

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	H & D Exploration LLC
Well Name	STEINLE 2
Doc ID	1474133

All Electric Logs Run

Density Neutron
Cement Bond
Micro
Dual Induction

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 1286

Date	Sec.	Twp.	Range	County	State	On Location	Finish
5-14-19	30	14	12	Russell	Ks		1:15 AM

Lease Steinle Well No. 2 Location Bunker Hill -35 to 4 Corners Rd, 1E, 1/4S

Contractor Southwind #3 Owner W/into
To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Type Job Surface Charge To H+D Exploration
Hole Size 12 1/4" T.D. 412'
Csg. 8 5/8" Depth 412'

Tbg. Size _____ Depth _____ City _____ State _____
Tool _____ Depth _____
The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 15' Shoe Joint 15' Cement Amount Ordered 190 60/40 4% CL 2% Gel

Meas Line _____ Displace 25 BUS

EQUIPMENT

Pumptrk	No.	Cementer	Helper		Common
17		Tony	P.		Poz. Mix
Bulktrk	No.	Driver			Gel.
14		Jack			Calcium
Bulktrk	No.	Driver			
p.u.		Rick			

JOB SERVICES & REMARKS

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

FLOAT EQUIPMENT

	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

	Pumptrk Charge	
	Mileage	
		Tax
		Discount
		Total Charge

X Signature

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 1436

Date	Sec.	Twp.	Range	County	State	On Location	Finish
5-19-19	30	14	12	Russell	KS		10:00 P.M.
				Location <u>Bunkerhill S 4 Cont'd 1E</u>			

Lease	Well No.	Owner
<u>Steink</u>	<u>2</u>	To Quality Oilwell Cementing, Inc.
Contractor	You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.	
<u>Southwind #3</u>		
Type Job	Charge To	
<u>Production String</u>	<u>H & D Exploration</u>	
Hole Size	T.D.	
<u>2 7/8</u>	<u>3210</u>	
Csg.	Depth	
<u>5 1/2 13.50*</u>	<u>3202</u>	
Tbg. Size	Depth	
Tool	Depth	
Cement Left in Csg.	Shoe Joint	Cement Amount Ordered
<u>42.15</u>	<u>42.15</u>	<u>180^{lb} 70 / Salt 5 / Gilsomite</u>
Meas Line	Displace	
	<u>75 KBL</u>	<u>500gal mud clear</u>

EQUIPMENT

Pumptrk	No.	Cementer	
<u>17</u>		<u>Chris</u>	
		Helper	
		<u>David</u>	
Bulktrk	No.	Driver	
		<u>Jack</u>	
Bulktrk	No.	Driver	
<u>14</u>		<u>Jack</u>	

Common	
<u>180</u>	
Poz. Mix	
Gel.	
Calcium	
Hulls	
Salt	<u>15</u>
Flowseal	
Kol-Seal	<u>800#</u>
Mud CLR 48	<u>500#</u>
CFL-117 or CD110 CAF 38	
Sand	
Handling	<u>203</u>
Mileage	

FLOAT EQUIPMENT

5 1/2 set @ 3202 Bulktrk 3159.86
Est. Circulation Pump 500gal mud clear
10 Bbl Spacers Plug Retract 30 SK
Cement 5 1/2 with 150 SK Clear
Lines & Displace Plug
Plug land @ 1300 ft Helix for 15 min.
Release Pressure Drill
Lift Pressure 800

Guide Shoe	
Centralizer	<u>3</u>
Baskets	<u>2</u>
AFU Inserts	
Float Shoe	<u>1</u>
Latch Down	<u>1</u>

Pumptrk Charge	<u>prod string</u>
Mileage	<u>15</u>

Signature <u>Jay Kuer</u>	Tax
	Discount
	Total Charge

MORNING DRILLING REPORT

SOUTHWIND DRILLING, INC.

H & D Exploration, LLC

RIG No. 3

Well Name: Steinle #2
 Location: 1830' FNL & 770' FEL
 Section: 30-14S-12W
 County: Russell
 API: 15-167-24092-00-00

GL Elevation: 1668'
 KB: 1677'
 Est. TD: 3300'
 Conductor String: N/A

Rig No. 3 Pusher (Jay Krier) 620-617-4477
 Rig No. 3 (Doghouse) 620-566-7014
 Southwind Drilling Office 620-564-3800

Surface Casing: Ran 9 joints of new 20#, 8 5/8" casing, Tally @ 401.59', Set @ 412', used 190 sacks of 60/40 poz, 4% cc, 2% gel, cement circulated, by Quality (Ticket #1286), plug down @ 1:15 am on 05.14.19.

Production Info: Ran 76 joints of used 15.5#, 5 1/2" casing, Tally @ 3200.57', Set @ 3191', used 180 sacks of common, 10% salt, 5% gilsonite, 500 gal mud-clear, 30 sacks rat hole, cemented by Quality (Ticket #1436), job complete @ 10:00 pm on 05.19.19.



Rotary Total Depth: 3210'

Log Total Depth: 3210'

Geologist: Jim Musgrove

7:00 A.M. Depth: 3210' Current Operation: TEAR DOWN

Spud Date & Time:	05/13/19	05/14/19	05/15/19	05/16/19	05/17/19	05/18/19	05/19/19	05/20/19	Total
5/13/19 @ 4:00 PM	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	
Total Depth (7:00am)	0	412	1812	2230	2895	2940	3210	3210	3210
Daily Progress	412	1400	418	665	45	270	0		3210
Ft. Per Hr.	86.74	86.15	57.66	35.47	36.00	24.55	#DIV/0!	#DIV/0!	54.18
Current Operation (7:00am)	Rig Up	WOC	Drilling	TIH w/ bit	CFS	TIH w/ bit	CTCH	Tear Down	
Formation	Surface	Surface	Lime / Shale	Tarkio	Lime / Shale	Lansing	Arbuckle	Arbuckle	
Fuel Used (41.5 Gal/Inch)	124.50	332.00	290.50	332.00	249.00	373.50	124.50		1826.00
Survey (degree & depth)	1/4° @ 412'		1 1/2° @ 2230'				1 1/4° @ 3210'		

Mud Cost	\$0.00	\$0.00	\$3,443.64	\$0.00	\$1,142.69	\$0.00	\$1,498.32		\$6,084.65
Weight (39.6 / Gal Inch)	-	-	8.4	9.1	9.3	9.1	9.2		
Vis (Funnel)	-	-	46	55	53	50	50		
Water Loss (cc)	-	-	8.8	-	10.2	12.6	12.6		

Bit #1									
Bit Make / Type	JZ RR								
Bit Size	12 1/4								
Bit Hours	4.75								4.75
Bit #2									
Bit Make / Type	Varel HE-29	Varel HE-29	Varel HE-29	Varel HE-29	Varel HE-29	Varel HE-29	Varel HE-29		
Bit Size	7 7/8	7 7/8	7 7/8	7 7/8	7 7/8	7 7/8	7 7/8		
Bit Hours	16.25	7.25	18.75	1.25	11.00	0.00			54.50
Bit Cumulative Hours	4.75	16.25	7.25	18.75	1.25	11.00	0.00	0.00	59.25
Weight on Bit (WOB)	15,000	30,000	30,000	30,000	30,000	30,000	-		
RPM	120	80	80	80	80	80	-		
Pump Pressure	300	700	700	700	700	700	-		
Drilling (Rotating) Hours	4.75	16.25	7.25	18.75	1.25	11.00	0.00	0.00	59.25

Daywork Hrs. (Operator's time)									
Rat Hole (>.75 Hrs)									0.00
Wait on Cement	5.75	2.25							8.00
Short Trip			1.25			1.00			2.25
Trip			5.00		10.50	1.00	2.50		19.00
Circulate			2.25	3.50	3.50	8.25	2.00		19.50
Tool			1.00		2.00				3.00
Testing			3.00		6.25				9.25
Clean Floor after DST					0.25				0.25
Logging							3.50		3.50
Wait on Orders									0.00
LDDP / LDDC							2.50		2.50
Run Casing / Circ / Cement	2.25						3.50		5.75
Bit Trip									0.00
Displace			2.00						2.00
Jet Cellar / Set Slips							0.50		0.50
Survey (Operator Request)									0.00
Nipple Down							1.00		1.00
Billable Hours	8.00	2.25	14.50	3.50	22.50	10.25	15.50	0.00	76.50

Non-Billable Hours (Southwind's time)									
Rig Up / Tear Down	8.25						8.50		16.75
Wait on Cement (NB)									0.00
Drill Rat Hole (<.75 hrs)	0.75								0.75
Drill Plug									0.00
Bit Trip									0.00
Circulate / Trip (Surface)	0.75								0.75
Rig Repair	0.25	1.00	0.75			1.25			3.25
Connections	1.25	3.50	1.25	1.75	0.25	1.00			9.00
Jet/Displace		1.00	0.25			0.50			1.75
Surveys									0.00
Rig Check									0.00
Trip Time (NB) / DST #3									0.00
Lost Circulation (< 2 hrs)									0.00
Lay Down Kelly / MH & RH									0.00
Non-Billable Hrs.	11.25	5.50	2.25	1.75	0.25	2.75	8.50	0.00	32.25

Footage Cost	\$ 4,532.00	\$ 15,400.00	\$ 4,598.00	\$ 7,315.00	\$ 495.00	\$ 2,970.00	\$ -	\$ -	\$ 35,310.00
Daywork Cost	\$ 2,680.00	\$ 753.75	\$ 4,857.50	\$ 1,172.50	\$ 7,537.50	\$ 3,433.75	\$ 5,192.50	\$ -	\$ 25,627.50
Combined Est. Cost*	\$ 7,212.00	\$ 16,153.75	\$ 9,455.50	\$ 8,487.50	\$ 8,032.50	\$ 6,403.75	\$ 5,192.50	\$ -	\$ 60,937.50

*Please note that this is estimated footage & daywork cost only. Additional charges will apply on invoice (fuel surcharge, water transfer pump, etc)

DST #1 Info - Footage Interval: 2170' - 2230' Recovery: 5' Mud Tarkio	DST #2 Info - Footage Interval: 2832' - 2895' Recovery: 180' Gassy Oily Cut Mud Lansing "A - C" Zones
DST #3 Info - Footage Interval: 2890' - 2940' Recovery: 50' Oil Cut Mud Lansing "D - F" Zones	DST #4 Info - Footage Interval: Recovery:



Mudgrouve

Petroleum Geology
212 Main Street, Claflin KS

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY <u>H&D Exploration, LLC</u>	ELEVATIONS
LEASE <u>Steinle #2</u>	KB <u>1679'</u>
FIELD <u>Hall Gurney</u>	DF _____
LOCATION <u>SE-NW-SE-NE(1830' FNL& 770' FEL)</u>	GL <u>1670'</u>
SEC <u>30</u> TWSP <u>14S</u> RGE <u>12W</u>	Measurements Are All From <u>KB</u>
COUNTY <u>Russell</u> STATE <u>Kansas</u>	
CONTRACTOR <u>Southwind Drilling, inc. (Rig # 3)</u>	CASING
SPUD <u>05/13/2019</u> COMP <u>05/19/2019</u>	SURFACE <u>8 5/8"@412'</u>
RTD <u>3210'</u> LTD <u>3210'</u>	PRODUCTION <u>5 1/2"@3208</u>
MUD UP <u>2050'</u> TYPE MUD <u>Chemical</u>	ELECTRICAL SURVEYS
	ELI Wireline
	Micro, DIL, CDL/CNL

SAMPLES SAVED FROM 2100' TO RTD

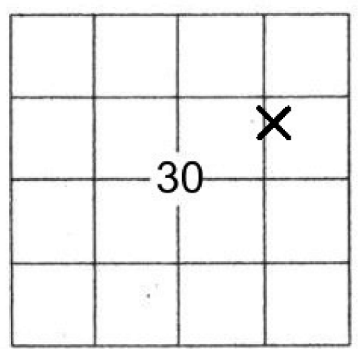
DRILLING TIME KEPT FROM 2100' TO RTD

SAMPLES EXAMINED FROM 2100' TO RTD

GEOLOGICAL SUPERVISION FROM 2150' TO RTD

GEOLOGIST ON WELL Wyatt Urban

FORMATION TOPS	LOG	SAMPLES
Anhydrite	599 (+1080)	Lansing 2818 (-1139)
B. Anhydrite	634 (+1045)	Base KC 3092 (-1413)
Grand Haven	2158 (-824)	Congl. 3103 (-1424)
Dover	2182 (-503)	Arbuckle 3160(-1481)
2nd Tarkio Sd.	2192 (-513)	RTD 3210(-1531)
Tarkio Lime	2231 (-555)	LTD 3210(-1531)
Topeka	2503 (-824)	
Heebner	2740 (-1061)	
Toronto	2757 (-1078)	
Douglas	2772 (-1093)	



LEGEND

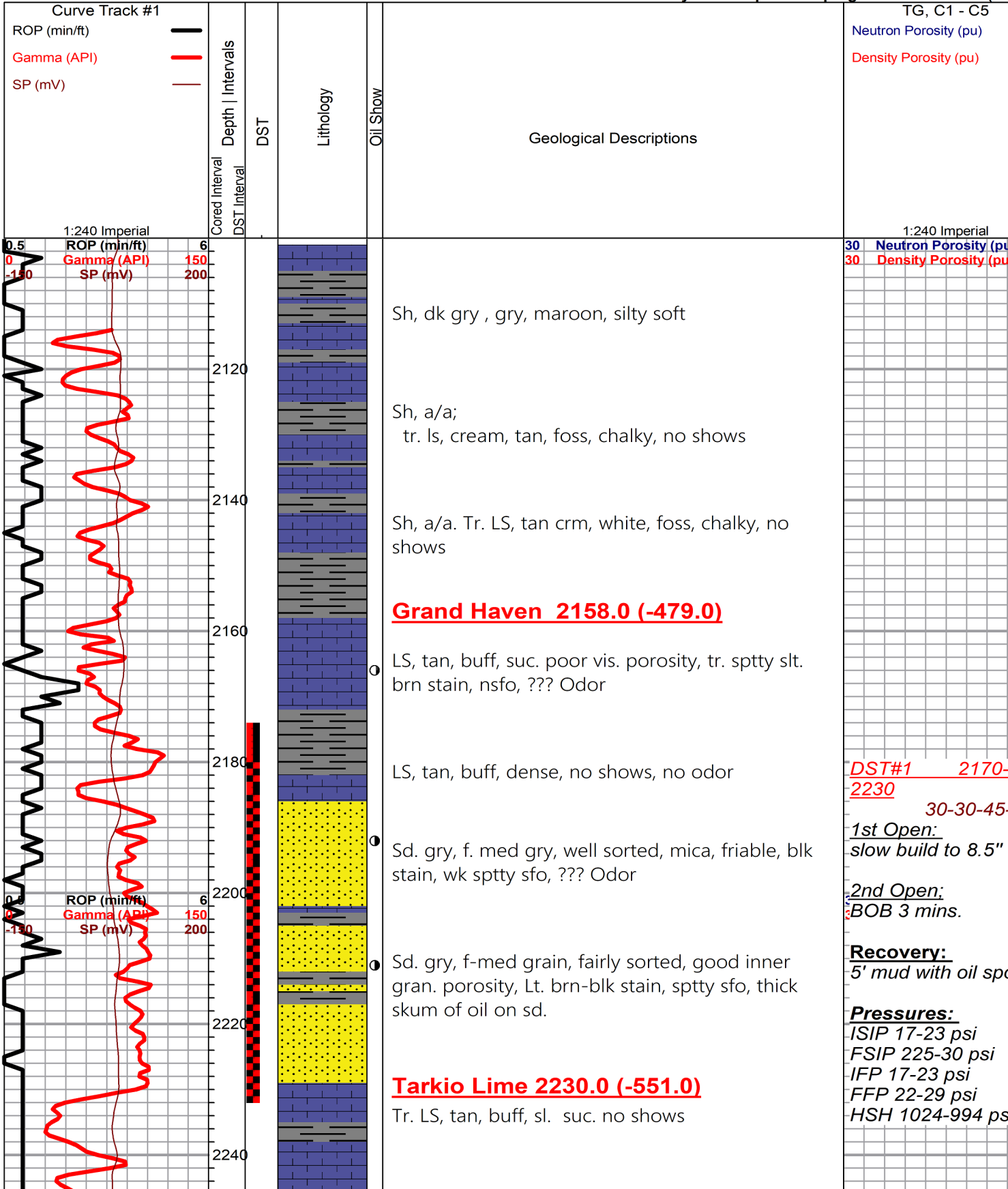
Oil Show

- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Strn
- D Dead Oil Strn
- Fluorescence
- * Gas

DST

- DST Int
- DST alt
- Core
- tail pipe

Printed by GEOstrip VC Striplog version 4.0.8.15 (wv



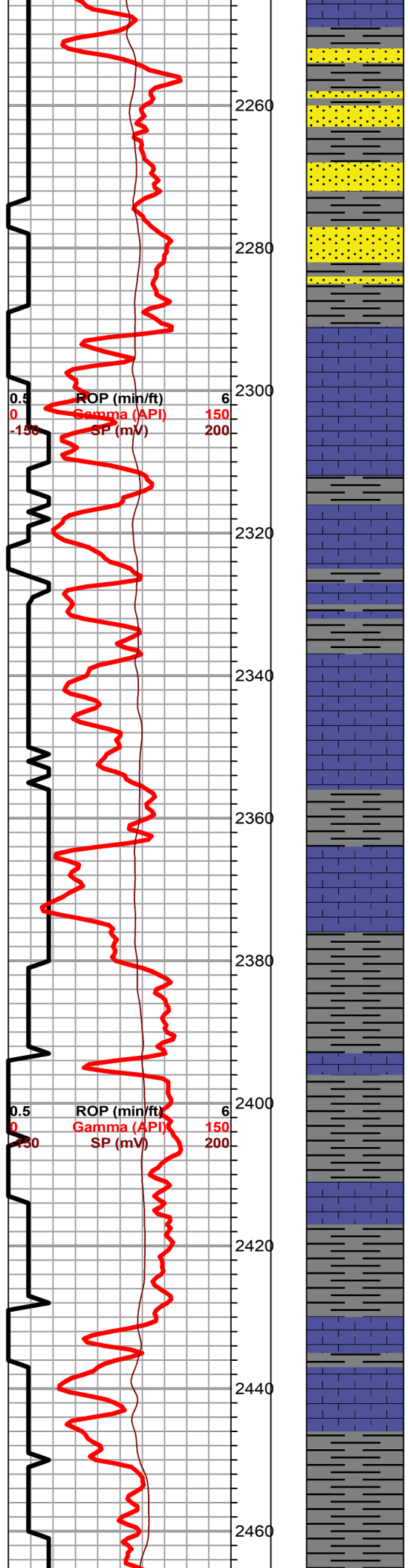
TG, C1 - C5
Neutron Porosity (pu)
Density Porosity (pu)

1:240 Imperial
30 Neutron Porosity (pu)
30 Density Porosity (pu)

DST#1 2170-2230
30-30-45
1st Open:
slow build to 8.5"
2nd Open:
BOB 3 mins.

Recovery:
5' mud with oil sp

Pressures:
ISIP 17-23 psi
FSIP 225-30 psi
IFP 17-23 psi
FFP 22-29 psi
HSH 1024-994 ps



Sd. gry, poorly developed porosity, mica, dk blk stain (flakey), no shows

Sh, gry, dk, gry, mica, tr. sd. a/a , no shows, abd. black carb sh.

LS, white, foss, poor vis. porosity, chalky, no shows,

LS, tan, buff, foss, poor vis. porosity, chalky, no shows,

Abd. gry silty shale

LS, cream, foss, poor vis. por. no shows, no odor .

Sh, gry, dk gry,

Tr. LS, cream, tan, fxl, few foss, no shows

Sh, gry silty, soft no shows

Sh, dk gry, soft, tr. sd. gry, vfg. well sorted, well sorted, no shows

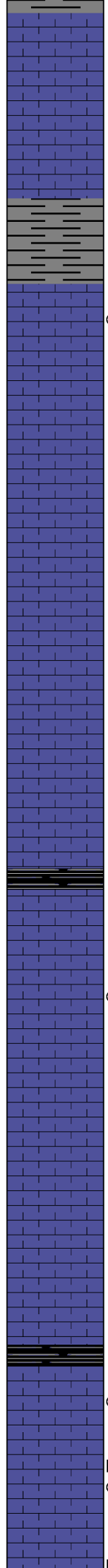
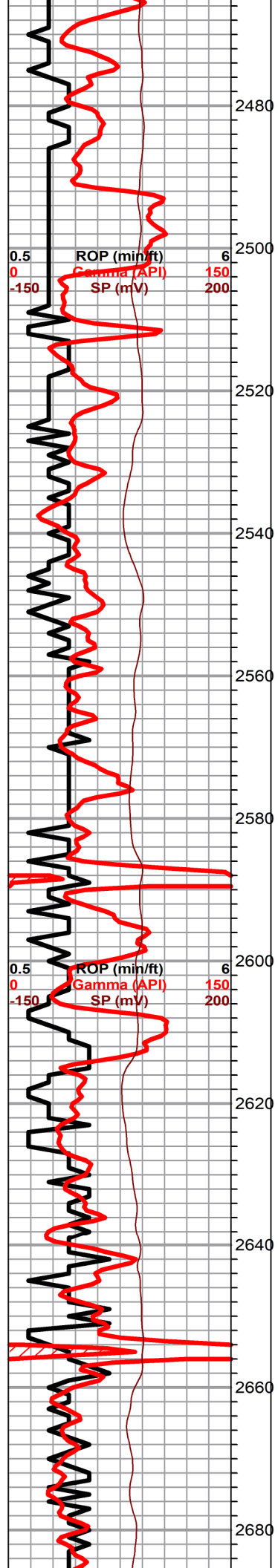
Sh, gry, silty, soft, tr. sd. vfg., gry, mica., no shows,

LS, cream, foss, poor / fair scattered p.p. porosity sl. chalky, tr. red / brn, discoloration, no odor.

Abd. slug dk gry soft sh.

30 Neutron Porosity (pu)
30 Density Porosity (pu)

30 Neutron Porosity (pu)
30 Density Porosity (pu)



LS, tan, brn, foss, gran. chalky, no shows, no odor

Sh, gry, soft

Topeka 2508.0 (-829.0)

LS, cream white, fxl, poor vis. porosity, Tr. spty wk sfo, faint odor ???

LS, gry, few foss, dense, poor to fair porosity, no shows, no odor

LS, tan, crm, foss, sl. chalky, poor vis. porosity, no shows, tr. dk gry silty sh.

LS, a/a, foss, chalky, poor p.p. porosity, no shows

Sh, black carb

LS, dense, few foss, poor porosity, sl. chalky, no shows

LS, tan, foss . sl. chalky, fair scatt. porosity, tr. blk stain, nsfo, ??? odor

LS, brn, dense sl. chalky , poor porosity, few foss, tr. brn stain, nsfo, no odor

LS, gry/ white, crm, foss, chalky, few cherty, nsfo, tr. LS, tan, ool, foss, chalky,

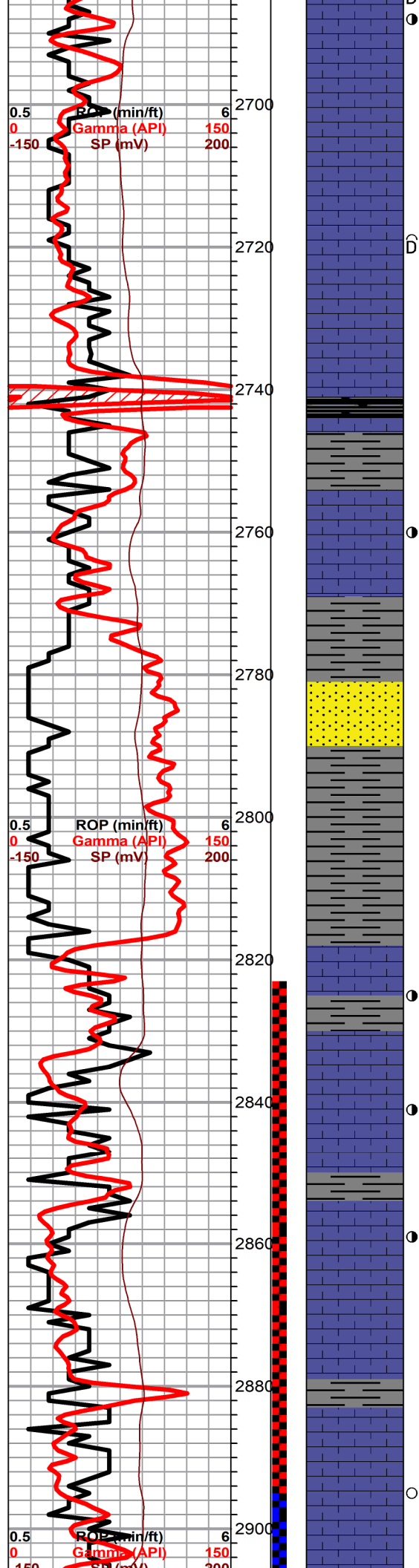
Sh, black carb

LS, tan, foss, scattered porosity, chalky, tr. brn stain

LS, tan, brn, ool, poorly deve. chalky, tr. spty brn sfo (flky) no odor

30 Neutron Porosity (pu)
30 Density Porosity (pu)

30 Neutron Porosity (pu)
30 Density Porosity (pu)



LS, tan, brn. ool. poorly dev. porosity, chalky tr. spty dk brn sfo <flakey> dead in app. (no odor)

LS, tan, buff, fxl, foss, fair scattered vuggy porosity, nsfo, tr. tan cherts

LS, tan, cream, foss, poorly developed p.p. / vuggy porosity, v. chalky, lt. brn stain, flky in appearance, no odor

Heebner 2740.0 (-1097.0)
Sh, black carb

Sh. arv. silty soft
Toronto 2755.0 (-1076.0)

LS, tan, gran./dol., scatt p.p. porosity, lt. brn stain, tr. spty sfo, ??? odor

Douglas 2775.0 (-1096.0)

Sh, gry silty mica, no shows

Sd. gry, f. grain, mica, poorly developed porosity, tr. blk stain, nsfo, no odor

Sh, gry, silty tr. sd, a/a, no shows no odor

Lansing 2818.0 (-1139.0)

LS, cream, white, fxl, fair scattered porosity, lt. brn stn, spty sfo, faint-fair odor

LS, tr. white/tan, foss, fair oom vuggy type porosity, sl. chalky, brn stain, sfo/ sat., odor

LS, white, ool, fair scatt. oom vuggy porosity. chalky, dk brn stain, spty sfo, odor

LS, gry, dense, cherty, poor vis. porosity, no shows

LS, tan, gry, foss, poor-fair scattered vuggy porosity, tr. brn stain, spty sfo, faint odor

30 Neutron Porosity (pu)
30 Density Porosity (pu)

DST#2 2822-
2895
45
30-30-

1st Open:
BOB 6 mins.

1st Shut in:
30.73" in 11 mins. t
3 died

2nd Open:
BOB 4 mins.

2nd Shut in :
Slow build 2.16"

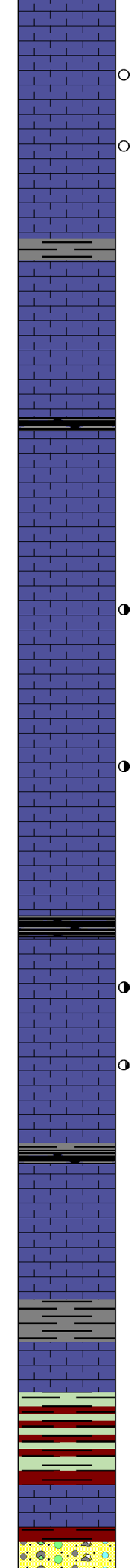
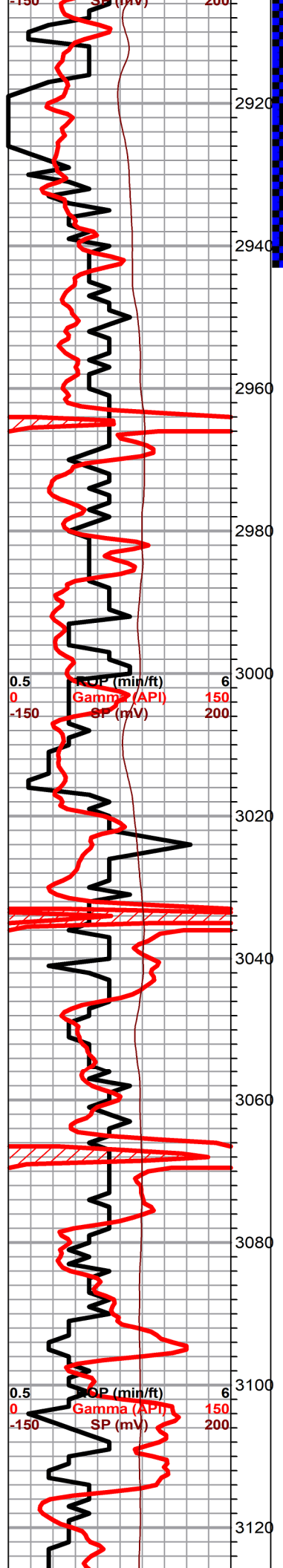
Recovery
850' GIP

160' GWOCM
(15%G, 25%O, 10
W, 50%M)

Pressures:
ISIP 332 psi
FSIP 369 psi
IFP 31-55 psi
FFP 62-80 psi
HSH 1508-1427 p

DST#3 2890-
2940
30-30-45

1st Open:
Slow build to 3.41"



LS, brn tan, fair vuggy/ p.p. porosity, lt. brn stain, lt. brn spty sfo, faint odor

LS, tan, white, oom, good vuggy porosity, golden brn stain/sat., good dk brn, sfo, <Increase sfo & odor in 40 min. sample >

Slug sh. soft silty

LS, tan, gry, fxl, few foss, dense, poor vis. por. no shows

Blk carb Sh.

LS, brn, tan, fxl, dns, poor vis porosity, nsfo, ??? odor

LS, tan, foss, poor p.p. porosity, tr. blk stain, nsfo, no odor

LS, white, foss, oom, poor - fair vuggy oom type porosity, sl. chalky, tr. spty brn stain, wk sfo, vis. gas bubbles, fair odor

Sh, black carb

LS, white, cream, foss, fxl, sl. cherty heavily fractured dk brn spty sfo, fair odor

LS, cream, tan, white, oom good vuggy porosity, tr. brn stain, nsfo, odor ???

Slug black carb Sh.

LS, brn dense, poor vis. porosity, no shows, no odor

BKC 3092.0 (-1413.0)
v.c. shale, gry, maroon, greenish, silty soft, + Tr. LS, gry, fxl, dense, poor vis. porosity no shows

Conglomerate 3103.0 (-1424.0)

Tr. gry, maroon, greenish- gry, silty shale

LS, tan, maroon tinted, foss poor vis. porosity, nsfo, no odor, tr. sd. gry, f. g. well sorted, nsfo, tr. blk stain

2nd Open:
slow build to 12.6'

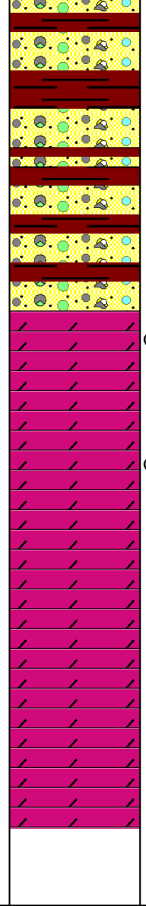
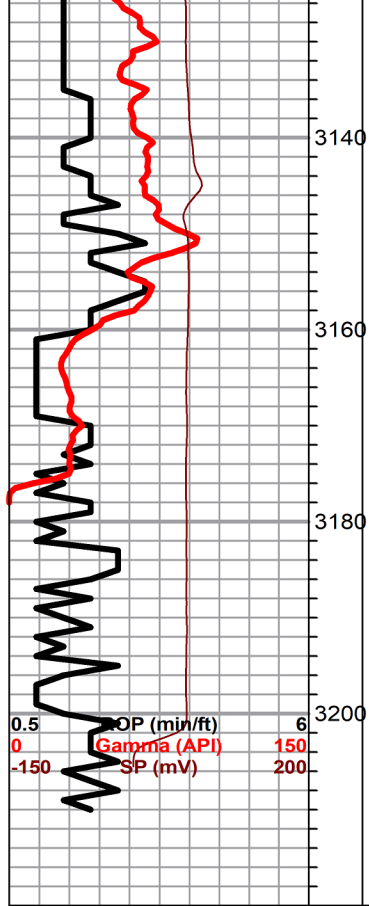
Recovery:
50' OSM

Pressures:
ISIP 274 psi
FSIP 405 psi
IFP 18-29 psi
FFP 27-39 psi
HSH 1540-1470 p

30 Neutron Porosity (pu)
30 Density Porosity (pu)

Due to heavy rain - mud problems decision was made to drill to TD & log. No further testing

30 Neutron Porosity (pu)
30 Density Porosity (pu)



Sh, maroon, greenish, gry, tr. v. c. cherts, few ool

Sh, maroon, greenish, sdy, tr. white, boney/ opaque cherts, few orange ool.

Arbuckle 3158.0 (-1479.0)

Dol. med xln, fair inxln porosity, lt. golde brn stain, wk spty golden brn sfo ---> dark brown sfo, fair odor

Dol, white, cream, suc. fair inxln porosity, tr. blk stain on few , nsfo, tr. pyrite, sulfuric odor.

Dol. white/ cream, f- med xln , chalky in pt poor porosity,nsfo

Dol. white, cream, fxl, dense, poor vis. porosity, no shows

RTD 3210.0 (-1531.0)

30 Neutron Porosity (pu)
30 Density Porosity (pu)



DRILL STEM TEST REPORT

Prepared For: **H&D Exploration, LLC**

PO Box 387
Hoisington, KS 67544

ATTN: Wyatt Urban

Steinle #2

30-14S-12W Russell,KS

Start Date: 2019.05.15 @ 22:48:35

End Date: 2019.05.16 @ 05:28:11

Job Ticket #: 65688 DST #: 1

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

Printed: 2019.05.20 @ 11:44:43

H&D Exploration, LLC
30-14S-12W Russell,KS
Steinle #2
DST # 1
Tarkio
2019.05.15



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

H&D Exploration, LLC
PO Box 387
Hoisington, KS 67544
ATTN: Wyatt Urban

30-14S-12W Russell, KS

Steinle #2

Job Ticket: 65688

DST#: 1

Test Start: 2019.05.15 @ 22:48:35

GENERAL INFORMATION:

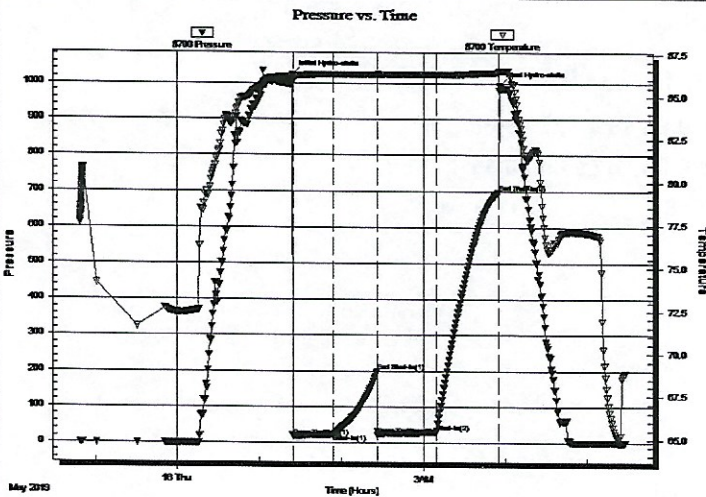
Formation: **Tarkio**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:24:56
 Time Test Ended: 05:28:11
 Interval: **2170.00 ft (KB) To 2230.00 ft (KB) (TVD)**
 Total Depth: 2230.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 1677.00 ft (KB)
 1668.00 ft (CF)
 KB to GR/CF: 9.00 ft

Serial #: 8700

Outside

Press@RunDepth: 29.81 psig @ 2171.00 ft (KB)
 Start Date: 2019.05.15 End Date: 2019.05.16
 Start Time: 22:48:36 End Time: 05:28:11
 Capacity: 8000.00 psig
 Last Calib.: 2019.05.16
 Time On Btm: 2019.05.16 @ 01:24:26
 Time Off Btm: 2019.05.16 @ 03:55:41

TEST COMMENT: 30- IF- Slowly built to 8.61"
 30- IS- No blow
 45- FF- BOB 3 mins. Built to 80.80"
 45- FS- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1024.78	86.20	Initial Hydro-static
1	17.44	86.02	Open To Flow (1)
30	23.14	86.29	Shut-In(1)
62	199.47	86.31	End Shut-In(1)
62	22.18	86.31	Open To Flow (2)
105	29.81	86.28	Shut-In(2)
151	696.33	86.42	End Shut-In(2)
152	994.56	86.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mw / few oil spots	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&D Exploration, LLC
PO Box 387
Hoisington, KS 67544
ATTN: Wyatt Urban

30-14S-12W Russell, KS
Steinle #2
Job Ticket: 65688 **DST#: 1**
Test Start: 2019.05.15 @ 22:48:35

Tool Information

Drill Pipe:	Length: 2065.00 ft	Diameter: 3.82 inches	Volume: 29.27 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 114.00 ft	Diameter: 2.25 inches	Volume: 0.56 bbl	Weight to Pull Loose: 42000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 30000.00 lb
Depth to Top Packer:	2170.00 ft			Final 32000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	80.00 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			2151.00	
Shut In Tool	5.00			2156.00	
Hydraulic tool	5.00			2161.00	
Packer	5.00			2166.00	20.00 Bottom Of Top Packer
Packer	4.00			2170.00	
Stubb	1.00			2171.00	
Recorder	0.00	6771	Inside	2171.00	
Recorder	0.00	8700	Outside	2171.00	
Perforations	22.00			2193.00	
Change Over Sub	1.00			2194.00	
Drill Pipe	32.00			2226.00	
Change Over Sub	1.00			2227.00	
Bullnose	3.00			2230.00	60.00 Bottom Packers & Anchor

Total Tool Length: 80.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&D Exploration, LLC

30-14S-12W Russell, KS

PO Box 387
Hoisington, KS 67544

Steinle #2

Job Ticket: 65688

DST#: 1

ATTN: Wyatt Urban

Test Start: 2019.05.15 @ 22:48:35

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 8.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 46.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.77 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mw / few oil spots	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8700

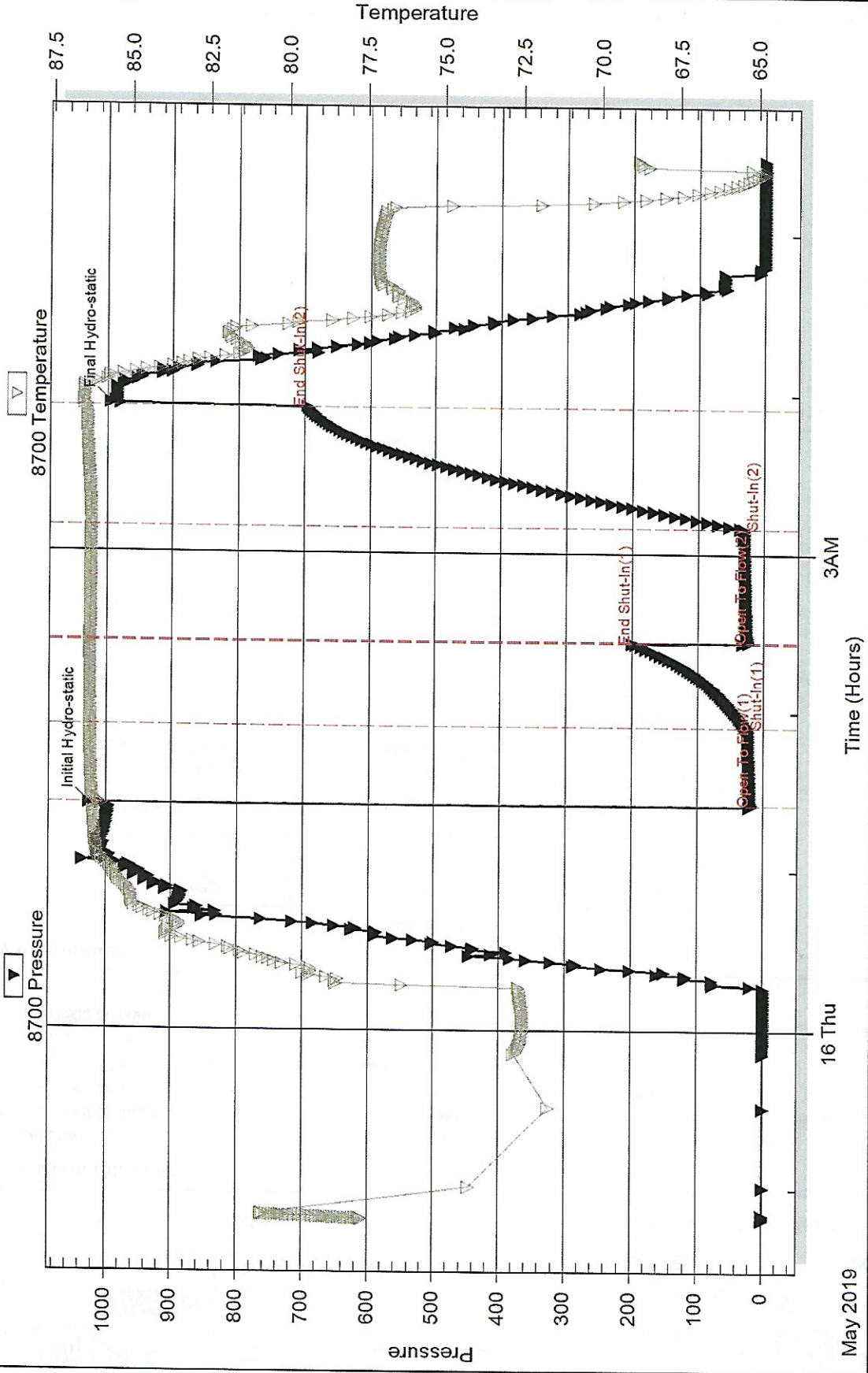
Outside

H&D Exploration, LLC

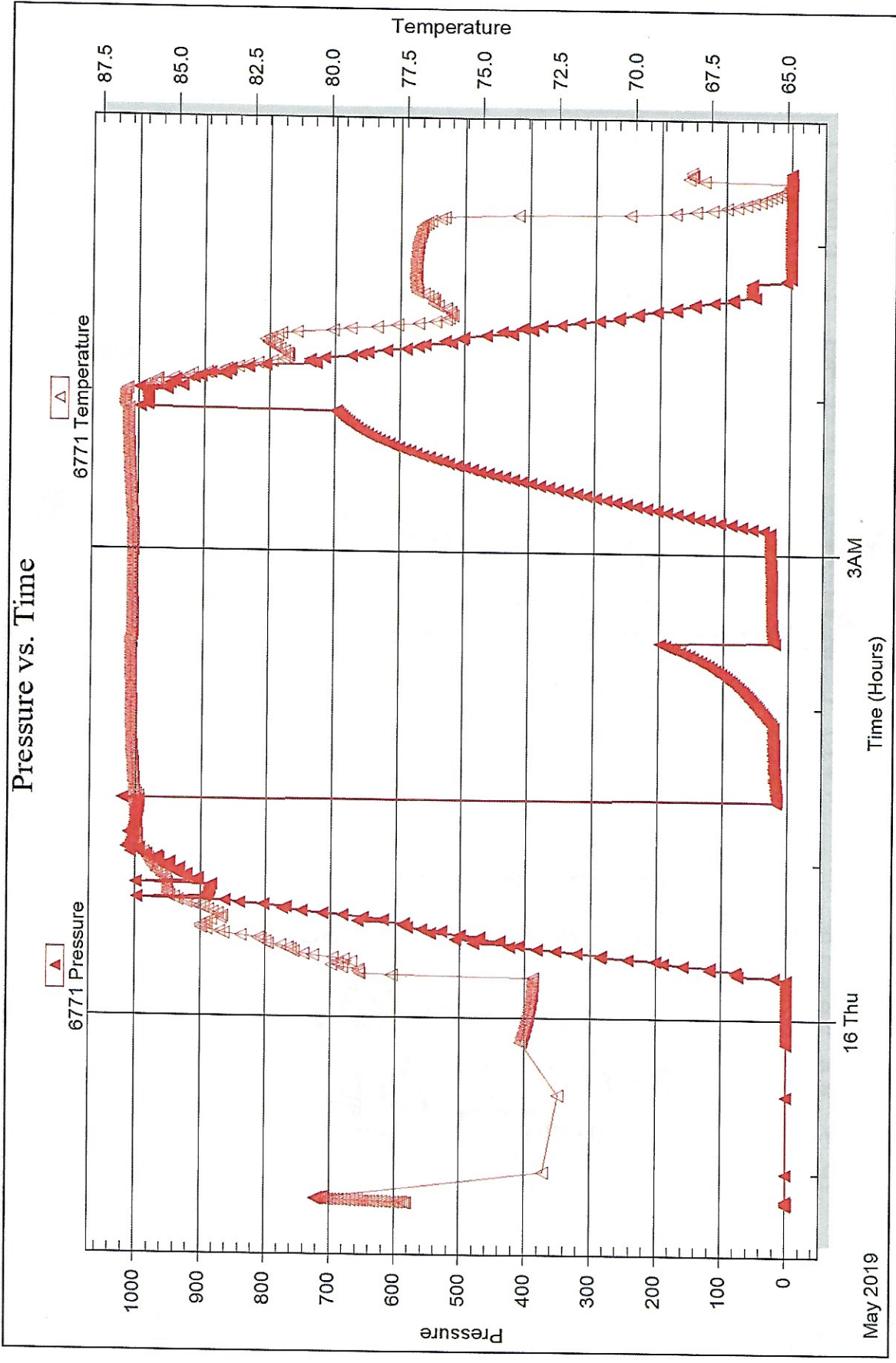
Steinle #2

DST Test Number: 1

Pressure vs. Time



Serial #: 6771 Inside H&D Exploration, LLC Steirle #2 DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **H&D Exploration, LLC**

PO Box 387
Hoisington, KS 67544

ATTN: Wyatt Urban

Steinle #2

30-14S-12W Russell,KS

Start Date: 2019.05.17 @ 10:33:32

End Date: 2019.05.17 @ 16:47:08

Job Ticket #: 65689 DST #: 2

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

Printed: 2019.05.20 @ 11:39:21



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

H&D Exploration, LLC

30-14S-12W Russell, KS

PO Box 387
Hoisington, KS 67544

Steinle #2

Job Ticket: 65689 DST#: 2

ATTN: Wyatt Urban

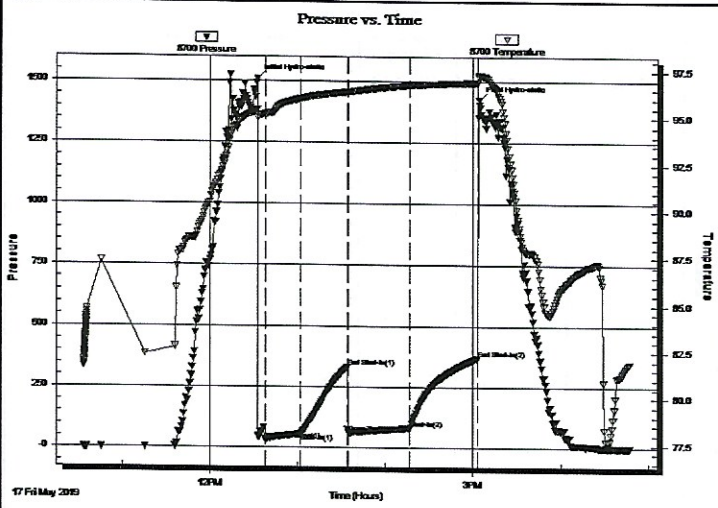
Test Start: 2019.05.17 @ 10:33:32

GENERAL INFORMATION:

Formation: **LKC "A-D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:38:08
 Time Test Ended: 16:47:08
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Interval: **2822.00 ft (KB) To 2895.00 ft (KB) (TVD)**
 Total Depth: 2895.00 ft (KB) (TVD)
 Reference Elevations: 1677.00 ft (KB)
 1668.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 KB to GR/CF: 9.00 ft

Serial #: 8700 Outside
 Press@RunDepth: 79.89 psig @ 2823.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.05.17 End Date: 2019.05.17 Last Calib.: 2019.05.17
 Start Time: 10:33:33 End Time: 16:47:08 Time On Btm: 2019.05.17 @ 12:32:38
 Time Off Btm: 2019.05.17 @ 15:04:08

TEST COMMENT: 30- IF- BOB 6 mins. Built to 59.49"
 30- IS- Slowly built to 0.73" in 11 mins then slowly died
 45- FF- BOB 4 mins. Built to 48.63"
 45- FS- Slowly built to 2.16"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1508.07	95.44	Initial Hydro-static
6	30.50	95.22	Open To Flow (1)
30	54.91	96.04	Shut-In(1)
62	332.46	96.40	End Shut-In(1)
62	61.67	96.41	Open To Flow (2)
104	79.89	96.76	Shut-In(2)
151	368.72	96.91	End Shut-In(2)
152	1426.90	97.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
160.00	GWOCM, 15%G 10%W 25%O 50%M	2.27
0.00	850' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&D Exploration, LLC

30-14S-12W Russell, KS

PO Box 387
Hoisington, KS 67544

Steinle #2

Job Ticket: 65689

DST#: 2

ATTN: Wyatt Urban

Test Start: 2019.05.17 @ 10:33:32

Tool Information

Drill Pipe:	Length: 2817.00 ft	Diameter: 3.82 inches	Volume: 39.93 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 37000.00 lb
			Total Volume: - bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 33000.00 lb
Depth to Top Packer:	2822.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	93.00 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			2803.00	
Shut In Tool	5.00			2808.00	
Hydraulic tool	5.00			2813.00	
Packer	5.00			2818.00	20.00 Bottom Of Top Packer
Packer	4.00			2822.00	
Stubb	1.00			2823.00	
Recorder	0.00	6771	Inside	2823.00	
Recorder	0.00	8700	Outside	2823.00	
Perforations	5.00			2828.00	
Change Over Sub	1.00			2829.00	
Drill Pipe	62.00			2891.00	
Change Over Sub	1.00			2892.00	
Bullnose	3.00			2895.00	73.00 Bottom Packers & Anchor
Total Tool Length:	93.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&D Exploration, LLC

30-14S-12W Russell,KS

PO Box 387
Hoisington, KS 67544

Steinle #2

Job Ticket: 65689

DST#: 2

ATTN: Wyatt Urban

Test Start: 2019.05.17 @ 10:33:32

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 28 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 65000 ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl	
Water Loss: 10.19 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 11000.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
160.00	GWOCM, 15%G 10%W 25%O 50%M	2.268
0.00	850' GIP	0.000

Total Length: 160.00 ft Total Volume: 2.268 bbl

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

Laboratory Name: Laboratory Location:

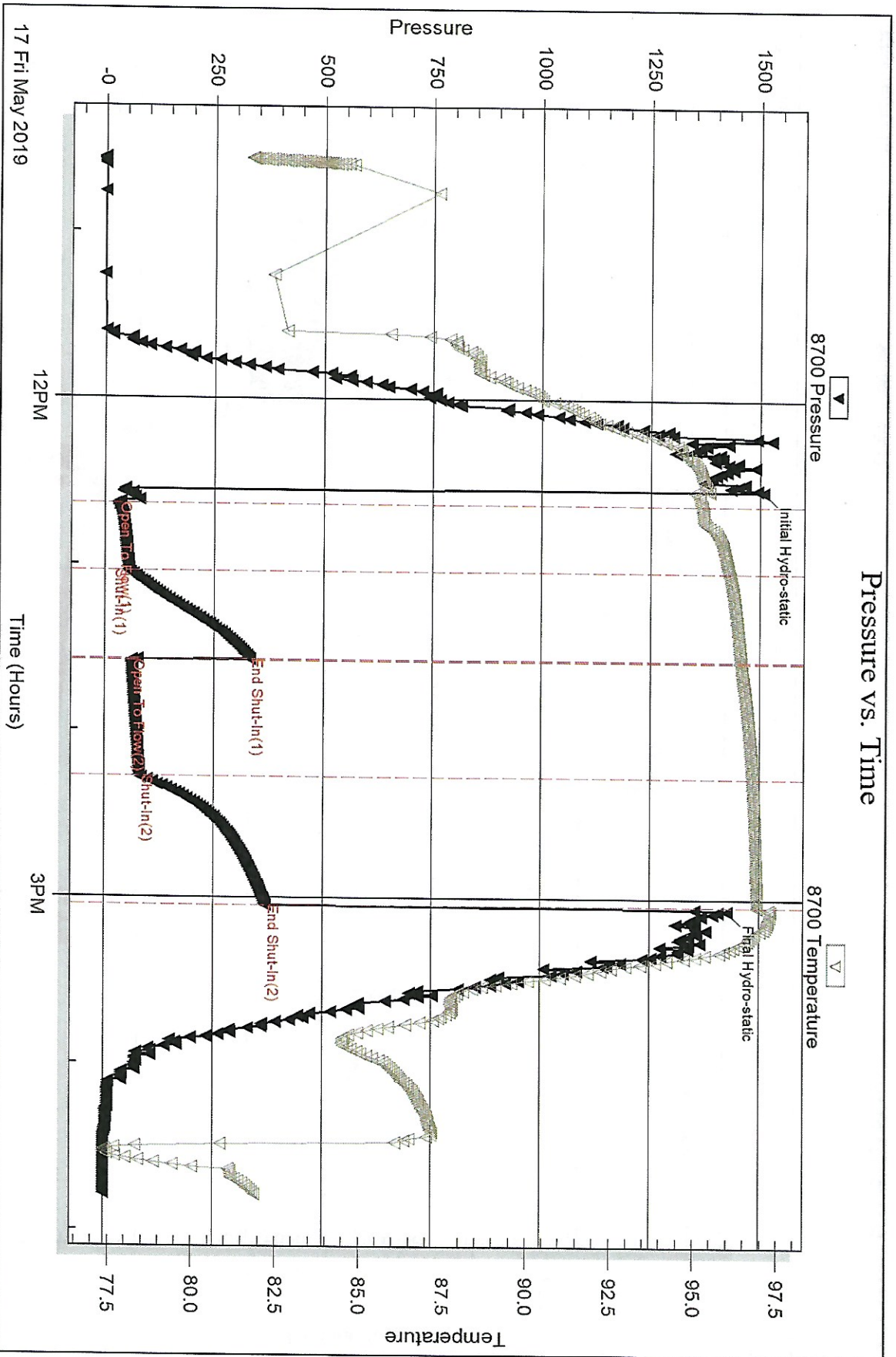
Recovery Comments: RW: .11@63deg

Serial #: 8700

Outside H&D Exploration, LLC

Stenle #2

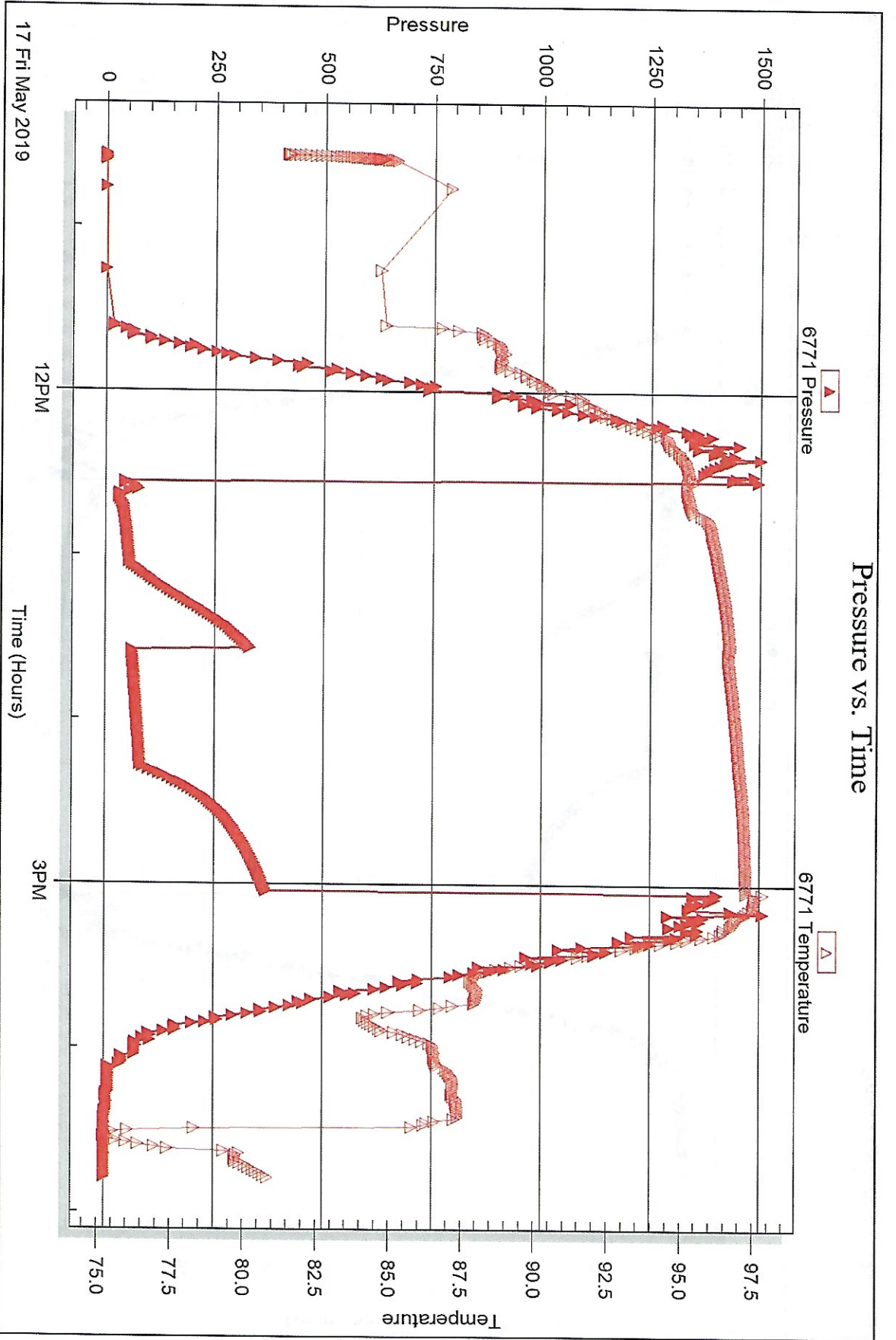
DST Test Number: 2

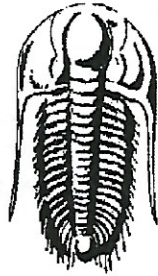


Trilobite Testing, Inc

Ref. No: 65689

Printed: 2019.05.20 @ 11:39:22





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **H&D Exploration, LLC**

PO Box 387
Hoisington, KS 67544

ATTN: Wyatt Urban

Steinle #2

30-14S-12W Russell,KS

Start Date: 2019.05.17 @ 23:00:35

End Date: 2019.05.18 @ 05:58:11

Job Ticket #: 65690 DST #: 3

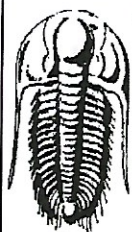
Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

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

Printed: 2019.05.20 @ 11:37:04

H&D Exploration, LLC 30-14S-12W Russell,KS Steinle #2 DST # 3 LKC "D-F" 2019.05.17



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

H&D Exploration, LLC

30-14S-12W Russell, KS

PO Box 387
Hoisington, KS 67544

Steinle #2

ATTN: Wyatt Urban

Job Ticket: 65690

DST#: 3

Test Start: 2019.05.17 @ 23:00:35

GENERAL INFORMATION:

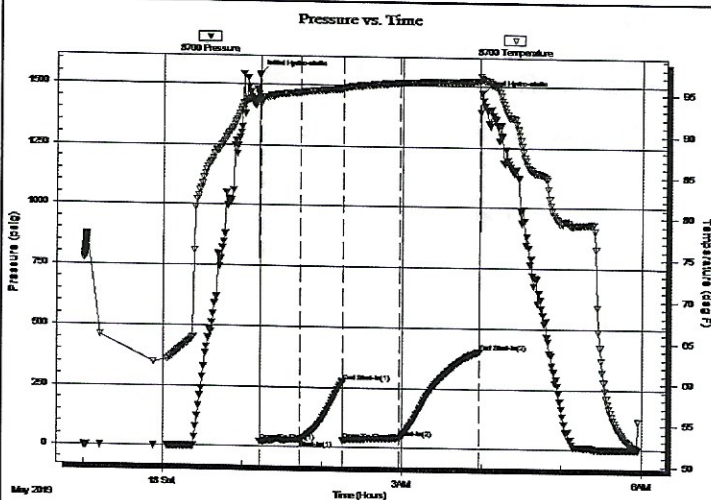
Formation: **LKC "D-F"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:12:56
 Time Test Ended: 05:58:11
 Interval: **2890.00 ft (KB) To 2940.00 ft (KB) (TVD)**
 Total Depth: 2940.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 1677.00 ft (KB)
 1668.00 ft (CF)
 KB to GR/CF: 9.00 ft

Serial #: 8700

Outside

Press@RunDepth: 39.53 psig @ 2891.00 ft (KB)
 Start Date: 2019.05.17 End Date: 2019.05.18
 Start Time: 23:00:36 End Time: 05:58:11
 Capacity: 8000.00 psig
 Last Calib.: 2019.05.18
 Time On Btm: 2019.05.18 @ 01:12:41
 Time Off Btm: 2019.05.18 @ 03:59:11

TEST COMMENT: 30- IF- Slow ly built to 3.41"
 30- IS- No blow
 45- FF- Slow ly built to 12.06"
 60- FS- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1540.01	94.27	Initial Hydro-static
1	18.99	93.54	Open To Flow (1)
31	29.63	95.02	Shut-In(1)
63	274.50	95.47	End Shut-In(1)
63	27.18	95.50	Open To Flow (2)
106	39.53	96.27	Shut-In(2)
166	405.30	96.53	End Shut-In(2)
167	1470.83	96.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	OSM	0.71

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&D Exploration, LLC

30-14S-12W Russell, KS

PO Box 387
Hoisington, KS 67544

Steinle #2

Job Ticket: 65690

DST#: 3

ATTN: Wyatt Urban

Test Start: 2019.05.17 @ 23:00:35

Tool Information

Drill Pipe:	Length: 2880.00 ft	Diameter: 3.82 inches	Volume: 40.83 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 36000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 32000.00 lb
Depth to Top Packer:	2890.00 ft			Final 32000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	73.00 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			2868.00	
Shut In Tool	5.00			2873.00	
Hydraulic tool	5.00			2878.00	
Safety Joint	3.00			2881.00	
Packer	5.00			2886.00	23.00 Bottom Of Top Packer
Packer	4.00			2890.00	
Stubb	1.00			2891.00	
Recorder	0.00	6771	Inside	2891.00	
Recorder	0.00	8700	Outside	2891.00	
Perforations	12.00			2903.00	
Change Over Sub	1.00			2904.00	
Drill Pipe	32.00			2936.00	
Change Over Sub	1.00			2937.00	
Bullnose	3.00			2940.00	50.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&D Exploration, LLC

30-14S-12W Russell, KS

PO Box 387
Hoisington, KS 67544

Steinle #2

Job Ticket: 65690

DST#: 3

ATTN: Wyatt Urban

Test Start: 2019.05.17 @ 23:00:35

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 53.00 sec/qt

Water Loss: 10.19 in³

Resistivity: ohm.m

Salinity: 11000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	OSM	0.709

Total Length: 50.00 ft Total Volume: 0.709 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

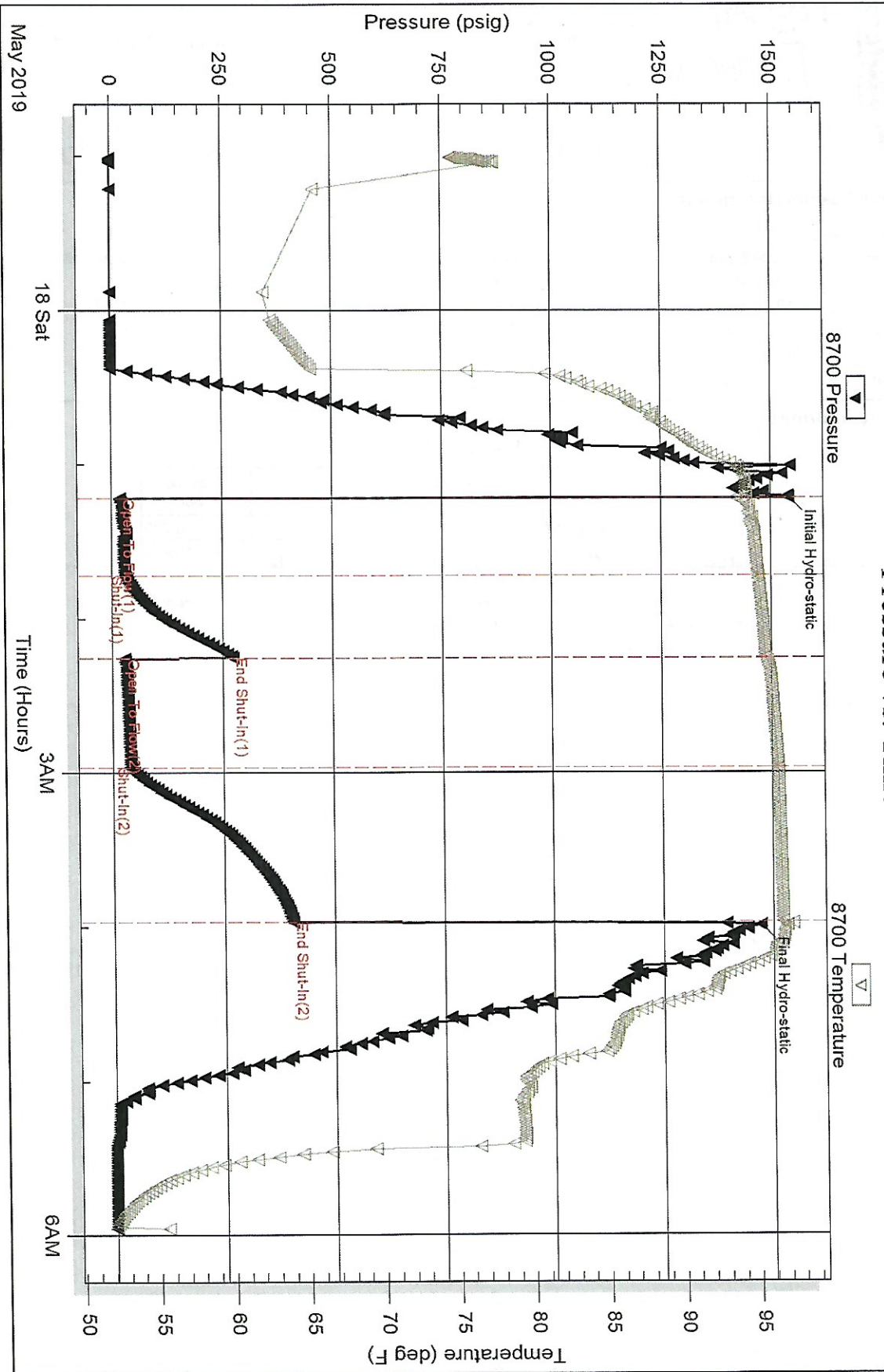
Serial#:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



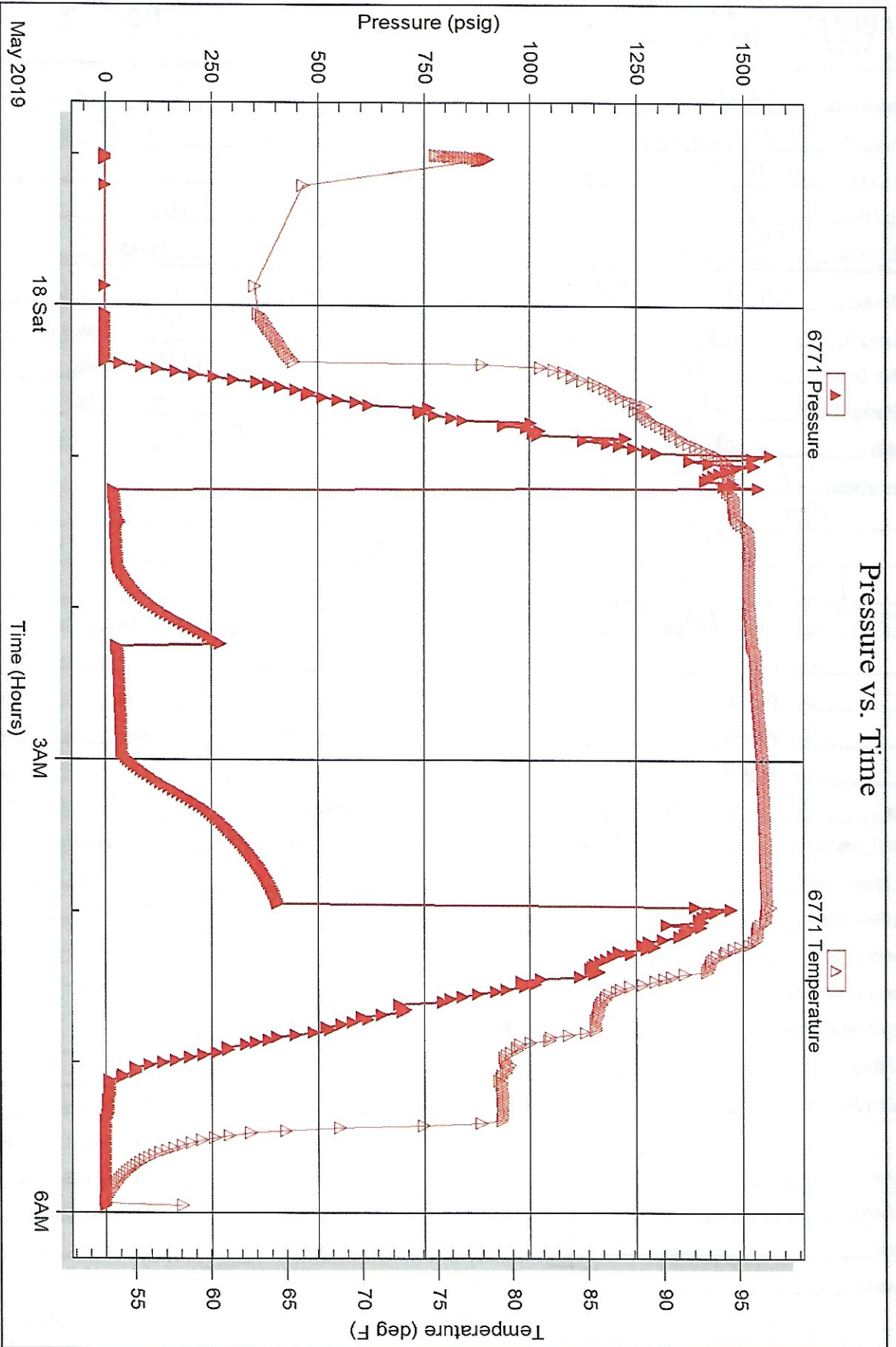
Serial #: 6771

Inside

H&D Exploration, LLC

Steinle #2

DST Test Number: 3





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65688

Well Name & No. Steinle #2 Test No. 1 Date 5/16/19
 Company H+D Explorations, LLC Elevation 1677 KB 1668 GL
 Address 165 W. 15th, PO Box 357 Herington, KS 67544
 Co. Rep / Geo. Wyatt Urban Rig Southwind 8
 Location: Sec. 30 Twp 14 S Rge. 12 W Co. Russell State KS

Interval Tested 2170-2230 Zone Tested Tarkio
 Anchor Length 60' Drill Pipe Run 2065 Mud Wt. 8.4
 Top Packer Depth 2165 Drill Collars Run 114 Vis 46
 Bottom Packer Depth 2170 Wt. Pipe Run _____ WL 8.8
 Total Depth 2230 Chlorides 2500 ppm System LCM 2th

Blow Description IF - Spaly built to 8.61"
EST - No blow
FF - BOB 3 mins. Built to 82.80"
BSI - No How

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud few oil spots</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5' BHT 86" Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1025 Test 1200 T-On Location 5/15 2235
 (B) First Initial Flow 17 Jars _____ T-Started 2248
 (C) First Final Flow 23 Safety Joint _____ T-Open 0124
 (D) Initial Shut-In 199 Circ Sub _____ T-Pulled 0354
 (E) Second Initial Flow 22 Hourly Standby _____ T-Out 0528
 (F) Second Final Flow 30 Mileage 7 RT 74 Comments _____
 (G) Final Shut-In 696 Sampler _____
 (H) Final Hydrostatic 995 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1274

Initial Open 30 EM Tool _____
 Initial Shut-In 30 Ruined Shale Packer _____
 Final Flow 45 Ruined Packer _____
 Final Shut-In 45 Extra Copies _____
 Sub Total 0
 Total 1274
 MP/DST Disc't _____

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65689

Well Name & No. Stanle #2 Test No. 2 Date 5/17/19
 Company H+D Exploration, LLC Elevation 1679 KB 1679 GL
 Address 165 W. 1st PO Box 387 Herington, KS 67544
 Co. Rep / Geo. Wyatt Urban Rig Southwind 3
 Location: Sec. 30 Twp 14 S Rge. 12 Wco. Russell State KS

Interval Tested 2822-2895 Zone Tested LKC "A-D"
 Anchor Length 73' Drill Pipe Run 2817 Mud Wt. 9.3
 Top Packer Depth 2817 Drill Collars Run --- Vis 53
 Bottom Packer Depth 2822 Wt. Pipe Run --- WL 10.2
 Total Depth 2895 Chlorides 11,000 ppm System LCM 1 1/2"

Blow Description IF-BOB 6mins. Built to 59.49"
ISJ- Slowly built to 0.73" in 11 mins then slowly died
FF-BOB 4mins. Built to 48.63"
FST- Slowly built to 2.16"

Rec	Feet of	%gas	%oil	%water	%mud
<u>160</u>	<u>GWOCM</u>	<u>15</u>	<u>25</u>	<u>10</u>	<u>50</u>
Rec	Feet of <u>850' GIP</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 160' BHT 97° Gravity 28 API RW 11 @ 63° F Chlorides 65,000 ppm

(A) Initial Hydrostatic 1508 Test 1200 T-On Location 1020
 (B) First Initial Flow 31 Jars T-Started 1034
 (C) First Final Flow 55 Safety Joint T-Open 1233
 (D) Initial Shut-In 332 Circ Sub T-Pulled 1503
 (E) Second Initial Flow 62 Hourly Standby T-Out 1648
 (F) Second Final Flow 80 Mileage 74 RT ⁷⁴ Comments _____
 (G) Final Shut-In 369 Sampler _____
 (H) Final Hydrostatic 1427 Straddle _____

Initial Open 30 Shale Packer _____
 Initial Shut-In 30 Extra Packer _____
 Final Flow 45 Extra Recorder _____
 Final Shut-In 45 Day Standby _____
 Sub Total 1274 Accessibility _____
 Sub Total 1274 EM Tool _____
 Total 1274 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1274
 MP/DST Disc't _____

Approved By _____ Our Representative Bannon Linsdale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65690

Well Name & No. Steinle #2 Test No. 3 Date 5/18/19
 Company H&D Exploration, LLC Elevation 1679 KB 1670 GL
 Address 165 W. 1st, PO Box 387 Hastington, KS 67544
 Co. Rep / Geo. Wyatt Urban Rig Southward 3
 Location: Sec. 30 Twp 14 S Rge. 12 W Co. Russell State KS

Interval Tested 2890-2940 Zone Tested LKC "D-F"
 Anchor Length 50' Drill Pipe Run 2880 Mud Wt. 9.3
 Top Packer Depth 2885 Drill Collars Run ———— Vis 53
 Bottom Packer Depth 2890 Wt. Pipe Run ———— WL 10.2
 Total Depth 2940 Chlorides 11,000 ppm System LCM 1/2"
 Blow Description IF - slowly built to 3.41"
ISF - No blow
FF - slowly built to 12.06"
FSF - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>50'</u>	<u>OSM</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 50' BHT 97° Gravity ———— API RW ———— @ ———— ° F Chlorides ———— ppm
 (A) Initial Hydrostatic 1540 Test 1200 T-On Location 5/17 2245
 (B) First Initial Flow 19 Jars ———— T-Started 2300
 (C) First Final Flow 30 Safety Joint 75 T-Open 0112
 (D) Initial Shut-In 275 Circ Sub ———— T-Pulled 0357
 (E) Second Initial Flow 27 Hourly Standby ———— T-Out 0558
 (F) Second Final Flow 40 Mileage 74 RT 74+74 Comments Tools loaded
 (G) Final Shut-In 405 Sampler ———— 5/19 @ 1400
 (H) Final Hydrostatic 1471 Straddle ————

EM Tool ————
 Ruined Shale Packer ————
 Ruined Packer ————
 Extra Copies ————
 Initial Open 30
 Initial Shut-In 30
 Final Flow 45
 Final Shut-In 60
 Extra Packer ————
 Extra Recorder ————
 Day Standby ————
 Accessibility ————
 Sub Total 1423
 Sub Total 1423
 Total 1423
 MP/DST Disc't ————

Approved By ———— Our Representative Brannon Lonsdale

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