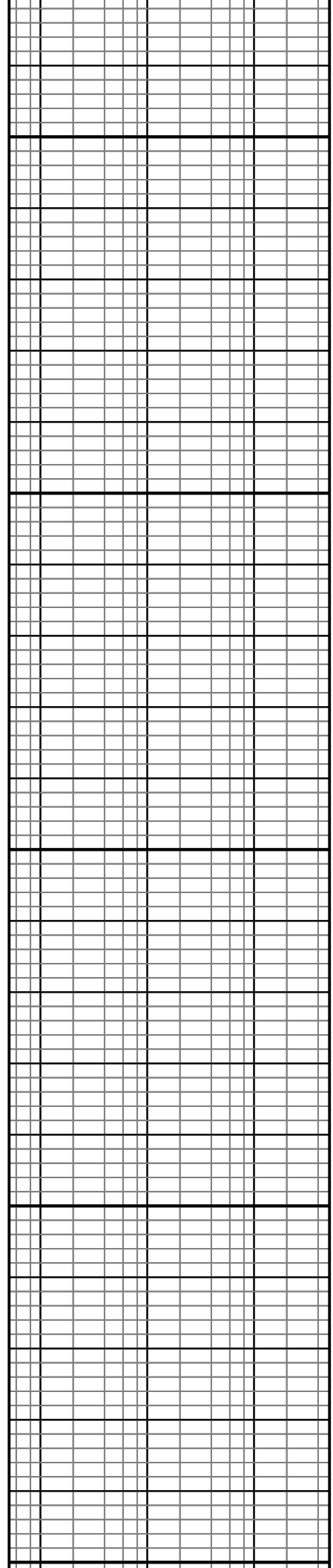
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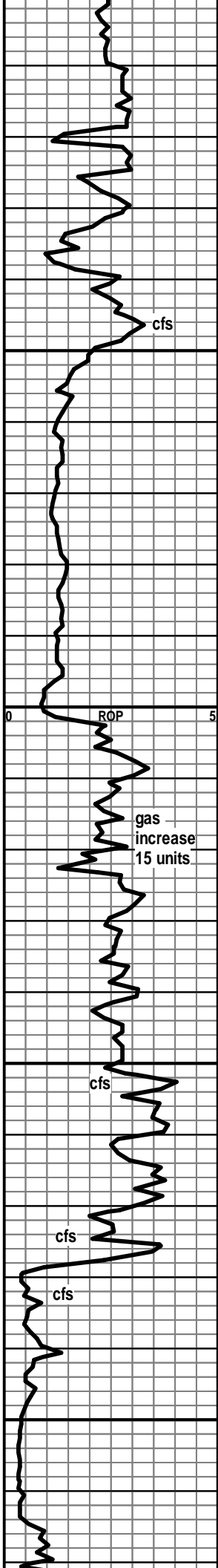
2950

3000

3050

100





3
3150
3200
3250
3300

HEEBNER 3119' (-1208')

SH-BLK-CARB

KB=1911'

TORONTO 3136' (-1225')

ls-crm-f-grn-brit-foss frags-tr lt brn stn-scatt flor-no vis
cut-15 unit gk
ls-tn-f-xln-hd-tr vug /frac por-spotted flor-flush cut

DOUGLAS SH 3152' (-1241')

sh-lt gry-silty-tr of foss/shell

sh-gry-silty-tr blk min

BROWN LS 3202' (-1291')

ls-brn-f-xln-hd-dns

LANSING/KC 3220' (-1309')

KB=1911'

ls-off wht-v-f-xln/grn ip-v-gd pp and inter-grn por-lt brn
stn-overall wht flor-immed gd flush cut-gd odor-free oil

ls-tn-f-xln-occ f pp por-lt brn stn-wht flor-tr fr strm
cut-fnt odor tr free oil w/ chrt-gry-frsh-foss

3250

ls-dk brn-f-xln-ool-foss-hd-dns with tr oolmoldic por-lt
brn stn-flor-fr cut-gd odor-20 unit gas incrs.

ls-dk brn-f-xln-ool-foss-hd-dns-tr oolmoldic por-lt brn
stn ip-wht flor-fr strm cut-gd odor

ls-off wht-m-grn-ool-foss-tr chlk-tr lt brn stn-spotted wht
flor-fr strm cut-good odor

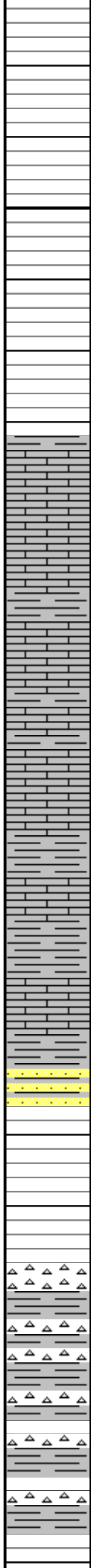
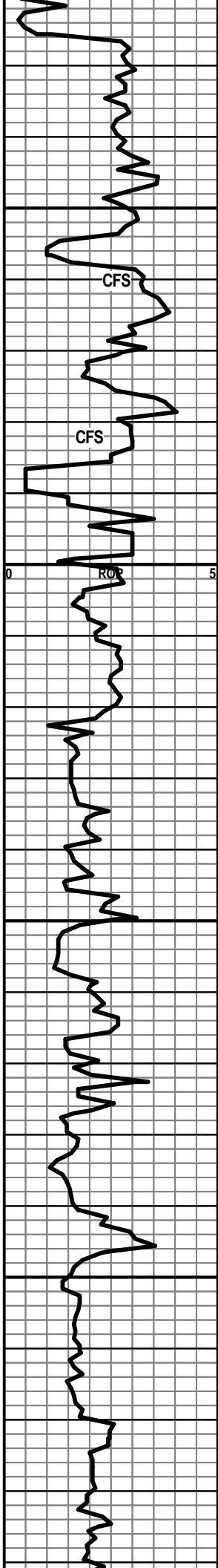
ls-crm-f-xln-ool-gd oolmoldic por-lt brn stn (saturated
in part)-wht flor-immed cut-strng odor-free oil

ls a.a.

3300

ls-crm-gd oolmoldic por-lt brn stn ip-wht flor-gd strm
cut-gd odor-tr free oil

LS-OFF WHT-F-XLN-OOL-GD OOLMOLDIC POR-TR LT
BRN STN-TR FLOR-TR CUT-GD ODOR



LS-TN-F-XLN-HD-DNS W/ CHRT-OFF WHT-FRSH

LS-TN-F-XLN-HD-DNS W/ PP POR-V-LT BRN STN-NO VIS FLOR-IMMED FLUSH CUT-GD ODOR

3350 SH-BLK-CARB

LS-LT BRN-F-XLN/GRN-OOL-FR TO GD OOLMOLDIC POR-LT BRN STN IP-SCATT YEL FLOR-FR STRM CUT IP TO NO VIS CUT-GD ODOR

LS-LT BRN-F-XLN-PR PP AND SM VUG POR-LT BRN STN IP-SCATTED YEL FLOR-GD STRM CUT-FREE OIL-GD ODOR

LS-CRM-F-XLN-OOL-FR TO GD OOLMOLDIC POR-TR LT BRN STN-DK BLK STN-SCATT YEL FLOR-FR STRM CUT-GD ODOR

LS-TN-F-XLN-OOL-EX OOLMOLDIC POR-LT BRN STN-YEL FLOR-OVERALL-EX CUT-GD ODOR-FREE OIL

3400 POOR SAMPLE

LS-GRY-F-XLN-HD-DNS W/ CHRT-OFF WHT-OPQ

SH-GRY-SPLNTY

LS-TN-F-XLN-OOL-BRIT-NO VIS POR-DULL WHT FLOR-NO VIS SHOW

LS-CRM/TN-F-XLN-OOL-1 PC PR INTER-XLN POR LT BRN STN-DULL YELL FLOR-FR STRM CUT

SH-GRY/RED-SFT-BLKY

LS-OFF WHT-F-XLN-CHLKY-BRIT-DULL WHT FLOR-NO VIS SHOW

3450 BASE OF THE B/KC 3451'

SH-GRY-BLKY-WAXY

LS-REDDISH BRN-F-XLN-SILTY-SLI SHLY-BRIT-DNS

SH-REDDISH BRN-V-SILTY

SH-GRY-BLKY-LMY

SH-RED-V-SFT-GUMMY-SILTY

SH-GRY-SPLINTY-LMY

3500 CHRT-VARIG-FRSH W/ TR SLTSS-FRSTY GRY-FGRN-SLI SHLY-NO VIS POR-NO VIS SHOW

CHRT-VARIG-FRSH W/SH-RED-SFT-GUMMY

CHRT AND SH A.A.

ARBUCKLE 3537' (-1626')

DOLO-OFF WHT-CRS-XLN-GD INTR-XLN POR-LT BRN STN-YELL FLOR-GD STRM CUT-GD ODOR

60 UNIT GAS INC

40 UNIT GAS INC

GAS DETECTOR OFF CHART

STN-YELLE FLOR-GD STRM CUT-GD ODOR
DOLO-CRM-CRS-XLN-OOL-LT BRN STN-GD
INTER-XLN/VUG TR OOLMOLDIC POR-YEL FLOR-GD
STRMING CUT-GD ODOR

3550

DOLO-TN-CRS XLN/VUG POR-LT BRN STN-FR INTERXLN/VUG
POR-GD STRM CUT-GD ODOR-FREE OIL

DOLO-CRM-F-XLN-SNDY-HD-DNS-DULL WHT FLOR-NO
VIS SHOW

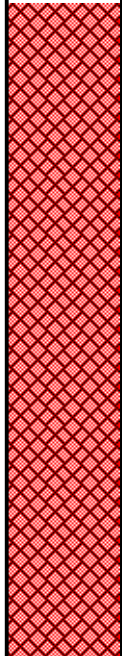
DOLO-OFF WHT-CRS-XLN-SNDY-TR LT BRN STN IN
CRS-XLN DOLO

DOLO-OFF WHT-F-XLN-V-SNDY-NO VIS STN

DOLO-OFF WHT-F-XLN-SNDY- W/ SND GRNS IN
BOTTOM OF TRAY

3600

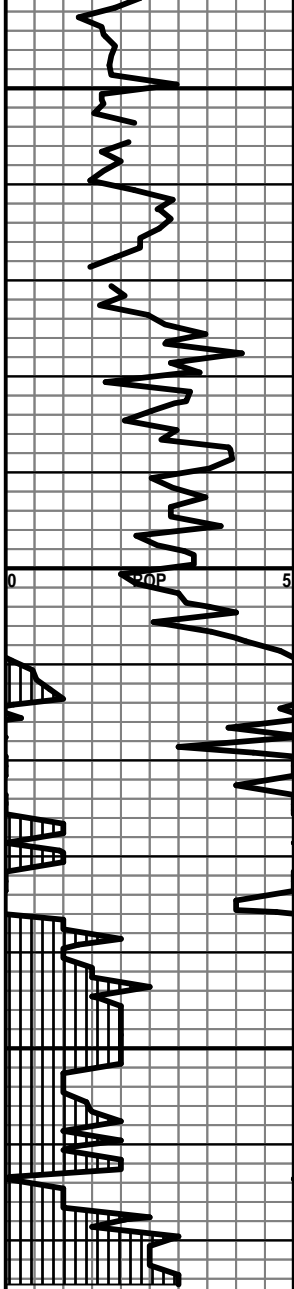
GRANITE 3607' (-1696')



3650

3700

50



0 5

TD = 3675
FT

RTD=3675 FT

Mud-Co / Service Mud Inc.

Operator **FG Holl** County **Barton** State **Kansas** Pump **6** X **14** X **60** SPM Casing Program **8 5/8" @ 837** ft.
 Well **Calcara #2-19** Location _____ GPM **7.75** BPM _____ " @ _____ ft.
 Contractor **Duke #4** Sec **19** TWP **19S** RNG **14W** D.P. **4.5** in. **191** FT/MIN R.A. _____ " @ _____ ft.
 Stockpoint **Pratt, Ks.** Date **9/19/2017** Engineer **Rick Hughes** Collar **6.25** in. **489** ft. **348** FT/MIN R.A. **Total Depth 3675'** ft.

DATE	DEPTH feet	WEIGHT lb/gal	VISCOSITY			GELS 10 sec / 10 min.	pH	FILTRATION/FILTRATION ANALYSIS					SAND %	RETORT			L.C.M.	Pump Press. PSI	CUMULATIVE COST	REMARKS AND TREATMENT	
			Sec API @_F	PV @_F	Yp			ml API	Cake 32nds	Pres. #BBL	Cl ppm	Ca ppm		Solids %	Oil %	Water %					
9/19	0																			RURT	
9/20	818	10.5	43																	Drlg.	
9/21	1357	9.2	29	1	2	0/0	10.0	N/C	-			36m	Hvy	4.3		95.7				Drlg. Displaced w/starch ~1650	
9/22	2052	9.1	42	6	19	16/21	7.0	8.0	4			15.5m	N/C	4.8		95.2				Drlg. Displaced w/chem @ 2598	
9/23	2698	8.7	48	12	14	14/30	11.0	9.2	2			2,600	40	2.7		97.3				Drlg.	
9/24	3160	9.2	53	15	18	11/38	9.5	8.8	2			4,700	60	6.1		93.9				Drlg. DST #1 @ 3382	
9/25	3382	9.4	59	15	18	12/34	9.0	9.2	2			5,700	60	7.5		92.5				TI w/DST #1 DST #2 @ 3399'	
9/26	3435	8.9	42	11	9	7/27	9.0	9.6	1			6,500	60	3.9		96.1	Tr			Drlg. DST #3 @ 3550'	
9/27	3555	8.9	52	15	13	8/35	8.5	8.8	1			6,100	40	3.9		96.1				CFS DST #4 @ 3555'	
9/28	3675	9.2	53	14	13	9/41	9.0	8.8	1			7,000	40	5.3		94.7	1			CTCH f/ Logs	
9/28	3675																			RDRT	
																					FINAL: Ran 4 DST's, Logs OK, Ran 5 1/2 csg
																					Reserve Pit, Chl content ppm: 43,000
																					Estimated Volume: 1000 bbls

MUD-CO / SERVICE MUD INC.

100 S. Main Suite #310
Wichita, Ks. 67202
316/264-2814 Fax: 316/264-5024

DRILLING MUD RECAP

Materials	Sacks	Amount	Materials	Sacks	Amount		Amount
C/S HULLS	105		X-CIDE 102W	1	335.00		
CAUSTIC SODA	14						
DESCO	2						
DRILL PAK	4						
LIME	6						
PREMIUM GEL	315						
SAPP	2						
SODA ASH	15						
STARCH	49						
SUPER LIG	9						
						Total Mud Cost	
						Trucking Cost	
						Trucking Surcharge	
						Taxes	
						TOTAL COST	



BASICSM
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET
1718 15503 A

DATE _____ TICKET NO. _____

DATE OF JOB 9-20-17		DISTRICT Pratt		NEW WELL <input type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:						
CUSTOMER Giffell				LEASE Coke		WELL NO.				
ADDRESS				COUNTY Barber		STATE KS				
CITY		STATE		SERVICE CREW MATTIAI, MARGARET, CUBS						
AUTHORIZED BY				JOB TYPE: 2 42 8 1/2 5 1/2						
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME
2796	1						9-20-17			9:00
						ARRIVED AT JOB				11:45
						START OPERATION				
						FINISH OPERATION				
						RELEASED				
						MILES FROM STATION TO WELL				6.5

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: _____
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
C-1001	1" cut pipe	50			
C-1002	2" cut pipe	50			
C-1003	3" cut pipe	16			
C-1004	4" cut pipe	16			
C-1005	5" cut pipe	16			
C-1006	6" cut pipe	16			
C-1007	7" cut pipe	16			
C-1008	8" cut pipe	16			
C-1009	9" cut pipe	16			
C-1010	10" cut pipe	16			
C-1011	11" cut pipe	16			
C-1012	12" cut pipe	16			
C-1013	13" cut pipe	16			
C-1014	14" cut pipe	16			
C-1015	15" cut pipe	16			
C-1016	16" cut pipe	16			
C-1017	17" cut pipe	16			
C-1018	18" cut pipe	16			
C-1019	19" cut pipe	16			
C-1020	20" cut pipe	16			

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT MATERIALS

SERVICE REPRESENTATIVE Mike Mattia	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: K. [Signature]
---------------------------------------	---

FIELD SERVICE ORDER NO. _____ (WELL OWNER OPERATOR CONTRACTOR OR AGENT)

Customer F G Hull compact	Lease No.	Date 9-20-17
Lease CAICARA	Well # 2-19	
Field Order # 15503	Station PIATI	Casing 8 7/8 Depth
County BARTON		State MS
Type Job 2-472	8 7/8 SURFACE	Formation
Legal Description		19-19-14

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME			
Casing Size 8 7/8	Tubing Size	Shots/Ft		Acid CMT 175 SU	RATE 29	PRESS 25	ISIP		
Depth 37	Depth	From	To	Pre Pad 175 SU	Max Common	29	5 Min.	25 MS	
Volume 5	Volume 54.6	From	To	Pad	Min		10 Min.		
Max Press 300	Max Press	From	To	Frac	Avg		15 Min.		
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure		
Plug Depth 817	Packer Depth	From	To	Flush 53.2	Gas Volume		Total Load		

Customer Representative ROB LONG	Station Manager WORTHMAN	Treater MATTU
Service Units 83353	27463	19889 19860
Driver Names MATTU	MAI LHO	CUBB

Time	Casing Pressure	Tubing Pressure	Bbbls. Pumped	Rate	Service Log
11:45					ON LOCATION / SATELLITE MEETING
1:15					Run 8 7/8 20" CSNG
					CENTS ON 1 TO 19
2:15					CSNG ON BOTTOM
2:00					HOOK TO CSNG / BREAK CIRC W. RIG
2:48	200		3	52	PUMP 3 bbl WATER
2:40	200		77	52	MIX 175 SU, A-COM
3:06	200		37	52	MIX 175 SU, COMMON CMT
3:15					RELEASE PLUG
3:20	200			5	START DISPLACEMENT
3:30	250			52	Plug down, SHUT IN WELL
					CMT TO CAICARA

JOB COMPLETE
THANK YOU!
MIKE PIATTI
FDMARR & CO.



BASICSM
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

19-19-14

FIELD SERVICE TICKET
1718 15273 A

DATE _____ TICKET NO. _____

DATE OF JOB: 9/29/14		DISTRICT: P...		NEW WELL <input checked="" type="checkbox"/>		OLD WELL <input type="checkbox"/>		PROD <input type="checkbox"/>		INJ <input type="checkbox"/>		WDW <input type="checkbox"/>		CUSTOMER ORDER NO.:	
CUSTOMER: F.G. 1101				LEASE: C9105				WELL NO.:							
ADDRESS:				COUNTY: Barton				STATE: MO							
CITY:				STATE:				SERVICE CREW: D... m... c...							
AUTHORIZED BY:				JOB TYPE: 242/5 1/2 Long Service											
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME					
19873	1						9/29			7:00					
19862	1/2						9/29			11:30					
							9/29			4:30					
							9/29			5:30					
							9/29			6:30					
						MILES FROM STATION TO WELL: 64									

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: _____
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP105	ADZ Cement	SK	125		
CP103	60/40 P02	SK	75		
CC102	Cello 159c	Lb	32		
CC105	C-41P	Lb	30		
CC111	SS1-	Lb	546		
CC116	MCS Chem 10C12	Lb	354		
CC129	FLA-322	LO	118		
CC201	Gisonic	LO	1384		
CF607	Leica Down Plug Basic, 5 1/2" (Blue)	Eg	1		
CF1251	DV10 Fil Floss shoe	Eg	1		
CF1651	Turnal 200, 5 1/2" (Blue)	Eg	10		
CF1901	5 1/2" Basic (Blue)	Eg	1		
CF2002	Cement Seisochris Pumping Type	Eg	50		
CC154	Super Flux	Gal	500		
F100	Unit Mileage Charge - Pickups	m	65		
F101	Misc. Equipment Mileage	m	130		
F113	Propose 902 Bull's Del... Charge	Min	588		

CHEMICAL / ACID DATA:			

SUB TOTAL		
SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
TOTAL		

SERVICE REPRESENTATIVE: _____	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: _____
-------------------------------	---

FIELD SERVICE ORDER NO. _____ (WELL OWNER OPERATOR CONTRACTOR OR AGENT)



BASICSM
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET

1718 ~~15274~~ A

Continuation 1718 15273

19-19-14

DATE _____ TICKET NO. _____

DATE OF JOB: 9/25/2017		DISTRICT: Pisharies		NEW WELL <input checked="" type="checkbox"/>		OLD WELL <input type="checkbox"/>		PROD <input type="checkbox"/>		INJ <input type="checkbox"/>		WDW <input type="checkbox"/>		CUSTOMER ORDER NO.:	
CUSTOMER: FG Hall				LEASE: C9/C9C9				WELL NO: 2-19							
ADDRESS:				COUNTY: Barton				STATE: KS							
CITY:				STATE:				SERVICE CREW: D Griffin, McGraw, Cobb							
AUTHORIZED BY:				JOB TYPE: 242/ 5 1/2 Long Str. 19											
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME					
						ARRIVED AT JOB									
						START OPERATION									
						FINISH OPERATION									
						RELEASED									
						MILES FROM STATION TO WELL									

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: [Signature]
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CE 204	Depth Charge; 3,000' - 4,000'	4pc	1		
CE 240	Blending & mixing Service Charge	SK	200		
CE 504	Plus Contractor Utilization Charge	Job	1		
CE 501	C9C9S Survey Pen 291	ES	1		
3003	Service Supervisor, First & Second	ES	1		

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$
MATERIALS	%TAX ON \$

Discount TOTAL

SERVICE REPRESENTATIVE: [Signature]

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: [Signature]
(WELL OWNER OPERATOR CONTRACTOR C)

FIELD SERVICE ORDER NO.

Customer FG 1011	Lease No.	Date 9/29/2017
Lease C9/C919	Well # 2-19	
Field Order # 15273	Station Pratt, KS	Casing 5 1/2
		Depth 3668
Type Job 242/ 5 1/2 Long Spring	Formation TD-3675	County Barton
		State KS
		Legal Description 19-19-14

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size 5 1/2	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
Depth 3668	Depth	From	To	Pre Pad	Max		5 Min.
Volume 872	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 3656	Packer Depth	From	To	Flush KCL WGR	Gas Volume		Total Load

Customer Representative Rob Long	Station Manager Justin Westerman	Treater Darin Francis
Service Units 92911 84981 19893 70959 19862		
Driver Names Darin McGrew McGrew Cobb Cobb		

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
11:30am					On location / SS prep meeting
					1255K DPA2 Cement, 1% FLA, .25 Defosmer, 3% mgss Chem, 10% SS1+ .25 cell flsike, 10% Gilsonite
					15.0 pps, 1.43 v.12, 5.22 w.c.w.
					755K bolus puz, 2% 601 54 Gilsonite
4:30pm	200		5	5	Pump 5 bbls wgr
	200		12	5	Pump 12 bbls Flush
	200		5	5	Pump 5 bbls wgr
	200		6	5	Mix 255K SBG wgr
	200		32	5	Mix 1255K DPA2
					Shut down
					Wash pump & lines & Release Plus
	100		0	6	Start displacement
	400		60	6	Lift Pressure
	800		77	3	Slow Rise
5:15pm	1500		85	3	Bump Plug
					Flow - Hold
	30		7	3	Plug Rest hole
					Job complete / Darin & crew Thank you!



DRILL STEM TEST REPORT

Prepared For: **F.G.Holl Company LLC**

9431 East Central Suite 100
Wichita, Kansas 67206

ATTN: Renee Husted

Calcara#2-19

19-19s-14w

Start Date: 2017.09.25 @ 06:32:00

End Date: 2017.09.25 @ 00:00:00

Job Ticket #: 01193 DST #: 1

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2017.09.25 @ 16:34:03



DRILL STEM TEST REPORT

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
Wichita, Kansas 67206

Calcara#2-19

Job Ticket: 01193

DST#: 1

ATTN: Renee Husted

Test Start: 2017.09.25 @ 06:32:00

GENERAL INFORMATION:

Formation: **Kansas City "H & I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:43:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

Interval: **3340.00 ft (KB) To 3382.00 ft (KB) (TVD)**

Reference Elevations: 1910.00 ft (KB)

Total Depth: 3382.00 ft (KB) (TVD)

1902.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9139

Inside

Press@RunDepth: 1120.37 psig @ 3377.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2017.09.25

End Date:

2017.09.25

Last Calib.:

2017.09.25

Start Time: 06:35:00

End Time:

16:23:00

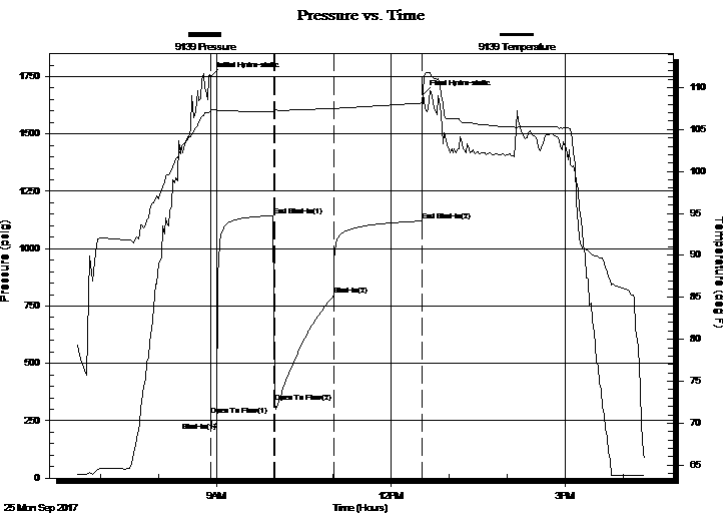
Time On Btm:

2017.09.25 @ 08:53:00

Time Off Btm:

2017.09.25 @ 12:33:00

TEST COMMENT: 1st opening 5 Minutes strong blow bottom of the bucket in 30 second
1st Shut-In 60 Minutes good blow back
2nd Opening 60 Minutes Strong blow with gas to surface max. gauged 5.32 mcf
2nd Shut-in 90 Minutes good blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1751.42	107.09	Initial Hydro-static
1	274.37	107.39	Open To Flow (1)
7	242.43	107.40	Shut-In(1)
66	1143.67	107.17	End Shut-In(1)
67	330.48	107.35	Open To Flow (2)
128	797.06	107.53	Shut-In(2)
219	1120.37	108.15	End Shut-In(2)
220	1673.33	109.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2900.00	clean gassy oil 30% Gas 70% Oil	40.68
0.00	gas gauged 15 min-5.32mcf	0.00
0.00	25 min. 5.05mcf	0.00
0.00	35 min 4.76mcf	0.00
0.00	45 min. 4.12mcf	0.00
0.00	55 min 3.37mcf	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13		
Last Gas Rate	0.13		



DRILL STEM TEST REPORT

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
Wichita, Kansas 67206

Calcara#2-19

Job Ticket: 01193

DST#: 1

ATTN: Renee Husted

Test Start: 2017.09.25 @ 06:32:00

GENERAL INFORMATION:

Formation: **Kansas City "H & I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:43:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

Interval: **3340.00 ft (KB) To 3382.00 ft (KB) (TVD)**

Reference Elevations: 1910.00 ft (KB)

Total Depth: 3382.00 ft (KB) (TVD)

1902.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 91716 Outside

Press@RunDepth: 1091.67 psig @ 3377.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2017.09.25

End Date:

2017.09.25

Last Calib.:

2017.09.25

Start Time: 06:35:00

End Time:

16:22:30

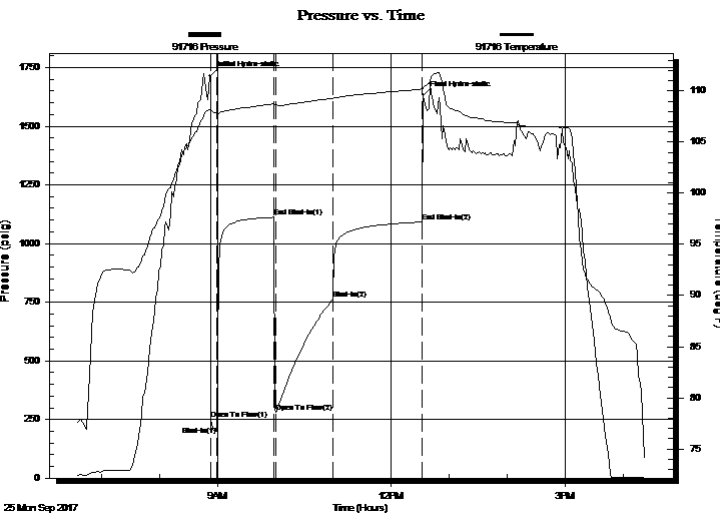
Time On Btm:

2017.09.25 @ 08:53:00

Time Off Btm:

2017.09.25 @ 12:33:00

TEST COMMENT: 1st opening 5 Minutes strong blow bottom of the bucket in 30 second
1st Shut-In 60 Minutes good blow back
2nd Opening 60 Minutes Strong blow with gas to surface max. gauged 5.32 mcf
2nd Shut-in 90 Minutes good blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1714.10	108.21	Initial Hydro-static
1	252.18	108.19	Open To Flow (1)
7	222.43	107.79	Shut-In(1)
66	1111.75	108.74	End Shut-In(1)
67	280.58	108.66	Open To Flow (2)
127	765.55	109.28	Shut-In(2)
219	1091.67	110.18	End Shut-In(2)
220	1630.36	110.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2900.00	clean gassy oil 30%Gas 70% Oil	40.68
0.00	gas gauged 15 min-5.32mcf	0.00
0.00	25 min. 5.05mcf	0.00
0.00	35 min 4.76mcf	0.00
0.00	45 min. 4.12mcf	0.00
0.00	55 min 3.37mcf	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13		
Last Gas Rate	0.13		



DRILL STEM TEST REPORT

TOOL DIAGRAM

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
Wichita, Kansas 67206

Calcara#2-19

Job Ticket: 01193

DST#: 1

ATTN: Renee Husted

Test Start: 2017.09.25 @ 06:32:00

Tool Information

Drill Pipe:	Length: 3335.00 ft	Diameter: 3.80 inches	Volume: 46.78 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 46.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3340.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	72.00 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			3315.00	
Hydraulic tool	5.00			3320.00	
Jars	5.00			3325.00	
Safety Joint	5.00			3330.00	
Packer	5.00			3335.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3340.00	
Anchor	37.00			3377.00	
Recorder	0.00	9139	Inside	3377.00	
Recorder	0.00	91716	Outside	3377.00	
Bullnose	5.00			3382.00	42.00 Bottom Packers & Anchor
Total Tool Length:	72.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
 Wkchita, Kansas 67206

Calcara#2-19

Job Ticket: 01193

DST#: 1

ATTN: Renee Husted

Test Start: 2017.09.25 @ 06:32:00

Mud and Cushion Information

Mud Type: Gel Chem
 Mud Weight: 9.00 lb/gal
 Viscosity: 59.00 sec/qt
 Water Loss: 9.20 in³
 Resistivity: ohm.m
 Salinity: 5700.00 ppm
 Filter Cake: 1.00 inches

Cushion Type:
 Cushion Length: ft
 Cushion Volume: bbl
 Gas Cushion Type:
 Gas Cushion Pressure: psig

Oil API: deg API
 Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2900.00	clean gassy oil 30%Gas 70% Oil	40.679
0.00	gas gauged 15 min-5.32mcf	0.000
0.00	25 min. 5.05mcf	0.000
0.00	35 min 4.76mcf	0.000
0.00	45 min. 4.12mcf	0.000
0.00	55 min 3.37mcf	0.000
0.00	Gravity 41 corrected	0.000

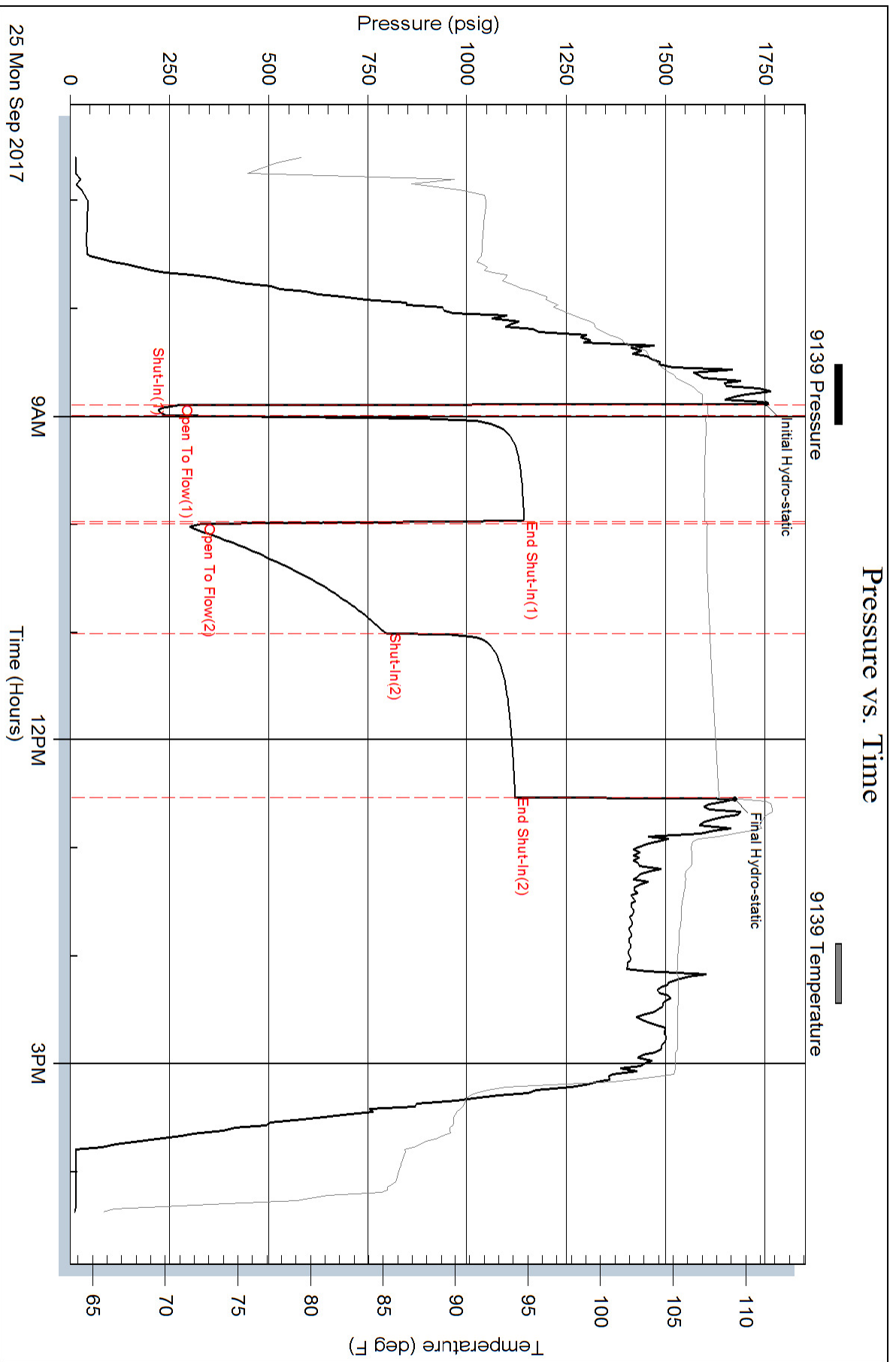
Total Length: 2900.00 ft Total Volume: 40.679 bbl

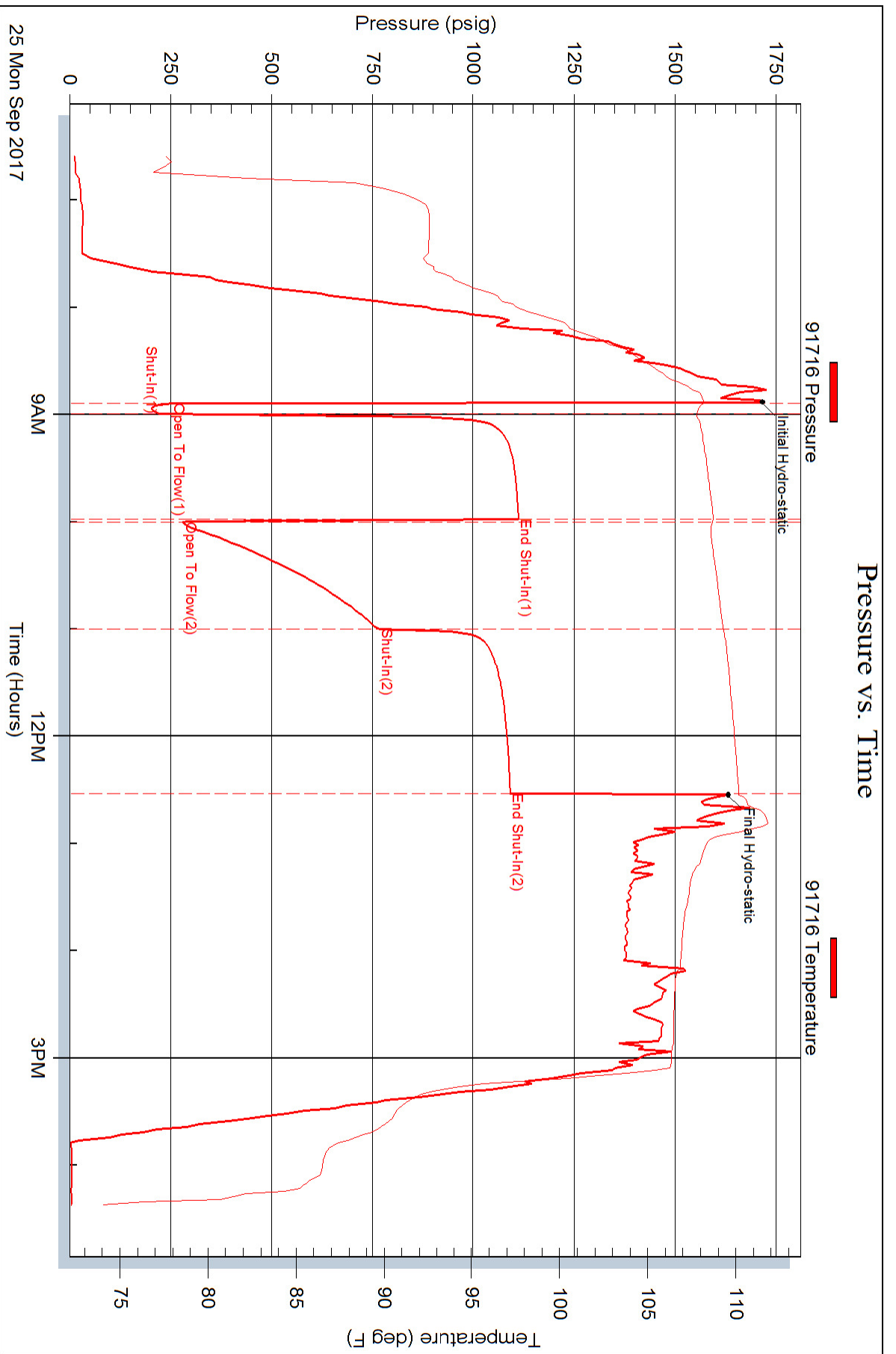
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **F.G.Holl Company LLC**

9431 East Central Suite 100
Wichita, Kansas 67206

ATTN: Renee Husted

Calcara#2-19

19-19s-14w

Start Date: 2017.09.26 @ 12:16:00

End Date: 2017.09.26 @ 00:00:00

Job Ticket #: 01194 DST #: 2

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2017.09.26 @ 05:22:34



DRILL STEM TEST REPORT

F.G.Holl Company LLC
 9431 East Central Suite 100
 Wichita, Kansas 67206
 ATTN: Renee Husted

19-19s-14w
Calcara#2-19
 Job Ticket: 01194 **DST#:2**
 Test Start: 2017.09.26 @ 12:16:00

GENERAL INFORMATION:

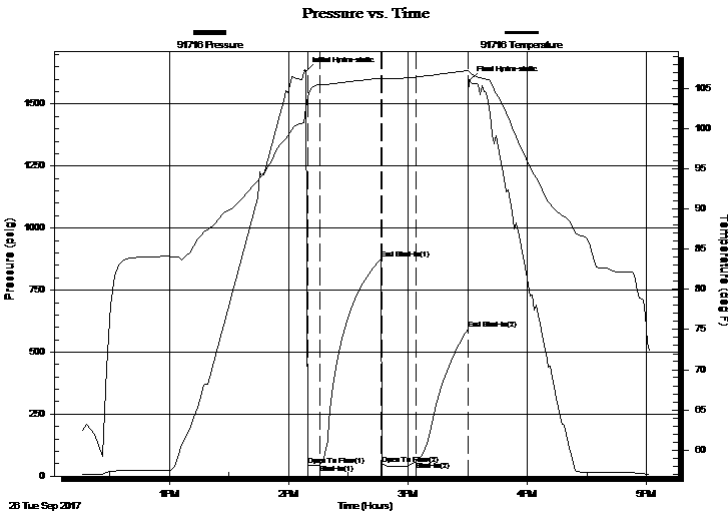
Formation: **Kansas City "J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:09:00
 Time Test Ended: 00:00:00
 Interval: **3382.00 ft (KB) To 3399.00 ft (KB) (TVD)**
 Total Depth: 3399.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Glene Budig
 Unit No: 1
 Reference Elevations: 1910.00 ft (KB)
 1902.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 91716 Outside

Press@RunDepth: 593.29 psig @ 3394.00 ft (KB) Capacity: 5000.00 psig
 Start Date: 2017.09.26 End Date: 2017.09.26 Last Calib.: 2017.09.26
 Start Time: 12:16:00 End Time: 17:01:29 Time On Btm: 2017.09.26 @ 14:08:30
 Time Off Btm: 2017.09.26 @ 15:31:00

TEST COMMENT: 1st Opening 5 Minutes weak surface blow
 1st Shut-in 30 Minutes no blow back
 2nd Opening 15 Minutes Weak blow for 8 minutes and died
 2nd Shut-In 30 Minutes no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1632.55	102.61	Initial Hydro-static
1	45.00	103.99	Open To Flow (1)
8	47.69	105.43	Shut-In(1)
38	876.40	106.26	End Shut-In(1)
39	48.36	106.25	Open To Flow (2)
56	58.81	106.41	Shut-In(2)
82	593.29	107.19	End Shut-In(2)
83	1594.39	107.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drilling Mud	0.60

Gas Rates

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



DRILL STEM TEST REPORT

F.G.Holl Company LLC
 9431 East Central Suite 100
 Wichita, Kansas 67206
 ATTN: Renee Husted

19-19s-14w
Calcara#2-19
 Job Ticket: 01194 **DST#:2**
 Test Start: 2017.09.26 @ 12:16:00

GENERAL INFORMATION:

Formation: **Kansas City "J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:09:00
 Time Test Ended: 00:00:00
 Interval: **3382.00 ft (KB) To 3399.00 ft (KB) (TVD)**
 Total Depth: 3399.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Glene Budig
 Unit No: 1
 Reference Elevations: 1910.00 ft (KB)
 1902.00 ft (CF)
 KB to GR/CF: 8.00 ft

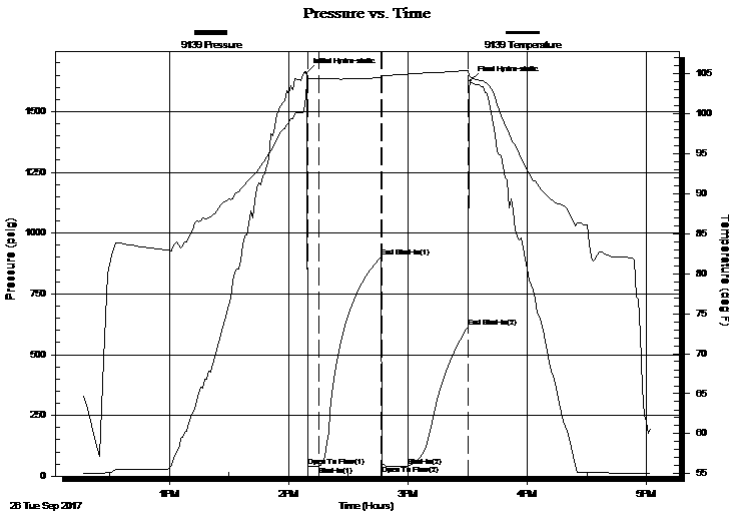
Serial #: 9139

Inside

Press@RunDepth: 614.09 psig @ 3394.00 ft (KB) Capacity: 5000.00 psig
 Start Date: 2017.09.26 End Date: 2017.09.26 Last Calib.: 2017.09.26
 Start Time: 12:16:00 End Time: 17:02:00 Time On Btm: 2017.09.26 @ 14:08:59
 Time Off Btm: 2017.09.26 @ 15:31:30

TEST COMMENT: 1st Opening 5 Minutes weak surface blow
 1st Shut-in 30 Minutes no blow back
 2nd Opening 15 Minutes Weak blow for 8 minutes and died
 2nd Shut-In 30 Minutes no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1660.47	103.67	Initial Hydro-static
1	38.64	104.30	Open To Flow (1)
7	38.72	104.40	Shut-In(1)
38	900.61	104.46	End Shut-In(1)
39	43.48	104.61	Open To Flow (2)
52	39.98	104.91	Shut-In(2)
81	614.09	105.37	End Shut-In(2)
83	1625.50	104.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drilling Mud	0.60

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
Wichita, Kansas 67206

Calcara#2-19

Job Ticket: 01194

DST#: 2

ATTN: Renee Husted

Test Start: 2017.09.26 @ 12:16:00

Tool Information

Drill Pipe:	Length: 3367.00 ft	Diameter: 7.88 inches	Volume: 203.10 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 203.10 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3382.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	17.00 ft			
Tool Length:	47.00 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			3357.00	
Hydraulic tool	5.00			3362.00	
Jars	5.00			3367.00	
Safety Joint	5.00			3372.00	
Packer	5.00			3377.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3382.00	
Anchor	12.00			3394.00	
Recorder	0.00	9139	Inside	3394.00	
Recorder	0.00	91716	Outside	3394.00	
Bullnose	5.00			3399.00	17.00 Bottom Packers & Anchor
Total Tool Length:	47.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
 Wkchita, Kansas 67206

Calcara#2-19

Job Ticket: 01194

DST#: 2

ATTN: Renee Husted

Test Start: 2017.09.26 @ 12:16:00

Mud and Cushion Information

Mud Type: Gel Chem
 Mud Weight: 9.00 lb/gal
 Viscosity: 59.00 sec/qt
 Water Loss: 9.20 in³
 Resistivity: ohm.m
 Salinity: 5700.00 ppm
 Filter Cake: 1.00 inches

Cushion Type:
 Cushion Length: ft
 Cushion Volume: bbl
 Gas Cushion Type:
 Gas Cushion Pressure: psig

Oil API: deg API
 Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Drilling Mud	0.603

Total Length: 10.00 ft Total Volume: 0.603 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

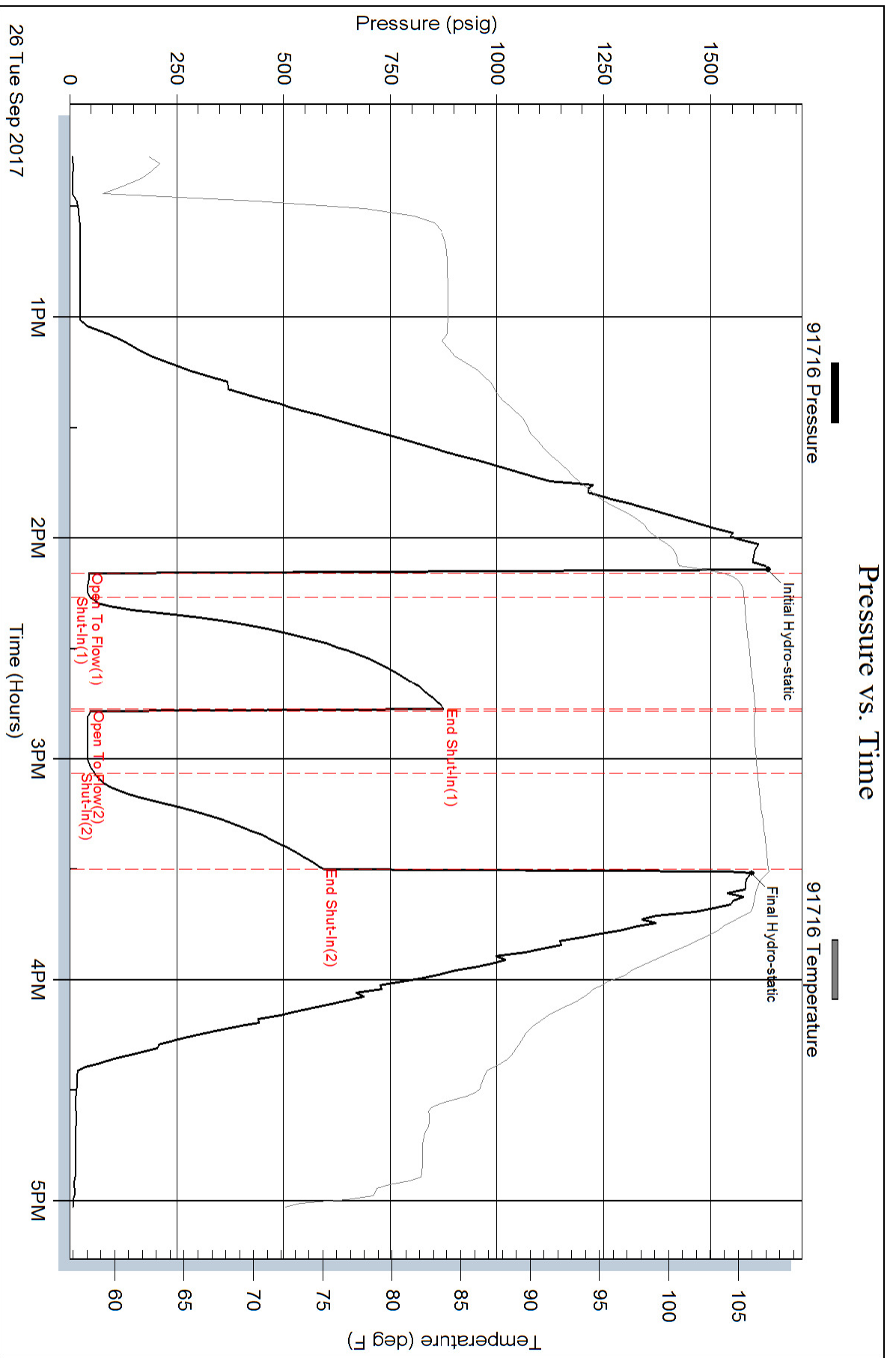
Serial #:

Laboratory Name:

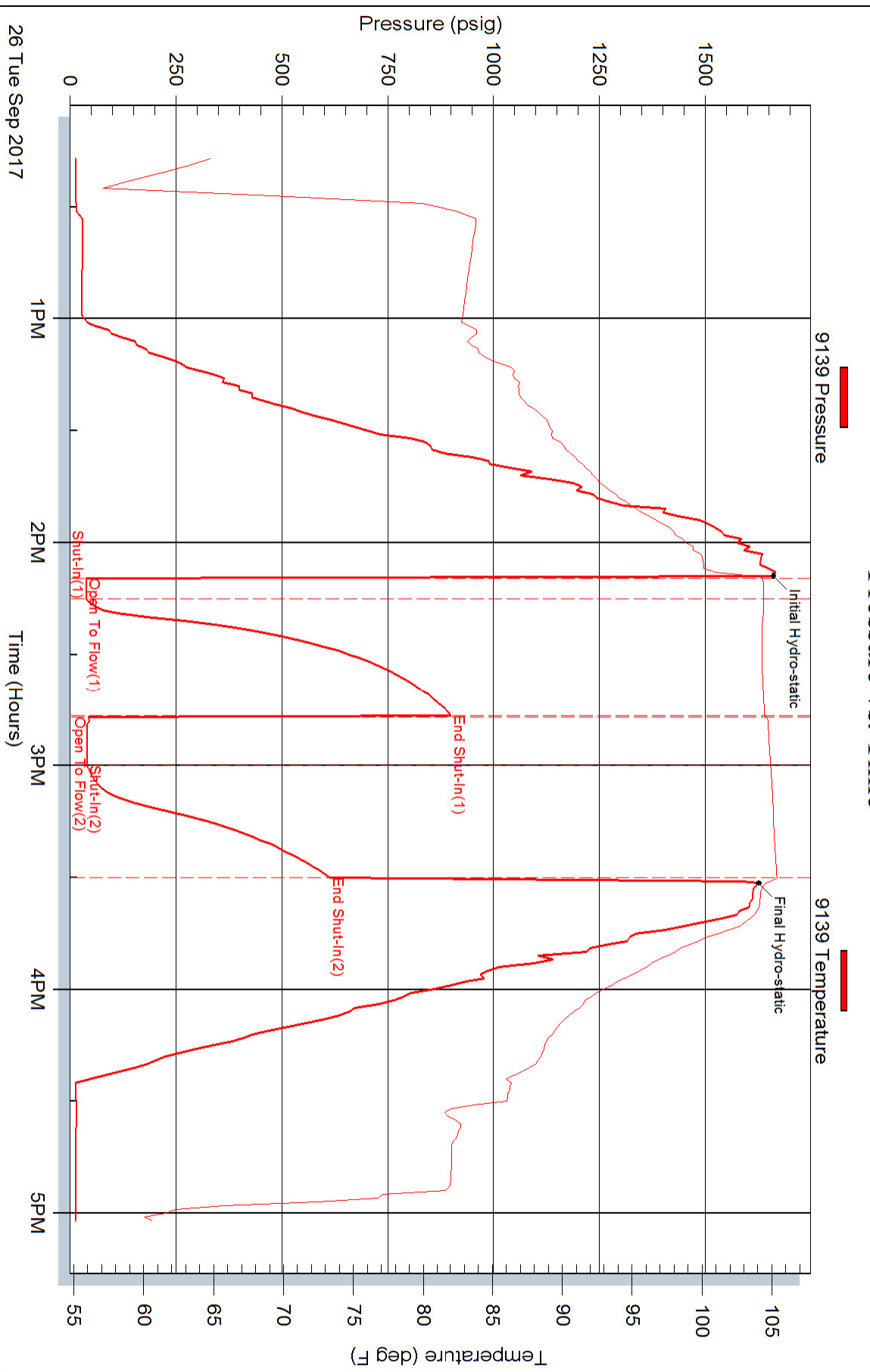
Laboratory Location:

Recovery Comments:

Pressure vs. Time



Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **F.G.Holl Company LLC**

9431 East Central Suite 100
Wichita, Kansas 67206

ATTN: Renee Husted

Calcara#2-19

19-19s-14w

Start Date: 2017.09.27 @ 08:46:00

End Date: 2017.09.27 @ 00:00:00

Job Ticket #: 01195 DST #: 3

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2017.09.27 @ 05:04:43



DRILL STEM TEST REPORT

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
Wichita, Kansas 67206

Calcara#2-19

Job Ticket: 01195

DST#: 3

ATTN: Renee Husted

Test Start: 2017.09.27 @ 08:46:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:00:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

Interval: **3430.00 ft (KB) To 3550.00 ft (KB) (TVD)**

Reference Elevations: 1910.00 ft (KB)

Total Depth: 3550.00 ft (KB) (TVD)

1902.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9139

Inside

Press@RunDepth: 1196.31 psig @ 3545.06 ft (KB)

Capacity: 5000.00 psig

Start Date: 2017.09.26

End Date: 2017.09.26

Last Calib.: 2017.09.27

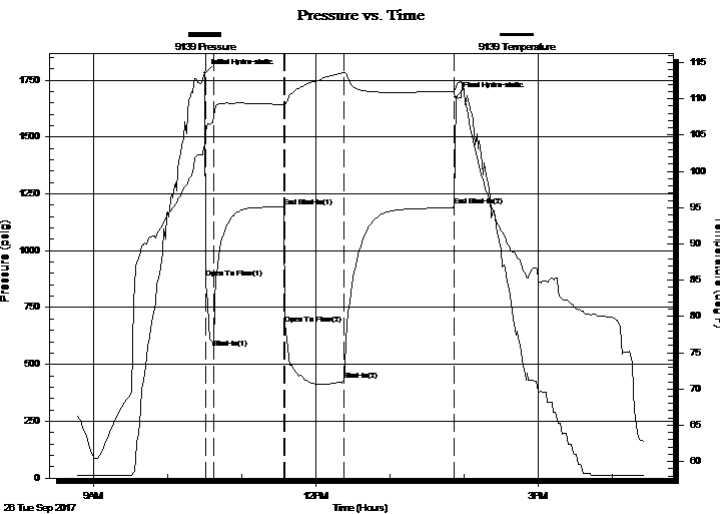
Start Time: 08:46:00

End Time: 16:26:00

Time On Btm: 2017.09.26 @ 10:30:00

Time Off Btm: 2017.09.26 @ 13:53:00

TEST COMMENT: 1st Opening 5 Minutes strong blow bottom of a 5 gallon bucket in 30 seconds
 1st Shut-in 60 Minutes good blow back
 2nd Opening 45 Minutes strong blow gas to surface
 2nd Shut-In 90 Minutes good b;pw back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1780.36	103.59	Initial Hydro-static
1	882.01	103.96	Open To Flow (1)
7	570.21	107.73	Shut-In(1)
64	1191.71	109.25	End Shut-In(1)
65	675.39	109.25	Open To Flow (2)
113	431.73	113.64	Shut-In(2)
202	1196.31	111.06	End Shut-In(2)
203	1675.49	111.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
210.00	Mud w with a trace of oil	2.95
240.00	oil and gas cut muddy water	3.37
0.00	10%Gas 25%Oil 40%Mud 25%Water	0.00
120.00	oil and gas cut muddy water	1.68
0.00	20%Gas 20%Oil 10%Mud 50%Water	0.00
120.00	oil and gas cut muddy water	1.68

Gas Rates

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



DRILL STEM TEST REPORT

F.G.Holl Company LLC
 9431 East Central Suite 100
 Wichita, Kansas 67206
 ATTN: Renee Hustead

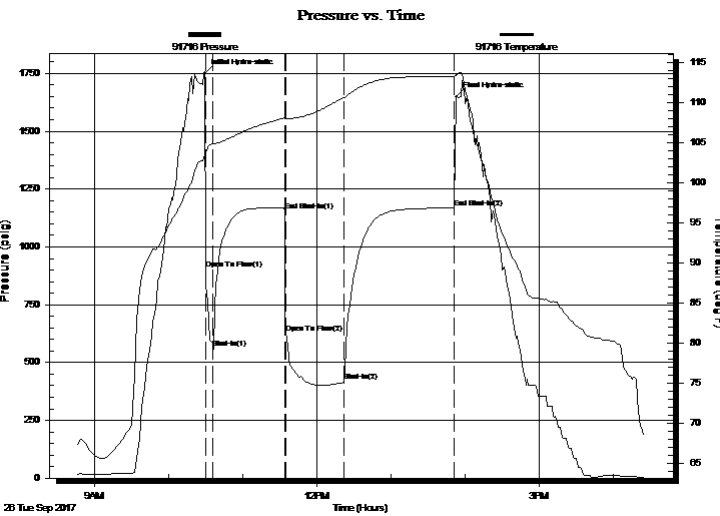
19-19s-14w
Calcara#2-19
 Job Ticket: 01195 **DST#: 3**
 Test Start: 2017.09.27 @ 08:46:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 00:00:00 Tester: Gene Budig
 Time Test Ended: 00:00:00 Unit No: 1
 Interval: **3430.00 ft (KB) To 3550.00 ft (KB) (TVD)** Reference Elevations: 1910.00 ft (KB)
 Total Depth: 3550.00 ft (KB) (TVD) 1902.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 91716 Outside
 Press@RunDepth: 1168.42 psig @ 3545.06 ft (KB) Capacity: 5000.00 psig
 Start Date: 2017.09.26 End Date: 2017.09.26 Last Calib.: 2017.09.27
 Start Time: 08:46:00 End Time: 16:25:29 Time On Btm: 2017.09.26 @ 10:29:30
 Time Off Btm: 2017.09.26 @ 13:53:00

TEST COMMENT: 1st Opening 5 Minutes strong blow bottom of a 5 gallon bucket in 30 seconds
 1st Shut-in 60 Minutes good blow back
 2nd Opening 45 Minutes strong blow gas to surface
 2nd Shut-In 90 Minutes good b;pw back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1750.68	103.41	Initial Hydro-static
1	903.65	103.57	Open To Flow (1)
7	563.99	104.78	Shut-In(1)
65	1154.67	108.04	End Shut-In(1)
66	625.53	108.03	Open To Flow (2)
113	420.00	110.59	Shut-In(2)
202	1168.42	113.23	End Shut-In(2)
204	1647.92	113.39	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
210.00	Mud w ith a trace of oil	2.95
240.00	oil and gas cut muddy water	3.37
0.00	10%Gas 25%Oil 40%Mud 25%Water	0.00
120.00	oil and gas cut muddy water	1.68
0.00	20%Gas 20%Oil 10%Mud 50%Water	0.00
120.00	oil and gas cut muddyw ater	1.68

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
Wichita, Kansas 67206

Calcara#2-19

Job Ticket: 01195

DST#: 3

ATTN: Renee Husted

Test Start: 2017.09.27 @ 08:46:00

Tool Information

Drill Pipe:	Length: 3425.00 ft	Diameter: 3.80 inches	Volume: 48.04 bbl	Tool Weight: 20900.00 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 48.04 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3430.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	120.06 ft			
Tool Length:	150.06 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			3405.00	
Hydraulic tool	5.00			3410.00	
Jars	5.00			3415.00	
Safety Joint	5.00			3420.00	
Packer	5.00			3425.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3430.00	
Anchor	6.00			3436.00	
Change Over Sub	0.75			3436.75	
Drill Pipe	93.56			3530.31	
Change Over Sub	0.75		Inside	3531.06	
Anchor	14.00			3545.06	
Recorder	0.00	9139	Inside	3545.06	
Recorder	0.00	91716	Outside	3545.06	
Bullnose	5.00			3550.06	120.06 Bottom Packers & Anchor

Total Tool Length: 150.06



DRILL STEM TEST REPORT

FLUID SUMMARY

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
 Wkchita, Kansas 67206

Calcara#2-19

Job Ticket: 01195

DST#: 3

ATTN: Renee Husted

Test Start: 2017.09.27 @ 08:46:00

Mud and Cushion Information

Mud Type: Gel Chem
 Mud Weight: 9.00 lb/gal
 Viscosity: 59.00 sec/qt
 Water Loss: 9.20 in³
 Resistivity: ohm.m
 Salinity: 5700.00 ppm
 Filter Cake: 1.00 inches

Cushion Type:
 Cushion Length: ft
 Cushion Volume: bbl
 Gas Cushion Type:
 Gas Cushion Pressure: psig

Oil API: deg API
 Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
210.00	Mud w ith a trace of oil	2.946
240.00	oil and gas cut muddy w ater	3.367
0.00	10%Gas 25%Oil 40%Mud 25%Water	0.000
120.00	oil and gas cut muddy w ater	1.683
0.00	20%Gas 20%Oil 10%Mud 50%Water	0.000
120.00	oil and gas cut muddyw ater	1.683
0.00	10%Gas 5%Oil 5%Mud 75%Water	0.000
0.00	Gauge gauged fluxuated betw een	0.000
0.00	415mcf and 472mcf	0.000
0.00	chlorides 18000	0.000

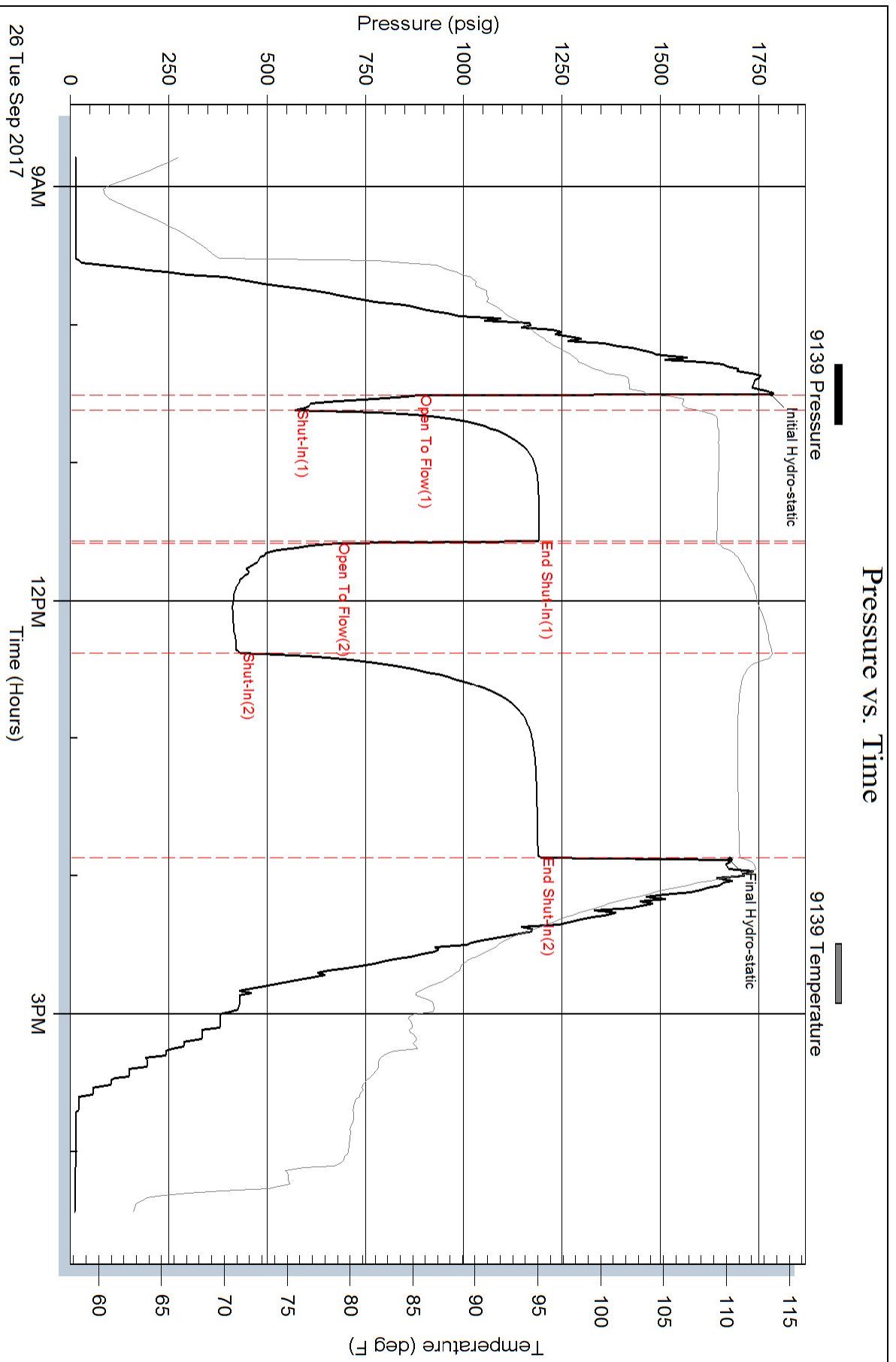
Total Length: 690.00 ft Total Volume: 9.679 bbl

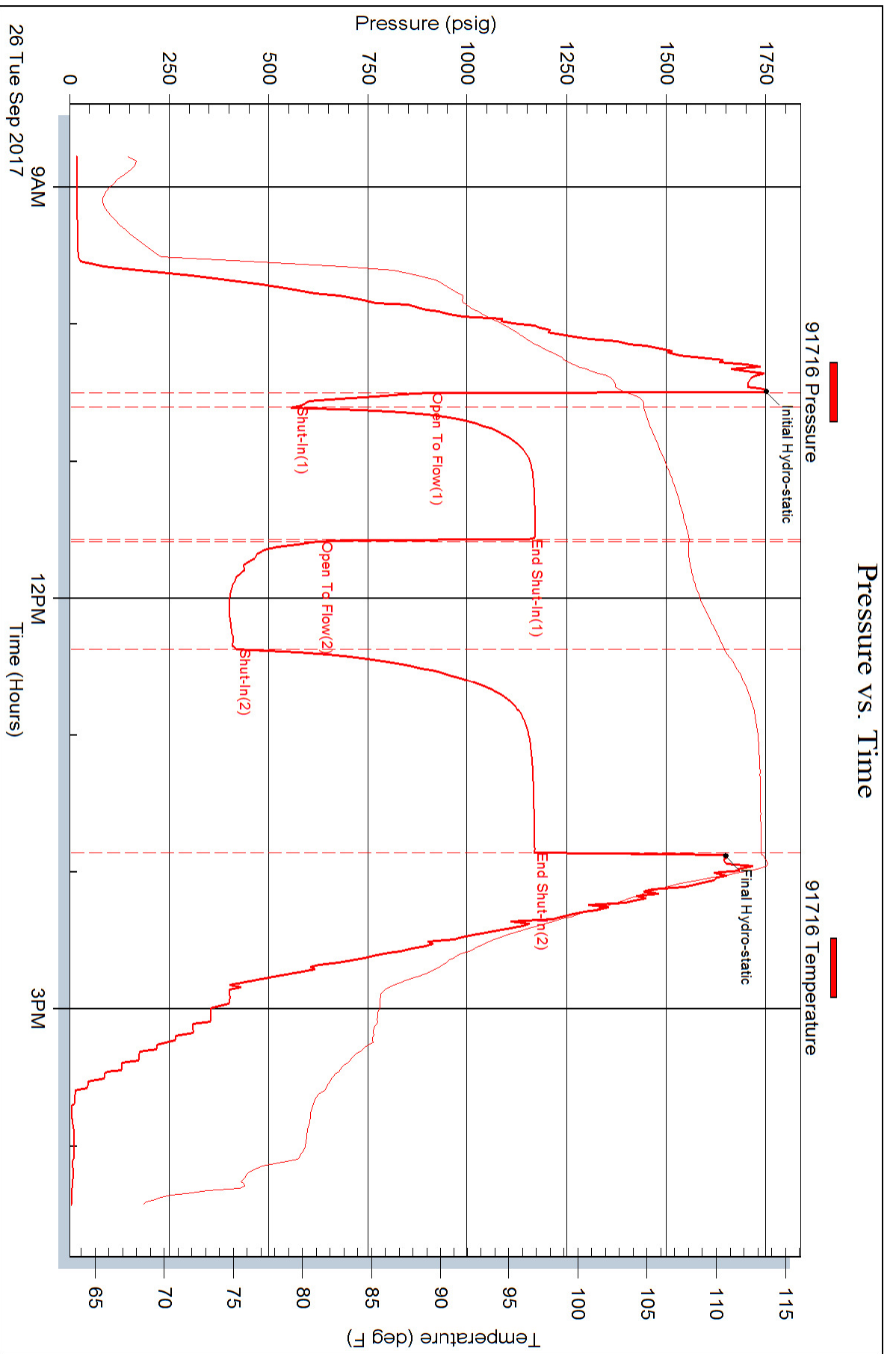
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **F.G.Holl Company LLC**

9431 East Central Suite 100
Wichita, Kansas 67206

ATTN: Renee Husted

Calcara#2-19

19-19s-14w

Start Date: 2017.09.27 @ 11:34:00

End Date: 2017.09.27 @ 00:00:00

Job Ticket #: 01196 DST #: 4

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2017.09.27 @ 18:17:23



DRILL STEM TEST REPORT

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
Wichita, Kansas 67206

Calcara#2-19

ATTN: Renee Hustead

Job Ticket: 01196

DST#: 4

Test Start: 2017.09.27 @ 11:34:00

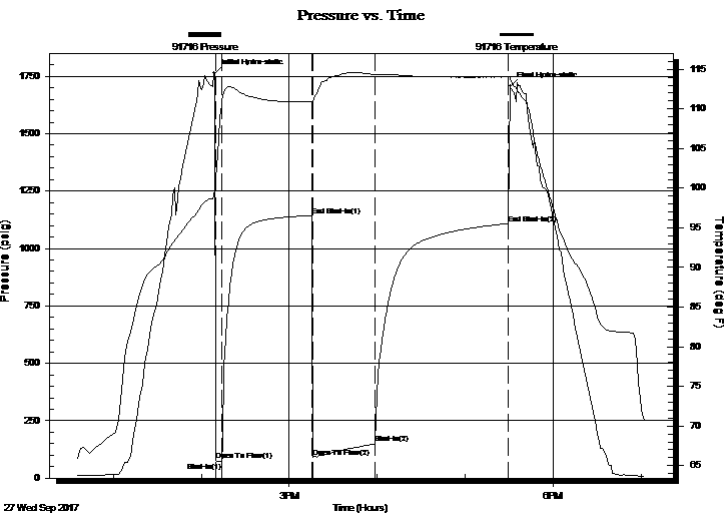
GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:10:00
 Time Test Ended: 00:00:00
 Interval: **3550.00 ft (KB) To 3555.00 ft (KB) (TVD)**
 Total Depth: 3555.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 1
 Reference Elevations: 1910.00 ft (KB)
 1902.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 91716 Outside

Press@RunDepth: 1108.67 psig @ 3550.00 ft (KB) Capacity: 5000.00 psig
 Start Date: 2017.09.27 End Date: 2017.09.27 Last Calib.: 2017.09.27
 Start Time: 12:35:00 End Time: 19:03:00 Time On Btm: 2017.09.27 @ 14:09:00
 Time Off Btm: 2017.09.27 @ 17:31:00

TEST COMMENT: 1st Oprng 5 Minutes strong blow built to the bottom of a 5 gallon bucket in 1 minute
 1st Shut-In 60 Minutes fair blow back
 2nd Opening 45 Minutes strong blow gas in 2 minutes see gas flow report
 2nd Shut-In 90 Minutes fair BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1763.44	99.88	Initial Hydro-static
1	78.86	101.39	Open To Flow (1)
5	70.06	111.12	Shut-In(1)
66	1143.53	110.88	End Shut-In(1)
67	92.15	110.93	Open To Flow (2)
110	149.68	114.30	Shut-In(2)
201	1108.67	114.03	End Shut-In(2)
202	1706.26	113.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
210.00	Slightly oil cut w water	2.95
0.00	3%Oil 12%Mud 85%Water	0.00
60.00	w ater w ith less than 1/2%Oil	0.84
0.00	4%Mud 96%Water Chlorides 18000	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	55.00	25.98
Last Gas Rate	0.13	27.00	15.50
Max. Gas Rate	0.13	55.00	25.98



DRILL STEM TEST REPORT

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
Wichita, Kansas 67206

Calcara#2-19

Job Ticket: 01196

DST#: 4

ATTN: Renee Husted

Test Start: 2017.09.27 @ 11:34:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:10:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig

Unit No: 1

Interval: **3550.00 ft (KB) To 3555.00 ft (KB) (TVD)**

Reference Elevations: 1910.00 ft (KB)

Total Depth: 3555.00 ft (KB) (TVD)

1902.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9139 Inside

Press@RunDepth: 1124.75 psig @ 3550.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2017.09.27

End Date: 2017.09.27

Last Calib.: 2017.09.27

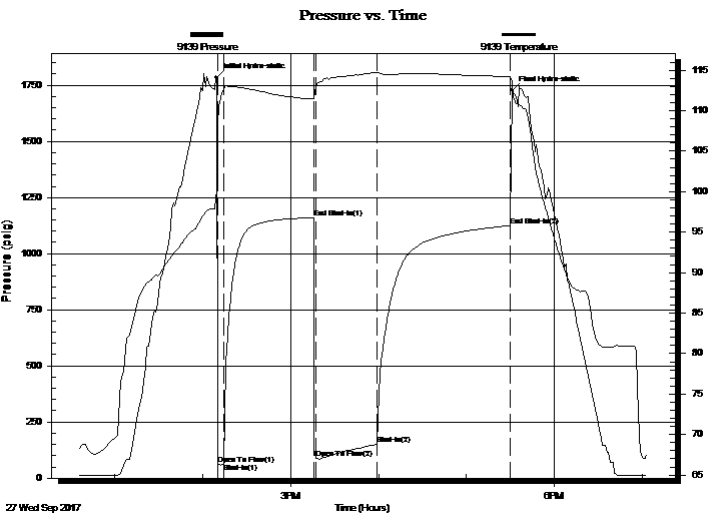
Start Time: 12:35:00

End Time: 19:03:30

Time On Btm: 2017.09.27 @ 14:09:30

Time Off Btm: 2017.09.27 @ 17:31:00

TEST COMMENT: 1st Opring 5 Minutes strong blow built to the bottom of a 5 gallon bucket in 1 minute
1st Shut-In 60 Minutes fair blow back
2nd Opening 45 Minutes strong blow gas in 2 minutes see gas flow report
2nd Shut-In 90 Minutes fair BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1784.40	100.13	Initial Hydro-static
1	63.04	108.44	Open To Flow (1)
5	64.78	112.73	Shut-In(1)
66	1161.48	111.42	End Shut-In(1)
68	87.17	112.96	Open To Flow (2)
110	150.96	114.72	Shut-In(2)
201	1124.75	114.20	End Shut-In(2)
202	1727.89	113.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
210.00	Slightly oil cut w water	2.95
0.00	3%Oil 12%Mud 85%Water	0.00
60.00	w ater w ith less than 1/2%Oil	0.84
0.00	4%Mud 96%Water Chlorides 18000	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	55.00	25.98
Last Gas Rate	0.13	27.00	15.50
Max. Gas Rate	0.13	55.00	25.98



DRILL STEM TEST REPORT

TOOL DIAGRAM

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
Wichita, Kansas 67206

Calcara#2-19

Job Ticket: 01196

DST#: 4

ATTN: Renee Husted

Test Start: 2017.09.27 @ 11:34:00

Tool Information

Drill Pipe:	Length: 3550.00 ft	Diameter: 3.80 inches	Volume: 49.80 bbl	Tool Weight: 1500.00 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 49.80 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3550.00 ft			Final lb
Depth to Bottom Packer:	ft			
Interval between Packers:	5.00 ft			
Tool Length:	30.00 ft			
Number of Packers:	1	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			3530.00	
Hydraulic tool	5.00			3535.00	
Jars	5.00			3540.00	
Safety Joint	5.00			3545.00	
Packer	5.00		Fluid	3550.00	25.00 Bottom Of Top Packer
Anchor	0.00			3550.00	
Recorder	0.00	9139	Inside	3550.00	
Recorder	0.00	91716	Outside	3550.00	
Bullnose	5.00			3555.00	5.00 Anchor Tool
Total Tool Length:	30.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

F.G.Holl Company LLC

19-19s-14w

9431 East Central Suite 100
 Wikchita, Kansas 67206

Calcara#2-19

Job Ticket: 01196

DST#: 4

ATTN: Renee Husted

Test Start: 2017.09.27 @ 11:34:00

Mud and Cushion Information

Mud Type: Gel Chem
 Mud Weight: 9.00 lb/gal
 Viscosity: 52.00 sec/qt
 Water Loss: 8.80 in³
 Resistivity: ohm.m
 Salinity: 6100.00 ppm
 Filter Cake: 1.00 inches

Cushion Type:
 Cushion Length: ft
 Cushion Volume: bbl
 Gas Cushion Type:
 Gas Cushion Pressure: psig

Oil API: deg API
 Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
210.00	Slightly oil cut w ater	2.946
0.00	3%Oil 12%Mud 85%Water	0.000
60.00	w ater w ith less than 1/2%Oil	0.842
0.00	4%Mud 96%Water Chlorides 18000	0.000

Total Length: 270.00 ft Total Volume: 3.788 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Laboratory Name:

Laboratory Location:

Recovery Comments:

ERROR: undefined
OFFENDING COMMAND: r

STACK:

94
250
3149
3399