

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc.**

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

Graul #1

32-11s-22w Trego,KS

Start Date: 2012.09.14 @ 16:15:00

End Date: 2012.09.14 @ 23:05:30

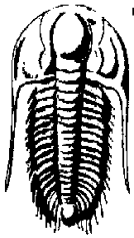
Job Ticket #: 49402 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.21 @ 10:26:12



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

32-11s-22w Trego,KS

Graul #1

Job Ticket: 49402

DST#: 1

Test Start: 2012.09.14 @ 16:15:00

GENERAL INFORMATION:

Formation: **Oread A & B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:13:30

Time Test Ended: 23:05:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Troy Leiker

Unit No: 44

Interval: 3590.00 ft (KB) To 3619.00 ft (KB) (TVD)

Total Depth: 3619.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2426.00 ft (KB)

2418.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8737 Outside

Press@RunDepth: 196.94 psig @ 3591.00 ft (KB)

Start Date: 2012.09.14

End Date:

2012.09.14

Start Time: 16:15:01

End Time:

23:05:30

Capacity: 8000.00 psig

Last Calib.: 2012.09.14

Time On Btm: 2012.09.14 @ 18:13:00

Time Off Btm: 2012.09.14 @ 21:13:30

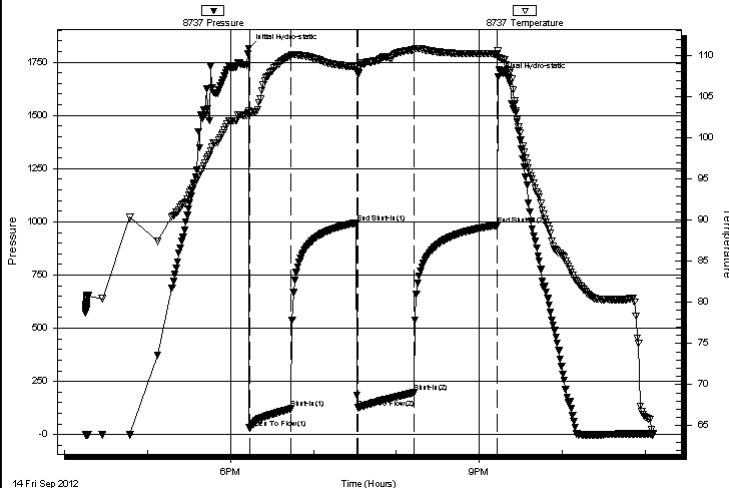
TEST COMMENT: IF 30 Fair Increasing Blow Off Bottom in 25 min.

IS 45 No Blow Back

FF 45 Fair Blow, Increased to 8" in Bkt

FS 60 No Blow Back

Pressure vs. Time



PRESSURE SUMMARY

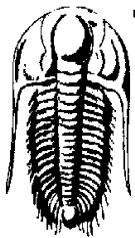
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1815.08	103.27	Initial Hydro-static
1	31.64	102.99	Open To Flow (1)
31	121.59	109.98	Shut-In(1)
78	994.86	108.62	End Shut-In(1)
79	125.69	107.78	Open To Flow (2)
120	196.94	110.65	Shut-In(2)
180	984.04	110.19	End Shut-In(2)
181	1679.81	110.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
315.00	Muddy Water 10% m 90% w	3.31

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 49402

DST#: 1

ATTN: Max Lovely

Test Start: 2012.09.14 @ 16:15:00

Tool Information

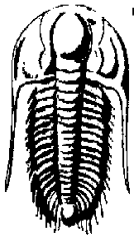
Drill Pipe:	Length:	3455.00 ft	Diameter:	3.80 inches	Volume:	48.46 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	122.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	42000.00 lb
					Total Volume:	49.06 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		14.00 ft					String Weight: Initial	32000.00 lb
Depth to Top Packer:		3590.00 ft					Final	34000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		29.00 ft						
Tool Length:		56.00 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		3564.00	
Shut In Tool	5.00		3569.00	
Hydraulic tool	5.00		3574.00	
Jars	5.00		3579.00	
Safety Joint	2.00		3581.00	
Packer	4.00		3585.00	27.00 Bottom Of Top Packer
Packer	5.00		3590.00	
Stubb	1.00		3591.00	
Recorder	0.00	8321 Inside	3591.00	
Recorder	0.00	8737 Outside	3591.00	
Perforations	25.00		3616.00	
Bullnose	3.00		3619.00	29.00 Bottom Packers & Anchor

Total Tool Length: 56.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 49402

DST#: 1

ATTN: Max Lovely

Test Start: 2012.09.14 @ 16:15:00

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: 46.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.57 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
315.00	Muddy Water 10% m 90% w	3.307

Total Length: 315.00 ft

Total Volume: 3.307 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

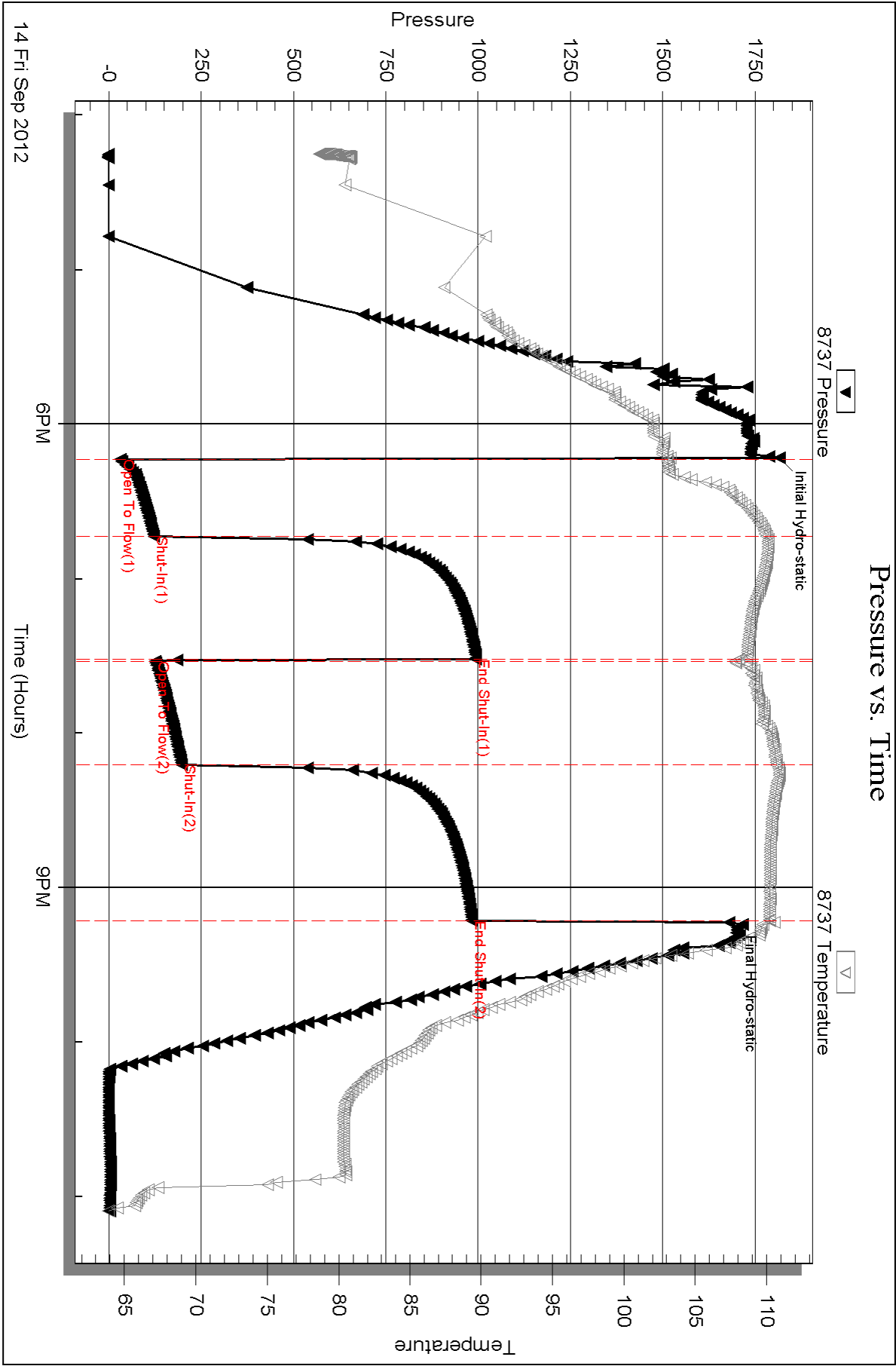
Recovery Comments: Chlorides 1400

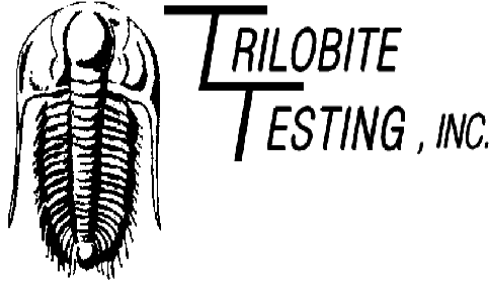
Serial #: 8737

Outside Ritchie Exploration Inc.

Graul #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc.**

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

Graul #1

32-11s-22w Trego,KS

Start Date: 2012.09.15 @ 10:20:01

End Date: 2012.09.15 @ 16:05:00

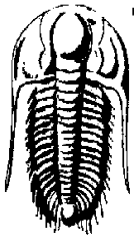
Job Ticket #: 49403 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.21 @ 10:23:39



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

32-11s-22w Trego, KS

Graul #1

Job Ticket: 49403

DST#: 2

Test Start: 2012.09.15 @ 10:20:01

GENERAL INFORMATION:

Formation: **Toronto - Lansing**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:22:30

Time Test Ended: 16:05:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Troy Leiker

Unit No: 44

Interval: 3642.00 ft (KB) To 3710.00 ft (KB) (TVD)

Total Depth: 3710.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2426.00 ft (KB)

2418.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8321 Inside

Press@RunDepth: 63.04 psig @ 3678.00 ft (KB)

Start Date: 2012.09.15

End Date:

2012.09.15

Start Time: 10:20:01

End Time:

16:05:00

Capacity: 8000.00 psig

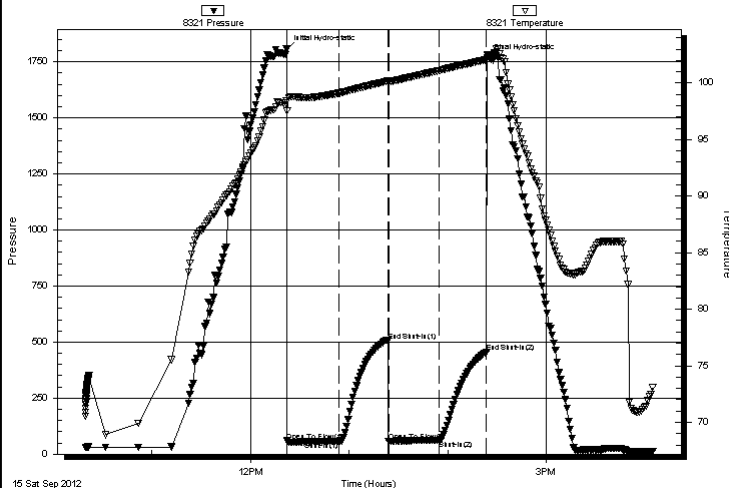
Last Calib.: 2012.09.15

Time On Btm: 2012.09.15 @ 12:22:00

Time Off Btm: 2012.09.15 @ 14:24:00

TEST COMMENT: IF 30 Weak Surface Blow , Died in 5 min.
IS 30 No Blow Back
FF 30 Small Surge When Tool Opened No Blow
FS 30 No Blow Back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1806.71	98.39	Initial Hydro-static
1	59.60	97.58	Open To Flow (1)
32	58.50	99.11	Shut-In(1)
62	506.44	100.16	End Shut-In(1)
62	56.47	100.09	Open To Flow (2)
93	63.04	101.09	Shut-In(2)
122	456.39	102.06	End Shut-In(2)
122	1766.73	102.46	Final Hydro-static

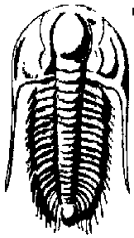
Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100% _m	0.02

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



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DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

32-11s-22w Trego, KS

Graul #1

Job Ticket: 49403

DST#: 2

Test Start: 2012.09.15 @ 10:20:01

GENERAL INFORMATION:

Formation: **Toronto - Lansing**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:22:30

Time Test Ended: 16:05:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Troy Leiker

Unit No: 44

Interval: 3642.00 ft (KB) To 3710.00 ft (KB) (TVD)

Total Depth: 3710.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2426.00 ft (KB)

2418.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8737 Outside

Press@RunDepth: psig @ 3678.00 ft (KB)

Start Date: 2012.09.15

End Date:

2012.09.15

Start Time: 10:20:01

End Time:

16:05:30

Capacity: 8000.00 psig

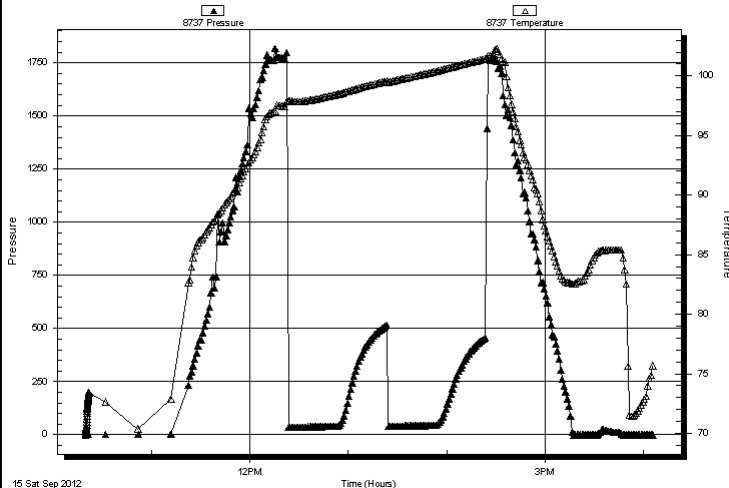
Last Calib.: 2012.09.15

Time On Btm:

Time Off Btm:

TEST COMMENT: IF 30 Weak Surface Blow , Died in 5 min.
IS 30 No Blow Back
FF 30 Small Surge When Tool Opened No Blow
FS 30 No Blow Back

Pressure vs. Time



PRESSURE SUMMARY

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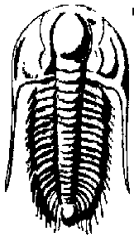
Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100% _m	0.02

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 49403

DST#: 2

ATTN: Max Lovely

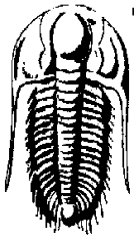
Test Start: 2012.09.15 @ 10:20:01

Tool Information

Drill Pipe:	Length:	3511.00 ft	Diameter:	3.80 inches	Volume:	49.25 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	122.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	45000.00 lb
					Total Volume:	49.85 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		18.00 ft					String Weight: Initial	35000.00 lb
Depth to Top Packer:		3642.00 ft					Final	35000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		68.00 ft						
Tool Length:		95.00 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			3616.00	
Shut In Tool	5.00			3621.00	
Hydraulic tool	5.00			3626.00	
Jars	5.00			3631.00	
Safety Joint	2.00			3633.00	
Packer	4.00			3637.00	27.00 Bottom Of Top Packer
Packer	5.00			3642.00	
Stubb	1.00			3643.00	
Perforations	2.00			3645.00	
Change Over Sub	1.00			3646.00	
Drill Pipe	31.00			3677.00	
Change Over Sub	1.00			3678.00	
Recorder	0.00	8321	Inside	3678.00	
Recorder	0.00	8737	Outside	3678.00	
Perforations	29.00			3707.00	
Bullnose	3.00			3710.00	68.00 Bottom Packers & Anchor
Total Tool Length:	95.00				



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DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 49403

DST#: 2

ATTN: Max Lovely

Test Start: 2012.09.15 @ 10:20:01

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: 40.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100%m	0.025

Total Length: 5.00 ft

Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

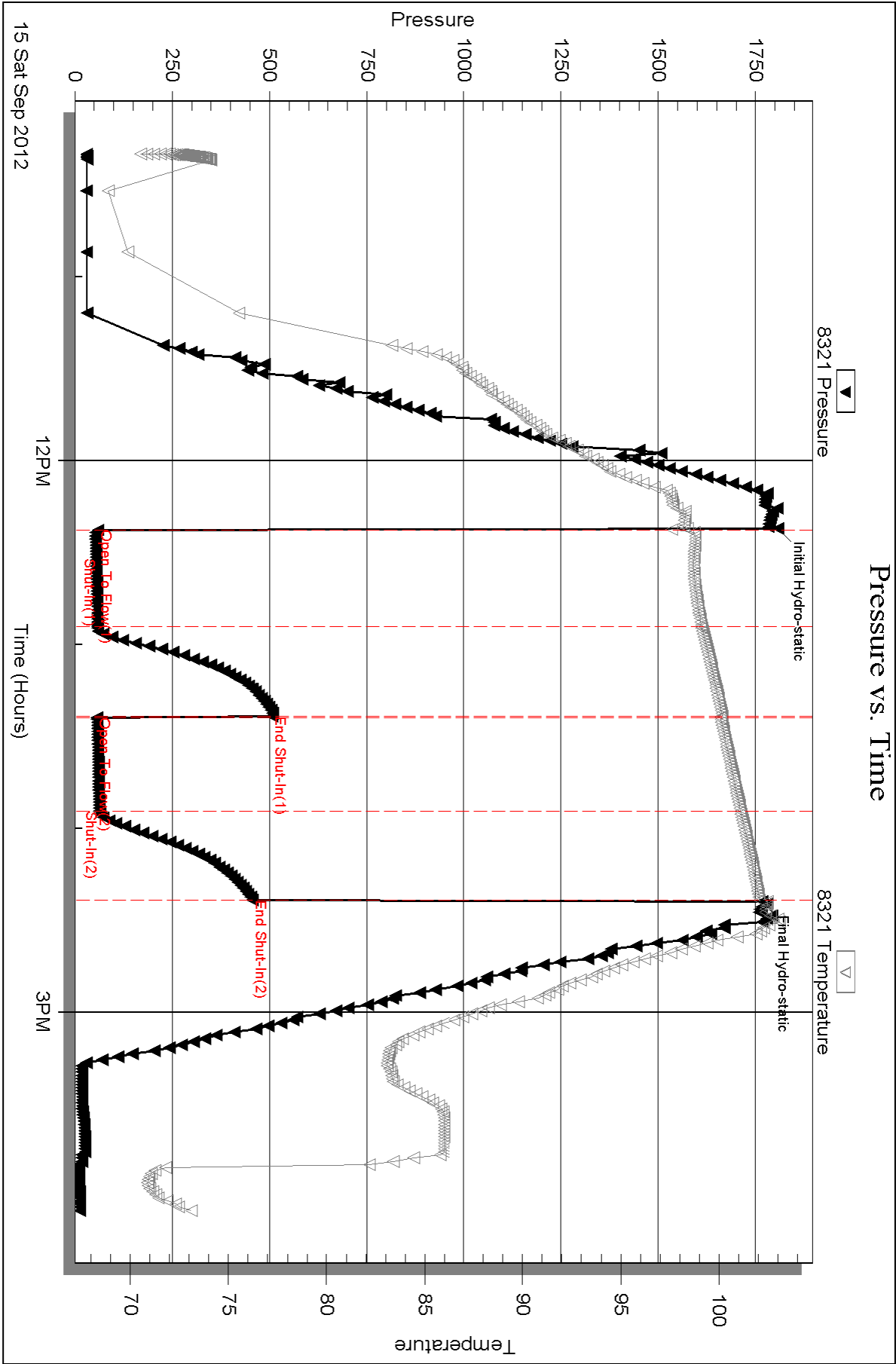
Serial #: 8321

Inside

Ritchie Exploration Inc.

Graul #1

DST Test Number: 2

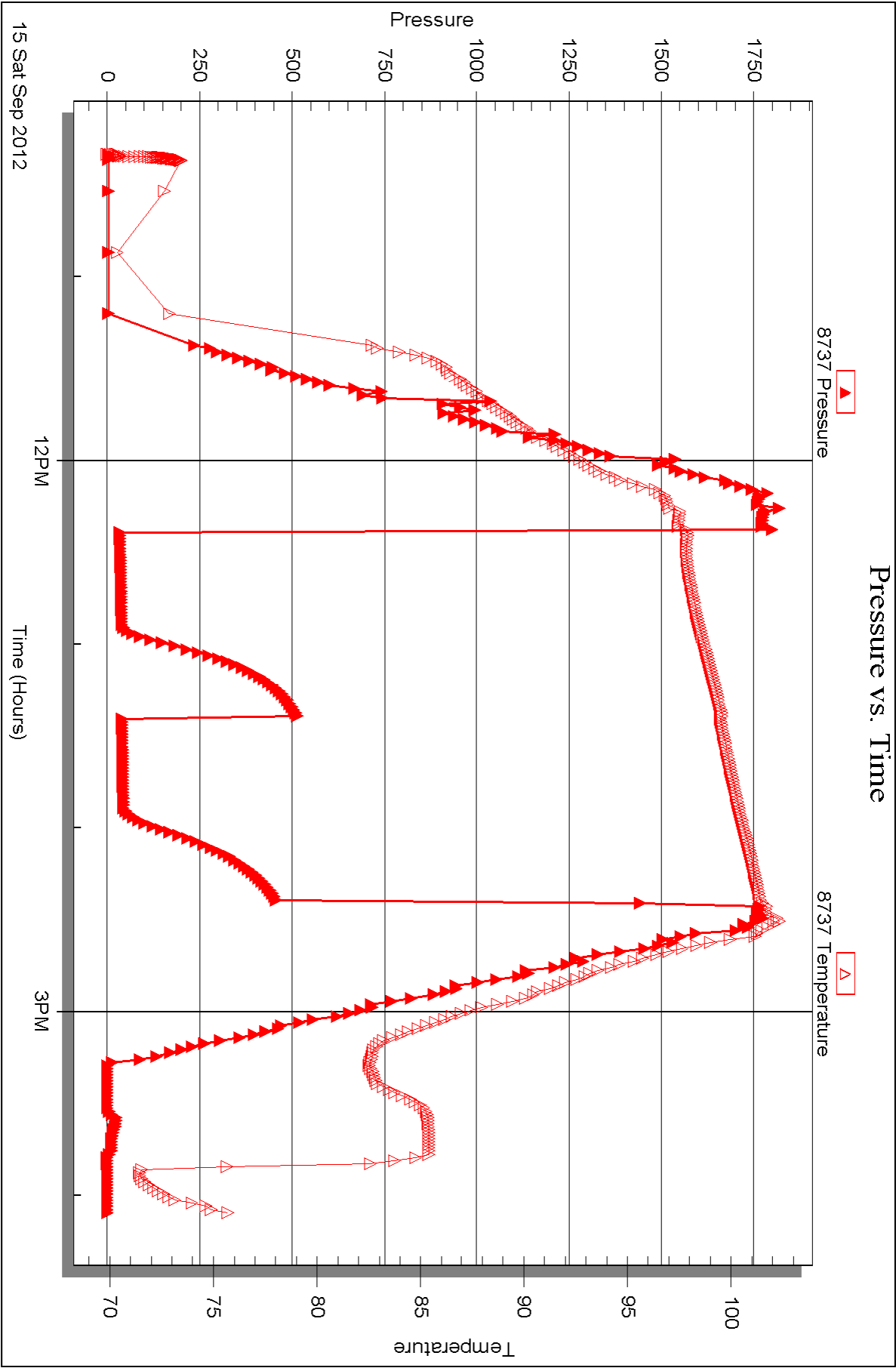


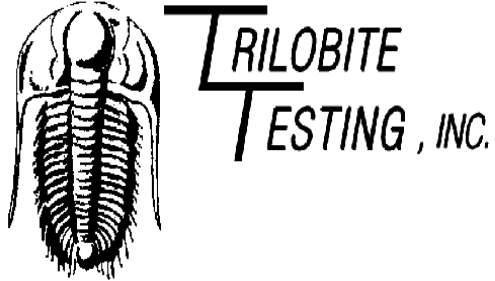
Serial #: 8737

Outside Ritchie Exploration Inc.

Graul #1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc.**

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

Graul #1

32-11s-22w Trego,KS

Start Date: 2012.09.16 @ 01:40:01

End Date: 2012.09.16 @ 08:59:27

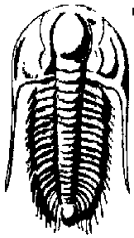
Job Ticket #: 49404 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.21 @ 10:22:27



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

32-11s-22w Trego,KS

Graul #1

Job Ticket: 49404

DST#: 3

Test Start: 2012.09.16 @ 01:40:01

GENERAL INFORMATION:

Formation: **Lansing D-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:02:27

Time Test Ended: 08:59:27

Test Type: Conventional Bottom Hole (Reset)

Tester: Troy Leiker

Unit No: 44

Interval: 3741.00 ft (KB) To 3787.00 ft (KB) (TVD)

Total Depth: 3787.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2426.00 ft (KB)

2418.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8321 Inside

Press@RunDepth: 194.09 psig @ 3745.00 ft (KB)

Start Date: 2012.09.16

End Date:

2012.09.16

Start Time: 01:40:01

End Time:

08:59:26

Capacity: 8000.00 psig

Last Calib.: 2012.09.16

Time On Btm: 2012.09.16 @ 04:01:57

Time Off Btm: 2012.09.16 @ 07:04:57

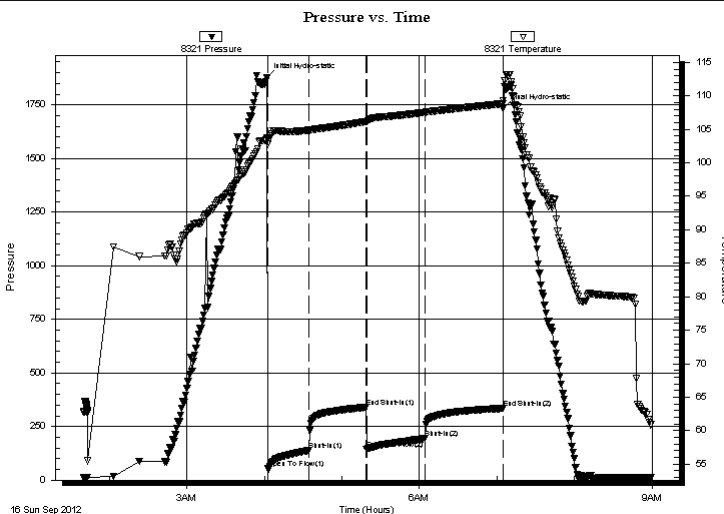
TEST COMMENT: IF 30 Fair Increasing Blow , Off Bottom in 21 min.

IS 45 No Blow Back

FF 45 Fair Blow ,Increased to 5" in Bkt.

FS 60 No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1875.87	103.69	Initial Hydro-static
1	53.57	102.76	Open To Flow (1)
33	139.30	104.87	Shut-In(1)
77	339.25	106.15	End Shut-In(1)
77	145.08	106.11	Open To Flow (2)
123	194.09	107.53	Shut-In(2)
183	334.77	108.83	End Shut-In(2)
184	1731.37	109.28	Final Hydro-static

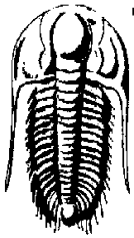
Recovery

Length (ft)	Description	Volume (bbl)
315.00	Muddy Water 60%w 40%m	3.31
15.00	Muddy Water 55%w 45%m	0.21

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



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TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

32-11s-22w Trego, KS

Graul #1

Job Ticket: 49404

DST#: 3

Test Start: 2012.09.16 @ 01:40:01

GENERAL INFORMATION:

Formation: **Lansing D-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:02:27

Time Test Ended: 08:59:27

Test Type: Conventional Bottom Hole (Reset)

Tester: Troy Leiker

Unit No: 44

Interval: 3741.00 ft (KB) To 3787.00 ft (KB) (TVD)

Reference Elevations: 2426.00 ft (KB)

Total Depth: 3787.00 ft (KB) (TVD)

2418.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8737 Outside

Press@RunDepth: psig @ 3745.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.09.16

End Date:

2012.09.16

Last Calib.:

2012.09.16

Start Time: 01:40:01

End Time:

09:00:30

Time On Btm:

Time Off Btm:

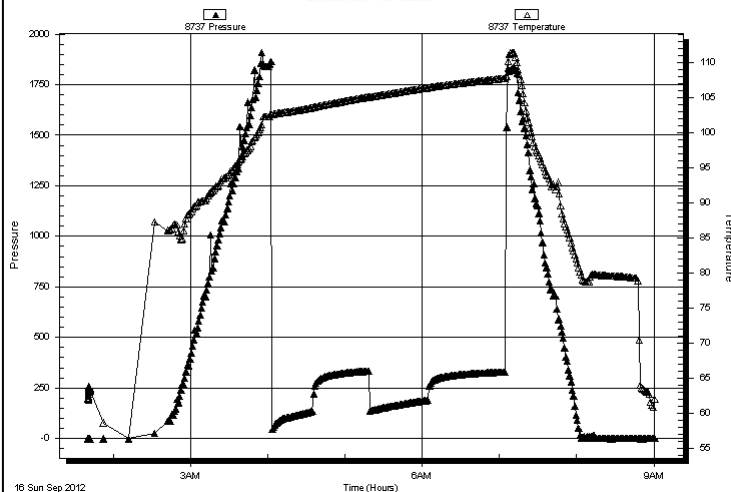
TEST COMMENT: IF 30 Fair Increasing Blow , Off Bottom in 21 min.

IS 45 No Blow Back

FF 45 Fair Blow , Increased to 5" in Bkt.

FS 60 No Blow Back

Pressure vs. Time



PRESSURE SUMMARY

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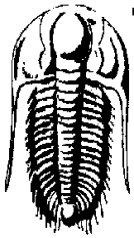
Recovery

Length (ft)	Description	Volume (bbl)
315.00	Muddy Water 60%w 40%m	3.31
15.00	Muddy Water 55%w 45%m	0.21

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 49404

DST#: 3

ATTN: Max Lovely

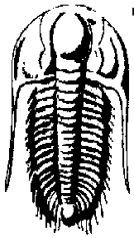
Test Start: 2012.09.16 @ 01:40:01

Tool Information

Drill Pipe:	Length:	3601.00 ft	Diameter:	3.80 inches	Volume:	50.51 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	122.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	47000.00 lb
					Total Volume:	51.11 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		9.00 ft					String Weight: Initial	37000.00 lb
Depth to Top Packer:		3741.00 ft					Final	38000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		46.00 ft						
Tool Length:		73.00 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			3715.00	
Shut In Tool	5.00			3720.00	
Hydraulic tool	5.00			3725.00	
Jars	5.00			3730.00	
Safety Joint	2.00			3732.00	
Packer	4.00			3736.00	27.00 Bottom Of Top Packer
Packer	5.00			3741.00	
Stubb	1.00			3742.00	
Perforations	2.00			3744.00	
Change Over Sub	1.00			3745.00	
Recorder	0.00	8321	Inside	3745.00	
Recorder	0.00	8737	Outside	3745.00	
Drill Pipe	31.00			3776.00	
Change Over Sub	1.00			3777.00	
Perforations	7.00			3784.00	
Bullnose	3.00			3787.00	46.00 Bottom Packers & Anchor
Total Tool Length:	73.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 49404

DST#: 3

ATTN: Max Lovely

Test Start: 2012.09.16 @ 01:40:01

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 40.00 sec/qt

Water Loss: 8.77 in³

Resistivity: ohm.m

Salinity: 4200.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
315.00	Muddy Water 60%w 40%m	3.307
15.00	Muddy Water 55%w 45%m	0.210

Total Length: 330.00 ft Total Volume: 3.517 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .456 @ 63degrees

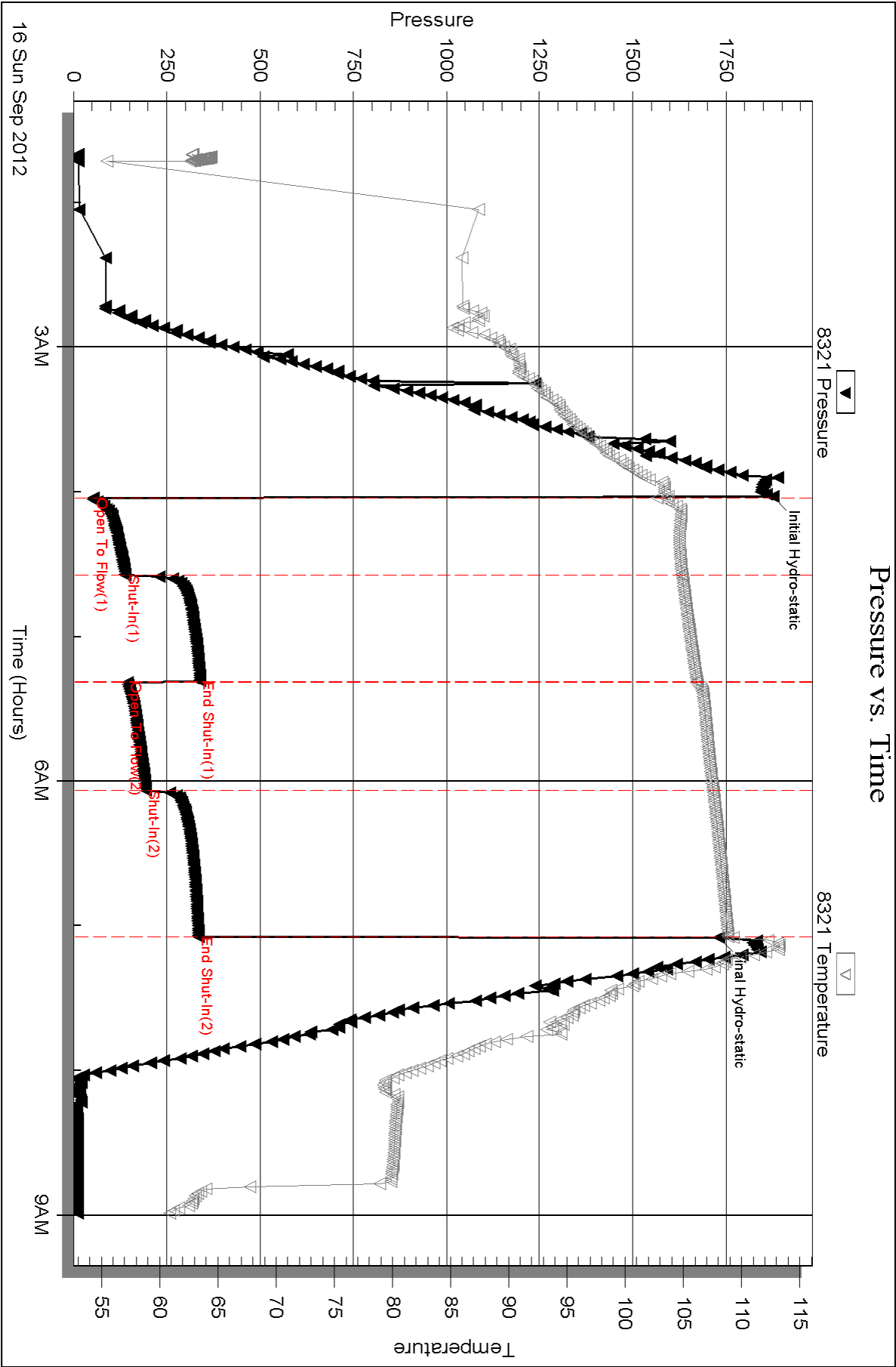
Serial #: 8321

Inside

Ritchie Exploration Inc.

Graul #1

DST Test Number: 3

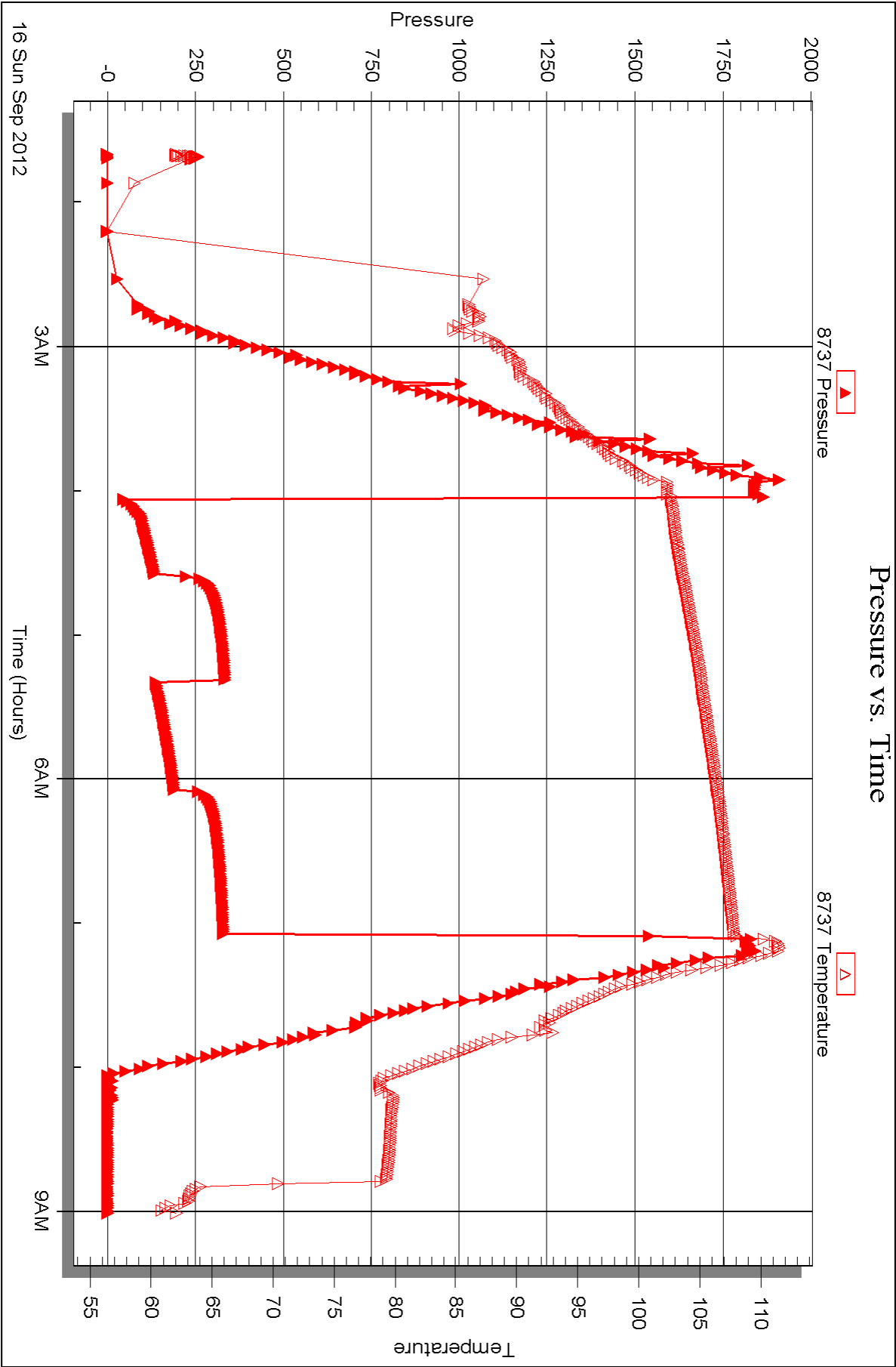


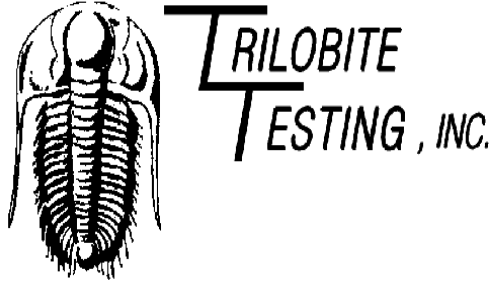
Serial #: 8737

Outside Ritchie Exploration Inc.

Graul #1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc.**

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

Graul #1

32-11s-22w Trego,KS

Start Date: 2012.09.16 @ 20:00:00

End Date: 2012.09.17 @ 02:21:30

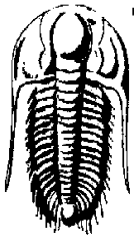
Job Ticket #: 49405 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.21 @ 10:21:38



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

32-11s-22w Trego,KS

Graul #1

Job Ticket: 49405

DST#: 4

Test Start: 2012.09.16 @ 20:00:00

GENERAL INFORMATION:

Formation: **LKC H-I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:56:00

Time Test Ended: 02:21:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Troy Leiker

Unit No: 44

Interval: 3815.00 ft (KB) To 3858.00 ft (KB) (TVD)

Total Depth: 3858.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2426.00 ft (KB)

2418.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8737 Outside

Press@RunDepth: 21.67 psig @ 3816.00 ft (KB)

Start Date: 2012.09.16

End Date:

2012.09.17

Start Time: 20:00:01

End Time:

02:21:30

Capacity: 8000.00 psig

Last Calib.: 2012.09.16

Time On Btm: 2012.09.16 @ 21:55:30

Time Off Btm: 2012.09.16 @ 23:57:00

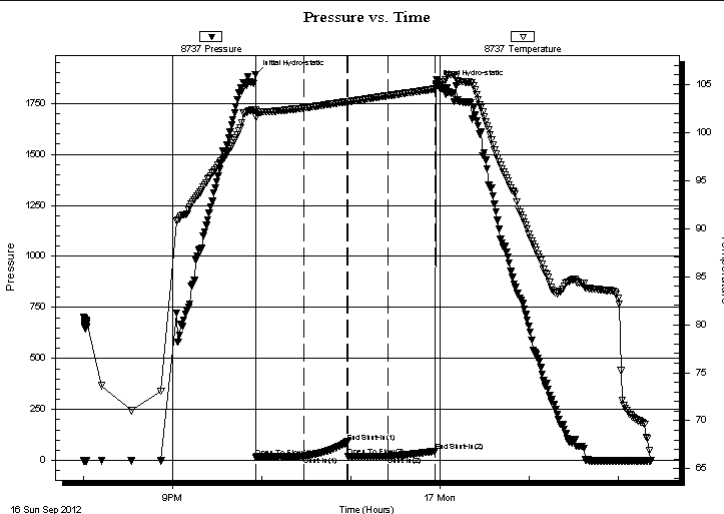
TEST COMMENT: IF 30 Weak Surface Blow , Died in 12 min.

IS 30 No Blow Back

FF 30 Small Surge, No Blow

FS 30 No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1891.91	102.32	Initial Hydro-static
1	17.40	101.57	Open To Flow (1)
33	21.70	102.55	Shut-In(1)
62	91.05	103.21	End Shut-In(1)
63	19.27	103.18	Open To Flow (2)
90	21.67	103.82	Shut-In(2)
121	45.02	104.52	End Shut-In(2)
122	1842.58	104.87	Final Hydro-static

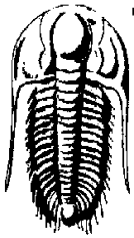
Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100% With a Few Spots of Oil on Tr	0.02

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

32-11s-22w Trego, KS

Graul #1

Job Ticket: 49405

DST#: 4

Test Start: 2012.09.16 @ 20:00:00

GENERAL INFORMATION:

Formation: **LKC H-I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:56:00

Time Test Ended: 02:21:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Troy Leiker

Unit No: 44

Interval: 3815.00 ft (KB) To 3858.00 ft (KB) (TVD)

Total Depth: 3858.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2426.00 ft (KB)

2418.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8321 Inside

Press@RunDepth: psig @ 3816.00 ft (KB)

Start Date: 2012.09.16

End Date:

2012.09.17

Start Time: 20:20:31

End Time:

02:19:00

Capacity: 8000.00 psig

Last Calib.: 1899.12.30

Time On Btm:

Time Off Btm:

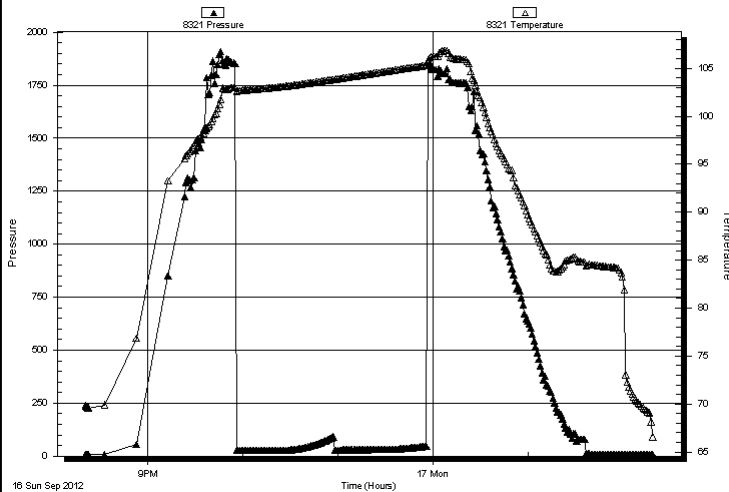
TEST COMMENT: IF 30 Weak Surface Blow , Died in 12 min.

IS 30 No Blow Back

FF 30 Small Surge, No Blow

FS 30 No Blow Back

Pressure vs. Time



PRESSURE SUMMARY

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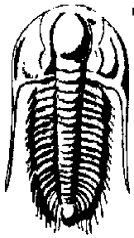
Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100% With a Few Spots of Oil on Tr0.02	

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 49405

DST#: 4

ATTN: Max Lovely

Test Start: 2012.09.16 @ 20:00:00

Tool Information

Drill Pipe:	Length:	3694.00 ft	Diameter:	3.80 inches	Volume:	51.82 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	122.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	45000.00 lb
					Total Volume:	52.42 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		28.00 ft					String Weight: Initial	35000.00 lb
Depth to Top Packer:		3815.00 ft					Final	35000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		43.00 ft						
Tool Length:		70.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				

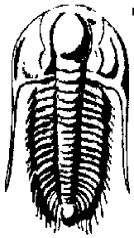
Tool Comments: Hit Bridge 30' From Bottom

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Change Over Sub	1.00			3789.00		
Shut In Tool	5.00			3794.00		
Hydraulic tool	5.00			3799.00		
Jars	5.00			3804.00		
Safety Joint	2.00			3806.00		
Packer	4.00			3810.00	27.00	Bottom Of Top Packer
Packer	5.00			3815.00		
Stubb	1.00			3816.00		
Recorder	0.00	8321	Inside	3816.00		
Recorder	0.00	8737	Outside	3816.00		
Perforations	39.00			3855.00		
Bullnose	3.00			3858.00	43.00	Bottom Packers & Anchor

Total Tool Length: 70.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 49405

DST#: 4

ATTN: Max Lovely

Test Start: 2012.09.16 @ 20:00:00

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: 45.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100% With a Few Spots of Oil on Top	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

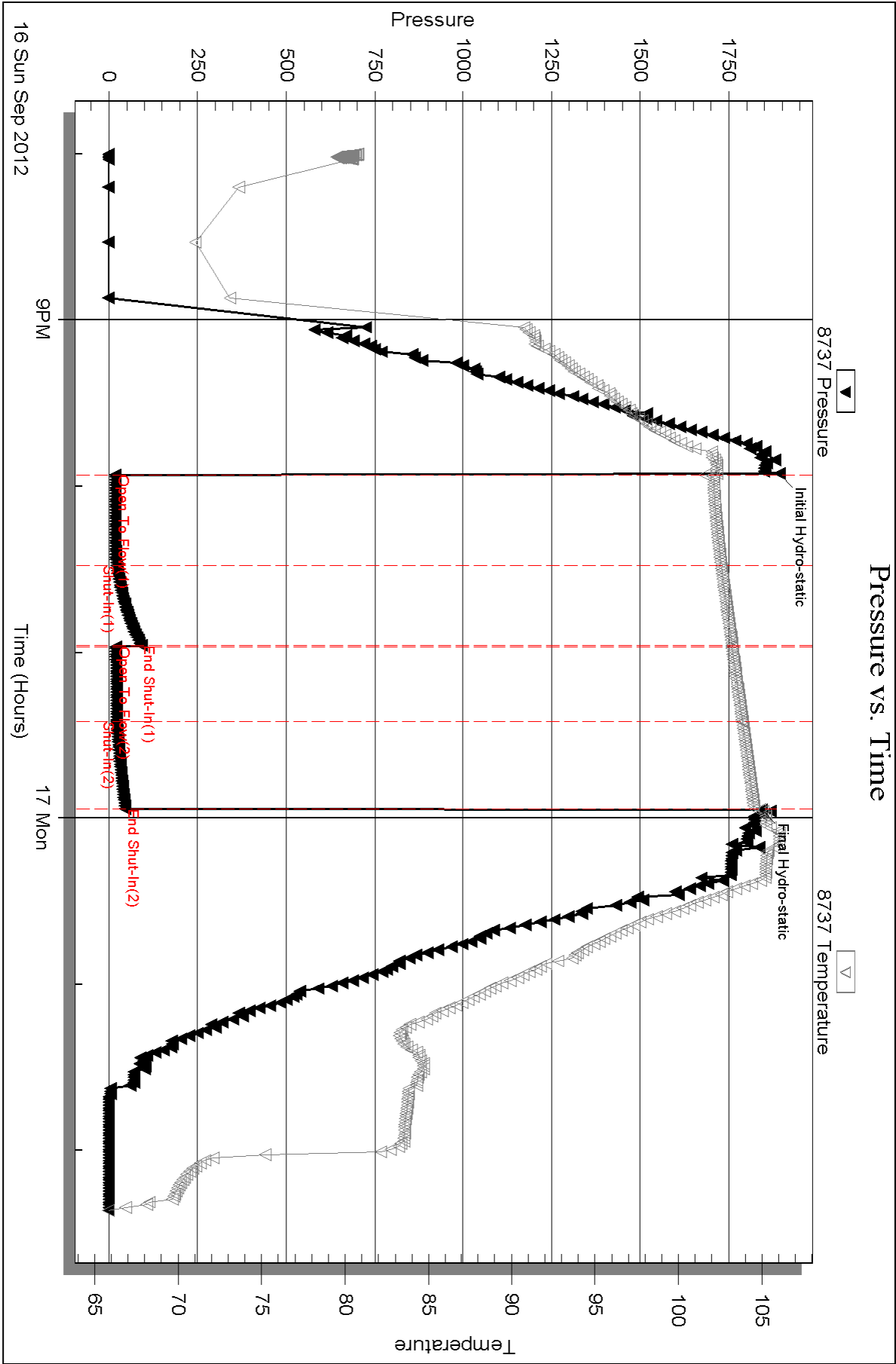
Recovery Comments:

Serial #: 8737

Outside Ritchie Exploration Inc.

Graul #1

DST Test Number: 4



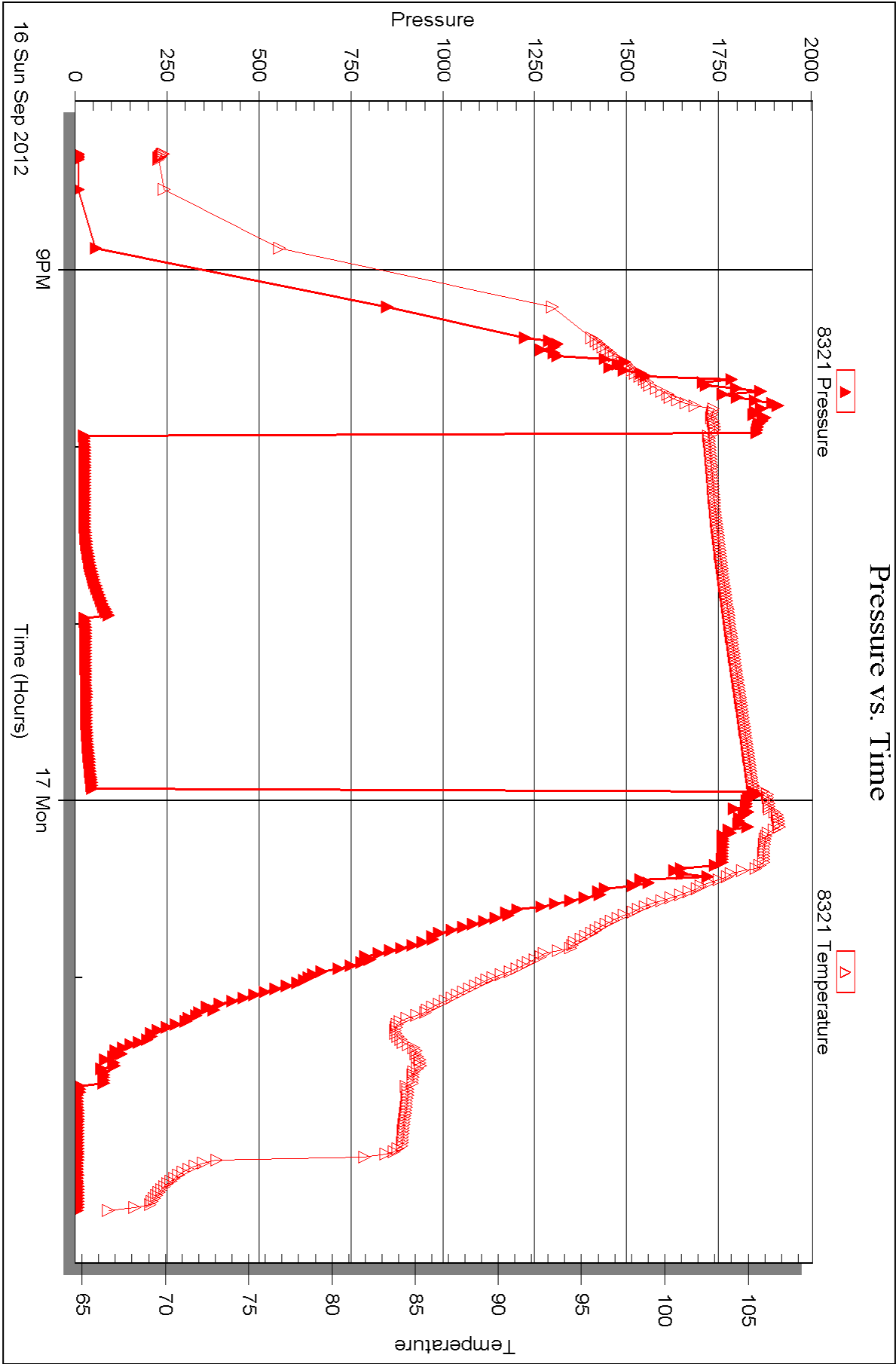
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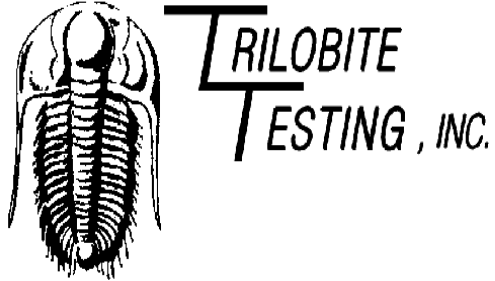
Inside

Ritchie Exploration Inc.

Graul #1

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc.**

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

Graul #1

32-11s-22w Trego,KS

Start Date: 2012.09.17 @ 14:36:32

End Date: 2012.09.17 @ 20:36:32

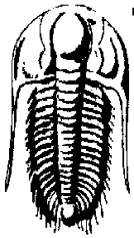
Job Ticket #: 48543 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.21 @ 10:20:49



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

32-11s-22w Trego, KS

Graul #1

Job Ticket: 48543

DST#: 5

Test Start: 2012.09.17 @ 14:36:32

GENERAL INFORMATION:

Formation: **LKC J-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:35:02

Time Test Ended: 20:36:32

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 44

Interval: 3861.00 ft (KB) To 3937.00 ft (KB) (TVD)

Total Depth: 3937.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2426.00 ft (KB)

2418.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8321 Inside

Press@RunDepth: 47.84 psig @ 3898.00 ft (KB)

Start Date: 2012.09.17

End Date:

2012.09.17

Start Time: 14:36:33

End Time:

20:34:32

Capacity: 8000.00 psig

Last Calib.: 2012.09.17

Time On Btm: 2012.09.17 @ 16:34:32

Time Off Btm: 2012.09.17 @ 18:36:02

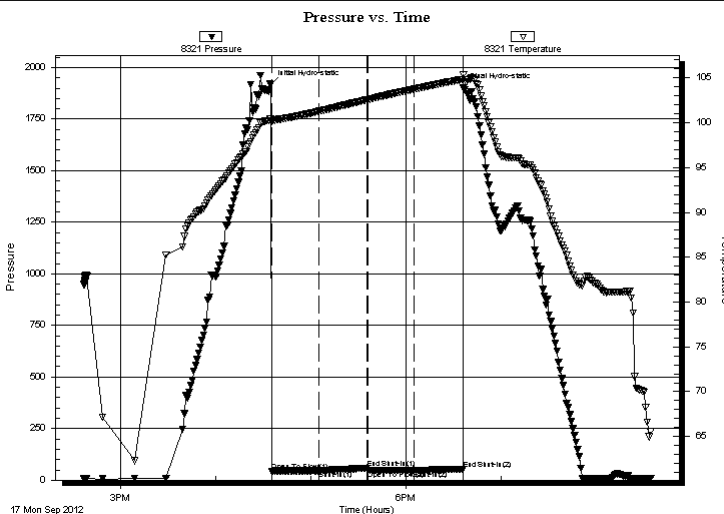
TEST COMMENT: IFP-Weak blow Died out in 13 min

ISI-Dead no blow back

FFP-Dead no blow

FSI-Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1917.04	100.41	Initial Hydro-static
1	44.08	100.14	Open To Flow (1)
31	45.95	101.29	Shut-In(1)
61	58.08	102.57	End Shut-In(1)
61	46.93	102.58	Open To Flow (2)
91	47.84	103.76	Shut-In(2)
121	53.00	104.85	End Shut-In(2)
122	1900.63	105.40	Final Hydro-static

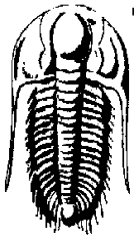
Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOCM 5%O 95%M	0.02

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

32-11s-22w Trego, KS

Graul #1

Job Ticket: 48543

DST#: 5

Test Start: 2012.09.17 @ 14:36:32

GENERAL INFORMATION:

Formation: **LKC J-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:35:02

Time Test Ended: 20:36:32

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 44

Interval: 3861.00 ft (KB) To 3937.00 ft (KB) (TVD)

Total Depth: 3937.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2426.00 ft (KB)

2418.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8737 Outside

Press@RunDepth: psig @ 3898.00 ft (KB)

Start Date: 2012.09.17

End Date:

2012.09.17

Start Time: 14:36:05

End Time:

20:36:04

Capacity: 8000.00 psig

Last Calib.: 2012.09.17

Time On Btm:

Time Off Btm:

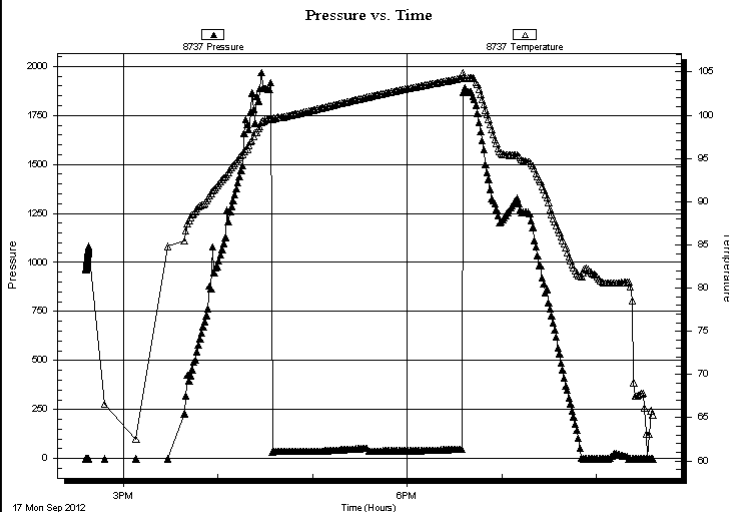
TEST COMMENT: IFP-Weak blow Died out in 13 min

ISI-Dead no blow back

FFP-Dead no blow

FSI-Dead no blow back

PRESSURE SUMMARY



Time
(Min.)

Pressure
(psig)

Temp
(deg F)

Annotation

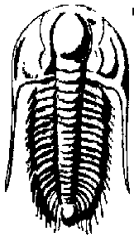
Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOCM 5%O 95%M	0.02

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 48543

DST#: 5

ATTN: Max Lovely

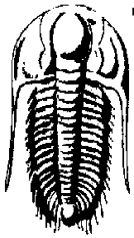
Test Start: 2012.09.17 @ 14:36:32

Tool Information

Drill Pipe:	Length:	3725.00 ft	Diameter:	3.80 inches	Volume:	52.25 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length:	122.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	44000.00 lb
					Total Volume:	52.85 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		14.00 ft					String Weight: Initial	38000.00 lb
Depth to Top Packer:		3861.00 ft					Final	38000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		76.00 ft						
Tool Length:		104.00 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			3834.00	
Shut In Tool	5.00			3839.00	
Hydraulic tool	5.00			3844.00	
Jars	5.00			3849.00	
Safety Joint	3.00			3852.00	
Packer	4.00			3856.00	28.00 Bottom Of Top Packer
Packer	5.00			3861.00	
Stubb	1.00			3862.00	
Perforations	3.00			3865.00	
Change Over Sub	1.00			3866.00	
Drill Pipe	31.00			3897.00	
Change Over Sub	1.00			3898.00	
Recorder	0.00	8321	Inside	3898.00	
Recorder	0.00	8737	Outside	3898.00	
Perforations	36.00			3934.00	
Bullnose	3.00			3937.00	76.00 Bottom Packers & Anchor
Total Tool Length:	104.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 48543

DST#: 5

ATTN: Max Lovely

Test Start: 2012.09.17 @ 14:36:32

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: 46.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	SOCM 5%O 95%M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

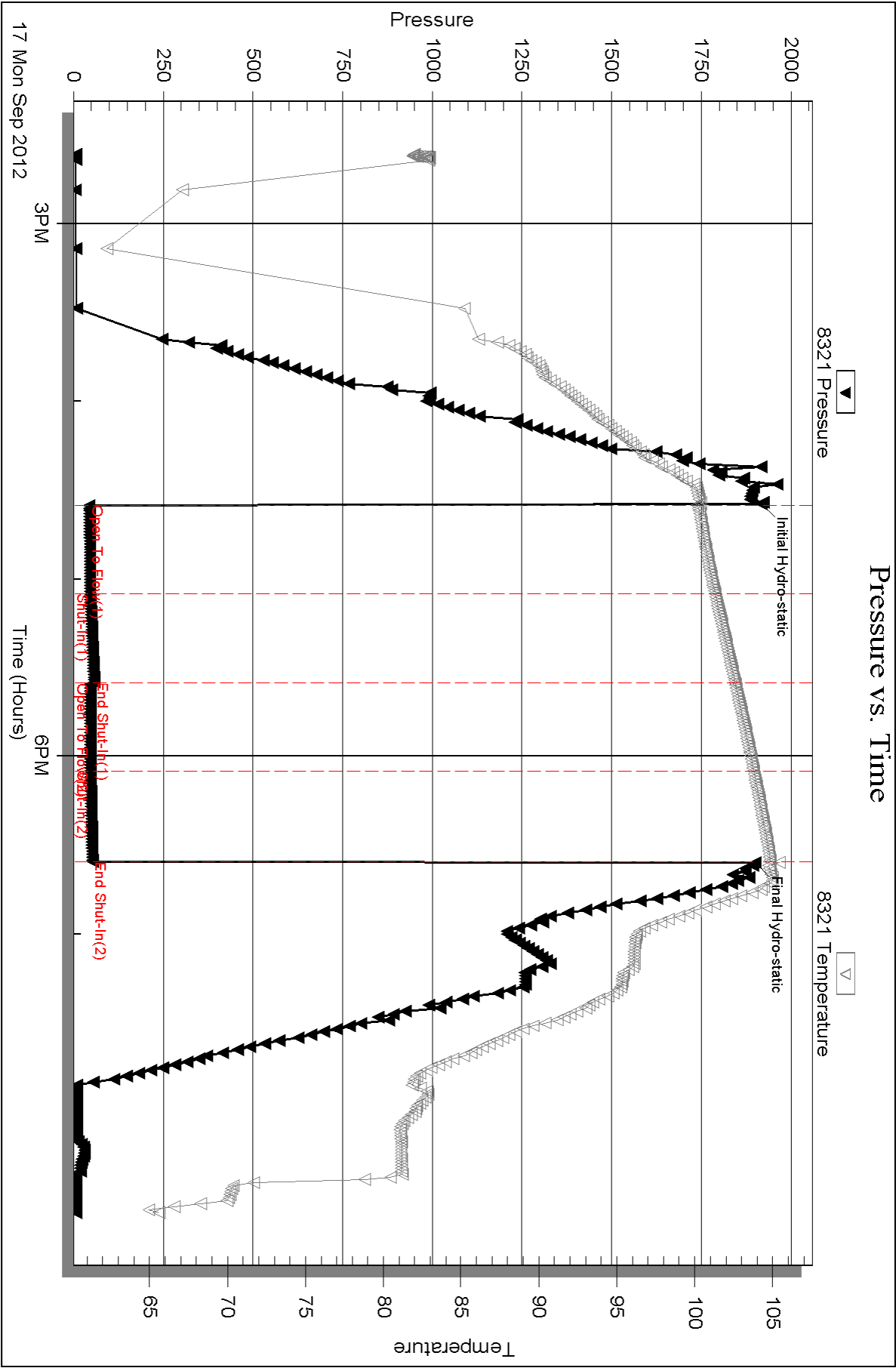
Serial #: 8321

Inside

Ritchie Exploration Inc.

Graul #1

DST Test Number: 5

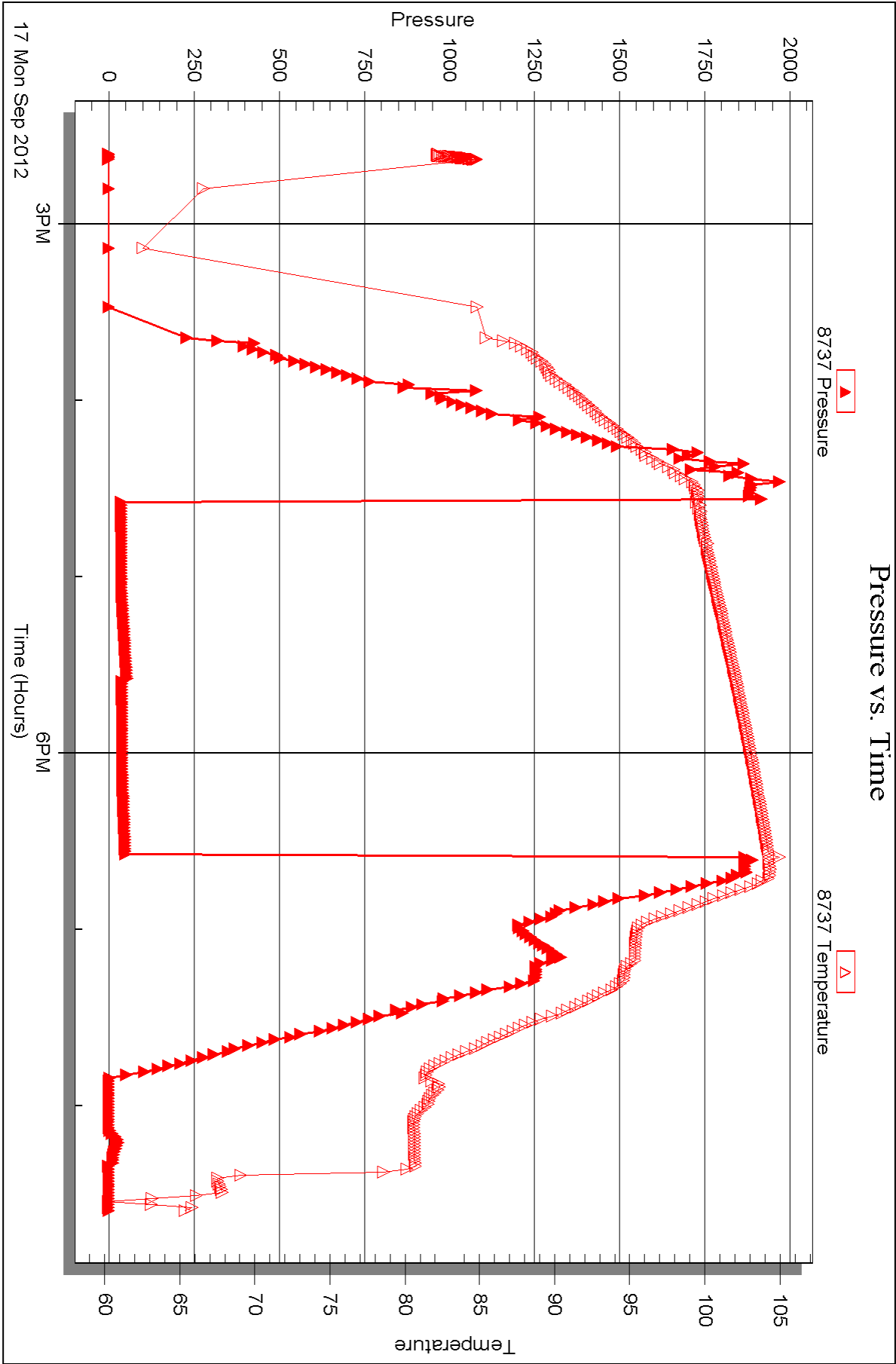


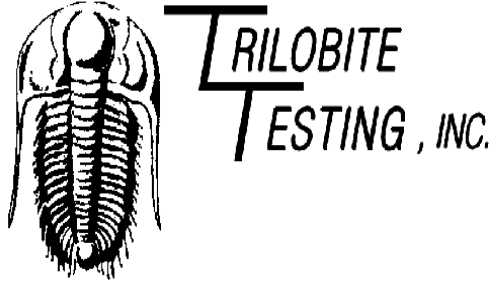
Serial #: 8737

Outside Ritchie Exploration Inc.

Graul #1

DST Test Number: 5





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc.**

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

Graul #1

32-11s-22w Trego,KS

Start Date: 2012.09.18 @ 10:48:47

End Date: 2012.09.18 @ 17:45:17

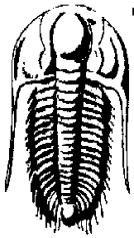
Job Ticket #: 48544 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.09.21 @ 10:19:47



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

32-11s-22w Trego, KS

Graul #1

Job Ticket: 48544

DST#: 6

Test Start: 2012.09.18 @ 10:48:47

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:47:47

Time Test Ended: 17:45:17

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 44

Interval: 4022.00 ft (KB) To 4061.00 ft (KB) (TVD)

Reference Elevations: 2426.00 ft (KB)

Total Depth: 4061.00 ft (KB) (TVD)

2418.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8321 Inside

Press@RunDepth: 45.05 psig @ 4025.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.09.18

End Date:

2012.09.18

Last Calib.: 2012.09.18

Start Time: 10:48:48

End Time:

17:43:17

Time On Btm: 2012.09.18 @ 12:47:17

Time Off Btm: 2012.09.18 @ 16:06:17

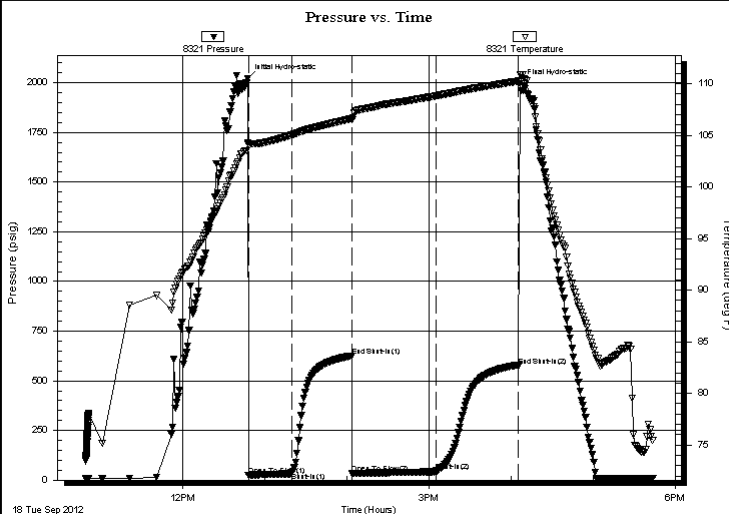
TEST COMMENT: IFP-Weak blow built to 1/2"

ISI-Dead no blow back

FFP-Dead no blow

FSI-Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2021.00	104.30	Initial Hydro-static
1	25.20	104.11	Open To Flow (1)
33	39.58	105.06	Shut-In(1)
76	625.26	106.62	End Shut-In(1)
77	33.55	106.50	Open To Flow (2)
138	45.05	108.82	Shut-In(2)
198	576.27	110.25	End Shut-In(2)
199	1997.77	110.89	Final Hydro-static

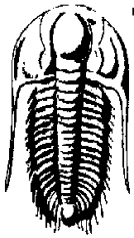
Recovery

Length (ft)	Description	Volume (bbl)
20.00	SOCM 5%O 95%M	0.10
2.00	Free Oil	0.01

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration Inc.

PO Box 783188
Wichita, KS 67278-3188

ATTN: Max Lovely

32-11s-22w Trego,KS

Graul #1

Job Ticket: 48544

DST#: 6

Test Start: 2012.09.18 @ 10:48:47

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:47:47

Time Test Ended: 17:45:17

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 44

Interval: 4022.00 ft (KB) To 4061.00 ft (KB) (TVD)

Reference Elevations: 2426.00 ft (KB)

Total Depth: 4061.00 ft (KB) (TVD)

2418.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8737 Outside

Press@RunDepth: psig @ 4025.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.09.18

End Date:

2012.09.18

Last Calib.:

2012.09.18

Start Time: 10:48:20

End Time:

17:44:19

Time On Btm:

Time Off Btm:

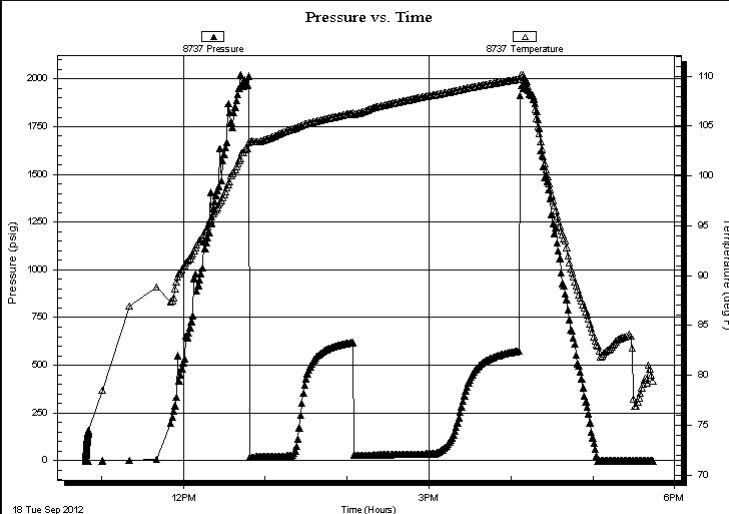
TEST COMMENT: IFP-Weak blow built to 1/2"

ISI-Dead no blow back

FFP-Dead no blow

FSI-Dead no blow back

PRESSURE SUMMARY



Time
(Min.)

Pressure
(psig)

Temp
(deg F)

Annotation

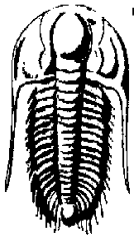
Recovery

Length (ft)	Description	Volume (bbl)
20.00	SOCM 5%O 95%M	0.10
2.00	Free Oil	0.01

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 48544

DST#: 6

ATTN: Max Lovely

Test Start: 2012.09.18 @ 10:48:47

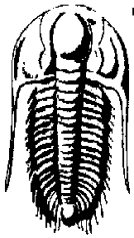
Tool Information

Drill Pipe:	Length:	3880.00 ft	Diameter:	3.80 inches	Volume:	54.43 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length:	122.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	44000.00 lb
					Total Volume:	55.03 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		7.00 ft					String Weight: Initial	39000.00 lb
Depth to Top Packer:		4022.00 ft					Final	39000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		39.00 ft						
Tool Length:		66.00 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			3996.00	
Shut In Tool	5.00			4001.00	
Hydraulic tool	5.00			4006.00	
Jars	5.00			4011.00	
Safety Joint	2.00			4013.00	
Packer	4.00			4017.00	27.00 Bottom Of Top Packer
Packer	5.00			4022.00	
Stubb	1.00			4023.00	
Perforations	2.00			4025.00	
Recorder	0.00	8321	Inside	4025.00	
Recorder	0.00	8737	Outside	4025.00	
Perforations	33.00			4058.00	
Bullnose	3.00			4061.00	39.00 Bottom Packers & Anchor

Total Tool Length: 66.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration Inc.

32-11s-22w Trego,KS

PO Box 783188
Wichita, KS 67278-3188

Graul #1

Job Ticket: 48544

DST#: 6

ATTN: Max Lovely

Test Start: 2012.09.18 @ 10:48:47

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 7.99 in³

Resistivity: ohm.m

Salinity: 4300.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	SOCM 5%O 95%M	0.098
2.00	Free Oil	0.010

Total Length: 22.00 ft

Total Volume: 0.108 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

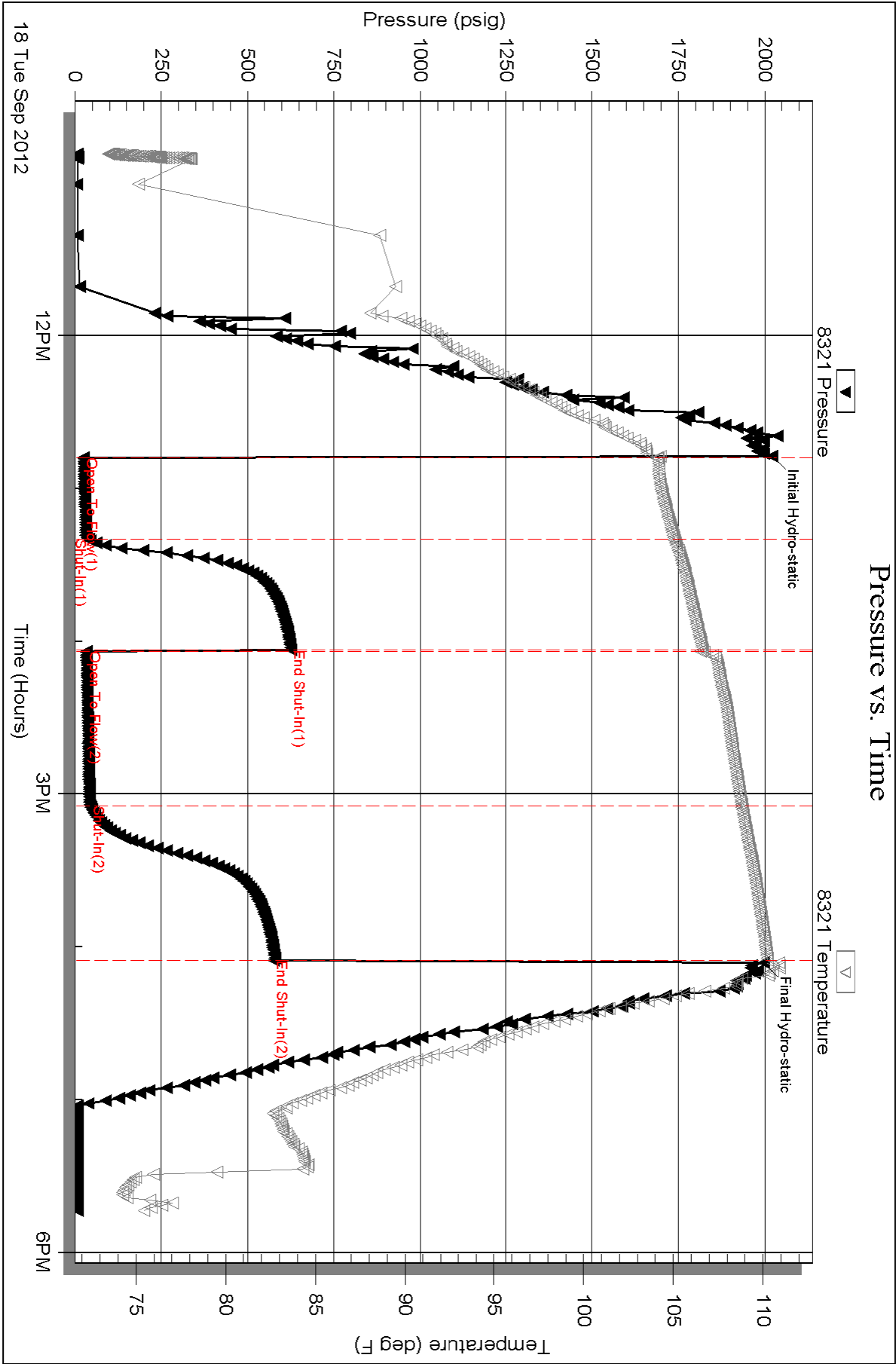
Serial #: 8321

Inside

Ritchie Exploration Inc.

Graul #1

DST Test Number: 6

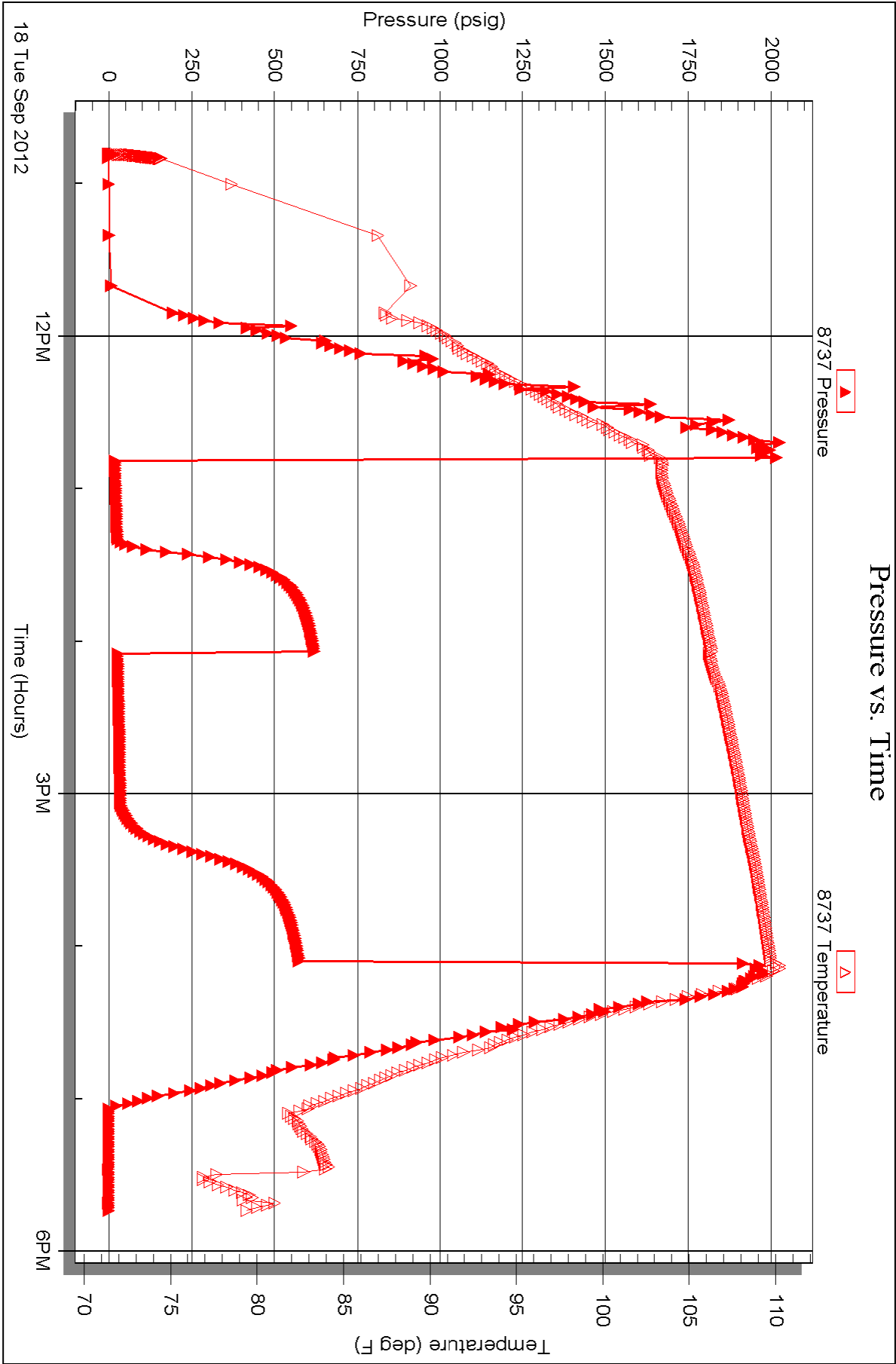


Serial #: 8737

Outside Ritchie Exploration Inc.

Graul #1

DST Test Number: 6





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49402

Well Name & No. Gravel #1 Test No. 1 Date 9-14-12
 Company Ritchie Exploration Inc. Elevation 2426 KB 2418 GL
 Address P.O. Box 783188 Wichita, Ks. 67278-3188
 Co. Rep / Geo. Max Lovely Rig WW Drlg Rig # 12
 Location: Sec. 32 Twp. 11S Rge. 22W Co. Trego State KS.

Interval Tested 3590' - 3619' Zone Tested Oread ~~Range~~ A & B
 Anchor Length 29' Drill Pipe Run 3455 Mud Wt. 9.1
 Top Packer Depth 3421 Drill Collars Run 122 Vis 46
 Bottom Packer Depth 3426 Wt. Pipe Run 0 WL 7.6
 Total Depth 3619 Chlorides 3800 ppm System LCM 2

Blow Description IF - Fair Increasing Blow to Bottom of BKT in 25min.
IS - NO Blow Back
FF - Fair Increasing Blow to 8" in BKT.
FS - NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>315</u>	<u>Muddy Water</u>		<u>90</u>	<u>10</u>	
	<u>With Scum of oil on Top</u>				

Rec Total 315' BHT 110° Gravity _____ API RW 1.86 @ 67 °F Chlorides 1400 ppm
 (A) Initial Hydrostatic 1815 ☒ Test 1150 T-On Location 2:00 pm
 (B) First Initial Flow 31 ☒ Jars 250 T-Started 4:15 pm
 (C) First Final Flow 121 ☒ Safety Joint 75 T-Open 6:15 pm
 (D) Initial Shut-In 994 ☐ Circ Sub _____ T-Pulled 9:15 pm
 (E) Second Initial Flow 125 ☐ Hourly Standby _____ T-Out 11:07 pm
 (F) Second Final Flow 196 ☒ Mileage 41x2 Hays 127.10 Comments _____
 (G) Final Shut-In 984 ☐ Sampler _____
 (H) Final Hydrostatic 1679 ☐ Straddle _____
☐ Shale Packer _____
☐ Extra Packer _____
☐ Extra Recorder _____
☐ Day Standby _____
☐ Accessibility _____

Initial Open 30
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 60

☐ Ruined Shale Packer _____
☐ Ruined Packer _____
☐ Extra Copies _____
 Sub Total 0
 Total 1602.10
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49403

Well Name & No. Graul #1 Test No. 2 Date 9-15-12
 Company Ritchie Exploration Inc. Elevation 2426 KB 2418 GL
 Address P.O. Box 783188 Wichita, KS. 67278-3188
 Co. Rep / Geo. Max Lovely Rig WW Drlg. Rig #12
 Location: Sec. 32 Twp. 11 S Rge. 22 W Co. Trego State Ks.

Interval Tested 3642 - 3710 Zone Tested Toronto / Lansing
 Anchor Length 68' Drill Pipe Run 3511 Mud Wt. 9.4
 Top Packer Depth 3639 Drill Collars Run 122 Vis 40
 Bottom Packer Depth 3642 Wt. Pipe Run 0 WL 8.8
 Total Depth 3710 Chlorides 4,200 ppm System LCM 2

Blow Description IF - Weak Surface Blow, Died in 5 min.

IS - no Blow Back

FF - Small Surge when Tool opened, no Blow

FS - no Blow Back

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

Rec Total 5' BHT 102° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1806
 (B) First Initial Flow 59
 (C) First Final Flow 59
 (D) Initial Shut-In 506
 (E) Second Initial Flow 56
 (F) Second Final Flow 63
 (G) Final Shut-In 456
 (H) Final Hydrostatic 1766

☒ Test 1150
☒ Jars NO charge
☒ Safety Joint 75
☐ Circ Sub
☐ Hourly Standby
☒ Mileage 41x2 127.10 Hays
☐ Sampler
☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
 Sub Total 1352.10

T-On Location 9:45 AM
 T-Started 10:20 AM
 T-Open 12:25 PM
 T-Pulled 2:25 PM
 T-Out 4:05 PM
 Comments _____

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

☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
 Sub Total 0
 Total 1352.10
 MP/DST Disc't _____

Approved By _____

Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49404

Well Name & No. Granl #1 Test No. 3 Date 9-16-12
 Company Ritchie Exploration INC Elevation 2426 KB 2418 GL
 Address P.O. Box 783188 Wichita, Ks. 67278-3188
 Co. Rep / Geo. Max Lovely Rig WW Drilg. Rig #12
 Location: Sec. 32 Twp. 11S Rge. 22 W Co. Trego State Ks.

Interval Tested 3741-3787 Zone Tested Lansing D, E, F
 Anchor Length 46' Drill Pipe Run 3601 Mud Wt. 9.4
 Top Packer Depth 3736 Drill Collars Run 122 Vis 40
 Bottom Packer Depth 3741 Wt. Pipe Run 0 WL 8.8
 Total Depth 3787 Chlorides 4,200 ppm System LCM 2

Blow Description IF - Fair Increasing Blow, OFF Bottom in 21 min.
IS - NO Blow Back
FF - Fair Blow, Increased to 5" in DRT.
FS - NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>15'</u>	<u>Muddy Water</u>			<u>55</u>	<u>45</u>
<u>315'</u>	<u>Muddy Water</u>			<u>60</u>	<u>40</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 325' BHT 108° Gravity API RW .456 @ 63 °F Chlorides 18,000 ppm
 (A) Initial Hydrostatic 1875 ☒ Test 1150 T-On Location 12:15
 (B) First Initial Flow 53 ☒ Jars NO Change T-Started 1:40 AM
 (C) First Final Flow 139 ☒ Safety Joint 75 T-Open 4:25 AM
 (D) Initial Shut-In 339 ☐ Circ Sub T-Pulled 7:25 AM
 (E) Second Initial Flow 145 ☐ Hourly Standby T-Out 9:20 AM
 (F) Second Final Flow 194 ☒ Mileage 41x2 Hays 127.10 Comments
 (G) Final Shut-In 334 ☐ Sampler
 (H) Final Hydrostatic 1731 ☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility

Initial Open 30
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 60

☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
 Sub Total 0
 Total 1352.10
 MP/DST Disc't

Approved By Our Representative

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 49405

Well Name & No. Granl #1 Test No. 4 Date 9-16-12
 Company Ritchie Exploration Inc. Elevation 2426 KB 2418 GL
 Address P.O. Box 783188 Wichita, Ks. 67278-3188
 Co. Rep / Geo. Max Lovely Rig WW Drlg. R.9 #12
 Location: Sec. 32 Twp. 11 S Rge. 22 W Co. Trego State KS.

Interval Tested 38-15 - 3858 Zone Tested Lansing KC H & I
 Anchor Length 43' Drill Pipe Run 3694 Mud Wt. 9.4
 Top Packer Depth 3810 Drill Collars Run 122 Vis 45
 Bottom Packer Depth 3815 Wt. Pipe Run 0 WL 7.6
 Total Depth 3858 Chlorides 4,800 ppm System LCM 2

Blow Description IF - Weak Surface Blow, Died in 12 min.
IS - NO Blow Back
FF - Small Surge when Tool opened NO Blow
FS - NO Blow Back

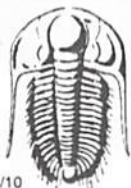
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud with spots of oil</u>			<u>100</u>	

Rec Total 5' BHT 104° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1891</u>	☒ Test <u>1150</u>	T-On Location <u>6:45 pm</u>
(B) First Initial Flow <u>17</u>	☒ Jars <u>NO charge</u>	T-Started <u>8:00 pm</u>
(C) First Final Flow <u>21</u>	☒ Safety Joint <u>75</u>	T-Open <u>9:55 pm</u>
(D) Initial Shut-In <u>91</u>	☐ Circ Sub _____	T-Pulled <u>11:55 pm</u>
(E) Second Initial Flow <u>19</u>	☐ Hourly Standby _____	T-Out <u>2:20 am</u>
(F) Second Final Flow <u>21</u>	☒ Mileage <u>41x2 Hays</u> 127.10	Comments <u>Hit Bridge 30'</u>
(G) Final Shut-In <u>45</u>	☐ Sampler _____	<u>from Bottom.</u>
(H) Final Hydrostatic <u>1842</u>	☐ Straddle _____	

Initial Open <u>30</u>	☐ Shale Packer _____	☐ Ruined Shale Packer _____
Initial Shut-In <u>30</u>	☐ Extra Packer _____	☐ Ruined Packer _____
Final Flow <u>30</u>	☐ Extra Recorder _____	☐ Extra Copies _____
Final Shut-In <u>30</u>	☐ Day Standby _____	Sub Total <u>0</u>
	☐ Accessibility _____	Total <u>1352.10</u>
	Sub Total <u>1352.10</u>	MP/DST Disc't _____

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48543

Well Name & No. Graw #1 Test No. 5 Date 9-17-12
 Company RITCHIE EXPLORATION, INC Elevation 2426 KB 2418 GL
 Address PO Box 783188 Wichita KS 67218-3188
 Co. Rep / Geo. Max Love Ly Rig WW #12
 Location: Sec. 32 Twp. 11S Rge. 22W Co. Trego State Ks

Interval Tested 3841 - 3937 Zone Tested LKC - J, K, L
 Anchor Length 76 Drill Pipe Run 3725 Mud Wt. 9.3
 Top Packer Depth 3856 Drill Collars Run 122 Vis 46
 Bottom Packer Depth 3841 Wt. Pipe Run 0 WL 8.0
 Total Depth 3937 Chlorides 4700 ppm System LCM 2

Blow Description TFP-Weak Blow DIED OUT IN 13 min

IST-Dead No Blow Back

FFP-Dead No Blow

FSI-Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>SOCM</u>		<u>5</u>		<u>95</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 105 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1917
 (B) First Initial Flow 44
 (C) First Final Flow 46
 (D) Initial Shut-In 58
 (E) Second Initial Flow 47
 (F) Second Final Flow 48
 (G) Final Shut-In 53
 (H) Final Hydrostatic 1901

☒ Test 1150
☐ Jars _____
☒ Safety Joint 75
☐ Circ Sub _____
☐ Hourly Standby _____
☒ Mileage 82 127.10 RT
☐ Sampler _____
☐ Straddle _____
☐ Shale Packer _____
☐ Extra Packer _____
☐ Extra Recorder _____
☐ Day Standby _____
☐ Accessibility _____
 Sub Total 1352.10

T-On Location 14:20
 T-Started 14:36
 T-Open 16:35
 T-Pulled 18:35
 T-Out 20:36
 Comments _____
☐ Ruined Shale Packer _____
☐ Ruined Packer _____
☐ Extra Copies _____
 Sub Total 0
 Total 1352.10
 MP/DST Disc't _____

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

Approved By _____

Our Representative Jeff Brown

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 48544

Well Name & No. Graul #1 Test No. 6 Date 9-18-12
 Company Ritchie Exploration INC Elevation 2426 KB 2418 GL
 Address PO Box 783188 Wichita KS 67278-3188
 Co. Rep / Geo. Max Lovely Rig LW 12
 Location: Sec. 32 Twp. 11s Rge. 22W Co. Trego State KS

Interval Tested 4022-4041 Zone Tested Marmaton
 Anchor Length 39 Drill Pipe Run 3880 Mud Wt. 9.4
 Top Packer Depth 4017 Drill Collars Run 122 Vis 48
 Bottom Packer Depth 4022 Wt. Pipe Run 0 WL 8.0
 Total Depth 4041 Chlorides 4300 ppm System LCM 2

Blow Description TFP-Weak Blow Built to 1/2 IN

ISI-Dead NO Blow Back

TFP-Dead NO Blow

ESI-Dead NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>SOCM</u>	<u>5</u>	<u>5</u>	<u>95</u>	<u>5</u>
<u>2</u>	<u>Free oil</u>	<u>100</u>	<u>100</u>	<u>0</u>	<u>0</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 22 BHT 110 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2021 ☒ Test 1250
 (B) First Initial Flow 25 ☐ Jars _____
 (C) First Final Flow 40 ☒ Safety Joint 75
 (D) Initial Shut-In 425 ☐ Circ Sub _____
 (E) Second Initial Flow 34 ☐ Hourly Standby _____
 (F) Second Final Flow 45 ☒ Mileage 127.10
 (G) Final Shut-In 5740 ☐ Sampler _____
 (H) Final Hydrostatic 1998 ☐ Straddle _____

T-On Location 10:13
 T-Started 10:48
 T-Open 12:50
 T-Pulled 16:05
 T-Out 17:45

Comments _____

Initial Open 30
 Initial Shut-In 45
 Final Flow 400
 Final Shut-In 400

☐ Ruined Shale Packer _____
☒ Ruined Packer 320
☐ Extra Copies _____
 Sub Total 320
 Total 1772.10
 MP/DST Disc't _____
 Sub Total 1452.10

Approved By _____

Our Representative Jeff Brown

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