



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Cynosure Energy, LLC

18-15S-19W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Justin Carter

Dechant #1-18-15-19

Job Ticket: 34546

DST#: 1

Test Start: 2015.08.28 @ 13:51:18

GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:03:18

Time Test Ended: 01:40:18

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 62

Interval: **3280.00 ft (KB) To 3310.00 ft (KB) (TVD)**

Total Depth: 3310.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1994.00 ft (KB)

1982.00 ft (CF)

KB to GR/CF: 12.00 ft

Serial #: 6839

Outside

Press@RunDepth: 65.86 psig @ 3307.00 ft (KB)

Start Date: 2015.08.28

End Date:

2015.08.29

Start Time: 13:51:19

End Time:

01:40:18

Capacity: 8000.00 psig

Last Calib.: 2015.08.29

Time On Btm: 2015.08.28 @ 19:01:18

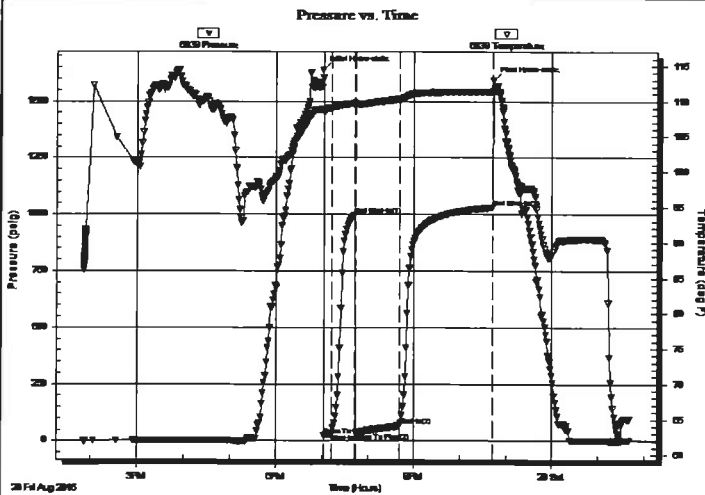
Time Off Btm: 2015.08.28 @ 22:44:18

TEST COMMENT: 010- IF- BOB 10mins

030- IS- No blow

060- FF- BOB 1min

120- FS- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1638.98	108.86	Initial Hydro-static
2	23.42	108.52	Open To Flow (1)
11	29.41	109.10	Shut-In(1)
42	995.35	109.74	End Shut-In(1)
43	36.62	109.53	Open To Flow (2)
101	65.86	110.31	Shut-In(2)
222	1030.80	111.32	End Shut-In(2)
223	1592.25	111.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
127.00	HOCM, 40%O 60%M	1.80
30.00	CO	0.43
0.00	722' GIP	0.00
0.00	Sampler: 2000mL O @ 550PSI	0.00

Gas Rates

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



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Suite 410

Job Ticket: 34546

DST#: 1

Denver, CO 80202

ATTN: Justin Carter

Test Start: 2015.08.28 @ 13:51:18

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: 51.00 sec/qt

Cushion Volume: bbl

Water Loss: 9.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 3700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
127.00	HOCM, 40%O 60%M	1.800
30.00	CO	0.425
0.00	722' GIP	0.000
0.00	Sampler: 2000mL O @ 550PSI	0.000

Total Length: 157.00 ft

Total Volume: 2.225 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

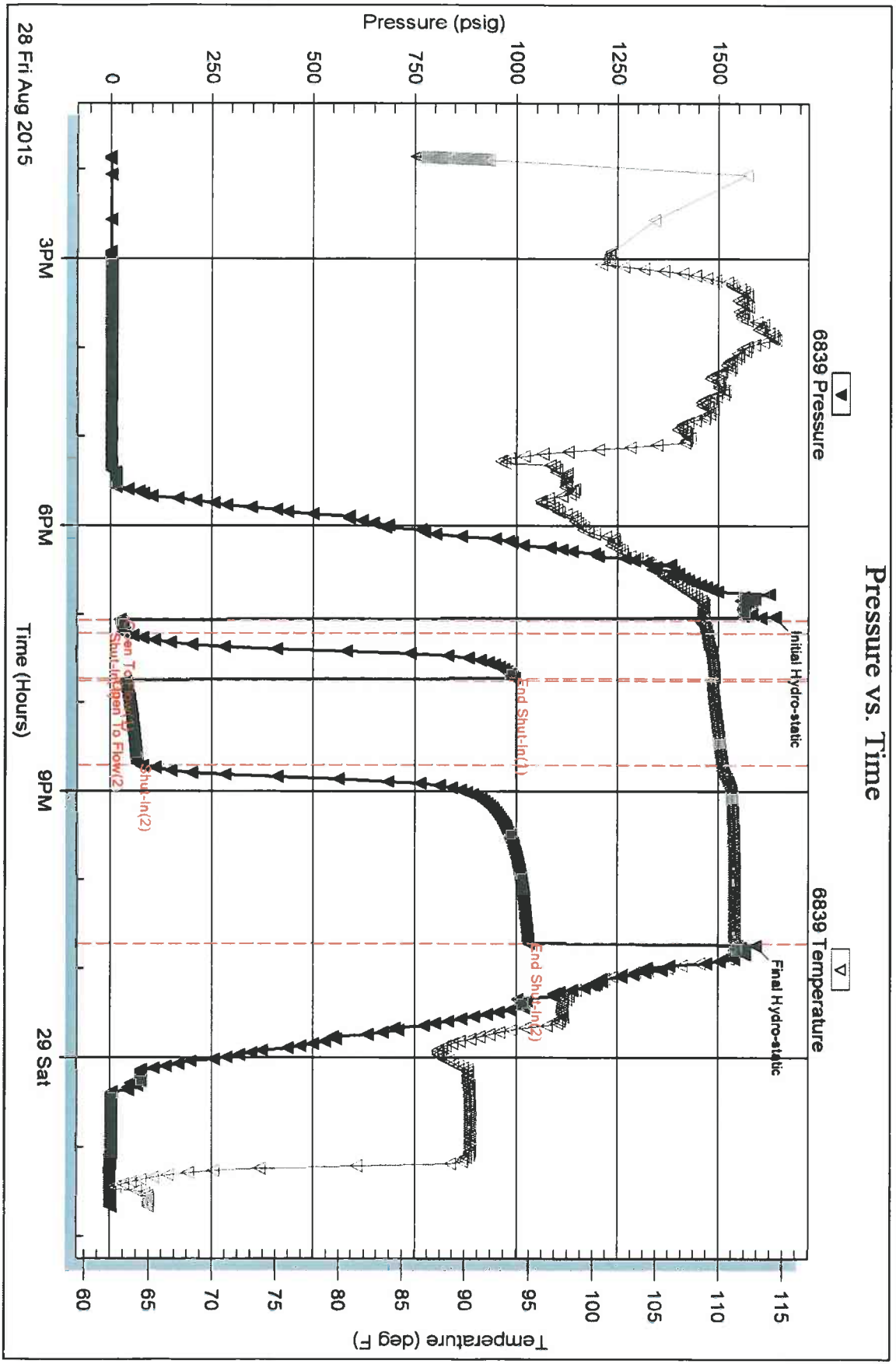
Recovery Comments:

Serial #: 6839

Outside Cynosure Energy, LLC

Dechant #1-18-15-19

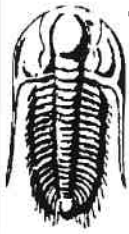
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 34546

Printed: 2015.08.29 @ 06:16:48



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Cynosure Energy, LLC

18-15S-19W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Justin Carter

Dechant #1-18-15-19
Job Ticket: 34547 **DST#: 2**
Test Start: 2015.08.30 @ 01:10:31

GENERAL INFORMATION:

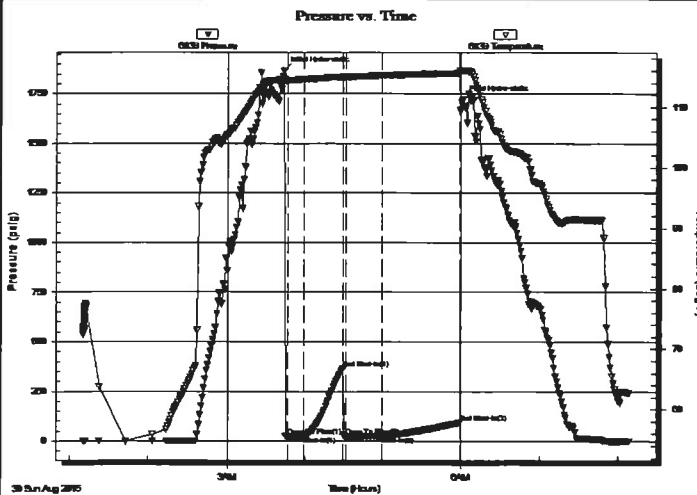
Formation: **Raegan Sand**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 03:46:31 Tester: Brannan Lonsdale
 Time Test Ended: 08:08:01 Unit No: 62
 Interval: **3590.00 ft (KB) To 3606.00 ft (KB) (TVD)** Reference Elevations: 1994.00 ft (KB)
 Total Depth: 3606.00 ft (KB) (TVD) 1982.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 12.00 ft

Serial #: 6839

Outside

Press@RunDepth: 23.73 psig @ 3603.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.08.30 End Date: 2015.08.30 Last Calib.: 2015.08.30
 Start Time: 01:10:32 End Time: 08:08:01 Time On Btm: 2015.08.30 @ 03:44:01
 Time Off Btm: 2015.08.30 @ 06:02:01

TEST COMMENT: 15- IF- Built very Slowly to 1"
 30- IS- No blow
 30- FF- No blow
 60- FS- No blow



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1868.91	114.59	Initial Hydro-static
3	22.37	114.35	Open To Flow (1)
16	22.55	114.56	Shut-In(1)
46	365.19	114.95	End Shut-In(1)
48	22.30	114.91	Open To Flow (2)
76	23.73	115.18	Shut-In(2)
136	92.38	115.59	End Shut-In(2)
138	1723.80	116.04	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	CO	0.21
0.00	Sampler: 2000mL O @ 55PSI	0.00

* Recovery from multiple tests

Gas Rates

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



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18-15S-19W Ellis, KS

1125 17th St.

Dechant #1-18-15-19

Suite 410

Job Ticket: 34547

DST#: 2

Denver, CO 80202

ATTN: Justin Carter

Test Start: 2015.08.30 @ 01:10:31

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbl

Water Loss: 10.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	CO	0.213
0.00	Sampler: 2000mL O @ 55PSI	0.000

Total Length: 15.00 ft Total Volume: 0.213 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

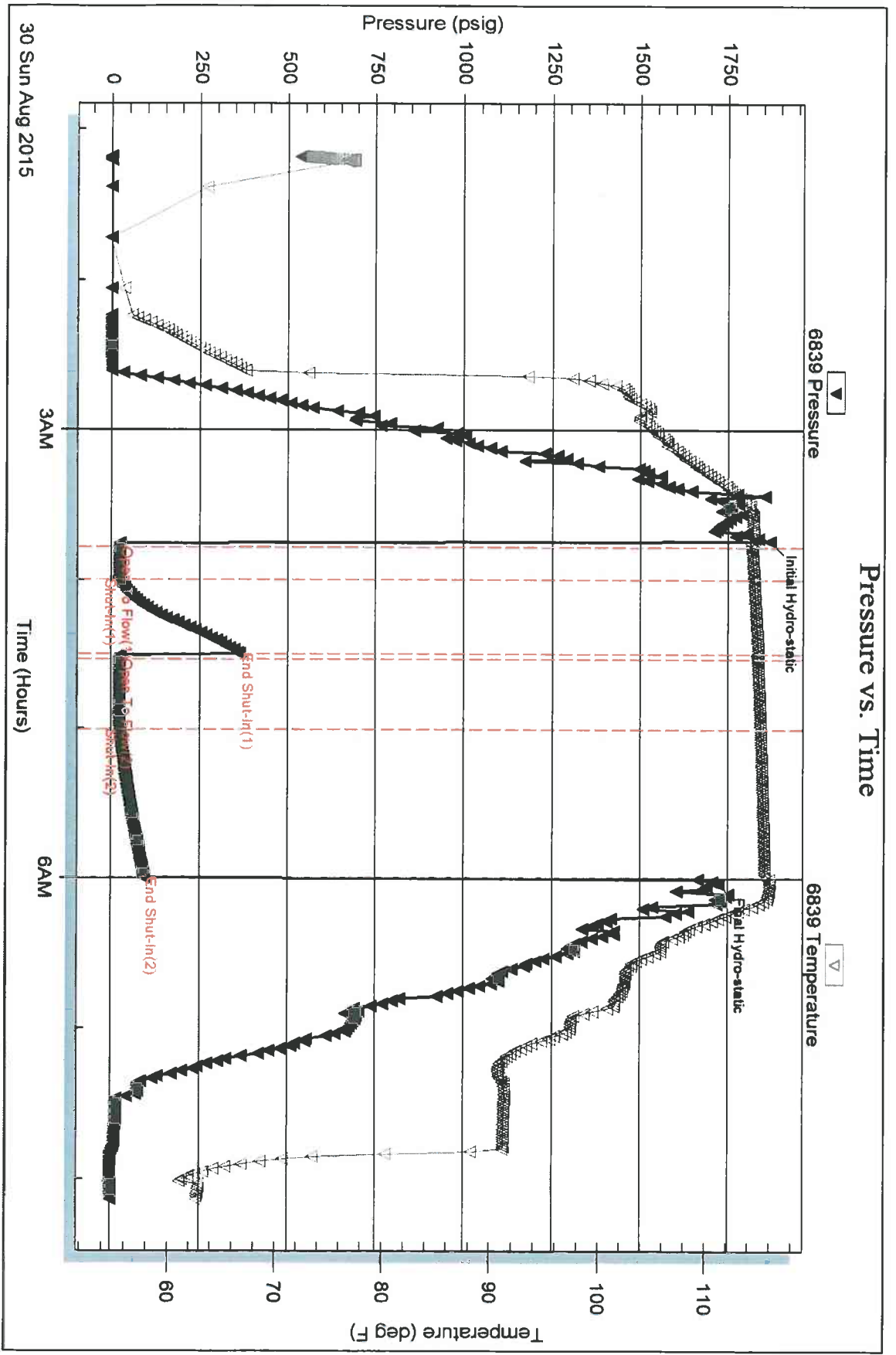
Recovery Comments:

Serial #: 6839

Outside Cynosure Energy, LLC

Dechant #1-18-15-19

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 34547

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**TRILOBITE
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DRILL STEM TEST REPORT

Cynosure Energy, LLC

18-15S-19W Ellis, KS

1125 17th St.
Suite 410
Denver, CO 80202
ATTN: Justin Carter

Dechant #1-18-15-19

Job Ticket: 34548 **DST#: 3**
Test Start: 2015.08.30 @ 20:46:21

GENERAL INFORMATION:

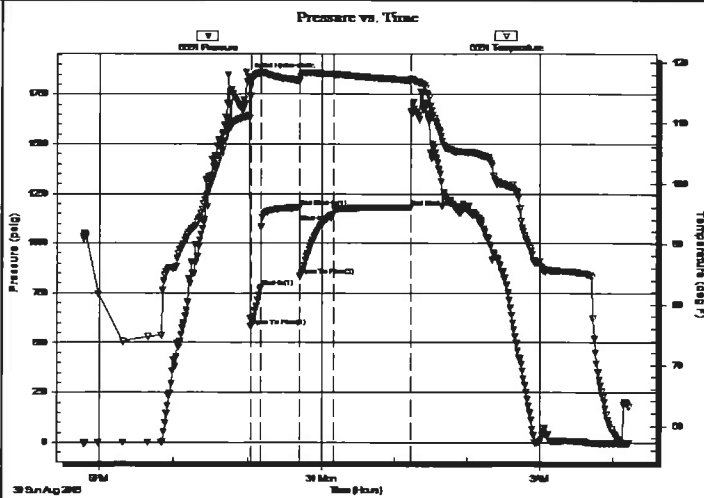
Formation: **Pawnee & Raegan**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Straddle (Reset)
 Time Tool Opened: 23:02:21 Tester: Brannan Lonsdale
 Time Test Ended: 04:12:51 Unit No: 62
 Interval: **3575.00 ft (KB) To 3618.00 ft (KB) (TVD)** Reference Elevations: 1994.00 ft (KB)
 Total Depth: 3654.00 ft (KB) (TVD) 1982.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 12.00 ft

Serial #: 6651

Inside

Press@RunDepth: 1146.13 psig @ 3577.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.08.30 End Date: 2015.08.31 Last Calib.: 2015.08.31
 Start Time: 20:46:22 End Time: 04:12:51 Time On Btm: 2015.08.30 @ 23:00:21
 Time Off Btm:

TEST COMMENT: 10- IF- BOB 15secs
 30- IS- No blow
 30- FF- BOB 15secs
 60- FS- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1838.91	111.16	Initial Hydro-static
2	581.32	114.43	Open To Flow (1)
10	778.87	118.23	Shut-In(1)
42	1179.28	117.00	End Shut-In(1)
42	834.45	116.84	Open To Flow (2)
70	1146.13	118.05	Shut-In(2)
133	1181.30	117.03	End Shut-In(2)

Recovery

Length (ft)	Description	Volume (bbl)
2481.00	MW, 30%M 70%W	35.17
0.00	Sampler: 2000mL W @ 100PSI	0.00

* Recovery from multiple tests

Gas Rates

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



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18-15S-19W Ellis, KS

1125 17th St.

Dechant #1-18-15-19

Suite 410

Job Ticket: 34548

DST#: 3

Denver, CO 80202

ATTN: Justin Carter

Test Start: 2015.08.30 @ 20:46:21

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:

25000 ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2481.00	MW, 30%M 70%W	35.169
0.00	Sampler: 2000mL W @ 100PSI	0.000

Total Length: 2481.00 ft

Total Volume: 35.169 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

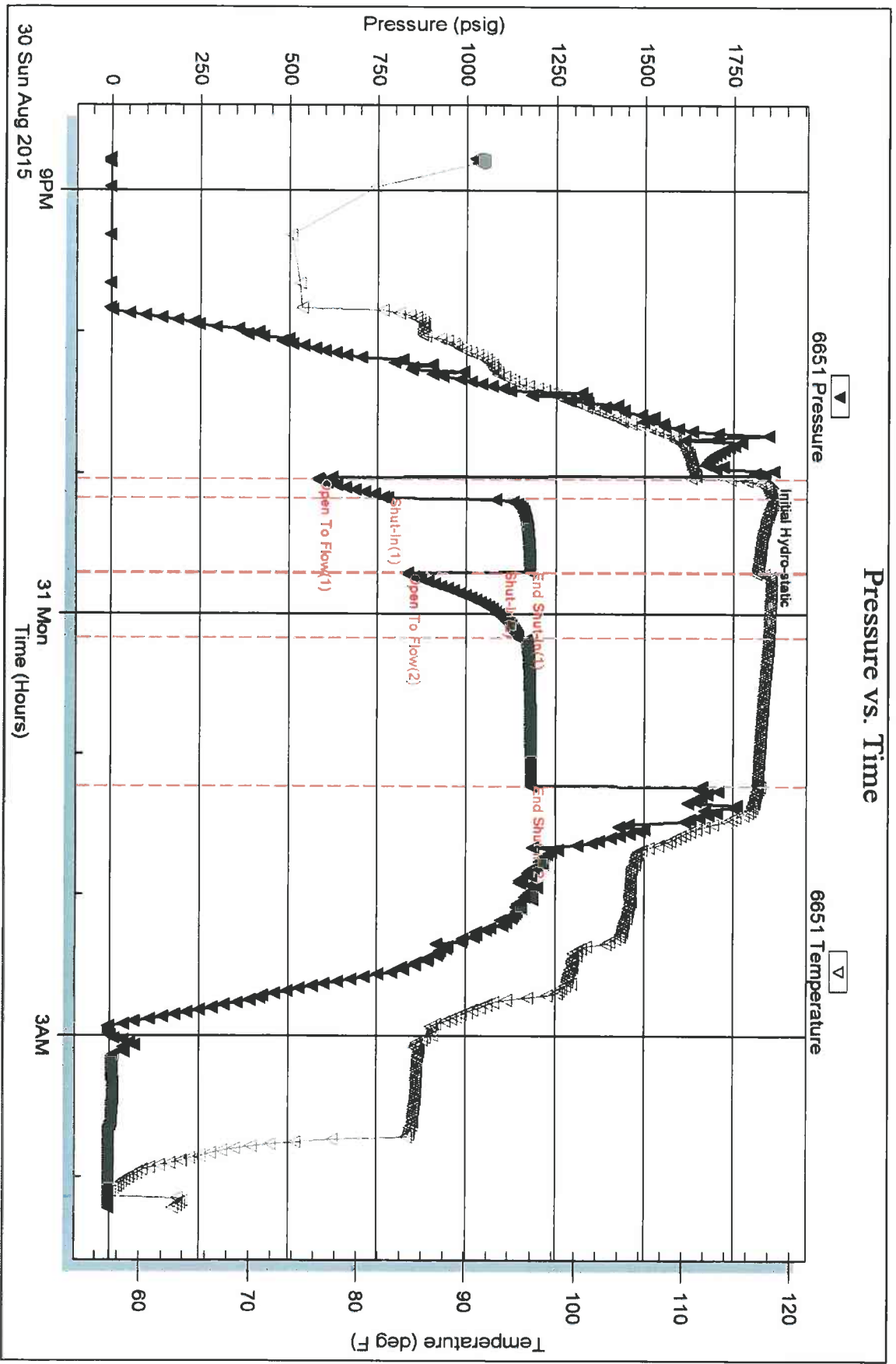
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Inside

Cynosure Energy, LLC

Dechant #1-18-15-19

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 34548

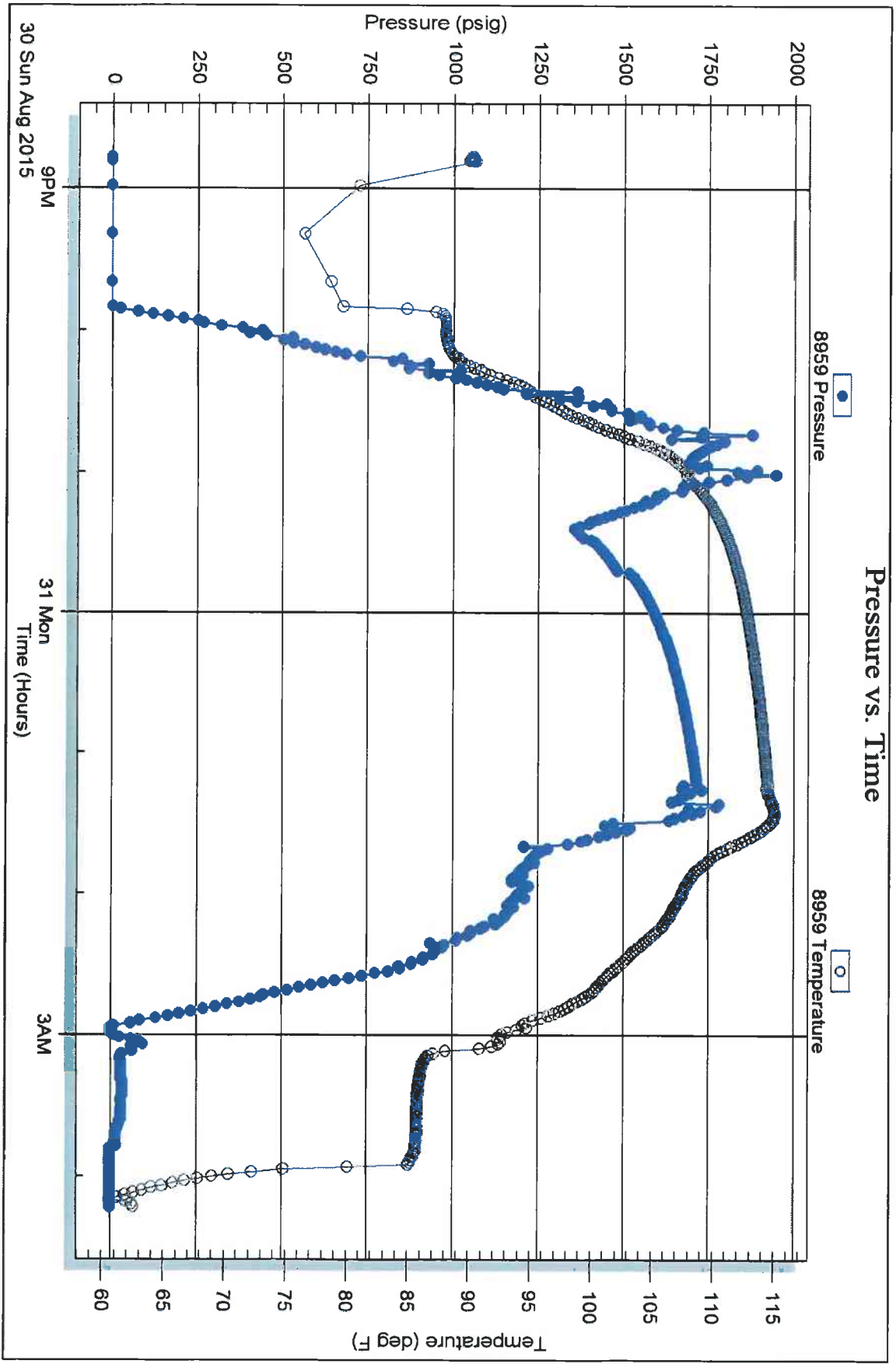
Printed: 2015.08.31 @ 07:03:41

Serial #: 8959

Below (Strat) Energy, LLC

Dechant #1-18-15-19

DST Test Number: 3



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Ref. No: 34548

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