

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	ESP Development, Inc.
Well Name	EULERT 3 #3
Doc ID	1440309

All Electric Logs Run

Comp. Density Neutron
Dual Induction
Micro Resistivity
Cement Bond Log

Form	ACO1 - Well Completion
Operator	ESP Development, Inc.
Well Name	EULERT 3 #3
Doc ID	1440309

Tops

Name	Top	Datum
Tarkio	2378	-639
Topeka	2630	-891
Heebner	2919	-1180
Toronto	1871	-1132
Lansing	2902	-1631
B/KC	3160	-1421
Arbuckle	3218	-1478
LTD	3322	-1583

GLOBAL OIL FIELD SERVICES, LLC

0013295

REMIT TO

24 S. Lincoln
Russell, KS 67665

SERVICE POINT:

DATE	12-14-18	SEC	2	TWP	12N	RANGE	15W	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE	Ulen	WELL #	3-3	LOCATION	Abraham Fairport Oil Overliner	LOCATION	First in 3 month Escrow	CONTRACTOR	Discovery Drilling Rig #1	TYPE OF JOB	Long term cut hole
OLD OR NEW (CIRCLE ONE)											

OWNER	ESF Development Inc.	CEMENT	AMOUNT ORDERED	3505 x 60140 lbs
CONTRACTOR	Discovery Drilling Rig #1	TYPE OF JOB	Long term cut hole	
HOLE SIZE	12"	DEPTH	825.56	
CASING SIZE	6 5/8"	DEPTH	42.25	
TUBING SIZE		DEPTH		
DRILL PIPE		DEPTH		
TOOL		DEPTH		
PREL. MAX		MINIMUM		
MEAS. LINE		SHOE JOINT	42.25	
CEMENT LEFT IN CSG.				
PERFS				
DISPLACEMENT	49 24485			

PUMP TRUCK	CEMENTER	Cody
#	HELPER	Tray
BULK TRUCK		
#	DRIVER	Tom
BULK TRUCK		
#	DRIVER	Tom
	DRIVER	

REMARKS:

502 lbs of 8.5% casing by Redford Rig
 3505 x 60140 lb cement plug - dispensed
 4937 HRS OF H7C + Short T.N.
 Cement D.P. Cullette to Surface
 ESF Development Inc.

CHARGE TO: ESF Development Inc.

CITY: STATE: ZIP:

STREET:

PRINTED NAME: SIGNATURE:

You are hereby requested to rent cementing equipment and furnish cement and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

DISCOUNT	IF PAID IN 30 DAYS
TOTAL CHARGES	
SALES TAX (If Any)	
TOTAL	

PLUG & FLOAT EQUIPMENT	
DEPTH OF JOB	
PUMP TRUCK CHARGE	
EXTRA FOOTAGE	
MILEAGE	
MANIFOLD	
TOTAL	

COMMON	
POZMIX	
GEL	
CHLORIDE	
ASC	
HANDLING	
MILEAGE	
TOTAL	

OWNER	ESF Development Inc.
CEMENT	AMOUNT ORDERED
3505 x 60140 lbs	

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. 1096

Date	12-20-18	Sec.	3	Twp.	12	Range	15	County	Russell	State	KS	On Location		Finish	6:00pm
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Lease **Euler** Location **Carroll Black 7/16 1/2" P 1/2" 3/4" R**

Well No.	3-3	Owner	To Quality Oilwell Cementing, Inc.
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Contractor **5/20/18/1** 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	Production string	Charge To	FSP
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Hole Size	7/8	T.D.	3320
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Csg.	5/2 14#	Depth	3320
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Tbg. Size		Depth	
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Tool Depth The above was done to satisfaction and supervision of owner agent or contractor

Cement Left in Csg.	21	Shoe Joint	21 woodrow	Cement Amount Ordered	125 lb / Salt 5 / G / Sun 12
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Meas Line		Displace	80' BDL	500 gal mud from 2000 KCL
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EQUIPMENT

Pumptrk	5	No.	Cement		Common
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			Helper		Poz. Mix
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Bulktrk		No.	Driver		Gel.
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Bulktrk	3	No.	Driver		Calcium
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JOB SERVICES & REMARKS

Remarks:		Hulls	
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Rat Hole	30SK	Salt	
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Mouse Hole	15SK	Flowseal	
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Centralizers		Kol-Seal	
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Baskets		Mud CLR 48	
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D/V or Port Collar		CFL-117 or CD110 CAF 38	
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5/2 5/2 3320	Bulktrk 3299	Sand	
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5/2 5/2 3320	Bulktrk 3299	Handling	
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5/2 5/2 3320	Bulktrk 3299	Mileage	
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FLOAT EQUIPMENT

5/2 5/2 3320	Bulktrk 3299	Guide Shoe	
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5/2 5/2 3320	Bulktrk 3299	Centralizer	5
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5/2 5/2 3320	Bulktrk 3299	Baskets	
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5/2 5/2 3320	Bulktrk 3299	AFU Inserts	
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5/2 5/2 3320	Bulktrk 3299	Float Shoe	
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5/2 5/2 3320	Bulktrk 3299	Latch Down	
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5/2 5/2 3320	Bulktrk 3299		
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5/2 5/2 3320	Bulktrk 3299		
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5/2 5/2 3320	Bulktrk 3299	Pumptrk Charge	
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5/2 5/2 3320	Bulktrk 3299	Mileage	
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5/2 5/2 3320	Bulktrk 3299		
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5/2 5/2 3320	Bulktrk 3299		
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5/2 5/2 3320	Bulktrk 3299		
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5/2 5/2 3320	Bulktrk 3299		
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5/2 5/2 3320	Bulktrk 3299		
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5/2 5/2 3320	Bulktrk 3299		
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5/2 5/2 3320	Bulktrk 3299		
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5/2 5/2 3320	Bulktrk 3299		
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5/2 5/2 3320	Bulktrk 3299		
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5/2 5/2 3320	Bulktrk 3299		
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X Signature **Ann N...**

Tax
Discount
Total Charge



DRILL STEM TEST REPORT

Prepared For: **ESP Development Inc**

1749B 250th Ave
Hays KS 67601+9460

ATTN: Austin Klaus

Eulert #3-3

3-12s-15w Russell,KS

Start Date: 2018.12.18 @ 08:47:00

End Date: 2018.12.18 @ 16:09:39

Job Ticket #: 64978 DST #: 1

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

Printed: 2018.12.20 @ 14:48:36



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

ESP Development Inc
 1749B 250th Ave
 Hays KS 67601+9460
 ATTN: Austin Klaus

3-12s-15w Russell,KS
Eulert #3-3
 Job Ticket: 64978 **DST#: 1**
 Test Start: 2018.12.18 @ 08:47:00

GENERAL INFORMATION:

Formation: **LKC**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 11:02:40
 Tester: Benny Mulligan
 Time Test Ended: 16:09:39
 Unit No: 66
Interval: 2877.00 ft (KB) To 2953.00 ft (KB) (TVD)
 Reference Elevations: 1738.00 ft (KB)
 Total Depth: 2953.00 ft (KB) (TVD)
 1730.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 8.00 ft

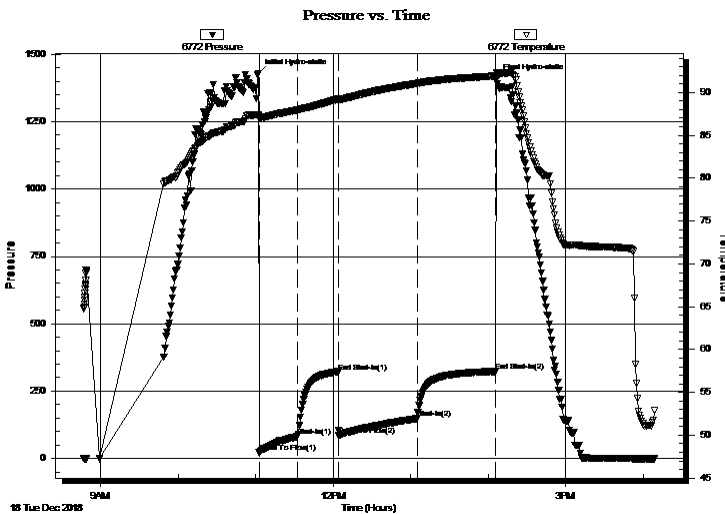
Serial #: 6772

Inside

Press@RunDepth: 148.21 psig @ 2884.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.12.18 End Date: 2018.12.18 Last Calib.: 2018.12.18
 Start Time: 08:47:01 End Time: 16:09:40 Time On Btm: 2018.12.18 @ 11:02:20
 Time Off Btm: 2018.12.18 @ 14:06:50

TEST COMMENT: I.F.-30-BOB 26 mins total build of 13"
 I.S.I.-30- no blow back
 F.F.-60- built to 7 1/2"
 F.S.I.-60- no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1427.80	87.36	Initial Hydro-static
1	21.84	87.07	Open To Flow (1)
31	81.98	87.96	Shut-In(1)
62	322.06	89.22	End Shut-In(1)
62	85.71	89.15	Open To Flow (2)
123	148.21	91.05	Shut-In(2)
184	322.73	91.93	End Shut-In(2)
185	1410.57	92.29	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	W.C.M. 5% W 95%M	1.27
120.00	M.W. 20%M 80%W	0.85

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

ESP Development Inc
 1749B 250th Ave
 Hays KS 67601+9460
 ATTN: Austin Klaus

3-12s-15w Russell,KS
Eulert #3-3
 Job Ticket: 64978 **DST#: 1**
 Test Start: 2018.12.18 @ 08:47:00

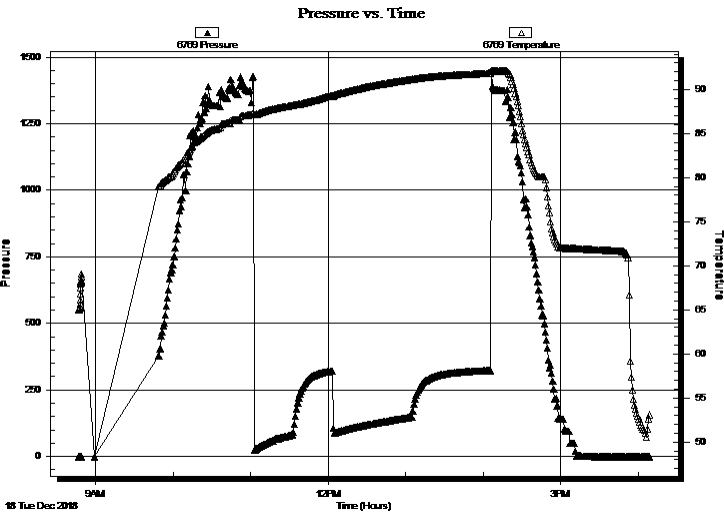
GENERAL INFORMATION:

Formation: **LKC**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:02:40
 Time Test Ended: 16:09:39
 Interval: **2877.00 ft (KB) To 2953.00 ft (KB) (TVD)**
 Total Depth: 2953.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Benny Mulligan
 Unit No: 66
 Reference Elevations: 1738.00 ft (KB)
 1730.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6769 Outside

Press@RunDepth: psig @ 2884.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.12.18 End Date: 2018.12.18 Last Calib.: 2018.12.18
 Start Time: 08:47:01 End Time: 16:09:40 Time On Btm:
 Time Off Btm:

TEST COMMENT: I.F.-30-BOB 26 mins total build of 13"
 I.S.I.-30- no blow back
 F.F.-60- built to 7 1/2"
 F.S.I.-60- no blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
180.00	W.C.M. 5% W 95%M	1.27
120.00	M.W. 20%M 80%W	0.85

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

ESP Development Inc
1749B 250th Ave
Hays KS 67601+9460
ATTN: Austin Klaus

3-12s-15w Russell,KS
Eulert #3-3
Job Ticket: 64978 **DST#: 1**
Test Start: 2018.12.18 @ 08:47:00

Tool Information

Drill Pipe:	Length: 2576.00 ft	Diameter: 3.80 inches	Volume: 36.13 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.70 inches	Volume: 2.20 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 56000.00 lb
			<u>Total Volume: 38.33 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 47000.00 lb
Depth to Top Packer:	2877.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	96.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			2858.00	
Shut In Tool	5.00			2863.00	
Hydraulic tool	5.00			2868.00	
Packer	5.00			2873.00	20.00 Bottom Of Top Packer
Packer	4.00			2877.00	
Stubb	1.00			2878.00	
Perforations	6.00			2884.00	
Recorder	0.00	6772	Inside	2884.00	
Recorder	0.00	6769	Outside	2884.00	
Change Over Sub	1.00			2885.00	
Drill Pipe	64.00			2949.00	
Change Over Sub	1.00			2950.00	
Bullnose	3.00			2953.00	76.00 Bottom Packers & Anchor

Total Tool Length: 96.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

ESP Development Inc
1749B 250th Ave
Hays KS 67601+9460
ATTN: Austin Klaus

3-12s-15w Russell,KS
Eulert #3-3
Job Ticket: 64978 **DST#: 1**
Test Start: 2018.12.18 @ 08:47:00

Mud and Cushion Information

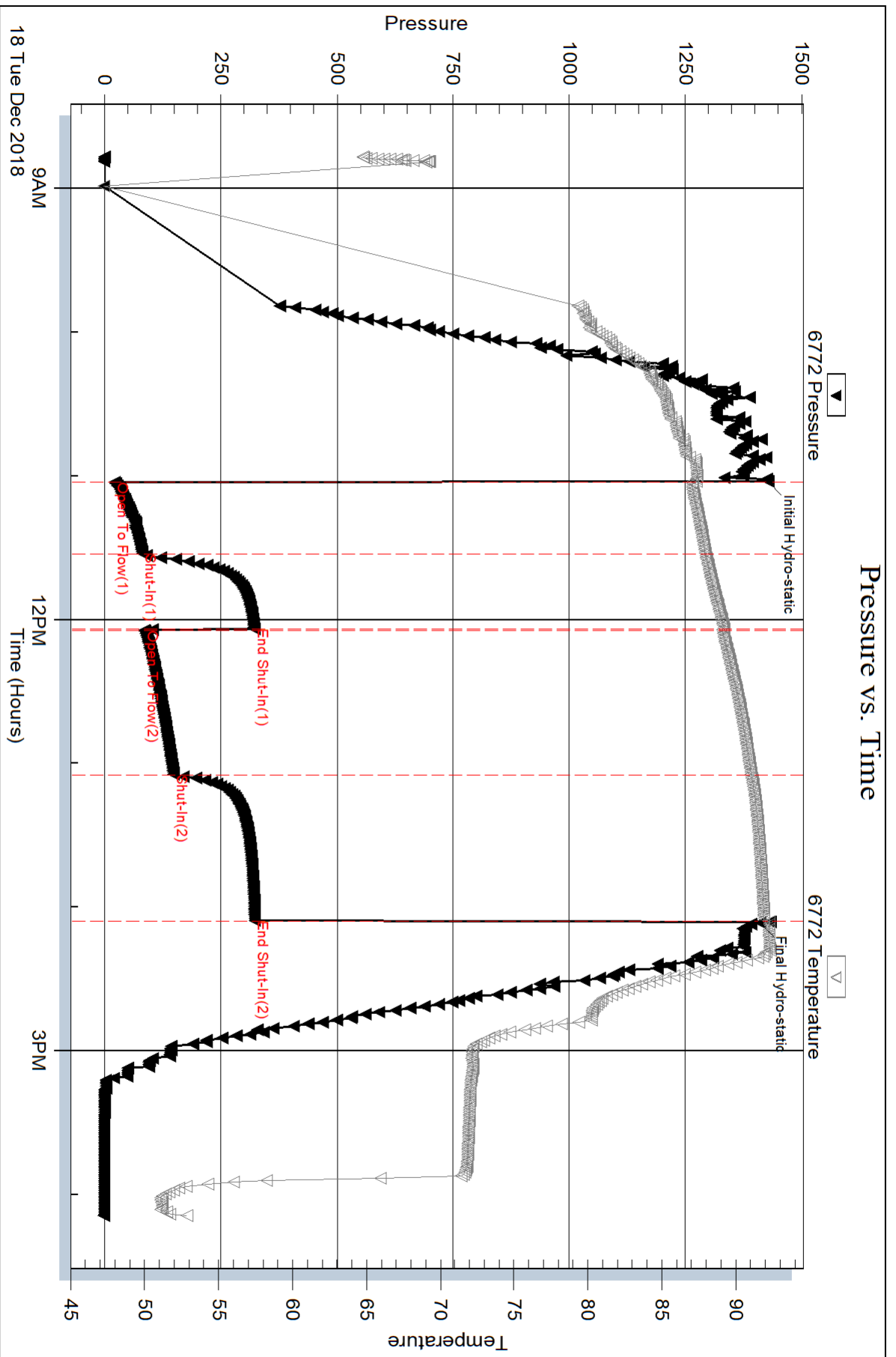
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	23000 ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2500.00 ppm			
Filter Cake: 1.00 inches			

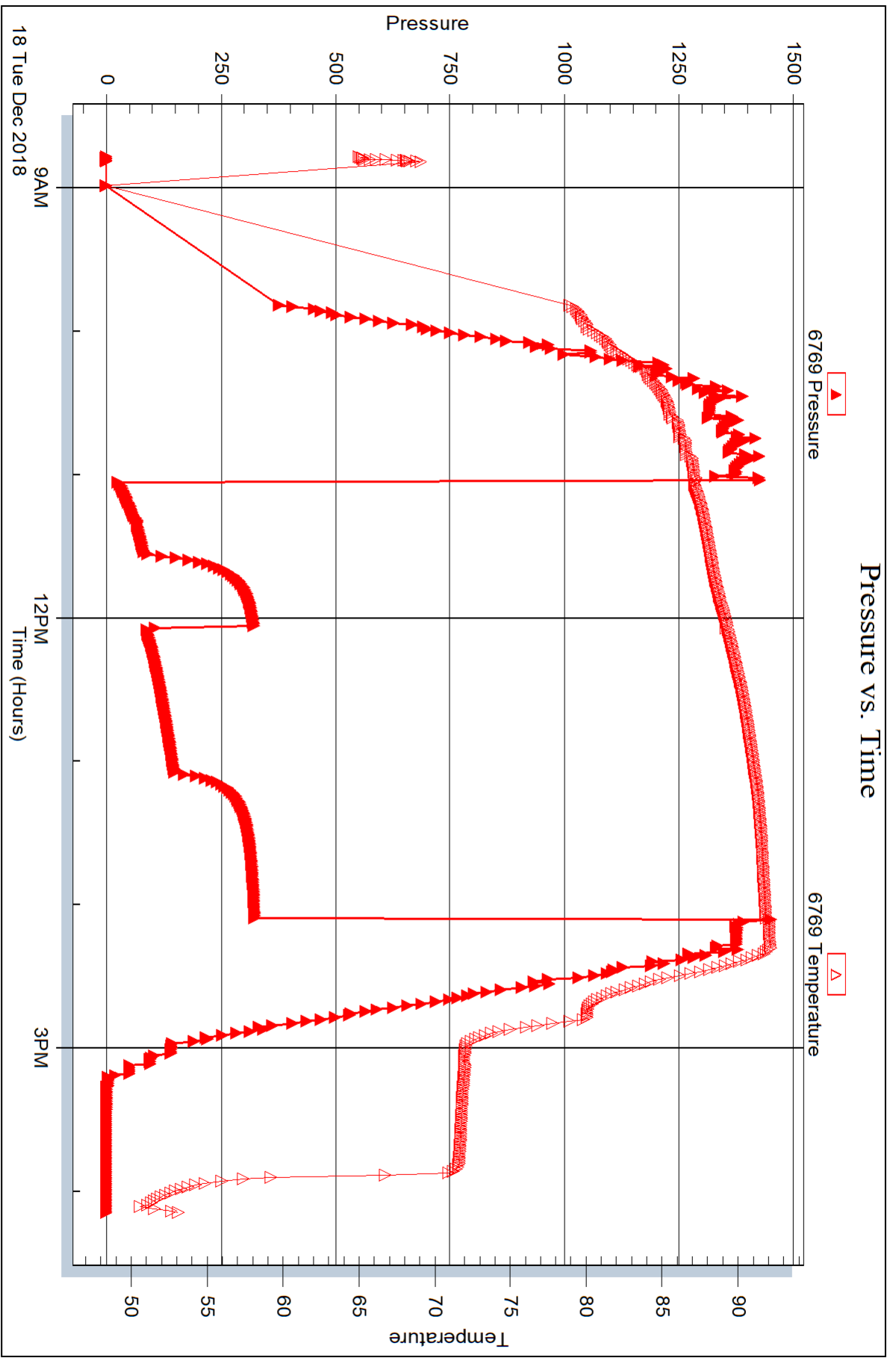
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	W.C.M. 5% W 95%M	1.275
120.00	M.W. 20%M 80%W	0.850

Total Length: 300.00 ft Total Volume: 2.125 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: 0.37@54.1 F







DRILL STEM TEST REPORT

Prepared For: **ESP Development Inc**

1749B 250th Ave
Hays KS 67601+9460

ATTN: Austin Klaus

Eulert #3-3

3-12s-15w Russell,KS

Start Date: 2018.12.19 @ 09:08:00

End Date: 2018.12.19 @ 14:59:30

Job Ticket #: 64979 DST #: 2

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

Printed: 2018.12.20 @ 14:48:18



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

ESP Development Inc
1749B 250th Ave
Hays KS 67601+9460
ATTN: Austin Klaus

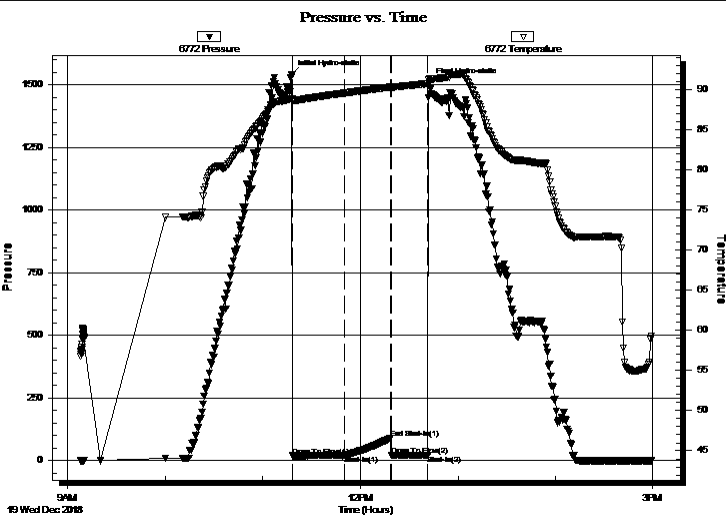
3-12s-15w Russell,KS
Eulert #3-3
Job Ticket: 64979 **DST#: 2**
Test Start: 2018.12.19 @ 09:08:00

GENERAL INFORMATION:

Formation: **LKC H-K**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:18:10
Time Test Ended: 14:59:30
Interval: **3020.00 ft (KB) To 3130.00 ft (KB) (TVD)**
Total Depth: 3130.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Benny Mulligan
Unit No: 66
Reference Elevations: 1738.00 ft (KB)
1730.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 6772 Inside
Press@RunDepth: 20.92 psig @ 3029.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.12.19 End Date: 2018.12.19 Last Calib.: 2018.12.19
Start Time: 09:08:01 End Time: 14:59:30 Time On Btm: 2018.12.19 @ 11:17:50
Time Off Btm: 2018.12.19 @ 12:42:30

TEST COMMENT: I.F.-30- 1/2" blow
I.S.I.-30- no blow back
F.F.-15- no blow pulled tool



PRESSURE SUMMARY

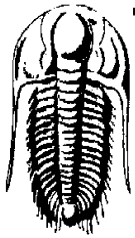
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1541.66	88.88	Initial Hydro-static
1	18.60	88.61	Open To Flow (1)
33	20.92	89.57	Shut-In(1)
61	90.44	90.34	End Shut-In(1)
62	20.33	90.32	Open To Flow (2)
84	20.95	90.76	Shut-In(2)
85	1507.13	91.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	M 100%M	0.07

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

ESP Development Inc
1749B 250th Ave
Hays KS 67601+9460
ATTN: Austin Klaus

3-12s-15w Russell,KS
Eulert #3-3
Job Ticket: 64979 **DST#: 2**
Test Start: 2018.12.19 @ 09:08:00

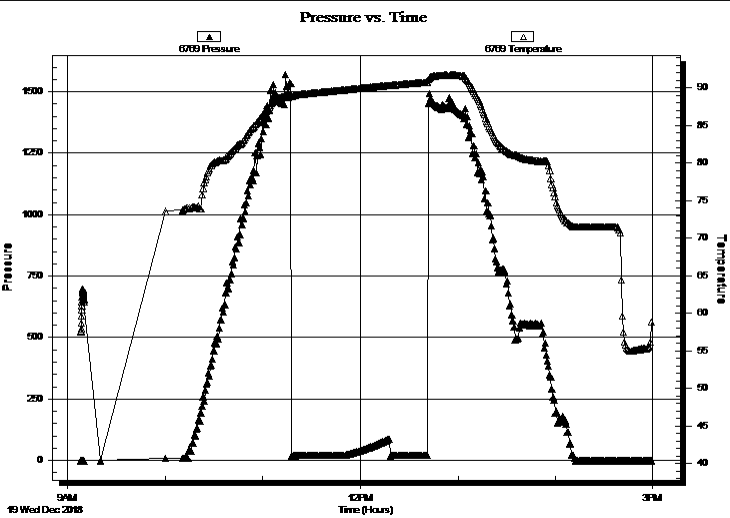
GENERAL INFORMATION:

Formation: LKC H-K		
Deviated: No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 11:18:10		Tester: Benny Mulligan
Time Test Ended: 14:59:30		Unit No: 66
Interval: 3020.00 ft (KB) To 3130.00 ft (KB) (TVD)		Reference Elevations: 1738.00 ft (KB)
Total Depth: 3130.00 ft (KB) (TVD)		1730.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Fair	KB to GR/CF: 8.00 ft

Serial #: 6769 Outside

Press@RunDepth: psig @	3029.00 ft (KB)	Capacity:	8000.00 psig
Start Date: 2018.12.19	End Date: 2018.12.19	Last Calib.:	2018.12.19
Start Time: 09:08:01	End Time: 14:59:10	Time On Btm:	
		Time Off Btm:	

TEST COMMENT: I.F.-30- 1/2" blow
I.S.I.-30- no blow back
F.F.-15- no blow pulled tool



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	M 100%M	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

ESP Development Inc
1749B 250th Ave
Hays KS 67601+9460
ATTN: Austin Klaus

3-12s-15w Russell,KS
Eulert #3-3
Job Ticket: 64979 **DST#: 2**
Test Start: 2018.12.19 @ 09:08:00

Tool Information

Drill Pipe:	Length: 2702.00 ft	Diameter: 3.80 inches	Volume: 37.90 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.70 inches	Volume: 2.20 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 40.10 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3020.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	110.00 ft			
Tool Length:	130.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3001.00	
Shut In Tool	5.00			3006.00	
Hydraulic tool	5.00			3011.00	
Packer	5.00			3016.00	20.00 Bottom Of Top Packer
Packer	4.00			3020.00	
Stubb	1.00			3021.00	
Perforations	7.00			3028.00	
Change Over Sub	1.00			3029.00	
Recorder	0.00	6772	Inside	3029.00	
Recorder	0.00	6769	Outside	3029.00	
Drill Pipe	96.00			3125.00	
Change Over Sub	1.00			3126.00	
Perforations	1.00			3127.00	
Bullnose	3.00			3130.00	110.00 Bottom Packers & Anchor

Total Tool Length: 130.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

ESP Development Inc
1749B 250th Ave
Hays KS 67601+9460
ATTN: Austin Klaus

3-12s-15w Russell,KS
Eulert #3-3
Job Ticket: 64979 **DST#: 2**
Test Start: 2018.12.19 @ 09:08:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2500.00 ppm			
Filter Cake: 1.00 inches			

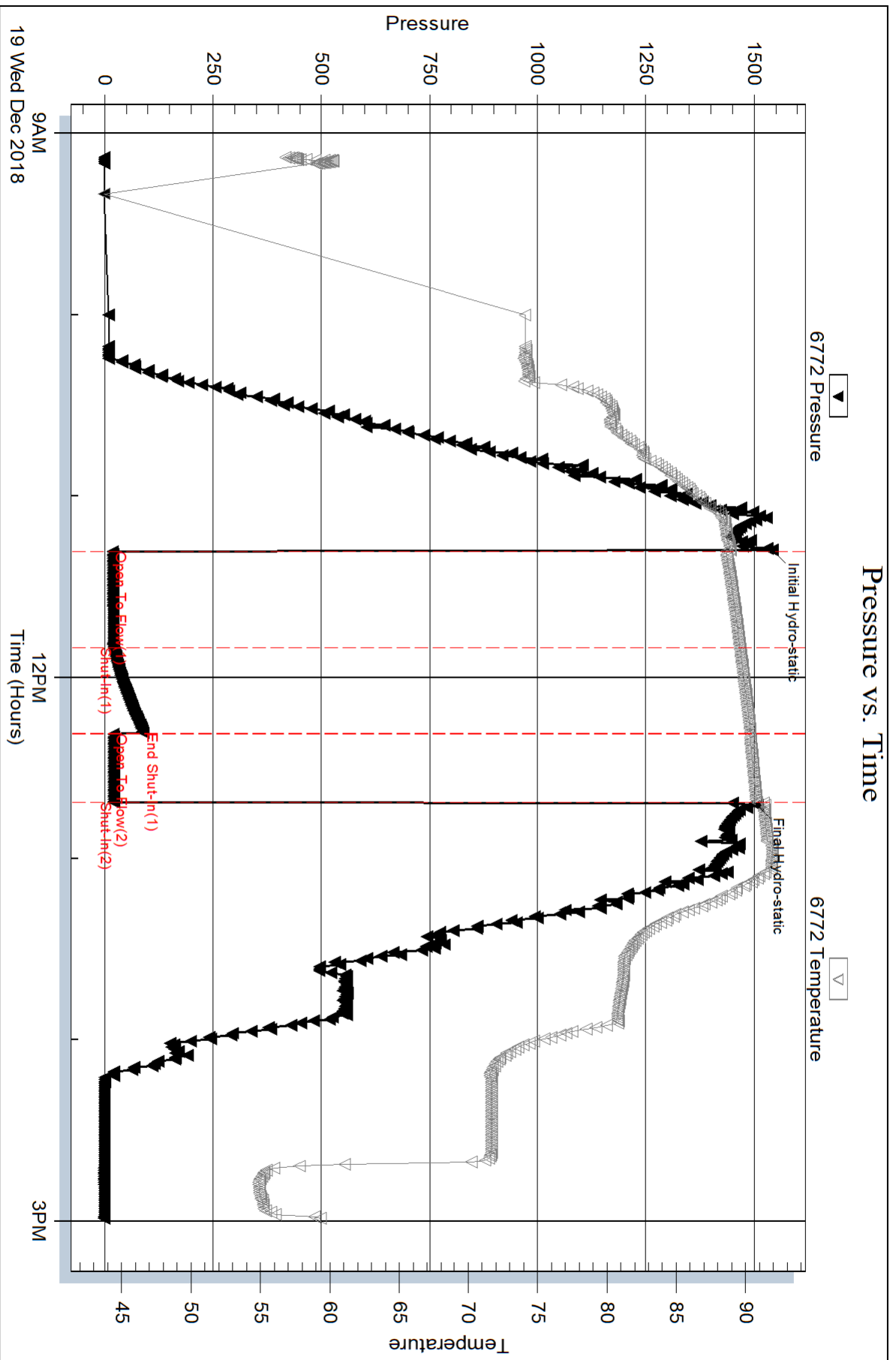
Recovery Information

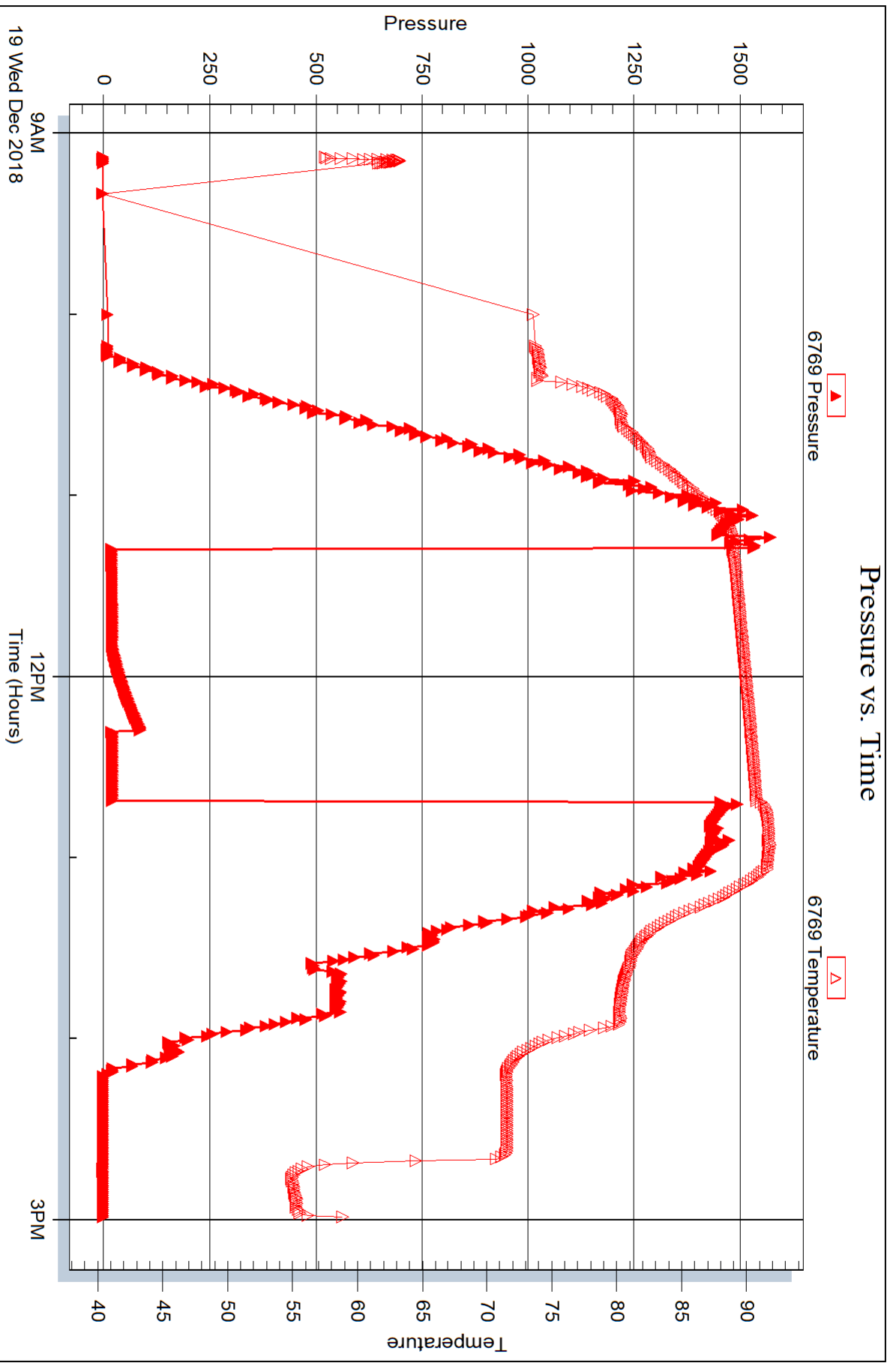
Recovery Table

Length ft	Description	Volume bbl
10.00	M 100%M	0.071

Total Length: 10.00 ft Total Volume: 0.071 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64978**

Well Name & No. Euler 3-3 Test No. 1 Date 12-18-2018
 Company ESP Development Inc Elevation 1738' KB 1730' GL
 Address 1749B 250th Ave Hays KS 67601+9460
 Co. Rep / Geo. Austin Klaus Rig Disco 1
 Location: Sec. 3 Twp 12s Rge. 15w Co. Russell State KS

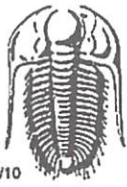
Interval Tested 2877-2953 Zone Tested Lansing A-C
 Anchor Length 76' Drill Pipe Run 2567 Mud Wt. 8.7
 Top Packer Depth 2872' Drill Collars Run — Vis 54
 Bottom Packer Depth 2877' Wt. Pipe Run 310 WL 7.6
 Total Depth 2953' Chlorides 2500 ppm System LCM 2 1/2 #
 Blow Description I.F. BOB 26 mins total build of 13"
I.S.I. - no blow back
F.F. - total build of 7 1/2"
F.S.I. - no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>180'</u>	<u>W.C.M.</u>			<u>5</u>	<u>95</u>
<u>120'</u>	<u>M.W.</u>			<u>80</u>	<u>20</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 300' BHT 92° Gravity _____ API RW 0.37 @ 54.1° F Chlorides 23,000 ppm

(A) Initial Hydrostatic <u>1427</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>6:50</u>
(B) First Initial Flow <u>21</u>	<input type="checkbox"/> Jars _____	T-Started <u>8:47</u>
(C) First Final Flow <u>81</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>11:02</u>
(D) Initial Shut-In <u>322</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>14:02</u>
(E) Second Initial Flow <u>85</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>16:09</u>
(F) Second Final Flow <u>148</u>	<input checked="" type="checkbox"/> Mileage <u>30 RT 30</u>	Comments _____
(G) Final Shut-In <u>322</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1410</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1080</u>
	Sub Total <u>1080</u>	MP/DST Disc't _____

Approved By _____ Our Representative Benny Mulvey
 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. **64979**

Well Name & No. Eulert 3-3 Test No. 2 Date 12-19-2018
 Company ESP Development Inc Elevation 1738' KB 1730' GL
 Address 1749B 250th Ave Hays KS 67601+9460
 Co. Rep / Geo. Austin Klaus Rig Disco 1
 Location: Sec. 3 Twp 12s Rge. 15w Co. Russell State KS

Interval Tested 3020'-3130' Zone Tested Lansing KC H-K
 Anchor Length 110' Drill Pipe Run 2702 Mud Wt. 9.1
 Top Packer Depth 3015' Drill Collars Run --- Vis 52
 Bottom Packer Depth 3020' Wt. Pipe Run 310 WL 7.6
 Total Depth 3130' Chlorides 2500 ppm System LCM 2#
 Blow Description I.F. - 1/2" blow
IST - no blow back
F.F. - no blow pulled tool
F.S.I. -

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>M</u>			<u>100</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 10' BHT 91° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1541 Test 1050 T-On Location 7:20
 (B) First Initial Flow 18 Jars _____ T-Started ~~11:15~~ 9:08
 (C) First Final Flow 20 Safety Joint _____ T-Open 11:15
 (D) Initial Shut-In 90 Circ Sub _____ T-Pulled 12:42
 (E) Second Initial Flow --- Hourly Standby _____ T-Out 14:57
 (F) Second Final Flow --- Mileage 30 RT X 2 30+30 Comments Loaded tool at
 (G) Final Shut-In --- Sampler _____ 8:20 AM 12-20-2018
 (H) Final Hydrostatic 1507 Straddle _____ EM Tool _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Initial Open 30 Day Standby _____ Sub Total 0
 Initial Shut-In 30 Accessibility _____ Total 1110
 Final Flow 15- Sub Total 1110 MP/DST Disc't _____
 Final Shut-In ---

Approved By _____ Our Representative Benny Mulligan

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

AUSTIN B. KLAUS

Cell 785.650.3629
Work 785.483.3145
Ext 225

PO BOX 352
Russell, KS 67665
austin.klaus@johnofarmer.com

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

Well Name: Eulert 3-#3
Location: Russell County
License Number: API #15-167-24086
Spud Date: 12/13/18
Surface Coordinates: Section 3, Township 12 South, Range 15 West
500' FNL & 680' FWL
Bottom Hole Coordinates: Vertical well w/ minimal deviation, same as above
Ground Elevation (ft): 1,730' K.B. Elevation (ft): 1,738'
Logged Interval (ft): 2,300 To: RTD Total Depth (ft): 3,320
Formation: LKC-Arbuckle
Type of Drilling Fluid: Chemical (Andy's)

Region: Kansas

Drilling Completed: 12/20/18

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: ESP Development, Inc.
Address: 1749B 250th Ave.
Hays, KS 67601

GEOLOGIST

Name: Austin Klaus
Company: John O. Farmer, Inc.
Address: 370 W. Wichita Ave.
Russell, KS 67665

Comments

The Eulert #3-3 well was drilled by Discovery Drilling Rig #1 (Tool Pusher: Cliff Mayfield).

The location for the Eulert #3-3 well was found via 3-D seismic survey. Geologic samples were collected and evaluated from 2,300'-3,250'.

Structurally, the Eulert #3-3 encountered the Topeka formation 3' low, in relation to the Eulert #3-2 (comparison well). Slight oil shows were noted in the Topeka zone. The Lansing formation was picked 6' low to the comparison well. Two bottom-hole tests were conducted: LKC A - LKC C & LKC H-K (see recovery below). Marginal thickening occurred in the lower Lansing; B/KC & Arbuckle formations were picked 8' & 7' low respectively.

The 3D seismic indicates this location to have complete closure (isolation from surrounding production), thus the low structural position cannot alone condemn the Arbuckle. It is advised that careful log evaluation to condemn all producing zones be completed prior to conversion to SWD. After all sample, log, and drill stem test data was gathered and evaluated, the decision was made to set 5 1/2" casing to potentially evaluate the Eulert #3-3 for oil production and utilize for SWD purposes if non-productive.

ROCK TYPES

	Anhy		Clyst		Gyp		Mrlst		Shgy
	Bent		Coal		Igne		Salt		Slstst
	Brec		Congl		Lmst		Shale		Ss
	Cht		Dol		Meta		Shcol		Till

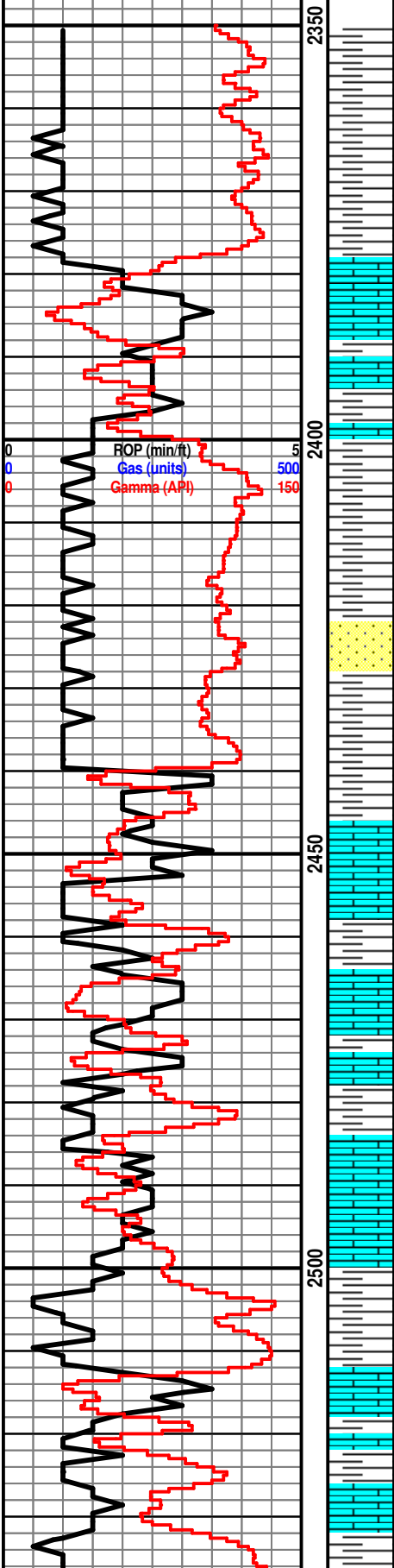
OTHER SYMBOLS

POROSITY	<input type="checkbox"/> Vuggy	ROUNDING	<input type="checkbox"/> Spotted	EVENT
<input type="checkbox"/> Earthy		<input type="checkbox"/> Rounded	<input type="checkbox"/> Ques	<input type="checkbox"/> Rft
<input type="checkbox"/> Fenest	SORTING	<input type="checkbox"/> Subrnd	<input type="checkbox"/> Dead	<input type="checkbox"/> Sidewall
<input type="checkbox"/> Fracture	<input type="checkbox"/> Well	<input type="checkbox"/> Subang		
<input type="checkbox"/> Inter	<input type="checkbox"/> Moderate	<input type="checkbox"/> Angular	INTERVAL	
<input type="checkbox"/> Moldic	<input type="checkbox"/> Poor		<input type="checkbox"/> Core	
<input type="checkbox"/> Organic		OIL SHOW	<input type="checkbox"/> Dst	
<input type="checkbox"/> Pinpoint		<input type="checkbox"/> Even		

Curve Track 1	Depth	Lithology	Geological Descriptions	DST/Mud/Survey
ROP (min/ft) ——— Gas (units) - - - - - Gamma (API) ———				
0 ROP (min/ft) 5 0 Gas (units) 500 0 Gamma (API) 150	2300		The open-hole logging was performed by Mr. Casey Patterson with Gemini Wireline, LLC (Hays, KS). Logs included: Compensated Density/ Compensated Neutron, Dual Induction, and Micro Resistivity. Formation tops and datums from the open-hole logs include the following:	Tester: Benny Mulligan Mud Engineer: Aaron Blew
-12/13/18 Spud @ 5:30pm				
-12/14/18 Drilling, 560'				
-12/15/18 Drilling, 835'				
-12/16/18 Drilling, 1,780'				
-12/17/18 Drilling, 2,445'				
-12/18/18 DST #1, 2,953'				
-12/19/18 CFS, 3,130'				
-12/20/18 Logging, 3,320'				
-12/21/18 Completed @ 6:30pm				

Formation	E-Log	Datum
Tarkio	2378	-639
Topeka	2630	-891
Heebner	2919	-1180
Toronto	2871	-1132
Lansing	2902	-1163
B/KC	3160	-1421

Arbuckle	3218	-1479
LTD	3322	-1583



Sh: lt-drk gry

Sh: lt-drk gry

Tarkio 2379' (-640)

Ls: tan-gry, fn-sub xln, mostly DNS, NSFO

Sh: lt-drk gry

Sh: ala

Ss: qtz, lt gry, fn-vry fn grn, well sorted, poor int grn porosity, fair rnd, vry lt odor, NSFO

Sh: lt-drk gry

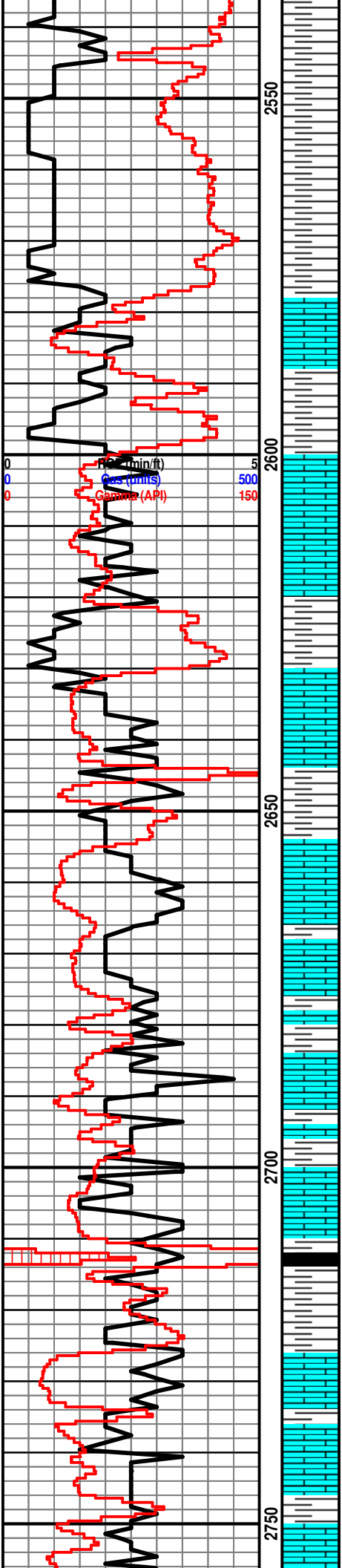
Ls: tan-gry, fn-sub xln, mostly DNS, NSFO

Ls: ala

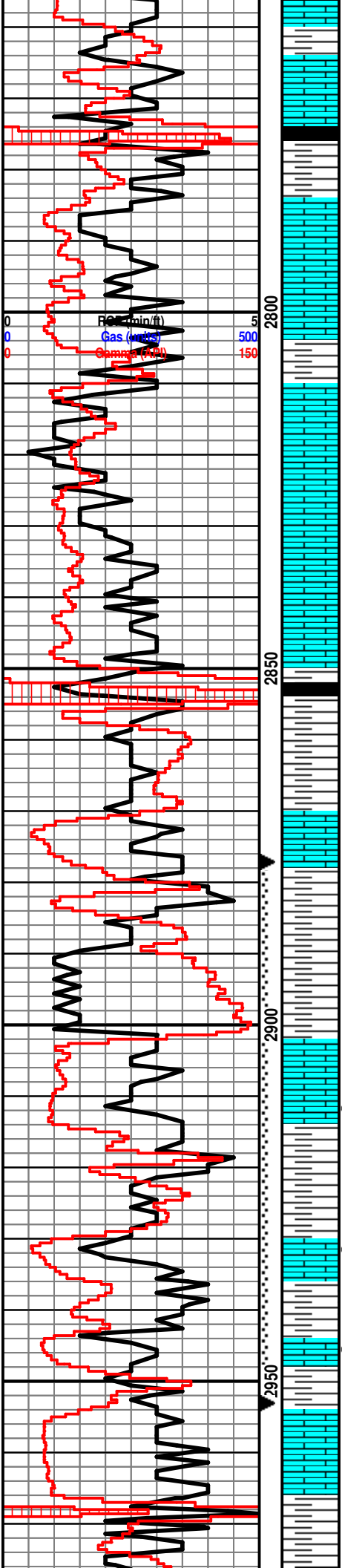
Sh: lt-drk gry-brn

Ls: tan-gry, fn xln, scat foss, poor int xln porosity, scat chalk

Wt: 8.7
Vis: 54



Sh: lt-drk gry
 Sh: ala
 Ls: tan-gry, fn-sub xln, mostly DNS, NSFO
 Ls: ala
 Sh: lt-drk gry
Topeka 2631' (-892)
 Ls: tan-gry, fn xln, scat fair int xln & vuggy porosity, scat dead oil stn, NSFO
 Sh: lt gry
 Ls: off wh-tan-gry, fn xln, poor int xln porosity, scat vuggy porosity, scat dead oil stn, VSSFO, sl-fair odor
 Ls: tan-gry, fn-sub xln, mostly DNS, scat foss
 Sh: lt-drk gry
 Sh: ala
 Ls: tan-gry, fn-sub xln, mostly DNS, scat chert-off wh
 Ls: ala
 Sh: lt-drk gry



Ls: tan-gry, fn xln, scat foss, poor int foss porosity, NSFO

Sh: lt gry

Ls: tan-gry, fn xln, poor int xln porosity, scat dead oil stn

Ls: off wh-tan, fn xln, poor-fair int xln porosity, scat oil stn in porosity, VSSFO, sl odor

Ls: tan-gry, fn xln, foss, poor int xln & scat int foss porosity, scat-fair oil stn, VSSFO, sl odor

Heebner 2849' (-1110)

Sh: blk, carb, fissile

Sh: lt-drk gry-brn

Toronto 2871' (-1132)

Ls: off wh-tan, fn xln, poor int xln porosity, scat dead oil stn, NSFO

Sh: drk gry-grn

Lansing 2901' (-1162)

Ls: off wh-tan, fn xln, poor int xln & scat pp porosity, NSFO

Ls: off wh-tan, fn xln, poor-scat fair int xln & pp vuggy porosity, scat oil stn, sl odor

Sh: lt-drk gry

Ls: off wh-tan, fn xln, few rxs ool, poor int xln porosity, lt oil stn in porosity, VSSFO, sl odor

Sh: lt-drk gry-brn

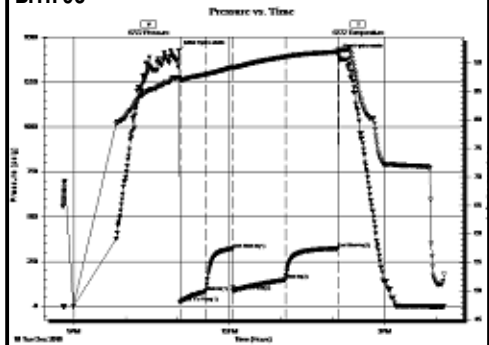
Ls: off wh-tan, fn xln, scat ool, fair oom & scat pp vuggy porosity, scat-fair oil stn, S-VSSFO, sl odor

Ls: off wh-tan, fn xln, poor int xln porosity, mostly DNS, NSFO, scat chert-off wh

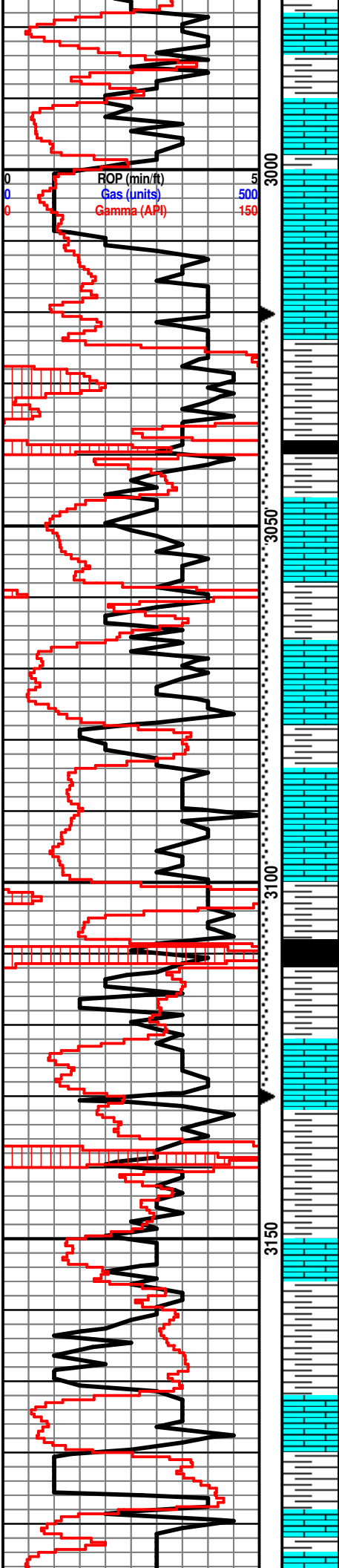
Sh: drk gry-brn

DST #1 Lansing A-C
30"-30"-60"-60"

IF: BOB in 26 minutes, no blow back
 FF: Weak blow, built to 7.5", no blow back
 Rec: 180' WCM (5% W, 95% M), 120' MW (20% M, 80% W)
 FP: 21-82, 85-148#
 SIP: 322-322#
 HP: 1427-1410#
 BHT: 93



Wt: 8.8
 Vis: 57



Ls: off wh-tan, fn xln, scat foss, poor int xln & scat int foss porosity, NSFO

Sh: lt-drk gry

Ls: off wh-tan, fn xln, foss, poor-fair int xln & scat int foss porosity, sl oil stn, vry lt odor

Ls: off wh-tan, fn xln, ool, fair oom porosity, most rxn barren, few w/ scat oil stn

Ls: off wh-tan, fn xln, poor int xln & scat pp vuggy porosity, barren, scat chert-off wh

Sh: drk gry-brn

Sh: drk gry-blk

Ls: off wh-tan, fn xln, poor int xln & scat vuggy porosity, lt oil stn, fnt odor, scat chert-off wh

Sh: lt-drk gry

Ls: off wh-tan, fn xln, poor-fair int xln porosity, lt oil stn, sl odor

Sh: lt-drk gry

Ls: off wh-tan, fn xln, poor-fair int xln & pp vuggy porosity, few pcs w/ SSFO, fair odor

Ls: off wh-tan, fn xln, poor int xln & vuggy porosity, scat oil stn, fnt odor, scat chert-off wh

Sh: drk gry-blk

Sh: lt-drk gry

Ls: off wh-tan, fn-sub xln, mostly DNS, NSFO, scat chert-off wh

Sh: lt-drk gry

Sh: ala

Ls: tan-lt gry, fn-sub xln, mostly DNS, NSFO

B/KC 3161' (-1422)

Sh: drk gry-brn

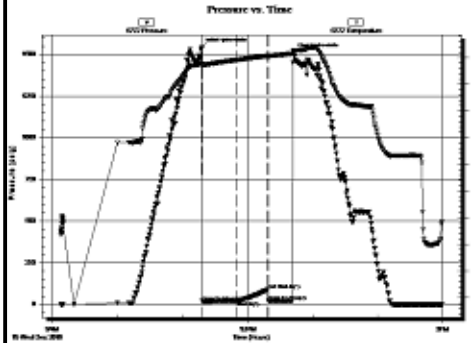
Ls: tan-gry, fn-sub xln, mostly DNS, NSFO, scat chalk

Sh: lt gry-brn-rd

Ls: tan-gry, fn-sub xln, mostly DNS, NSFO, scat

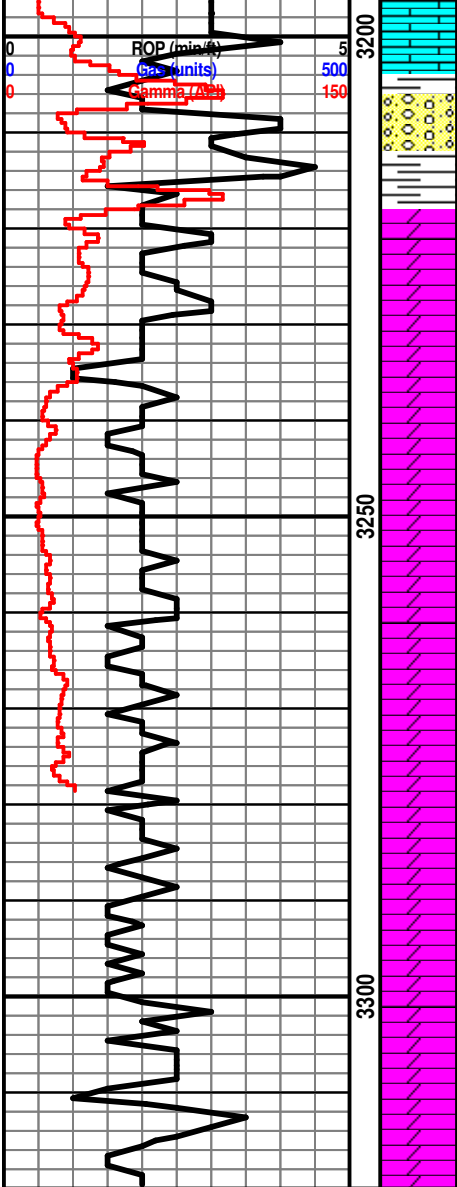
**DST #2 Lansing H-K
30"-30"-15"-Pull**

IF: Weak blow, built to 1/2"
 FF: No blow, pulled tool
 Rec: 10' Mud
 FP: 18-20, 20#
 SIP: 90#
 HP: 1541-1507#
 BHT: 91



Wt: 8.9
 Vis: 55

Wt: 8.8
 Vis: 54



chert-off wh, scat sh: rd

Ss: qtz, fn grn, fair rnd, poor-fair int grn porosity, sl oil sat, fnt odor

Arbuckle 3217' (-1478)

Dolo: off wh-tan, fn xln, fair int xln porosity, fair oil sat, SSFO, fair odor, scat chert-off wh

Dolo: off wh-tan, fn-md xln, fair-good int xln porosity, fair-good oil sat, SSFO, fair-good odor

Dolo: off wh, fn-md xln, fair-good int xln porosity, fair oil sat, VSSFO, sl odor, scat chert-off wh

Dolo: off wh-tan, fn-md xln, fair-good int xln porosity, fair oil sat, VSSFO, sl-fair odor, scat chert-off wh

Dolo: off wh-tan-gry, fn-md xln, poor int xln porosity, few rxs w/ scat oil stn, VSSFO, fnt odor

Dolo: ala

Dolo: off wh-tan-gry, md-crs xln, poor int xln porosity, DNS, NSFO, scat chert-off wh

Dolo: ala

Dolo: tan-brn, fn-md xln, poor int xln porosity, mostly DNS, NSFO, scat chert-off wh

Dolo: off wh-tan-brn, fn-md xln, poor int xln porosity, DNS, NSFO, hvy chert-off wh