

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	Culbreath Oil & Gas Company, Inc.
Well Name	MINIUM R 1-31
Doc ID	1410432

All Electric Logs Run

RES
POR
MICRO
SONIC
SURV
AHV



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Culbreath Oil Gas Co Inc
 3501 S Yale Ave
 Tulsa OK 74135-8014
 ATTN: Larry Nicholson

31 9s 26w Sheridan KS

Minium R 1-31

Job Ticket: 64520

DST#: 1

Test Start: 2018.04.01 @ 02:22:00

GENERAL INFORMATION:

Formation: **LKC " B "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:15:46
 Time Test Ended: 09:46:00
 Interval: **3852.00 ft (KB) To 3869.00 ft (KB) (TVD)**
 Total Depth: 3869.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jim Svaty
 Unit No: 76
 Reference Elevations: 2641.00 ft (KB)
 2631.00 ft (CF)
 KB to GR/CF: 10.00 ft

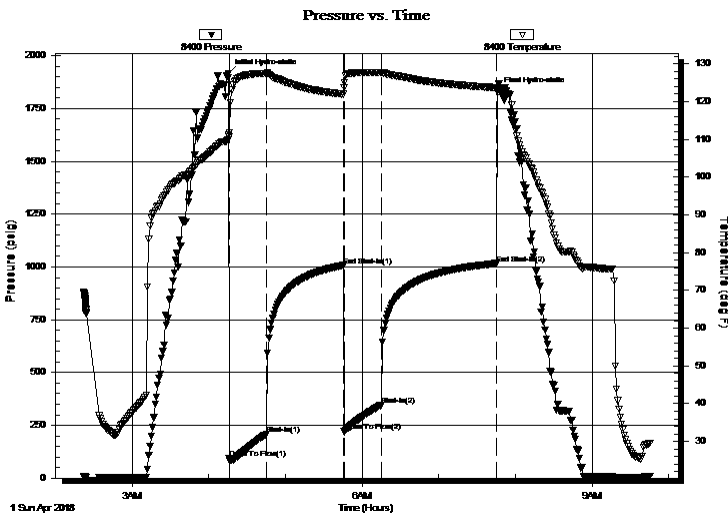
Serial #: 8400

Inside

Press@RunDepth: 346.86 psig @ 3853.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.04.01 End Date: 2018.04.01 Last Calib.: 2018.04.01
 Start Time: 02:22:01 End Time: 09:45:46 Time On Btm: 2018.04.01 @ 04:15:31
 Time Off Btm: 2018.04.01 @ 07:45:31

TEST COMMENT: 30-IFP- BOB in 4min.
 60-ISIP- Surface Blow Building to 1 1/2in.
 30-FFP- BOB in 5 1/2min.
 90-FSIP- Surface Blow in 15min. Dead in 50min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1916.13	111.09	Initial Hydro-static
1	94.56	110.74	Open To Flow (1)
30	209.14	127.46	Shut-In(1)
90	1006.72	121.93	End Shut-In(1)
91	219.67	123.60	Open To Flow (2)
120	346.86	127.64	Shut-In(2)
210	1015.89	123.65	End Shut-In(2)
210	1828.05	123.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
670.00	MCW 5%w 95%w Oil Spots	9.40
5.00	CO 100%	0.07
0.00	189 GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Culbreath Oil Gas Co Inc

31 9s 26w Sheridan KS

3501 S Yale Ave
Tulsa OK 74135-8014

Minium R 1-31

Job Ticket: 64520

DST#: 1

ATTN: Larry Nicholson

Test Start: 2018.04.01 @ 02:22:00

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:

151000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 2.50 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
670.00	MCW 5% _m 95% _w Oil Spots	9.398
5.00	CO 100%	0.070
0.00	189 GIP	0.000

Total Length: 675.00 ft Total Volume: 9.468 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .158 @ 26

Serial #: 8400

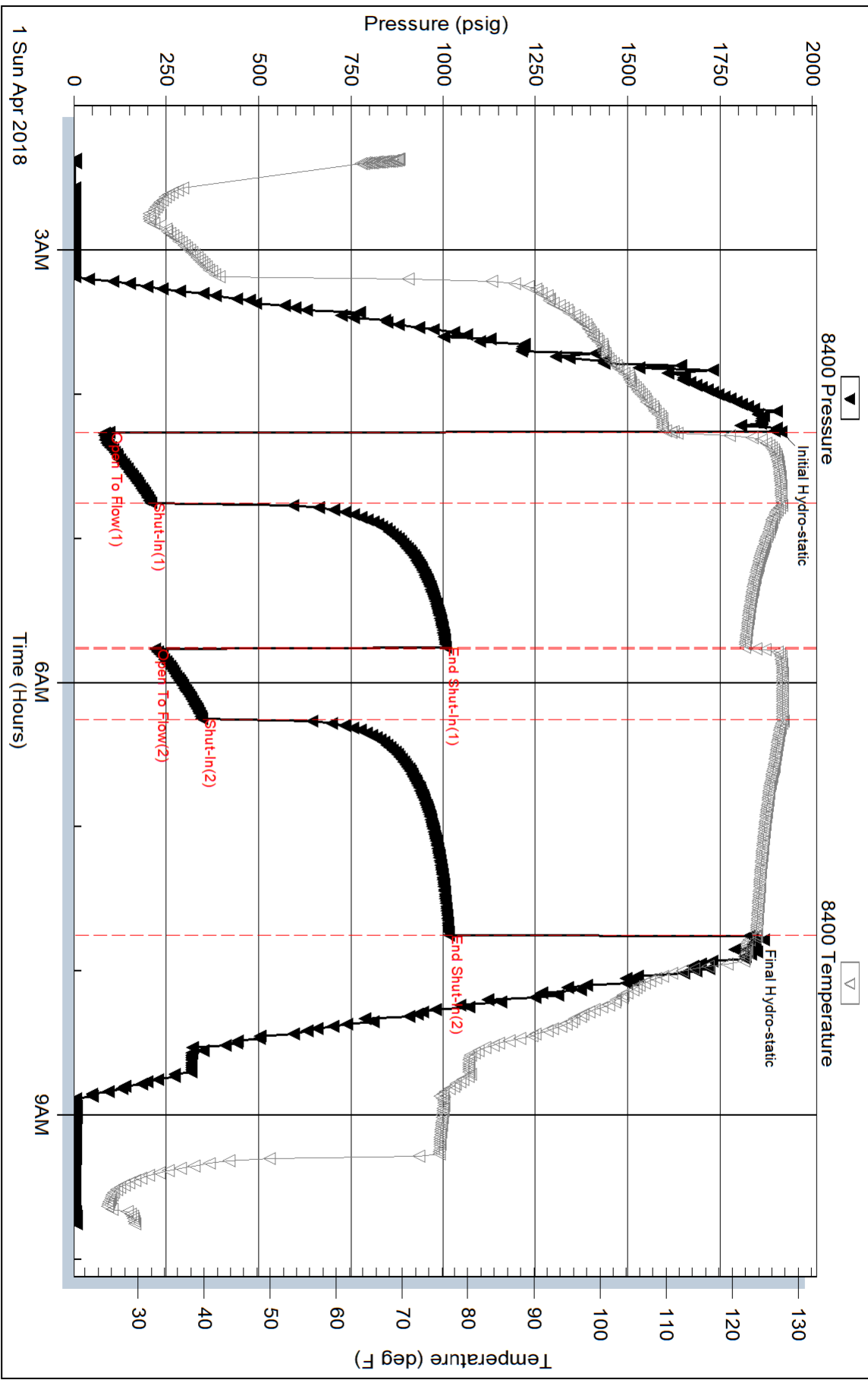
Inside

Culbreath Oil Gas Co Inc

Minium R-1-31

DST Test Number: 1

Pressure vs. Time

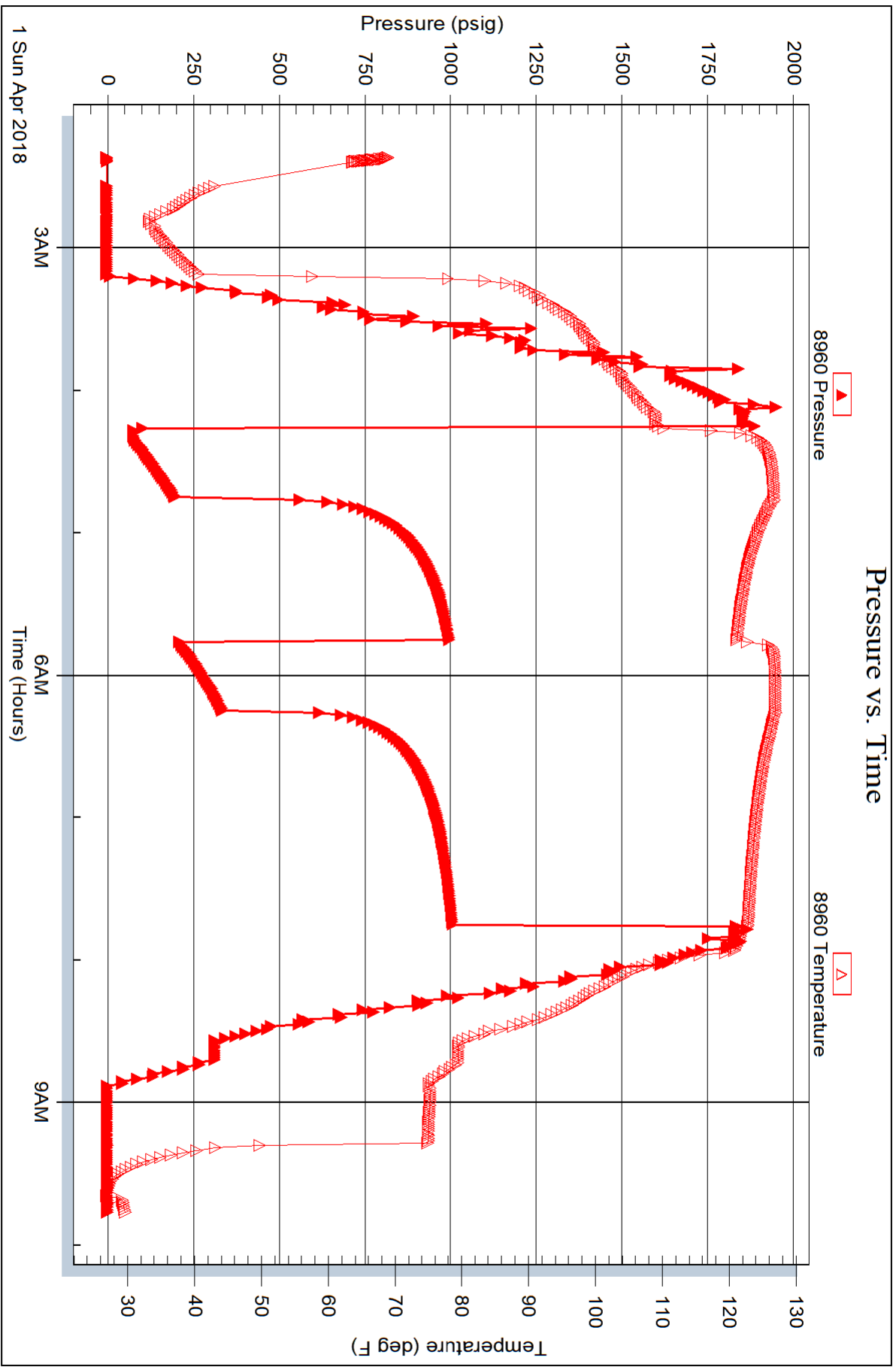


Serial #: 8960

Outside Culbreath Oil Gas Co Inc

Minium R 1-31

DST Test Number: 1





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Culbreath Oil Gas Co Inc
 3501 S Yale Ave
 Tulsa OK 74135-8014
 ATTN: Larry Nicholson

31 9s 26w Sheridan KS

Minium R 1-31

Job Ticket: 64521

DST#: 2

Test Start: 2018.04.01 @ 15:57:00

GENERAL INFORMATION:

Formation: **LKC " D "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:53:46
 Time Test Ended: 22:43:00
 Interval: **3868.00 ft (KB) To 3894.00 ft (KB) (TVD)**
 Total Depth: 3894.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Jim Svaty
 Unit No: 76
 Reference Elevations: 2641.00 ft (KB)
 2631.00 ft (CF)
 KB to GR/CF: 10.00 ft

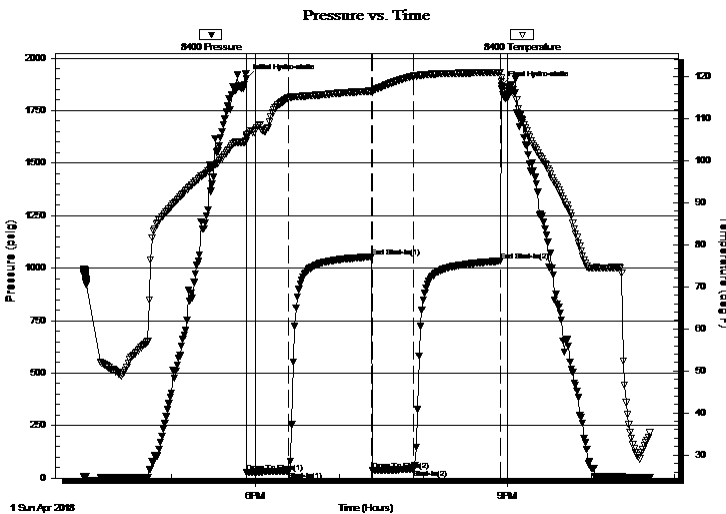
Serial #: 8400

Inside

Press@RunDepth: 42.84 psig @ 3869.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.04.01 End Date: 2018.04.01 Last Calib.: 2018.04.01
 Start Time: 15:57:01 End Time: 22:42:46 Time On Btm: 2018.04.01 @ 17:53:31
 Time Off Btm: 2018.04.01 @ 20:55:46

TEST COMMENT: 30-IFP- Surface Blow Building to 3in.
 60-ISIP- Weak Surface Blow in 10min. Died in 7min.
 30-FFP- Surface Blow Building to 1 3/4in.
 60-FSIP- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1901.28	106.05	Initial Hydro-static
1	26.02	105.61	Open To Flow (1)
31	34.45	115.05	Shut-In(1)
90	1053.55	116.54	End Shut-In(1)
90	38.51	116.31	Open To Flow (2)
120	42.84	120.12	Shut-In(2)
182	1033.53	120.96	End Shut-In(2)
183	1867.82	119.61	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	MCW 40% m 60% w Show of Oil in Tool	0.28
0.00	40 GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Culbreath Oil Gas Co Inc

31 9s 26w Sheridan KS

3501 S Yale Ave
Tulsa OK 74135-8014

Minium R 1-31

Job Ticket: 64521

DST#: 2

ATTN: Larry Nicholson

Test Start: 2018.04.01 @ 15:57:00

GENERAL INFORMATION:

Formation: **LKC " D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:53:46

Time Test Ended: 22:43:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 76

Interval: 3868.00 ft (KB) To 3894.00 ft (KB) (TVD)

Reference Elevations: 2641.00 ft (KB)

Total Depth: 3894.00 ft (KB) (TVD)

2631.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8960 Outside

Press@RunDepth: psig @ 3869.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.04.01 End Date: 2018.04.01

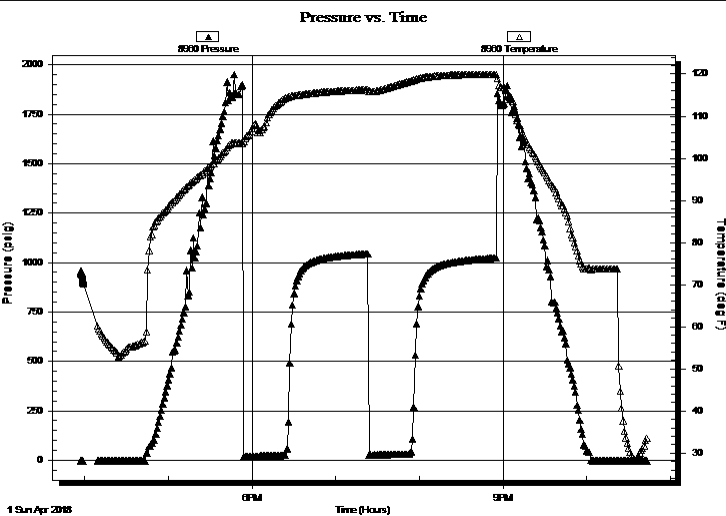
Last Calib.: 2018.04.01

Start Time: 15:57:01 End Time: 22:43:01

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP- Surface Blow Building to 3in.
60-ISIP- Weak Surface Blow in 10min. Died in 7min.
30-FFP- Surface Blow Building to 1 3/4in.
60-FSIP- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	MCW 40% m 60% w Show of Oil in Tool	0.28
0.00	40 GIP	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

Culbreath Oil Gas Co Inc

31 9s 26w Sheridan KS

3501 S Yale Ave
Tulsa OK 74135-8014

Minium R 1-31

Job Ticket: 64521

DST#: 2

ATTN: Larry Nicholson

Test Start: 2018.04.01 @ 15:57:00

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:

55000 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.50 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	MCW 40% m 60% w Show of Oil in Tool	0.281
0.00	40 GIP	0.000

Total Length: 20.00 ft Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .205 @ 48

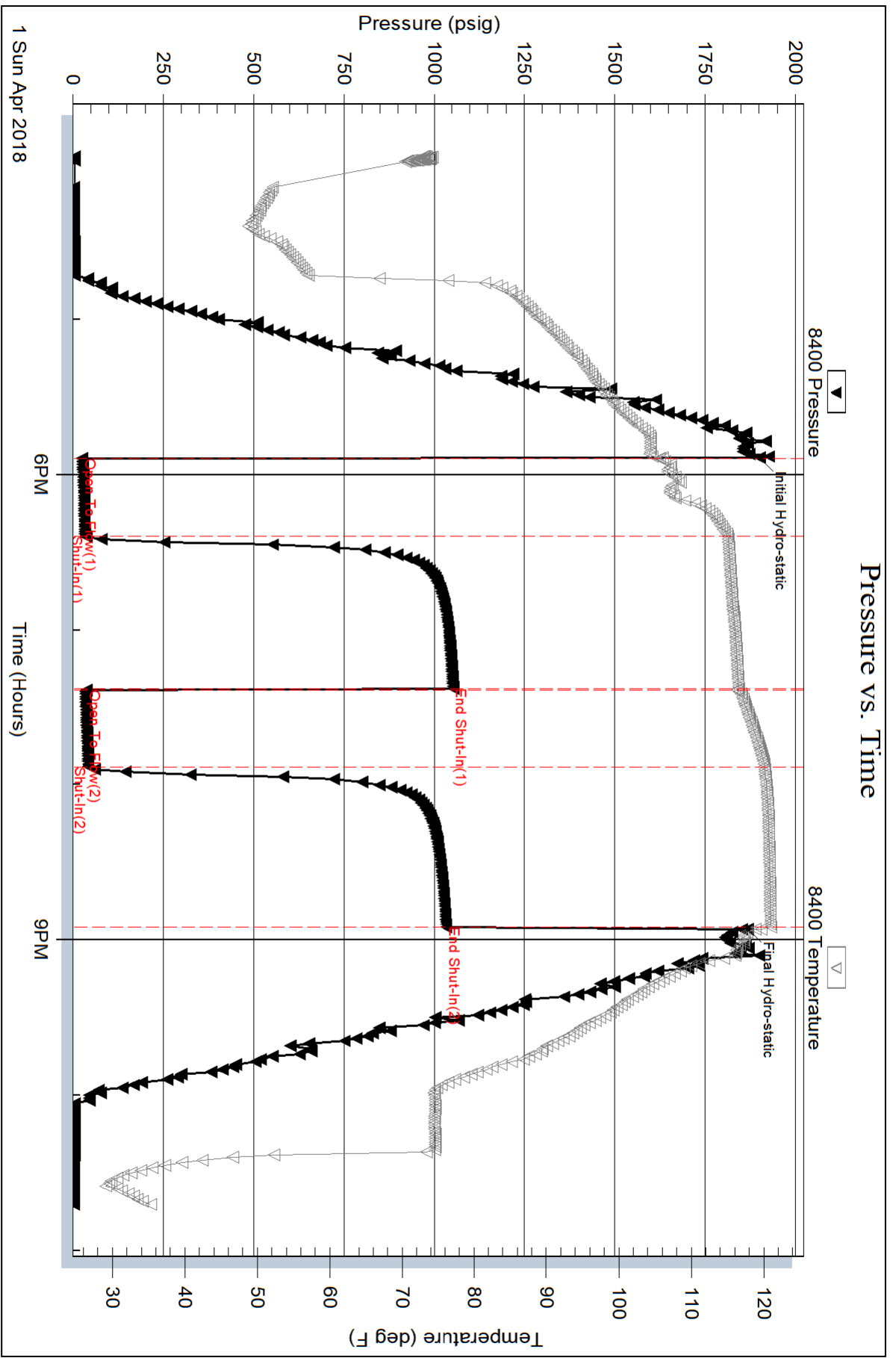
Serial #: 8400

Inside

Culbreath Oil Gas Co Inc

Minium R-1-31

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 64521

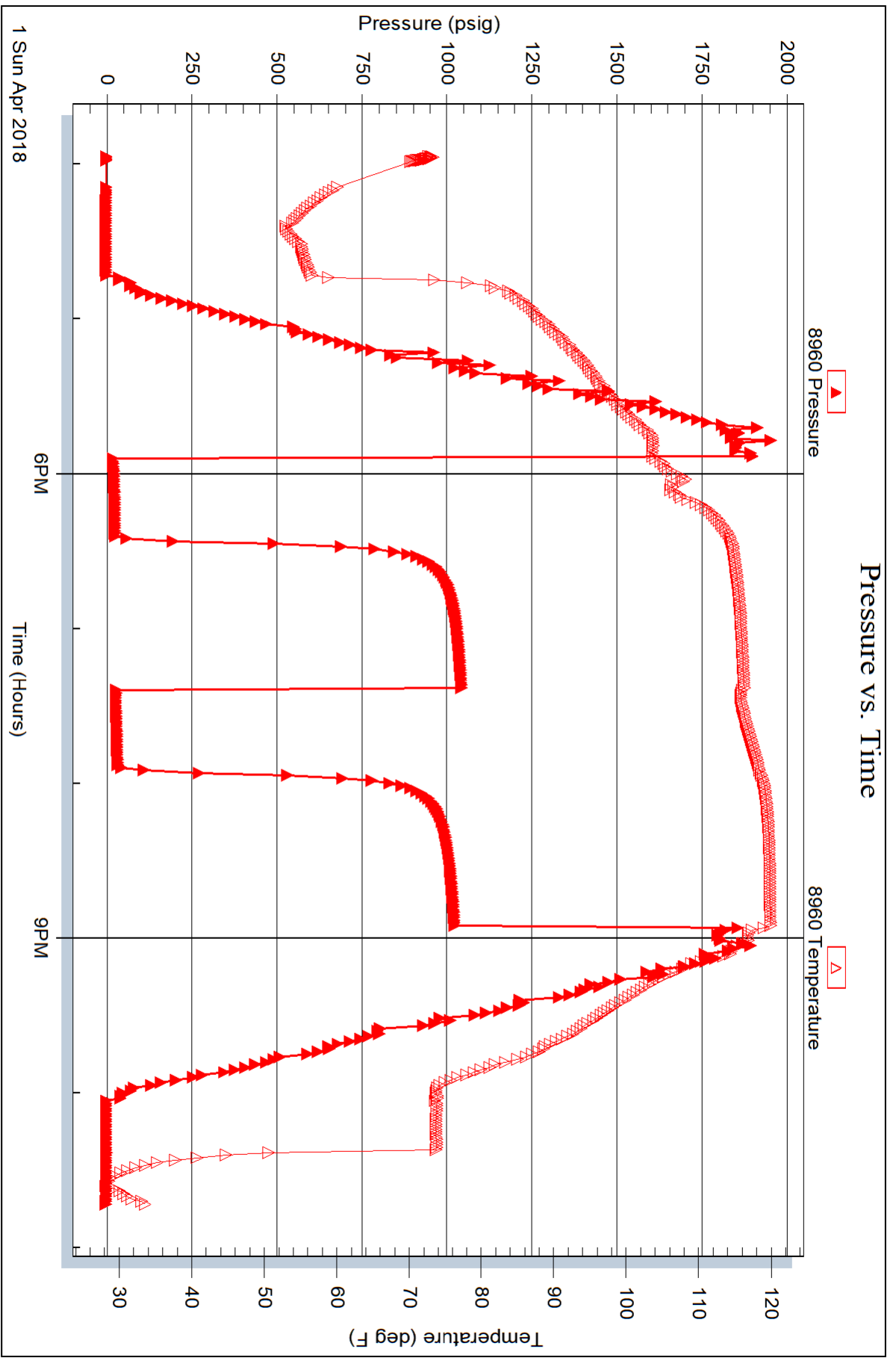
Printed: 2018.04.01 @ 23:11:23

Serial #: 8960

Outside Culbreath Oil Gas Co Inc

Minium R-1-31

DST Test Number: 2





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Culbreath Oil Gas Co Inc
 3501 S Yale Ave
 Tulsa OK 74135-8014
 ATTN: Larry Nicholson

31 9s 26w Sheridan KS

Minium R 1-31

Job Ticket: 64522

DST#: 3

Test Start: 2018.04.02 @ 12:31:00

GENERAL INFORMATION:

Formation: **LKC " H "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:19:16
 Time Test Ended: 22:15:00
 Interval: **3948.00 ft (KB) To 3983.00 ft (KB) (TVD)**
 Total Depth: 3983.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Jim Svaty
 Unit No: 76
 Reference Elevations: 2641.00 ft (KB)
 2631.00 ft (CF)
 KB to GR/CF: 10.00 ft

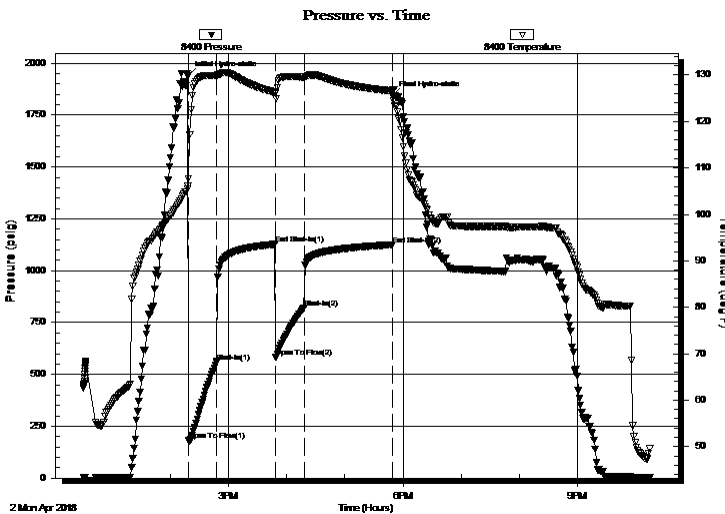
Serial #: 8400

Inside

Press@RunDepth: 821.37 psig @ 3949.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.04.02 End Date: 2018.04.02 Last Calib.: 2018.04.02
 Start Time: 12:31:01 End Time: 22:15:01 Time On Btm: 2018.04.02 @ 14:18:31
 Time Off Btm: 2018.04.02 @ 17:49:31

TEST COMMENT: 30-IFP- BOB in 45sec.
 60-ISIP- BOB in 3min. 45sec.
 30-FFP- BOB in 55sec.
 90-FSIP- BOB in 6min. 40sec.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1938.89	106.23	Initial Hydro-static
1	183.85	107.74	Open To Flow (1)
30	561.43	129.89	Shut-In(1)
90	1128.08	126.28	End Shut-In(1)
91	582.56	125.94	Open To Flow (2)
120	821.37	129.54	Shut-In(2)
211	1125.51	126.56	End Shut-In(2)
211	1842.58	126.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	MCO 40% m 60% o	1.77
2200.00	Gassy Free Oil 50% g 50% o	30.86
0.00	GTS 14min. into 2nd open	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Culbreath Oil Gas Co Inc

31 9s 26w Sheridan KS

3501 S Yale Ave
Tulsa OK 74135-8014

Minium R 1-31

Job Ticket: 64522

DST#: 3

ATTN: Larry Nicholson

Test Start: 2018.04.02 @ 12:31:00

GENERAL INFORMATION:

Formation: **LKC " H "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:19:16

Time Test Ended: 22:15:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 76

Interval: 3948.00 ft (KB) To 3983.00 ft (KB) (TVD)

Reference Elevations: 2641.00 ft (KB)

Total Depth: 3983.00 ft (KB) (TVD)

2631.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8960 Outside

Press@RunDepth: psig @ 3949.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.04.02 End Date: 2018.04.02

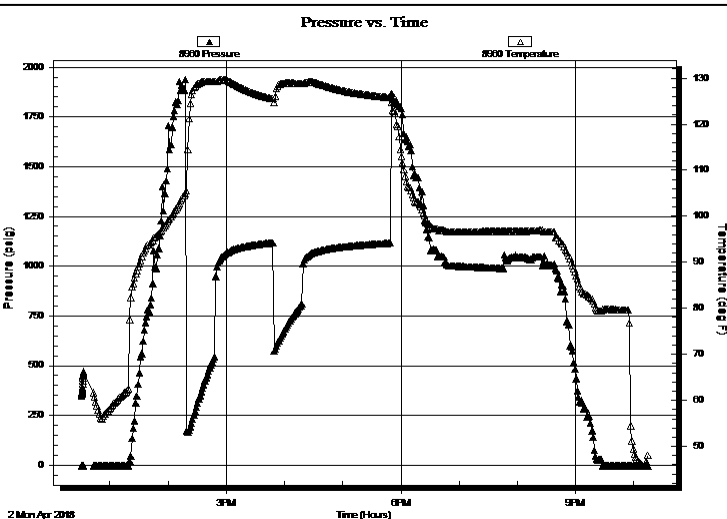
Last Calib.: 2018.04.02

Start Time: 12:31:01 End Time: 22:15:01

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP- BOB in 45sec.
60-ISIP- BOB in 3min. 45sec.
30-FFP- BOB in 55sec.
90-FSIP- BOB in 6min. 40sec.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
126.00	MCO 40% m 60% o	1.77
2200.00	Gassy Free Oil 50% g 50% o	30.86
0.00	GTS 14min. into 2nd open	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

Culbreath Oil Gas Co Inc

31 9s 26w Sheridan KS

3501 S Yale Ave
Tulsa OK 74135-8014

Minium R 1-31

Job Ticket: 64522

DST#: 3

ATTN: Larry Nicholson

Test Start: 2018.04.02 @ 12:31:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.50 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	MCO 40% m 60% o	1.767
2200.00	Gassy Free Oil 50% g 50% o	30.860
0.00	GTS 14min. into 2nd open	0.000

Total Length: 2326.00 ft

Total Volume: 32.627 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8400

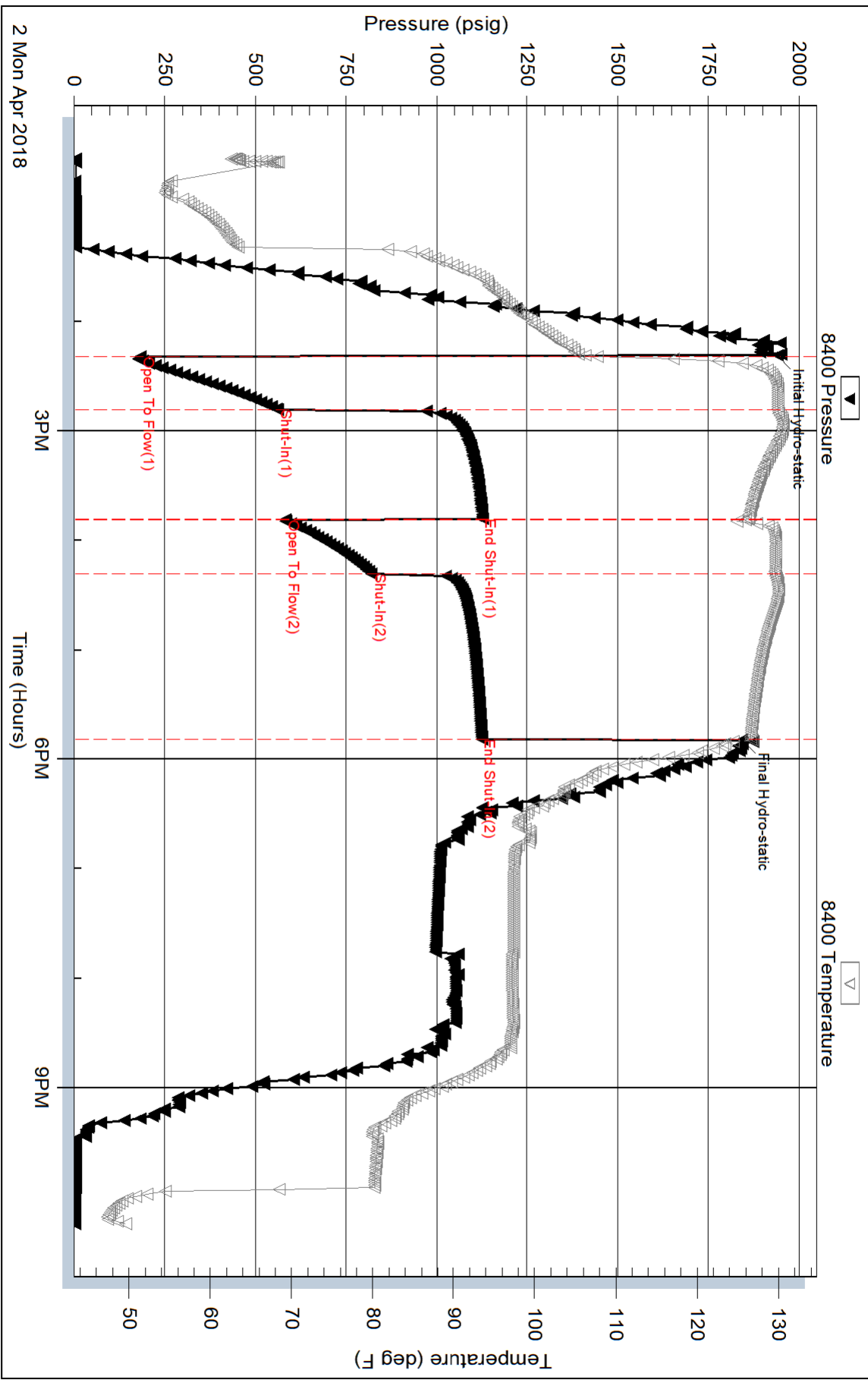
Inside

Culbreath Oil Gas Co Inc

Minium R-1-31

DST Test Number: 3

Pressure vs. Time

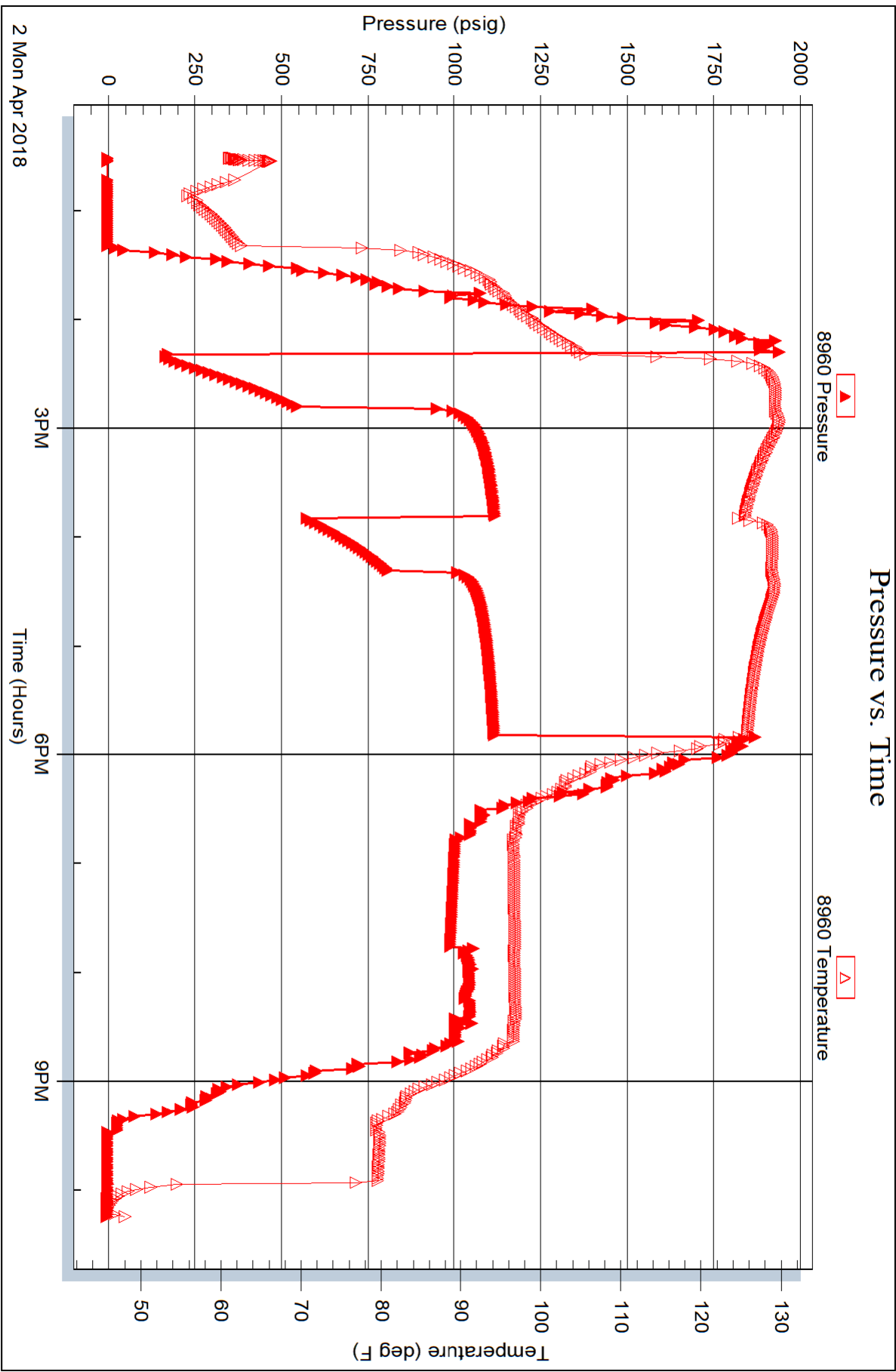


Serial #: 8960

Outside Culbreath Oil Gas Co Inc

Minium R-1-31

DST Test Number: 3





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Culbreath Oil Gas Co Inc
3501 S Yale Ave
Tulsa OK 74135-8014
ATTN: Larry Nicholson

31 9s 26w Sheridan KS

Minium R 1-31

Job Ticket: 64523

DST#: 4

Test Start: 2018.04.03 @ 09:54:00

GENERAL INFORMATION:

Formation: **LKC " J "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:39:46
 Time Test Ended: 18:30:00
 Interval: **3994.00 ft (KB) To 4020.00 ft (KB) (TVD)**
 Total Depth: 4020.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Jim Svaty
 Unit No: 76
 Reference Elevations: 2643.00 ft (KB)
 2633.00 ft (CF)
 KB to GR/CF: 10.00 ft

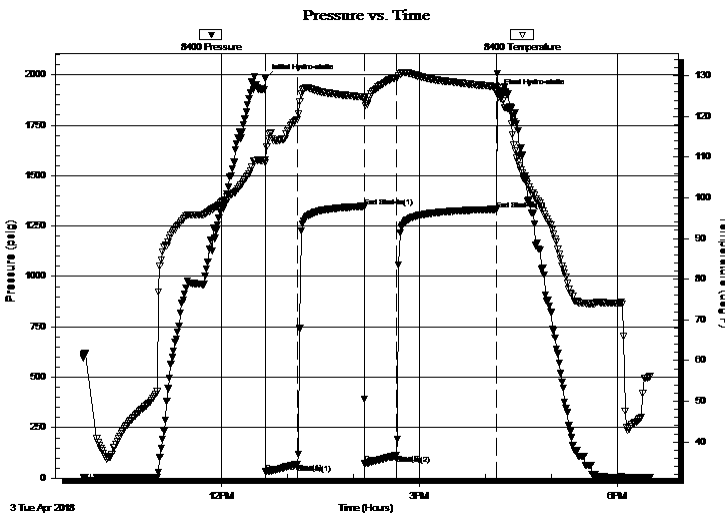
Serial #: 8400

Inside

Press@RunDepth: 113.48 psig @ 3995.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.04.03 End Date: 2018.04.03 Last Calib.: 2018.04.03
 Start Time: 09:54:01 End Time: 18:29:46 Time On Btm: 2018.04.03 @ 12:39:31
 Time Off Btm: 2018.04.03 @ 16:10:46

TEST COMMENT: 30-IFP- BOB in 4 1/2min.
 60-ISIP- Surface Blow Building to 1in. In 10min.
 30-FFP- BOB in 5min.
 90-FSIP- Surface Blow Building to 7in. In 30min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1982.10	109.39	Initial Hydro-static
1	30.44	108.58	Open To Flow (1)
30	69.78	119.31	Shut-In(1)
90	1347.16	124.78	End Shut-In(1)
91	74.03	124.01	Open To Flow (2)
120	113.48	129.49	Shut-In(2)
211	1333.24	127.30	End Shut-In(2)
212	1908.30	126.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	GMCO 20%g 30%m 50%o	0.88
189.00	GCO 20%g 80%o	2.65
0.00	1008 GIP	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

Culbreath Oil Gas Co Inc

31 9s 26w Sheridan KS

3501 S Yale Ave
Tulsa OK 74135-8014

Minium R 1-31

Job Ticket: 64523

DST#: 4

ATTN: Larry Nicholson

Test Start: 2018.04.03 @ 09:54:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	GMCO 20%g 30%m 50%o	0.884
189.00	GCO 20%g 80%o	2.651
0.00	1008 GIP	0.000

Total Length: 252.00 ft Total Volume: 3.535 bbl

Num Fluid Samples: 0

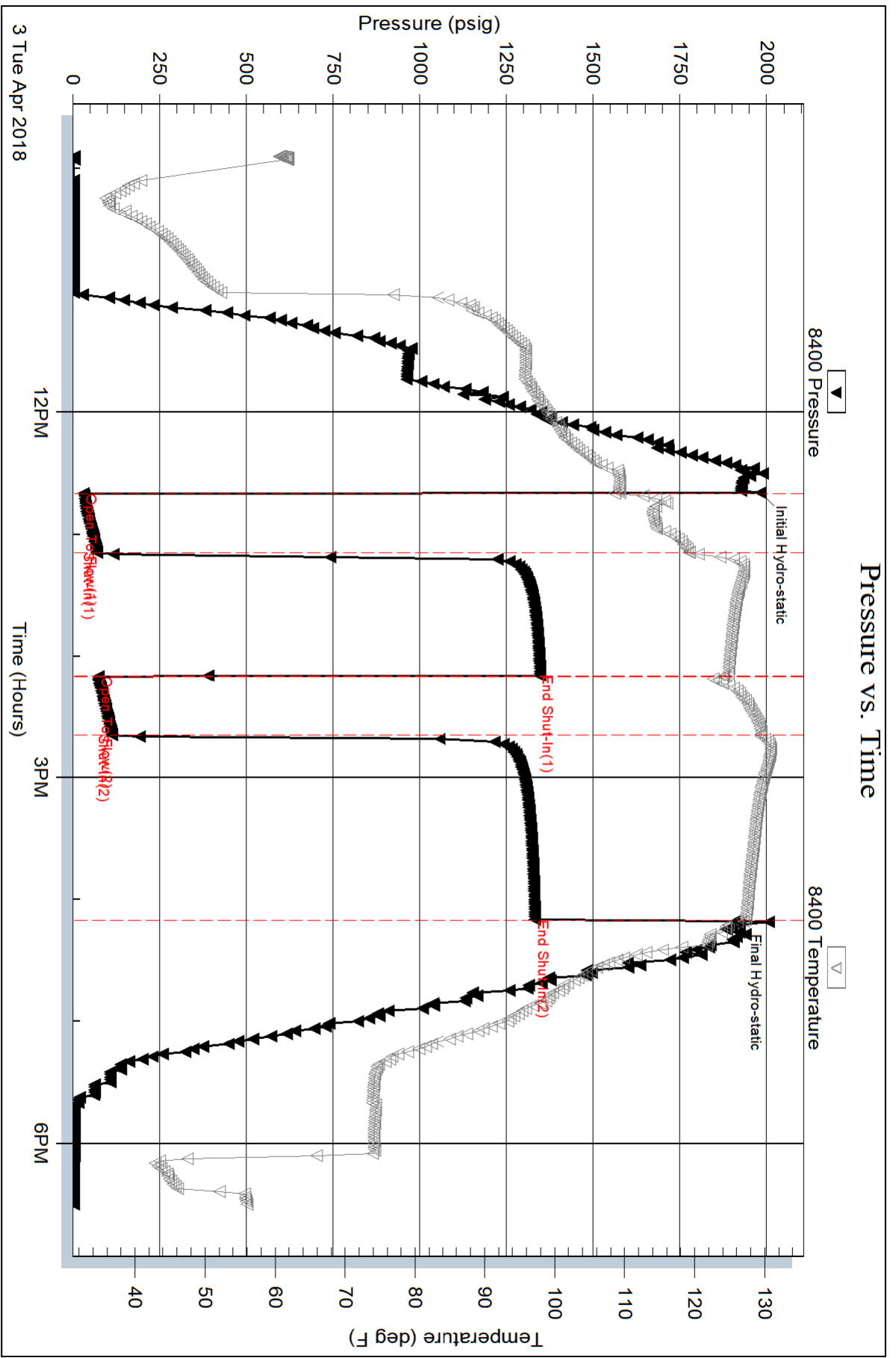
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

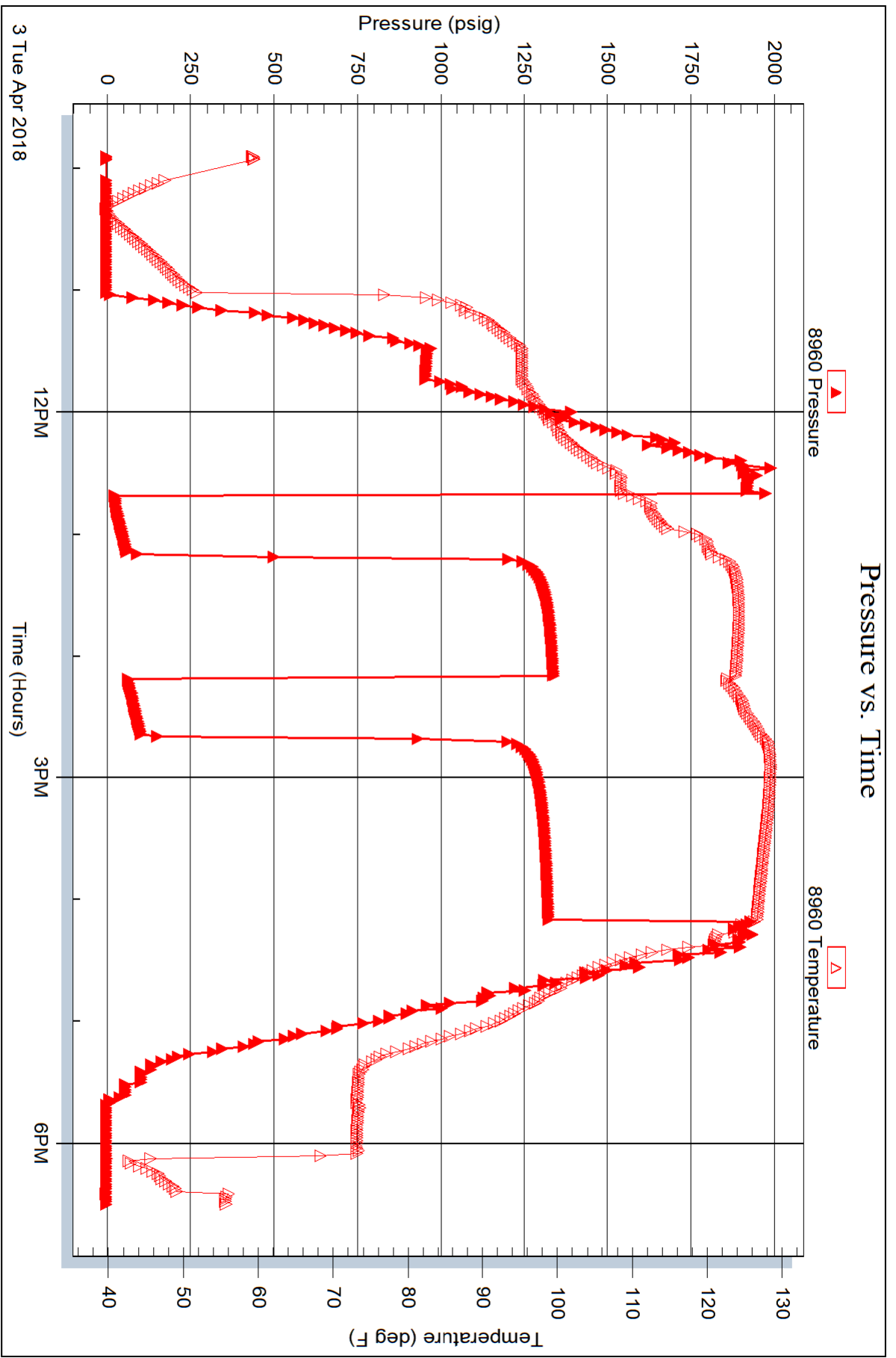


Serial #: 8960

Outside Culbreath Oil Gas Co Inc

Minium R-1-31

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 64523

Printed: 2018.04.03 @ 21:00:13



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Culbreath Oil Gas Co Inc
 3501 S Yale Ave
 Tulsa OK 74135-8014
 ATTN: Larry Nicholson

31 9s 26w Sheridan KS

Minium R 1-31

Job Ticket: 64524

DST#: 5

Test Start: 2018.04.04 @ 02:08:00

GENERAL INFORMATION:

Formation: **LKC " K "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:31:16

Time Test Ended: 08:35:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 76

Interval: 4018.00 ft (KB) To 4043.00 ft (KB) (TVD)

Reference Elevations: 2643.00 ft (KB)

Total Depth: 4043.00 ft (KB) (TVD)

2633.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8400

Inside

Press@RunDepth: 26.78 psig @ 4019.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.04.04

End Date:

2018.04.04

Last Calib.:

2018.04.04

Start Time: 02:08:01

End Time:

08:34:46

Time On Btm:

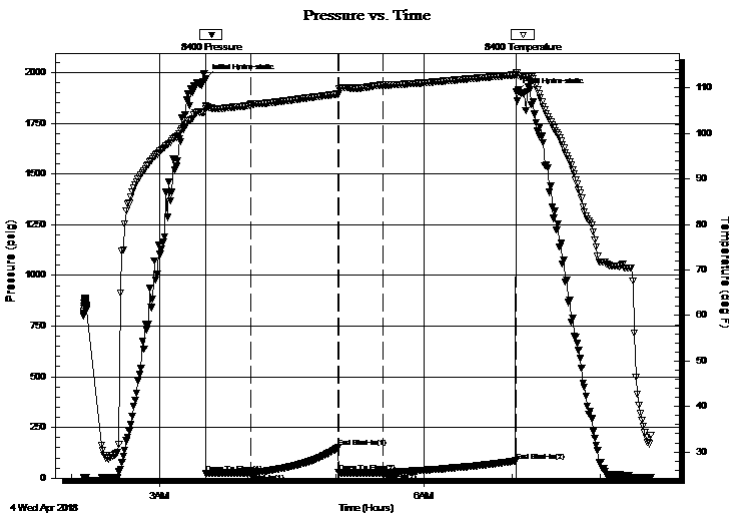
2018.04.04 @ 03:31:01

Time Off Btm:

2018.04.04 @ 07:02:31

TEST COMMENT: 30-IFP- Surface Blow Building to 1 1/2in. In 20min.
 60-ISIP- No Blow
 30-FFP- Surface Blow in 20min.
 90-FSIP- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1968.49	106.05	Initial Hydro-static
1	23.74	105.32	Open To Flow (1)
31	25.66	106.41	Shut-In(1)
91	150.16	108.66	End Shut-In(1)
91	26.77	108.82	Open To Flow (2)
121	26.78	110.63	Shut-In(2)
212	83.91	112.87	End Shut-In(2)
212	1903.55	113.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
4.00	OCM 10%o 90%m	0.06

Gas Rates

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

* Recovery from multiple tests

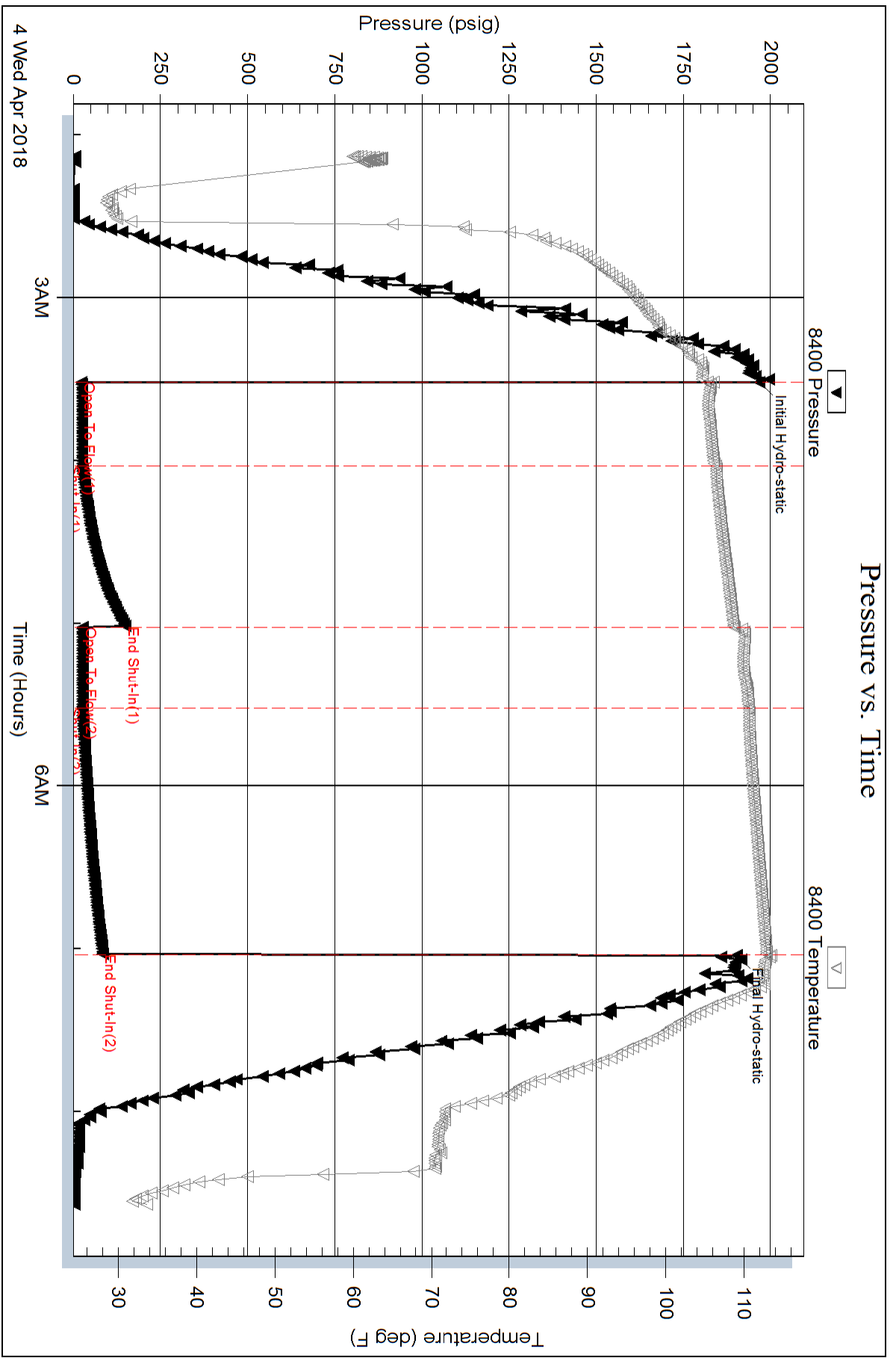
Serial #: 8400

Inside

Culbreath Oil Gas Co Inc

Minium R-1-31

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 64524

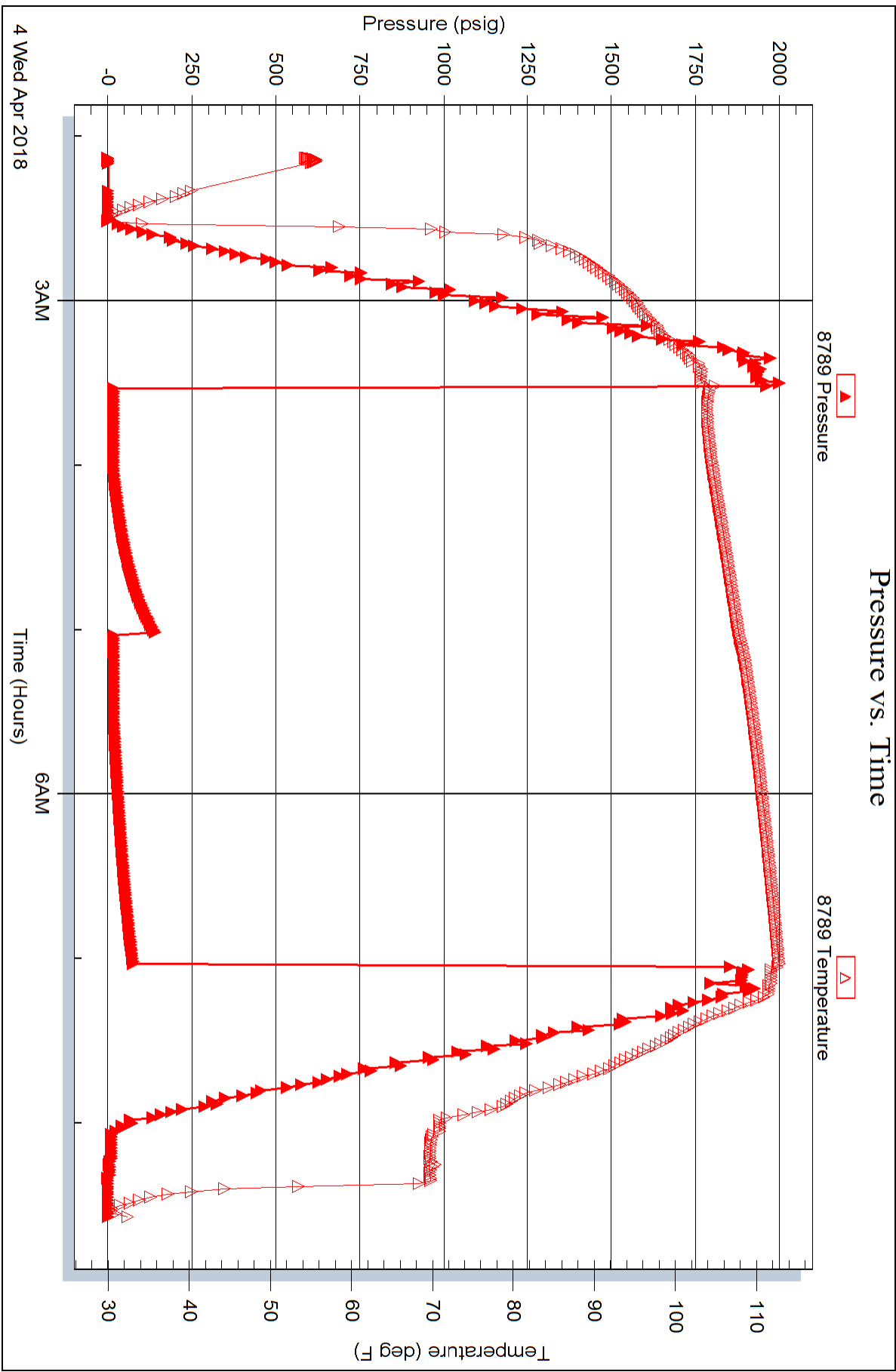
Printed: 2018.04.04 @ 09:04:06

Serial #: 8789

Outside Culbreath Oil Gas Co Inc

Minium R 1-31

DST Test Number: 5

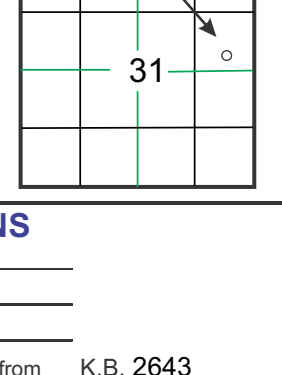


GEOLOGICAL REPORT

Larry A. Nicholson

NAD 83
39.22746904
-100.2589836

COMPANY Culbreath Oil & Gas Company, Inc.
API # 15-179-21445 FIELD Wildcat
LEASE Minium R WELL # #1-31
LOCATION W2 SE SE NE
SURVEY 2240' FNL 550' FEL
SECTION 31 TWP 9S RGE 26W
COUNTY Sheridan STATE Ks



CONTRACTOR SouthWind TP Wes Pfaff Rig # 1
SPUD 03-26-18 5:30 pm COMD 04-06-19 5:04 am K.B. 2643
RTD 4399 LTD 4387 (fill) D.F.
MUD UP AT 3319-3336 G.L. 2633
MUD TYPE Chemical, Andy's Aaron Blew All measurements from K.B. 2643

ELEVATIONS

CASING RECORD
Conductor of _____ ft _____ in
Surface 266 of 8 5/8 in 225 ft
Production of _____ ft _____ in

ELECTRICAL SURVEYS

Halliburton RES. POR. MICRO. SONIC. SURV. AHV

FORMATION TOPS & STRUCTURAL POSITION

FORMATION	SAMPLE TOPS	SUBSEA DATUM	ELEC LOG TOPS		SUBSEA DATUM		REFERENCE WELL	
			LOGS	DATUM	A	B		
Anyndrite			2232	+411	2251	+400	+11	
Base			2270	+373	2286	+365	+18	
Topeka			3578	-935	3604	-953	+18	
Heabner			3788	-1145	3814	-1163	+18	
Lansing			3828	-1185	3852	-1201	+16	
M Creek			3944	-1303	3972	-1321	+18	
H zone			3959	-1316	3986	-1335	+19	
Stark			4012	-1369	4040	-1389	+20	
K zone			4019	-1376	4048	-1397	+21	
BKC			4051	-1408	4082	-1431	+23	
Cherokee			4291	-1648	4320	-1669	+21	
RTD			4399	-1756	4380	-1729		
LTD			4387	-1744	4388	-1737		

REFERENCE WELLS
A: Skyline Petroleum McWilliams #1 Sec 32 T9S R26W NW SW NE KB 2651
B: _____

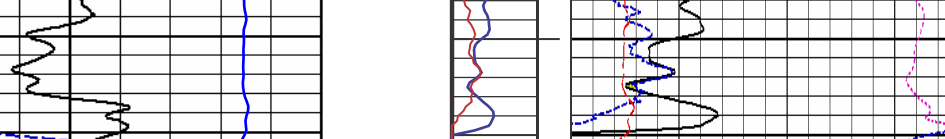
DRILLSTEM TEST SUMMARY :

REMARKS & RECOMMENDATIONS:
Based on sample shows, dst recovery & pressures,
5 1/2" csg was run

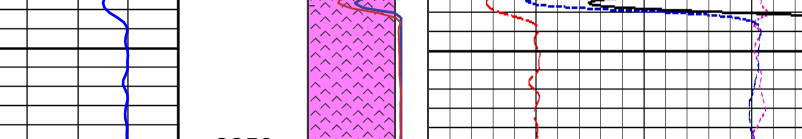
* Note ROP moved up 1 ft. Dts should be
moved up 1 foot to align with logs.

LAN 7192, Modified 5/05, 11/11, 4/12, 4/18
1 inch = 25.4 mm 8.5 x 9.5 216 mm x 2460 mm

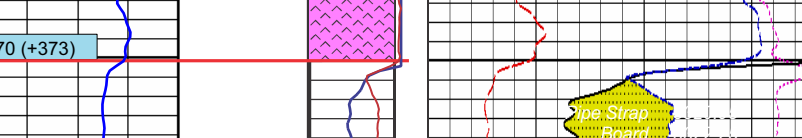
LEGEND



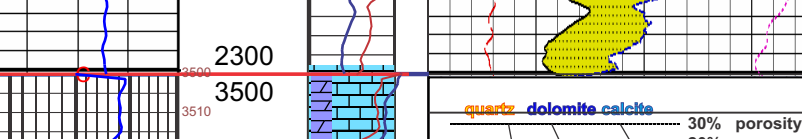
GAMMA RAY / SP



DEPTH



LITHOLOGY



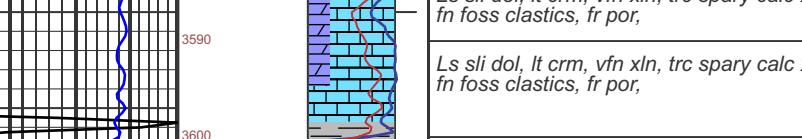
SAMPLE DESCRIPTIONS

Remarks and sample descriptions for various depths, including formation names and lithological details.

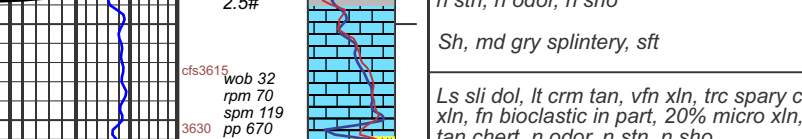
REMARKS

Operational notes, well status, and other remarks related to the drilling process.

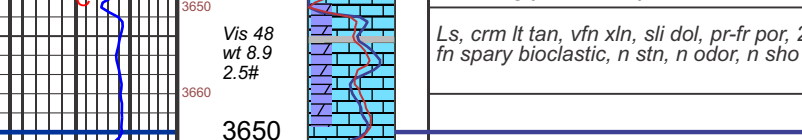
PER FOOT



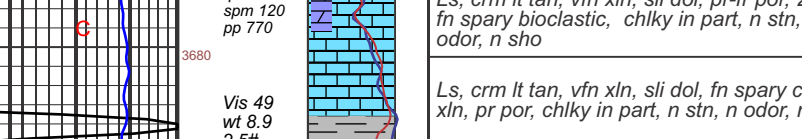
DRILLING TIME IN MINUTES



CALIPER



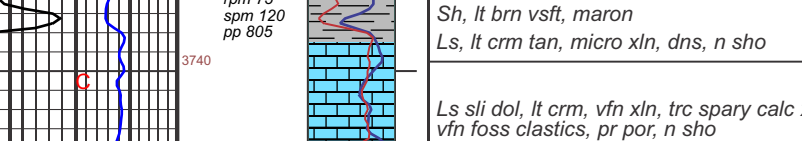
WIPER TRIP STANDS



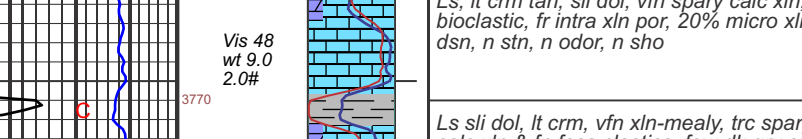
RTD 4399 5:04 am 04/06/2018

RTD 4399 5:04 am 04/06/2018 LTD 4387

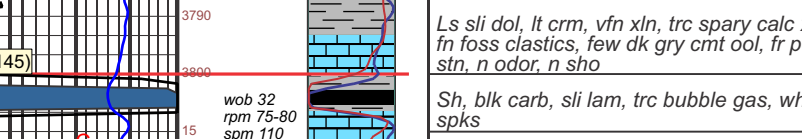
GAMMA RAY / SP



DEPTH



LITHOLOGY



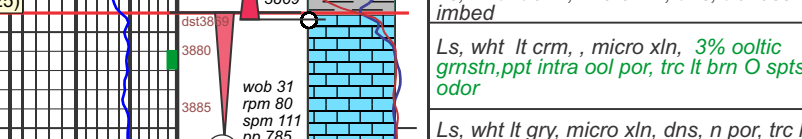
SAMPLE DESCRIPTIONS

Remarks and sample descriptions for the lower section.

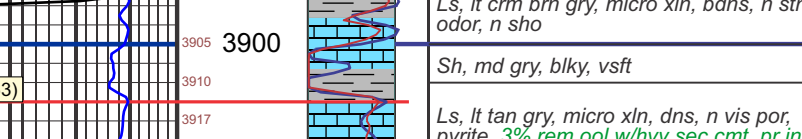
REMARKS

Operational notes and remarks for the lower section.

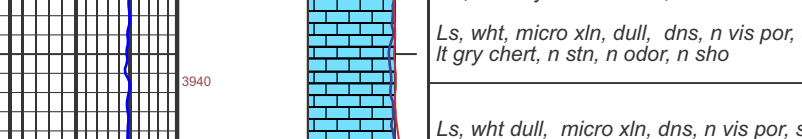
PER FOOT



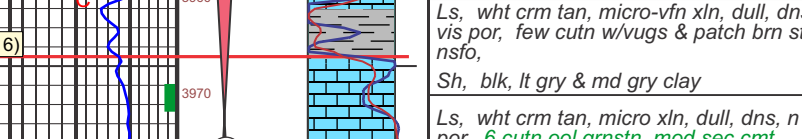
DRILLING TIME IN MINUTES



CALIPER

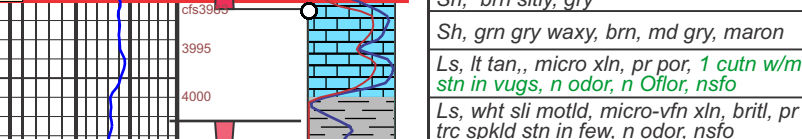


WIPER TRIP STANDS

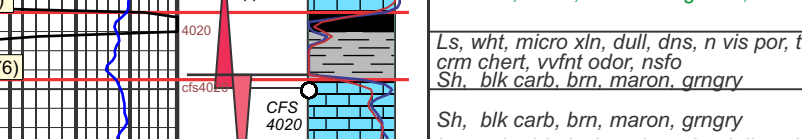


RTD 4399 5:04 am 04/06/2018 LTD 4387

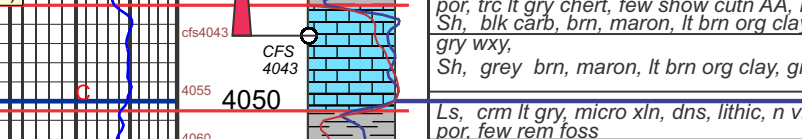
GAMMA RAY / SP



DEPTH



LITHOLOGY



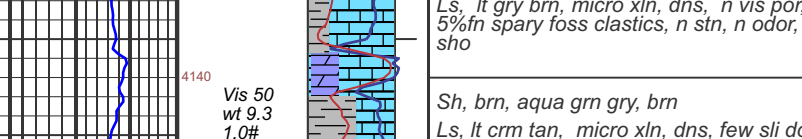
SAMPLE DESCRIPTIONS

Remarks and sample descriptions for the bottom section.

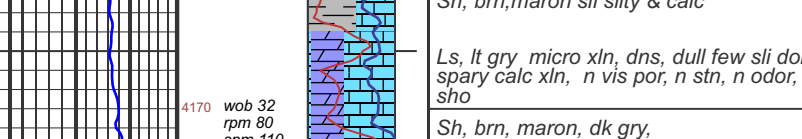
REMARKS

Operational notes and remarks for the bottom section.

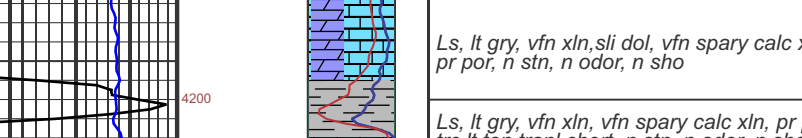
PER FOOT



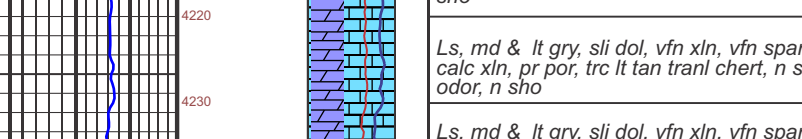
DRILLING TIME IN MINUTES



CALIPER

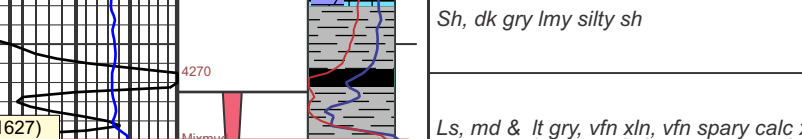


WIPER TRIP STANDS

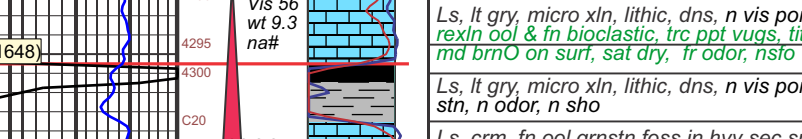


RTD 4399 5:04 am 04/06/2018 LTD 4387

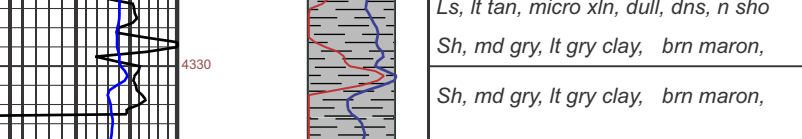
GAMMA RAY / SP



DEPTH



LITHOLOGY



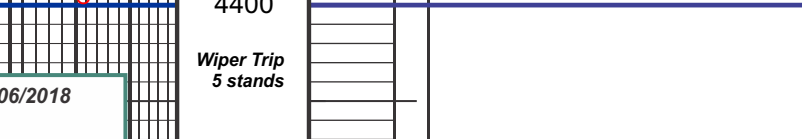
SAMPLE DESCRIPTIONS

Remarks and sample descriptions for the very bottom section.

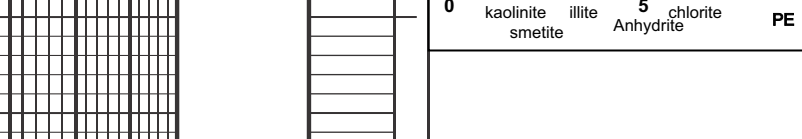
REMARKS

Operational notes and remarks for the very bottom section.

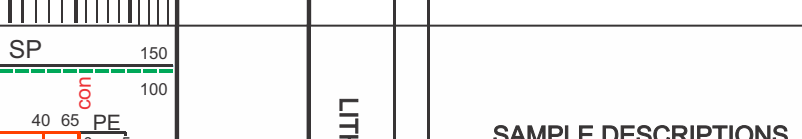
PER FOOT



DRILLING TIME IN MINUTES



CALIPER



WIPER TRIP STANDS



RTD 4399 5:04 am 04/06/2018 LTD 4387

GAMMA RAY / SP



DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

Remarks and sample descriptions for the final section.

REMARKS

Operational notes and remarks for the final section.

PER FOOT

DRILLING TIME IN MINUTES

CALIPER

WIPER TRIP STANDS

RTD 4399 5:04 am 04/06/2018 LTD 4387

GAMMA RAY / SP

DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

Remarks and sample descriptions for the bottom-most section.

REMARKS

Operational notes and remarks for the bottom-most section.

PER FOOT

DRILLING TIME IN MINUTES

CALIPER

WIPER TRIP STANDS

RTD 4399 5:04 am 04/06/2018 LTD 4387

GAMMA RAY / SP

DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

Remarks and sample descriptions for the final-most section.

REMARKS

Operational notes and remarks for the final-most section.

PER FOOT

DRILLING TIME IN MINUTES

CALIPER

WIPER TRIP STANDS

RTD 4399 5:04 am 04/06/2018 LTD 4387

GAMMA RAY / SP

DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

Remarks and sample descriptions for the very final section.

REMARKS

Operational notes and remarks for the very final section.

PER FOOT

DRILLING TIME IN MINUTES

CALIPER

WIPER TRIP STANDS

RTD 4399 5:04 am 04/06/2018 LTD 4387

GAMMA RAY / SP

DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

Remarks and sample descriptions for the final-most section.

REMARKS

Operational notes and remarks for the final-most section.

PER FOOT

DRILLING TIME IN MINUTES

CALIPER

WIPER TRIP STANDS

RTD 4399 5:04 am 04/06/2018 LTD 4387

GAMMA RAY / SP

DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

Remarks and sample descriptions for the final-most section.

REMARKS

Operational notes and remarks for the final-most section.

PER FOOT

DRILLING TIME IN MINUTES

CALIPER

WIPER TRIP STANDS

RTD 4399 5:04 am 04/06/2018 LTD 4387

GAMMA RAY / SP

DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

Remarks and sample descriptions for the final-most section.

REMARKS

Operational notes and remarks for the final-most section.

PER FOOT

DRILLING TIME IN MINUTES

CALIPER

WIPER TRIP STANDS

RTD 4399 5:04 am 04/06/2018 LTD 4387

GAMMA RAY / SP

DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

Remarks and sample descriptions for the final-most section.

REMARKS

Operational notes and remarks for the final-most section.

PER FOOT

DRILLING TIME IN MINUTES

CALIPER

WIPER TRIP STANDS

RTD 4399 5:04 am 04/06/2018 LTD 4387

GAMMA RAY / SP

DEPTH



PRESSURE PUMPING LLC
 PO Box 884, Chanute, KS 66720
 620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
 CEMENT

TICKET NUMBER 55100
 LOCATION Oakley Ks
 FOREMAN Jerry Y

Walt D
 Invoice # 812885 Ks

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
4-7-18	2777	Miniam R 131	31	9S	26W	Sheridan
CUSTOMER			TRUCK #	DRIVER	TRUCK #	DRIVER
Columbia			753	P.D.W.		
MAILING ADDRESS			566	Travis W		
3501 South Yale Avenue			772 T127	Miles S		
CITY	STATE	ZIP CODE				
Tulsa	OK	74135				

JOB TYPE 2 Stage HOLE SIZE 7 7/8 HOLE DEPTH 4387 CASING SIZE & WEIGHT 5 1/2 15.5#
 CASING DEPTH 4211 DRILL PIPE _____ TUBING _____ OTHER DV @ 2226'
 SLURRY WEIGHT 14.6/11.5 SLURRY VOL 14/19 WATER gal/sk _____ CEMENT LEFT in CASING 42'
 DISPLACEMENT 99/53 DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting prior upon Southwest run float gain scratches x4 on 3,4,5,6,7,8,9,10
centralizers on 2,4,5,6,7,9,10,13,46 baskets on 3,14,47 DV Tool top of 47 set @ 2226'
run in to bottom Circ 115 438 while reciprocating pump 5 bbl th @ mud flush 20 bbl KCL
mix 175 sks Thixoblend III 5# Kalseal shut down release plug clean pump & lines displace with
5 bbl water and 5 bbl mud final lift 1000# plug landed 1800# released back float held open
tool @ 1000# circ 3 hrs pump 5 bbl th @ ahead mix mud flush 5 bbl anchor spacer mix 37.5 sks
60/40 88 gel 1st flo seal shut down release plug clean pump & lines displace with 53 bbl water
final lift 600# plug landed & tool closed @ 2000# released back & float held
circulated cement to surface
 30 sks Rlt 20 sks m# SN 2019527
 Thank you
 Jerry screws

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0453	1	PUMP CHARGE	2800.00	2800.00
CE0002	40	MILEAGE	7.15	286.00
CE0710	26.72	ten mileage delivery	1.75	1870.40
CE5862	175 sks	Thixoblend III	26.00	4550.00
CE6077	875 #	Kal seal	.50	437.50
CE5831	425 sks	Liteblend VII	17.50	7437.50
CE6075	107 #	Flo seal	3.00	321.00
CE6125	10265 gal	mud flush	1.65	650.00
CE5300	2 gal	KCL	39.00	78.00
CP8485	1	5 1/2 APLU float shoe	585.00	585.00
CP8254	1	5 1/2 latchdown cassy	400.00	400.00
CP8554	9	5 1/2 centralizers	80.00	720.00
CP8629	3	5 1/2 baskets	385.00	1155.00
CP8676	82	5 1/2 scratches	75.00	2400.00
CP8801	1	5 1/2 DV Tool	5970.00	5970.00
		Subtotal		29669.40
		-30%		8900.82
		Subtotal		20768.58
		SALES TAX		1470.43
		ESTIMATED TOTAL		22,239.00

Ravin 3737

AUTHORIZATION [Signature] TITLE _____ DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



PRESSURE PUMPING LLC
PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

10305
10197

TICKET NUMBER 55060
LOCATION Oakley Ks
FOREMAN Jerry Y

FIELD TICKET & TREATMENT REPORT
CEMENT

Invoice # 812741 KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
3-27-18	2777	Meriam R 1-31	31	95	26 ^W	Shenandoah
CUSTOMER		Quinta to 1001 W 1/2 N W 8 N 140				
MAILING ADDRESS		3501 South Yale Avenue				
CITY	STATE	ZIP CODE	TRUCK #	DRIVER	TRUCK #	DRIVER
Tulsa	OK	74135	731	PD W		
			772-7127	Neil W		

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 266 CASING SIZE & WEIGHT 8 5/8 23#
 CASING DEPTH 266 DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 15.2 SLURRY VOL 6.24 WATER gal/sk _____ CEMENT LEFT in CASING 20'
 DISPLACEMENT 15 1/4 bbl DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Salty meeting a rig up on Southwind 1 circulate casing mix 220 sks com 3% CC 2% gel wash up & displace with 15 1/4 bbl water & shut in
found cement in celler

Thank you
Jerry & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0471	1	PUMP CHARGE	1150.00	1150.00
CE0002	40	MILEAGE	7.15	286.00
CE0710	10.34	ton mileage delivery	1.75	723.80
095 CC5871	220 sks	surface blend II	24.00	5280.00
			subtotal	7439.80
			-30%	2231.94
			subtotal	5207.86
			SALES TAX	314.16
			ESTIMATED TOTAL	5522.02

Ravin 3737
 AUTHORIZATION [Signature] TITLE [Signature] DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.