

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	Black Oak Exploration, LLC
Well Name	WITHERS 1-21
Doc ID	1586362

All Electric Logs Run

POR
MICRO
DIL
SONIC



CEMENT TREATMENT REPORT					
Customer:	Black Oak Exploration	Well:	Withers # 1 - 21	Ticket:	WP 1470
City, State:	Oakley Ks	County:	Decatur KS	Date:	6/9/2021
Field Rep:	Josh Mosier	S-T-R:	21-5S-30W	Service:	Surface

Downhole Information	
Hole Size:	12.25 in
Hole Depth:	267 ft
Casing Size:	8 7/8 in
Casing Depth:	267 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	17.0 bbls

Calculated Slurry - Lead	
Blend:	H- 325
Weight:	14.9 ppg
Water / Sx:	5.4 gal / sx
Yield:	1.38 ft ³ / sx
Annular Bbls / Ft.:	0.0735 bbs / ft.
Depth:	267 ft
Annular Volume:	19.6 bbls
Excess:	
Total Slurry:	
Total Sacks:	

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	STAGE BBLs	TOTAL BBLs	REMARKS
500P			-	-	GOT TO LOCATION
505P				-	SAFETY MEETING
510P				-	RIGGED UP TRUCKS
620P				-	LANDED CASING
630P				-	CIRCULATED HOLE
638P	3.0	150.0	5.0	5.0	PUMPED H2O AHEAD
640P	4.5	500.0	54.0	59.0	PUMPED 220 SKS OF H-325 @ 267FT
652P	3.0	200.0	15.8	74.8	DISPLACED WITH H2O
657P				74.8	PLUG DOWN/ PUMPED 5 BBL TO PIT
700P				74.8	WASHED UP PUMP TRUCK
715P				74.8	RIGGED DOWN TRUCKS
730P					OFF LOCATION

CREW		UNIT	SUMMARY		
Cementer:	Josh	73	Average Rate	Average Pressure	Total Fluid
Pump Operator:	John	208	3.5 bpm	283 psi	75 bbls
Bulk #1:	Kale	242			
Bulk #2:	Spencer				



CEMENT TREATMENT REPORT

Customer: Black Oak	Well: Withers # 1 - 21	Ticket: WP 1498
City, State: Oakley Ks	County: Decatur KS	Date: 6/18/2021
Field Rep: Josh Mosier	S-T-R: 21-5S-30W	Service: Longstring

Downhole Information	
Hole Size:	7.875 in
Hole Depth:	4550 ft
Casing Size:	5 1/2 in
Casing Depth:	4544 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	107.2 bbls

Calculated Slurry - Lead	
Blend:	H-CON
Weight:	12.0 ppg
Water / Sx:	15.0 gal / sx
Yield:	2.56 ft ³ / sx
Annular Bbls / Ft.:	0.0309 bbls / ft.
Depth:	4544 ft
Annular Volume:	140.4 bbls
Excess:	
Total Slurry:	205.2 bbls
Total Sacks:	450 sx

Calculated Slurry - Tail	
Blend:	H-LD
Weight:	15 ppg
Water / Sx:	6.2 gal / sx
Yield:	1.46 ft ³ / sx
Annular Bbls / Ft.:	0.0309 bbls / ft.
Depth:	4544 ft
Annular Volume:	140.4096 bbls
Excess:	
Total Slurry:	46.7 bbls
Total Sacks:	175 sx

TIME	RATE	PSI	BBLs	TOTAL BBLs	REMARKS
645A			-	-	GOT TO LOCATION
650A				-	SAFETY MEETING
655A				-	RIGGED UP TRUCKS
945A				-	LANDED CASING
954A				-	CIRCULATED HOLE FOR 1 HOUR
1052A	4.0	300.0	5.0	5.0	PUMPED 5 BBL OF H2O AHEAD
1057A	4.5	450.0	12.0	17.0	PUMPED 500 GAL OF MUD FLUSH
1059A	2.1	150.0	5.0	22.0	PUMPED 5 BBL OF H2O SPACER
1103A	2.1	150.0	7.6	29.6	PUMPED 25 SKS OF H- CON IN RH
1106A	5.5	450.0	193.7	223.3	PUMPED 425 SKS OF H - CON @ 4544 FT
1141A	4.2	450.0	46.7	270.0	PUMPED 175 SKS OF H - LD @ 4544 FT
1152A					SHUT DOWN WASHED UP PUMP & LINES/ LOADED LD PLUG
1157A	4.1	1,600.0	107.2		DISPLACED WITH H2O
1223P		2,250.0			PLUG DOWN/ CIRCULATED 5 BBL TO PIT
1230P					WASHED UP PUMP TRUCK
1245P					RIGGED DOWN TRUCKS
115P					OFF LOCATION

CREW		UNIT		SUMMARY		
Cementer:	Josh		73	Average Rate	Average Pressure	Total Fluid
Pump Operator:	John		208	3.8 bpm	725 psi	377 bbls
Bulk #1:	Kale		205			
Bulk #2:	Scotty		527/250			

Black Oak Exploration, LLC

WELL COMPARISON SHEET

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

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

Well: Withers 1-21
 Location: 340 FSL / 845 FWL
 21 - 5S - 30W
 Decatur Co., KS
 Wellsite Geologist: Clayton Camozzi Cell: (303) 968-4999

Elevation: 2890' KB 2895' GL
 Field: Robertson
 API No: 15-039- 21274-0000
 Surface Casing: 8 5/8" set @ 266' KB

Drilling Contractor: Murfin Drilling Co Rig #108. Rig Phone (785-259-0816), Tool Pusher Scott Piland (620-639-1843)

2' Uphole Correction
 Drill Time vs. E-logs

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
Withers 1-21					Robertson 1				Huber 1			
340 FSL / 845 FWL 21 - 5S - 30W					Abercrombie: P&A				Abercrombie: P&A			
					1980 FNL / 1980 FEL 21 - 5S - 30W				1980 FNL / 1980 FWL 21 - 5S - 30W			
2895 KB					2886 KB		Structural Relationship		2882 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
STONE CORAL	2595	300	2596	299	2607	279	21	20	2609	273	27	26
FORAKER	3416	-521	3414	-519	3426	-540	19	21	3433	-551	30	32
TOPEKA	3703	-808	3702	-807	3713	-827	19	20	3718	-836	28	29
DEER CREEK	3754	-859	3750	-855	3764	-878	19	23	3772	-890	31	35
LECOMPTON	3818	-923	3816	-921	3828	-942	19	21	3832	-950	27	29
HEEBNER	3877	-982	3874	-979	3888	-1002	20	23	3891	-1009	27	30
LANSING	3923	-1028	3922	-1027	3936	-1050	22	23	3940	-1058	30	31
LANSING "D" ZONE	3961	-1066	3958	-1063	3977	-1091	25	28	3979	-1097	31	34
LANSING "H" ZONE	4034	-1139	4034	-1139	4050	-1164	25	25	4054	-1172	33	33
LANSING "K" ZONE	4098	-1203	4100	-1205	4113	-1227	24	22	4115	-1233	30	28
BKC	4135	-1240	4134	-1239	4147	-1261	21	22	4152	-1270	30	31
PAWNEE	4247	-1352	4250	-1355	NDE				NDE			
FORT SCOTT	4296	-1401	4292	-1397	NDE				NDE			
CHEROKEE	4316	-1421	4312	-1417	NDE				NDE			
MISSISSIPPIAN	4444	-1549	4450	-1555	NDE				NDE			
Total Depth	4550	-1655	4548	-1653	4170	-1284	-371	-369	4174	-1292		

BLACK OAK



EXPLORATION

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

Well Name: Withers 1-21
Well Id:
Location: Section 21 - 5S - 30W Decatur Co, Kansas
License Number: API # 15-039-21274-0000
Spud Date: 6/9/2021
Surface Coordinates: 340 FSL & 845 FWL
Region: Robertson
Drilling Completed: 6/17/2021

Bottom Hole
Coordinates:
Ground Elevation (ft): 2890' K.B. Elevation (ft): 2895'
Logged Interval (ft): 3700 To: 4550 Total Depth (ft): 4550
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: Clayton Camozzi
Company: Black Oak Exploration, LLC
Address: 1474 S St Paul St
Denver CO 80210
Cell: 303.968.4999

REMARKS

After review of the open hole logs, DST data and geological log data it was recommended to run 5-1/2" production casing for a completion. The samples will be delivered, processed, and available for review at the KGS Library located in Wichita, Kansas

Black Oak Exploration, LLC

WELL COMPARISON SHEET

Company: Black Oak Exploration, LLC
 1474 S St Paul St
 Denver, CO 80210
 Contact: Clayton Camozzi 303-968-4999 (Cell)

Well: Withers 1-21
 Location: 340 FSL / 845 FWL
 21 - 5S - 30W
 Decatur Co., KS
 Elevation: 2890' KB 2895' GL
 Field: Robertson
 API No: 15-039-21274-0000
 Surface Casing: 8 5/8" set @ 266' KB

Wellsite Geologist: Clayton Camozzi Cell: (303) 968-4999
 Drilling Contractor: Murfin Drilling Co Rig #108, Rig Phone (785-259-0816), Tool Pusher Scott Piland (620-639-1843)

2' Uphole Correction
 Drill Time vs. E-logs

Formation	DRILLING WELL				COMPARISON WELL				COMPARISON WELL			
	Withers 1-21 340 FSL / 845 FWL 21 - 5S - 30W				Robertson 1 1980 FNL / 1980 FEL 21 - 5S - 30W				Huber 1 1980 FNL / 1980 FWL 21 - 5S - 30W			
	2895 KB		2886 KB		2886 KB		2882 KB		2882 KB		Structural Relationship	
	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
STONE CORAL	2595	300	2596	299	2607	279	2607	273	2609	273	27	26
FORAKER	3416	-521	3414	-519	3426	-540	3426	-551	3433	-551	30	32
TOPEKA	3703	-808	3702	-807	3713	-827	3713	-836	3718	-836	28	29
DEER CREEK	3754	-859	3750	-855	3764	-878	3764	-890	3772	-890	31	35
LECOMPTON	3818	-923	3816	-921	3828	-942	3828	-950	3832	-950	27	29
HEEBNER	3877	-982	3874	-979	3888	-1002	3888	-1009	3891	-1009	27	30
LANSING	3923	-1028	3922	-1027	3936	-1050	3936	-1058	3940	-1058	30	31
LANSING "D" ZONE	3961	-1066	3958	-1063	3977	-1091	3977	-1097	3979	-1097	31	34
LANSING "H" ZONE	4034	-1139	4034	-1139	4050	-1164	4050	-1172	4054	-1172	33	33
LANSING "K" ZONE	4098	-1203	4100	-1205	4113	-1227	4113	-1233	4115	-1233	30	28
BKC	4135	-1240	4134	-1239	4147	-1261	4147	-1270	4152	-1270	30	31
PAWNEE	4247	-1352	4250	-1355	NDE		NDE		NDE			
FORT SCOTT	4296	-1401	4292	-1397	NDE		NDE		NDE			
CHEROKEE	4316	-1421	4312	-1417	NDE		NDE		NDE			
MISSISSIPPIAN	4444	-1549	4450	-1555	NDE		NDE		NDE			
Total Depth	4550	-1655	4548	-1653	4170	-1284	4170	-1292	4174	-1292		



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Oak Exploration

21/5s/30w Decatur KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67016

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2021.06.13 @ 02:23:00

GENERAL INFORMATION:

Formation: **Toronto - Lans. "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:32:51

Time Test Ended: 10:29:06

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 73

Interval: **3883.00 ft (KB) To 3935.00 ft (KB) (TVD)**

Reference Elevations: 2895.00 ft (KB)

Total Depth: 3935.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6771

Inside

Press@RunDepth: 177.39 psig @ 3884.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.06.13

End Date: 2021.06.13

Last Calib.: 2021.06.13

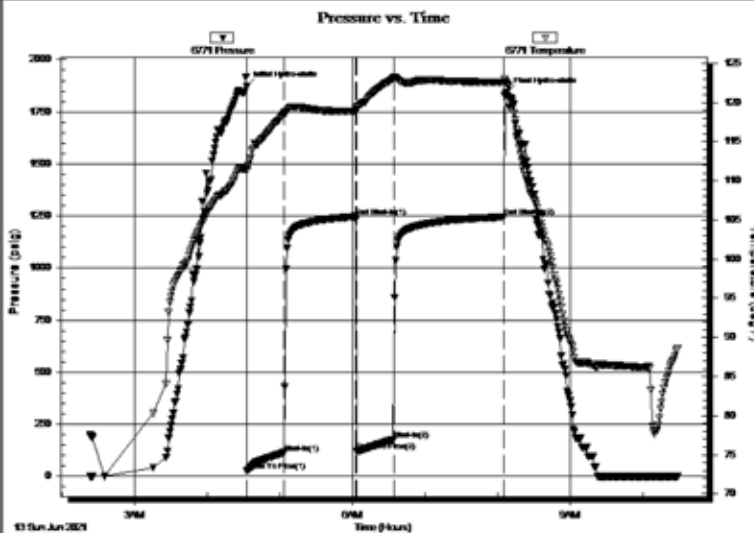
Start Time: 02:23:01

End Time: 10:29:06

Time On Btm: 2021.06.13 @ 04:32:36

Time Off Btm: 2021.06.13 @ 08:07:21

TEST COMMENT: 30 - IF: 1" Blow at open, built to BOB (11") at 24 1/4 min., built to 12 1/2"
60 - IS: Blow back built to 1/4"
30 - FF: 1/4" Blow at open, built to BOB at 24 1/4 min., built to 13"
90 - FS: Blow back built to 2"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1870.46	111.77	Initial Hydro-static
1	24.93	111.38	Open To Flow (1)
31	113.58	118.56	Shut-In(1)
90	1247.29	118.89	End Shut-In(1)
91	119.65	119.11	Open To Flow (2)
122	177.39	123.08	Shut-In(2)
213	1245.15	122.58	End Shut-In(2)
215	1844.27	122.45	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	SO/MCW 61%w, 37%m, 2%o	0.91
65.00	GOCM 67%m, 23%o, 10%g	0.91
60.00	MCO 86%o, 14%m	0.84
0.00	GIP = 65'	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Oak Exploration

21/5s/30w Decatur KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67017

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2021.06.13 @ 17:40:00

GENERAL INFORMATION:

Formation: **Lans. "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:49:06

Time Test Ended: 01:37:21

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 73

Interval: **3954.00 ft (KB) To 3978.00 ft (KB) (TVD)**

Reference Elevations: 2895.00 ft (KB)

Total Depth: 3978.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6771 Inside

Press@RunDepth: 239.06 psig @ 3955.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.06.13

End Date: 2021.06.14

Last Calib.: 2021.06.14

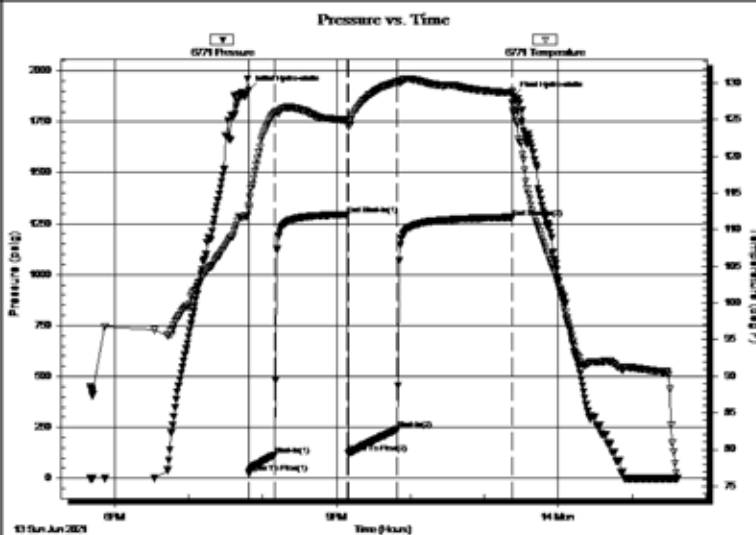
Start Time: 17:40:01

End Time: 01:37:21

Time On Btm: 2021.06.13 @ 19:48:51

Time Off Btm: 2021.06.13 @ 23:23:36

TEST COMMENT: 20 - IF: Blow built to BOB (11") at 7 3/4 min., built to 23"
60 - IS: Blow back built to 5 1/2", then died back to 2 1/2"
40 - FF: Blow built to BOB at 12 min., built to 34 3/4"
90 - FS: Blow back built to 5", then died back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1905.35	113.26	Initial Hydro-static
1	24.88	112.82	Open To Flow (1)
22	115.38	126.09	Shut-In(1)
80	1295.26	124.89	End Shut-In(1)
81	124.93	124.02	Open To Flow (2)
121	239.06	130.15	Shut-In(2)
214	1280.60	128.69	End Shut-In(2)
215	1875.24	126.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
117.00	SO/MCW 58%w, 35%m, 5%o, 2%g	0.58
45.00	GOCM 70%m, 18%g, 12%o	0.63
430.00	CGO 75%o, 24%g, 1%m	6.03
0.00	GIP = 600'	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Oak Exploration

21/5s/30w Decatur KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67018

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2021.06.14 @ 09:15:00

GENERAL INFORMATION:

Formation: **Lans. "F - G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:57:36

Time Test Ended: 19:16:35

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 73

Interval: **3976.00 ft (KB) To 4010.00 ft (KB) (TVD)**

Reference Elevations: 2895.00 ft (KB)

Total Depth: 4010.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6771

Inside

Press@RunDepth: 1040.67 psig @ 3977.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.06.14

End Date: 2021.06.14

Last Calib.: 2021.06.14

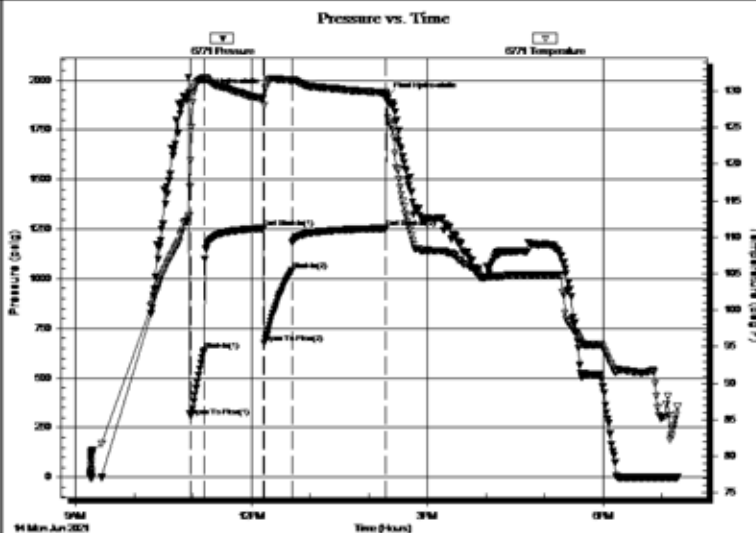
Start Time: 09:15:01

End Time: 19:16:35

Time On Btm: 2021.06.14 @ 10:56:06

Time Off Btm: 2021.06.14 @ 14:18:06

TEST COMMENT: 15 - IF: Blow built to BOB (11") at 30 sec., built to 272"
60 - ISI: Blow back built to BOB at 11 min., built to 52 1/2"
30 - FF: Blow built to BOB at 45 sec., built to 279"
90 - FSI: Blow back built to BOB at 17 min., built to 12" then died back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1935.36	112.93	Initial Hydro-static
2	306.78	120.42	Open To Flow (1)
16	639.90	131.76	Shut-In(1)
77	1253.91	128.97	End Shut-In(1)
77	674.05	127.98	Open To Flow (2)
106	1040.67	131.42	Shut-In(2)
202	1253.69	129.76	End Shut-In(2)
202	1916.56	129.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
117.00	OCM 52% _m , 33% _g , 15% _o	0.58
2198.00	Rev Out CGO 86% _o , 14% _g	30.83
375.00	CGO 64% _o , 36% _g	5.26
125.00	CGO 92% _o , 8% _g	1.75
0.00	GIP = 1005'	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Oak Exploration

21/5s/30w Decatur KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67019

DST#: 4

ATTN: Clayton Camozzi

Test Start: 2021.06.15 @ 08:50:00

GENERAL INFORMATION:

Formation: **Lans. "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:39:36

Time Test Ended: 16:57:51

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 73

Interval: **4020.00 ft (KB) To 4083.00 ft (KB) (TVD)**

Total Depth: 4083.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2895.00 ft (KB)

2890.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6771

Inside

Press@RunDepth: 142.41 psig @ 4021.00 ft (KB)

Start Date: 2021.06.15

End Date:

2021.06.15

Start Time: 08:50:01

End Time:

16:57:51

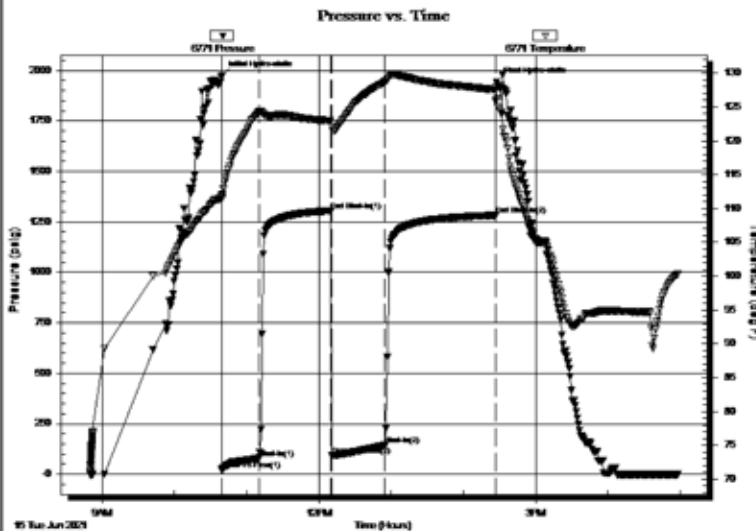
Capacity: 8000.00 psig

Last Calib.: 2021.06.15

Time On Btm: 2021.06.15 @ 10:39:21

Time Off Btm: 2021.06.15 @ 14:27:51

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 17 1/2 min., built to 17 3/4"
60 - IS: Blow back built to 4 1/4"
45 - FF: Blow built to BOB at 26 min., built to 16"
90 - FS: Blow back built to 5 1/2", then died back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1972.14	112.08	Initial Hydro-static
1	21.02	111.49	Open To Flow (1)
31	80.07	124.27	Shut-In(1)
91	1305.42	122.99	End Shut-In(1)
92	92.22	122.10	Open To Flow (2)
136	142.41	128.72	Shut-In(2)
228	1282.98	127.54	End Shut-In(2)
229	1942.09	126.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
135.00	GOM 41% _m , 35% _o , 24% _g	0.83
45.00	SMCO 88% _o , 7% _g , 5% _m	0.63
160.00	CGO 80% _o , 20% _g	2.24
0.00	GIP = 600'	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Oak Exploration

21/5s/30w Decatur KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67020

DST#: 5

ATTN: Clayton Camozzi

Test Start: 2021.06.16 @ 01:35:00

GENERAL INFORMATION:

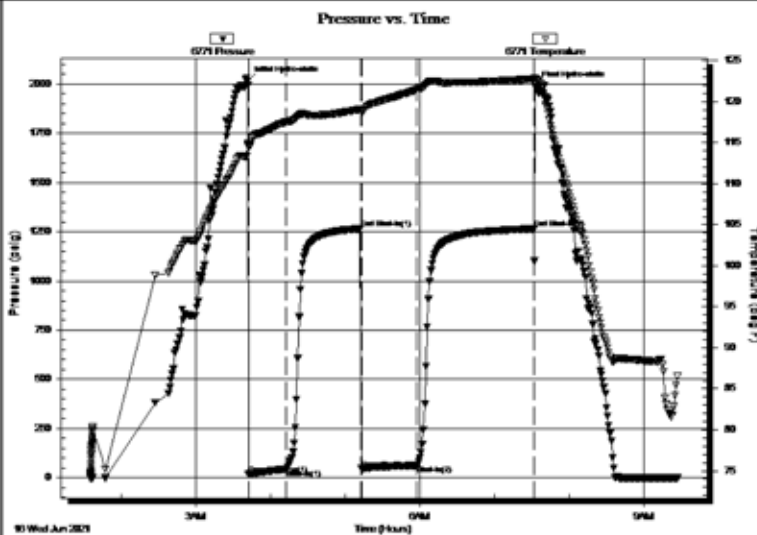
Formation: **Lans. "K"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 03:42:06
 Tester: James Winder
 Time Test Ended: 09:27:21
 Unit No: 73
 Interval: **4082.00 ft (KB) To 4115.00 ft (KB) (TVD)**
 Reference Elevations: 2895.00 ft (KB)
 Total Depth: 4115.00 ft (KB) (TVD)
 2890.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 5.00 ft

Serial #: 6771

Inside

Press@RunDepth: 62.30 psig @ 4083.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2021.06.16 End Date: 2021.06.16 Last Calib.: 2021.06.16
 Start Time: 01:35:01 End Time: 09:27:21 Time On Btm: 2021.06.16 @ 03:41:36
 Time Off Btm: 2021.06.16 @ 07:32:36

TEST COMMENT: 30 - IF: Blow built to 2"
 60 - ISI: No blow back
 45 - FF: Blow built to 1" fast, then slowly to 2 3/4"
 90 - FSI: Surface blow back, then died back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2013.35	114.64	Initial Hydro-static
1	17.07	114.62	Open To Flow (1)
31	42.89	117.55	Shut-In(1)
91	1264.80	119.09	End Shut-In(1)
92	45.20	118.67	Open To Flow (2)
136	62.30	121.51	Shut-In(2)
230	1263.79	122.82	End Shut-In(2)
231	1986.90	122.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
87.00	GOM 47% _m , 45% _o , 8% _g	0.43
50.00	SMCO 88% _o , 6% _m , 6% _g	0.43
0.00	GIP = 170'	0.00

Gas Rates

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

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	

MINERAL

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

	Amph
	Belm
	Bioclst
	Brach
	Bryozoa
	Cephal
	Coral
	Crin
	Echin
	Fish
	Foram
	Fossil
	Gastro
	Oolite
	Ostra
	Pelec
	Pellet
	Pisolite
	Plant
	Strom

STRINGER

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

	Ssstrg
--	--------

TEXTURE

	Boundst
	Chalky
	Cryxln
	Earthy
	Finexln
	Grainst
	Lithogr
	Microxln
	Mudst
	Packst
	Wackest

OIL SHOW

	Gas show
	Even
	Spotted
	Ques
	Dead

INTERVAL

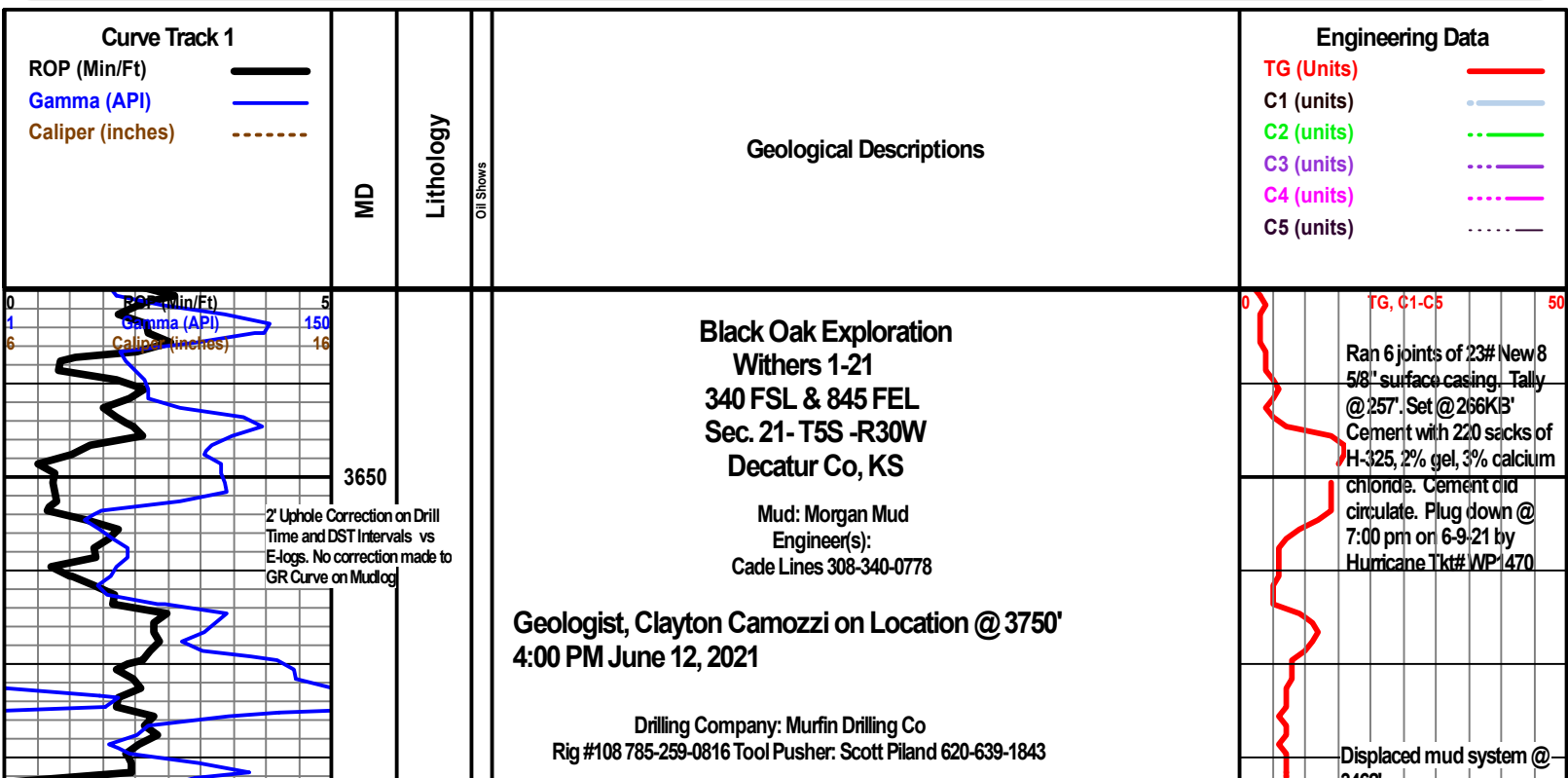
	Dst
	Core
	Dst
	Straddle test tail pipe

EVENT

	Rft
	Sidewall
	Dst
	Open hole
	Perforations

FOSSIL

	Oomoldic
	Fuss
	Algae



Start Wet & Dry Samples @ 3700'

3700

Limestone, light gray to cream, hard dense, microcrystalline to scattered subsucrosic in dense calcareous matrix, 1 piece oolitic, fair interoolitic porosity, spotted brown to black stain in 40%, spotted yellow fluorescence in 30%, no odor, no show free oil

Topeka 3703 (-808)

Limestone, cream, hard, microcrystalline to scattered sucrosic, dense calcareous matrix, very poor to no visible porosity, no stain, no odor, no show free oil

Limestone, cream, hard to soft, subsucrosic to scattered oolitic in a dense calcareous matrix trace comoldic, poor to no visible porosity, no stain, no odor, no show free oil, small trace shale red soft, glauconite in part

Limestone, white to cream to trace brown, hard to soft, subsucrosic to scattered microcrystalline matrix scattered light gray shale inclusions throughout, poor to fair intergranular porosity, no stain, no odor, no show free oil, abundant soft white chalk throughout, glauconite in part

Limestone to Limy shale, cream, hard dense to brittle, subsucrosic matrix with abundant red to gray shale stringers in matrix, no stain, no odor, dull yellow fluorescence, no show free oil,

3750

Deer Creek 3754 (859)

Limestone, cream, hard dense, microcrystalline throughout trace red shale stringers, no visible porosity, no odor, no fluorescence, no show free oil

Limestone, cream to tan, hard to brittle, microcrystalline to scattered subsucrosic in a dense calcareous matrix trace scattered fossiliferous matrix, poor to no visible porosity, 2 pieces had light brown stringy stain in 30%, no odor, dull yellow fluorescence, no show free oil, abundant soft white chalk

Limestone, cream to tan, hard to brittle, sub sucrosic to trace oolitic to small trace fossiliferous dense calcareous matrix, fair intergranular porosity to no interoolitic/fossiliferous porosity, no stain, no odor, dull yellow fluorescence, no show free oil, trace fusulinids

Limestone, cream, hard, subsucrosic to microcrystalline, dense calcareous/chalky matrix, no visible porosity, no stain, no odor, no show free oil, soft white chalk scattered throughout

Limestone, as above

3800

Shale, black soft blocky carbonaceous,

Limestone, light gray to cream, hard dense, microcrystalline in part to scattered subsucrosic in a dense calcareous/shaly matrix, poor intercrystalline to no visible porosity, no stain, no show free oil

LeCompton 3818 (-923)

Limestone cream to tan, hard to brittle, sub sucrosic abundant calcite in matrix, poor to fair intercrystalline to no visible porosity throughout, no stain, no odor, dull yellow fluorescence throughout, no show free oil, soft white chalk scattered throughout, trace scattered silstone, light gray to light brown, soft to brittle, calcareous, scattered shale inclusions, no show

Limestone, cream to to tan, microcrystalline to scattered subsucrosic in a dense calcareous matrix, possible recrsytalline matrix, no visible porosity, no stain, no odor no, no fluorescence, no show free oil, trace glauconite in part

3850

Limestone, cream to tan, hard to brittle, microcrystalline to trace subsucrosic trace dense calcareous matrix, no visible porosity, no stain, no odor, dull yellow fluorescence, no show free oil, trace scattered light gray blocky shale

Limestone, cream, hard to brittle, subsucrosic chalky/calcareous matrix throughout, poor to fair intercrystalline porosity no visible porosity, no stain, no odor, dull yellow fluorescence, no show free oil

Limestone, white to cream, hard, subsucrosic in a dense chalky calcareous matrix, no visible porosity, no stain, no odor, dull yellow fluorescence, no, show free oil, scattered chalk throughout

Heebner 3877 (-982)

Shale, black, soft, blocky to splintry, carbonaceous

Limestone, cream to light gray hard dense, microcrystalline with dense imbedded light gray shale, no visible porosity, no stain, no odor, no show free oil

3900

Shale to trace shaly silt, light gray to red, hard to soft, blocky to splintry, micaceous in part, trace scattered lime stringers, hard dense, microcrystalline, no porosity no show

3462

Trip / Change PDC for Tricone @ 3651' Deviation Survey 3/4°

Morgan Ck @ 3651'
10:30 am 6/12/21
Vis 65 Wt 8.6
PV 20 YP 20
WL 6.8
Cake 2
PH 11.5
CHL 600 ppm
CA 10
Sol 2.2
LCM: Tr
DMC: \$3,195
CMC: \$9,097

0 TG, C1-C5 50

Morgan Ck @ 3935'
10:15 am 6/13/21
Vis 58 Wt 8.9
PV 18 YP 18
WL 6.8
Cake 2
PH 11
CHL 1100 ppm
CA 10
Sol 4.3
LCM: Tr
DMC: \$0
CMC: \$9,097

401 IN C...

DST #1 3883'-3935'

3950

DST #2 3954' - 3978'

DST #3 3976'-4010'

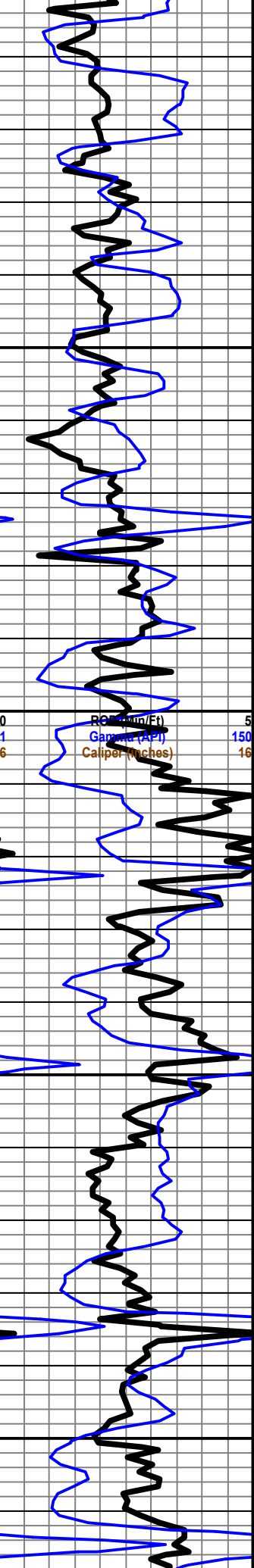
4000

DST #4 4020' - 4083'

4050

DST #5 4082'-4115'

4100



Limestone, cream to tan, hard, subsucrosic to oolitic to small trace fossil frags in part, fair intergranular to fair interoolitic porosity, light brown spotted stain in 70%, good oil odor, bright yellow fluorescence in 30%, good flush to very good slow stream cut, samples bleeding light brown oil, good show abundant free oil, trace chalk

Lansing 3923 (-1028)

Limestone, cream to tan, hard dense to trace brittle, microcrystalline to sucrosic matrix in 40%, fair to scattered good intercrystalline porosity, light brown to black stain in 75%, good oil odor, spotted yellow fluorescence in 50%, good flush cut to very good slow stream cut, samples bleeding light free oil, good show abundant free oil in tray

Limestone, cream to tan to white, hard dense, microcrystalline to scattered subsucrosic to trace oolitic matrix, poor to fair intercrystalline interoolitic porosity, light brown spotted stain in 30%, fair oil odor, dull yellow to no fluorescence, good flush cut to good slow stream cut, fair show light brown free oil, abundant light gray to green to red shale, soft, blocky

Limestone, cream to tan, hard, microcrystalline to scattered oolitic matrix in 20%, fair interoolitic porosity to no intercrystalline porosity, yellow fluorescence in 25%, good flush cut to good slow stream cut, scattered light brown free oil in tray, fair show

Lansing D 3961 (-1066)

Limestone, cream to tan, hard to brittle, subsucrosic to sucrosic to scattered oolitic to small trace fossiliferous matrix, good intercrystalline to good interoolitic porosity, light brown even stain in 90%, good oil odor, bright yellow fluorescence throughout, excellent flush cut to very good slow stream cut, samples bleeding light brown to black oil and gas, abundant light brown free oil in tray, good show, scattered dense opaque chert

Limestone, cream to tan, hard dense, microcrystalline to small trace oolitic scattered throughout, poor intercrystalline porosity, light brown stain in 30%, good oil odor, yellow fluorescence in 70%, poor flush to poor slow stream cut, samples very slowly bleeding light brown free oil, fair show light brown free oil, trace fassulinids in part

Limestone to possible dolomitic lime in part, cream to tan, subsucrosic to oolitic to possible recrystalline matrix large calcite crsytaline in matrix, poor to fair intercrstyaline to poor/fair interoolitic porosity to trace scattered vugular porosity in part possibly fracture porosity, light brown oil stain in 60%, dull yellow fluorescence throughout to spotted bright yellow in 20%, fair flush cut to poor slow stream cut, samples slowly bleeding light brown oil, fair show light brown free oil.

Limestone (G zone), cream to tan, microcrystalline to small trace subsucrosic in a dense calcareous matrix, poor to small trace fair intercrystalline porosity, light brown spotted streaky stain in 20%, fair oil odor, yellow fluorescence throughout, poor flush to poor slow stream cut, fair show light brown free oil in trace, trace pyrite

Limestone, cream, hard dense, microcrystalline to scattered cryptocrystalline matrix, no visible porosity, no stain, no odor, dull yellow fluorescence throughout, no show free oil, scattered chert, white to opaque, hard, dense, tripolitic

Limestone, light brown to light gray, microcrystalline to cryptocrystalline matrix, no visible porosity, no stain no odor, dull yellow fluorescence, no show free oil, Shale, black, soft to very soft, splintery to blocky, carbonaceous, no fluorescence

Lansing H 4034 (-1139)

Limestone, white to cream, hard to brittle, microcrsytalline to scattered oolitic, very poor to no intercrystalline porosity to scattered fair interoolitic porosity, light brown spotted to streaky stain in 40%, fair oil odor, yellow fluorescence throughout, good flush cut to fair slow stream cut, samples slowly bleeding light brown oil, fair show free oil in tray,

Shale, black, soft, carbonaceous

Shale, to silty shale, light gray to green to small trace red, soft brittle, blocky, no fluorescence

Shale, red, soft, gummy, no fluorescence

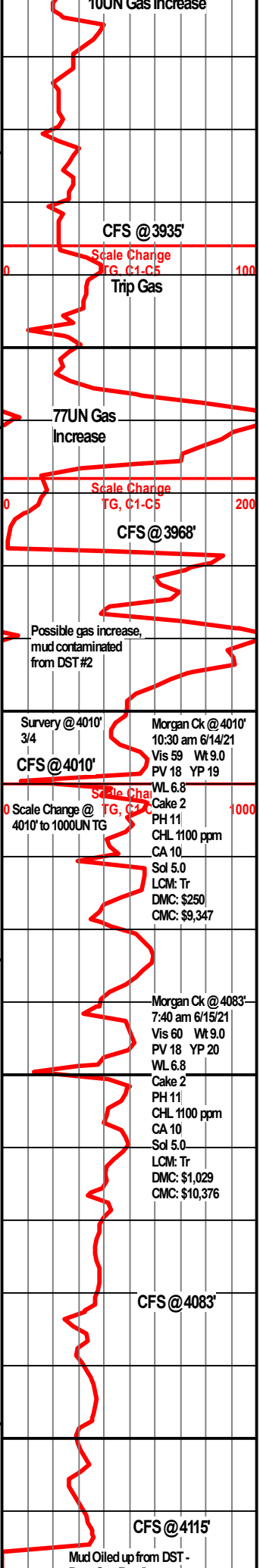
Limestone, cream, hard dense, microcrystalline to trace fossiliferous in a dense calcareous matrix heavy trace recrystalline matrix calcite crystals in part, poor intercrystalline porosity to no visible interoolitic porosity to possible fracture porosity, light brown streaky stain in 30%, no oil odor, yellow fluorescence throughout, poor flush cut to fair slow stream cut, samples slowly bleeding light brown oil, fair show light brown free oil in tray, trace pyrite

Shale, light gray to brown to scattered green to scattered red, soft, blocky, micaceous in part, no fluorescence

Lansing K 4098' (-1203)

Limestone, cream to tan, hard to scattered brittle, oolitic to subsucrosic in a dense calcareous recrystalline matrix calcit crystals in matrix, poor to fair interoolitic porosity to fair intercrystalline porosity to possible fracture porosity, light brown spotted stain in 60%, fair oil odor, dull yellow fluorescence throughout to spotted bright yellow fluorescence in 20%, poor flush cut to poor slow stream cut, samples slowly bleeding light brown oil, fair show light brown free oil in tray

Shale, light gray to brown to scattered green to scattered red, soft, blocky, micaceous in part, no fluorescence



CFS @ 3935'

Scale Change TG, C1-C5

Trip Gas

77UN Gas Increase

Scale Change TG, C1-C5

CFS @ 3968'

Possible gas increase, mud contaminated from DST #2

Survey @ 4010' 3/4

CFS @ 4010'

Scale Change @ 4010' to 1000UN TG

Morgan Ck @ 4010'

10:30 am 6/14/21

Vis 59 Wt 9.0

PV 18 YP 19

WL 6.8

Cake 2

PH 11

CHL 1100 ppm

CA 10

Sol 5.0

LCM: Tr

DMC: \$250

CMC: \$9,347

Morgan Ck @ 4083'

7:40 am 6/15/21

Vis 60 Wt 9.0

PV 18 YP 20

WL 6.8

Cake 2

PH 11

CHL 1100 ppm

CA 10

Sol 5.0

LCM: Tr

DMC: \$1,029

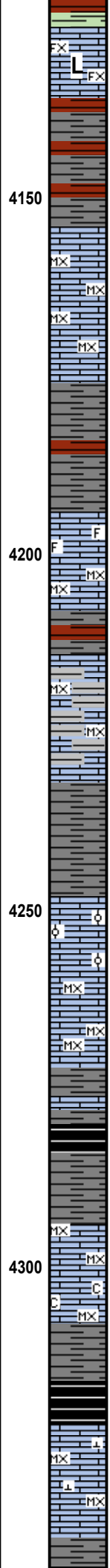
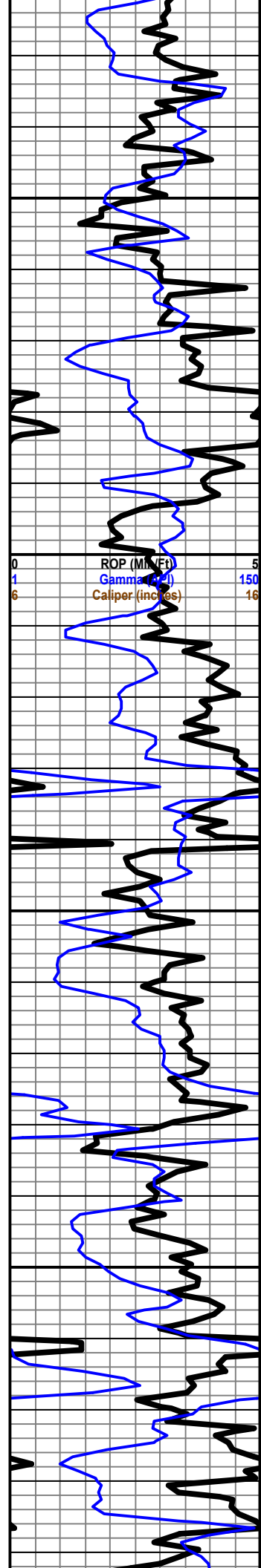
CMC: \$10,376

CFS @ 4083'

CFS @ 4115'

Mud Oiled up from DST - Poor Gas Readings

Morgan Ck @ 4015
 7:45 am 6/16/21
 Vis 57 Wt 9.1
 PV 18 YP 19
 WL 6.8
 Cake 2
 PH 11
 CHL 1200 ppm
 CA 10
 Sol 5.7
 LCM: Tr
 DMC: \$0
 CMC: \$10,376



Limestone, cream to tan to brown, microcrystalline to subsucrosic very dense calcareous matrix, no visible porosity, no stain, no odor, dull yellow fluorescence, no show

BKC 4135 (-1240)

Shale, light gray to gray to scattered red, very gummy/chalky to scattered blocky, no fluorescence

Shale, as above

Limestone, cream, hard dense, microcrystalline to scattered subsucrosic matrix dense calcareous matrix, no visible porosity, no odor, dull yellow fluorescence, no show

Limestone, light gray to cream, microcrystalline to scattered subsucrosic imbedded shale in a dense calcareous matrix, no visible porosity, no odor, dull yellow fluorescence throughout, no show

Shale, light gray to maroon, hard to scattered soft, splintry to blocky, micaceous, no fluorescence

Limestone cream to tan, microcrystalline to scattered subsucrosic to recrystalline dense calcareous matrix trace scattered fossil frags in matrix, no visible porosity, no odor, dull yellow fluorescence, no show,

Limestone, cream to tan, microcrystalline to scattered subsucrosic trace calcite crystals in dense calcareous matrix, no visible porosity, no odor, no stain, no fluorescence, no show free oil. Shale, gray to red, splintry to blocky to gummy, no fluorescence

Limestone to Shaly Lime, cream to light gray, hard to soft, microcrystalline, no visible porosity, no stain, no odor, dull yellow fluorescence, no show

Limestone to shaly lime, cream to light gray, hard dense, microcrystalline to subsucrosic matrix to recrystalline dense calcareous matrix trace calcite crystals in part, no visible porosity, no stain, no odor, dull yellow fluorescence, no show

Shale, light gray to gray, hard to very soft, splintry to very gummy, no fluorescence

Shale, as above

Pawnee 4247 (-1352)

Limestone, cream to tan, hard to brittle, microcrystalline to scattered subsucrosic to scattered oolitic in a dense calcareous matrix calcite veins in part, very poor to no visible porosity, no stain, no odor, no fluorescence, no show

Limestone as above, scattered shale, light gray, brittle, gummy no fluorescence

Shale, light gray to gray, hard to soft, splintry to locky to gummy, micaceous, no fluorescence

Shale, black, soft, splintry, carbonaceous

Fort Scott 4296 (-1401)

Limestone, cream to light gray, hard dense, microcrystalline to scattered cryptocrystalline, no visible porosity, no stain, no odor, no fluorescence, no show

Limestone, to shaly lime, light gray to gray, soft splintry, microcrystalline chalky matrix, no visible porosity, no stain, no odor, no fluorescence, no show

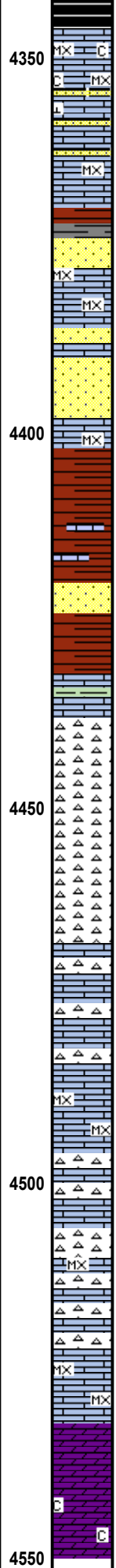
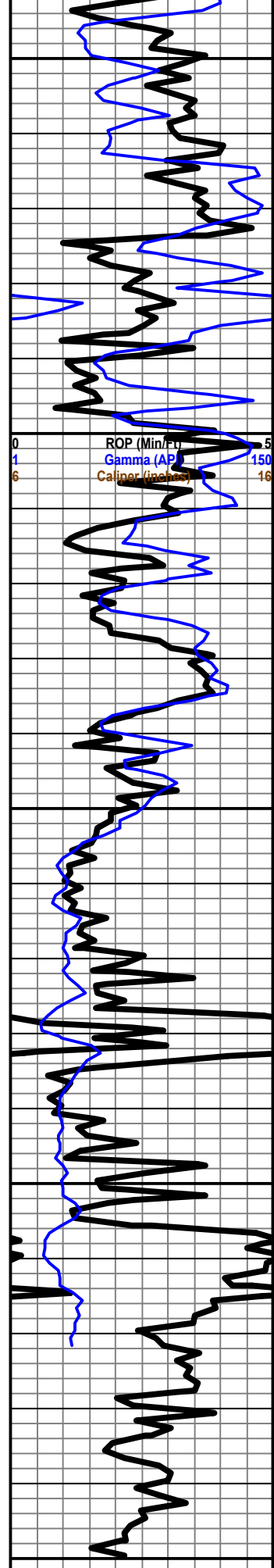
Cherokee 4316 (-1421)

Shale, black, soft, splintry to blocky, carbonaceous, no fluorescence

Limestone, cream to tan, hard dense, microcrystalline to trace subsucrosic recrystalline dense matrix calcite veins throughout, no visible porosity, no stain, no odor, no fluorescence no show

Shale, black soft, splintry, carbonaceous, no fluorescence

0 TG, M-C5 1000



Limestone, cream to light brown, microcrystalline to scattered subsucrosic in a dense calcareous matrix, no visible porosity, no stain, no odor, no fluorescence, no show, trace chalk

Limestone, cream to light brown, brittle, subsucrosic to microcrystalline dense calcareous/chalky matrix, no visible porosity, no stain, no odor, no fluorescence, no show. Sandstone, opaque, very small sub round to round fair sorted quartz grains in a calcareous matrix with gilsonite in part, fair to good intergranular porosity, no stain, no odor, dull yellow fluorescence, no cuts, no show free oil

Shale, light gray to red to scattered turquoise, hard, splinty, no fluorescence

Sandstone, opaque to clear angular poorly sorted large quartz grains, calcareous, fair to good intergranular porosity, no stain, no odor, no fluorescence, no show,

Limestone, cream, hard, microcrystalline matrix throughout trace shale inclusions in matrix, no visible porosity, no odor, no fluorescence, no show

Sandstone-Arcosic, small clear to red sub angular to sub round poorly sorted quartz grains with imbedded glauconite, good intergranular porosity, no stain, no fluorescence, no odor, no show

Shale, maroon to red, soft to hard, blocky to gummy, no fluorescence

Shale, maroon to red, soft to hard, blocky, traced imbedded lime grains, no fluorescence

Sandstone-Arcosic, small clear to red sub angular to sub round poorly sorted quartz grains with imbedded glauconite, good intergranular porosity, no stain, no fluorescence, no odor, no show, trace glauconite

Mississippian 4444 (-1549)

Limestone, to shaly lime to chert, hard dense, microcrystalline to subsucrosic, no visible porosity, no stain, no odor, no fluorescence, no show

Chert, white to cream to pink, very hard dense, no visible porosity no show

Chert as above

Limestone and chert interbedded, cream to white to light pink, hard dense, microcrystalline to subsucrosic matrix, poor to fair intercrystalline porosity, no stain, no odor, no fluorescence no show,

Limestone, cream to white to opaque, very hard dense, microcrystalline to scattered crypto crystalline, fair intercrystalline porosity, no odor, no fluorescence no show

Limestone with interbedded chert, light transparent yellow to off white, hard dense microcrystalline to subsucrosic, fair intercrystalline porosity, no stain, no odor, no show

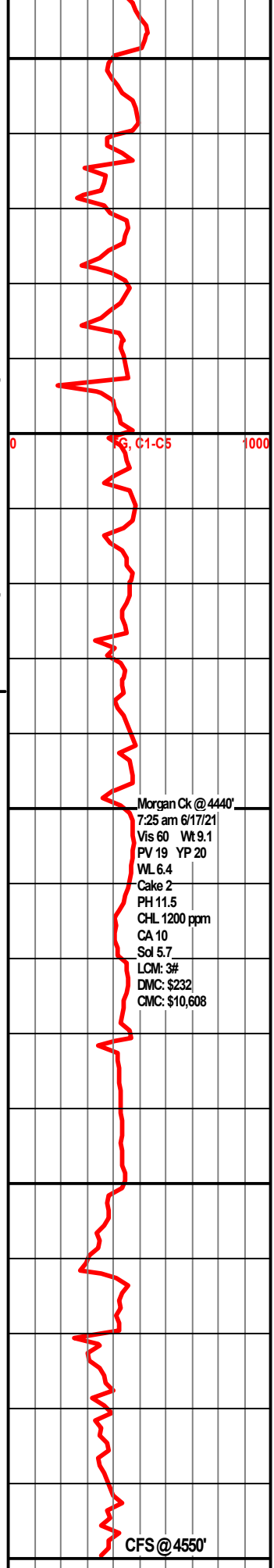
Chert, off white to cream to trace pink, very hard dense, microcrystalline to sub sucrosic, no visible porosity, no stain no show

Limestone to cherty lime, hard dense, microcrystalline to subsucrosic, no visible porosity, no stain, no odor, no show

Limestone, cream to tan to off white to light yellow, very hard dense, microcrystalline to small trace scattered subsucrosic, no visible porosity, no odor, no stain, no show, small trace soft white chalk

Dolomite to limy dolomite, cream throughout, hard dense, subrhombic to microcrystalline, poor to fair intercrystalline porosity, no stain no odor, no show

Dolomite to limy dolomite, cream throughout, hard dense, subrhombic to microcrystalline matrix, poor to fair intercrystalline porosity, no stain, no show, scattered soft white chalk



Morgan Ck @ 4440'
7:25 am 6/17/21
Vis 60 Wt 9.1
PV 19 YP 20
WL 6.4
Cake 2
PH 11.5
CHL 1200 ppm
CA 10
Sol 5.7
LCM: 3#
DMC: \$232
CMC: \$10,608

CFS @ 4550'



DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S ST Paul St
Denver, CO 80210

ATTN: Clayton Camozzi

Withers #1-21

21-5s-30w Decatur,KS

Start Date: 2021.06.13 @ 02:23:00

End Date: 2021.06.13 @ 10:29:06

Job Ticket #: 67016 DST #: 1

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

Printed: 2021.06.18 @ 09:47:32



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Black Oak Exploration

21-5s-30w Decatur, KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67016

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2021.06.13 @ 02:23:00

GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:32:51

Time Test Ended: 10:29:06

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 73

Interval: 3883.00 ft (KB) To 3935.00 ft (KB) (TVD)

Reference Elevations: 2895.00 ft (KB)

Total Depth: 3935.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6771 Inside

Press@RunDepth: 177.39 psig @ 3884.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.06.13

End Date: 2021.06.13

Last Calib.: 2021.06.13

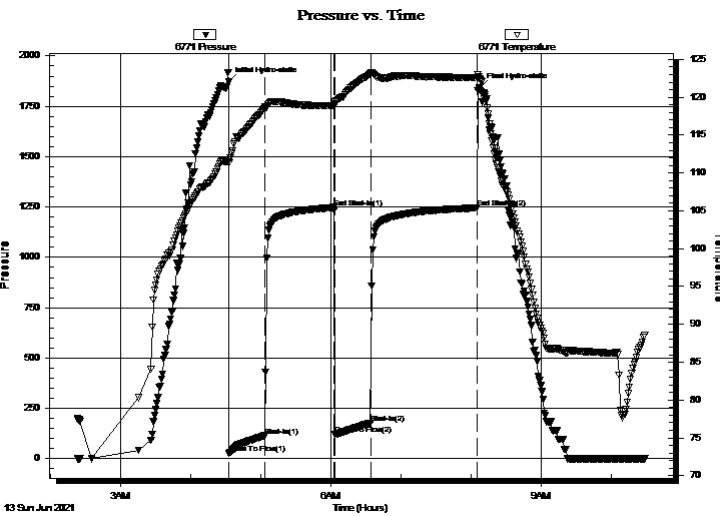
Start Time: 02:23:01

End Time: 10:29:06

Time On Btm: 2021.06.13 @ 04:32:36

Time Off Btm: 2021.06.13 @ 08:07:21

TEST COMMENT: 30 - IF: 1" Blow at open, built to BOB (11") at 24 1/4 min., built to 12 1/2"
60 - IS: Blow back built to 1/4"
30 - FF: 1/4" Blow at open, built to BOB at 24 1/4 min., built to 13"
90 - FS: Blow back built to 2"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1870.46	111.77	Initial Hydro-static
1	24.93	111.38	Open To Flow (1)
31	113.58	118.56	Shut-In(1)
90	1247.29	118.89	End Shut-In(1)
91	119.65	119.11	Open To Flow (2)
122	177.39	123.08	Shut-In(2)
213	1245.15	122.58	End Shut-In(2)
215	1844.27	122.45	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	SO/MCW 61%w, 37%m, 2%o	1.46
65.00	GOCM 67%m, 23%o, 10%g	0.91
60.00	MCO 86%o, 14%m	0.84
0.00	GIP = 65'	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Oak Exploration

21-5s-30w Decatur,KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67016

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2021.06.13 @ 02:23:00

GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:32:51

Time Test Ended: 10:29:06

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 73

Interval: 3883.00 ft (KB) To 3935.00 ft (KB) (TVD)

Reference Elevations: 2895.00 ft (KB)

Total Depth: 3935.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8367 Outside

Press@RunDepth: psig @ 3884.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.06.13

End Date: 2021.06.13

Last Calib.: 2021.06.13

Start Time: 02:23:01

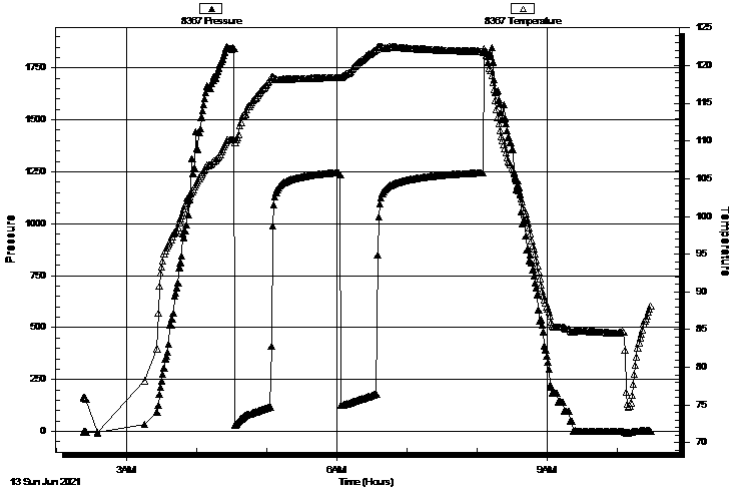
End Time: 10:28:51

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF: 1" Blow at open, built to BOB (11") at 24 1/4 min., built to 12 1/2"
60 - IS: Blow back built to 1/4"
30 - FF: 1/4" Blow at open, built to BOB at 24 1/4 min., built to 13"
90 - FS: Blow back built to 2"

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
180.00	SO/MCW 61%w, 37%m, 2%o	1.46
65.00	GOCM 67%m, 23%o, 10%g	0.91
60.00	MCO 86%o, 14%m	0.84
0.00	GIP = 65'	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Oak Exploration

21-5s-30w Decatur,KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67016

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2021.06.13 @ 02:23:00

Tool Information

Drill Pipe:	Length: 3766.00 ft	Diameter: 3.80 inches	Volume: 52.83 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 117.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 53.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	3883.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	81.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3855.00	
Shut In Tool	5.00			3860.00	
Hydraulic tool	5.00			3865.00	
Jars	5.00			3870.00	
Safety Joint	3.00			3873.00	
Packer	5.00			3878.00	29.00 Bottom Of Top Packer
Packer	5.00			3883.00	
Stubb	1.00			3884.00	
Recorder	0.00	6771	Inside	3884.00	
Recorder	0.00	8367	Outside	3884.00	
Perforations	15.00			3899.00	
Change Over Sub	1.00			3900.00	
Drill Pipe	31.00			3931.00	
Change Over Sub	1.00			3932.00	
Bullnose	3.00			3935.00	52.00 Bottom Packers & Anchor

Total Tool Length: 81.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

21-5s-30w Decatur,KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67016

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2021.06.13 @ 02:23:00

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:

45000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
180.00	SO/MCW 61%w, 37%m, 2%o	1.459
65.00	GOCM 67%m, 23%o, 10%g	0.912
60.00	MCO 86%o, 14%m	0.842
0.00	GIP = 65'	0.000

Total Length: 305.00 ft

Total Volume: 2.667 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

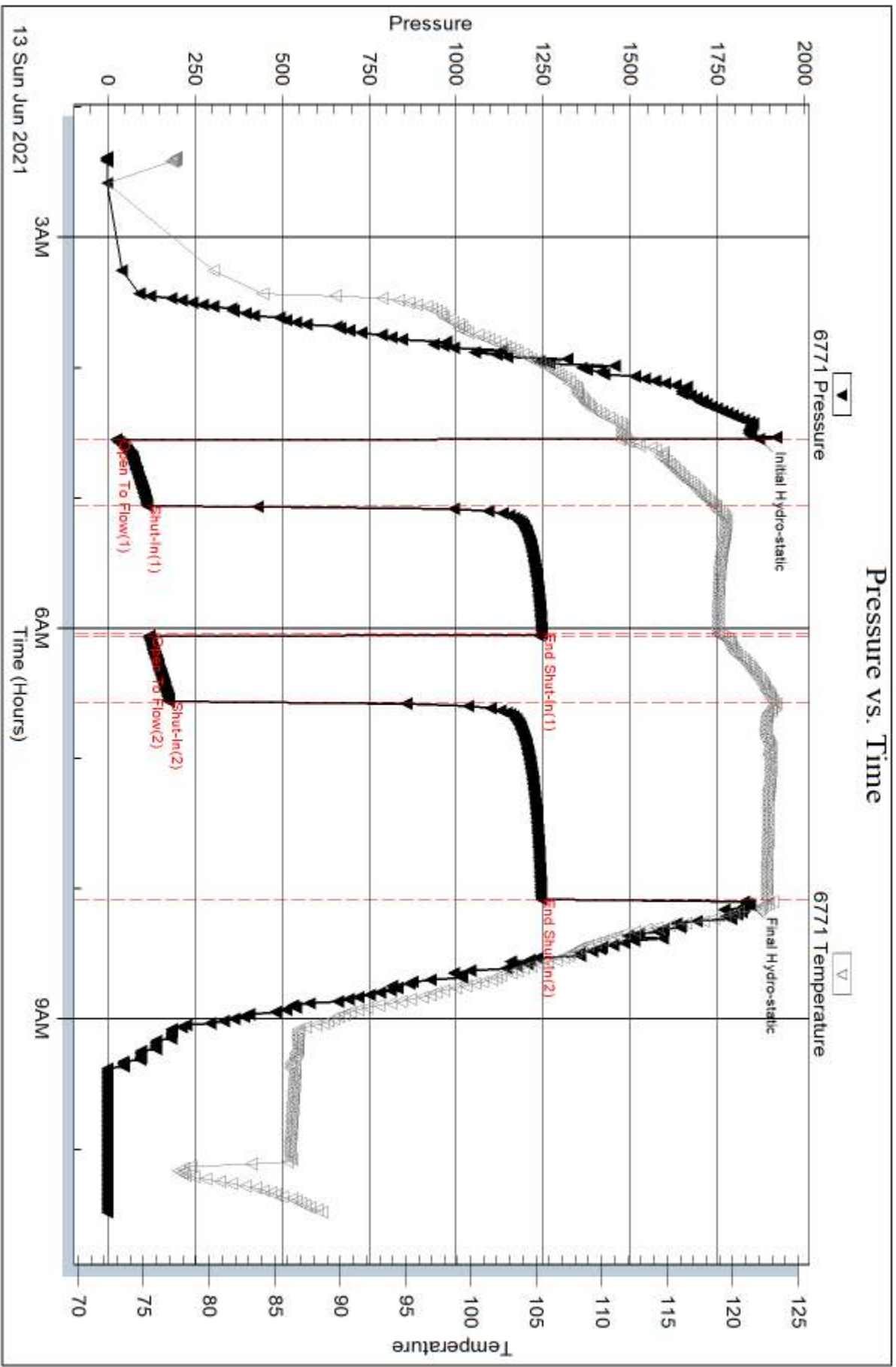
Serial #:

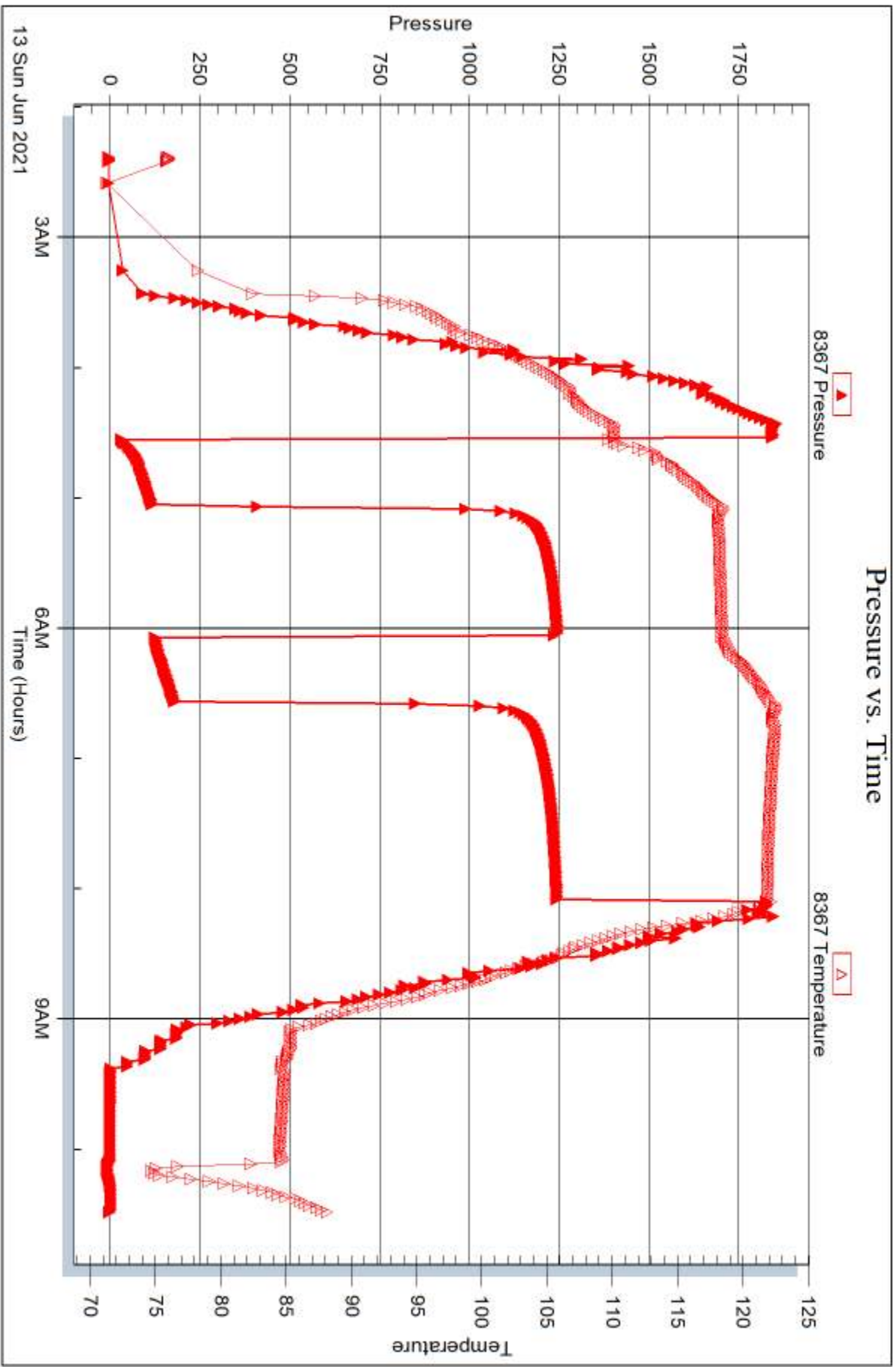
Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = too low to measure

RW = .157 ohms @ 75 deg F Chlorides = 45,000 ppm







DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S ST Paul St
Denver, CO 80210

ATTN: Clayton Camozzi

Withers #1-21

21-5s-30w Decatur,KS

Start Date: 2021.06.13 @ 17:40:00

End Date: 2021.06.14 @ 01:37:21

Job Ticket #: 67017 DST #: 2

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

Printed: 2021.06.18 @ 09:47:06



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Black Oak Exploration

21-5s-30w Decatur, KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67017

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2021.06.13 @ 17:40:00

GENERAL INFORMATION:

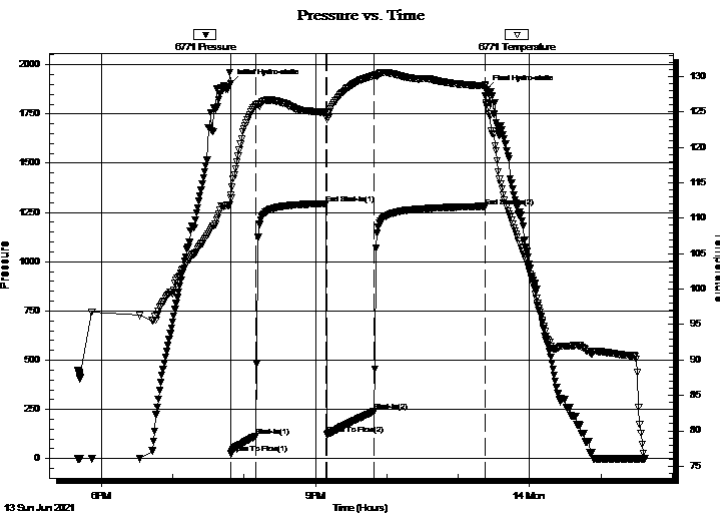
Formation: **LKC "D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 19:49:06
 Time Test Ended: 01:37:21
 Interval: **3954.00 ft (KB) To 3978.00 ft (KB) (TVD)**
 Total Depth: 3978.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 73
 Reference Elevations: 2895.00 ft (KB)
 2890.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6771

Inside

Press@RunDepth: 239.06 psig @ 3955.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2021.06.13 End Date: 2021.06.14 Last Calib.: 2021.06.14
 Start Time: 17:40:01 End Time: 01:37:21 Time On Btm: 2021.06.13 @ 19:48:51
 Time Off Btm: 2021.06.13 @ 23:23:36

TEST COMMENT: 20 - IF: Blow built to BOB (11") at 7 3/4 min., built to 23"
 60 - IS: Blow back built to 5 1/2", then died back to 2 1/2"
 40 - FF: Blow built to BOB at 12 min., built to 34 3/4"
 90 - FS: Blow back built to 5", then died back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1905.35	113.26	Initial Hydro-static
1	24.88	112.82	Open To Flow (1)
22	115.38	126.09	Shut-In(1)
80	1295.26	124.89	End Shut-In(1)
81	124.93	124.02	Open To Flow (2)
121	239.06	130.15	Shut-In(2)
214	1280.60	128.69	End Shut-In(2)
215	1875.24	126.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
117.00	SO/MCW 58%w , 35%m, 5%o, 2%g	0.58
45.00	GOCM 70%m, 18%g, 12%o	0.63
430.00	CGO 75%o, 24%g, 1%m	6.03
0.00	GIP = 600'	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Oak Exploration

21-5s-30w Decatur, KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67017

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2021.06.13 @ 17:40:00

GENERAL INFORMATION:

Formation: **LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:49:06

Time Test Ended: 01:37:21

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 73

Interval: 3954.00 ft (KB) To 3978.00 ft (KB) (TVD)

Reference Elevations: 2895.00 ft (KB)

Total Depth: 3978.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8367 Outside

Press@RunDepth: psig @ 3955.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.06.13 End Date: 2021.06.14

Last Calib.: 2021.06.14

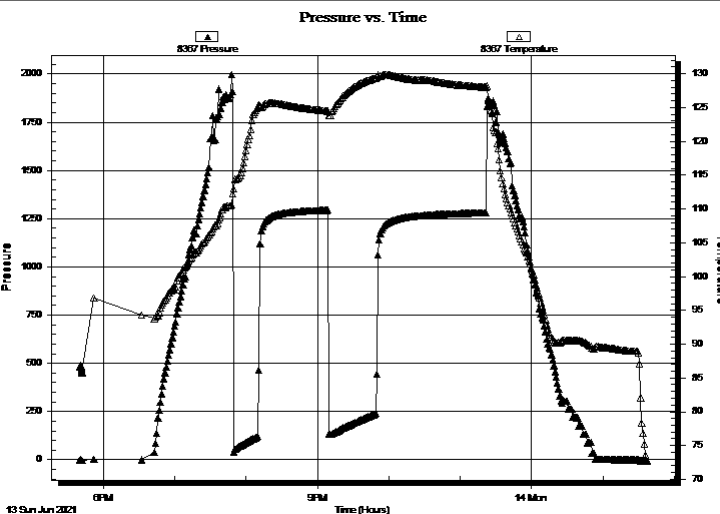
Start Time: 17:40:01 End Time: 01:37:36

Time On Btm:

Time Off Btm:

TEST COMMENT: 20 - IF: Blow built to BOB (11") at 7 3/4 min., built to 23"
60 - IS: Blow back built to 5 1/2", then died back to 2 1/2"
40 - FF: Blow built to BOB at 12 min., built to 34 3/4"
90 - FS: Blow back built to 5", then died back

PRESSURE SUMMARY



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

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
117.00	SO/MCW 58%w , 35%m, 5%o, 2%g	0.58
45.00	GOCM 70%m, 18%g, 12%o	0.63
430.00	CGO 75%o, 24%g, 1%m	6.03
0.00	GIP = 600'	0.00

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Oak Exploration

21-5s-30w Decatur,KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67017

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2021.06.13 @ 17:40:00

Tool Information

Drill Pipe:	Length: 3827.00 ft	Diameter: 3.80 inches	Volume: 53.68 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 117.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 54.26 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3954.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3926.00	
Shut In Tool	5.00			3931.00	
Hydraulic tool	5.00			3936.00	
Jars	5.00			3941.00	
Safety Joint	3.00			3944.00	
Packer	5.00			3949.00	29.00 Bottom Of Top Packer
Packer	5.00			3954.00	
Stubb	1.00			3955.00	
Recorder	0.00	6771	Inside	3955.00	
Recorder	0.00	8367	Outside	3955.00	
Perforations	20.00			3975.00	
Bullnose	3.00			3978.00	24.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

21-5s-30w Decatur,KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67017

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2021.06.13 @ 17:40:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31.2 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

50000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
117.00	SO/MCW 58%w , 35%m, 5%o, 2%g	0.575
45.00	GOCM 70%m, 18%g, 12%o	0.631
430.00	CGO 75%o, 24%g, 1%m	6.032
0.00	GIP = 600'	0.000

Total Length: 592.00 ft Total Volume: 7.238 bbl

Num Fluid Samples: 0

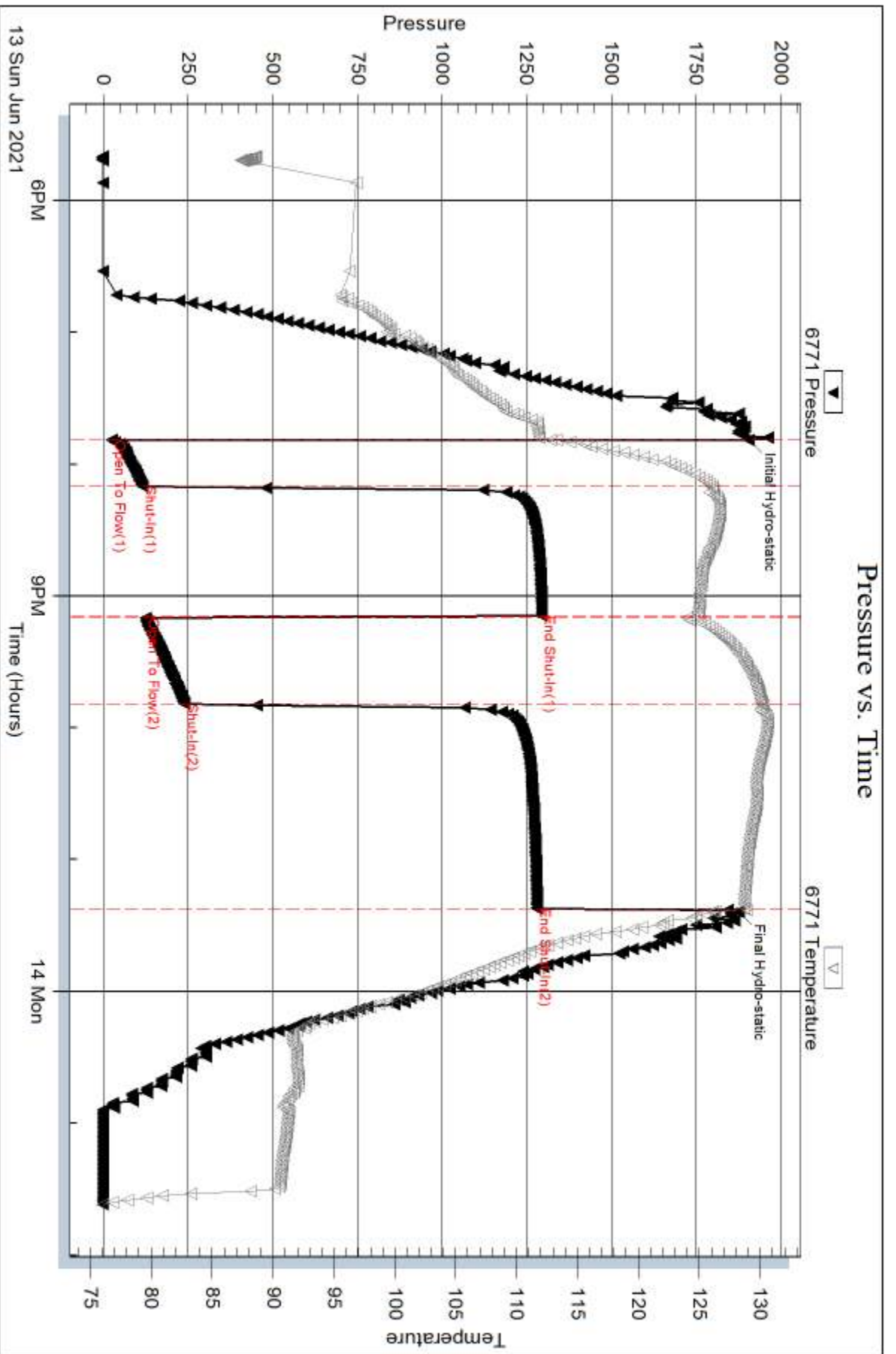
Num Gas Bombs: 0

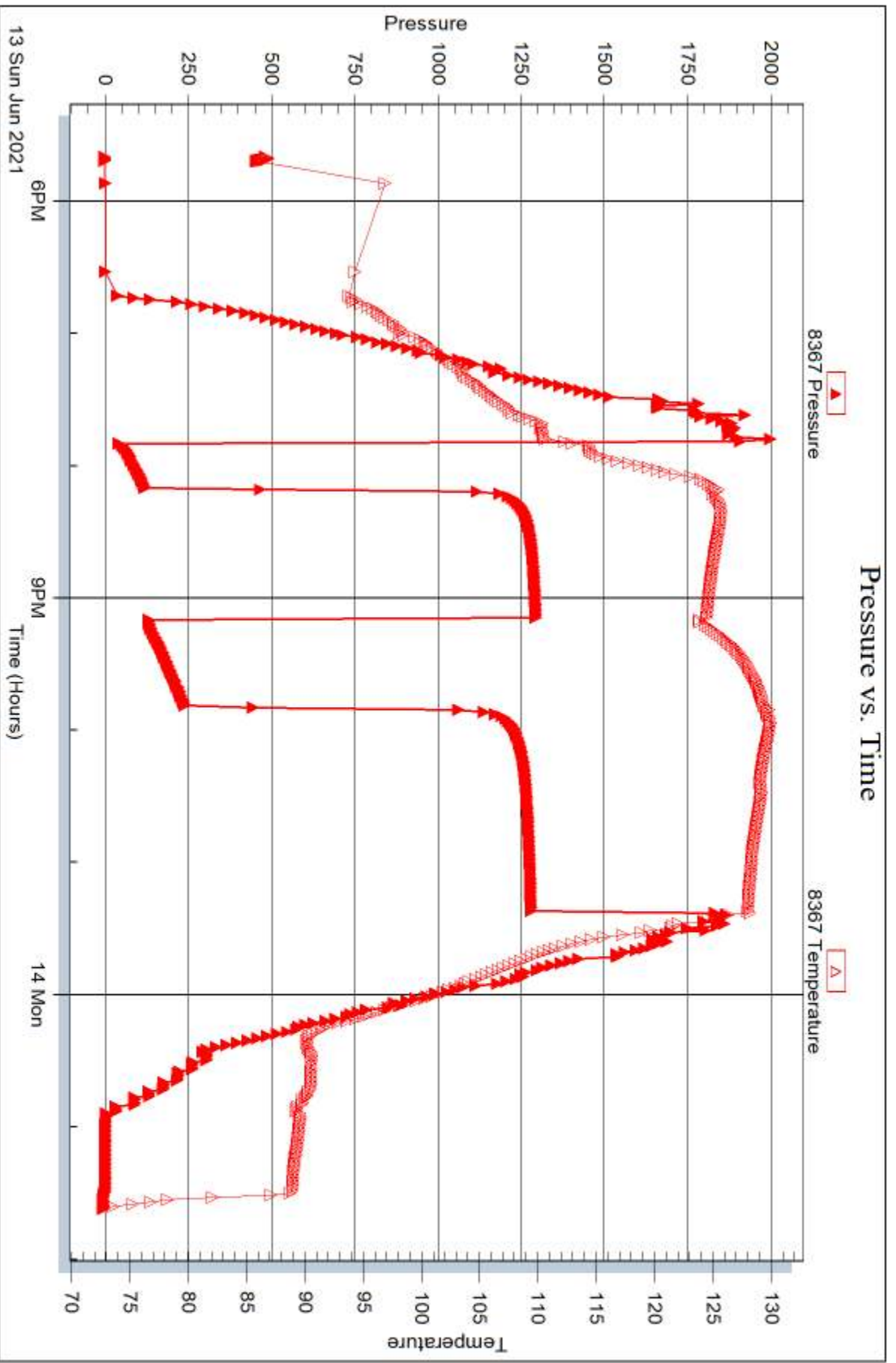
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 33 api @ 78 deg F Corrected Gravity = 31.2 api
RW = .155 ohms @ 70.2 deg F Chlorides =







DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S ST Paul St
Denver, CO 80210

ATTN: Clayton Camozzi

Withers #1-21

21-5s-30w Decatur,KS

Start Date: 2021.06.14 @ 09:15:00

End Date: 2021.06.14 @ 19:16:35

Job Ticket #: 67018 DST #: 3

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

Printed: 2021.06.18 @ 09:46:39

Black Oak Exploration
21-5s-30w Decatur,KS
Withers #1-21
DST # 3
LKC "F - G"
2021.06.14



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Oak Exploration

21-5s-30w Decatur, KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67018

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2021.06.14 @ 09:15:00

GENERAL INFORMATION:

Formation: **LKC "F - G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:57:36

Time Test Ended: 19:16:35

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 73

Interval: 3976.00 ft (KB) To 4010.00 ft (KB) (TVD)

Reference Elevations: 2895.00 ft (KB)

Total Depth: 4010.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6771

Inside

Press@RunDepth: 1040.67 psig @ 3977.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.06.14

End Date: 2021.06.14

Last Calib.: 2021.06.14

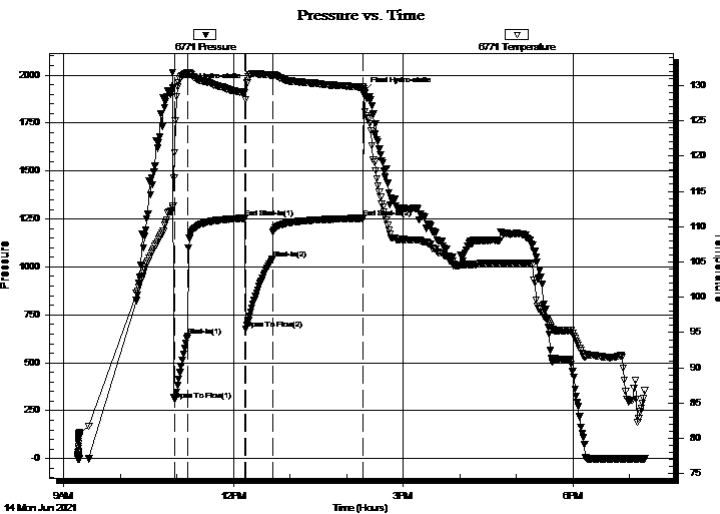
Start Time: 09:15:01

End Time: 19:16:35

Time On Btm: 2021.06.14 @ 10:56:06

Time Off Btm: 2021.06.14 @ 14:18:06

TEST COMMENT: 15 - IF: Blow built to BOB (11") at 30 sec., built to 272"
60 - IS: Blow back built to BOB at 11 min., built to 52 1/2"
30 - FF: Blow built to BOB at 45 sec., built to 279"
90 - FS: Blow back built to BOB at 17 min., built to 12" then died back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1935.36	112.93	Initial Hydro-static
2	306.78	120.42	Open To Flow (1)
16	639.90	131.76	Shut-In(1)
77	1253.91	128.97	End Shut-In(1)
77	674.05	127.98	Open To Flow (2)
106	1040.67	131.42	Shut-In(2)
202	1253.69	129.76	End Shut-In(2)
202	1916.56	129.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
117.00	OCM 52% _m , 33% _g , 15% _o	0.58
2198.00	Rev Out CGO 86% _o , 14% _g	30.83
375.00	CGO 64% _o , 36% _g	5.26
125.00	CGO 92% _o , 8% _g	1.75
0.00	GIP = 1005'	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Oak Exploration

21-5s-30w Decatur, KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67018

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2021.06.14 @ 09:15:00

GENERAL INFORMATION:

Formation: **LKC "F - G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:57:36

Time Test Ended: 19:16:35

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 73

Interval: 3976.00 ft (KB) To 4010.00 ft (KB) (TVD)

Reference Elevations: 2895.00 ft (KB)

Total Depth: 4010.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8367 **Outside**

Press@RunDepth: psig @ 3977.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.06.14 End Date: 2021.06.14

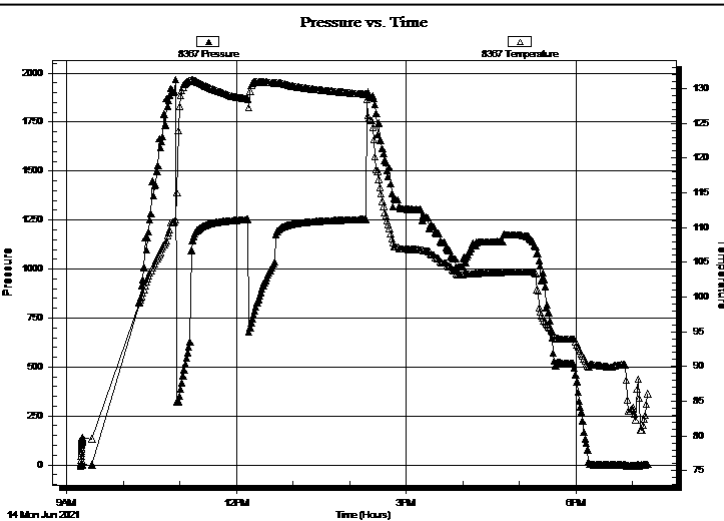
Last Calib.: 2021.06.14

Start Time: 09:15:01 End Time: 19:16:35

Time On Btm:

Time Off Btm:

TEST COMMENT: 15 - IF: Blow built to BOB (11") at 30 sec., built to 272"
60 - IS: Blow back built to BOB at 11 min., built to 52 1/2"
30 - FF: Blow built to BOB at 45 sec., built to 279"
90 - FS: Blow back built to BOB at 17 min., built to 12" then died back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
117.00	OCM 52% _m , 33% _g , 15% _o	0.58
2198.00	Rev Out CGO 86% _o , 14% _g	30.83
375.00	CGO 64% _o , 36% _g	5.26
125.00	CGO 92% _o , 8% _g	1.75
0.00	GIP = 1005'	0.00

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

21-5s-30w Decatur,KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67018

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2021.06.14 @ 09:15:00

Tool Information

Drill Pipe:	Length: 3859.00 ft	Diameter: 3.80 inches	Volume: 54.13 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 117.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 54.71 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3976.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	63.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3948.00	
Shut In Tool	5.00			3953.00	
Hydraulic tool	5.00			3958.00	
Jars	5.00			3963.00	
Safety Joint	3.00			3966.00	
Packer	5.00			3971.00	29.00 Bottom Of Top Packer
Packer	5.00			3976.00	
Stubb	1.00			3977.00	
Recorder	0.00	6771	Inside	3977.00	
Recorder	0.00	8367	Outside	3977.00	
Perforations	30.00			4007.00	
Bullnose	3.00			4010.00	34.00 Bottom Packers & Anchor

Total Tool Length: 63.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

21-5s-30w Decatur,KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67018

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2021.06.14 @ 09:15:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32.2 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
117.00	OCM 52% <i>m</i> , 33% <i>g</i> , 15% <i>o</i>	0.575
2198.00	Rev Out CGO 86% <i>o</i> , 14% <i>g</i>	30.832
375.00	CGO 64% <i>o</i> , 36% <i>g</i>	5.260
125.00	CGO 92% <i>o</i> , 8% <i>g</i>	1.753
0.00	GIP = 1005'	0.000

Total Length: 2815.00 ft Total Volume: 38.420 bbl

Num Fluid Samples: 0

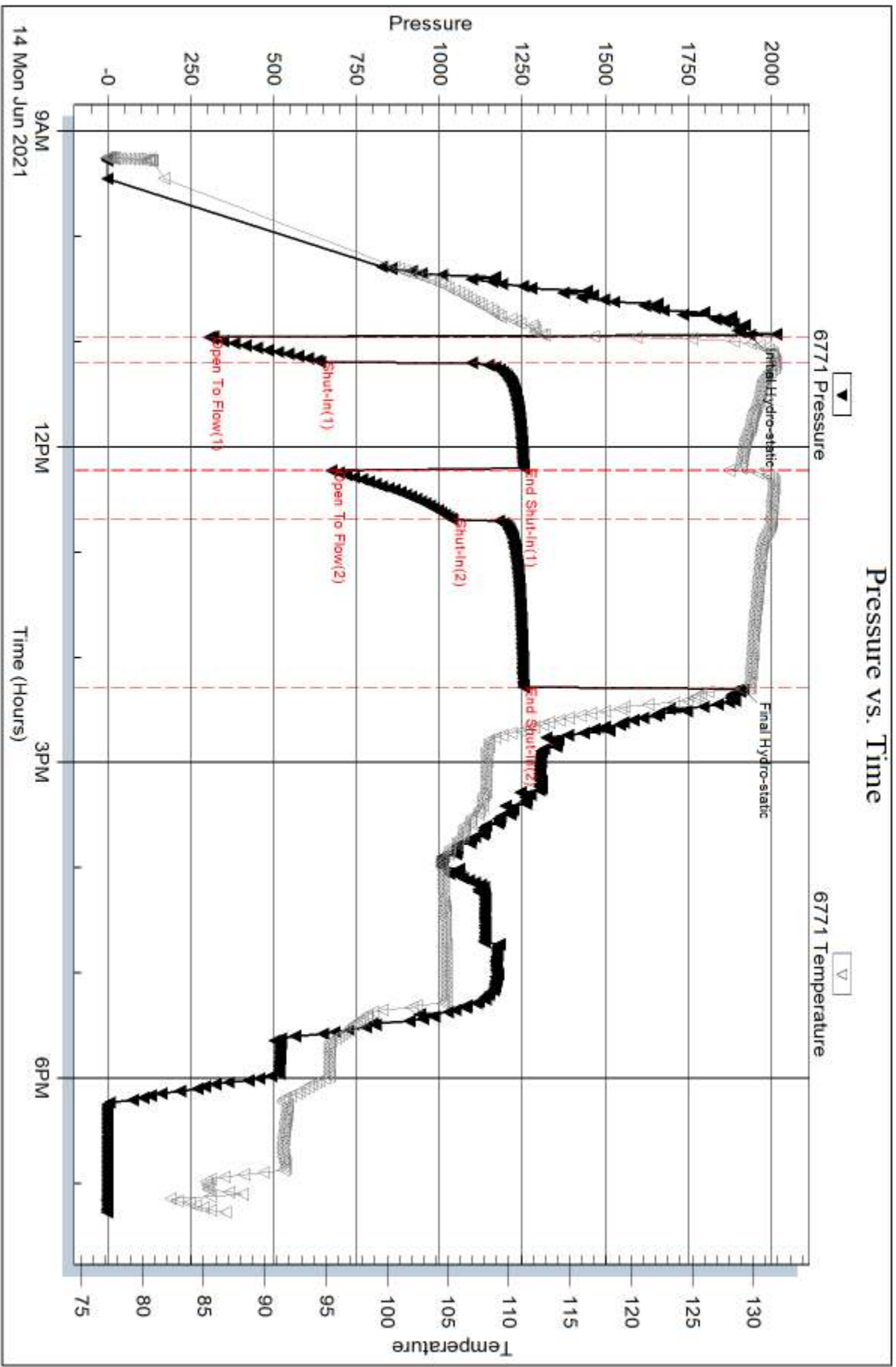
Num Gas Bombs: 0

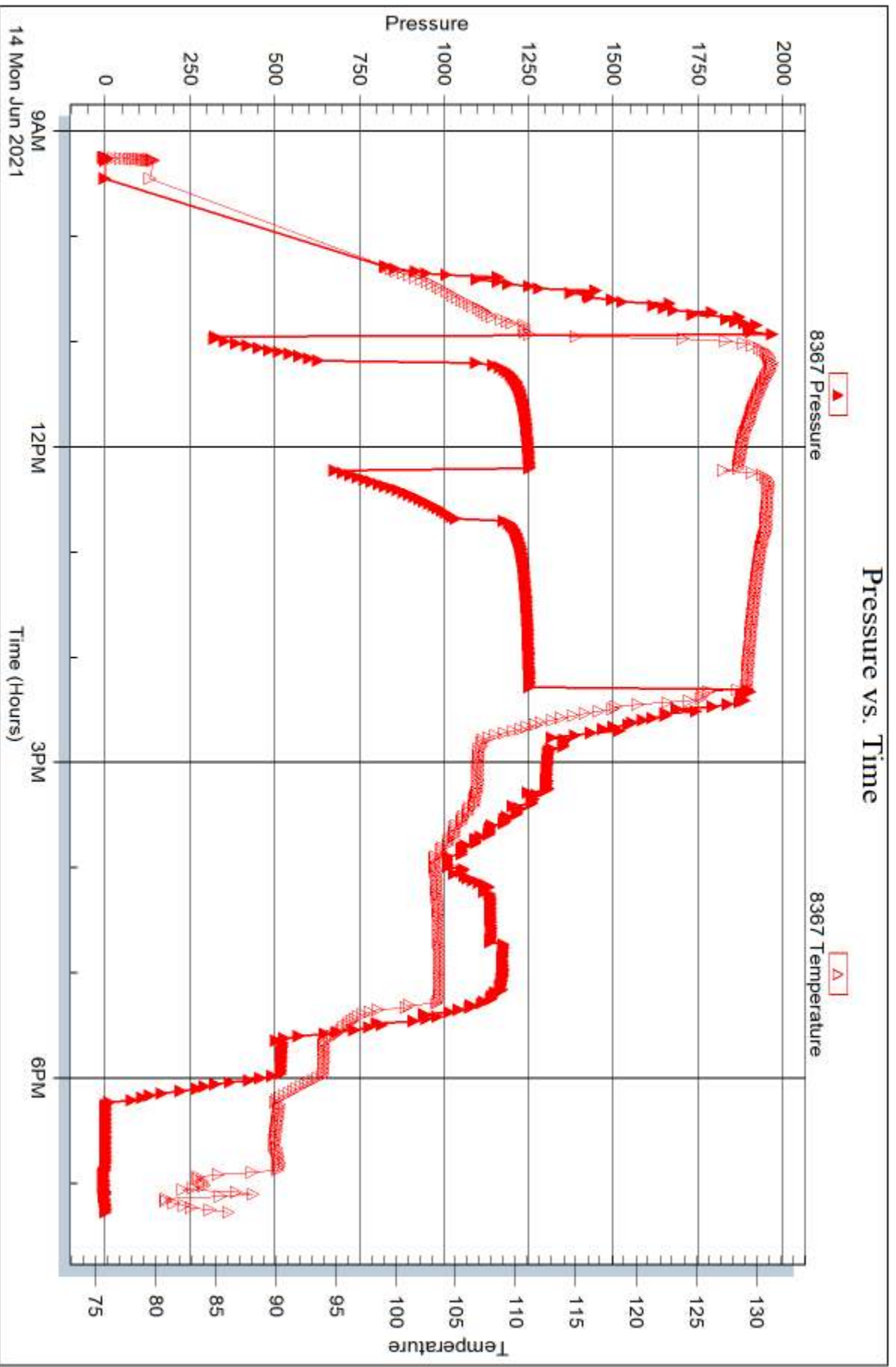
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 36.8 api @ 106 deg F Corrected gravity = 32.2 api







DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S ST Paul St
Denver, CO 80210

ATTN: Clayton Camozzi

Withers #1-21

21-5s-30w Decatur,KS

Start Date: 2021.06.15 @ 08:50:00

End Date: 2021.06.15 @ 16:57:51

Job Ticket #: 67019 DST #: 4

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

Printed: 2021.06.18 @ 09:46:12



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Black Oak Exploration

21-5s-30w Decatur, KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67019

DST#: 4

ATTN: Clayton Camozzi

Test Start: 2021.06.15 @ 08:50:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:39:36

Time Test Ended: 16:57:51

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 73

Interval: 4020.00 ft (KB) To 4083.00 ft (KB) (TVD)

Reference Elevations: 2895.00 ft (KB)

Total Depth: 4083.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6771

Inside

Press@RunDepth: 142.41 psig @ 4021.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.06.15

End Date: 2021.06.15

Last Calib.: 2021.06.15

Start Time: 08:50:01

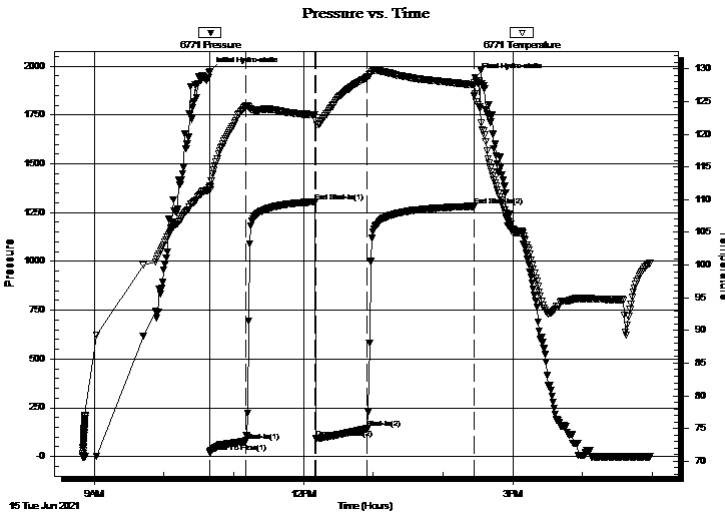
End Time: 16:57:51

Time On Btm: 2021.06.15 @ 10:39:21

Time Off Btm: 2021.06.15 @ 14:27:51

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 17 1/2 min., built to 17 3/4"
60 - IS: Blow back built to 4 1/4"
45 - FF: Blow built to BOB at 26 min., built to 16"
90 - FS: Blow back built to 5 1/2", then died back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1972.14	112.08	Initial Hydro-static
1	21.02	111.49	Open To Flow (1)
31	80.07	124.27	Shut-In(1)
91	1305.42	122.99	End Shut-In(1)
92	92.22	122.10	Open To Flow (2)
136	142.41	128.72	Shut-In(2)
228	1282.98	127.54	End Shut-In(2)
229	1942.09	126.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
135.00	GOM 41% _m , 35% _o , 24% _g	0.83
45.00	SMCO 88% _o , 7% _g , 5% _m	0.63
160.00	CGO 80% _o , 20% _g	2.24
0.00	GIP = 600'	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Oak Exploration

21-5s-30w Decatur, KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67019

DST#: 4

ATTN: Clayton Camozzi

Test Start: 2021.06.15 @ 08:50:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:39:36

Time Test Ended: 16:57:51

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 73

Interval: 4020.00 ft (KB) To 4083.00 ft (KB) (TVD)

Reference Elevations: 2895.00 ft (KB)

Total Depth: 4083.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8367 Outside

Press@RunDepth: psig @ 4021.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.06.15 End Date: 2021.06.15

Last Calib.: 2021.06.15

Start Time: 08:50:01 End Time: 16:57:51

Time On Btm:

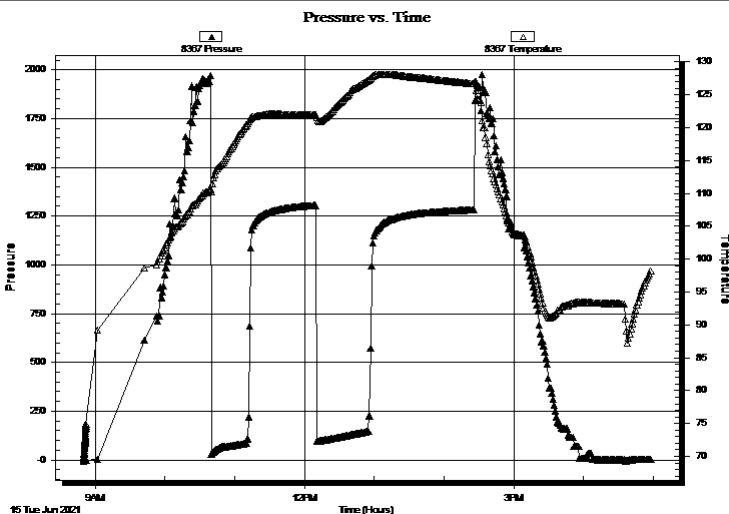
Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 17 1/2 min., built to 17 3/4"

60 - IS: Blow back built to 4 1/4"

45 - FF: Blow built to BOB at 26 min., built to 16"

90 - FS: Blow back built to 5 1/2", then died back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
135.00	GOM 41% _m , 35% _o , 24% _g	0.83
45.00	SMCO 88% _o , 7% _g , 5% _m	0.63
160.00	CGO 80% _o , 20% _g	2.24
0.00	GIP = 600'	0.00

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

21-5s-30w Decatur,KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67019

DST#: 4

ATTN: Clayton Camozzi

Test Start: 2021.06.15 @ 08:50:00

Tool Information

Drill Pipe:	Length: 3891.00 ft	Diameter: 3.80 inches	Volume: 54.58 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 117.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 56000.00 lb
			<u>Total Volume: 55.16 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4020.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	63.00 ft			
Tool Length:	92.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3992.00	
Shut In Tool	5.00			3997.00	
Hydraulic tool	5.00			4002.00	
Jars	5.00			4007.00	
Safety Joint	3.00			4010.00	
Packer	5.00			4015.00	29.00 Bottom Of Top Packer
Packer	5.00			4020.00	
Stubb	1.00			4021.00	
Recorder	0.00	6771	Inside	4021.00	
Recorder	0.00	8367	Outside	4021.00	
Perforations	25.00			4046.00	
Change Over Sub	1.00			4047.00	
Drill Pipe	31.00			4078.00	
Change Over Sub	1.00			4079.00	
Perforations	1.00			4080.00	
Bullnose	3.00			4083.00	63.00 Bottom Packers & Anchor
Total Tool Length:	92.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

21-5s-30w Decatur,KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67019

DST#: 4

ATTN: Clayton Camozzi

Test Start: 2021.06.15 @ 08:50:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28.2 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
135.00	GOM 41% <i>m</i> , 35% <i>o</i> , 24% <i>g</i>	0.828
45.00	SMCO 88% <i>o</i> , 7% <i>g</i> , 5% <i>m</i>	0.631
160.00	CGO 80% <i>o</i> , 20% <i>g</i>	2.244
0.00	GIP = 600'	0.000

Total Length: 340.00 ft

Total Volume: 3.703 bbl

Num Fluid Samples: 0

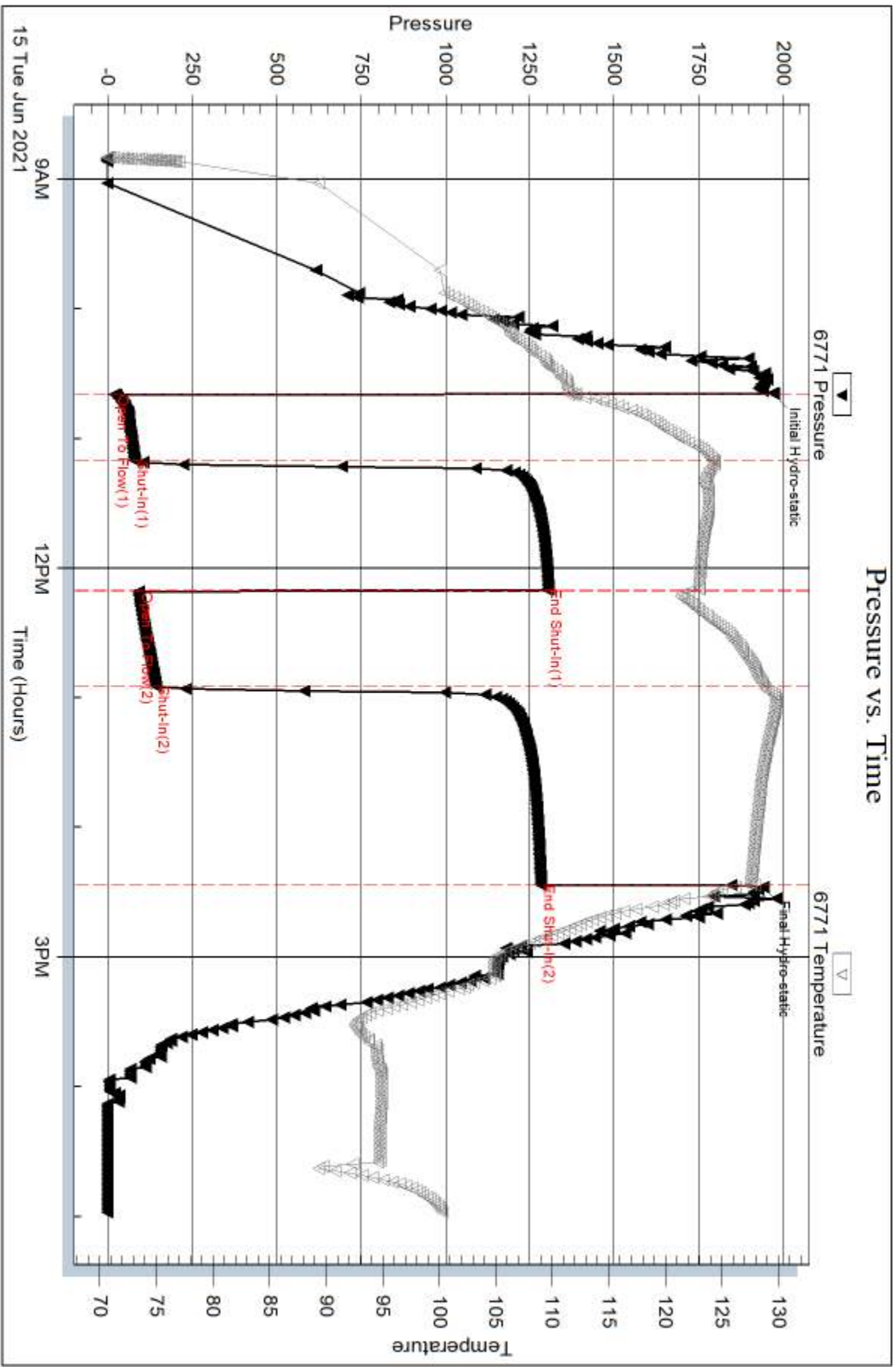
Num Gas Bombs: 0

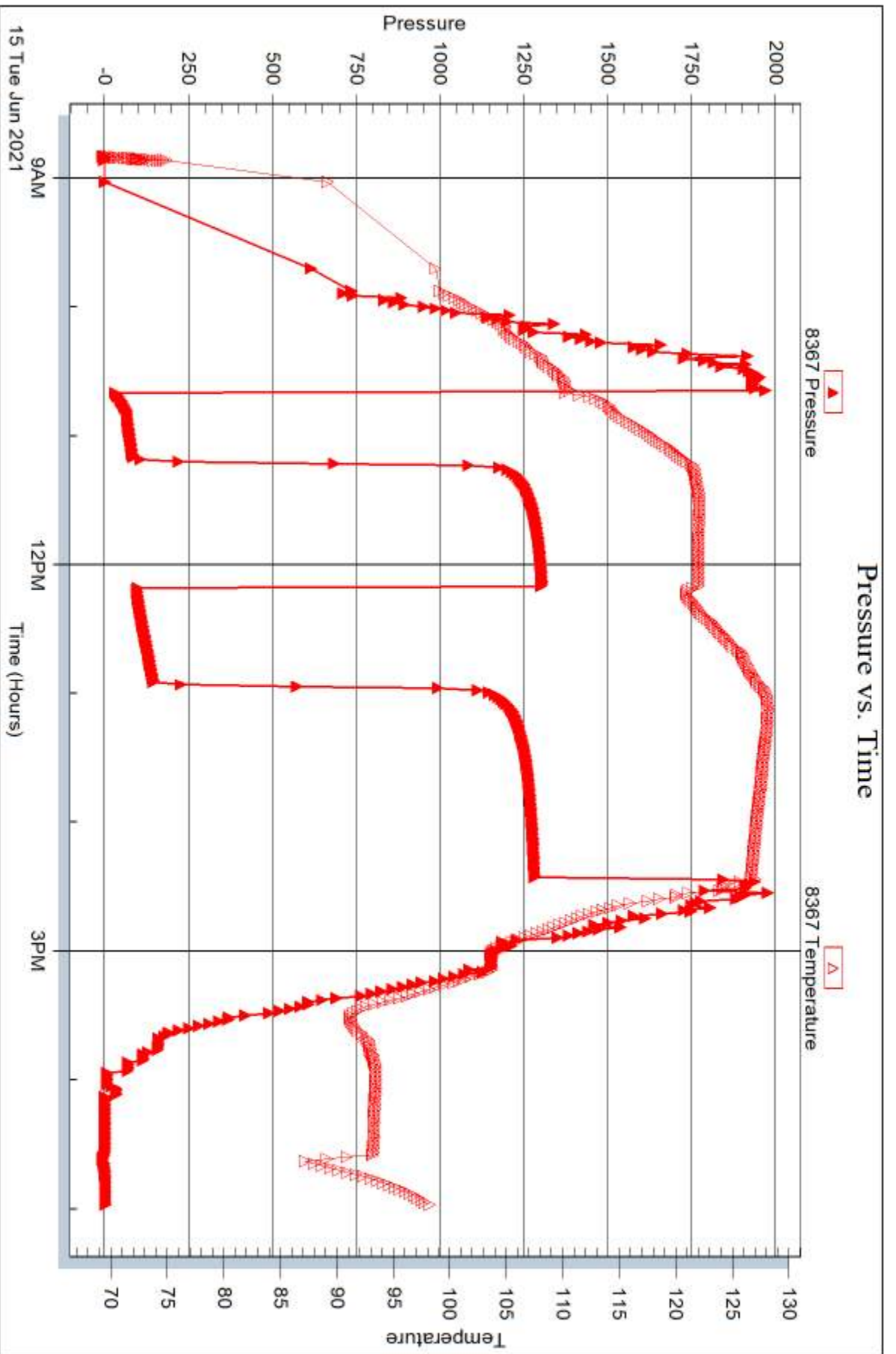
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 32.6 api @ 104 deg F Corrected Gravity = 28.2 api







DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S ST Paul St
Denver, CO 80210

ATTN: Clayton Camozzi

Withers #1-21

21-5s-30w Decatur,KS

Start Date: 2021.06.16 @ 01:35:00

End Date: 2021.06.16 @ 09:27:21

Job Ticket #: 67020 DST #: 5

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

Printed: 2021.06.18 @ 09:45:40



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Black Oak Exploration

21-5s-30w Decatur, KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67020

DST#: 5

ATTN: Clayton Camozzi

Test Start: 2021.06.16 @ 01:35:00

GENERAL INFORMATION:

Formation: **LKC "K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:42:06

Time Test Ended: 09:27:21

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 73

Interval: 4082.00 ft (KB) To 4115.00 ft (KB) (TVD)

Reference Elevations: 2895.00 ft (KB)

Total Depth: 4115.00 ft (KB) (TVD)

2890.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6771 Inside

Press@RunDepth: 62.30 psig @ 4083.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.06.16

End Date: 2021.06.16

Last Calib.: 2021.06.16

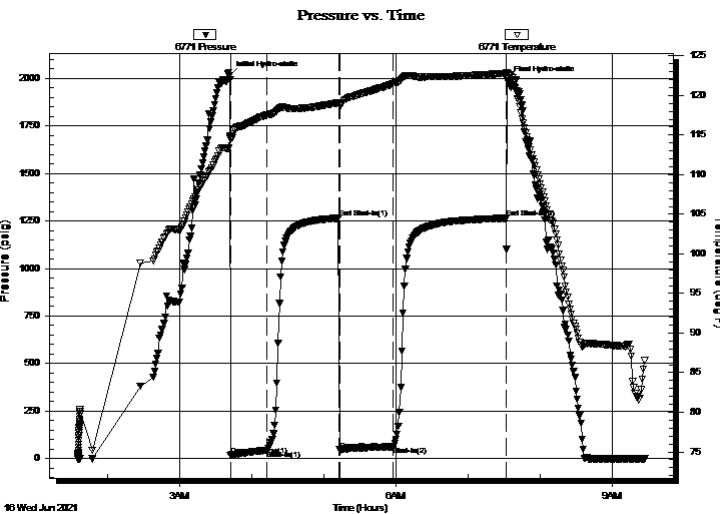
Start Time: 01:35:01

End Time: 09:27:21

Time On Btm: 2021.06.16 @ 03:41:36

Time Off Btm: 2021.06.16 @ 07:32:36

TEST COMMENT: 30 - IF: Blow built to 2"
60 - IS: No blow back
45 - FF: Blow built to 1" fast, then slowly to 2 3/4"
90 - FS: Surface blow back, then died back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2013.35	114.64	Initial Hydro-static
1	17.07	114.62	Open To Flow (1)
31	42.89	117.55	Shut-In(1)
91	1264.80	119.09	End Shut-In(1)
92	45.20	118.67	Open To Flow (2)
136	62.30	121.51	Shut-In(2)
230	1263.79	122.82	End Shut-In(2)
231	1986.90	122.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
87.00	GOM 47% _m , 45% _o , 8% _g	0.43
50.00	SMCO 88% _o , 6% _m , 6% _g	0.43
0.00	GIP = 170'	0.00

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

21-5s-30w Decatur,KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67020

DST#: 5

ATTN: Clayton Camozzi

Test Start: 2021.06.16 @ 01:35:00

Tool Information

Drill Pipe:	Length: 3953.00 ft	Diameter: 3.80 inches	Volume: 55.45 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 117.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 56.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4082.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	33.00 ft			
Tool Length:	62.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4054.00	
Shut In Tool	5.00			4059.00	
Hydraulic tool	5.00			4064.00	
Jars	5.00			4069.00	
Safety Joint	3.00			4072.00	
Packer	5.00			4077.00	29.00 Bottom Of Top Packer
Packer	5.00			4082.00	
Stubb	1.00			4083.00	
Recorder	0.00	6771	Inside	4083.00	
Recorder	0.00	8367	Outside	4083.00	
Perforations	29.00			4112.00	
Bullnose	3.00			4115.00	33.00 Bottom Packers & Anchor

Total Tool Length: 62.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

21-5s-30w Decatur,KS

1474 S ST Paul St
Denver, CO 80210

Withers #1-21

Job Ticket: 67020

DST#: 5

ATTN: Clayton Camozzi

Test Start: 2021.06.16 @ 01:35:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34.6 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
87.00	GOM 47% <i>m</i> , 45% <i>o</i> , 8% <i>g</i>	0.428
50.00	SMCO 88% <i>o</i> , 6% <i>m</i> , 6% <i>g</i>	0.428
0.00	GIP = 170'	0.000

Total Length: 137.00 ft Total Volume: 0.856 bbl

Num Fluid Samples: 0

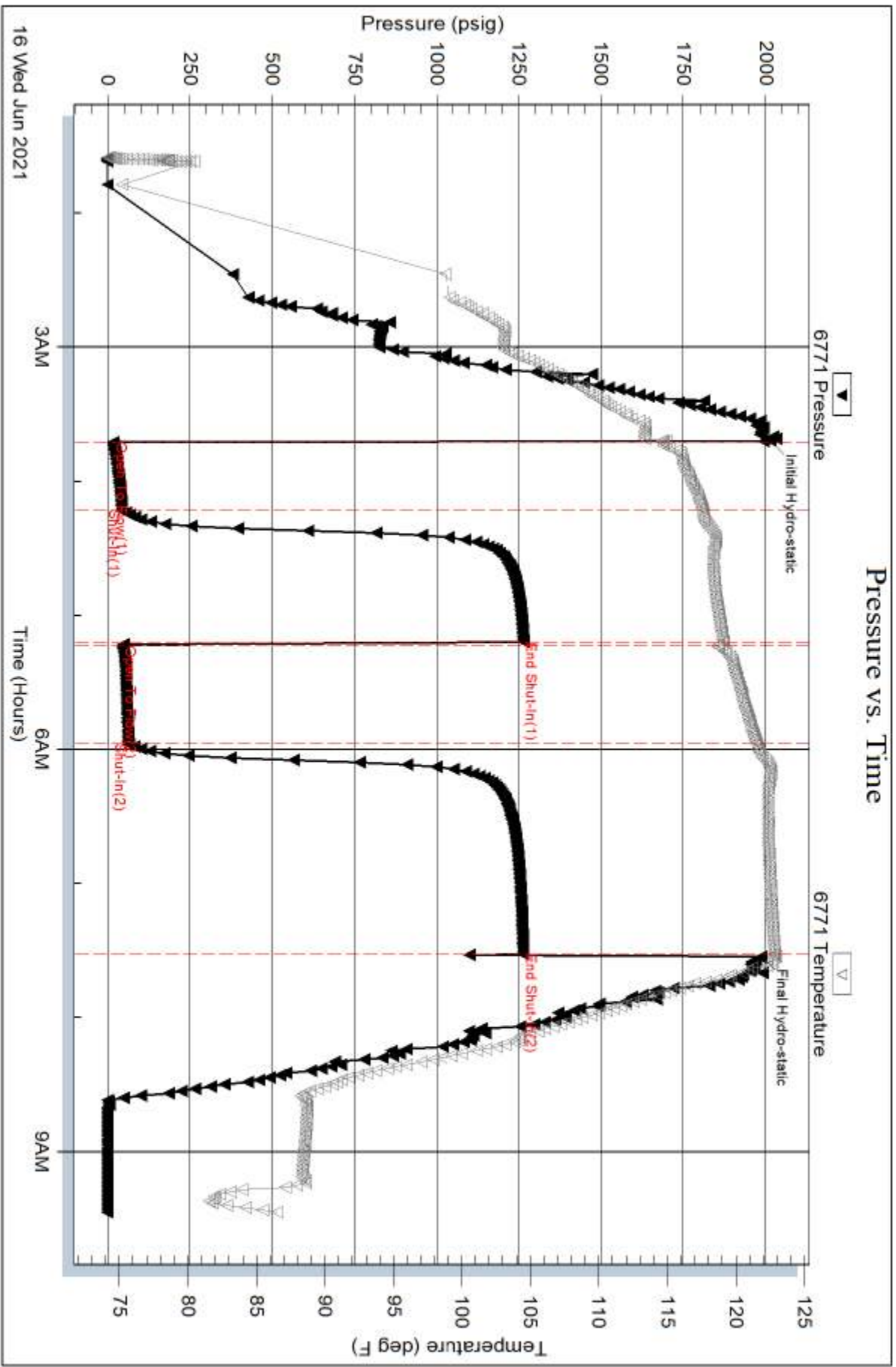
Num Gas Bombs: 0

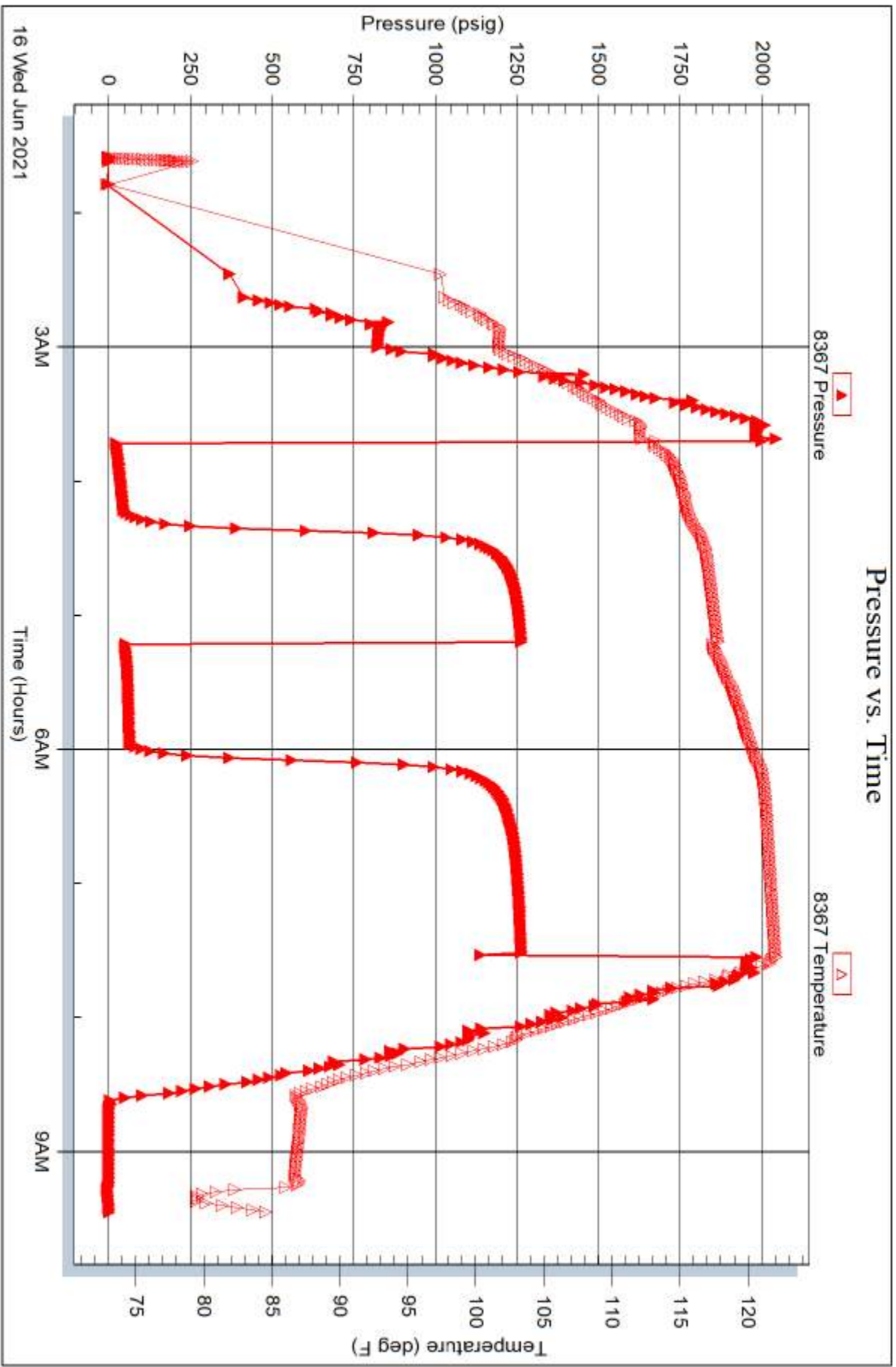
Serial #:

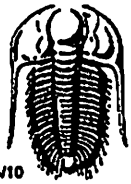
Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 37 api @ 84 deg F Corrected Gravity = 34.6 api







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 67016

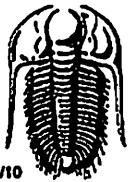
Well Name & No. Withers #1-21 Test No. 1 Date 6-13-21
 Company Black Oak Exploration Elevation 2895 KB 2890 GL
 Address 1474 S SF Paul St Denver CO 80210
 Co. Rep / Geo. Clayton Camozzi Rig Murfin #108
 Location: Sec. 21 Twp 5s Rge. 30w Co. Decatur State KS

Interval Tested 3883-3935 Zone Tested Toronto - Lans. "A"
 Anchor Length 52 Drill Pipe Run ~~3706~~ 3766 Mud Wt. 8.6
 Top Packer Depth 3878 Drill Collars Run 117 Vis 65
 Bottom Packer Depth 3883 Wt. Pipe Run - WL 6.8
 Total Depth 3935 Chlorides 600 ppm System LCM trace
 Blow Description IF: 1" Blow at open, built to BOB (11") at 24 1/4 min, built to 12 1/2"
ISI: Blowback built to 1/4"
FF: 1/4" Blow at open, built to BOB at 24 1/4 min, built to 13"
FSI: Blowback built to 2"

Rec	Feet of	%gas	%oil	%water	%mud
60 60	MCO	-	86	-	14
65 65	60CM	10	23		67
180	600 50/mcw		2	61	37
	GIP=65'				

Rec Total 305 BHT 123 Gravity TLTM API RW 157 @ 75 °F Chlorides 45,000 ppm
 (A) Initial Hydrostatic 1870 Test 1200 T-On Location 00:25
 (B) First Initial Flow 25 Jars 250 T-Started 2:23
 (C) First Final Flow 114 Safety Joint 75 T-Open 4:32
 (D) Initial Shut-In 1247 Circ Sub _____ T-Pulled 8:04
 (E) Second Initial Flow 120 Hourly Standby _____ T-Out 10:15
 (F) Second Final Flow 177 Mileage 50 RT 62.50 Comments _____
 (G) Final Shut-In 1245 Sampler _____
 (H) Final Hydrostatic 1814 Straddle _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Extra Packer _____
 Final Flow 30 Extra Recorder _____
 Final Shut-In 90 Day Standby _____
 Accessibility _____
 Sub Total 1587.50 Sub Total _____
 Total 1587.50 MP/DST Disc't _____

Approved By _____ Our Representative James Under
 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. 67017

Well Name & No. Withers #1-21 Test No. 2 Date 6-13-21
 Company Black Oak Exploration Elevation 2895 KB 2890 GL
 Address 1474 S ST Paul St Denver CO 80210
 Co. Rep / Geo. Clayton Camozzi Rig Murfin #108
 Location: Sec. 21 Twp 5s Rge. 30w Co. Decatur State KS

Interval Tested 3954 - 3978 Zone Tested Lans. "D"
 Anchor Length 24 Drill Pipe Run 3827 Mud Wt. 8.9
 Top Packer Depth 3949 Drill Collars Run 117 Vis 58
 Bottom Packer Depth 3954 Wt. Pipe Run - WL 6.8
 Total Depth 3978 Chlorides 1100 ppm System LCM trace

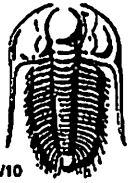
Blow Description IF: Blow built to BOB (11") at 7 3/4 min., built to 23"
IST: Blowback built to 5 1/2", then died back to 2 1/2"
FF: Blow built to BOB at 12 min., built to 34 3/4"
FSI: Blowback built to 5", then died back

Rec	Feet of	%gas	%oil	%water	%mud
<u>430</u>	<u>CGO</u>	<u>24</u>	<u>75</u>	<u>-</u>	<u>1</u>
<u>45</u>	<u>60cm</u>	<u>18</u>	<u>12</u>	<u>-</u>	<u>70</u>
<u>117</u>	<u>50/mcw</u>	<u>2</u>	<u>5</u>	<u>58</u>	<u>35</u>
	<u>GIP=600'</u>				

Rec Total 592 BHT 129 Gravity 31.2 API RW .155 @ 70.2°F Chlorides 50,000 ppm
 (A) Initial Hydrostatic 1905 Test 1200 T-On Location 17:00 6/13
 (B) First Initial Flow 25 Jars 250 T-Started 17:40
 (C) First Final Flow 115 Safety Joint 75 T-Open 19:49
 (D) Initial Shut-In 1295 Circ Sub _____ T-Pulled 23:22
 (E) Second Initial Flow 125 Hourly Standby _____ T-Out 1:35 6/14
 (F) Second Final Flow 239 Mileage 50RT 62.50 Comments _____
 (G) Final Shut-In 1281 Sampler _____
 (H) Final Hydrostatic 1875 Straddle _____ EM Tool _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1587.50
 Sub Total 1587.50 MP/DST Disc't _____

Initial Open 20
 Initial Shut-In 60
 Final Flow 40
 Final Shut-In 90

Approved By _____ Our Representative James Winder
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 67018

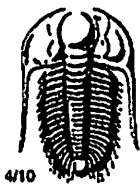
Well Name & No. Withers #1-21 Test No. 3 Date 6-14-21
 Company Black Oak Exploration Elevation 2895 KB 2890 GL
 Address 1474 S ST Paul St Denver CO 80210
 Co. Rep / Geo. Clayton Camozzi Rig Murfin #108
 Location: Sec. 21 Twp 5s Rge. 30w Co. Decatur State KS

Interval Tested 3976 - 4010 Zone Tested Lans "F-6"
 Anchor Length 34 Drill Pipe Run 3859 Mud Wt. 9.0
 Top Packer Depth 3971 Drill Collars Run 117 Vis 59
 Bottom Packer Depth 3976 Wt. Pipe Run - WL 6.8
 Total Depth 4010 Chlorides 1100 ppm System LCM trace
 Blow Description IF: Blow built to BOB (11") at 30sec, built to 272"
ISI: Blowback built to BOB at 11min, built to 52 1/2"
FF: Blow built to BOB at 45sec, built to 279"
FSI: Blowback built to BOB at 17min, built to 12", then died back

Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>CGO</u>	<u>8</u>	<u>92</u>		
<u>375</u>	<u>CGO</u>	<u>36</u>	<u>64</u>		
<u>2198 Rev</u> <u>Out</u>	<u>CGO</u>	<u>14</u>	<u>86</u>		
<u>117</u>	<u>GOCM</u>	<u>33</u>	<u>15</u>		<u>52</u>

Rec Total 2815 BHT 130 Gravity 32.2 API RW @ °F Chlorides ppm
 (A) Initial Hydrostatic 1935 Test 1300 T-On Location 8:10
 (B) First Initial Flow 307 Jars 250 T-Started 9:15
 (C) First Final Flow 640 Safety Joint 75 T-Open 10:57
 (D) Initial Shut-In 1254 Circ Sub drop bar 50 T-Pulled 14:17
 (E) Second Initial Flow 674 Hourly Standby _____ T-Out 19:15
 (F) Second Final Flow 1041 Mileage 50 RT 62.50 Comments _____
 (G) Final Shut-In 1254 Sampler _____
 (H) Final Hydrostatic 1917 Straddle _____
 Initial Open 15 Shale Packer _____
 Initial Shut-In 60 Extra Packer _____
 Final Flow 30 Extra Recorder _____
 Final Shut-In 90 Day Standby _____
 Accessibility _____
 Sub Total 1737.50 Sub Total 0 Total 1737.50 MP/DST Disc't _____

Approved By _____ Our Representative James Winder
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 67019

Well Name & No. Withers #1-21 Test No. 4 Date 6-15-21
 Company Black Oak Exploration Elevation 2895 KB 2890 GL
 Address 1474 S ST Paul St Denver CO 80210
 Co. Rep / Geo. Clayton Camozzi Rig Murfin 108
 Location: Sec. 21 Twp 5s Rge. 30w Co. Decatur State KS

Interval Tested 4020 - 4083 Zone Tested Lans. "H-5"
 Anchor Length 63 Drill Pipe Run 3891 Mud Wt. 9.0
 Top Packer Depth 4015 Drill Collars Run 117 Vis 60
 Bottom Packer Depth 4020 Wt. Pipe Run - WL 6.8
 Total Depth 4083 Chlorides 1100 ppm System LCM trace

Blow Description IF: Blow built to BOB (11") at 17 1/2 min., built to 17 3/4"
ISI: Blowback built to 4 1/4"
FF: Blow built to BOB at 26 min., built to 16"
FSI: Blowback built to 5 1/4" then died back

Rec	Feet of	%gas	%oil	%water	%mud
<u>160</u>	<u>C60</u>	<u>20</u>	<u>80</u>		
<u>45</u>	<u>SMCO</u>	<u>7</u>	<u>88</u>		<u>5</u>
<u>135</u>	<u>60M</u>	<u>24</u>	<u>35</u>		<u>41</u>
	<u>GIP=600'</u>				

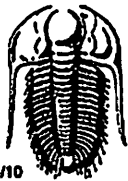
Rec Total 340 BHT 128 Gravity 28.2 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 1972 Test 1300 T-On Location 7:35
 (B) First Initial Flow 21 Jars 250 T-Started 8:50
 (C) First Final Flow 80 Safety Joint 75 T-Open 10:39
 (D) Initial Shut-In 1305 Circ Sub _____ T-Pulled 14:26
 (E) Second Initial Flow 92 Hourly Standby _____ T-Out 16:55
 (F) Second Final Flow 142 Mileage 50 RT 62.50 Comments _____
 (G) Final Shut-In 1283 Sampler _____
 (H) Final Hydrostatic 1942 Straddle _____

Initial Open 30 Shale Packer _____ EM Tool _____
 Initial Shut-In 60 Extra Packer _____ Ruined Shale Packer _____
 Final Flow 45 Extra Recorder _____ Ruined Packer _____
 Final Shut-In 90 Day Standby _____ Extra Copies _____
 Sub Total 1687.50 Accessibility _____ Sub Total 0
 Sub Total 1687.50 MP/DST Disc't _____

Approved By _____ Our Representative James Winkler

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 67020

Well Name & No. Withers #1-21 Test No. 5 Date 6-16-21
 Company Black Oak Exploration Elevation 2895 KB 2890 GL
 Address 1474 S ST Paul St Denver CO 80210
 Co. Rep / Geo. Clayton Camozzi Rig Murfin #108
 Location: Sec. 21 Twp 5s Rge. 30w Co. Decatur State KS

Interval Tested 4082 - 4115 Zone Tested Lans. "K"
 Anchor Length 33 Drill Pipe Run 3953 Mud Wt. 9.1
 Top Packer Depth 4077 Drill Collars Run 117 Vis 57
 Bottom Packer Depth 4082 Wt. Pipe Run - WL 6.8
 Total Depth 4115 Chlorides 1200 ppm System LCM trace

Blow Description IF: Blow built to 2"
ISI: No blowback
FF: Blow built to 1" fast, then slowly to 2 3/4"
FSI: Surface blowback, then died back

Rec	Feet of	%gas	%oil	%water	%mud
<u>50</u>	<u>SMCO</u>	<u>6</u>	<u>88</u>	<u>6</u>	
<u>87</u>	<u>GOM</u>	<u>8</u>	<u>45</u>	<u>47</u>	
	<u>GIP = 170'</u>				

Rec Total 137 BHT 123 Gravity 34.6 API RW @ °F Chlorides ppm
 (A) Initial Hydrostatic 2013 Test 1300 T-On Location 1:00
 (B) First Initial Flow 17 Jars 250 T-Started 1:35
 (C) First Final Flow 43 Safety Joint 75 T-Open 3:42
 (D) Initial Shut-In 1265 Circ Sub _____ T-Pulled 7:31
 (E) Second Initial Flow 45 Hourly Standby _____ T-Out 9:25
 (F) Second Final Flow 62 Mileage 50 RT X 2 62.50 + 62.50 Comments tools loaded
 (G) Final Shut-In 1264 Sampler _____ 6-17-21 14:30
 (H) Final Hydrostatic 1987 Straddle _____

Initial Open 30 EEM Tool NA
 Initial Shut-In 60 Ruined Shale Packer _____
 Final Flow 45 Ruined Packer _____
 Final Shut-In 90 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1750.00 Sub Total 0
 Total 1750.00 MP/DST Disc't _____

Approved By _____ Our Representative James Winkler
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