

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) (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	Black Oak Exploration, LLC
Well Name	CARLSON 1-1
Doc ID	1661905

All Electric Logs Run

POR
MICRO
DIL
SONIC

Black Oak Exploration, LLC

WELL COMPARISON SHEET

Company: Black Oak Exploration, LLC
 1474 S St Paul St
 Denver, CO 80210

Well: Carlson 1-1
 Location: 1707 FNL / 1620 FEL 1 - 5S - 32W
 Rawlins Co., KS

Elevation: 2937' GL 2942' KB
 Field: Wildcat
 API No: 15-153-21270-0000
 Surface Casing: 8 5/8" set @ 248' KB

Contact: Clayton Camozzi 303-968-4999 (Cell)

Wellsite Geologist: Tim Hedrick Cell: (580) 754-0062

Drilling Contractor: Murfin Drilling Co Rig #108. Rig Phone (785-259-0816), Tool Pusher Justin Polfus (402-318-1972)

2' Uphole Correction
 Drill time vs E-logs

DRILLING WELL				
Carlson 1-1 1707 FNL / 1620 FEL 1 - 5S - 32W				
2942 KB				
Formation	Sample	Sub-Sea	Log	Sub-Sea
Stone Corral	2678	264	2678	264
Topeka	3731	-789	3732	-790
LeCompton	3842	-900	3843	-901
Heebner	3902	-960	3900	-958
Lansing	3945	-1003	3948	-1006
Lansing C	3975	-1033	3978	-1036
Lansing F	4016	-1074	4022	-1080
Lansing J	4115	-1173	4114	-1172
BKC	4183	-1241	4180	-1238
Pawnee	4305	-1363	4299	-1357
Fort Scott	4329	-1387	4326	-1384
Cherokee	4373	-1431	4372	-1430
Mississippian	4492	-1550	4499	-1557
Arbuckle	4608	-1666	4612	-1670
Total Depth	4650	-1708	4648	-1706

COMPARISON WELL			
Brown 1-A		Empire Drlg Co: D&A	
660 FNL / 1980 FWL 36 - 4S - 32W			
2832 KB		Structural Relationship	
Log	Sub-Sea	Sample	Log
2570	262	2	2
3625	-793	4	3
3732	-900	0	-1
3794	-962	2	4
3839	-1007	4	1
3868	-1036	3	0
3912	-1080	6	0
4004	-1172	-1	0
4075	-1243	2	5
NDE			
NDE			
NDE			
NDE			
NDE			
4085	-1253		

COMPARISON WELL			
Dan-Dirks B 1-10		McCoy Pet: D&A	
580 FSL / 680 FEL 10 - 5S - 32W			
3002 KB		Structural Relationship	
Log	Sub-Sea	Sample	Log
2718	284	-20	-20
3759	-757	-32	-33
3871	-869	-31	-32
3930	-928	-32	-30
3976	-974	-29	-32
4006	-1004	-29	-32
4048	-1046	-28	-34
4151	-1149	-24	-23
4222	-1220	-21	-18
4344	-1342	-21	-15
4379	-1377	-10	-7
4413	-1411	-20	-19
4543	-1541	-9	-16
NDE			
4620	-1618		



DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S St Paul St
Denver, Co 80210

ATTN: Tim Hedrick

Carlson #1-1

1-5s-32w Rawlins,KS

Start Date: 2022.05.17 @ 09:31:41

End Date: 2022.05.17 @ 18:36:41

Job Ticket #: 68789 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.05.24 @ 16:46:33



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Black Oak Exploration

1-5s-32w Rawlins,KS

1474 S St Paul St
Denver, Co 80210

Carlson #1-1

Job Ticket: 68789

DST#: 1

ATTN: Tim Hedrick

Test Start: 2022.05.17 @ 09:31:41

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:25:41

Time Test Ended: 18:36:41

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: 3900.00 ft (KB) To 3942.00 ft (KB) (TVD)

Reference Elevations: 2947.00 ft (KB)

Total Depth: 3942.00 ft (KB) (TVD)

2942.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8674 Outside

Press@RunDepth: 63.95 psig @ 3901.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.05.17 End Date: 2022.05.17

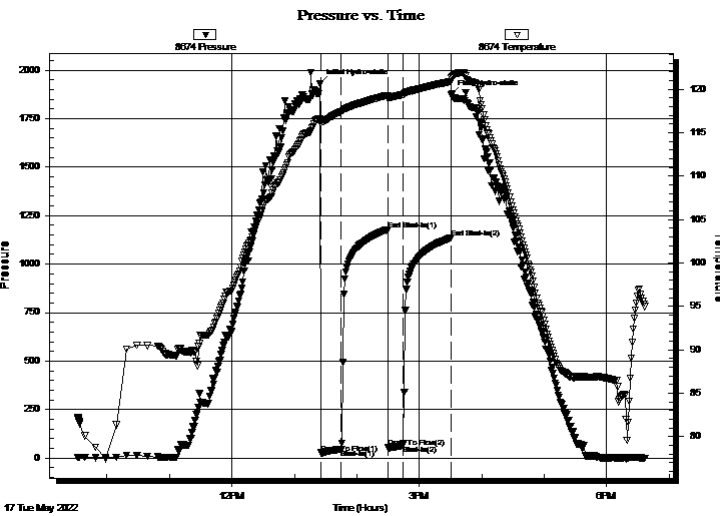
Last Calib.: 2022.05.17

Start Time: 09:31:46 End Time: 18:36:41

Time On Btm: 2022.05.17 @ 13:24:41

Time Off Btm: 2022.05.17 @ 15:30:41

TEST COMMENT: IF: Surface blow built to 2"
IS: No return.
FF: Surface blow built to 1 1/4"
FS: No return. 20-45-15-45



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1928.84	116.65	Initial Hydro-static
1	25.53	116.03	Open To Flow (1)
21	46.19	117.44	Shut-In(1)
65	1177.25	119.30	End Shut-In(1)
66	52.77	118.96	Open To Flow (2)
80	63.95	119.37	Shut-In(2)
126	1134.61	120.90	End Shut-In(2)
126	1875.22	121.28	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	mud oil spots 100%m	0.44

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Oak Exploration

1-5s-32w Rawlins,KS

1474 S St Paul St
Denver, Co 80210

Carlson #1-1

Job Ticket: 68789

DST#: 1

ATTN: Tim Hedrick

Test Start: 2022.05.17 @ 09:31:41

Tool Information

Drill Pipe:	Length: 3787.00 ft	Diameter: 3.80 inches	Volume: 53.12 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose:	95000.00 lb
			<u>Total Volume: 53.70 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	80000.00 lb
Depth to Top Packer:	3900.00 ft			Final	80000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	42.00 ft				
Tool Length:	69.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00		Fluid	3874.00	
Shut In Tool	5.00			3879.00	
Hydraulic tool	5.00			3884.00	
Jars	5.00			3889.00	
Safety Joint	2.00			3891.00	
Packer	5.00			3896.00	27.00 Bottom Of Top Packer
Packer	4.00			3900.00	
Stubb	1.00			3901.00	
Recorder	0.00	8790	Inside	3901.00	
Recorder	0.00	8674	Outside	3901.00	
Perforations	4.00			3905.00	
Change Over Sub	1.00			3906.00	
Drill Pipe	32.00			3938.00	
Change Over Sub	1.00			3939.00	
Bullnose	3.00			3942.00	42.00 Bottom Packers & Anchor

Total Tool Length: 69.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

1-5s-32w Rawlins,KS

1474 S St Paul St
Denver, Co 80210

Carlson #1-1

Job Ticket: 68789

DST#: 1

ATTN: Tim Hedrick

Test Start: 2022.05.17 @ 09:31:41

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	mud oil spots 100%m	0.443

Total Length: 90.00 ft Total Volume: 0.443 bbl

Num Fluid Samples: 0

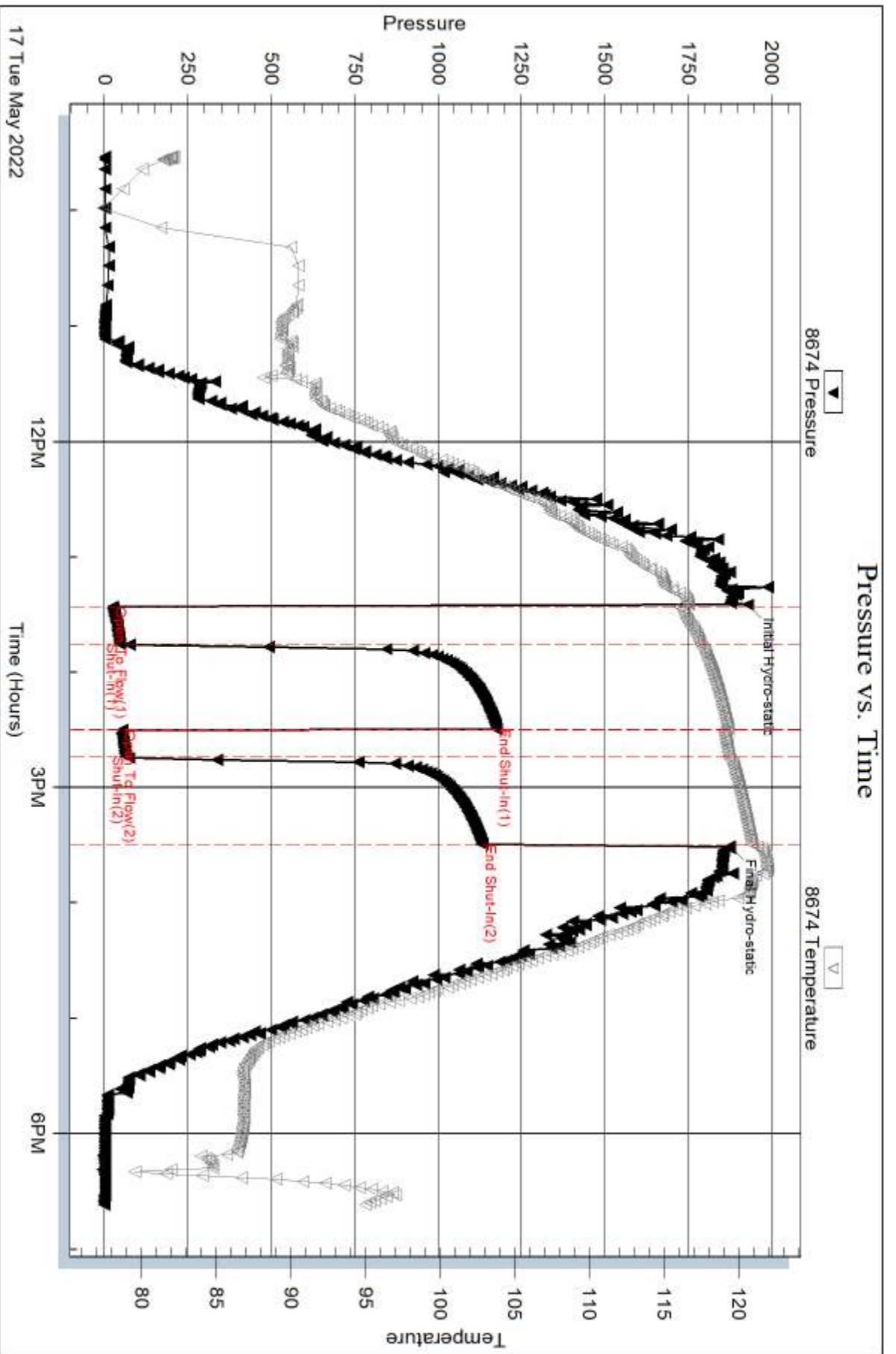
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



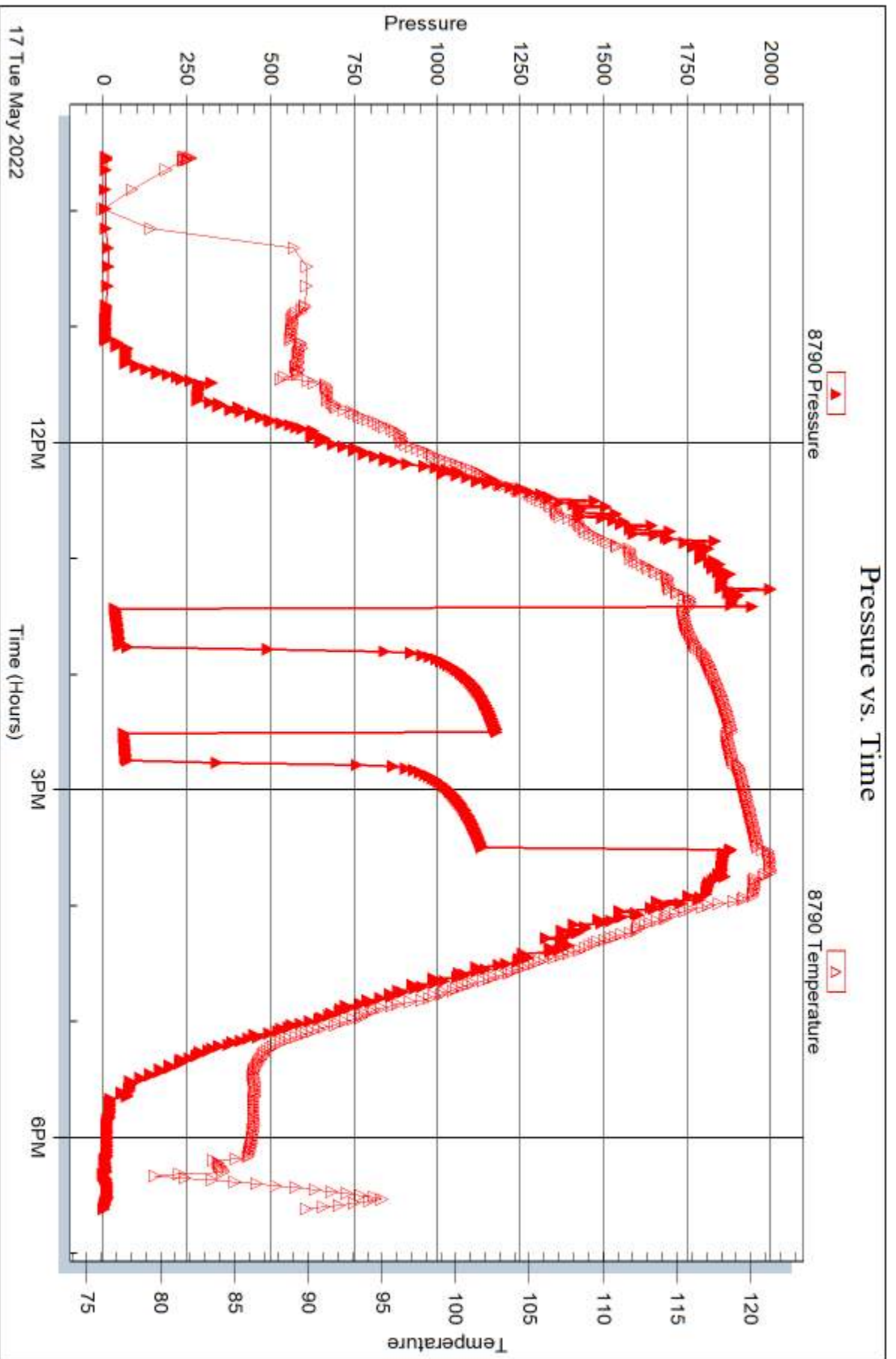
Serial #: 8790

Inside

Black Oak Exploration

Carlson #1-1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 68789

Printed: 2022.05.24 @ 16:46:33



DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S St Paul St
Denver, Co 80210

ATTN: Tim Hedrick

Carlson #1-1

1-5s-32w Rawlins,KS

Start Date: 2022.05.18 @ 09:38:32

End Date: 2022.05.18 @ 16:50:32

Job Ticket #: 68790 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.05.24 @ 16:44:20



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Black Oak Exploration

1-5s-32w Rawlins,KS

1474 S St Paul St
Denver, Co 80210

Carlson #1-1

Job Ticket: 68790

DST#: 2

ATTN: Tim Hedrick

Test Start: 2022.05.18 @ 09:38:32

GENERAL INFORMATION:

Formation: **LKC C - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:38:02

Time Test Ended: 16:50:32

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 3964.00 ft (KB) To 4005.00 ft (KB) (TVD)

Reference Elevations: 2947.00 ft (KB)

Total Depth: 4005.00 ft (KB) (TVD)

2942.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8674 Outside

Press@RunDepth: 117.31 psig @ 3965.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.05.18

End Date:

2022.05.18

Last Calib.:

2022.05.18

Start Time:

09:38:37

End Time:

16:50:31

Time On Btm:

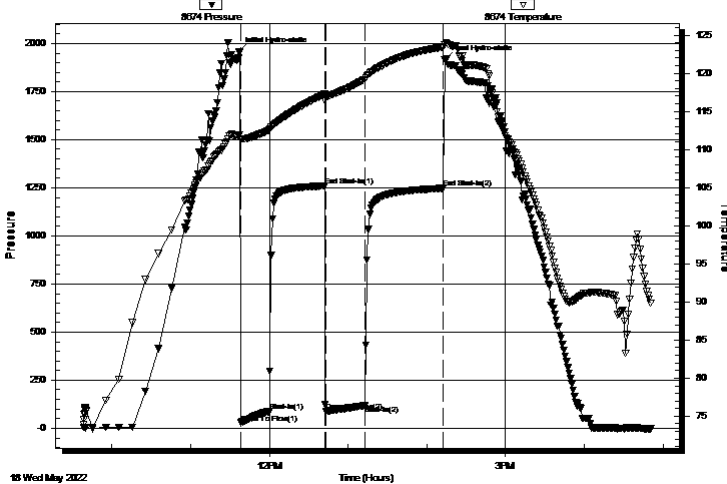
2022.05.18 @ 11:37:02

Time Off Btm:

2022.05.18 @ 14:13:32

TEST COMMENT: IF: 1/4" blow built to 5"
IS: No return.
FF: 1/4" blow built to 6"
FS: No return. 20-45-30-60

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1956.96	111.94	Initial Hydro-static
1	27.52	111.19	Open To Flow (1)
23	86.37	112.55	Shut-In(1)
65	1259.14	117.24	End Shut-In(1)
66	89.24	116.92	Open To Flow (2)
96	117.31	119.21	Shut-In(2)
156	1246.86	123.42	End Shut-In(2)
157	1915.22	123.80	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
118.00	mw 50%w 50%m	0.58
83.00	w cm 20%w 80%m	1.16

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Oak Exploration

1-5s-32w Rawlins,KS

1474 S St Paul St
Denver, Co 80210

Carlson #1-1

Job Ticket: 68790

DST#: 2

ATTN: Tim Hedrick

Test Start: 2022.05.18 @ 09:38:32

Tool Information

Drill Pipe:	Length: 3850.00 ft	Diameter: 3.80 inches	Volume: 54.01 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose:	95000.00 lb
			<u>Total Volume: 54.59 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	80000.00 lb
Depth to Top Packer:	3964.00 ft			Final	84000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	41.00 ft				
Tool Length:	68.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	3938.00	
Shut In Tool	5.00			3943.00	
Hydraulic tool	5.00			3948.00	
Jars	5.00			3953.00	
Safety Joint	2.00			3955.00	
Packer	5.00			3960.00	27.00 Bottom Of Top Packer
Packer	4.00			3964.00	
Stubb	1.00			3965.00	
Recorder	0.00	8790	Inside	3965.00	
Recorder	0.00	8674	Outside	3965.00	
Perforations	4.00			3969.00	
Change Over Sub	1.00			3970.00	
Drill Pipe	31.00			4001.00	
Change Over Sub	1.00			4002.00	
Bullnose	3.00			4005.00	41.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

1-5s-32w Rawlins,KS

1474 S St Paul St
Denver, Co 80210

Carlson #1-1

Job Ticket: 68790

DST#: 2

ATTN: Tim Hedrick

Test Start: 2022.05.18 @ 09:38:32

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

27000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
118.00	mw 50%w 50%m	0.580
83.00	w cm 20%w 80%m	1.164

Total Length: 201.00 ft Total Volume: 1.744 bbl

Num Fluid Samples: 0

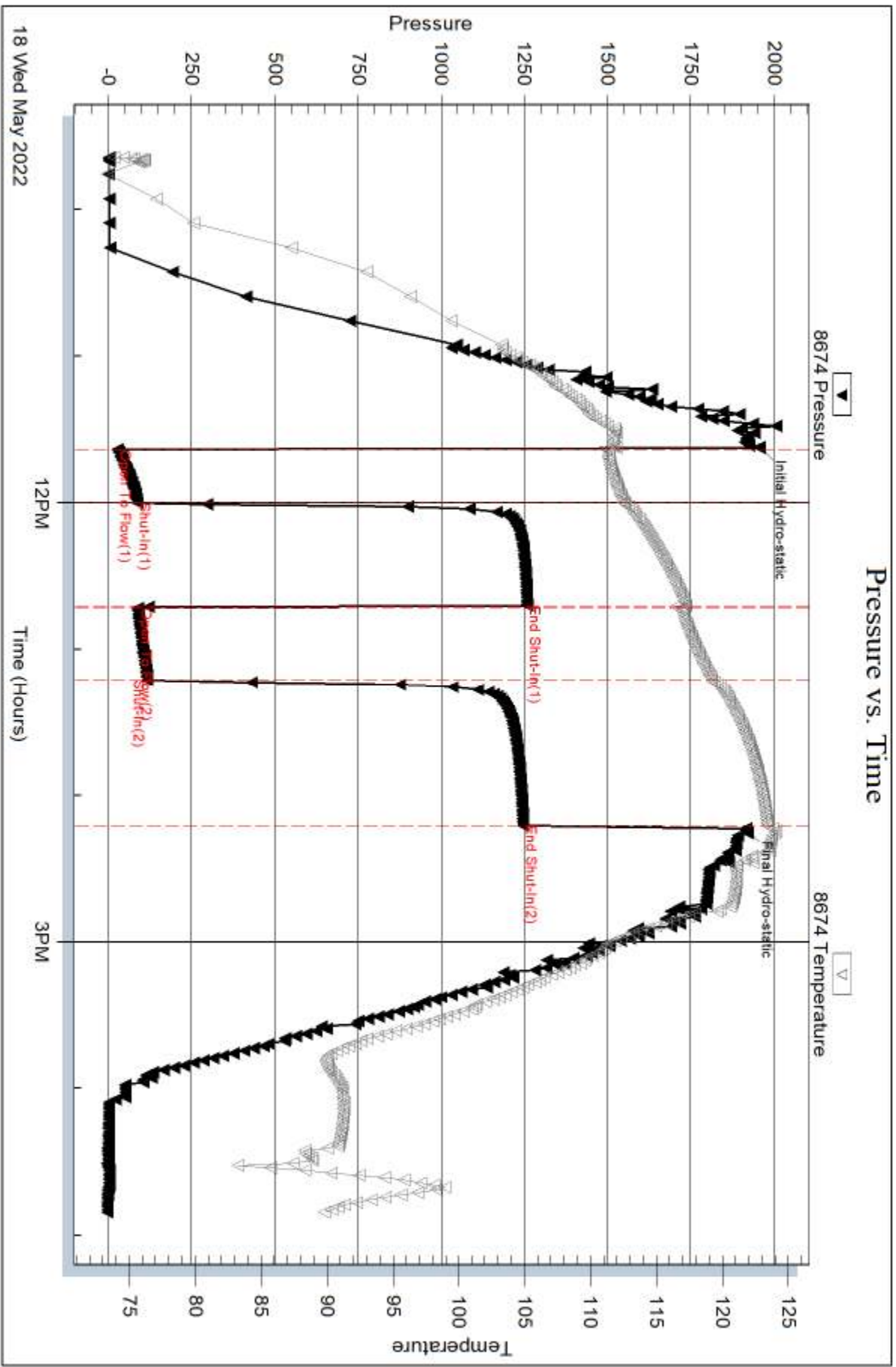
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .20@87=27000



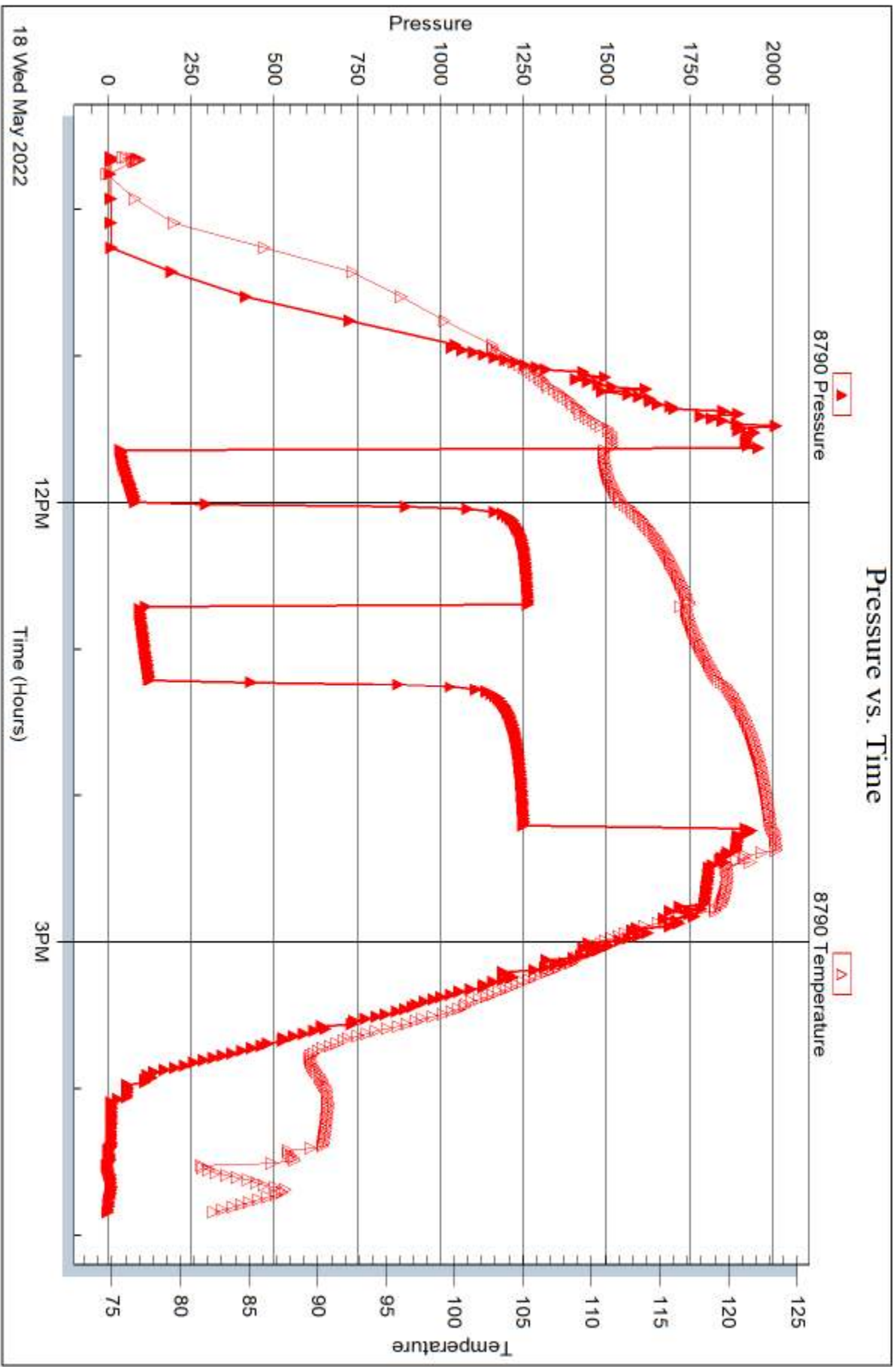
Serial #: 8790

Inside

Black Oak Exploration

Carlson #1-1

DST Test Number: 2



18 Wed May 2022

Trilobite Testing, Inc

Ref. No: 68790

Printed: 2022.05.24 @ 16:44:21



DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S St Paul St
Denver, Co 80210

ATTN: Tim Hedrick

Carlson #1-1

1-5s-32w Rawlins,KS

Start Date: 2022.05.19 @ 15:33:05

End Date: 2022.05.19 @ 23:18:35

Job Ticket #: 68791 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.05.24 @ 16:42:44



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Black Oak Exploration

1-5s-32w Rawlins,KS

1474 S St Paul St
Denver, Co 80210

Carlson #1-1

Job Ticket: 68791

DST#: 3

ATTN: Tim Hedrick

Test Start: 2022.05.19 @ 15:33:05

GENERAL INFORMATION:

Formation: **LKC F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:21:05

Time Test Ended: 23:18:35

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4000.00 ft (KB) To 4028.00 ft (KB) (TVD)

Total Depth: 4028.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2947.00 ft (KB)

2942.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8674 Outside

Press@RunDepth: 24.30 psig @ 4001.00 ft (KB)

Start Date: 2022.05.19

End Date: 2022.05.19

Start Time: 15:33:10

End Time: 23:18:34

Capacity: 8000.00 psig

Last Calib.: 2022.05.19

Time On Btm: 2022.05.19 @ 18:20:05

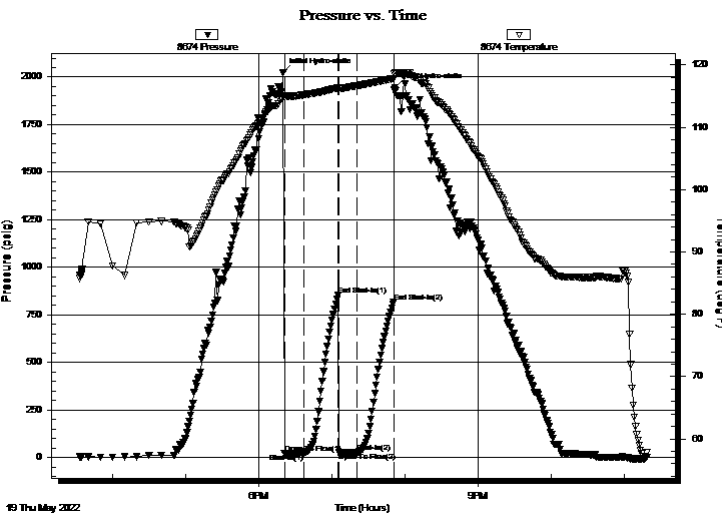
Time Off Btm: 2022.05.19 @ 19:51:35

TEST COMMENT: IF: Surface blow built to 1/4"

IS: No return.

FF: Surface blow .

FS: No return. 15-30-15-30



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2024.54	114.87	Initial Hydro-static
1	22.66	114.81	Open To Flow (1)
17	22.57	115.21	Shut-In(1)
45	852.09	116.34	End Shut-In(1)
46	24.12	116.18	Open To Flow (2)
61	24.30	116.68	Shut-In(2)
91	815.28	117.85	End Shut-In(2)
92	1946.12	118.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Oak Exploration

1-5s-32w Rawlins,KS

1474 S St Paul St
Denver, Co 80210

Carlson #1-1

Job Ticket: 68791

DST#: 3

ATTN: Tim Hedrick

Test Start: 2022.05.19 @ 15:33:05

Tool Information

Drill Pipe:	Length: 3882.00 ft	Diameter: 3.80 inches	Volume: 54.45 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 55.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4000.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	55.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00		Fluid	3974.00	
Shut In Tool	5.00			3979.00	
Hydraulic tool	5.00			3984.00	
Jars	5.00			3989.00	
Safety Joint	2.00			3991.00	
Packer	5.00			3996.00	27.00 Bottom Of Top Packer
Packer	4.00			4000.00	
Stubb	1.00			4001.00	
Recorder	0.00	8790	Inside	4001.00	
Recorder	0.00	8674	Outside	4001.00	
Perforations	24.00			4025.00	
Bullnose	3.00			4028.00	28.00 Bottom Packers & Anchor

Total Tool Length: 55.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

1-5s-32w Rawlins,KS

1474 S St Paul St
Denver, Co 80210

Carlson #1-1

Job Ticket: 68791

DST#: 3

ATTN: Tim Hedrick

Test Start: 2022.05.19 @ 15:33:05

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

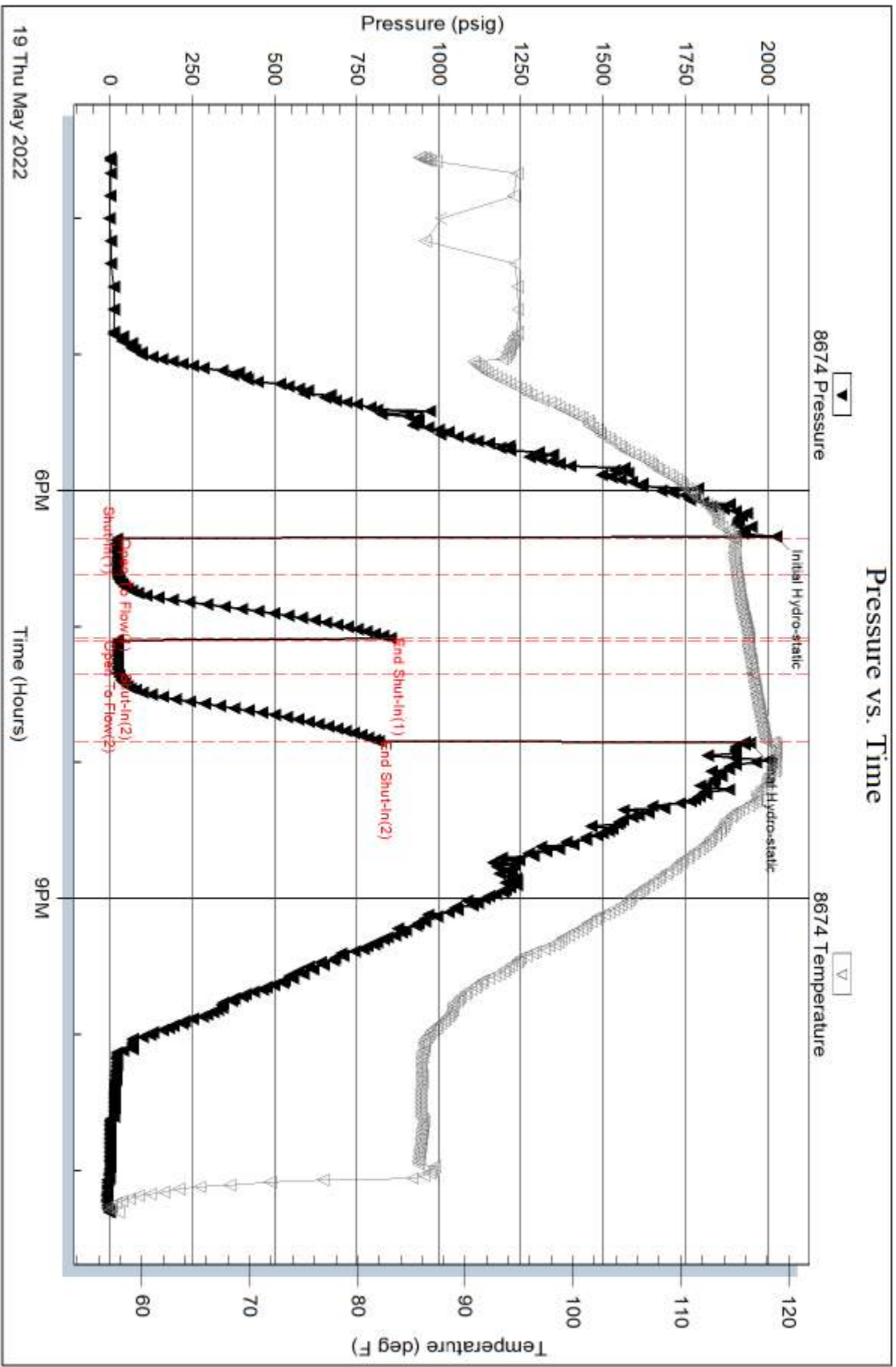
Recovery Comments:

Serial #: 8674

Outside Black Oak Exploration

Carlson #1-1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 68791

Printed: 2022.05.24 @ 16:42:45

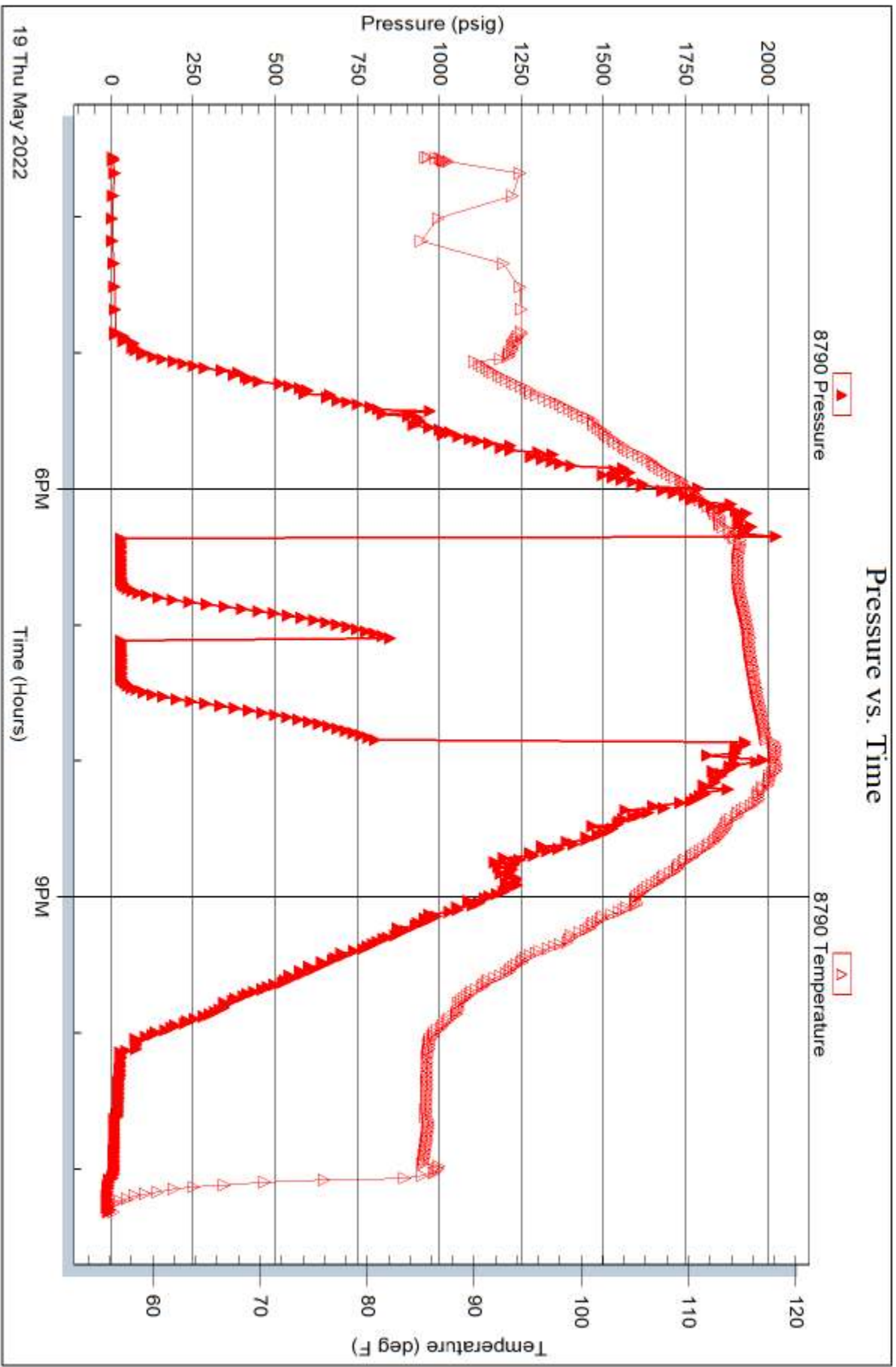
Serial #: 8790

Inside

Black Oak Exploration

Carlson #1-1

DST Test Number: 3





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68789

Well Name & No. Carlson 1-1 Test No. 1 Date 5-17-22
 Company Black oak Exploration Elevation 2947 KB 2942 GL
 Address 1474 S St Paul St Denver, CO 80210
 Co. Rep / Geo. Tim Hedrick Rig Murfin 108
 Location: Sec. 1 Twp 5 Rge. 32 Co. Rawlins State KS

Interval Tested 3900 3942 Zone Tested Toronto
 Anchor Length 42 Drill Pipe Run 3787 Mud Wt. 8.9
 Top Packer Depth 3895 Drill Collars Run 118 Vis 51
 Bottom Packer Depth 3900 Wt. Pipe Run --- WL 6.8
 Total Depth 3942 Chlorides 1000 ppm System LCM 5

Blow Description IF: surface blow built to 2.
IS: No return.
EF: surface blow built to 1 1/4.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>Mud oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 90 BHT 120 Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic 1928 Test 1800 T-On Location 4:30
 (B) First Initial Flow 25 Jars 300 T-Started 9:31
 (C) First Final Flow 46 Safety Joint T-Open 13:25
 (D) Initial Shut-In 1177 Circ Sub NIC T-Pulled 15:30
 (E) Second Initial Flow 52 Hourly Standby 4-400.00 T-Out 18:38
 (F) Second Final Flow 63 Mileage 225- 65rt 97.50 Comments out of town
 (G) Final Shut-In 1134 Sampler
 (H) Final Hydrostatic 1875 Straddle EM Tool

Initial Open 20 Shale Packer Ruined Shale Packer
 Initial Shut-In 45 Extra Packer Ruined Packer
 Final Flow 15 Extra Recorder Extra Copies
 Final Shut-In 45 Day Standby Sub Total 0
 Sub Total 2597.50 Accessibility Total 2597.50
 Sub Total 2597.50 MP/DST Disc't

Approved By _____ Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68790

Well Name & No. Carlson 1-1 Test No. 2 Date 5-18-22
 Company Black Oak Exploration Elevation 2947 KB 2942 GL
 Address _____
 Co. Rep / Geo. Tim Hedrick Rig Murfin 108
 Location: Sec. 1 Twp 5 Rge. 32 Co. Rawlins State KS

Interval Tested 3964 4005 Zone Tested C-D
 Anchor Length _____ Drill Pipe Run 3850 Mud Wt. 9.0
 Top Packer Depth _____ Drill Collars Run 118 Vis 48
 Bottom Packer Depth 3964 Wt. Pipe Run _____ WL 7.6
 Total Depth 4005 Chlorides 1400 ppm System LCM 4
 Blow Description IF: 1/4 blow built to 5.

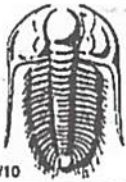
FS! No return.
FP: 1/4 blow built to 6.
FS! No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>83</u>	<u>wcm</u>		<u>20</u>	<u>80</u>	
<u>118</u>	<u>MW</u>		<u>50</u>	<u>50</u>	
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Rec Total 201 BHT 123 Gravity _____ API RW .20 @ 87° F Chlorides 27,000 ppm
 (A) Initial Hydrostatic 1956 Test 1950 T-On Location 9:30
 (B) First Initial Flow 27 Jars 300 T-Started 9:38
 (C) First Final Flow 86 Safety Joint _____ T-Open 11:37
 (D) Initial Shut-In 1259 Circ Sub NIC T-Pulled 14:42
 (E) Second Initial Flow 89 Hourly Standby _____ T-Out 16:52
 (F) Second Final Flow 117 Mileage 225- 97.50 Comments out of town
 (G) Final Shut-In 1246 Sampler _____
 (H) Final Hydrostatic 1915 Straddle _____ EM Tool -350
 Initial Open 20 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 45 Extra Packer _____ Ruined Packer _____
 Final Flow 30 Extra Recorder _____ Extra Copies _____
 Final Shut-In 60 Day Standby _____ Sub Total -350
 Sub Total 2347.50 Accessibility _____ Total 1997.50
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68791

Well Name & No. Carlson 1-1 Test No. 3 Date 5-19-22
 Company Black oak Exploration Elevation 2947 KB 2942 GL
 Address _____
 Co. Rep / Geo. Tim Hedrick Rig Murfin 108
 Location: Sec. 1 Twp 5 Rge. 32 Co. R9W/1ns State KS

Interval Tested 4000 4028 Zone Tested F
 Anchor Length 28 Drill Pipe Run 3882 Mud Wt. 9.1
 Top Packer Depth 3995 Drill Collars Run 118 Vis 47
 Bottom Packer Depth 4000 Wt. Pipe Run _____ WL 8.0
 Total Depth 4028 Chlorides 1100 ppm System LCM 4

Blow Description IF: surface blow built to 1/4,
IS: No return.
EF: surface blow.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 117 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2024</u>	<input checked="" type="checkbox"/> Test 1950	T-On Location <u>3:00-14:28</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars 300	T-Started <u>15:33</u>
(C) First Final Flow <u>22</u>	<input checked="" type="checkbox"/> Safety Joint	T-Open <u>18:21</u>
(D) Initial Shut-In <u>852</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>17:51</u>
(E) Second Initial Flow <u>24</u>	<input checked="" type="checkbox"/> Hourly Standby 1.5h 150	T-Out <u>23:28</u>
(F) Second Final Flow <u>24</u>	<input checked="" type="checkbox"/> Mileage <u>225 x 3</u> 292.50	Comments <u>wrs told on</u>
(G) Final Shut-In <u>815</u>	<input type="checkbox"/> Sampler	<u>the bank at 3:30</u>
(H) Final Hydrostatic <u>1946</u>	<input type="checkbox"/> Straddle	<u>3:00 to 4:30 on location</u>

Initial Open 15
 Initial Shut-In 30
 Final Flow 15
 Final Shut-In 30

EM Tool -350
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Day Standby 2d .75h
 Accessibility

Sub Total 2692.50 MP/DST Disc't _____
 Sub Total 1600 -350
 Total 3942.50

Approved By _____ Our Representative _____

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Loaded 5-22 00:19

BLACK OAK



EXPLORATION

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

Well Name: CARLSON 1-1
Well Id:
Location: Section 1 - 5S - 32W Rawlins Co, Kansas
License Number: API # 15-153-21287
Spud Date: May 10 ,2022
Surface Coordinates: 1707' FNL & 1620' FEL
Region: Wildcat
Drilling Completed: May 22, 2022

Bottom Hole
Coordinates:
Ground Elevation (ft): 2937' K.B. Elevation (ft): 2942'
Logged Interval (ft): 3650 To: 4650' Total Depth (ft): 4650'
Formation: Lansing Kansas City
Type of Drilling Fluid: Chemical Gel/Polymer Fresh Water -Based

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

OPERATOR


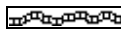
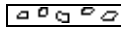
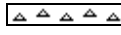
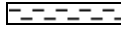







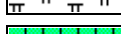

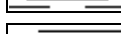





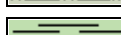






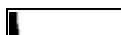
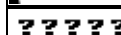


Company: BLACK OAK EXPLORATION, LLC
Address: 1474 S St Paul St
Denver CO 80210

GEOLOGIST

Name: TIM HEDRICK
Company: EARTH TECH OGL,INC
Address: Po BOX 683
Hooker, okla. 73945
580-754-0062 Cell

ROCK TYPES

LITHOLOGY
















-  Anhy
-  Bent
-  Brec
-  Cht
-  Clyst
-  Coal
-  Congl
-  Dol
-  Gyp
-  Igne
-  Lmst
-  Meta
-  Mrlst
-  Salt
-  Shale
-  Shcol
-  Shgy
-  Sltst
-  Ss
-  Till
-  Sltstn
-  Shale
-  Sandylms
-  Lms
-  Gry sh
-  Dtd
-  Dol
-  Carb sh
-  pipesymbol
-  unknown lith
-  Red shale

FOSSIL

-  Oomoldic
-  Fuss
-  Algae

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MINERAL

-  Silty
-  Sand
-  Dol
-  Chlorite
-  Anhy
-  Arggrn
-  Arg
-  Bent
-  Bit
-  Brecfrag
-  Calc
-  Carb
-  Chtdk
-  Chtlt
-  Dol

STRINGER












-  Sh
-  Sandylms
-  Lms
-  Gryslt
-  Grysh
-  Dol
-  Clystn
-  Carbsh
-  Anhy
-  Arg
-  Bent
-  Coal
-  Dol
-  Gyp
-  Ls
-  Mrst
-  Sltstrg

-  Feldspar
-  Ferrpel
-  Ferr
-  Glau
-  Gyp
-  Hvymin
-  Kaol
-  Marl
-  Minxl
-  Nodule
-  Phos
-  Pyr
-  Salt
-  Sandy
-  Silt
-  Sil
-  Sulphur
-  Tuff








Ssstrg





TEXTURE

-  Boundst
-  Chalky
-  Cryxln
-  Earthy
-  Finexln
-  Grainst
-  Lithogr
-  Microxln
-  Mudst
-  Packst
-  Wackst






OIL SHOW

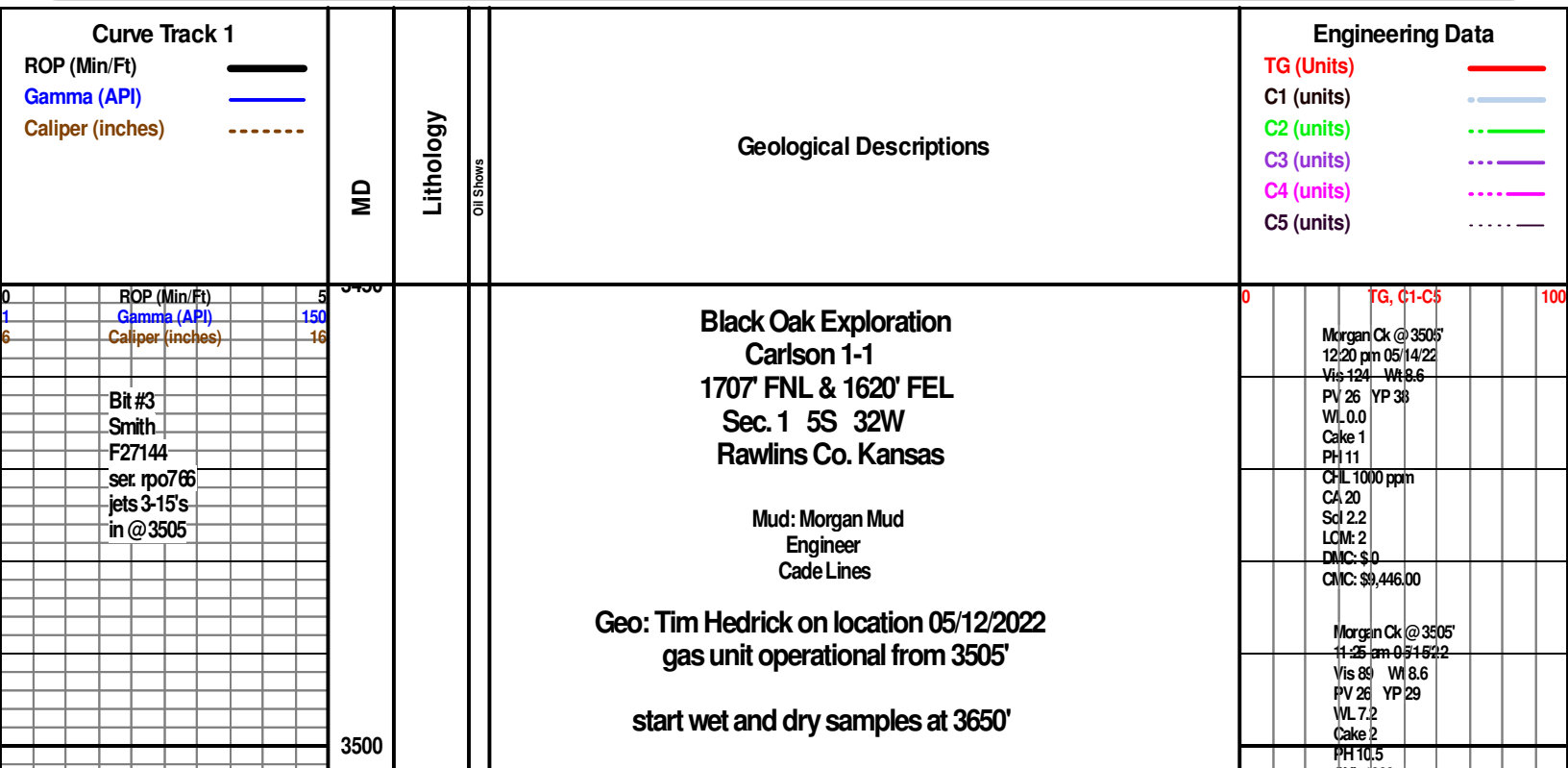
-  Gas show
-  Even
-  Spotted
-  Ques
-  Dead

INTERVAL

-  Dst
-  Core
-  Dst
-  Straddle test tail pip

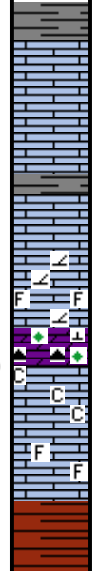
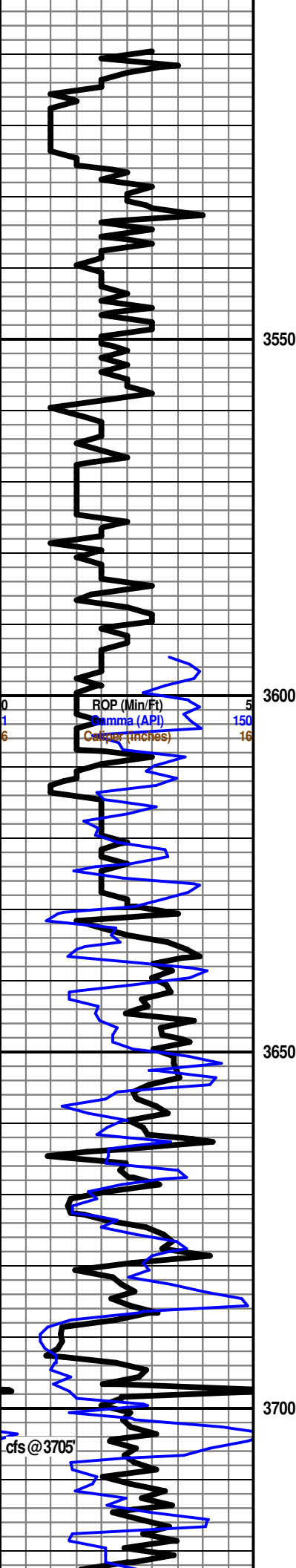
EVENT

-  Rft
-  Sidewall
-  Dst
-  Open hole
-  Perforations



NOTE: Rig had rig repairs from 5/13 at 5 pm to 8 am 5/16/2022

CHL 1000 ppm
 CA 20
 Sol 2.2
 LCM: 3
 DMC: \$ 0
 CMC: \$9,446.00



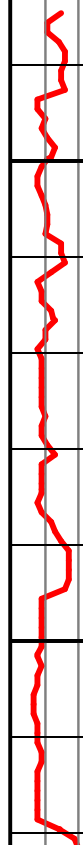
3688' - 3693 Limestone - cream tan , hard to brittle, coarse sucrosic matrix, very dolomitic in 50%, traces of phantom fossil fragments, dull yellow mineral fluorescence thruout, poor fair to traces good micro pinpoint to inter-crystalline porosity thruout , no visible cut or show

Dolomite- cream tan , hard dense to brittle in part, micro crystalline to very tight sucrosic matrix with abundant embed glauconite or chlorite, abundant embed reworked red chert, calcareous in part, bright yellow mineral fluorescence thruout , no viable porosity , no visible show or cut

Limestone- cream tan, hard dense, micro crystalline to crypto-crystalline, traces scattered fossil fragments in part, dull yellow mineral fluorescence, no visible porosity, no visible show or cut

Shale - red to reddish brown - firm in part to very soft gummy with laminated beds of cream buff micro crystalline limestone in part, no fluorescence, no visible porosity, no visible show

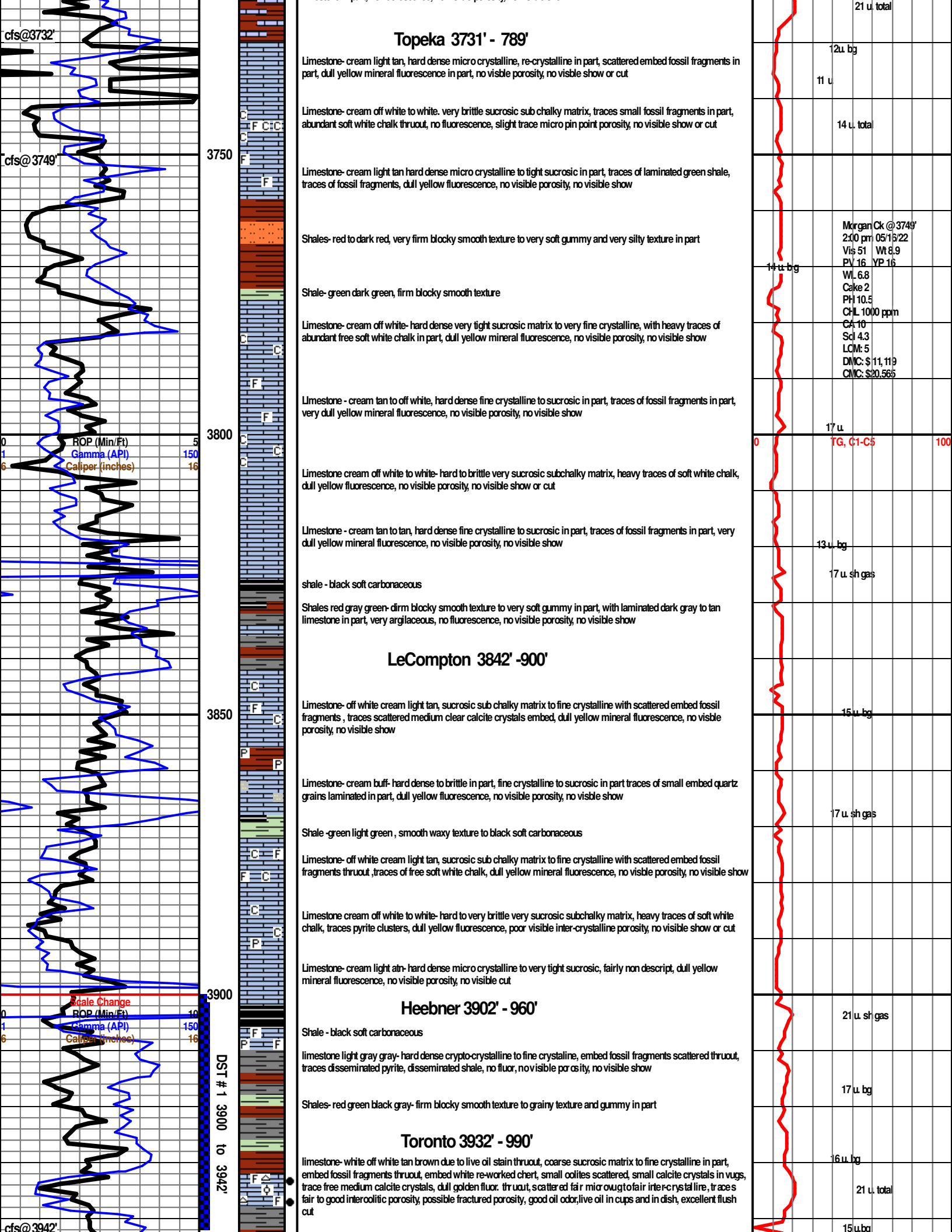
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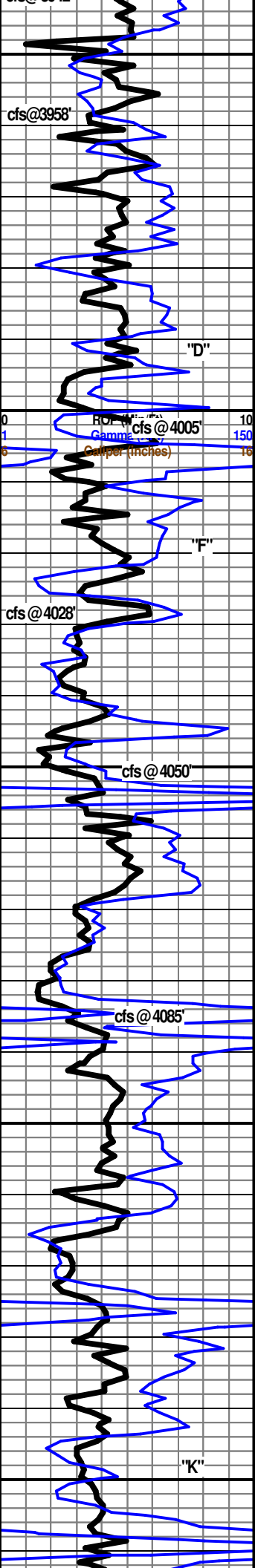


9 u. lg

17 u. tota

7 u. bg





excellent slow stream cut thruout

Lansing 3945' - 1003'

Limestone white off white cream, hard dense to brittle micro crystalline to sucrosic sub chalky, with traces of free firm white chalk, dull yellow mineral fluorescence, no visible porosity, no visible show or cut

Limestone white off white - hard dense to brittle in part, micro crystalline to sucrosic sub chalky with traces of free soft white chalk and white chert embed in part, dull yellow mineral fluorescence, no visible porosity, no show or cut

Limestone- cream tan black in part due to asphaltic stain scattered, hard dense micro crystalline to tight sucrosic, slightly dolomitic in part, embed small calcite crystals in part, sli cub chalky, no fluorescence to dull yellow fluorescence in 3%, no visible porosity, ggood flush to good slow stream cut scattered in 50%, no odor

. 3980-3985' Limestone cream tan blk due to asphaltic and DOS, hard dense, trace brittle micro crystalline re-crystalline, abundant embed oolites thru, white chert embed in part, small calcite crystal inter-oolitic, dull yellow fluorescence, excellent flush cut, excellent slow stream cut thruout, asphaltic stain inter-oolitic, poor to fair scattered inter-oolitic porosity thruout, no odor. dark stain on dsh

.3988-3994 Limestone, cream light tan black due to live oil and dos scattered thru, hard dense to brittle sucrosic matrix to fine crystalline in part, abundant embed white gray re-worked chert, traces fossil fragments in part, dull yellow gold fluorescence in part to dull yellow fluorescence, poor visible micro pin point to microvugular porosity, very good flush cut to good slow stream cut thru, good oil odor, live oil in cupard dsh

.3995 -4000' Limestone - white off white, abundant firm chalk to occ soft white chalk, no fluorescence, no visible porosity, no visble show or cut

.4000-4005 Limestone- white off white, hard dense crypto crystalline to sub lithograppic, no fluorescence, no visible porosity, no visble show

Limestone white cream dark tan due to oil stain, hard very brittle, sucrosic matrix, re-crystalline in part, small to medium lime grains in part, fossil fragments, small ooids in part, small to medium calcite crystals embed in part, asphaltic stain in part, trace pyrite cluster in 1 rock, traces free medium calcite crystals, dull yellow gold fluorescence thruout, fair visible inter-crystalline porosity, poor to fair vugular porosity, excel flush to excel slow stream cut thruout light oil odor

Lansing "G" 4034' - 1092'

Limestone- white off white sucrosic sub chalky to chiky matrix, abundant free soft white chalk in part, abundant white orange pinkish chert, dull yellow mineral fluorescence, no visible porosity, no visible show or cut

Lansing "H" 4057' - 1115'

Limestone- cream light gray tan, hard dense to trace brittle in part, fine very fine crystalline, re-crystalline, embed fossil fragments thruout, slight traces firm chalk in part, yellow mineral fluorescence, no visible porosity, no visble show

Limestone - cream off white to white hard to brittle, very sucrosic sub chalky matrix to very soft chalky in part, abundant free soft whits chalk in part, dull yellow fluorecence, no visible porosity, no visible show or cut

shale- black soft carbonaceous

Limestone - cream light tan gray, hard dense to brittle, fine crystalline to sucrosic in part, trace of sub chalky, no fluorescence, no visible show or cut

Limestone- cream light gray gray, hard dense fine crystalline, re crystalline, embed fossil fragments thruout tan white chert in part, dull yellow mineral fluorescence, no visible porosity, no visible show or cut

Shale - green dark gray red - firm blocky smooth texture

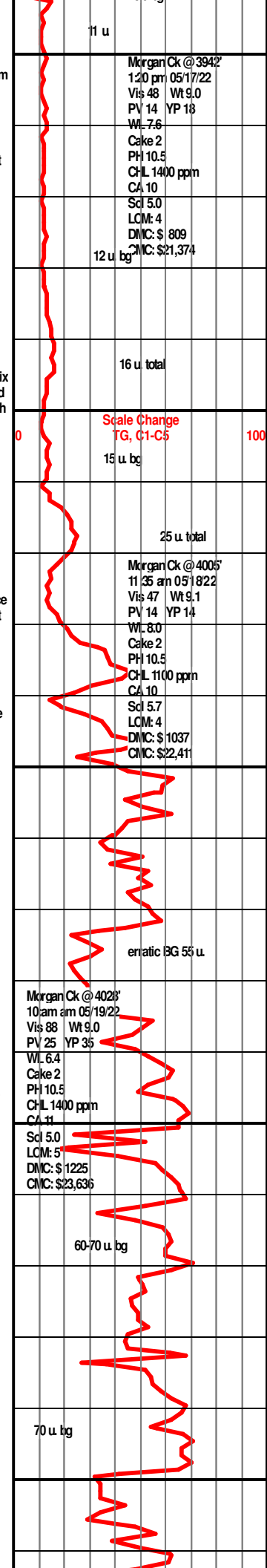
Lansing "J" 4115' - 1173'

Limestone white off white cream very sucrosic sub chalky matrix, abundant free firm and soft white chalk, trace of small calcite crystals embed in part, very dull yellow fluorescence, no visible porosity, no visible show

Limestone - cream tan light gray light green hard dense mottled, crypto to micro crystalline, embed disseminated shale in part, no fluorescence, no visible porosity, no visible show or cut

Shale black carbonaceous to red very soft gummy texture in part

Limestone- off white cream hard dense micro crystalline to very tight sucrosic in part, scattered small fossil fragments in part, dull yellow fluorescence, no visible porosity, no visible show or cut



11 u

Morgan Ck @ 3942'
1:20 pm 05/17/22
Vis 48 Wt 9.0
PV 14 YP 18
WL 7.6
Cake 2
PH 10.5
CHL 1400 ppm
CA 10
Scl 5.0
LCM: 4
DMC: \$ 809
CNC: \$21,374

12 u bg

16 u total

Scale Change
TG, C1-C5

15 u. bg

25 u total

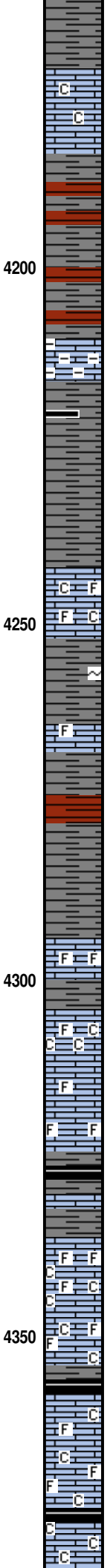
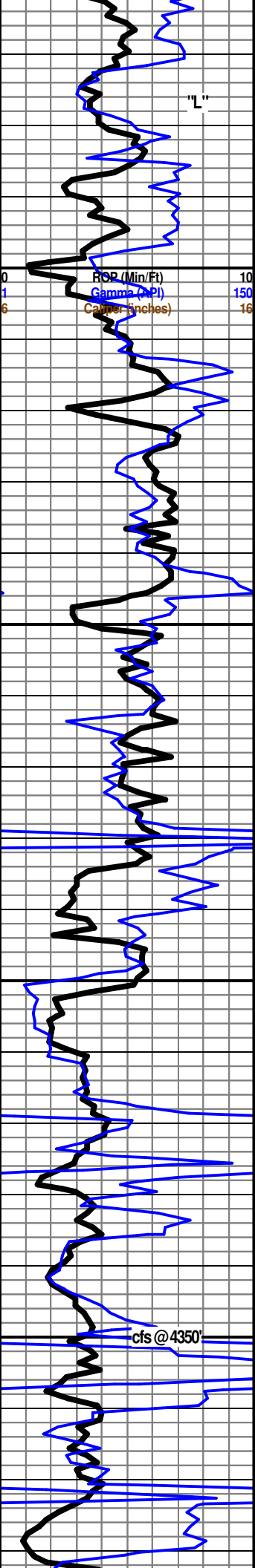
Morgan Ck @ 4005'
11:35 am 05/18/22
Vis 47 Wt 9.1
PV 14 YP 14
WL 8.0
Cake 2
PH 10.5
CHL 1100 ppm
CA 10
Scl 5.7
LCM: 4
DMC: \$ 1037
CNC: \$22,411

erratic BG 55 u.

Morgan Ck @ 4028'
10:am am 05/19/22
Vis 88 Wt 9.0
PV 25 YP 35
WL 6.4
Cake 2
PH 10.5
CHL 1400 ppm
CA 11
Scl 5.0
LCM: 5
DMC: \$ 1225
CNC: \$23,636

60-70 u bg

70 u bg



Shale- gray dark gray green- firm blocky smooth texture in part to very soft gummy texture

Limestone- off white cream hard dense trace brittle micro crystalline to crypto-crystalline, slight traces free soft chalk, dull yellow fluorescence, no visible porosity, no visible show or cut

BKC 4183' - 1241'

Shale- red to dark red green gray- firm blocky to very soft gummy texture

Limestone- off white cream light gray, hard to brittle very sucrosic matrix abundant embed disseminated shale in part, no fluorescence, no visible show or cut

Shales red green gray - firm blocky to soft gummy to black hard splinty in part

Limestone- cream light tan, hard brittle, fine crystalline recrystalline, embed fossil fragments abundant free soft white chalk in part, dull yellow mineral fluorescence in part, no visible porosity, no visible show or cut

Shales- light gray, firm in part to abundant soft gummy texture

Limestone- cream light tan hard to brittle fine crystalline re-crystalline in part, traces embed shale in part, no fluorescence, no visible porosity, no visible show or cut

Shale light gray gray rust brown, hard blocky smooth texture to very soft gummy texture in part

Shale - gray light gray, very soft gummy texture

Limestone- cream light tan, hard trace brittle, fine crystalline re-crystalline with embed fossil fragments thruout, traces of small calcite crystals embed in part, dull yellow fluorescence, no visible porosity, no show

Pawnee 4305' - 1363'

Limestone- white off white cream, abundant soft white chalk and firm chalk, traces of sucrosic sub chalky with traces of fossil fragments, very dull yellow fluorescence, no visible porosity, no show

Limestone- cream tan brown, hard dense mottled, very fine crystalline, re-crystalline embed fossil fragments, embed calcite crystals veragated in part, yellow mineral fluorescence, no visible porosity, no visible show

Shale- Black carbonaceous to dark gray firm blocky calcareous

Ft. Scott 4329' - 1387'

Limestone off white white to cream- hard brittle to soft, very sucrosic sub chalky with scattered embed fossil fragments in part grading to abundant soft white chalk, no fluorescence, no visible porosity, no visible show

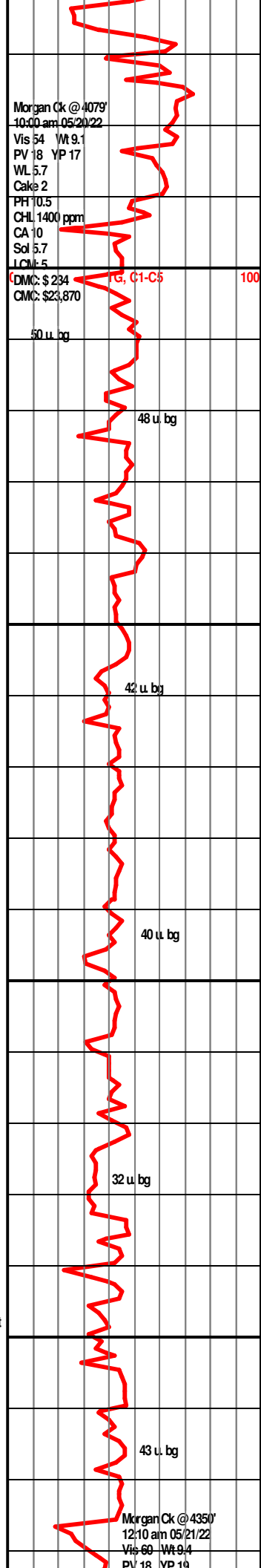
Limestone- Off white cream - hard dense trace brittle, fine crystalline recrystalline, embed fossil fragments in part, soft white chalk in part, dull yellow fluorescence, no visible porosity, no visible show

Shale - black soft carbonaceous

Limestone- off white cream, hard to brittle fine crystalline re-crystalline in part to crypto-crystalline abundant free soft white chalk, embed fossils in part, dull yellow mineral fluorescence, no visible porosity, no visible show

Cherokee 4373' - 1431'

Limestone- white off white soft, abundant soft chalk to very gummy chalk, to sucrosic sub chalky in part, no





CEMENT TREATMENT REPORT

Customer: Black Oak Exploration	Well: Carlson #1-1	Ticket: WP 2852
City, State: Oakley KS	County: Rawlins KS	Date: 5/22/2022
Field Rep: Justin	S-T-R: 1-5S-32W	Service: PTA

Downhole Information		Calculated Slurry - Lead		Calculated Slurry - Tail	
Hole Size:	7.875 in	Blend:	H-Plug	Blend:	
Hole Depth:	4650 ft	Weight:	13.8 ppg	Weight:	ppg
Casing Size:	8 5/8 in	Water / Sx:	6.9 gal / sx	Water / Sx:	gal / sx
Casing Depth:	ft	Yield:	1.42 ft ³ / sx	Yield:	ft ³ / sx
Tubing / Liner:	in	Annular Bbls / Ft.:	0.0406 bbs / ft.	Annular Bbls / Ft.:	bbs / ft.
Depth:	ft	Depth:	ft	Depth:	ft
Tool / Packer:		Annular Volume:	0.0 bbls	Annular Volume:	0 bbls
Tool Depth:	ft	Excess:		Excess:	
Displacement:	bbls	Total Slurry:	60.6 bbls	Total Slurry:	0.0 bbls
		Total Sacks:	240 sx	Total Sacks:	0 sx

TIME	RATE	PSI	BBLs	TOTAL BBLs	REMARKS
10:41 AM			-	-	Arrived on location
10:51 AM				-	Safety meeting
11:01 AM				-	Rigged up
11:33 AM	3.7	200.0	5.0	5.0	Water ahead
11:35 AM	3.6	250.0	12.6	17.6	Mixed 50 sacks cement 13.8 ppg @ 2700'
11:38 AM	3.5	150.0	5.0	22.6	Begin displacement
11:44 AM				22.6	Pumped mud using rig pump for 2:15 minutes
				22.6	
12:44 AM	3.5	250.0	5.0	27.6	Water ahead
12:46 AM	5.5	300.0	25.2	52.8	Mixed 100 sacks cement 13.8 ppg @ 1800'
12:57 AM	4.0	150.0	16.0	68.8	Begin displacement
2:24 AM	3.5	150.0	5.0		Water ahead
2:26 AM	5.1	300.0	12.6		Mixed 50 sacks cement 13.8 ppg @ 310'
2:28 AM	3.0	150.0	0.5		Begin displacement
4:05 AM	3.0	150.0	7.5		Mixed 30 sacks cement to plug rat hole
4:11 AM	3.0	150.0	2.5		Mixed 10 sacks cement for top 40' with wooden plug
4:12 AM					Plug down
4:14 AM					Wash up and rigged down
4:30 AM					Left location

CREW		UNIT	SUMMARY		
Cementer:	John	64	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Jose V	208	3.8 bpm	200 psi	97 bbls
Bulk #1:	Kale	194-250			
Bulk #2:					



Remit To: Hurricane Services, Inc.
 250 N. Water, Suite 200
 Wichita, KS 67202
 316-303-9515

Customer:
 BLACK OAK EXPLORATION
 1474 S ST PAUL ST
 DENVER, CO 80210

Invoice Date: 5/10/2022
 Invoice #: 0360693
 Lease Name: Carlson
 Well #: 1-1 (New)
 County: Rawlins, Ks
 Job Number: WP2780
 District: Oakley

Date/Description	HRS/QTY	Rate	Total
Surface	0.000	0.000	0.00
H-325	200.000	21.150	4,230.00
Light Eq Mileage	50.000	2.000	100.00
Heavy Eq Mileage	50.000	4.000	200.00
Ton Mileage	470.000	1.500	705.00
Depth Charge 0'-500'	1.000	940.000	940.00
Cement Blending & Mixing	200.000	1.316	263.20
Service Supervisor	1.000	258.500	258.50

Total 6,696.70

TERMS: Net 30 days. Interest may be charged on past due invoice at rate of 1 ½% per month or maximum allowed by applicable state or federal laws. HSI has right to revoke any discounts applied in arriving at net invoice price if invoice is past due. If revoked, full invoice price without discount plus additional sales tax, as applicable, is due immediately and subject to interest charges. Customer agrees to pay all collection costs directly or indirectly incurred by HSI in the event HSI engages a third party to pursue collection of past due invoice.

SALES TAX: Services performed on oil, gas and water wells in Kansas are subject to sales tax, with certain exceptions. HSI relies on the well information provided by the customer in identifying whether the services performed on wells qualify for exemption.

WE APPRECIATE YOUR BUSINESS!



CEMENT TREATMENT REPORT

Customer: Black Oak Exploration	Well: Carlson #1-1	Ticket: WP 2780
City, State: Oakley KS	County: Rawlins KS	Date: 5/10/2022
Field Rep: Justin	S-T-R: 1-5S-32W	Service: Surface

Downhole Information	
Hole Size:	12.25 in
Hole Depth:	262 ft
Casing Size:	8 5/8 in
Casing Depth:	262 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	15.2 bbls

Calculated Slurry - Lead	
Blend:	H-325
Weight:	14.8 ppg
Water / Sx:	6.9 gal / sx
Yield:	1.41 ft ³ / sx
Annular Bbls / Ft.:	0.0735 bbs / ft.
Depth:	ft
Annular Volume:	0.0 bbls
Excess:	
Total Slurry:	50.2 bbls
Total Sacks:	200 sx

Calculated Slurry - Tail	
Blend:	
Weight:	ppg
Water / Sx:	gal / sx
Yield:	ft ³ / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	0.0 bbls
Total Sacks:	0 sx

TIME	RATE	PSI	BBLs	TOTAL BBLs	REMARKS
7:09 PM			-	-	Arrived on location
7:19 PM				-	Safety meeting
7:29 PM				-	Rigged up
9:27 PM				-	Casing on bottom
9:36 PM				-	Circulated mud
9:42PM	3.7	150.0	5.0	5.0	Water ahead
9:44 PM	5.0	325.0	50.2	55.2	Mixed cement 14.8 ppg
10:00 PM	4.0	300.0	15.2	70.4	Begin displacement
10:05 PM		150.0		70.4	Plug down and shut in with 5 bbls cement circulated to pit
10:07 PM				70.4	Wash up and rigged down
10:33 PM				70.4	Left location

CREW		UNIT	SUMMARY		
Cementer:	Jose V	208	Average Rate	Average Pressure	Total Fluid
Pump Operator:	John	205	4.2 bpm	231 psi	70 bbls
Bulk #1:					
Bulk #2:					