

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	Petroleum Property Services, Inc.
Well Name	OLBERDING A 2
Doc ID	1670442

All Electric Logs Run

Gamma Ray
Dual Comp Porosity
Dual Induction
Sonic
Microlog

810 E 7TH
 PO Box 92
 EUREKA, KS 67045
 (620) 583-5561



Cement or Acid Field Report
 Ticket No. **6795**
 Foreman Kevin McCoy
 Camp EUREKA

*
 API 15-131-20249

Date	Cust. ID #	Lease & Well Number	Section	Township	Range	County	State
10-17-22	1440	Oiberding A * 2	17	45	14E	Nemaha	Ks
Customer <u>Petroleum Property Services, INC</u>			Safety Meeting <u>KM</u> <u>5f</u> <u>5m</u>	Unit #	Driver	Unit #	Driver
Mailing Address <u>125 N. MARKET Ste 1251</u>				<u>104</u>	<u>SHANNON F.</u>		
City <u>WICHITA</u>				<u>113</u>	<u>Steve M.</u>		
State <u>Ks</u>	Zip Code <u>67202</u>						

Job Type SURFACE Hole Depth 391' K.B. Slurry Vol. 54 BBL Tubing _____
 Casing Depth 380' G.L. Hole Size 12 1/4 Slurry Wt. 15" Drill Pipe _____
 Casing Size & Wt. 8 5/8 23" Cement Left in Casing 25' Water Gal/SK _____ Other _____
 Displacement 23.5 BBL Displacement PSI _____ Bump Plug to _____ BPM _____

Remarks: SAFETY Meeting: Rig up to 8 5/8 casing. BREAK Circulation w/ 10 BBL Fresh water
MIXED 225 SKS CLASS 'A' Cement w/ 3% CaCl2, 2% Gel, 1/4" FIOSEAL/SK @ 15"/GAL, yield 1.35
= 54 BBL SLURRY. Displace w/ 23.5 BBL fresh water. Shut casing in. Good Cement Returns
to SURFACE = 17 BBL SLURRY to Pit. Job Complete. Rig down.

Code	Qty or Units	Description of Product or Services	Unit Price	Total
C 101	1	Pump Charge	950.00	950.00
C 167	165	Mileage	5.00	825.00
C 200	225 SKS	CLASS 'A' Cement	18.55	4173.75
C 205	635*	CaCl2 3%	.75*	476.25
C 206	425*	Gel 2%	.30*	127.50
C 209	55*	FIOSEAL 1/4"/SK	2.80*	154.00
C108B	10.58 TONS	Ton Mileage 165 miles	1.50	2618.55
			Sub Total	9,325.05
			Less 5%	485.98
			Sales Tax	394.52
				8%
Authorization <u>Daniel P. Williams</u>	Title _____		Total	9,233.59

I agree to the payment terms and conditions of services provided on the back of this job ticket. Any amendments to payment terms must be in writing on the front of this job ticket or in the Customer's records at ELITE's office.

810 E 7TH
 PO Box 92
 EUREKA, KS 67045
 (620) 583-5561



Lighthouse
 DRL9
 Rig 2

Cement or Acid Field Report
 Ticket No. **6809**
 Foreman Kevin McCoy
 Camp EUREKA

APR 15-131-20249

Date	Cust. ID #	Lease & Well Number	Section	Township	Range	County	State
10-28-22	1440	Oiberding A #2	17	45	14E	Nemaha	Ks
Customer <u>Petroleum Property Services, INC.</u>			Unit #	Driver		Unit #	Driver
Mailing Address <u>125 N. MARKET Ste 1251</u>			104	ALAN M.			
			113	SHANNON F.			
City <u>Wichita</u>		State <u>Ks</u>	Zip Code <u>67202</u>				

Job Type Longstring Hole Depth 3744' K.B. Slurry Vol. 50 BBL Tubing _____
 Casing Depth 3711.91' G.L. Hole Size 7 7/8" Slurry Wt. 13.8* Drill Pipe _____
 Casing Size & Wt. 5 1/2" 15.50* Cement Left in Casing 40.25 SK Water Gal/SK 9 Other _____
 Displacement 89.7 BBL Displacement PSI 1000 Bump Plug to 1550 PSI BPM _____

Remarks: Safety Meeting: 5 1/2" 15.50* Casing Set @ 3711.91' G.L. w/ Packer Shoe. Rig up to 5 1/2
CASING. Drop BRASS TRIP BALL. wait 10 mins. Set Packer Shoe @ 1300 PSI. Pump 20 BBL Fresh water
Ahead. Mixed 150 SKS Thick Set Cement w/ 5* Koliseal/SK, 2* PhenoSeal/SK, 1/8% CFL-115 @
13.8*/gal, yield 1.87 = 50 BBL Slurry. Wash out Pump & Lines. Shut down. Release Latch down.
Displace Plug to Seat w/ 89.7 BBL Fresh water. Final Pumping Pressure 1000 PSI. Bump Plug
to 1550 PSI. Wait 2 mins. Release Pressure. Float & Plug Held. Good Circulation @ ALL times
while Cementing. Job Complete. Rig down.

Plug R.H w/ 20 SKS M.H. w/ 15 SKS
CENTRALIZERS ON # 2, 5, 8, 12, 15, 18, 22, 57 BASKETS on Top of # 8, 22, 66

Code	Qty or Units	Description of Product or Services	Unit Price	Total
C 102	1	Pump Charge	1180.00	1180.00
C 107	165	Mileage	5.00	825.00
C 201	185 SKS	THICK-Set Cement	24.25	4486.25
C 207	925 *	KOLISEAL 5*/SK	.56 *	518.00
C 208	370 *	PHENOSEAL 2*/SK	1.55 *	573.50
C 211	20 *	CFL-115 1/8%	12.95	259.00
C 108 B	10.18 Tons	Ton Mileage 165 miles	1.50	2519.55
C 752	1	5 1/2 Type 'A' Packer Shoe	1730.00	1730.00
C 681	1	5 1/2 Float collar body only w/ Catch down insert	254.00	254.00
C 421	1	5 1/2 Latch down Plug	285.00	285.00
C 604	3	5 1/2 Cement BASKETS	278.00	834.00
C 504	8	5 1/2 x 7 7/8 CENTRALIZERS	59.00	472.00
C 222	2.5 gals	KCL (IN 1 ST 40 BBL Displacement water)	32.00	80.00
			Sub Total	14,016.30
			Less 5%	738.78
			Sales Tax	759.34
Authorization <u>Daniel P. Whinn</u> Title _____			Total	14,036.86

I agree to the payment terms and conditions of services provided on the back of this job ticket. Any amendments to payment terms must be in writing on the front of this job ticket or in the Customer's records at ELITE's office.



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Petroleum Property Services, Inc

17-4S-14E Nemaha, KS

125 N. Market Suite 1251
Wichita, KS 67202

Olberding A #2

Job Ticket: 69850

DST#: 1

ATTN: Curtis Covey

Test Start: 2022.10.23 @ 07:49:00

GENERAL INFORMATION:

Formation: **Viola**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:02:00

Time Test Ended: 18:17:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Day

Unit No: 70

Interval: 3370.00 ft (KB) To 3442.00 ft (KB) (TVD)

Reference Elevations: 1233.00 ft (KB)

Total Depth: 3442.00 ft (KB) (TVD)

1225.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 8.00 ft

Serial #: 8652 Outside

Press@RunDepth: 138.53 psig @ 3371.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.10.23

End Date: 2022.10.23

Last Calib.: 2022.10.23

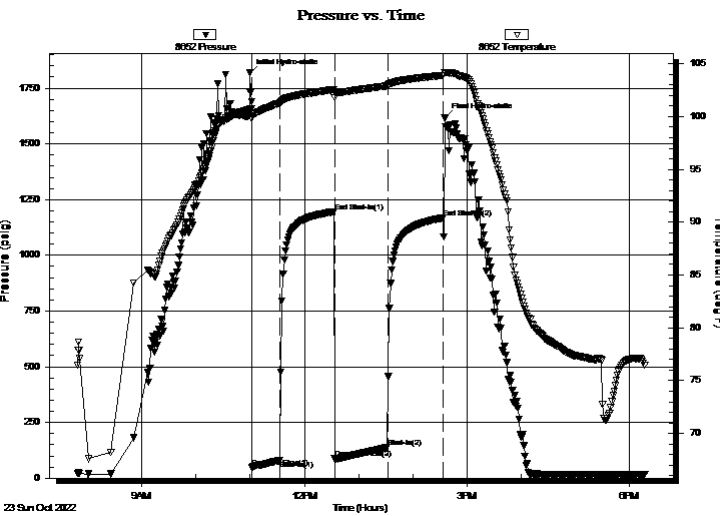
Start Time: 07:49:05

End Time: 18:17:00

Time On Btm: 2022.10.23 @ 10:59:45

Time Off Btm: 2022.10.23 @ 14:35:15

TEST COMMENT: IF-30- Built to 5"
SI1-60- No return
FF-60- Built to 5"
SI2-60- No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1817.26	100.79	Initial Hydro-static
3	48.98	99.78	Open To Flow (1)
34	80.79	101.29	Shut-In(1)
94	1194.63	102.56	End Shut-In(1)
94	88.19	101.83	Open To Flow (2)
153	138.53	102.92	Shut-In(2)
214	1168.14	103.91	End Shut-In(2)
216	1615.90	104.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	SOCM 5% oil 95% mud	0.15
215.00	GO 5% gas 95% oil	1.06

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Petroleum Property Services, Inc

17-4S-14E Nemaha, KS

125 N. Market Suite 1251
Wichita, KS 67202

Olberding A #2

Job Ticket: 69850

DST#: 1

ATTN: Curtis Covey

Test Start: 2022.10.23 @ 07:49:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	SOCM 5% oil 95% mud	0.148
215.00	GO 5% gas 95% oil	1.057

Total Length: 245.00 ft

Total Volume: 1.205 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

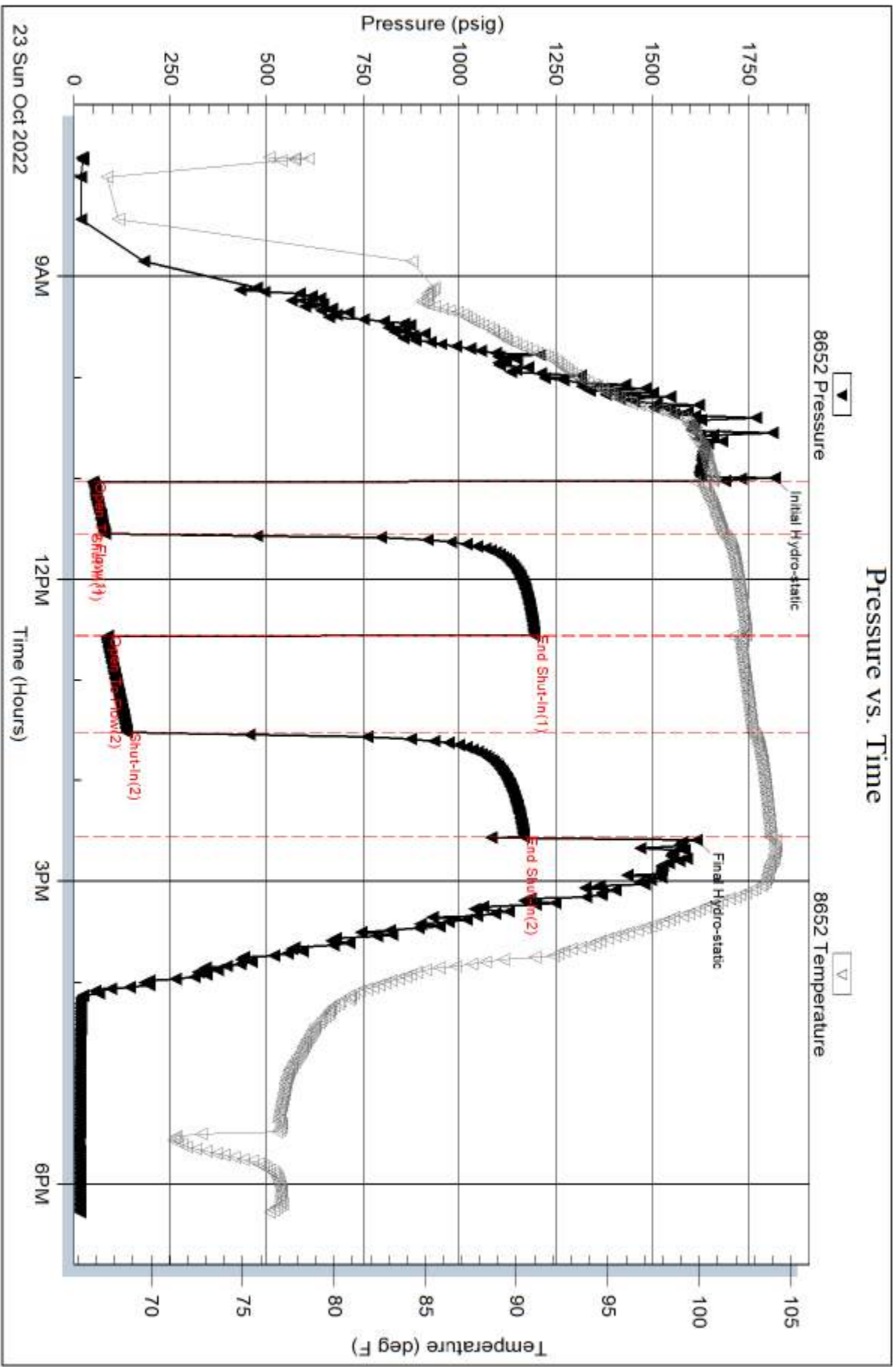
Recovery Comments: 11# LCM

Serial #: 8652

Outside Petroleum Property Services, Inc

Oberding A #2

DST Test Number: 1



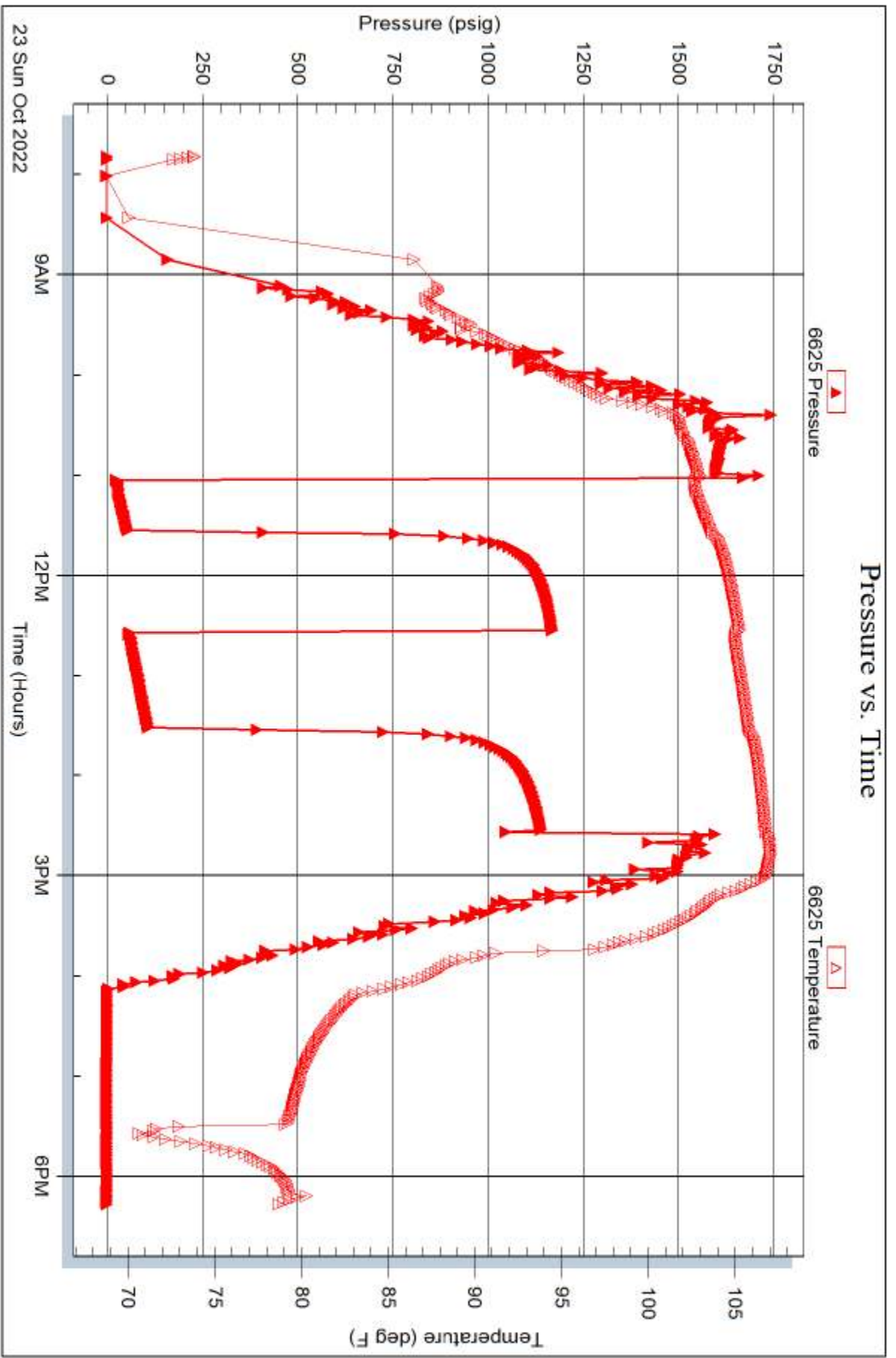
Serial #: 6625

Inside

Petroleum Property Services, Inc

Oberding A #2

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 69850

Printed: 2022.10.23 @ 19:40:15



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Petroleum Property Services, Inc

17-4S-14E Nemaha, KS

125 N. Market Suite 1251
Wichita, KS 67202

Olberding A #2

Job Ticket: 69876

DST#: 2

ATTN: Curtis Covey

Test Start: 2022.10.24 @ 02:12:00

GENERAL INFORMATION:

Formation:

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:35:30

Time Test Ended: 12:29:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Dustin Day

Unit No: 70

Interval: 3442.00 ft (KB) To 3450.00 ft (KB) (TVD)

Reference Elevations: 1233.00 ft (KB)

Total Depth: 3450.00 ft (KB) (TVD)

1225.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 8.00 ft

Serial #: 8652

Outside

Press@RunDepth: 1255.43 psig @ 3443.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.10.24

End Date:

2022.10.24

Last Calib.:

2022.10.24

Start Time: 02:12:05

End Time:

12:29:15

Time On Btm:

2022.10.24 @ 04:30:15

Time Off Btm:

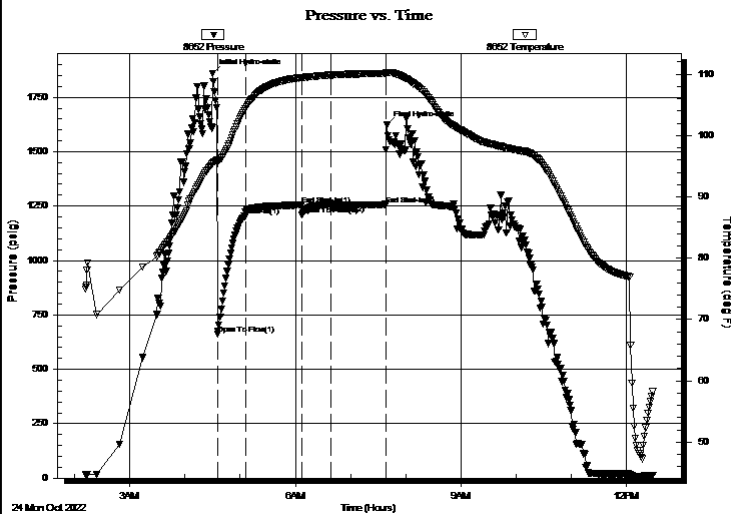
2022.10.24 @ 07:39:30

TEST COMMENT: IF-30- BOB in 45 sec. Built to 588" open choke, started to drop w / choke open 3/8"

SI1-60- No return

FF-30- BOB in 1 min 15 sec, built to 36"

SI2-60- No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1860.22	95.59	Initial Hydro-static
6	662.42	95.61	Open To Flow (1)
36	1206.56	104.38	Shut-In(1)
97	1254.53	109.47	End Shut-In(1)
97	1211.30	109.45	Open To Flow (2)
128	1255.43	109.88	Shut-In(2)
188	1257.46	110.10	End Shut-In(2)
190	1621.72	110.29	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2508.00	OSMCW 90% water 10% mud & oil scum	31.85
126.00	OSHWCM 40% water 60% mud & oil scu	1.77
123.00	OCM 20% oil 80% mud	1.73
1.00	Oil 100%	0.01

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Petroleum Property Services, Inc

17-4S-14E Nemaha, KS

125 N. Market Suite 1251
Wichita, KS 67202

Olberding A #2

Job Ticket: 69876

DST#: 2

ATTN: Curtis Covey

Test Start: 2022.10.24 @ 02:12:00

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:

19000 ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2508.00	OSMCW 90% water 10% mud & oil scum	31.847
126.00	OSHWCM 40% water 60% mud & oil scum	1.767
123.00	OCM 20% oil 80% mud	1.725
1.00	Oil 100%	0.014

Total Length: 2758.00 ft Total Volume: 35.353 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

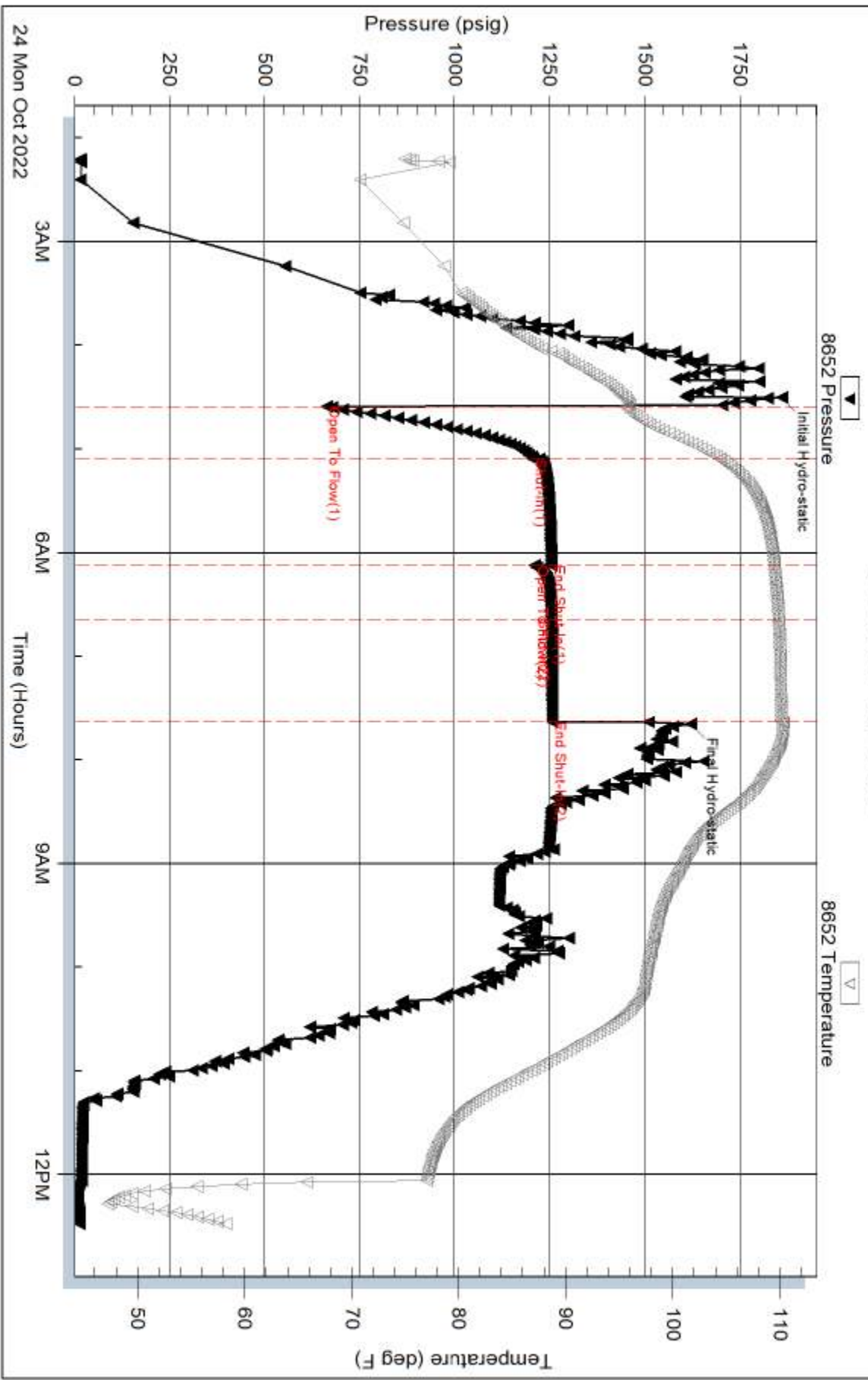
Laboratory Name:

Laboratory Location:

Recovery Comments: 10# LCM

Dropped bar, divert water to reserve pit

Pressure vs. Time



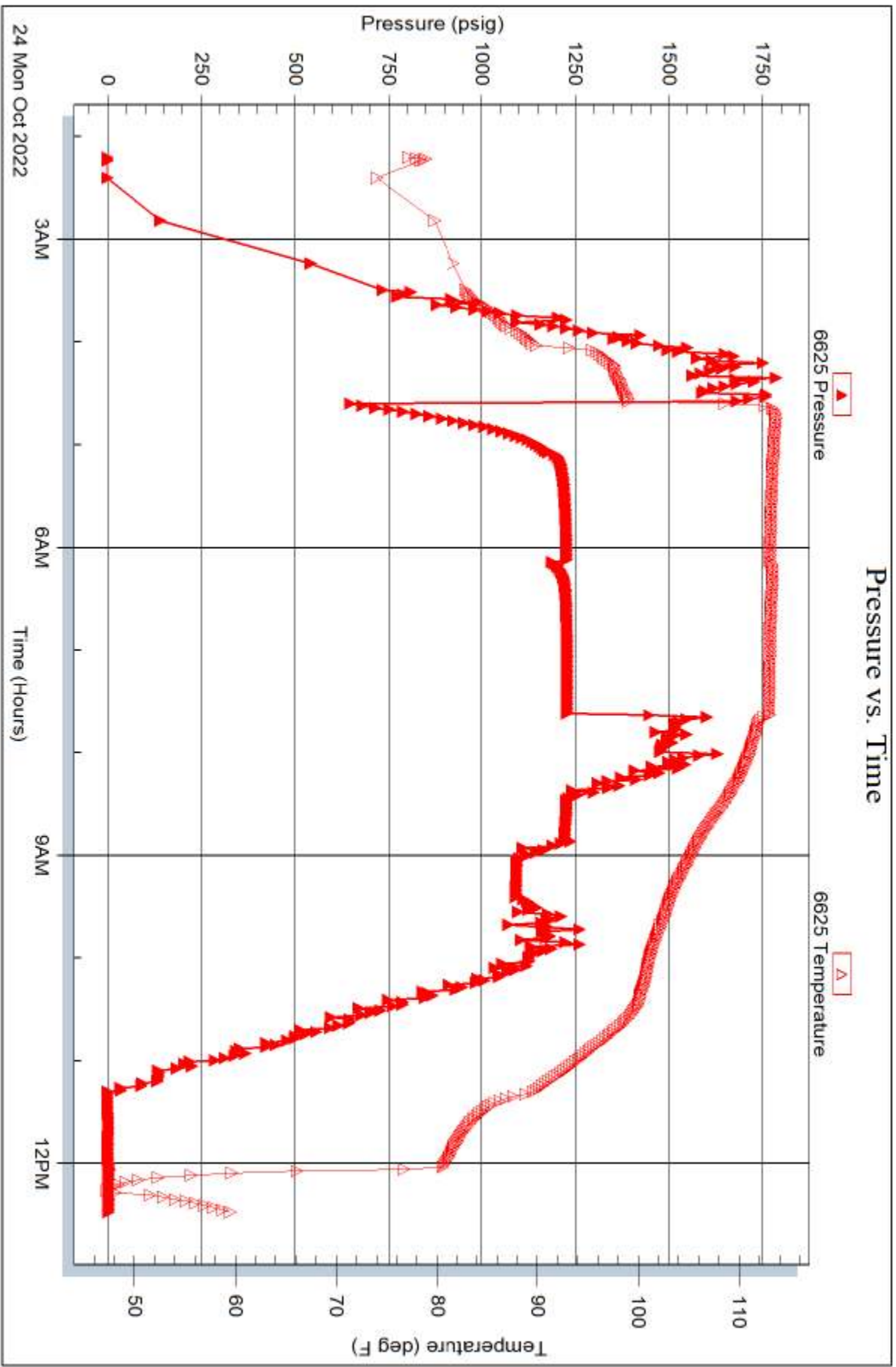
Serial #: 6625

Inside

Petroleum Property Services, Inc

Oberding A #2

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 69876

Printed: 2022.10.24 @ 13:26:16



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Petroleum Property Services, Inc

17-4S-14E Nemaha, KS

125 N. Market Suite 1251
Wichita, KS 67202

Olberding A #2

Job Ticket: 69877

DST#: 3

ATTN: Curtis Covey

Test Start: 2022.10.23 @ 07:49:00

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: 44.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
360.00	mud	1.770

Total Length: 360.00 ft

Total Volume: 1.770 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

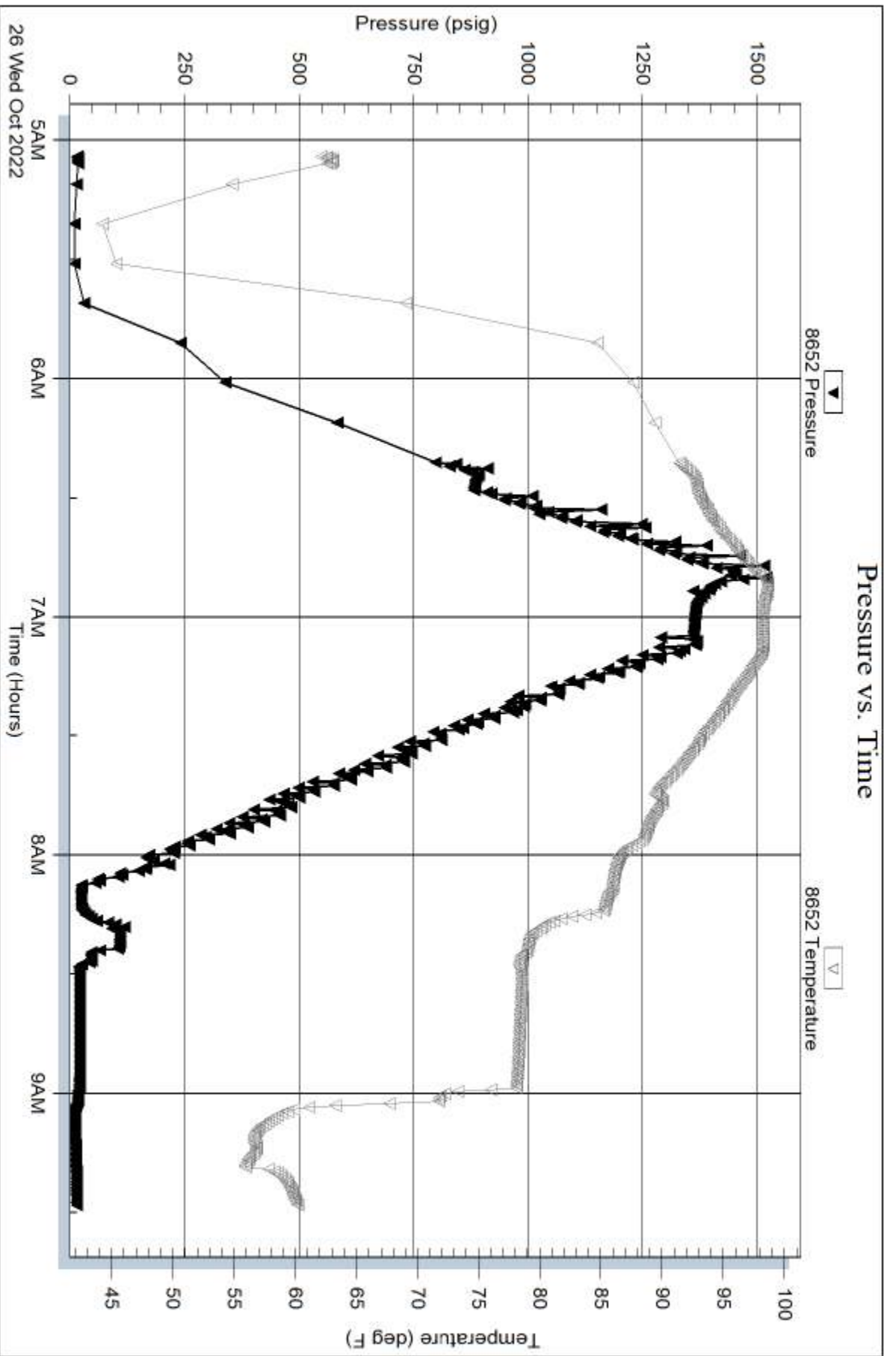
Recovery Comments: LCM 8#

Serial #: 8652

Outside Petroleum Property Services, Inc

Oberding A #2

DST Test Number: 3



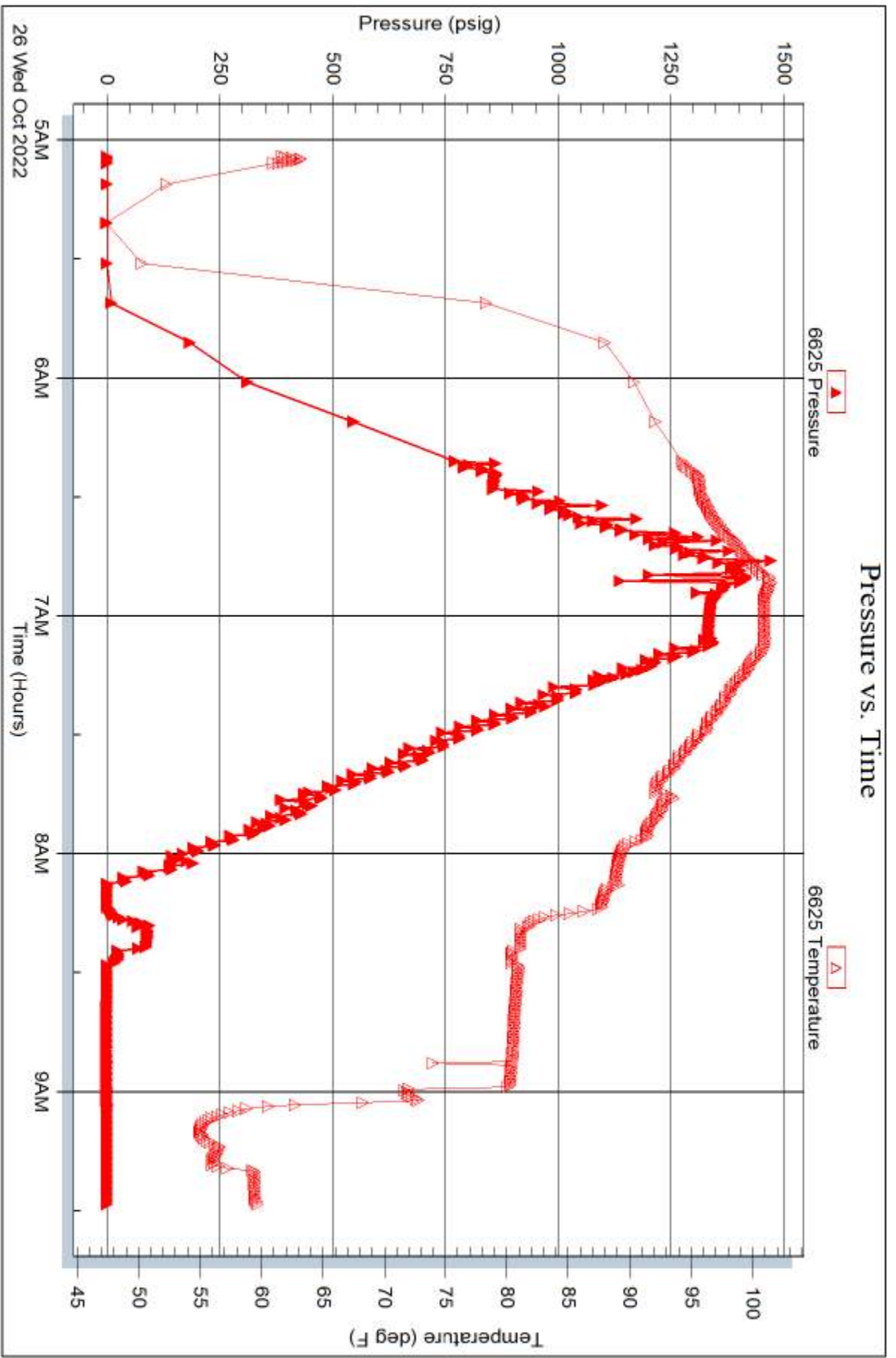
Serial #: 6625

Inside

Petroleum Property Services, Inc

Oberding A #2

DST Test Number: 3





**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Petroleum Property Services, Inc

17-4S-14E Nemaha, KS

125 N. Market Suite 1251
Wichita, KS 67202

Olberding A #2

Job Ticket: 69878

DST#: 4

ATTN: Curtis Covey

Test Start: 2022.10.26 @ 17:33:00

GENERAL INFORMATION:

Formation: **Simpson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:49:30

Time Test Ended: 04:34:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Dustin Day

Unit No: 70

Interval: 3642.00 ft (KB) To 3665.00 ft (KB) (TVD)

Reference Elevations: 1233.00 ft (KB)

Total Depth: 3665.00 ft (KB) (TVD)

1225.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 8.00 ft

Serial #: 6625 Inside

Press@RunDepth: 237.38 psig @ 3643.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.10.26

End Date:

2022.10.27

Last Calib.: 2022.10.27

Start Time: 17:33:05

End Time:

04:34:45

Time On Btm: 2022.10.26 @ 20:45:30

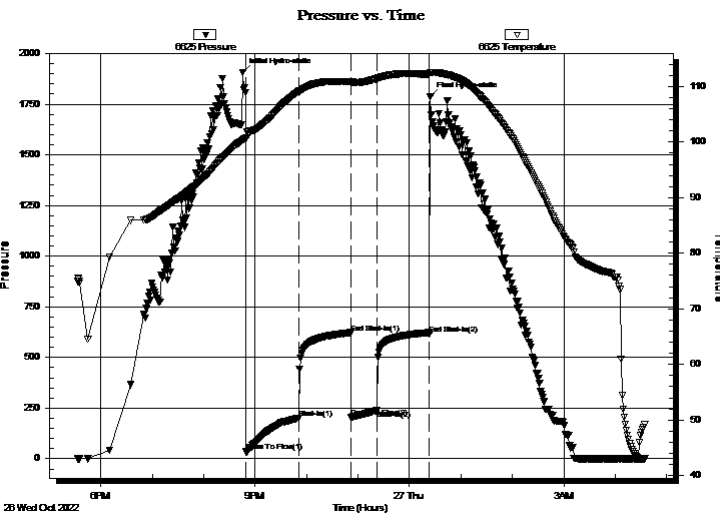
Time Off Btm: 2022.10.27 @ 00:24:15

TEST COMMENT: IF-60- Built to 4", died to 1 1/4"

SI1-60- No return

FF-30- Built to 2"

SI2-60- No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1906.76	100.40	Initial Hydro-static
4	36.22	100.56	Open To Flow (1)
66	200.39	109.07	Shut-In(1)
126	622.66	110.87	End Shut-In(1)
127	203.49	110.82	Open To Flow (2)
157	237.38	111.41	Shut-In(2)
218	617.02	112.18	End Shut-In(2)
219	1787.08	112.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
305.00	MCW 90% WATER 10% MUD	1.50
124.00	MCW 75% WATER 25% MUD	1.18
83.00	V/SOGWCM 10% GAS 2% OIL 13% WATER 1.165% MUD	
1.00	OIL 100%	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Petroleum Property Services, Inc

17-4S-14E Nemaha, KS

125 N. Market Suite 1251
Wichita, KS 67202

Olberding A #2

Job Ticket: 69878

DST#: 4

ATTN: Curtis Covey

Test Start: 2022.10.26 @ 17:33:00

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:

13500 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.99 in³

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
305.00	MCW 90% WATER 10% MUD	1.500
124.00	MCW 75% WATER 25% MUD	1.184
83.00	VSOGWCM 10% GAS 2% OIL 13% WATER 7	1.164
1.00	OIL 100%	0.014

Total Length: 513.00 ft

Total Volume: 3.862 bbl

Num Fluid Samples: 0

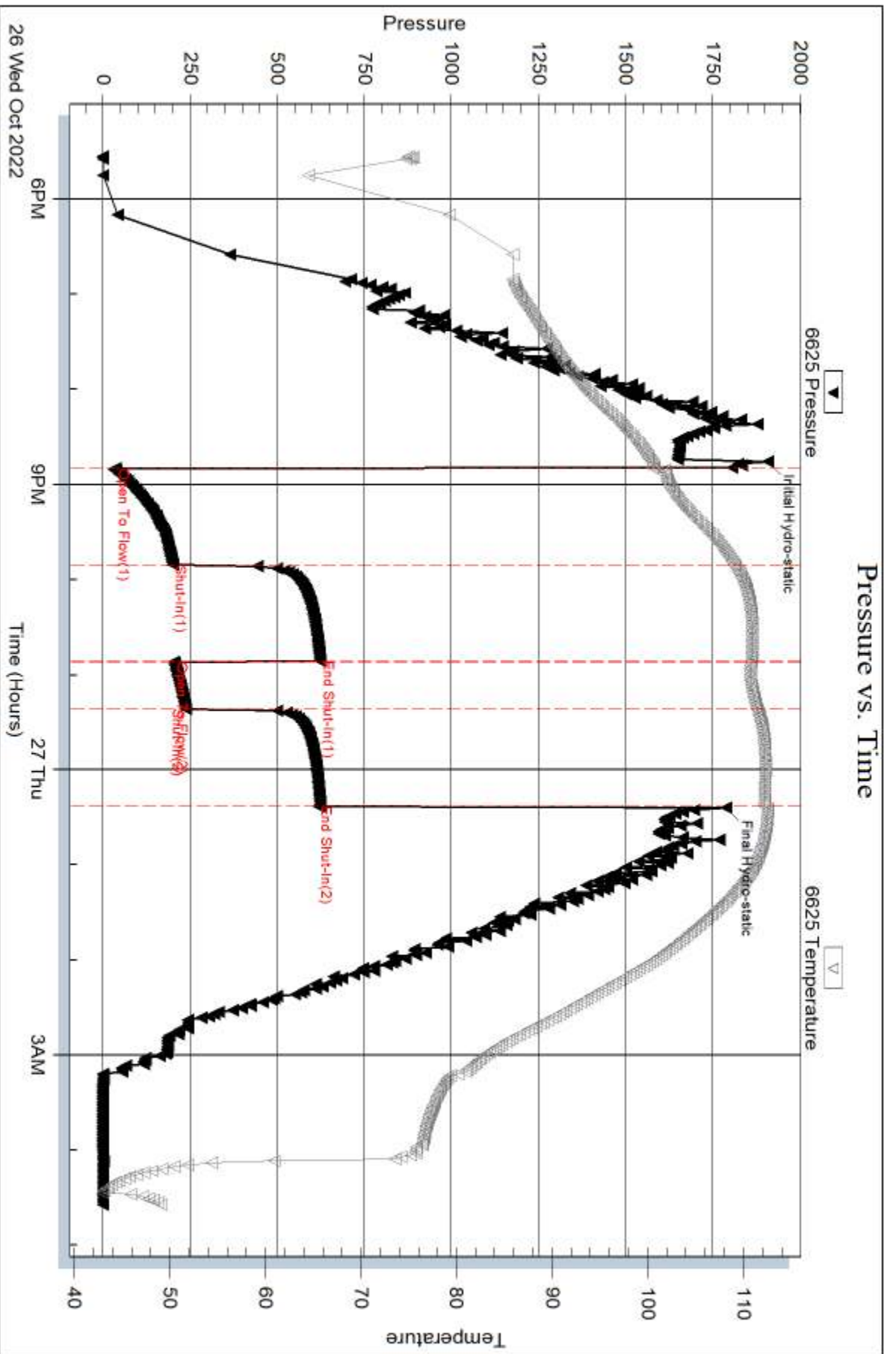
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 8# LCM

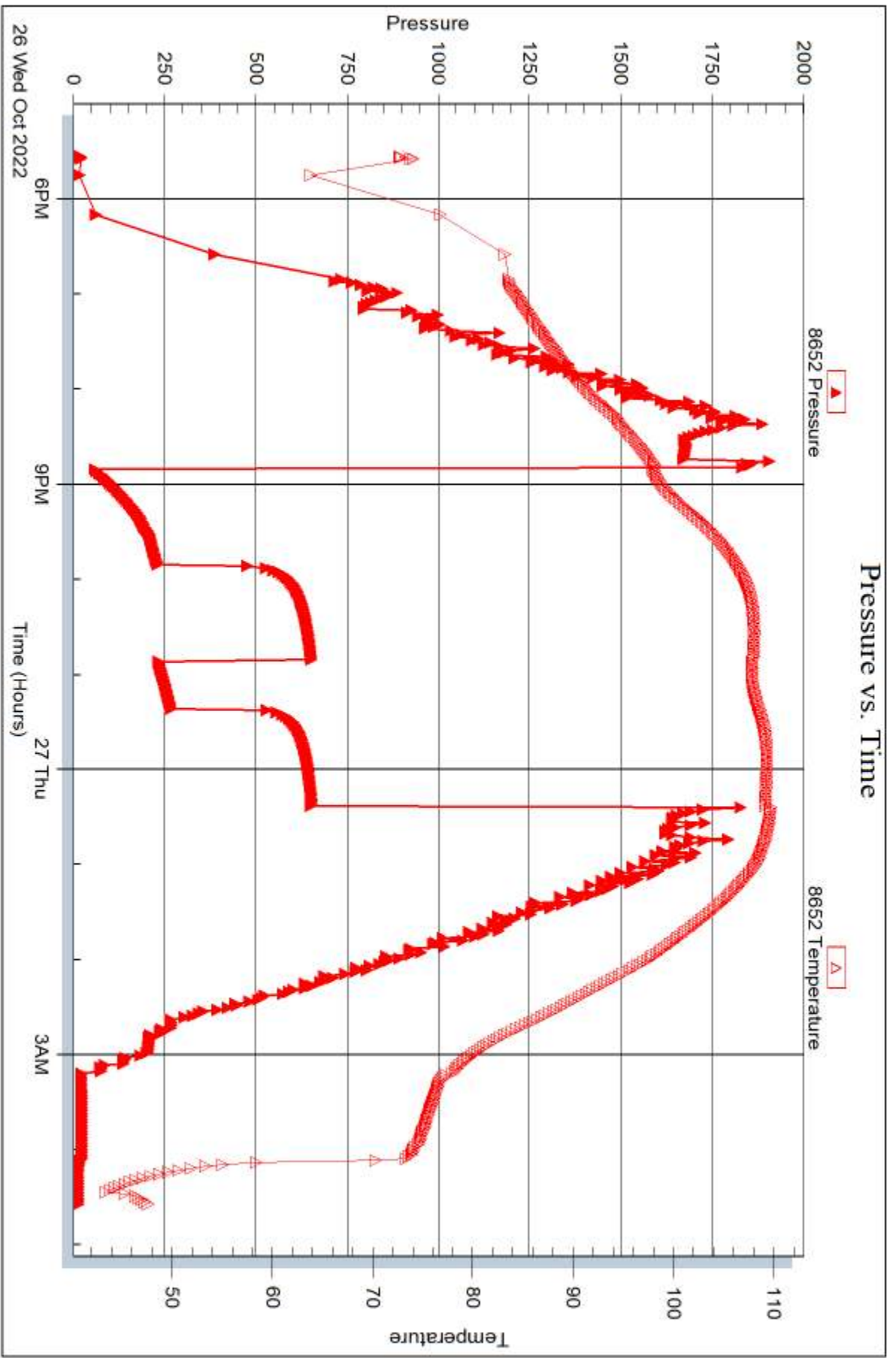


Serial #: 8652

Outside Petroleum Property Services, Inc

Oberding A #2

DST Test Number: 4



Covey

The Well Watchers

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

Well Name: OLBERDING A #2
Location: Section 17 - Township 4S - Range 14 East
Licence Number: 15-131-20249-00-00 Region: Nemaha County, KS.
Spud Date: 18 October 2022 Drilling Completed: 27 October 2022
Surface Coordinates: 1,401' FNL & 946' FWL
(About: NW NE SW NW)

Bottom Hole
Coordinates:
Ground Elevation (ft): 1,225' K.B. Elevation (ft): 1,233'
Logged Interval (ft): 2,330' To: 3,748' Total Depth (ft): 3,748'
Formation: Miss ----> Granite (Basement - PC)
Type of Drilling Fluid: Displace @ 1,698' - Chemical, Low Solids/Non-Dispersed

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

OPERATOR

Company: PETROLEUM PROPERTY SERVICES, INC
Address: 125 North Market, Suite 1251 POC: Dan Fredlund
Wichita, Kansas 67202
(316) 265-3351

GEOLOGIST

Name: Curtis E. Covey
Company: COVEY - The Well Watchers
Address: 6548 Bedford Circle
Derby, Kansas 67037
Office: (316) 776-0367 Cell: (316) 217-4679

KB: 1,233'

FORMATION TOPS

GL: 1,225'

Formation	Rotary Sample Depth (Datum)	E-log Depth (Datum)
Miss (PDC ROP)	2,536' (-1,303')	2,534' (-1,301')
Kinderhook (PDC ROP)	2,544' (-1,311')	2,544' (-1,311')
Hunton (PDC ROP)	2,790' (-1,557')	2,737' (-1,554')
Maquoketa SH	3,378' (-2,145')	3,374' (-2,141')
Viola	3,431' (-2,198')	3,428' (-2,195')
Upper Simpson SS	3,662' (-2,429')	3,653' (-2,420')
Granite	3,728' (-2,495')	3,722' (-2,489')

RTD: 3,748' LTD: 3,744' ATD: 3,743'

Float:
Rotary Sample Depth is 4' - 6' low to E-log Depth.

E-Loggers:
Midwest Wireline ... Hays, KS.

DST #1 - VIOLA

Rotary Depth: 3,370' - 3,442'
Logger's Depth: 3,366' - 3,438'

IFP: 49# - 81# / 30"
ISIP: 1,195# / 60"
FFP: 88# - 139# / 60"
FSIP: 1,168# / 60"
104 deg F
MH: 1,817# - 1,616#

Recovery:
30' Slightly OIL cut Mud (5%Oil, 95% Mud)
215' Gassy OIL (5% Gas, 95% OIL)

Oil = 31 deg API

IF: Built to 5 inch Blow
ISI: No Return Blow.
FF: Built to 5 inch Blow.
FSI: No Return Blow.

Recovery Water: NA
System Water: (700 ppm)

Reported Rw = NA

Recovery Water Mud Engineer:
NA

Trilobite Testing, Inc.
Waukeney, KS.

DST #2 - VIOLA

Rotary Depth: 3,442' - 3,450'
Logger's Depth: 3,438' - 3,446'

IFP: 662# - 1,207# / 30"
ISIP: 1,255# / 60"
FFP: 1,211# - 1,255# / 30"
FSIP: 1,257# / 60"
110 deg F
MH: 1,860# - 1,622#

Recovery:
1' OIL
123' Oil cut Mud (20% O, 80%M)
126' OIL Scum, Hvy Wtr cut Mud (20% W, 60%M)
2,508' OIL Scum, Mud cut Water (10%M, 90%W)

IF: BOB 45 seconds.
ISI: No Return Blow.
FF: BOB 15 seconds.
FSI: No Return Blow.

Recovery Water: (19,000 ppm)
System Water: (2,400 ppm)

Reported Rw =
0.45 ohms @ 55 deg F

Recovery Water Mud Engineer:
(15,000 ppm)

Dropped Bar on recovery.

DST #3 - UPPER SIMPSON SS

Terminated DST #3. On T/I with tool, hit bridge about 2,965' (Huntion - LC zone). T/O.
Lay down tool. T/I with bit. CHC. (Work Pipe every 15".) T/O for DST #4.

DST #4 - UPPER SIMPSON SS

Rotary Depth: 3,642' - 3,665'
Logger's Depth: 3,636' - 3,659'

IFP: 36# - 200# / 60"
ISIP: 623# / 60"
FFP: 203# - 237# / 30"
FSIP: 617# / 60"
112 deg F
MH: 1,907# - 1,787#

Recovery:
1' OIL
83' v Slight OIL GASSY Water cut Mud
(2%O, 10%G, 13%W, 75%M)
124' Mud cut Water (25%M, 75%W)
305' Mud cut Water (105M, 90%W)

IF: Blow built to 4 inches, died back to 1.25 inches.
ISI: No Return Blow.
FF: Blow built to 2 inches.
FSI: No Return Blow.

Recovery Water: (13,500 ppm)
System Water: (2,500 ppm)

Reported Rw =
0.80 ohms @ 43 deg F

Recovery Water Mud Engineer:
(16,500 ppm)

12-1/4" Hole (Surface)

17 Oct --- Spud @ 9am.
Drill to 162'.
Lost Circ @ 150'.
Mix Mud/LCM. Shut down.

18 --- Resumed Drilling @ 8:45am.
Drill to 391'.
Ran 8-5/8" (23#) casing.
Set @ 379'.
225 sx Class A (2%CC +
4% Gel, 1/4# FLO &
1# Cedar). Circ 5 Bbls.
[Elite Cementers]
Plug down @ 3:15pm. WOC.
Shut down.

7-7/8" Hole (Vertical)

19 Oct --- WOC. Tag/Drill 20' of cement.
Under Surface @ 10pm.

20 --- 7am @ 1,256'.
21 --- 7am @ 2,601'.
22 --- 7am @ 3,337'. Bit Trip @ 3,368'.
Hole tite in and out about 700'
Resumed Drilling @ 5:35pm.

23 --- Start and
7am @ 3,442'.
Finish DST #1 - VIOLA ...
(3,370' - 3,442').
Resumed Drilling @ 9:20pm.
Start and

24 --- Finish DST #2 - VIOLA ...
(3,442' - 3,450').
7am @ 3,450'. Wait on parts / work
on rig clutch / mud pump. Jet pit.
Resumed Drilling @ 11pm.

7-7/8" Hole (Vertical)

25 Oct --- 7am @ 3,526'.
26 --- Start and
7am @ 3,665'.
Terminate DST #3 - Upper
Simpson SS (3,642' - 3,665').
Hit Bridge about 2,965'.
(Huntion ... LC zone.)
Laydown test tool. T/I. CHC.
DST #4 - Upper Simpson SS
(3,642' - 3,665').

27 --- 7am @ 3,665'.
Resumed Drilling @ 9:15am.
RTD (3,748') @ 4pm.
Start and

28 --- Finish Open Hole Logging.
[Midwest Wireline]

HOLE DEVIATION (391' - 3,748' MD)

12-1/4" Surface Hole

DEPTH / TVD	INCLINATION	AZIMUTH	NORTH	SOUTH	EAST	WEST	DOGLEG deg/100'
391' /	0.50 (Surface Casing)						

7-7/8" Vertical Hole

783' /	0.75
1,256' /	0.25
1,698' /	0.75
2,263' /	0.25
2,768' /	1.50
3,368' /	1.50 (Bit Trip)
3,748' /	NA (RTD)

Strap @ x,xxx' (Bit Trip): NA

Strap: NA
Board: NA
Diff: NA

Inclination Surveys provided by Lighthouse Drilling - Rig #2

CONTRACTOR

Lighthouse Drilling, Inc. --- Rig #2
P. O. Box 1118
El Dorado, Kansas
Office: (316) 435-5151

Lighthouse Drilling - Rig #2 ---
Toolpusher: Duke Cuolter (620) 750-0369

Pump: EMSCO D-375
6.5" x 14" @ 60 SPM.
850 PSI @ Standpipe.
Drill Pipe: 4.5" XH. (16.4# / ft -used)

Drill Collars: 6.25" x 2.25" --- 336'. (91#/ft)
Dry Collar Weight: 30,576#
Bouyancy Collar Weight: 26,381#
(@ 9.0 ppg / Buoyancy Factor 0.863)
Design Factor: 15% held back to keep
drill string straight, therefore:
available calculated WOB is 22,429#

Check Weight Indicator @ 2,358'.
Calculated String Weight (62,570#) -vs- Observed WI (53,000#).
WI is weighing LIGHT by about 15%
Therefore: Calculated WOB of 22,429# will show 19,503# on WI.

BIT RECORD

DATE	SIZE	TYPE (IADC)	JET SIZE	DEPTH IN / OUT	CUM. FT.	HOURS	ROP (ft/hr)
SURFACE ---							
17 Oct 2022	12-1/4"	Logic 1361656	6 x 14's	0' / 162'			
18 Oct 2022	12-1/4"	Same		162' / 391'	391'	2.75	142.2
VERTICAL ---							
19 Oct 2022	7-7/8"	LOGIC PLT61606 (PDC)	6 - 16's	391' / 3,368'	2,977'	38.50	77.4
22 Oct 2022	7-7/8"	VAREL GP S511 (526)	3 - 23's	3,368' / 3,665'	297'	30.25	9.8
27 Oct 2022	7-7/8"	JZ H0517G (527)	3 - 28's	3,665' / 3,748'	83'	6.50	12.8

ROCK TYPES

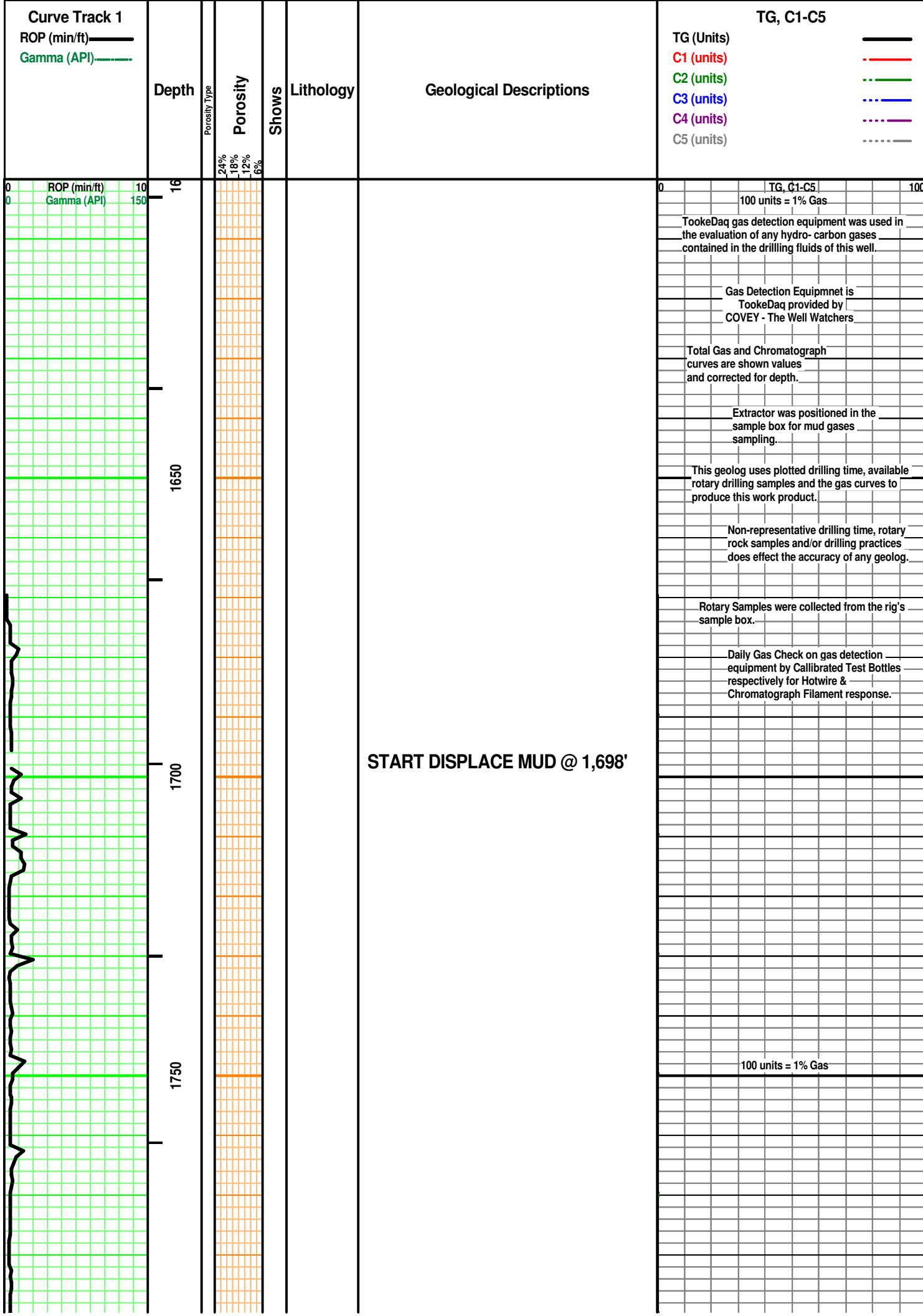
<p>POROSITY</p> <ul style="list-style-type: none"> Earthy Fenest Fracture Inter Moldic Organic Pinpoint Vuggy <p>LITHOLOGY</p> <ul style="list-style-type: none"> Anhy Bent Brec Cht Clyst Coal Granite wash Congl Dol lmst Silty dol 	<ul style="list-style-type: none"> Calc dol Dol 2 Dol Gyp Igne Lmst 2 Lmst Meta Mrlst Salt Shale 3 Shale Shcol Shgy Sltst Ss Till Ss 2 	<p>MINERAL</p> <ul style="list-style-type: none"> Mica Anhy Arggrn Arg Bent Bit Brecfrag Calc Carb Chtdk Chtlt Dol Feldspar Ferrpel Ferr Glau Gyp Hvymin Kaol Marl 	<ul style="list-style-type: none"> Minxl Nodule Phos Pyr Salt Sandy Silt Sil Sulphur Tuff Copper Ooliticastic Ooloid Oolite Sucrosic Dark specks <p>STRINGER</p> <ul style="list-style-type: none"> Dol ls Silty dol Anhy 	<ul style="list-style-type: none"> Arg Bent Coal Dol Gyp Ls Mrst Calc dol Sltstrg Ssstrg Chalk New symbol <p style="text-align: center;">SHOW</p> <ul style="list-style-type: none"> Oil Spotted Ques Dead Gas Oil/gas Bed contact
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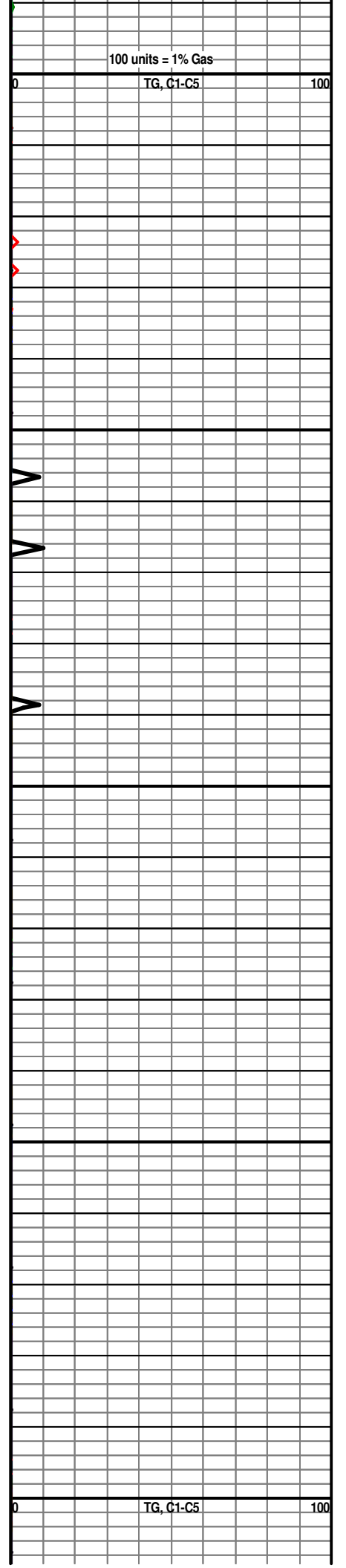
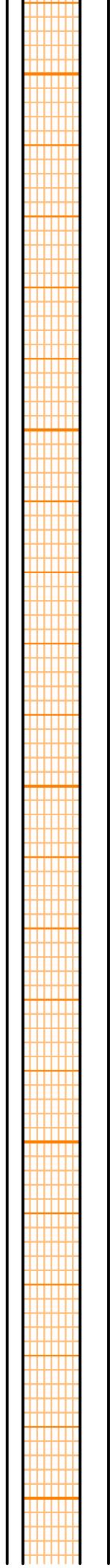
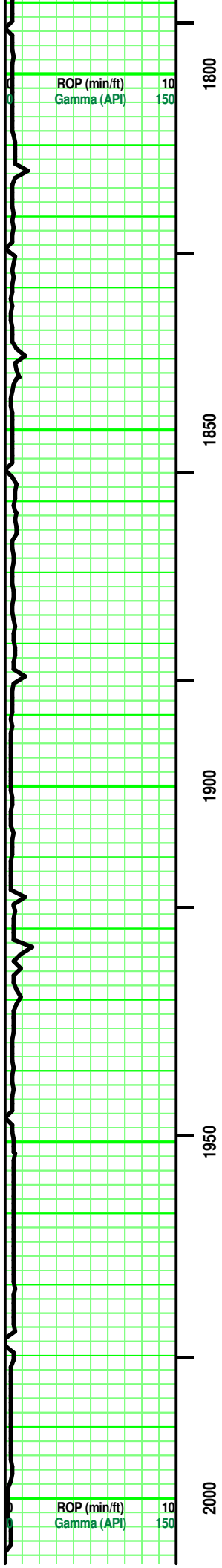
ACCESSORIES

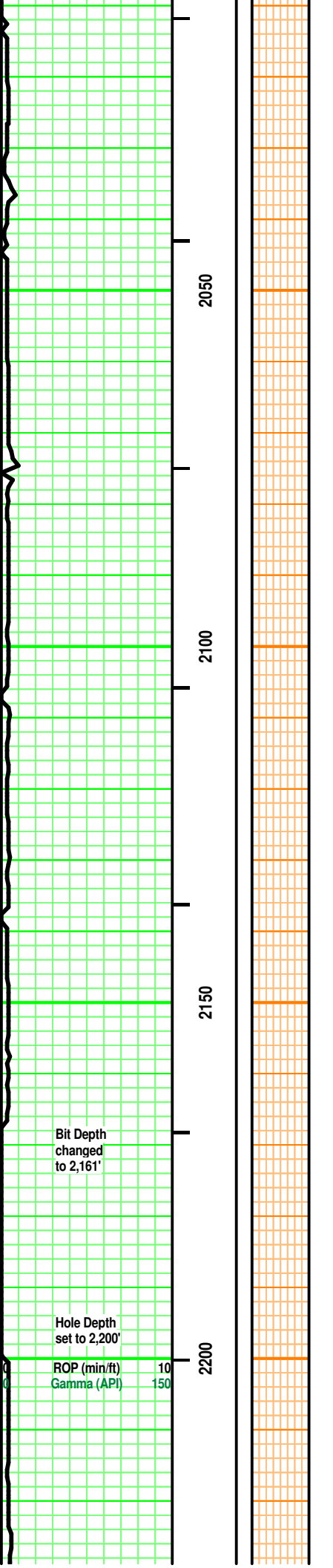
<p>FOSSIL</p> <ul style="list-style-type: none"> Algae Amph Belm Bioclst Brach Bryozoa Cephal Coral Spore Crin Echin Fish Foram Fossil Gastro 	<ul style="list-style-type: none"> Oolite Ostra Pelec Pellet Pisolite Plant Strom <p>MINERAL</p> <ul style="list-style-type: none"> Mica Anhy Arggrn Arg Bent Bit Brecfrag 	<ul style="list-style-type: none"> Calc Carb Chtdk Chtlt Dol Feldspar Ferrpel Ferr Glau Gyp Hvymin Kaol Marl Minxl Nodule Phos 	<ul style="list-style-type: none"> Pyr Salt Sandy Silt Sil Sulphur Tuff Copper Ooliticastic Ooloid Oolite Sucrosic Dark specks <p>STRINGER</p> <ul style="list-style-type: none"> Dol ls 	<ul style="list-style-type: none"> Silty dol Anhy Arg Bent Coal Dol Gyp Ls Mrst Calc dol Sltstrg Ssstrg Chalk New symbol
--	---	--	---	--

OTHER SYMBOLS

<p>ACTIVITY</p> <ul style="list-style-type: none"> Lost circluation Circulate for same 	<p>EVENT</p> <ul style="list-style-type: none"> Rtd Trip 	<ul style="list-style-type: none"> Connection Rft 	<ul style="list-style-type: none"> Sidewall
---	---	---	---







2050

2100

2150

2200

Waiting on PASON work station to be correctly hooked up.

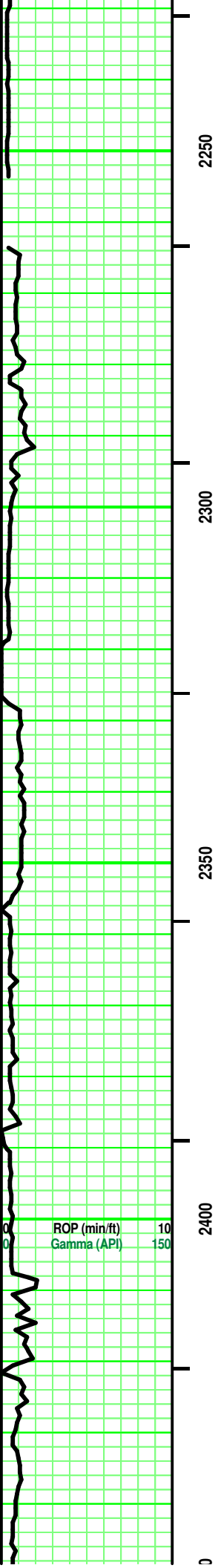
Waiting on PASON work station to be correctly hooked up.

100 units = 1% Gas

TG, C1-C5

0

100



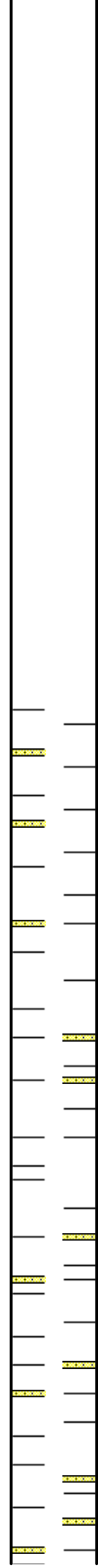
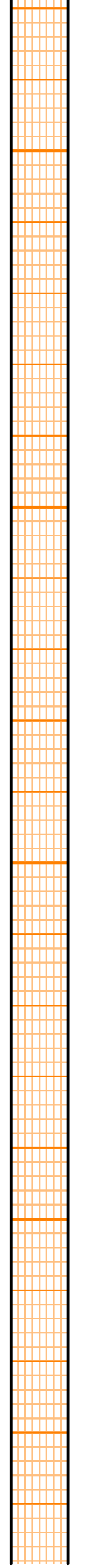
2250

2300

2350

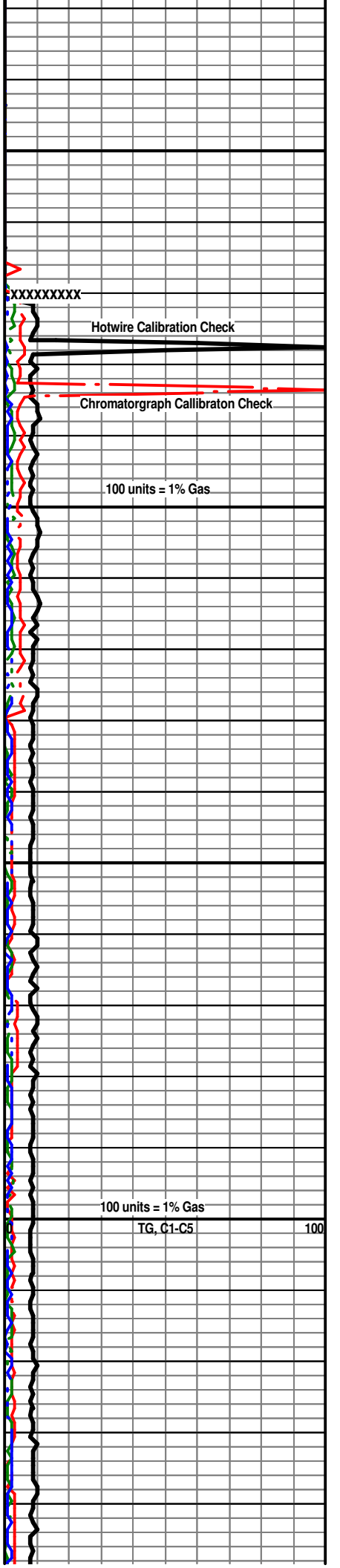
2400

ROP (min/ft) 10
Gamma (API) 150



Mixture of SH & SS
 SH - tr/some Black. Sing. carb. soft.
 SH - tr Lt/ mostly Med/ some Dark Gray, Silver Gray. Sing/Mot/Mixed. No/ tr Silty/ sandy in part. No/ tr misc inclusions.
 tr / some SS - Clear/ Grays. Mixed/Mot. Silt/XF qtz grains. SA/SR. mod sph. mixture of: vitreous/ frost luster. point/sutured grain contact. mostly argil/shaly in fill. misc inclusions.

Mixture of SH & SS
 SH - tr/some Black. Sing. carb. soft.
 SH - tr Lt/ mostly Med/ some Dark Gray, Silver Gray. Sing/Mot/Mixed. No/ tr Silty/ sandy in part. No/ tr misc inclusions.
 some SS - Clear/ Whites/ Grays. tr Orangish White. Mixed/Mot. Silt/XF qtz grains. SA/SR. mod sph. mixture of: vitreous/ frost luster. point/sutured grain contact. mostly argil/shaly in fill. misc inclusions. tr/ Fair vis por.



XXXXXXXXXX

Hotwire Calibration Check

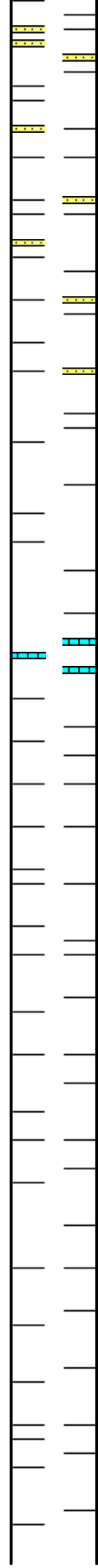
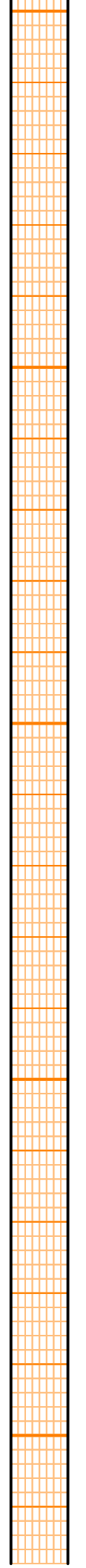
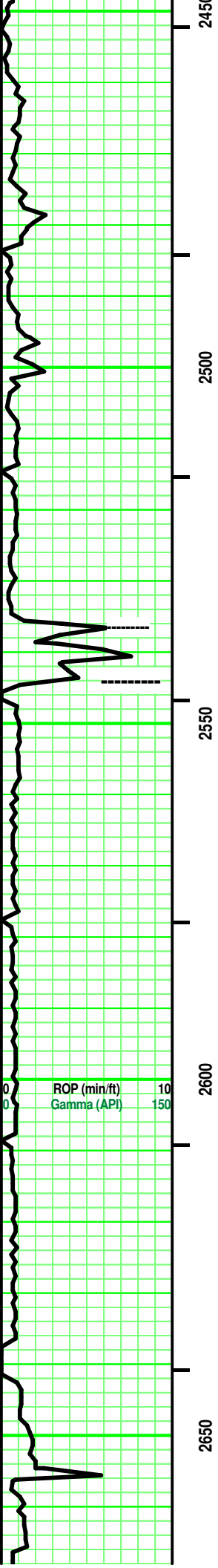
Chromatorgraph Callibraton Check

100 units = 1% Gas

100 units = 1% Gas

TG, C1-C5

100



Mixture of SH & SS
 SH - tr/some Black. Sing. carb. soft.
 mostly SH - tr Lt/ mostly Med/ some Dark Gray,
 Silver Gray. Sing/Mot/Mixed. No/ tr Silty/ tr sandy
 in part. No/ tr misc inclusions.

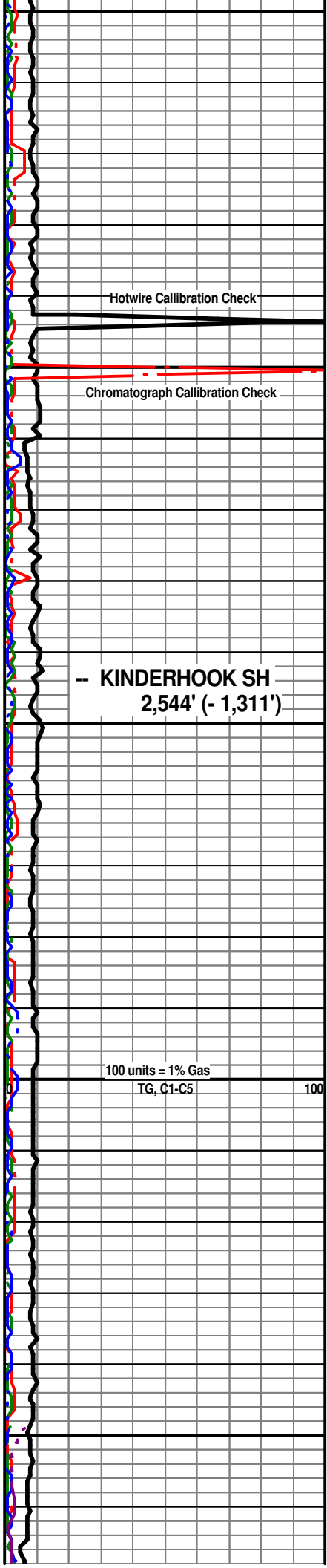
some SS - Clear/ Whites/ Grays. tr Orangish White.
 Mixed/Mot. Silt/XF qtz grains. SA/SR. mod sph.
 mixture of: vitreous/ frost luster. point/sutured
 grain contact. mostly argil/shaly in fill. misc
 inclusions. tr/ Fair vis por.

MISS 2,536' (-1,303')
 few pcs: LS - Med Tan. Sing. XF-xln. xln por. tr Re-xln. No/ tr
 vis por.

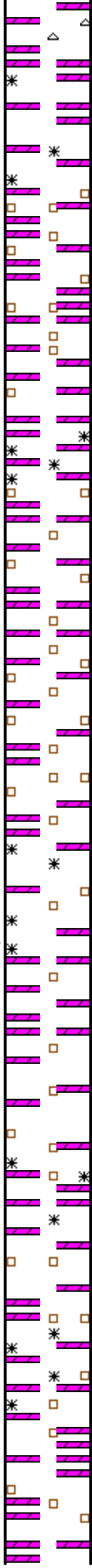
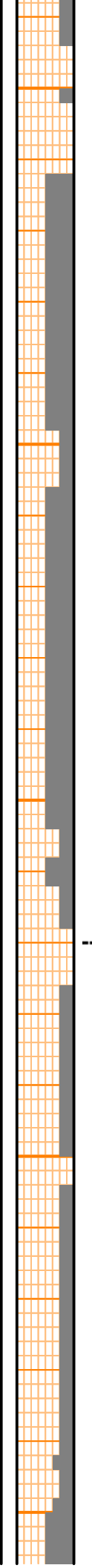
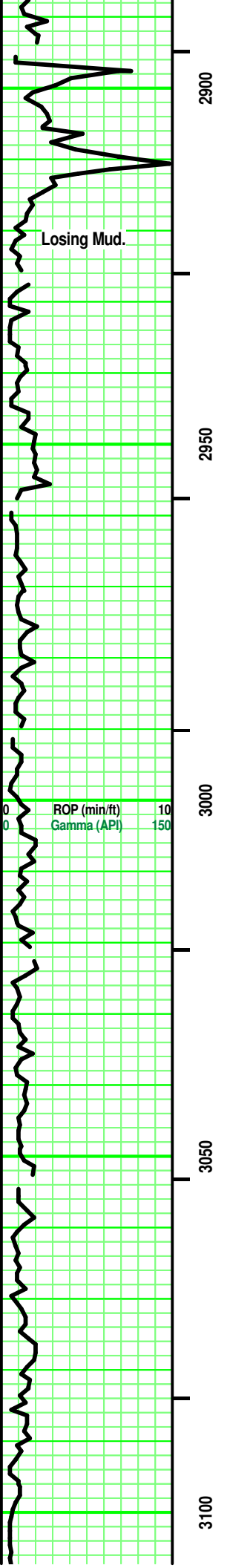
SH - Med Gray, some Greenish Gray. tr Blackish
 Gray. Sing/ tr Mot. Massive.

SH - Med Gray, some Greenish Gray. tr Blackish
 Gray. Sing/ tr Mot. Massive.

SH - Med Gray, some Greenish Gray. tr Blackish
 Gray. Sing/ tr Mot. Massive.



-- KINDERHOOK SH
 2,544' (- 1,311')



DOL: Lt Gray, some Tannish Gray. Sing. Micro-Re-xln. xln por. No/ tr sucrosic por. Firm. mostly No/ tr vis por.

DOL: Lt Gray, some Tannish Gray. Sing. Micro-Re-xln. xln por. sucrosic por. Friable. mostly No/ tr vis po

DOL - Pale Lt Gray, Lt Gray / Lt Tan. mostly Sing/ tr Mot. tr XF/ mostly Micro - Re-xln / tr Crypto-xln. xln & tr/some sucrosic por. Firm in part. No/ tr vis por.

DOL - Pale Lt Gray, Lt Gray / Lt Tan. mostly Sing/ some Mot. tr XF/ mostly Micro - Re-xln / tr Crypto-xln. xln & tr/some sucrosic por. Firm in part. No/ tr vis por.

DOL - mixture of: Lt Gray, tr Med Gray / Lt Tan & Grayish Tan. mostly Sing / tr Mixed. XF- / Micro-Re-xln. mixture of: No/ Micro-subehedral xtals. No/ tr vis por.

DOL - mixture of: Lt Gray, tr Med Gray / Lt Tan & Grayish Tan. mostly Sing / tr Mixed. XF- / Micro-Re-xln. mixture of: No/ Micro-subehedral xtals. No/ tr vis por.

Vis: 38 Wt: 9.4 LCM: 4#

Losing Fluid while drilling -
Lost about 200 Bbls.

2,980' -
Vis: 49 Wt: 9.4 Wtr Loss: 11.6
PV: 20 YP: 15 Gels: 10/45
pH: 10.0 Cl (750) Ca (35)
Solids: 7.8% LCM: 7#

100 units = 1% Gas
TG, C1-C5 100

Hotwire Callibration Check

Chromatograph Callibraton Check

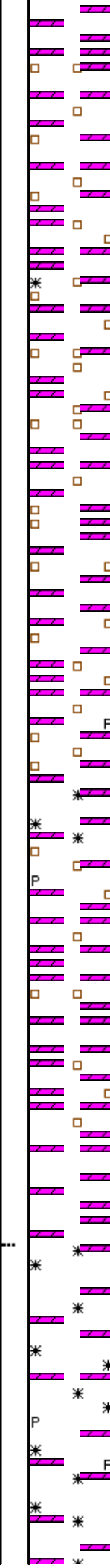
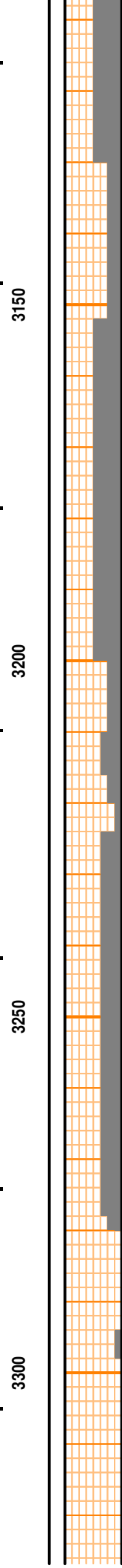
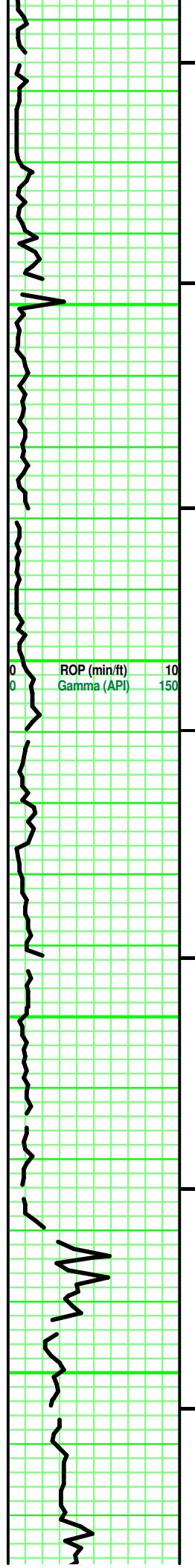
3100

3050

3000

2950

2900



DOL - Lt Gray. Sing. Micro-Re-xln. sucrosic por. mostly Friable. tr vis por.

DOL - mixture of: mostly Lt Gray, tr Med Gray / Lt Tan & Grayish Tan. mostly Sing / tr Mixed. XF- / Micro-Re-xln. mixture of: No/ Micro- subeuhedral xtals. mostly No/ rare minute pyrite xtal. No/ tr vis por.

DOL - mixture of: mostly Lt Gray & Med Gray / tr Lt Tan & Grayish Tan. mostly Sing / tr Mixed. XF- / Micro-Re-xln. mixture of: No/ Micro- & XF subeuhedral xtals. Micro-/ brochical & tr vuggy & sucrosic por. mostly No/ rare minute pyrite xtal. No/ tr vis por.

DOL - mixture of: mostly Lt Gray & Med Gray / tr Lt Tan & Grayish Tan. mostly Sing / tr Mixed. XF- / Micro-Re-xln. mixture of: No/ Micro- & XF subeuhedral xtals. Micro-/ brochical & tr vuggy, tr sucrosic por. mostly No/ rare minute pyrite xtal. No/ tr vis por.

DOL - Lt Gray. Sing. Re-xln. sucrosic por. partly Friable. tr/ fair vis por

DOL - mixture of: mostly Lt Gray & Med Gray. mostly Sing / tr Mixed. XF- / Micro-Re-xln. mixture of: No/ Micro- & XF subeuhedral xtals. Micro-/ tr brochical por. No/ tr vis por.

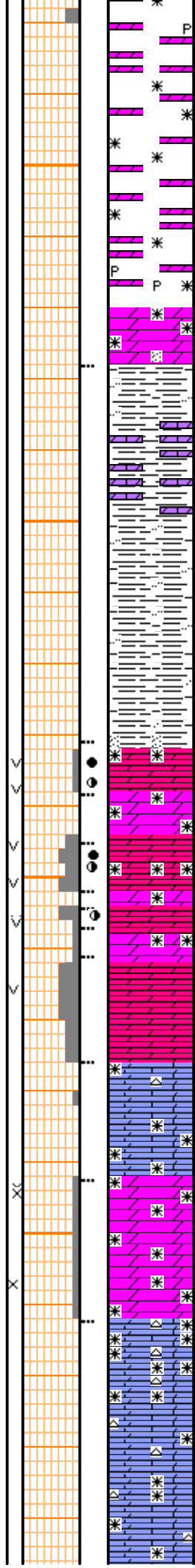
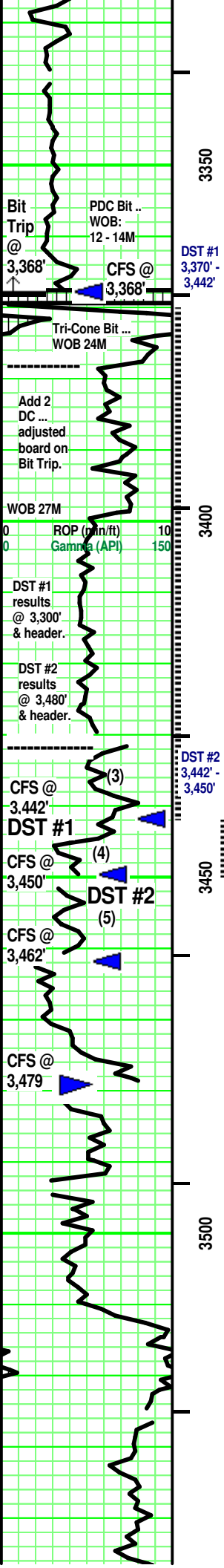
Add: DOL - Lt Brownish Tan. Sing. XF- / Micro-Re-xln. xln por. mostly No/ rare pyrite xtal. White, chalky on circ sample. (Washes white also.) mostly Firm. No/ tr vis por.

Vis: 43 Wt: 9.3 LCM: 8#

100 units = 1% Gas
TG, C1-C5 100

DST #1: VIOLA 3,370'-3,442'
Recovery:
30' S Oil c Mud (5% O, 95%M)
215' Gassy OIL (5%G, 95%O)
OIL = 31 de g API
IFP: 49# - 81# / 30" 104 deg F
ISIP: 1,195# / 60"
FFP: 88# - 139# / 60"
FSIP: 1,168# / 60"
MH: 1,817# - 1,616#

IF: Built to 5 inch Blow
ISI: No Blow.
FF: Built to 5 inch Blow.
FSI: No Blow.



DOL (tr Calc) - Lt/ Med Gray. Sing. tr XF- / Micro-Re-xln. xln por. No/ tr vis por.

DOL - Lt/ Med Gray, Grayish Tan. Sing/ tr Mixed. Micro-Re-xln. mostly No/ rare pyrite xtal. mostly No/ tr minute dark specks. Firm. No/ tr vis por.

MAQUOKETA SH 3,378' (-2,145') SH (2) - Lt Blue, Pale Grayish Blue / Bluish Gray. Sing. silty in part. Massive. Mushy.

Add: DOL (Calc) - Grays. Sing. Micro-xln. xln por. Re-xln. minute dark specks / Dark Grayish Black, argil, SA flecks. Firm. No/ tr vis por.

SH - similar to (2) above.

T/I for DST #1 (3,442') - Vis: 64 Wt: 9.1 Wtr Loss: 9.6 PV: 18 YP: 19 Gels: 20/50 pH: 9.5 Cl (2,400) Ca (60) Solids: 5.6% LCM: 10#

Before T/I after DST #2 (3,450') - Vis: 55 Wt: 9.0 Wtr Loss: 12.8 PV: 15 YP: 19 Gels: 20/50 pH: 9.5 Cl (4,000) Ca (160) Solids: 4.8% LCM: 10#

DOL (3) - Lt & Med Tan. some Lt Gray. Sing/ tr Mixed. XF- / Micro-Re-xln. xln & vuggy por. VF& XF sub-euhedral xtals. Partly Friable. Fair/ Good vis por. -->

DOL - Lt & Med Tan/Lt Gray. Sing/ Mixed. XF- / Micro- Re-xln. No/ Micro subeuhedral xtal. Dense. No/ tr vis por.

DOL (4) - Pale Lt Gray. Sing. VF / XF subeuhedral xtals. vuggy por. Good vis por. Fair/Good odor. A/C, rare free Black OIL clinging to rx chip. No/? free minute gas bubble clinging inside vuggy por. Spotted Med Brown Oil stain. some Black carb flecks. Pos cut/ residual. Pos acid/ residual.

DOL (5) - similar to (4) above.

DOL - tr to some Off White / v Pale Lt Gray, Grays. Sing/ Mixed. VF- / XF - Re-xln. sub- & euhedral xtals. part/vuggy por. Fair/ Good vis por.

LS (DOL) - Med/Dark Tan, Med Gray. Sing/ Mot/ Mixed. XF-Micro-xln. xln por. Re-xln in part. Highly Dolomitic. [CHERT - White/ Off White. Opaque. No/ rare inclusions. mostly No/ rare pyrite xtals. No tripolitic.] mostly Firm. No/ tr vis por.

DOL - Lt Gray, tr Tannish Gray. Sing/ rare Mot. XF- / Micro-Re-xln. mostly xln & some sucrosic por. Partly Firm. No/ tr vis por.

LS (DOL) - Med/Dark Tan, Med Gray. Sing/ Mot/ Mixed. XF-Micro-xln. xln / rre sucrosic por. Re-xln in part. Highly Dolomitic. [CHERT - White/ Off White. Opaque. No/ rare inclusions. No tripolitic.] mostly Firm. No/ tr vis por.

Add: LS (DOL) - Lt/Med Brown. Mixed. XF-Micro-xln. xln por. misc dark specks. some spotted/ mostly dark Brown stain. tr Black, asphaltic, SA/A, F/VF flecks. Nothing else.

3,364' - Vis: 46 Wt: 9.1 Wtr Loss: 10.4 PV: 17 YP: 13 Gels: 10/40 pH: 10.0 Cl (700) Ca (20) Solids: 5.7% LCM: 11#

XXXXXX BIT TRIP XXXXXX

CFS @ 3,368': 45" Bit Trip @ 3,368' Hole Dev: 1.5 deg @ 3,368' Hole TITE ... in & out ... about 700' off bottom.

Hotwire Callibration Check

Vis: 42 Wt: 9.0 LCM: 8#

Chromatograph Callibration Check

TG, C1-C5 100 100 units = 1% Gas

DOL (3) - Good odor. Spotted/ some Uniform Dark Yellow fluorescence. A/C, rare minute Black free oil spheres. Rare, minute gas bubble. mixture of: Spotted & Uniform Med/ Dark Brown stain. Pos cut/ residual. Pos acid/residual. few Black, asphaltic flecks with depth. Oil scum on wash water and sample cup.

-- VIOLA

3,431' (-2,198')

Vis: 48 Wt: 9.0 LCM: 8#

xxxxx DST #1 @ 3,442' xxxxxx

CFS @ 3,442': 45" ST 14 stnds CHC: DST #1: (3,370' - 3,442')

xxxxx DST #2 @ 3,450' xxxxxx

CFS @ 3,450' T/O. DST #2: (3,442' - 3,450') Wait on part / Work on Rig.

Vis: 42 Wt: 9.0 LCM: 8#

XXXXXXXXX CFS @ 3,462': 15" XXXXXXXXXXXX

DST #2: VIOLA 3,442'-3,450'

Recovery:

- 1' OIL 123' Oil c Mud (20% O, 80%M) 126' OIL Scum Hvy Wtr c Mud (20% W, 60%M) 2,508' OIL Scum Mud cut Water (10%M, 90%W)

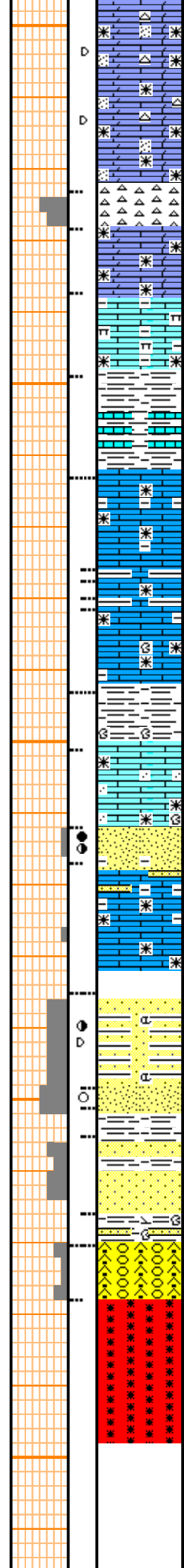
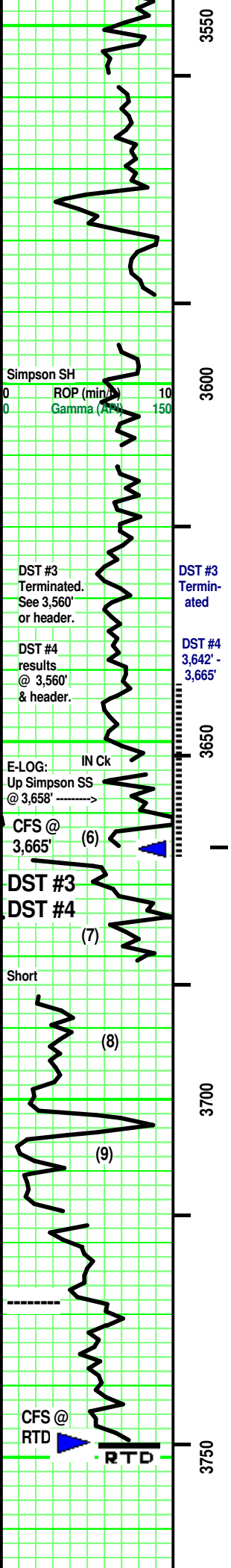
IFP: 662# - 1,207# / 30" 110 deg F ISIP: 1,255# / 60" FFP: 1,211# - 1,255# / 30" FSI: 1,257# / 60" MH: 1,860# - 1,622#

IF: BOB 45 seconds. ISI: No Blow. Dropped Bar FF: BOB 15 seconds. on recovery. FSI: No Blow.

Hotwire Callibration Check

Chromatograph Callibraton Check Vis: 45 Wt: 9.1 LCM: 6#

3,536' - Vis: 44 Wt: 8.9 Wtr Loss: 9.6 PV: 12 YP: 18 Gels: 10/40 pH: 9.6 Cl (2,000) Ca (20) Solids: 4.2% LCM: 8#



DOL - Lt/ Med /Tan. Sing/ Mixed. VF- / XF - Re-xln. sub- & euhedral xtals. part/vuggy por. Fair/ Good vis por.

CHERT - White/ Off White. Opaque. No/ rare inclusions. No tripolitic.

LS (DOL) - Med Tan / Lt Grayish Tan. Sing/ tr Mot. XF-/ Micro-xln xln por. Re-xln. mostly Firm. No/ tr vis por.

LS - Pale Lt Gray / Off White. Sing. Micro-xln. xln & part por. misc. SA, Med/Dark Gray, Greenish Gray argil frags. partly soft. marly in part. No/ tr vis por.

SH - mixture of Lt/Med/ Dark Gray, Blue Greenish Gray. Sing/Mot. misc inclusions.

LS - Tans / Pale Lt Gray. Mot/Mixed. XF-/Micro-xln. xln por. No/ some Re-xln. No/ some minute darks specks. mostly No/ tr chalky in part. No/ tr vis por.

Mixture of:
 SH - Lt/Med Blue Green, Green Gray. Sing.
 LS - Tans/ Lt Gray. Sing/Mixed. XF-/ Micro-xln. xln por. No/ tr Re-xln. argil/shaly in part. Firm with depth. No/ tr darks specks. No/ tr vis por.
 LS - Dark Druzy Gray. Sing. Crypto-xln. xln por. Dense. No vis por.

SH - Lt/Med Blue Green, Green Gray. Sing. misc inclusions & frags.

LS (9) - Tan/Lt Brown. Sing. Micro-xln. xln & part por. some sandy as below. Firm. No/ tr vis por.

----- Upper Simpson SS 3,662' (-2,429')
 SS (6) - Clear/Tan. Mot. mostly XF- / tr VF qtz grains. SA/SR. Mod sort & sph. Vitreous/ tr frost luster. mixture of point/ sutured grain contact. Calc in part. some pcs v friable. Good vis por.
 ----->>

Mixture of SS, LS & SH
 LS (7) - Tans/Gray. Sing/Mixed. Micro-Re-xln. xln por. tr sandy (in part). Dense. No vis por.
 SH - Blue Green, Greenish Gray, Med/Dark Gray. Sing / tr Mixed or Mot. No/ tr sandy or silty.

SS (8) - Clear/Lt SilverGray. XF-/Silt qtz grain. SA/SR. mod sph/sort. highly sutured grain contact in part / point grain contact. argil in part. No/ tr pyrite. No/ fair vis por. ? / Fair odor. spotted/ some Uniform dull Yellow fluorescence. No/ tr free Dark Brown oil/ no gas. Spotted/ some Uniform Black asphaltic infill, coating and stain. V Weak Pos cut/ residual. V Weak Pos acid/. residua

SS (9) - Clear/ Off White / Pale Lt Gray. mixture of; XF- & silt qtz grains. SA/SR. Mod sort or sph. tr point/ mostly sutured grains contacts. misc inclusions. mostly Dense/ some Friable. No/ tr fair vis por.

SH/Siltstone - Red. Sing. misc inclusions.
 Granite Wash 3,730' Sample has red wash. Hematitic VF nodules

 Granite - F/VF/some XF, Angular, Clear / Off White / Pinkish Orange Quartz, Pink Feldspars, Biotite. Mixed.

Vis: 43 Wt: 9.0 LCM: 6#

DST #3: Simpson SS Terminated
 DST#4: Simpson 3,642'-3,665'
 Recovery: 1' OIL
 83' v S OG, Water cut Mud (2%O, 10%G, 13%W, 75%M)
 124' Mud cut Water (25%M, 75%W)
 305' Mud cut Water (105M, 90%W)

IFP: 36# - 200# / 60" 112 deg F
 ISIP: 623# / 60"
 FFP: 203# - 237# / 30"
 FSIP: 617# / 60"
 MH: 1,907# - 1,787#

Vis: 42 Wt: 9.0 LCM: 6#
 Hotwire Filament Replaced @ 3,591'.

Vis: 45 Wt: 9.1 LCM: 8#
 100 units = 1% Gas
 TG C1-C5 100

Hotwire Calibration Check
 Chromatograph Calibration Check

Vis: 45 Wt: 9.0 LCM: 8#

On T/I After DST #3 (3,665') -
 Vis: 53 Wt: 9.0 Wtr Loss: 10
 PV: 20 YP: 16 Gels: 20/60
 pH: 10.0 Cl (2,500) Ca (30)
 Solids: 4.9% LCM: 8#

Vis: 42 Wt: 9.0 LCM: 8#

SS (6) - Fair/Good odor. mostly Uniform, dull Yellow fluorescence. A/C and on own free, minute Black oil spheres. No/? gas. some spotted/ mostly Uniform V Dark Brown Stain. Pos cut/ residual. Pos acid/ residual. some minute, Black asphaltic flecks, Free oil swirls on wash water and staining sample cup.

Vis: 55 Wt: 9.1 LCM: 9.1
 xxxxx DST #3 & DST #4 xxxxx
 ^ CFS @ 3,668':45"
 ^ S/T: 6 stands.
 ^ CHC: 45" Work Kelly (every 15")
 Check box (every 15")
 ^ DST #3 - (3,642'-3,665')
 Hit Bridge @ 2,965' (Hunton).
 Laydown tool. T/I. CHC.
 ^ DST #4 - (3,642'-3,665')
 3,665' (CHC after DST #4) -
 Vis: 65 Wt: 9.0 Wtr Loss: 10.4
 PV: 22 YP: 19 Gels: 20/60
 pH: 9.5 Cl (2,400) Ca (40)
 Solids: 4.8% LCM: 8#

Vis:n 53 Wt: 9.0 LCM: 8#

Vis:n 52 Wt: 9.0 LCM: 8#

-- Granite 3,728' (-2,495')
 Vis: 53 Wt: 9.0 LCM: 8#

100 units = 1% Gas
 xxxxxxx RTD @ 3,748' xxxxx
 ^ CFS @ 3,748' (RTD): 45".
 ^ S/T: 15 stands.
 ^ CHC: 75+"
 Work Kelly slowly (15"). Check Sample Box for volume & type of fill.
 ^ T/O.

RTD: 3,748'

LTD: 3,744'

ATD: 3,743'

0	ROP (min/ft)	10
0	Gamma (API)	150

5

OLBERDING #2

1,401' FNL & 946' FWL 17 - T4S - R14E
Nemaha County, Kansas

PETROLEUM PROPERTY SERVICES, INC.

Wichita, Kansas

^--- Hole Dev: NA deg @ RTD.
 ^--- E-Log.
 [Midwest Wireline Service]

Geologist:
 Curtis Covey
 COVEY - The Well Watchers
 Well Number: 1,199

0	TG, C1-C5	100
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