



DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S St. Paul St
Denver CO 80210

ATTN: Clayton Camozzi

Ryan #1-29

29-5s-31w Rawlins,KS

Start Date: 2019.08.24 @ 12:25:00

End Date: 2019.08.24 @ 20:31:15

Job Ticket #: 64698 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.08.29 @ 09:53:45



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Black Oak Exploration

29-5s-31w Rawlins, KS

1474 S St. Paul St
Denver CO 80210

Ryan #1-29

Job Ticket: 64698

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2019.08.24 @ 12:25:00

GENERAL INFORMATION:

Formation: **LKC "A - Upper D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:19:45

Time Test Ended: 20:31:15

Test Type: Conventional Straddle (Initial)

Tester: James Winder

Unit No: 83

Interval: 3956.00 ft (KB) To 3990.00 ft (KB) (TVD)

Reference Elevations: 2954.00 ft (KB)

Total Depth: 3998.00 ft (KB) (TVD)

2949.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8652 Outside

Press@RunDepth: 167.88 psig @ 3957.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.08.24 End Date: 2019.08.24

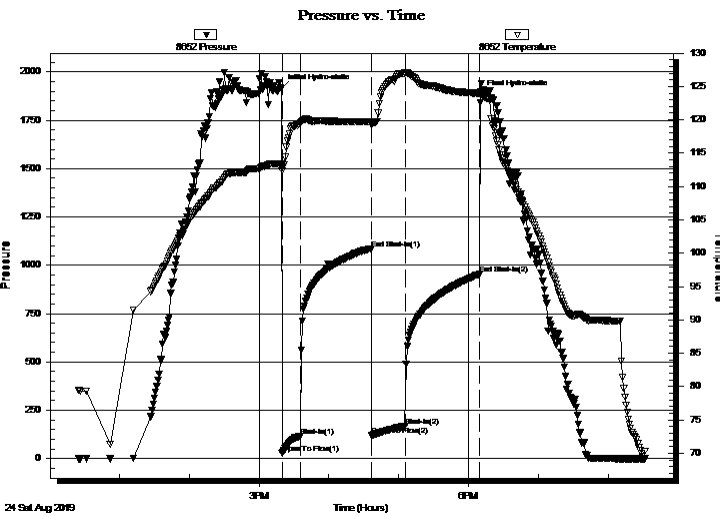
Last Calib.: 2019.08.24

Start Time: 12:25:05 End Time: 20:31:14

Time On Btm: 2019.08.24 @ 15:19:30

Time Off Btm: 2019.08.24 @ 18:10:00

TEST COMMENT: 15 - IF: Blow built to 10"
60 - IS: No blow back
30 - FF: blow built to BOB (11") at 30 min.
60 - FS: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1914.57	113.45	Initial Hydro-static
1	27.92	112.33	Open To Flow (1)
17	115.38	119.49	Shut-In(1)
77	1085.56	119.71	End Shut-In(1)
77	119.97	119.17	Open To Flow (2)
106	167.88	127.03	Shut-In(2)
170	953.39	123.91	End Shut-In(2)
171	1884.40	124.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	SMCW 93%w, 7%m	0.89
155.00	WCM 61%w, 39%w	2.17

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Oak Exploration

29-5s-31w Rawlins,KS

1474 S St. Paul St
Denver CO 80210

Ryan #1-29

Job Ticket: 64698

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2019.08.24 @ 12:25:00

Tool Information

Drill Pipe:	Length: 3779.00 ft	Diameter: 3.80 inches	Volume: 53.01 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: 30000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 53.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3956.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	3990.00 ft			
Interval between Packers:	34.00 ft			
Tool Length:	71.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments: worked tool last 5' to bottom - tool landed 6' high

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3928.00	
Shut In Tool	5.00			3933.00	
Hydraulic tool	5.00			3938.00	
Jars	5.00			3943.00	
Safety Joint	3.00			3946.00	
Packer	5.00			3951.00	29.00 Bottom Of Top Packer
Packer	5.00			3956.00	
Stubb	1.00			3957.00	
Recorder	0.00	6625	Inside	3957.00	
Recorder	0.00	8652	Outside	3957.00	
Perforations	28.00			3985.00	
Blank Off Sub	1.00			3986.00	
Blank Spacing	4.00			3990.00	34.00 Tool Interval
Packer	0.00			3990.00	
Packer - Shale	0.00			3990.00	
Stubb	1.00			3991.00	
Recorder	0.00	8167	Below	3991.00	
Perforations	4.00			3995.00	
Bullnose	3.00			3998.00	8.00 Bottom Packers & Anchor

Total Tool Length: 71.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

29-5s-31w Rawlins,KS

1474 S St. Paul St
Denver CO 80210

Ryan #1-29

Job Ticket: 64698

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2019.08.24 @ 12:25:00

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:

13000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
180.00	SMCW 93%w , 7%m	0.885
155.00	WCM 61%m, 39%w	2.174

Total Length: 335.00 ft Total Volume: 3.059 bbl

Num Fluid Samples: 0

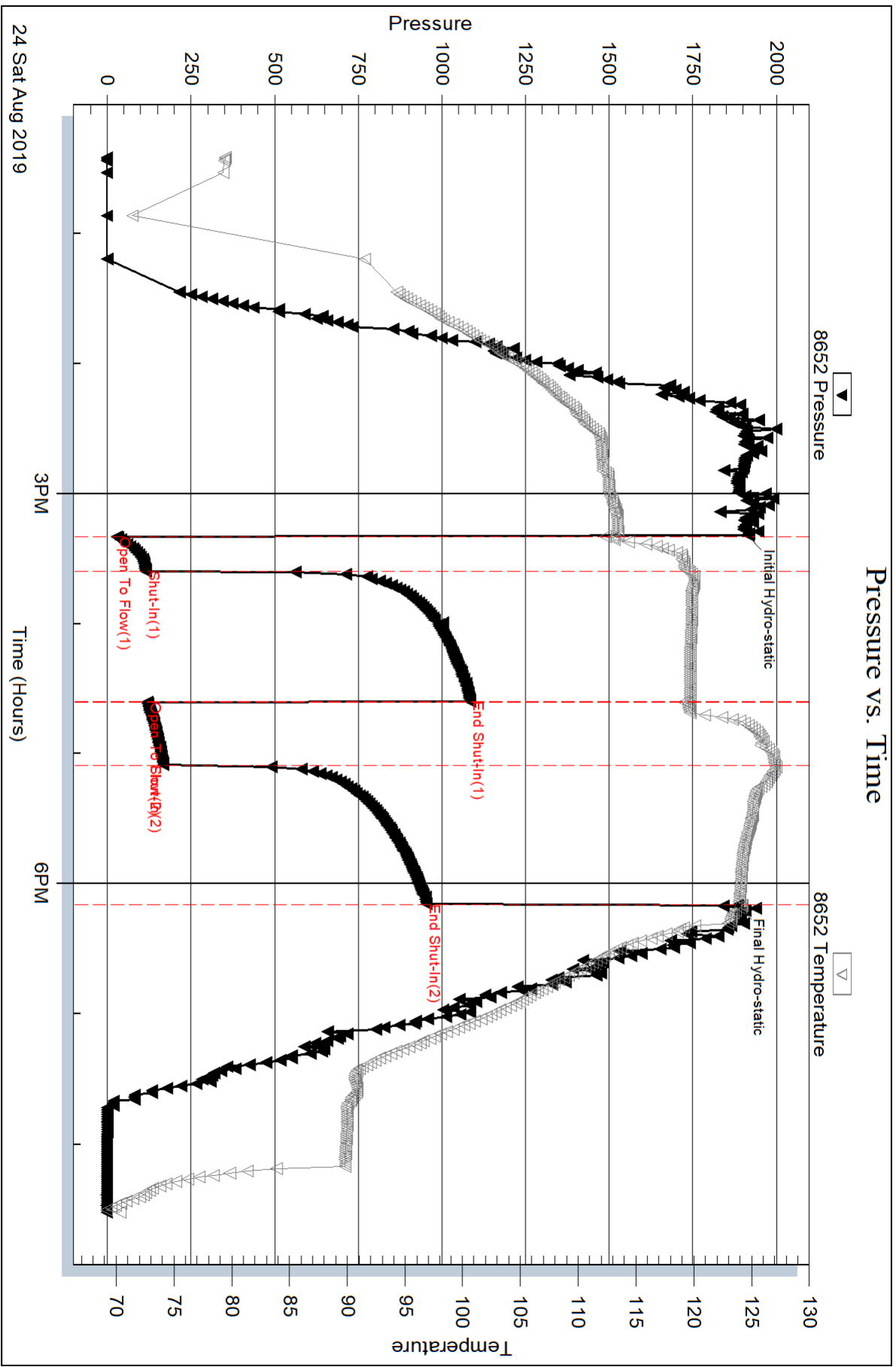
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .480 ohms @ 72.1 deg F Chlorides = 13,000 ppm



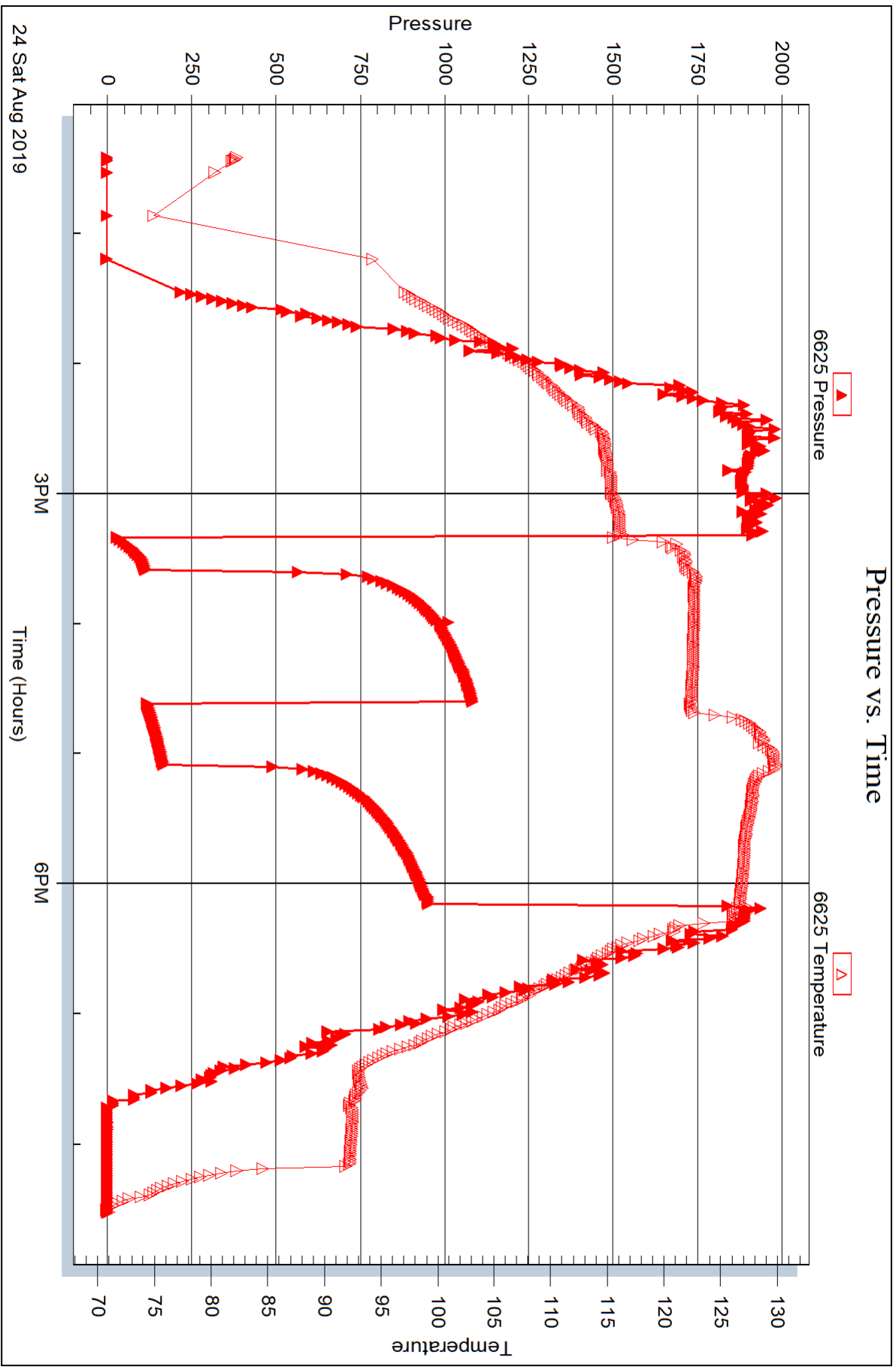
Serial #: 6625

Inside

Black Oak Exploration

Ryan #1-29

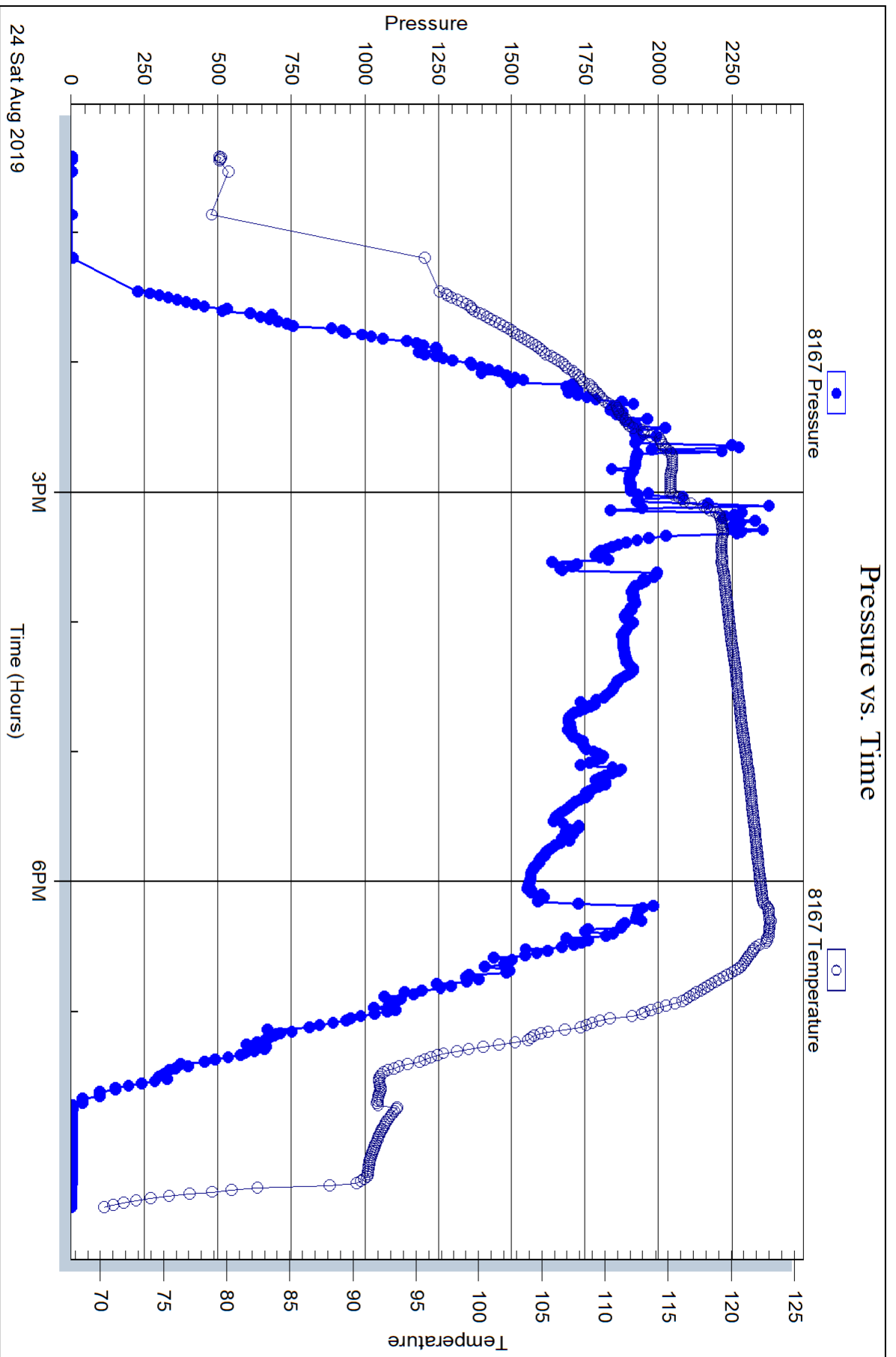
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 64698

Printed: 2019.08.29 @ 09:53:47





DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S St. Paul St
Denver CO 80210

ATTN: Clayton Camozzi

Ryan #1-29

29-5s-31w Rawlins,KS

Start Date: 2019.08.25 @ 04:30:00

End Date: 2019.08.25 @ 10:29:30

Job Ticket #: 64699 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.08.29 @ 09:53:20



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Oak Exploration

29-5s-31w Rawlins,KS

1474 S St. Paul St
Denver CO 80210

Ryan #1-29

Job Ticket: 64699

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2019.08.25 @ 04:30:00

Tool Information

Drill Pipe:	Length: 3806.00 ft	Diameter: 3.80 inches	Volume: 53.39 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: 30000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 54.28 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4002.00 ft			Final 62000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3974.00	
Shut In Tool	5.00			3979.00	
Hydraulic tool	5.00			3984.00	
Jars	5.00			3989.00	
Safety Joint	3.00			3992.00	
Packer	5.00			3997.00	29.00 Bottom Of Top Packer
Packer	5.00			4002.00	
Stubb	1.00			4003.00	
Recorder	0.00	6625	Inside	4003.00	
Recorder	0.00	8652	Outside	4003.00	
Perforations	30.00			4033.00	
Bullnose	3.00			4036.00	34.00 Bottom Packers & Anchor

Total Tool Length: 63.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

29-5s-31w Rawlins,KS

1474 S St. Paul St
Denver CO 80210

Ryan #1-29

Job Ticket: 64699

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2019.08.25 @ 04:30:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl

Total Length: ft Total Volume: bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

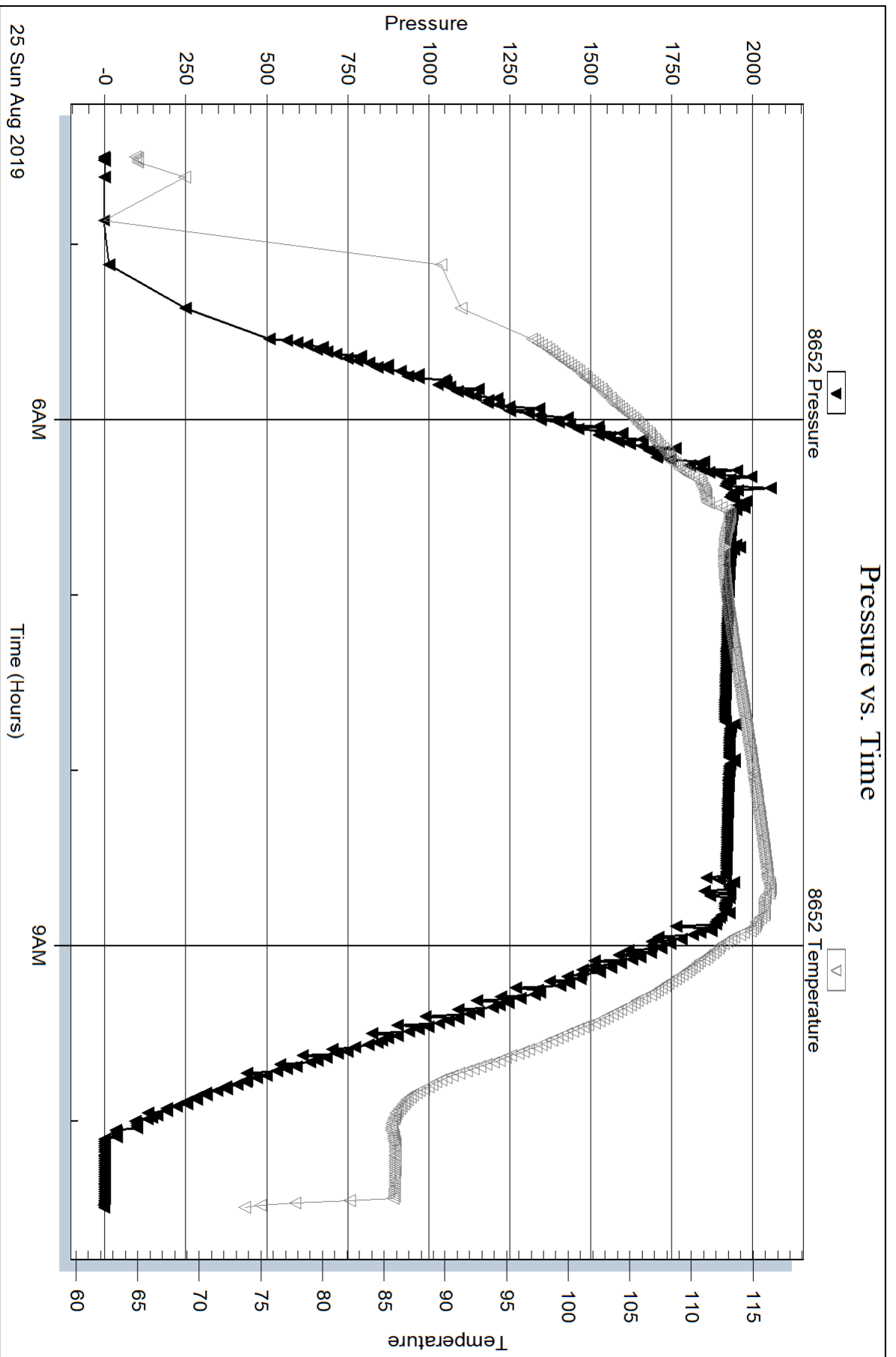
Recovery Comments:

Serial #: 8652

Outside Black Oak Exploration

Ryan #1-29

DST Test Number: 2



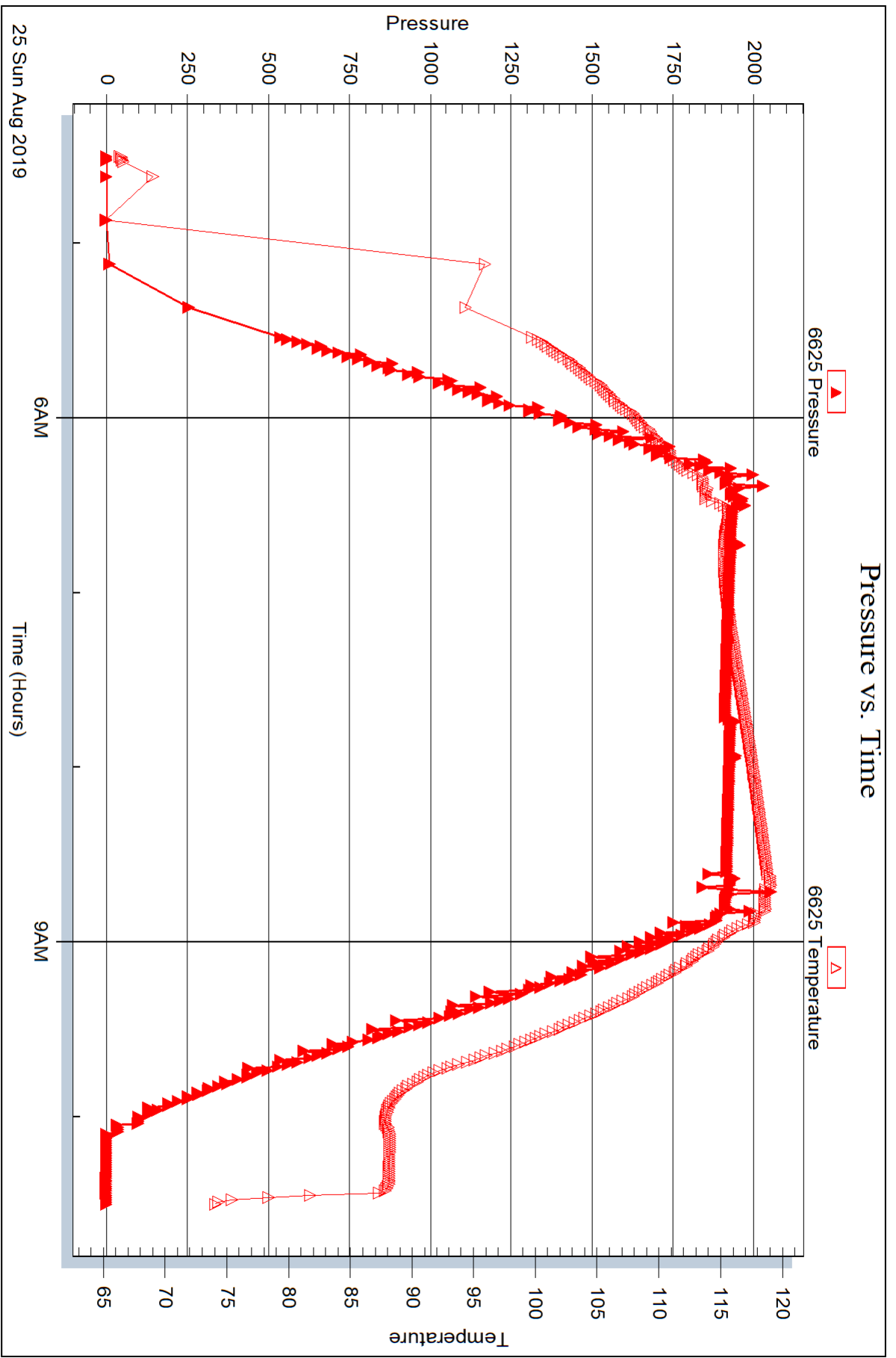
Serial #: 6625

Inside

Black Oak Exploration

Ryan #1-29

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S St. Paul St
Denver CO 80210

ATTN: Clayton Camozzi

Ryan #1-29

29-5s-31w Rawlins,KS

Start Date: 2019.08.25 @ 12:43:00

End Date: 2019.08.25 @ 19:59:30

Job Ticket #: 64700 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.08.29 @ 09:52:52



**TRILOBITE
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DRILL STEM TEST REPORT

Black Oak Exploration

29-5s-31w Rawlins,KS

1474 S St. Paul St
Denver CO 80210

Ryan #1-29

Job Ticket: 64700

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2019.08.25 @ 12:43:00

GENERAL INFORMATION:

Formation: **LKC "F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:16:15

Time Test Ended: 19:59:30

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4002.00 ft (KB) To 4036.00 ft (KB) (TVD)

Reference Elevations: 2954.00 ft (KB)

Total Depth: 4036.00 ft (KB) (TVD)

2949.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8652 Outside

Press@RunDepth: 209.89 psig @ 4003.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.08.25 End Date: 2019.08.25

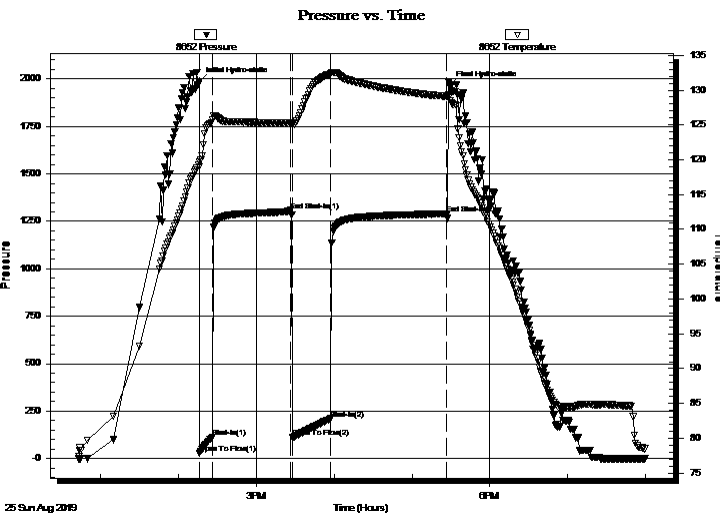
Last Calib.: 2019.08.25

Start Time: 12:43:05 End Time: 19:59:29

Time On Btm: 2019.08.25 @ 14:16:00

Time Off Btm: 2019.08.25 @ 17:28:45

TEST COMMENT: 10 - IF: Blow built to 9"
60 - IS: Weak surface blow back, dead by 30 min.
30 - FF: Blow built to BOB (11") at 13 min., built to 25"
90 - FS: Blow back built to 1/4", died back to surface blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1986.13	119.63	Initial Hydro-static
1	27.06	119.03	Open To Flow (1)
11	110.40	125.77	Shut-In(1)
71	1307.15	125.38	End Shut-In(1)
72	110.74	125.22	Open To Flow (2)
102	209.89	132.36	Shut-In(2)
191	1289.53	129.12	End Shut-In(2)
193	1967.86	129.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCW w/oil spots 76%w, 19%m, 3%o, 2%g	0.30
155.00	SMCW w/trace oil 93%w, 7%m	1.08
195.00	MW w/oil spots 49%w, 43%m, 5%g, 3%o	2.74
20.00	CO 96%o, 4%g	0.28
0.00	GIP = 35'	0.00

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Oak Exploration

29-5s-31w Rawlins,KS

1474 S St. Paul St
Denver CO 80210

Ryan #1-29

Job Ticket: 64700

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2019.08.25 @ 12:43:00

Tool Information

Drill Pipe:	Length: 3806.00 ft	Diameter: 3.80 inches	Volume: 53.39 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 54.28 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4002.00 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			3974.00	
Shut In Tool	5.00			3979.00	
Hydraulic tool	5.00			3984.00	
Jars	5.00			3989.00	
Safety Joint	3.00			3992.00	
Packer	5.00			3997.00	29.00 Bottom Of Top Packer
Packer	5.00			4002.00	
Stubb	1.00			4003.00	
Recorder	0.00	6625	Inside	4003.00	
Recorder	0.00	8652	Outside	4003.00	
Perforations	30.00			4033.00	
Bullnose	3.00			4036.00	34.00 Bottom Packers & Anchor

Total Tool Length: 63.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

29-5s-31w Rawlins,KS

1474 S St. Paul St
Denver CO 80210

Ryan #1-29

Job Ticket: 64700

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2019.08.25 @ 12:43:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

22000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	MCW w/oil spots 76%w , 19%m, 3%o, 2%g	0.295
155.00	SMCW w/trace oil 93%w , 7%m	1.081
195.00	MW w/oil spots 49%w , 43%m, 5%g, 3%o	2.735
20.00	CO 96%o, 4%g	0.281
0.00	GIP = 35'	0.000

Total Length: 430.00 ft Total Volume: 4.392 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

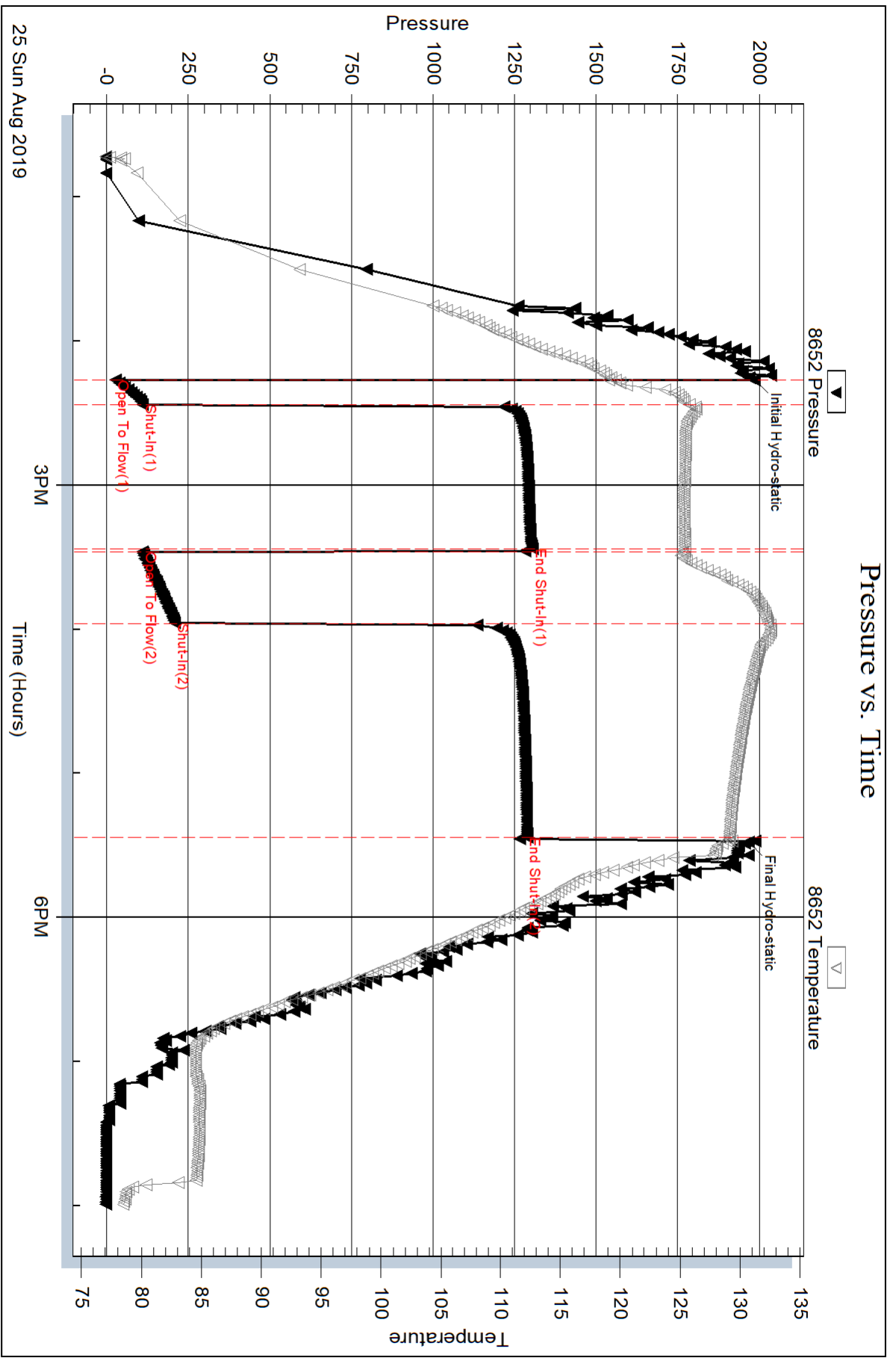
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 35 api @ 80 deg F Corrected Gravity = 33 api

RW = .266 ohms @ 80.2 deg F Chlorides = 22,000 ppm



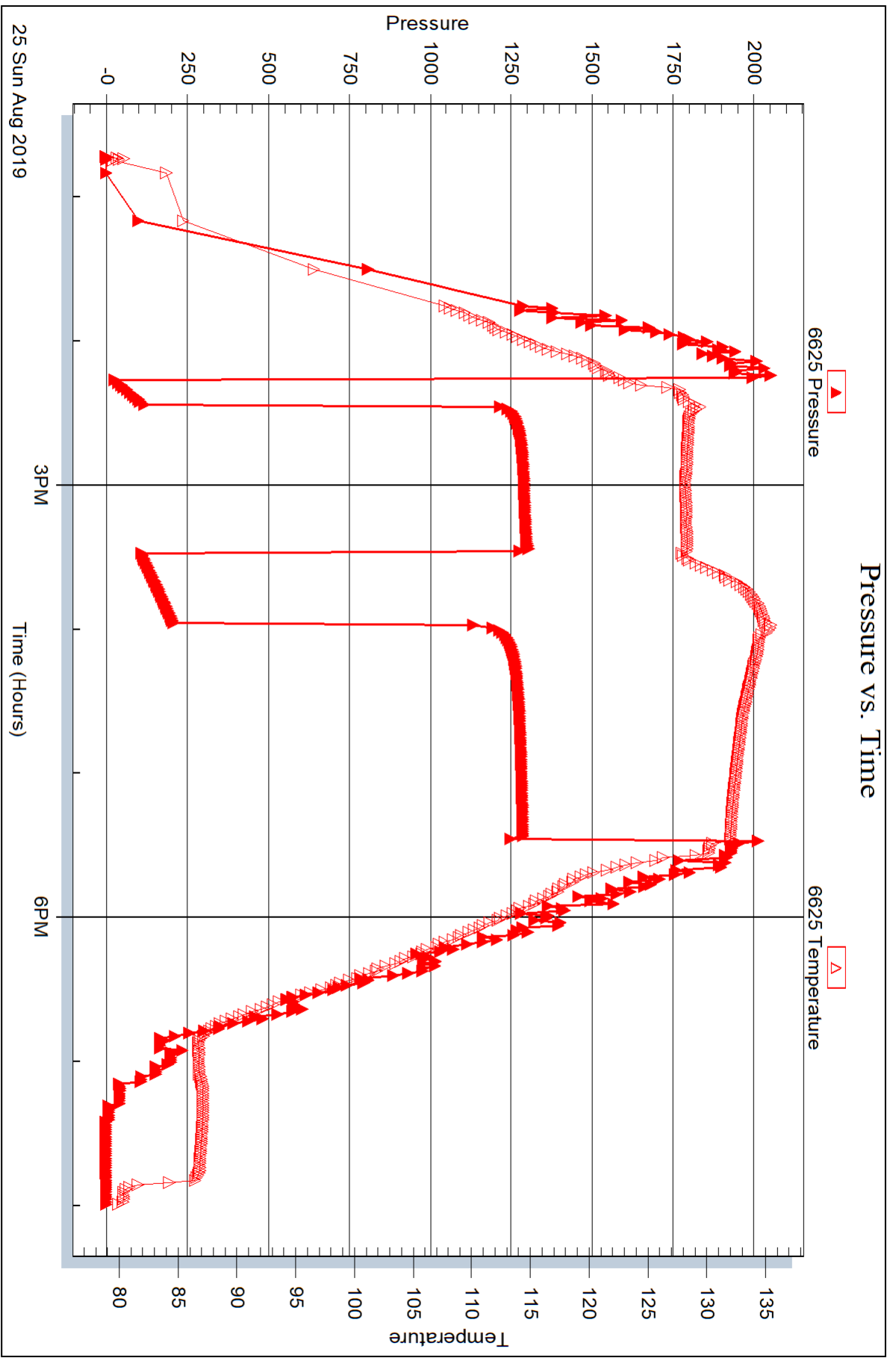
Serial #: 6625

Inside

Black Oak Exploration

Ryan #1-29

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 64700

Printed: 2019.08.29 @ 09:52:53



DRILL STEM TEST REPORT

Prepared For: **Black Oak Exploration**

1474 S St. Paul St
Denver CO 80210

ATTN: Clayton Camozzi

Ryan #1-29

29-5s-31w Rawlins,KS

Start Date: 2019.08.27 @ 02:52:00

End Date: 2019.08.27 @ 11:04:00

Job Ticket #: 65576 DST #: 4

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.08.29 @ 09:50:18



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Oak Exploration

29-5s-31w Rawlins,KS

1474 S St. Paul St
Denver CO 80210

Ryan #1-29

Job Ticket: 65576

DST#: 4

ATTN: Clayton Camozzi

Test Start: 2019.08.27 @ 02:52:00

GENERAL INFORMATION:

Formation: **Fort Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:55:45

Time Test Ended: 11:04:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4310.00 ft (KB) To 4345.00 ft (KB) (TVD)

Reference Elevations: 2954.00 ft (KB)

Total Depth: 4345.00 ft (KB) (TVD)

2949.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8652 Outside

Press@RunDepth: 174.47 psig @ 4311.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.08.27 End Date: 2019.08.27

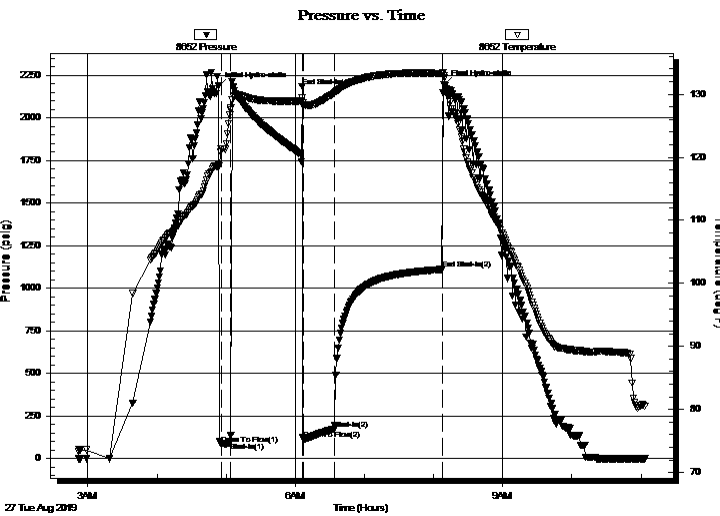
Last Calib.: 2019.08.27

Start Time: 02:52:05 End Time: 11:03:59

Time On Btm: 2019.08.27 @ 04:53:30

Time Off Btm: 2019.08.27 @ 08:09:00

TEST COMMENT: 10 - IF: Blow built to BOB (11") at 4 min., built to 28"
60 - IS: Blow back built to 8"
30 - FF: Blow built to BOB at 4 1/2 min., built to 49 1/2"
90 - FS: Blow back built to BOB at 35 min., built to 13 1/2"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2186.98	118.77	Initial Hydro-static
3	84.33	121.32	Open To Flow (1)
11	95.41	127.51	Shut-In(1)
73	2183.31	129.40	End Shut-In(1)
74	112.12	128.61	Open To Flow (2)
101	174.47	130.19	Shut-In(2)
194	1110.69	133.29	End Shut-In(2)
196	2196.23	132.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
182.00	GMCO 42%o, 31%g, 27%m	0.91
254.00	CGO 73%o, 27%g	3.56
0.00	GIP = 825'	0.00

* 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

29-5s-31w Rawlins,KS

1474 S St. Paul St
Denver CO 80210

Ryan #1-29

Job Ticket: 65576

DST#: 4

ATTN: Clayton Camozzi

Test Start: 2019.08.27 @ 02:52:00

Tool Information

Drill Pipe:	Length: 4123.00 ft	Diameter: 3.80 inches	Volume: 57.83 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4310.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Hydraulic tool closed when we pulled the slips at end of IF

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4282.00	
Shut In Tool	5.00			4287.00	
Hydraulic tool	5.00			4292.00	
Jars	5.00			4297.00	
Safety Joint	3.00			4300.00	
Packer	5.00			4305.00	29.00 Bottom Of Top Packer
Packer	5.00			4310.00	
Stubb	1.00			4311.00	
Recorder	0.00	6625	Inside	4311.00	
Recorder	0.00	8652	Outside	4311.00	
Perforations	31.00			4342.00	
Bullnose	3.00			4345.00	35.00 Bottom Packers & Anchor

Total Tool Length: 64.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Oak Exploration

29-5s-31w Rawlins,KS

1474 S St. Paul St
Denver CO 80210

Ryan #1-29

Job Ticket: 65576

DST#: 4

ATTN: Clayton Camozzi

Test Start: 2019.08.27 @ 02:52:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
182.00	GMCO 42%o, 31%g, 27%m	0.913
254.00	CGO 73%o, 27%g	3.563
0.00	GIP = 825'	0.000

Total Length: 436.00 ft Total Volume: 4.476 bbl

Num Fluid Samples: 0

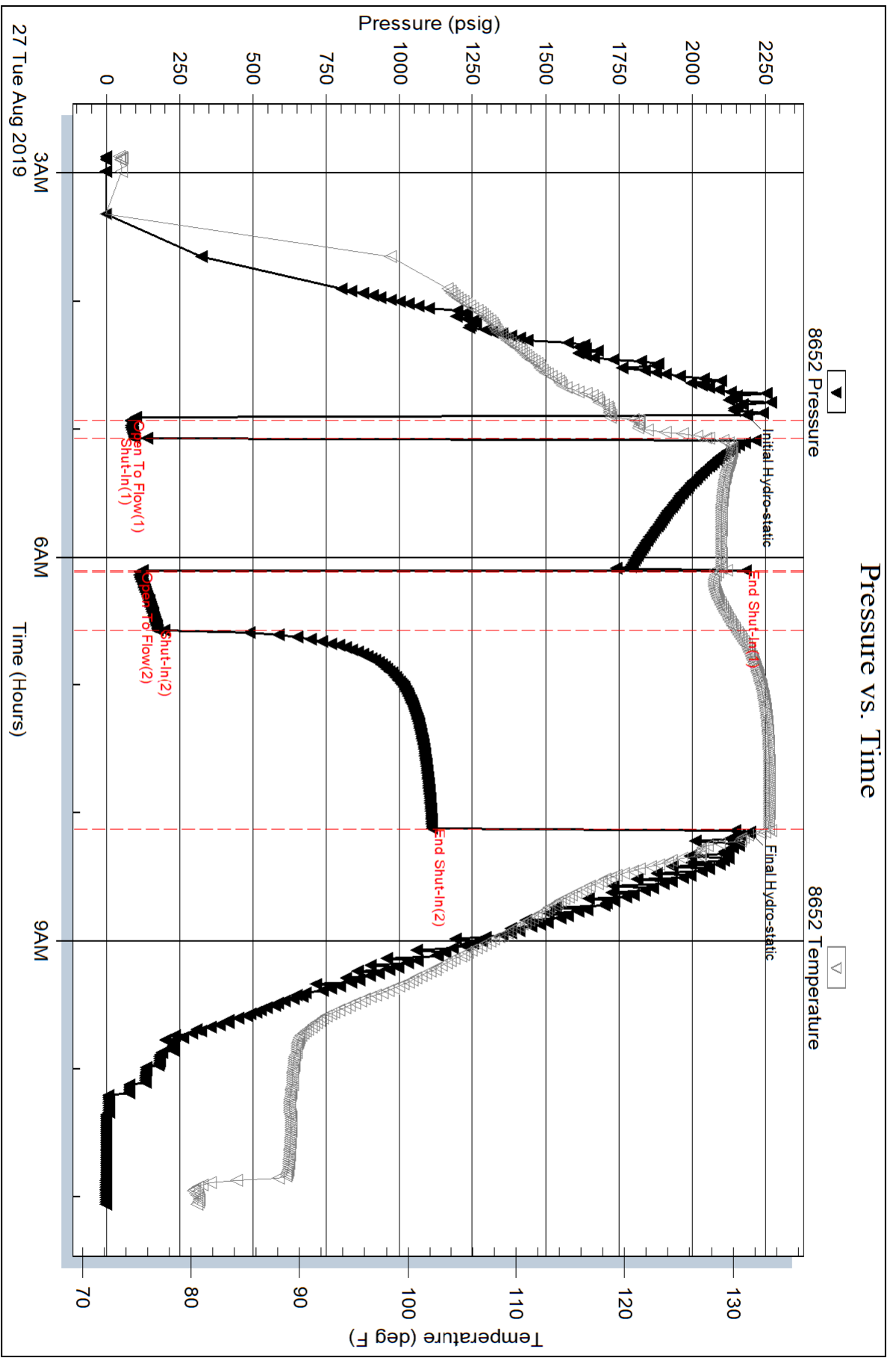
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 35.4 api @ 74 deg F Corrected Gravity = 34 api



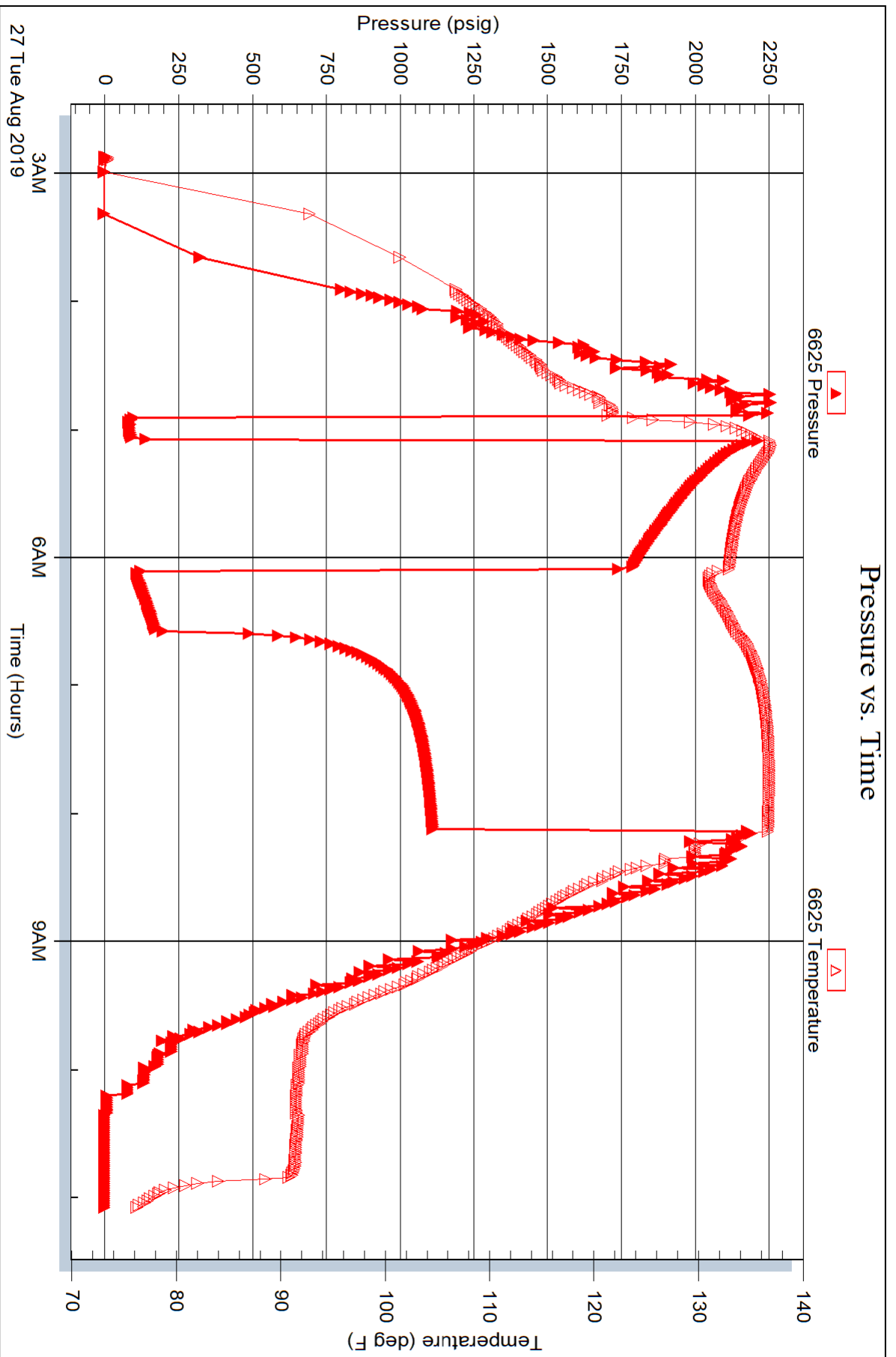
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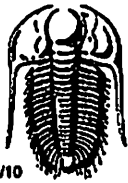
Inside

Black Oak Exploration

Ryan #1-29

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64698

Well Name & No. Ryan #1-29 Test No. 1 Date 8-24-19
 Company Black Oak Exploration Elevation 2954 KB 2949 GL
 Address 1474 S. St Paul St Denver CO 80210
 Co. Rep / Geo. Clayton Camozzi Rig Murfin #7
 Location: Sec. 29 Twp 5s Rge. 31w Co. Rawlins State KS

Interval Tested 3956-3990 Zone Tested Lans. "A-Upper D"
 Anchor Length 34 Anchor 8 Tail Drill Pipe Run 3779 Mud Wt. 9.1
 Top Packer Depth 3951-3956 Drill Collars Run 180 Vis 54
 Bottom Packer Depth 3990 Wt. Pipe Run - WL 6.8
 Total Depth 3998 Chlorides 1700 ppm System LCM 8

Blow Description IF: Blow built to 10"
ISI: No blowback
FF: Blow built to BOB (11") at 30 min.
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>155</u>	<u>WCM</u>		<u>39</u>	<u>61</u>	
<u>180</u>	<u>SMCW</u>		<u>93</u>	<u>7</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

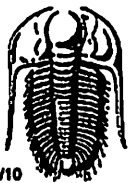
Rec Total 335 BHT 124 Gravity _____ API RW .480 @ 72.1° F Chlorides 13,000 ppm

(A) Initial Hydrostatic 1915 Test 1200 T-On Location 10:25
 (B) First Initial Flow 28 Jars 250 T-Started 12:25
 (C) First Final Flow 115 Safety Joint 75 T-Open 15:19
 (D) Initial Shut-In 1086 Circ Sub _____ T-Pulled 18:09
 (E) Second Initial Flow 120 Hourly Standby _____ T-Out 20:25
 (F) Second Final Flow 168 Mileage 76 RT + 87 RT 93 169 Comments Took truck to rig early
 (G) Final Shut-In 953 Sampler _____ -drew shop truck to well for
 (H) Final Hydrostatic 1884 Straddle 600 test Tool landed 6' high
 Shale Packer _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 15
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60
 Sub Total 2314
 Total 2314
 MP/DST Disc't _____

Approved By _____ Our Representative James Wicks

Triobite 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. 64699

Well Name & No. Ryan #1-29 Test No. 2 Date 8-25-19
 Company Black Oak Exploration Elevation 2954 KB 2949 GL
 Address 1474 S ST Paul St Denver CO 80210
 Co. Rep / Geo. Clayton Camozzi Rig Murfin #7
 Location: Sec. 29 Twp 5s Rge. 31w Co. Rawlins State KS

Interval Tested 4002 - 4036 Zone Tested Lans. "F"
 Anchor Length 34 Drill Pipe Run ~~3800~~ 3806 Mud Wt. 9.1
 Top Packer Depth 3997 Drill Collars Run 180 Vls 54
 Bottom Packer Depth 4002 Wt. Pipe Run - WL 6.8
 Total Depth 4036 Chlorides 1700 ppm System LCM 8

Blow Description IF: Weak surface blow, but it slightly
ISI: No blowback
FF: No blow Hydraulic Tool didn't open
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud

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

(A) Initial Hydrostatic _____ Test 8+ h rig time _____ T-On Location 4:00

(B) First Initial Flow _____ Jars _____ T-Started 4:30

(C) First Final Flow _____ Safety Joint _____ T-Open X

(D) Initial Shut-In _____ Circ Sub _____ T-Pulled _____

(E) Second Initial Flow _____ Hourly Standby _____ T-Out 10:30

(F) Second Final Flow _____ Mileage 76 RT _____ Comments _____

(G) Final Shut-In _____ Sampler _____ _____

(H) Final Hydrostatic _____ Straddle _____ Ruined Shale Packer _____

Initial Open 10 _____ Shale Packer _____ Ruined Packer _____

Initial Shut-In 60 _____ Extra Packer _____ Extra Copies _____

Final Flow 10 _____ Extra Recorder _____ Sub Total _____

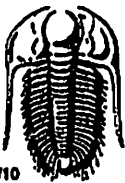
Final Shut-In 45 _____ Day Standby _____ Total _____

_____ Accessibility _____ MP/DST Disc't _____

Sub Total _____

Approved By _____ Our Representative James Winder

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64700

Well Name & No. Ryan #1-29 Test No. 3 Date 8-25-19
 Company Black Oak Exploration Elevation 2954 KB 2949 GL
 Address 1474 S ST Paul st Denver CO 80210
 Co. Rep / Geo. Clayton Camozzi Rig Murfin #7
 Location: Sec. 29 Twp 5s Rge. 31w Co. Rawlins State KS

Interval Tested 4002-4036 Zone Tested Lans. "F"
 Anchor Length 34 Drill Pipe Run 3806 Mud Wt. 9.2
 Top Packer Depth 3997 Drill Collars Run 180 Vis 50
 Bottom Packer Depth 4002 Wt. Pipe Run - WL 6.4
 Total Depth 4036 Chlorides 1800 ppm System LCM 7

Blow Description IF: Blow built to 9"
ISI: weak surface blowback, dead by 30 min.
FF: Blow built to BOB (11") at 13 min, built to 25"
FSI: Blowback built to 1/4", died back to surface blow

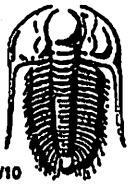
Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>CO</u>	<u>4</u>	<u>96</u>	<u>-</u>	<u>-</u>
<u>195</u>	<u>MW w/oil spots</u>	<u>5</u>	<u>3</u>	<u>49</u>	<u>43</u>
<u>155</u>	<u>SMCW w/trace oil</u>	<u>trace</u>	<u>93</u>	<u>7</u>	<u>7</u>
<u>60</u>	<u>MCW w/oil spots</u>	<u>2</u>	<u>3</u>	<u>76</u>	<u>19</u>
	<u>GIP = 35'</u>				

Rec Total 430 BHT 129 Gravity 33 API RW 266 @ 80.2° F Chlorides 22,000 ppm

(A) Initial Hydrostatic 1986 Test 1300 T-On Location 12:30
 (B) First Initial Flow 27 Jars 250 T-Started 12:43
 (C) First Final Flow 110 Safety Joint 75 T-Open 14:16
 (D) Initial Shut-In 1307 Circ Sub _____ T-Pulled 17:26
 (E) Second Initial Flow 111 Hourly Standby _____ T-Out 20:00
 (F) Second Final Flow 210 Mileage ? 76 _____
 (G) Final Shut-In 1290 Sampler _____
 (H) Final Hydrostatic 1968 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 10
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 90
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1777
 Sub Total 1777

Approved By _____ Our Representative James Nicola
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65576

Well Name & No. Ryan #1-29 Test No. 4 Date 8-27-19
 Company Black Oak Exploration Elevation 2954 KB 2949 GL
 Address 1474 S ST Paul St Denver CO 80210
 Co. Rep / Geo. Clayton Camozzi Rig Murfin #7
 Location: Sec. 29 Twp 5s Rge. 31w Co. Rawlins State KS

Interval Tested 4310 - 4345 Zone Tested Fort Scott
 Anchor Length 35 Drill Pipe Run 4123 Mud Wt. 9.1
 Top Packer Depth 4305 Drill Collars Run 180 Vls 63
 Bottom Packer Depth 4310 Wt. Pipe Run - WL 6.8
 Total Depth 4345 Chlorides 1900 ppm System LCM 8

Blow Description IF: Blow built to BOB (11") at 4 min, built to 28"
ISI: Blowback built to 8"
FF: Blow built to BOB at 4 1/2 min, built to 49 1/2"
FSI: Blowback built to BOB at 35 min, built to 13 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>254</u>	<u>C60</u>	<u>27</u>	<u>73</u>	<u>-</u>	<u>-</u>
<u>182</u>	<u>6MCO</u>	<u>31</u>	<u>42</u>	<u>-</u>	<u>27</u>
<u> </u>	<u>GIP: 825'</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Rec Total 436 BHT 133 Gravity 34 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic <u>2187</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>2:00</u>
(B) First Initial Flow <u>84</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>2:52</u>
(C) First Final Flow <u>95</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>4:55</u>
(D) Initial Shut-In <u>-</u>	<input type="checkbox"/> Circ Sub <u> </u>	T-Pulled <u>8:07</u>
(E) Second Initial Flow <u>112</u>	<input type="checkbox"/> Hourly Standby <u> </u>	T-Out <u>11:00</u>
(F) Second Final Flow <u>174</u>	<input checked="" type="checkbox"/> Mileage <u>76 RT x 3</u> ^{to pick truck} _{228 up from rig}	Comments <u>Hydr. tool closed when</u> <u>we pulled the slips at end</u> <u>of IF Tools loaded 8/28 18:35</u>
(G) Final Shut-In <u>1111</u>	<input type="checkbox"/> Sampler <u> </u>	<input type="checkbox"/> EM Tool <u> </u>
(H) Final Hydrostatic <u>2196</u>	<input type="checkbox"/> Straddle <u> </u>	<input type="checkbox"/> Ruined Shale Packer <u> </u>
Initial Open <u>10</u>	<input type="checkbox"/> Shale Packer <u> </u>	<input type="checkbox"/> Ruined Packer <u> </u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer <u> </u>	<input type="checkbox"/> Extra Copies <u> </u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u> </u>	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby <u> </u>	Total <u>1853</u>
	<input type="checkbox"/> Accessibility <u> </u>	MP/DST Disc't <u> </u>
	Sub Total <u>1853</u>	

Approved By _____ Our Representative James Winder

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