

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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1718 18500 A

**BASIC**<sup>SM</sup>  
ENERGY SERVICES

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

PRESSURE PUMPING & WIRELINE

TMH 30

DATE \_\_\_\_\_ TICKET NO. 18500

DATE OF JOB <u>11-22-19</u>	DISTRICT <u>Pratt, KS #1718</u>	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 <u>Grunder Oil</u>		LEASE <u>Leesborg Grunder</u>		WELL NO. <u>3</u>						
ADDRESS		COUNTY <u>Stafford</u>		STATE <u>Kansas</u>						
CITY		STATE		SERVICE CREW <u>Carl B Ron G Jose D</u>						
AUTHORIZED BY		JOB TYPE: <u>8<sup>th</sup> surface Z-42</u>								
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED <u>11-22-19</u>	DATE	AM	PM	TIME
<u>27463</u>	<u>-5</u>									
<u>9903-9862</u>	<u>-50</u>									
						ARRIVED AT JOB				<u>7:30</u>
						START OPERATION				<u>9:30</u>
						FINISH OPERATION				<u>10:15</u>
						RELEASED				<u>11:00</u>
						MILES FROM STATION TO WELL				<u>20</u>

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: Chf Maghuel  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

EM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
<u>2118</u>	<u>A-con Blend</u>	<u>SX</u>	<u>175</u>		<u>8750</u>
<u>2132</u>	<u>60:40: P02</u>	<u>SX</u>	<u>175</u>		<u>4725</u>
<u>2102</u>	<u>Cellulose Flake</u>	<u>lb</u>	<u>352</u>		<u>352</u>
<u>2109</u>	<u>Calcium chloride</u>	<u>lb</u>	<u>948</u>		<u>948</u>
<u>101</u>	<u>Light Vehicle Mileage</u>	<u>Mi</u>	<u>20</u>		<u>100</u>
<u>102</u>	<u>Heavy Equipment Mileage</u>	<u>Mi</u>	<u>40</u>		<u>320</u>
<u>504</u>	<u>Plug Container Utilization Charge</u>	<u>ea</u>	<u>1</u>		<u>250</u>
<u>1</u>	<u>Depth Charge 0-1000'</u>	<u>HQ</u>	<u>1</u>		<u>1200</u>
<u>240</u>	<u>Blending + mixing charge</u>	<u>SX</u>	<u>350</u>		<u>490</u>
<u>105</u>	<u>Top Rubber plug</u>	<u>ea</u>	<u>1</u>		<u>225</u>
<u>753</u>	<u>Baffle Plate</u>	<u>ea</u>	<u>1</u>		<u>170</u>
<u>143</u>	<u>Service Supervisor Charge</u>	<u>ea</u>	<u>1</u>		<u>75</u>
<u>144</u>	<u>Driver Charge</u>	<u>ea</u>	<u>3</u>		<u>105</u>
SUB TOTAL					<u>17,710</u>

CHEMICAL / ACID DATA:

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

TOTAL 6315 50

SERVICE REPRESENTATIVE: Carl Beldy THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: Chf Maghuel  
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

Customer: <b>Grunder Oil</b>	Lease No.:	Date: <b>11-27-19</b>
Lease: <b>Leesburg</b>	Well #: <b>3</b>	
Field Order #: <b>18500</b>	Station: <b>Pratt KS.</b>	Casing: <b>8 5/8</b>
Type Job: <b>8 5/8 surface</b>	Formation:	Depth: <b>644'</b>
		County: <b>Stafford</b>
		State: <b>KS.</b>
		Legal Description: <b>14-255-13w</b>

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size: <b>8 5/8</b>	Tubing Size:	Shots/Ft:		Acid	RATE	PRESS	ISIP
Depth: <b>644'</b>	Depth:	From:	To:	Pre Pad	Max		5 Min.
Volume: <b>38.38</b>	Volume:	From:	To:	Pad	Min		10 Min.
Max Press: <b>500</b>	Max Press:	From:	To:	Frac	Avg		15 Min.
Well Connection: <b>U+M</b>	Annulus Vol.:	From:	To:		HHP Used		Annulus Pressure
Plug Depth: <b>604'</b>	Packer Depth:	From:	To:	Flush	Gas Volume		Total Load

Customer Representative:	Station Manager: <b>Justin Westerman</b>	Treater: <b>Casey AIDW6</b>
Service Units: <b>27463 19903 19862</b>		
Driver Names: <b>Ron G Tocz Dias</b>		

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
7:30 AM					on location + Rig up
9:15 AM					Ran 644' 8 5/8 casing Break circulation with Rig Rig up to Cement
9:30 AM	150		3	3	Start Freshwater
	150		77	5	Start Acow Blend 1TS SX
	150		37	5	Start 80:40:702 Tail 1TS SX
10:00 AM					Cement in stop pumps Release plug
10:05 AM				4.5	Start Displacement
	50			4.5	steady rate
	300		35	2.5	slow rate @ 35 Bbls out
10:15 AM	500		3.5	2.5	Bump plug 33.5 Bbls water shut in
	300				
					Cement did circulate
					Thank you



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

MH-30

FIELD SERVICE TICKET

1718 18257 A

DATE \_\_\_\_\_ TICKET NO. \_\_\_\_\_

DATE OF JOB: 12/1/19	DISTRICT: PRATT	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: BRUNDER OIL		LEASE: BRUNDER		WELL NO. 3					
ADDRESS:		COUNTY: STAFFORD		STATE: KANSAS					
CITY:		STATE:		SERVICE CREW: MATTAL, JESSE, KEVIN					
AUTHORIZED BY: CHIEF MAVEFIELD		JOB TYPE: Z-42 FLUG TO ABANDON							
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	TIME
19843	172						12-1	PM	5:45
						ARRIVED AT JOB		AM	8:15
						START OPERATION		AM	9:45
						FINISH OPERATION		PM	3:00
						RELEASED		AM	3:15
						MILES FROM STATION TO WELL:			

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

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

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
BC132	60:40 POZ	SK	200		5400 00
CC102	CELLOFLAKE	LB	51		204 00
CC200	BEL	LB	344		172 00
ME101	LIGHT VEHICLE MILEAGE	MI	20		100 00
ME102	HEAVY EQUIPMENT MILEAGE	MI	40		320 00
CC5	DEPTH CHARGE	EA	1		2500 00
CE240	MIXING CHARGE	SK	200		280 00
BE143	SERVICE SUPERVISOR CHARGE	EA	1		75 00
BE144	DRIVER CHARGE	EA	3		105 00

SUB TOTAL 9156 00

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
TOTAL		3949 92

SERVICE REPRESENTATIVE: *[Signature]* BRUNBARDT

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

FIELD SERVICE ORDER NO.

Customer <b>BRUNDER OIL</b>		Lease No.		Date <b>12/1/19</b>	
Lease <b>BRUNDER</b>		Well # <b>3</b>			
Field Order #	Station <b>FRATT</b>	Casing	Depth	County <b>STAFFORD</b>	State <b>KS</b>
Type Job <b>PLUG TO ABANDON</b>			Formation <b>ARBUCKLE</b>	Legal Description	

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
Depth	Depth	From	To	Pre Pad	Max		5 Min.
Volume	Volume	From	To	Pad	Min		10 Min.
Max Press	Max Press	From	To	Frac	Avg		15 Min.
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth	Packer Depth	From	To	Flush	Gas Volume		Total Load

Customer Representative <b>C. MAYFIELD</b>	Station Manager <b>JUSTIN W.</b>	Treater <b>KEVIN BRUNGARDT</b>
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Service Units	<b>19843</b>	<b>70959</b>	<b>19860</b>	<b>98620</b>				
Driver Names	<b>MIKE MATAL</b>	<b>JESSE HANER</b>	<b>KEVIN</b>					

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<b>8:15</b>					<b>ON LOCATION - SPOT EQUIPMENTS JOB + SAFETY</b>
<b>9:45</b>	<b>500</b>				<b>4253' - 50 SKS - START H2O</b>
			<b>8 1/2</b>	<b>4</b>	<b>H2O IN - START CEMENT</b>
			<b>12 3/4</b>	<b>4</b>	<b>CEMENT IN - START H2O</b>
			<b>3</b>	<b>4</b>	<b>H2O IN - STOP PUMP</b>
			<b>54</b>		<b>DISPLACE DRILL PIPE WITH RTG PUMP @ TROUBLEMAKERS REQUEST</b>
	<b>250</b>			<b>4</b>	<b>700 - 80 SKS - START H2O</b>
			<b>8 1/2</b>	<b>4</b>	<b>H2O IN - START CEMENT</b>
			<b>20</b>	<b>3</b>	<b>CEMENT IN - START H2O</b>
			<b>4</b>	<b>3</b>	<b>H2O IN - STOP PUMP</b>
	<b>100</b>			<b>3</b>	<b>60' - 20 SKS - LOAD HOPE</b>
			<b>5</b>	<b>3</b>	<b>CIRCULATE CEMENT</b>
	<b>100</b>		<b>7 1/2</b>	<b>2</b>	<b>RATHOLE - 30 SKS</b>
<b>3:00</b>	<b>100</b>		<b>5</b>	<b>2</b>	<b>MOUSEHOLE - 20 SKS</b>

**MUD LOG**  
**WellSight Systems**  
Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: Grunder #3  
API: 15-185-24050-00-00  
Location: 480 FNL - 1670 FWL - Sec. 14 - Twp. 15S - 13W - NW-NE-NW  
License Number: 30862 Region: Kansas  
Spud Date: 11/21/2019 Drilling Completed: 12/01/2019  
Surface Coordinates:

Bottom Hole  
Coordinates:  
Ground Elevation (ft): 1921 K.B. Elevation (ft): 1927  
Logged Interval (ft): 3100 To: 4335 Total Depth (ft): 4335  
Formation: Arbuckle Dolomite @ Total Depth  
Type of Drilling Fluid: Chemical Drispac (Andys)

Printed by MudLog from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

**OPERATOR**

Company: Grunder Oil, LLC  
Address: 122 S Main St, St. John, KS 67576

**GEOLOGIST**

Name: Keaton Jones  
Company: Rockhound Petroleum, LLC  
Address: P.O Box 43 St. John KS 67576  
(620)-546-4010

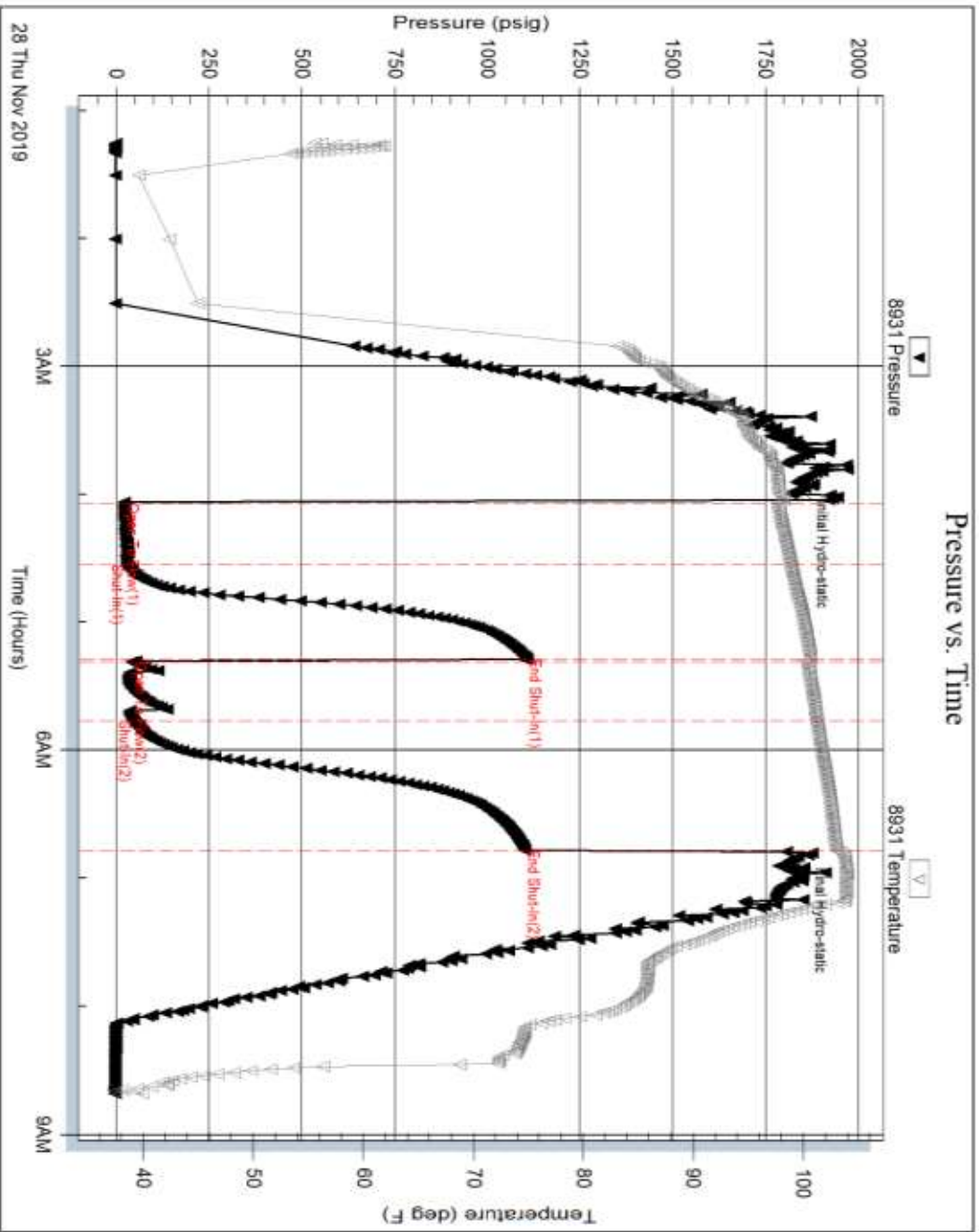


Serial #: 8931

Inside Gunder Oil LLC

Gunder #3

DST Test Number: 1



Tribble Testing, Inc

Ref No: 65457

Printed: 2019-11-28 @ 10:00:17

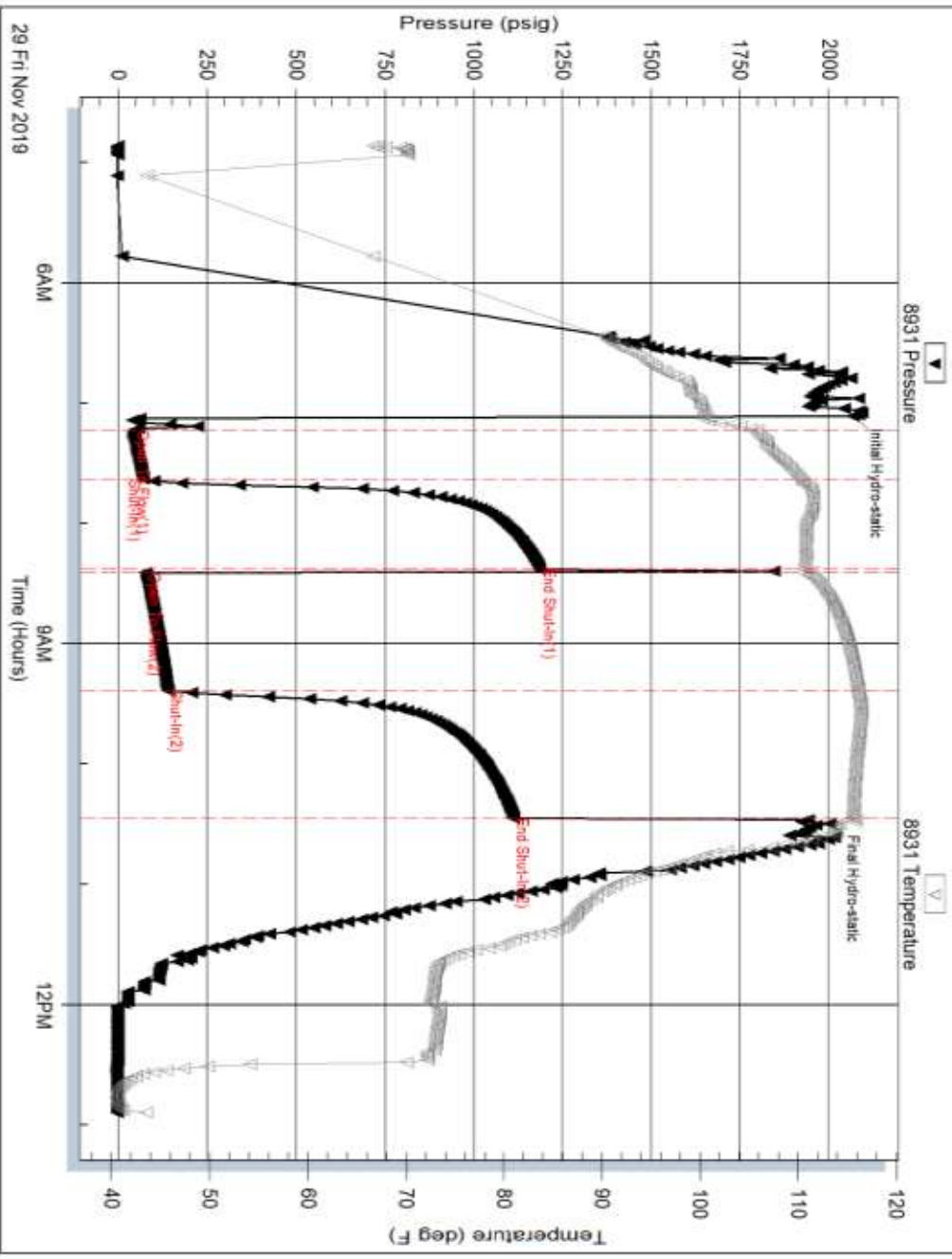
Serial #: 8931

Inside Gunter Oil LLC

Gunter #3

DST Test Number: 2

### Pressure vs. Time



Tribble Testing, Inc

Ref No: 65458

Printed: 2019.11.29 @ 14:04:34

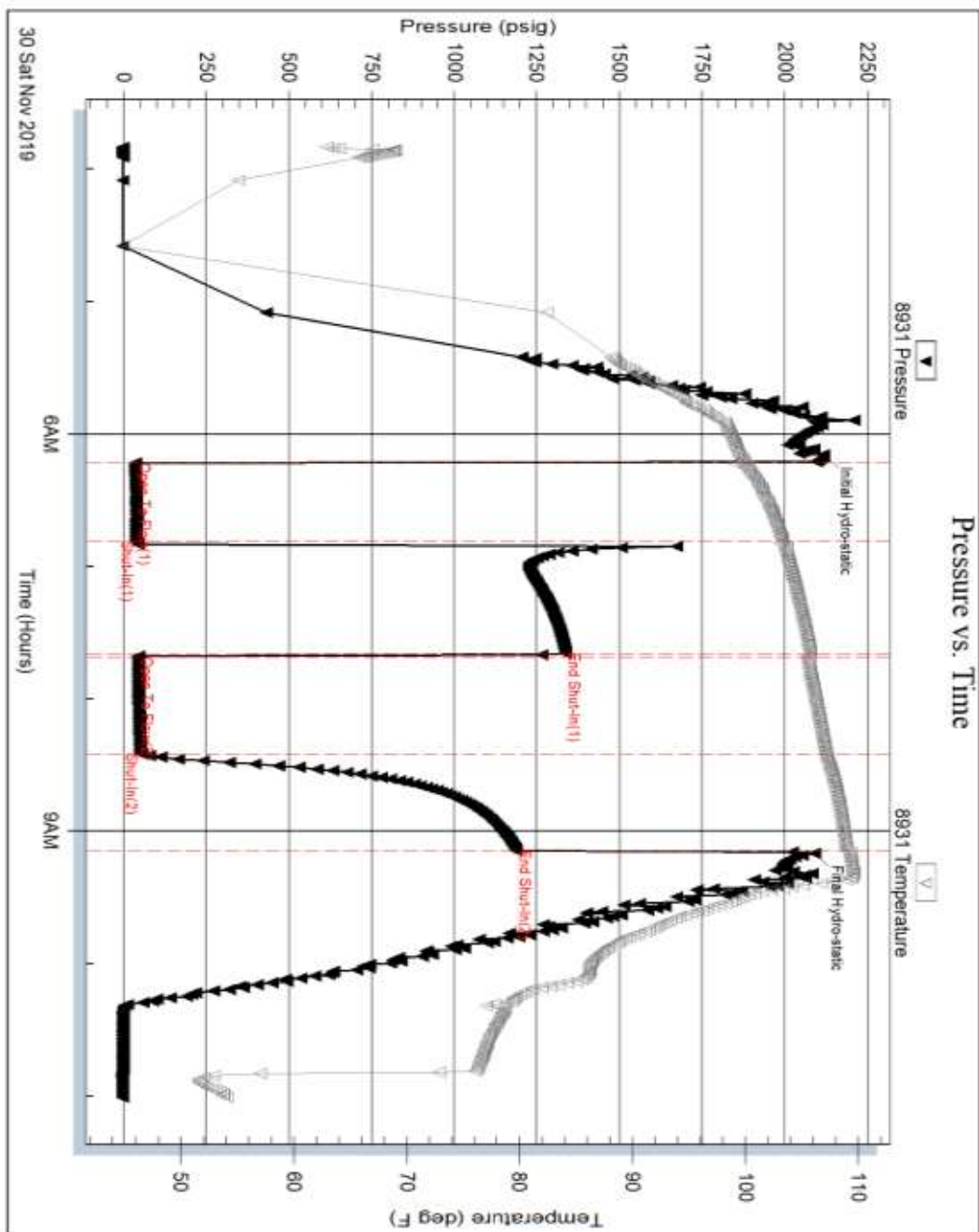
Serial #: 8931

Inside Gunder Oil LLC

Gunder #3

DST Test Number: 3

### Pressure vs. Time



Tribble Testing, Inc

Ref. No: 65459

Printed: 2019-11-30 @ 20:20:14

### ROCK TYPES

- Anhy
- Bent
- Brec
- Cht
- Clyst

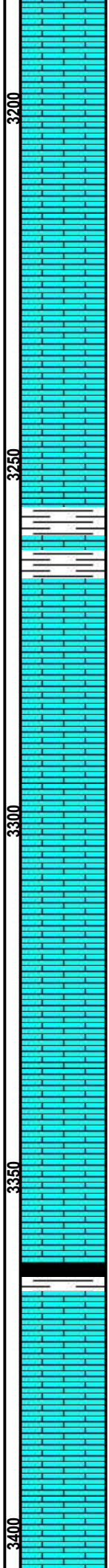
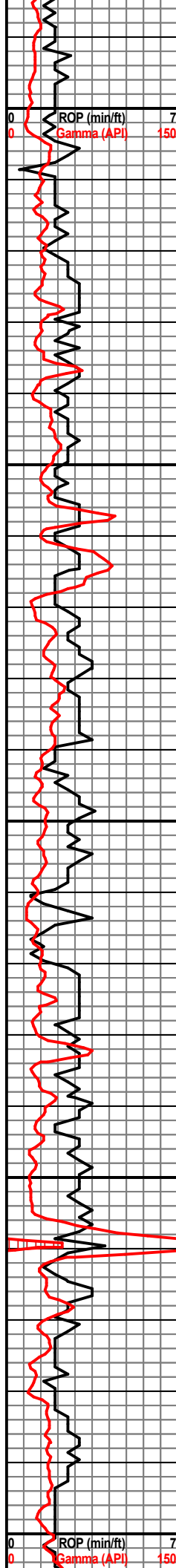
- Coal
- Congl
- Dol
- Gyp
- Igne

- Lmst
- Meta
- Mrlst
- Salt
- Shale

- Shcol
- Shgy
- Slst
- Ss
- Till

Cfs





Shale - Black

Conn - 3207

3215  
WT: 8.6  
Vis: 60  
1# LCM

Conn - 3239

Changed Pump Head -

Conn - 3272

3272  
WT: 8.9  
Vis: 57  
1# LCM

Conn - 3303

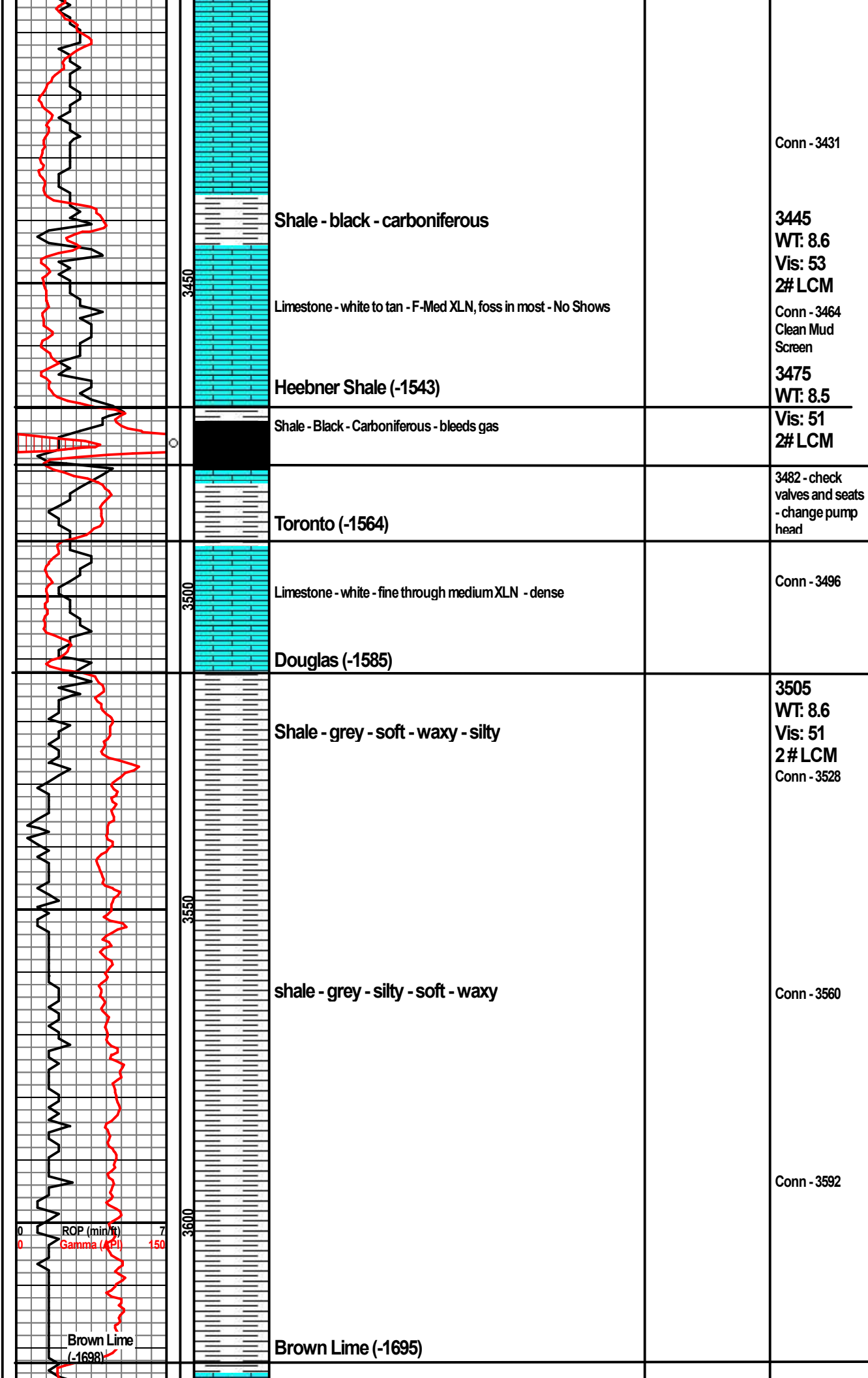
Mud Check  
@ - 3322  
WT: 8.6  
Vis: 56  
Fil: 7.2  
CHL: 4,800  
2# LCM

Conn - 3336

Conn - 3368

3380  
WT: 8.6  
Vis: 53  
2# LCM

Conn - 3400





Lansing (-1724)

Limestone - grey - very dse - shaley - some oolites - No shows No odor

Conn - 3656  
Clean mud screen

interbedded Limestone and shales

**3656**  
WT: 8.7  
Vis: 56  
1# LCM

Ls - blueish tint - fine xln - slightly vuggy in parts - slightly foss - 1 oil spot on break - no odor

Conn - 3668

CFS - 3700

Limestone - white to cream - med xln - wathered in most - very few vuggy porosity - no shows no odor

**3718**  
WT: 8.8  
Vis: 55  
1# I CM  
Conn - 3721

Limestone - cream to grey - oolitic to oomoldic - fossiliferous in some - No shows No Odor

Conn - 3753

CFS - 3753

Limestone - grey - fine to med XLN - weathered - No shows

**3773**  
WT: 8.8  
Vis: 56  
1.5# LCM

Limestone - grey highly oolitic baren porosity no shows no odor

Conn - 3785

ROP (ft/ft) 7  
Gamma (API) 150

CFS 3810

Limestone - cream to buff - med xln - oolitic to oomoldic in most - 1 pc oil spec - no shows no odor

Conn - 3817

Conn - 3848

3855  
WT: 8.8  
Vis: 55  
1.5 # LCM

Conn - 3881

Conn - 3910

Conn 3942

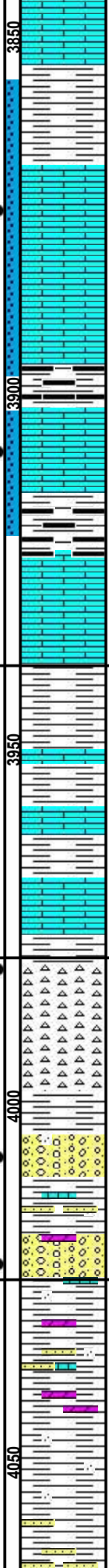
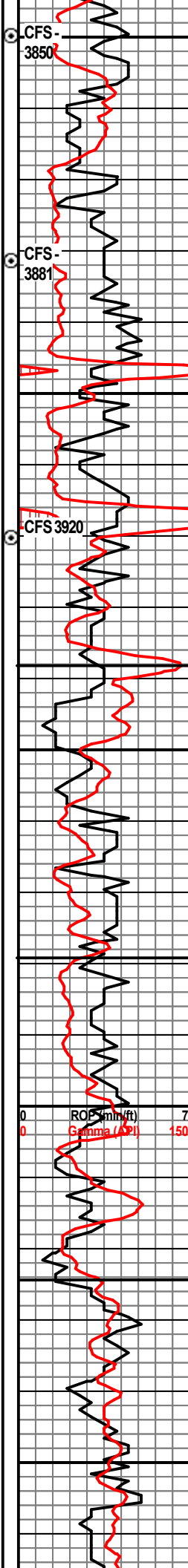
Conn 3974

WT: 8.6  
Vis: 51  
2 # LCM

Conn - 4006

Conn - 4040

4040  
WT: 9.0  
Vis: 50  
2 # LCM



Limestone - light grey - oomoldic in most fine XLN - 1 pc free oil specks - fairly dense - No shows faint odor if ainv

Limestone - brown to grey - fine XLN - dense - no shows no odor

Limestone - white - medium XLN - highly foss - well saturdated with oil - free oil in tray - weak odor - little gas on break

Shale - black carboniferous

**Base Kansas City (-2009)**

Limestone - tan - Fine XLN - cherty - dense -

cherty limestone - mostly grey with greenish tint - chert is mostly orang No shows No odor

**Mississippi (-2052)**

Chert - white - tripolitic in few pieces sfo&g when broken - faint odor  
Chert - limy - white - sandy in part -

Chert - tripolitic in part - fossiliferous - abundant free oil in tray - no live oil in rocks unless broken - Faint odor

Chert - white - tripolitic in parts - SFO&G when broken limestone - medXLN dolomitic in part - Faint odor

**Kinderhook shale (-2097)**

shale - purple - sandy in part

shale green - waxy and sandy in part

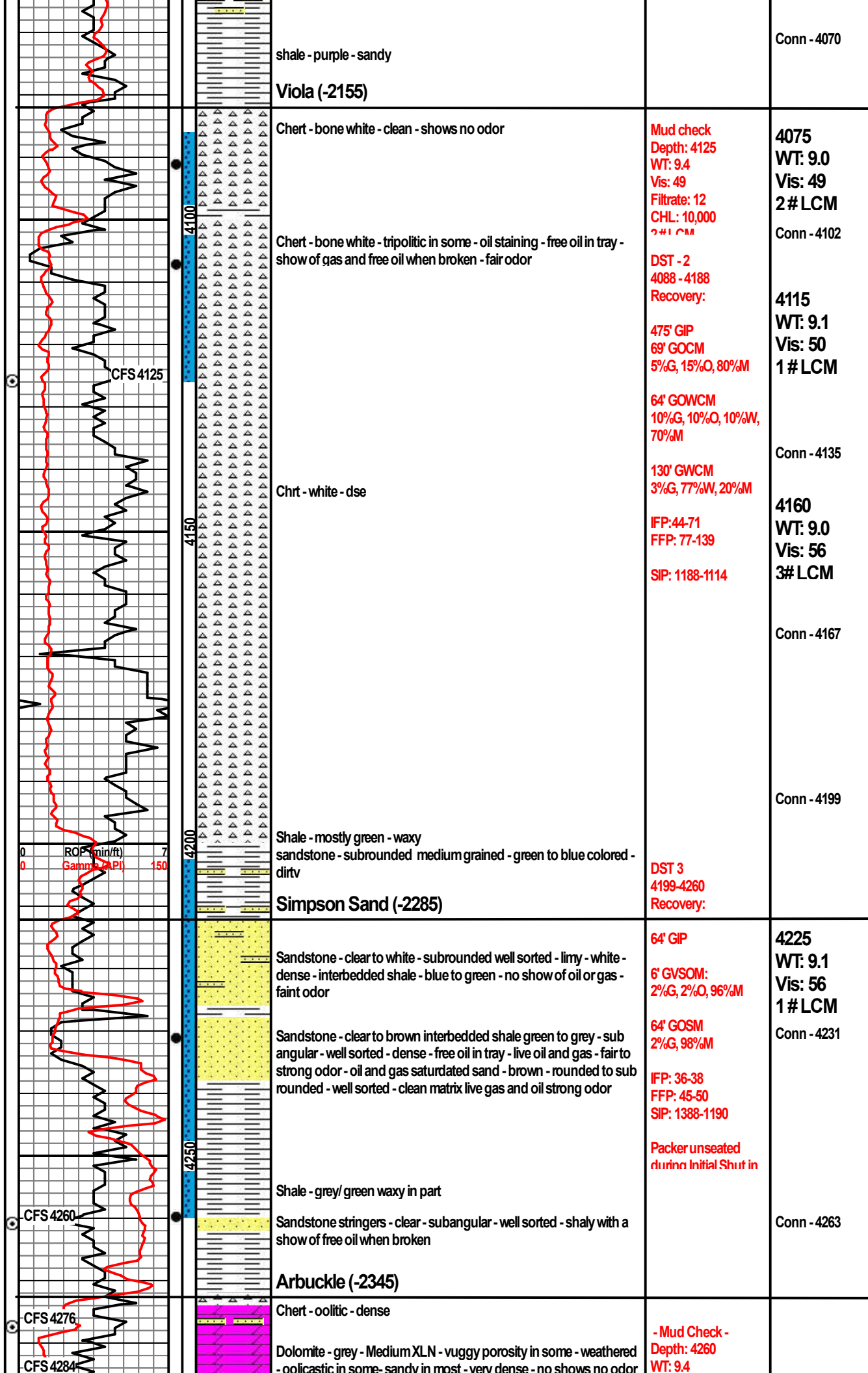
Shale - Purple waxy

- DST (1) -  
3856-3920  
Recovery -  
34' Oil specked Mud

BHT: 98  
IFP: 22-29  
FFP: 41-47  
SIP: 1108-1102

- Mud check -  
Depth: 3920  
WT: 9.3  
Vis: 54  
Filtrate: 10.8  
CHL: 8,000  
1.5 # LCM





shale - purple - sandy

Conn - 4070

**Viola (-2155)**

Chert - bone white - clean - shows no odor

Mud check  
Depth: 4125  
WT: 9.4  
Vis: 49  
Filtrate: 12  
CHL: 10,000  
2 # LCM

**4075**  
WT: 9.0  
Vis: 49  
2 # LCM

Conn - 4102

Chert - bone white - tripolitic in some - oil staining - free oil in tray - show of gas and free oil when broken - fair odor

DST - 2  
4088 - 4188  
Recovery:

**4115**  
WT: 9.1  
Vis: 50  
1 # LCM

475' GIP  
69' GOCM  
5%G, 15%O, 80%M

64' GOWCM  
10%G, 10%O, 10%W,  
70%M

Conn - 4135

Chrt - white - dse

130' GWCM  
3%G, 77%W, 20%M

**4160**  
WT: 9.0  
Vis: 56  
3# LCM

IFP: 44-71  
FFP: 77-139

SIP: 1188-1114

Conn - 4167

Conn - 4199

Shale - mostly green - waxy  
sandstone - subrounded medium grained - green to blue colored - dirt

DST 3  
4199-4260  
Recovery:

**Simpson Sand (-2285)**

64' GIP

**4225**  
WT: 9.1  
Vis: 56  
1 # LCM

Sandstone - clear to white - subrounded well sorted - limy - white - dense - interbedded shale - blue to green - no show of oil or gas - faint odor

6' GVSOM:  
2%G, 2%O, 96%M

Sandstone - clear to brown interbedded shale green to grey - sub angular - well sorted - dense - free oil in tray - live oil and gas - fair to strong odor - oil and gas saturated sand - brown - rounded to sub rounded - well sorted - clean matrix live gas and oil strong odor

64' GOSIM  
2%G, 98%M

Conn - 4231

IFP: 36-38  
FFP: 45-50  
SIP: 1388-1190

Packer unseated during Initial Shut in

Shale - grey/ green waxy in part

Sandstone stringers - clear - subangular - well sorted - shaly with a show of free oil when broken

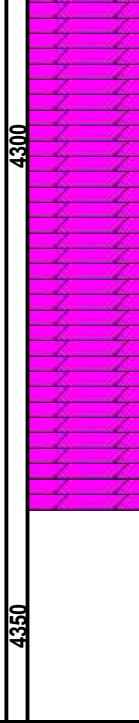
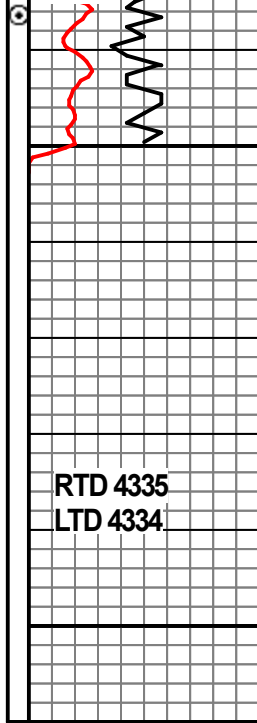
Conn - 4263

**Arbuckle (-2345)**

Chert - oolitic - dense

- Mud Check -  
Depth: 4260  
WT: 9.4

Dolomite - grey - Medium XLN - vuggy porosity in some - weathered - oolitic in some - sandy in most - very dense - no shows no odor



Dolomite - tan to grey - dense - fineXLN - few pink colored pieces

Dolomite - grey - medXLN - dense - slightly weathered. no shows

Dolomite - tan - medXLN - dense - weathered - oolitic oolitic in most - No shows

VIS: 54  
Filtrate: 12.8  
CHL: 10,000  
2#1 CM

Conn - 4295



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Grunder Oil, LLC.

**14-25s-13w Stafford Co., Ks**

122 S. Main St.  
St. John, Ks. 67576

**Grunder #3**

Job Ticket: 65457

**DST#: 1**

ATTN: Keaton Jones

Test Start: 2019.11.28 @ 01:15:13

## GENERAL INFORMATION:

Formation: **Lansing " L "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:03:58

Time Test Ended: 08:41:13

Test Type: Conventional Bottom Hole (Initial)

Tester: Matt Smith

Unit No: 68

**Interval: 3856.00 ft (KB) To 3920.00 ft (KB) (TVD)**

Reference Elevations: 1926.00 ft (KB)

Total Depth: 3920.00 ft (KB) (TVD)

1921.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8931**

**Inside**

Press@RunDepth: 46.59 psig @ 3857.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.11.28

End Date:

2019.11.28

Last Calib.:

2019.11.28

Start Time: 01:15:18

End Time:

08:41:12

Time On Btm:

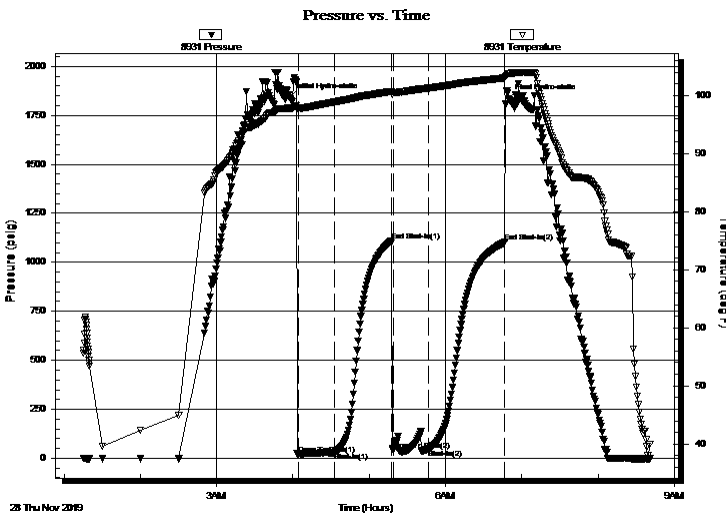
2019.11.28 @ 03:57:13

Time Off Btm:

2019.11.28 @ 06:49:43

**TEST COMMENT:** IF: Weak Blow . Built to 2 1/2".  
IS: No Blow .  
FF: Weak Blow . Built to 1 1/2".  
FS: No Blow .

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1840.57	97.78	Initial Hydro-static
7	21.92	97.76	Open To Flow (1)
36	28.53	98.86	Shut-In(1)
80	1107.88	100.66	End Shut-In(1)
82	41.12	100.46	Open To Flow (2)
109	46.59	101.23	Shut-In(2)
170	1102.31	103.01	End Shut-In(2)
173	1836.22	103.73	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
34.00	OspottedM 100%m	0.48

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Grunder Oil, LLC.

**14-25s-13w Stafford Co., Ks**

122 S. Main St.  
St. John, Ks. 67576

**Grunder #3**

Job Ticket: 65457

**DST#: 1**

ATTN: Keaton Jones

Test Start: 2019.11.28 @ 01:15:13

### 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:

8000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbf

Water Loss: 9.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 8000.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 0.20 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
34.00	OspottedM 100%m	0.477

Total Length: 34.00 ft      Total Volume: 0.477 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: None

Laboratory Name:

Laboratory Location:

Recovery Comments:

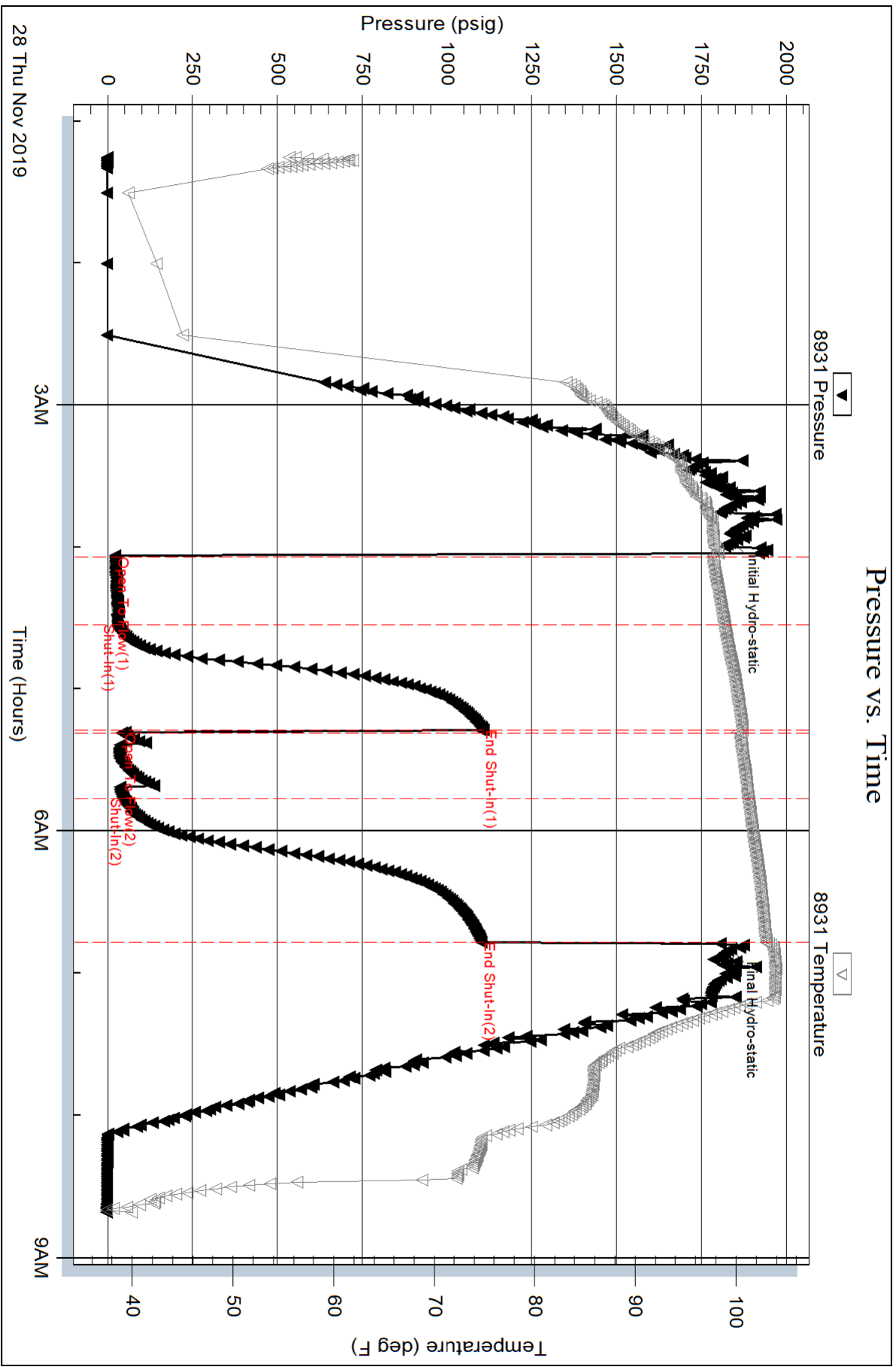
Serial #: 8931

Inside

Grunder Oil, LLC.

Grunder #3

DST Test Number: 1

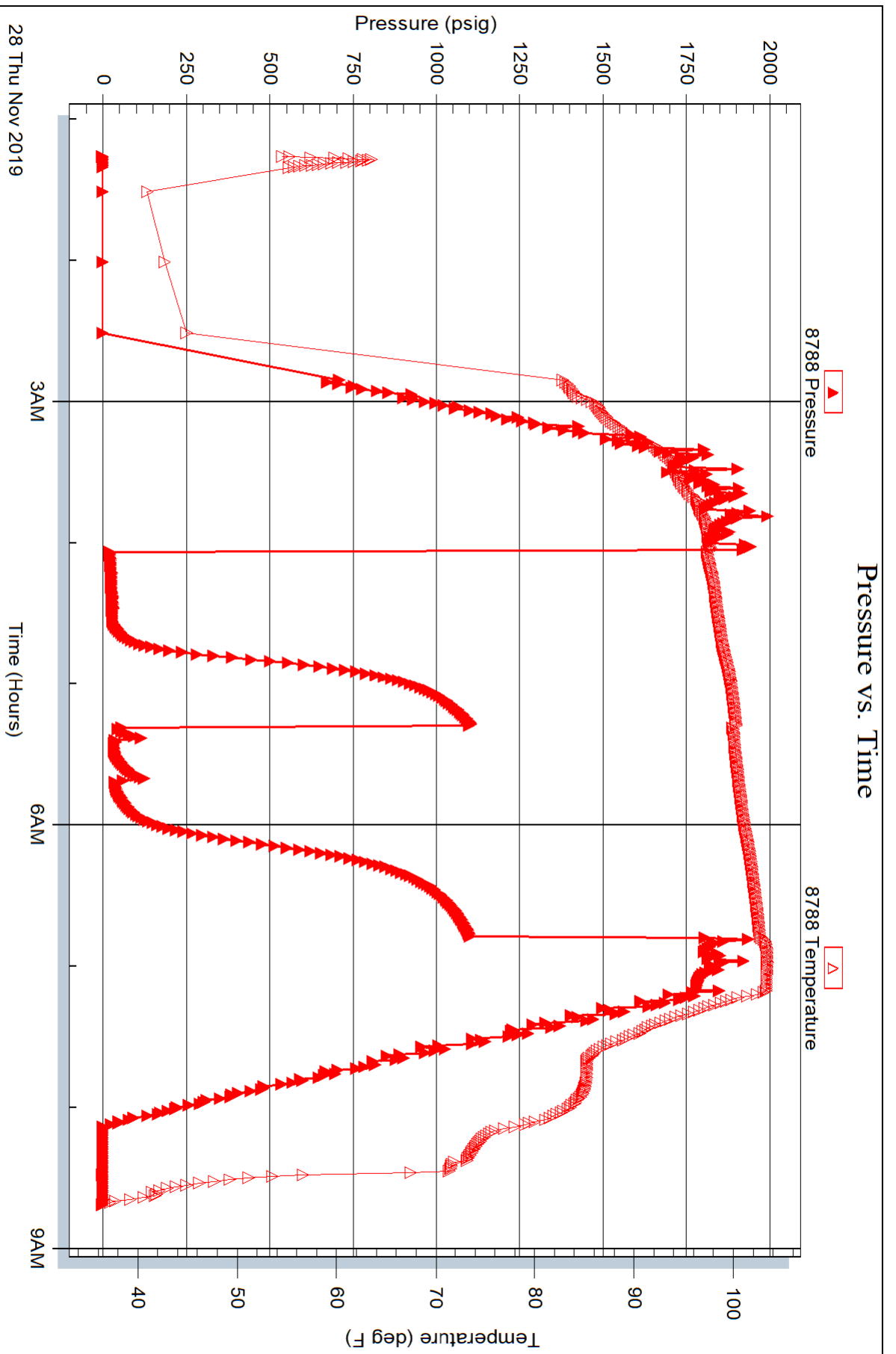


Serial #: 8788

Outside Grunder Oil, LLC.

Grunder #3

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 65457

Printed: 2019-11-28 @ 10:00:17



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Grunder Oil, LLC.

**14-25s-13w Stafford Co., Ks**

122 S. Main St.  
St. John, Ks. 67576

**Grunder #3**

Job Ticket: 65458

**DST#: 2**

ATTN: Keaton Jones

Test Start: 2019.11.29 @ 04:51:37

## GENERAL INFORMATION:

Formation: **Viola**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:13:22

Time Test Ended: 12:53:37

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 4088.00 ft (KB) To 4125.00 ft (KB) (TVD)**

Reference Elevations: 1926.00 ft (KB)

Total Depth: 4125.00 ft (KB) (TVD)

1921.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8931**

**Inside**

Press@RunDepth: 139.07 psig @ 4089.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.11.29

End Date:

2019.11.29

Last Calib.:

2019.11.29

Start Time: 04:51:42

End Time:

12:53:36

Time On Btm:

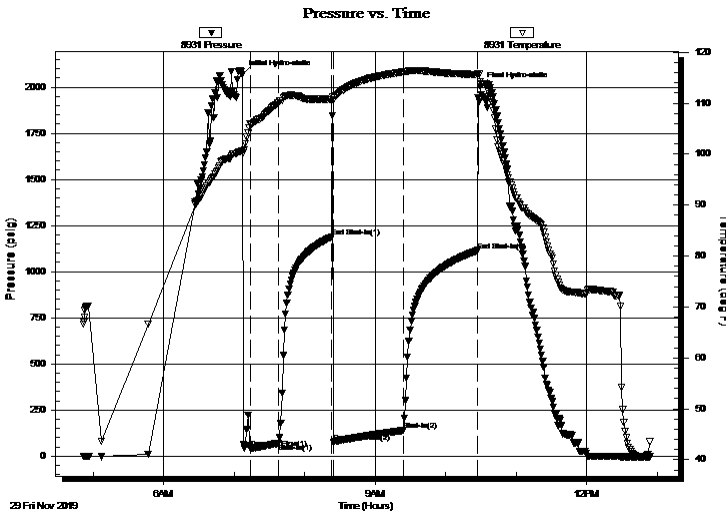
2019.11.29 @ 07:06:37

Time Off Btm:

2019.11.29 @ 10:29:37

**TEST COMMENT:** IF: Strong Blow . B.O.B. in 10 mins. Built to 28.84".  
IS: Weak Blow . Built to 3/4".  
FF: Strong Blow . B.O.B. in 16 mins. Built to 39".  
FS: Weak Blow . Built to 1 1/4".

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2068.81	100.73	Initial Hydro-static
7	43.88	105.86	Open To Flow (1)
32	70.64	110.22	Shut-In(1)
77	1188.10	110.76	End Shut-In(1)
78	76.52	110.56	Open To Flow (2)
137	139.07	116.12	Shut-In(2)
201	1114.24	115.60	End Shut-In(2)
203	2002.37	114.22	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
130.00	GO spec WCM 3%g 77%w 20%m	1.82
64.00	GOWCM 10%g 10%o 10%w 70%m	0.90
69.00	GOCM 5%g 15%o 80%m	0.97
0.00	475' G.I.P. 100%g	0.00

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Grunder Oil, LLC.

**14-25s-13w Stafford Co., Ks**

122 S. Main St.  
St. John, Ks. 67576

**Grunder #3**

Job Ticket: 65458

**DST#: 2**

ATTN: Keaton Jones

Test Start: 2019.11.29 @ 04:51:37

### 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:

70000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 8000.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 0.20 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
130.00	GO spec WCM 3%g 77%w 20%m	1.824
64.00	GOWCM 10%g 10%o 10%w 70%m	0.898
69.00	GOCM 5%g 15%o 80%m	0.968
0.00	475' G.I.P. 100%g	0.000

Total Length: 263.00 ft

Total Volume: 3.690 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: None

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .197 @ 43 Degrees = 70,000 Chlorides.

Tool Started Bridging and setting in fil 18 Ft High. Slide 4 Ft.

Serial #: 8931

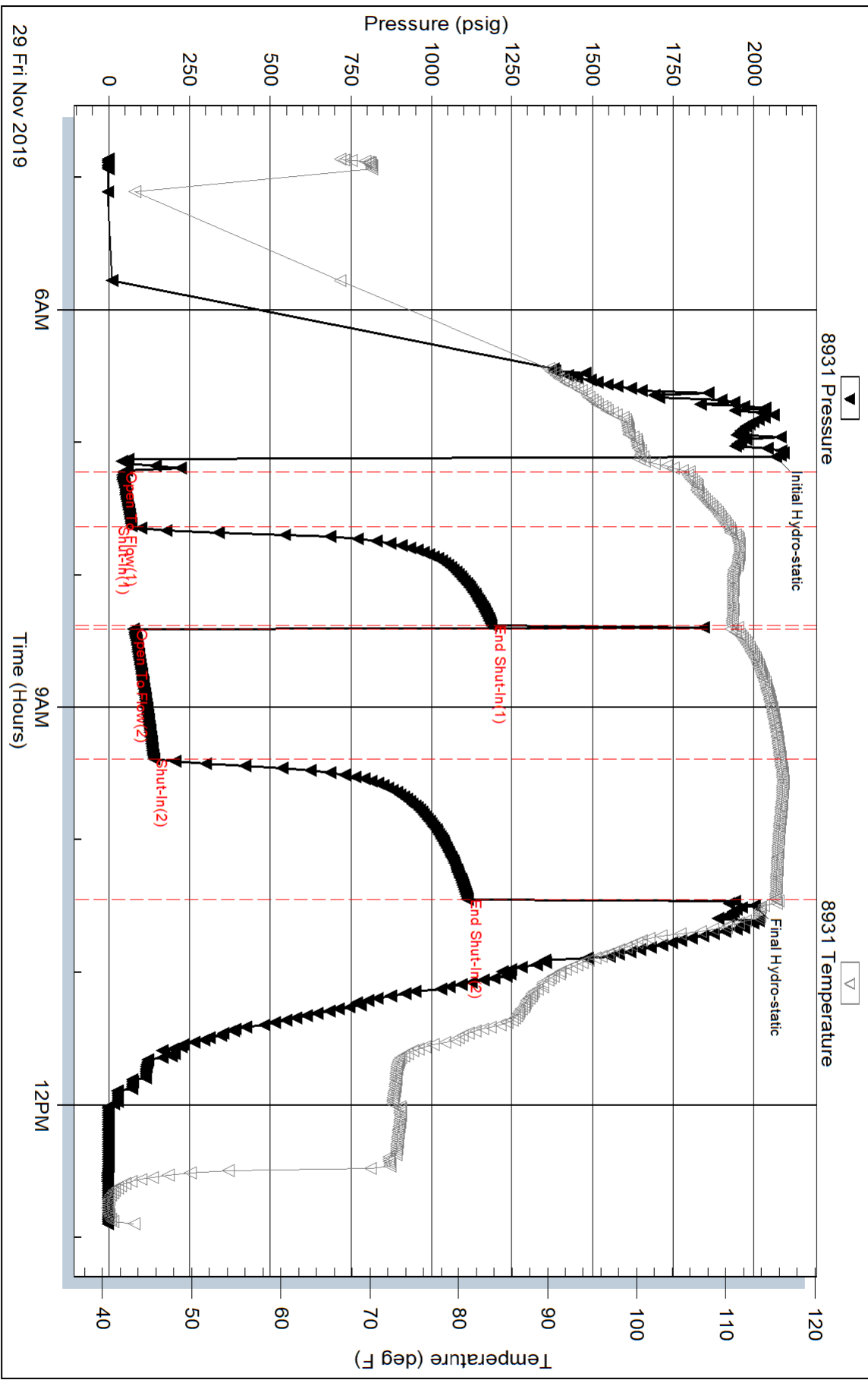
Inside

Grunder Oil, LLC.

Grunder #3

DST Test Number: 2

# Pressure vs. Time



Triobite Testing, Inc

Ref. No: 65458

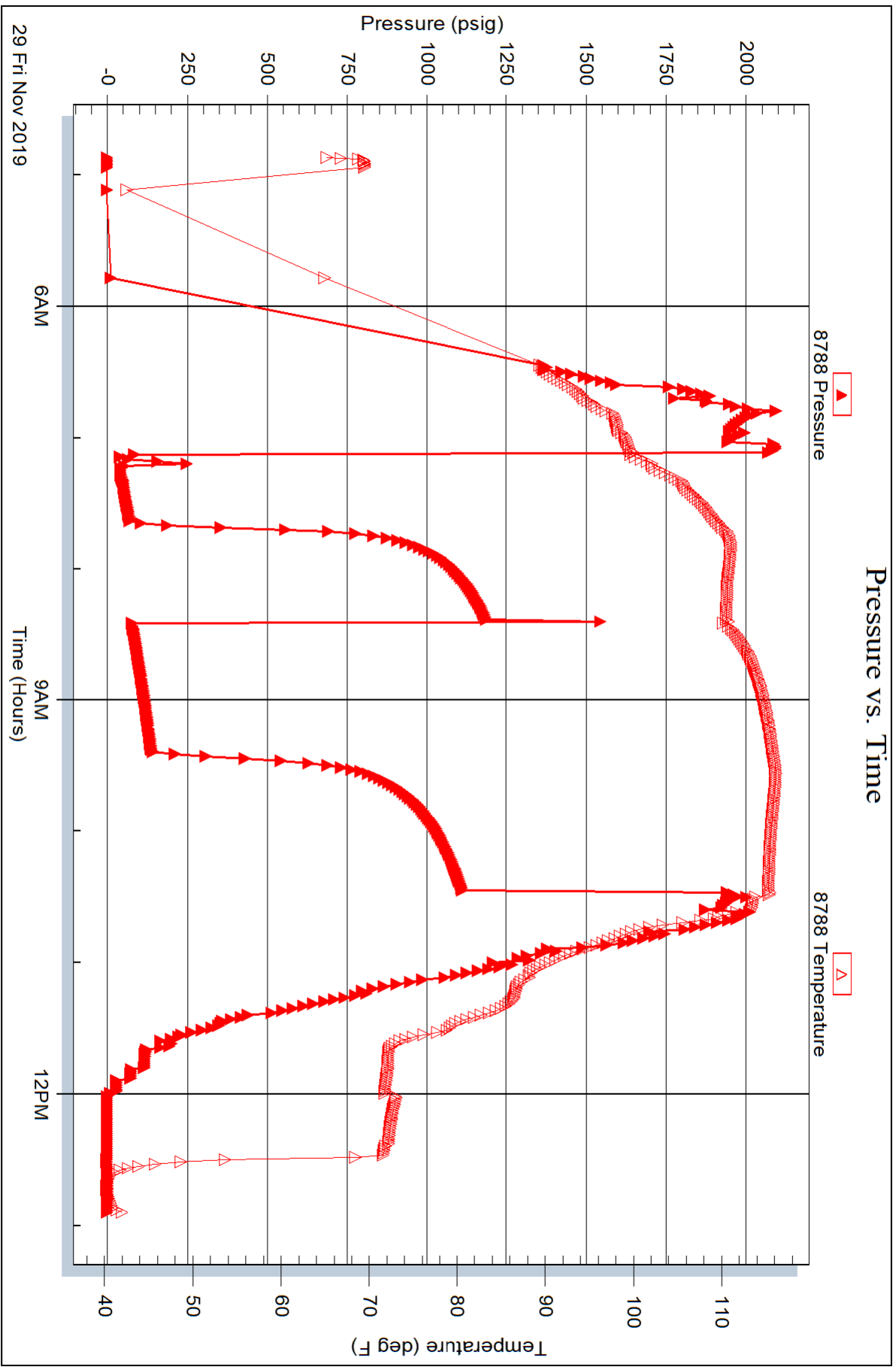
Printed: 2019.11.29 @ 14:04:34

Serial #: 8788

Outside Grunder Oil, LLC.

Grunder #3

DST Test Number: 2





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Grunder Oil, LLC.

**14-25s-13w Stafford Co., Ks**

122 S. Main St.  
St. John, Ks. 67576

**Grunder #3**

Job Ticket: 65459

**DST#: 3**

ATTN: Keaton Jones

Test Start: 2019.11.30 @ 03:49:56

## GENERAL INFORMATION:

Formation: **Simpson Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:12:56

Time Test Ended: 11:00:56

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 4199.00 ft (KB) To 4260.00 ft (KB) (TVD)**

Reference Elevations: 1926.00 ft (KB)

Total Depth: 4260.00 ft (KB) (TVD)

1921.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8931**

**Inside**

Press@RunDepth: 50.44 psig @ 4200.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.11.30

End Date:

2019.11.30

Last Calib.:

2019.11.30

Start Time: 03:50:01

End Time:

11:00:55

Time On Btm:

2019.11.30 @ 06:09:26

Time Off Btm:

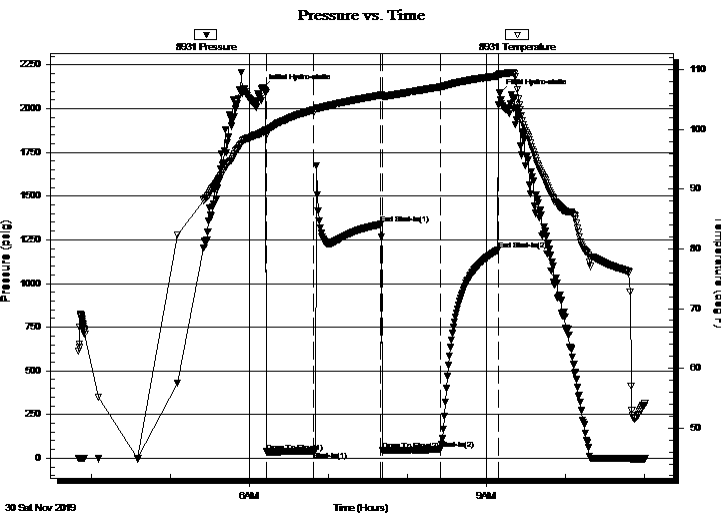
2019.11.30 @ 09:10:11

TEST COMMENT: IF: Weak Blow . Built to 2 1/2".

IS: No Blow .

FF: Weak Blow . Built to 1/2".

FS: No Blow .



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2116.96	99.44	Initial Hydro-static
4	35.83	99.01	Open To Flow (1)
39	38.08	103.27	Shut-In(1)
91	1338.17	105.75	End Shut-In(1)
92	45.20	105.57	Open To Flow (2)
136	50.44	107.11	Shut-In(2)
180	1190.06	108.95	End Shut-In(2)
181	2088.80	109.25	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
65.00	GOSM 2%g 98%m	0.91
6.00	GVSOM 2%g 2%o 96%m	0.08
0.00	64 FT G.I.P. 100%g	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Grunder Oil, LLC.

**14-25s-13w Stafford Co., Ks**

122 S. Main St.  
St. John, Ks. 67576

**Grunder #3**

Job Ticket: 65459

**DST#: 3**

ATTN: Keaton Jones

Test Start: 2019.11.30 @ 03:49:56

## GENERAL INFORMATION:

Formation: **Simpson Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:12:56

Time Test Ended: 11:00:56

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 68

**Interval: 4199.00 ft (KB) To 4260.00 ft (KB) (TVD)**

Reference Elevations: 1926.00 ft (KB)

Total Depth: 4260.00 ft (KB) (TVD)

1921.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8788 Outside**

Press@RunDepth: psig @ 4200.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.11.30

End Date: 2019.11.30

Last Calib.: 2019.11.30

Start Time: 03:49:13

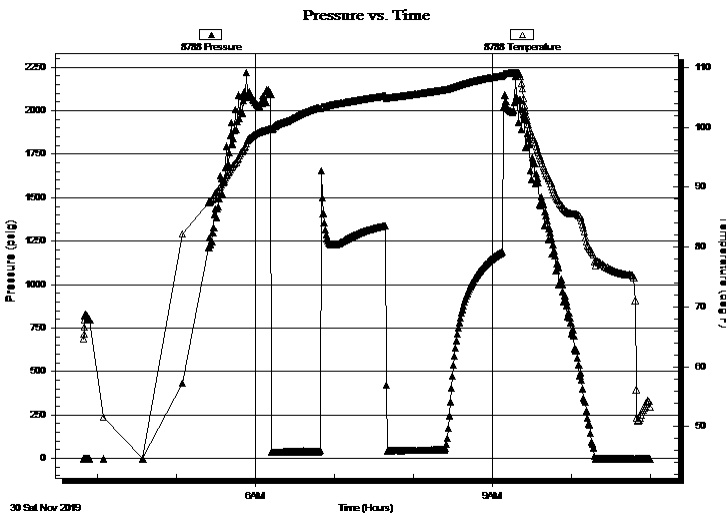
End Time: 11:00:07

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: Weak Blow . Built to 2 1/2".  
IS: No Blow .  
FF: Weak Blow . Built to 1/2".  
FS: No Blow .

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
65.00	GOSM 2%g 98%m	0.91
6.00	GVSOM 2%g 2%o 96%m	0.08
0.00	64 FT G.I.P. 100%g	0.00

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Grunder Oil, LLC.

**14-25s-13w Stafford Co., Ks**

122 S. Main St.  
St. John, Ks. 67576

**Grunder #3**

Job Ticket: 65459

**DST#: 3**

ATTN: Keaton Jones

Test Start: 2019.11.30 @ 03:49:56

## 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:

10000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 11.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 10000.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
65.00	GOSM 2%g 98%m	0.912
6.00	GVSOM 2%g 2%o 96%m	0.084
0.00	64 FT G.I.P. 100%g	0.000

Total Length: 71.00 ft      Total Volume: 0.996 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #: None

Laboratory Name:

Laboratory Location:

Recovery Comments: Driller Kept Pulling to string weight on shut ins an opens. Brake Handle issues.

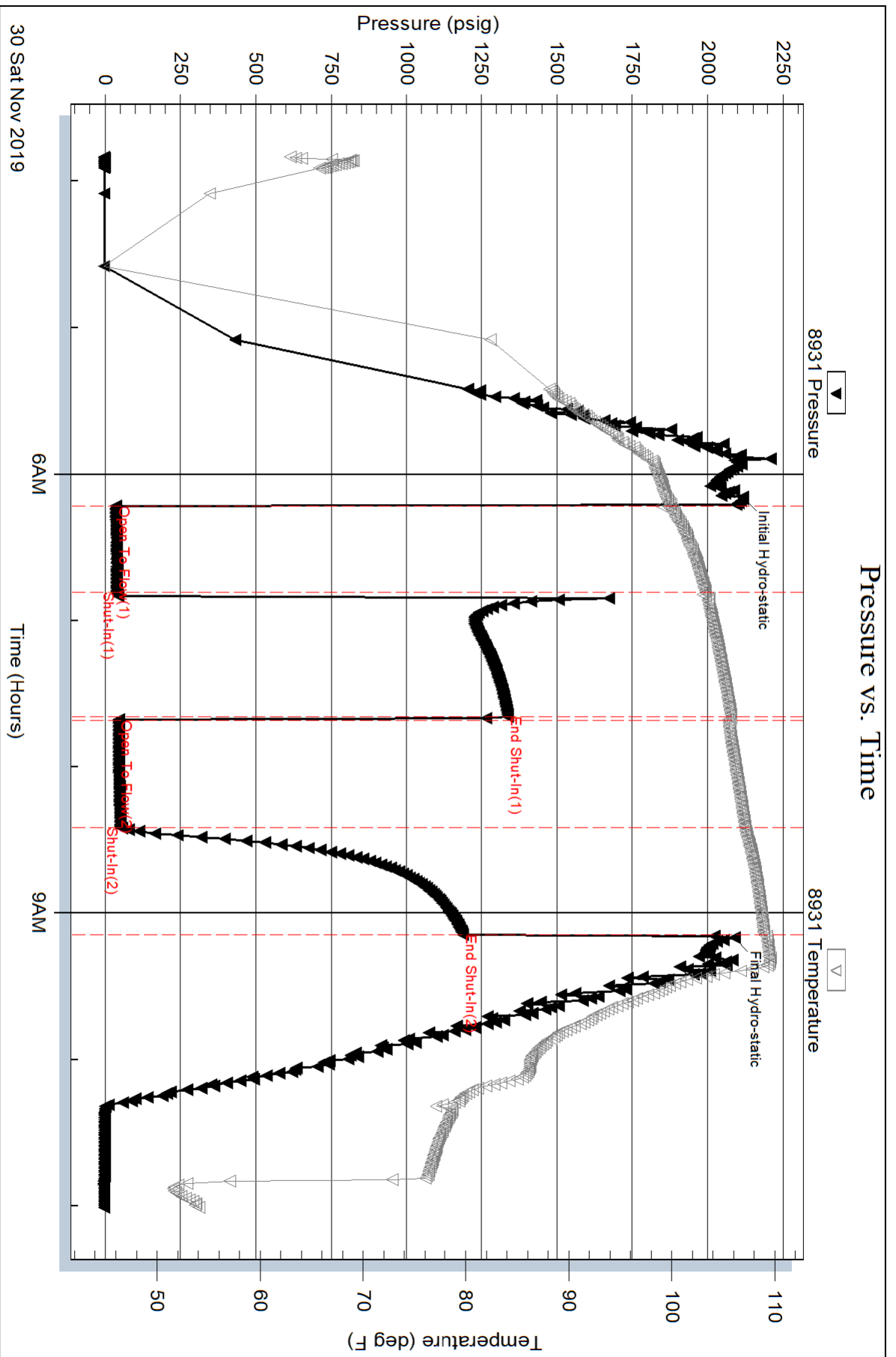
Serial #: 8931

Inside

Grunder Oil, LLC.

Grunder #3

DST Test Number: 3





Serial #: 8788

Outside Grunder Oil, LLC.

Grunder #3

DST Test Number: 3

