



DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt #1-12**

PO Box 47
Great Bend, KS 67530

ATTN: Pat Deenihan

Lipp-Harvey #1-12

12-14s-26w Gove,KS

Start Date: 2015.08.15 @ 15:45:00

End Date: 2015.08.15 @ 20:32:15

Job Ticket #: 64710 DST #: 1

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

Printed: 2015.08.20 @ 10:22:46



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Carmen Schmitt #1-12
PO Box 47
Great Bend, KS 67530
ATTN: Pat Deenihan

12-14s-26w Gove, KS
Lipp-Harvey #1-12
Job Ticket: 64710 **DST#: 1**
Test Start: 2015.08.15 @ 15:45:00

GENERAL INFORMATION:

Formation: **KC "H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:21:45
Time Test Ended: 20:32:15
Interval: **3890.00 ft (KB) To 3917.00 ft (KB) (TVD)**
Total Depth: 3917.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 2464.00 ft (KB)
2459.00 ft (CF)
KB to GR/CF: 5.00 ft
Test Type: Conventional Bottom Hole (Initial)
Tester: Brett Dickinson
Unit No: 81

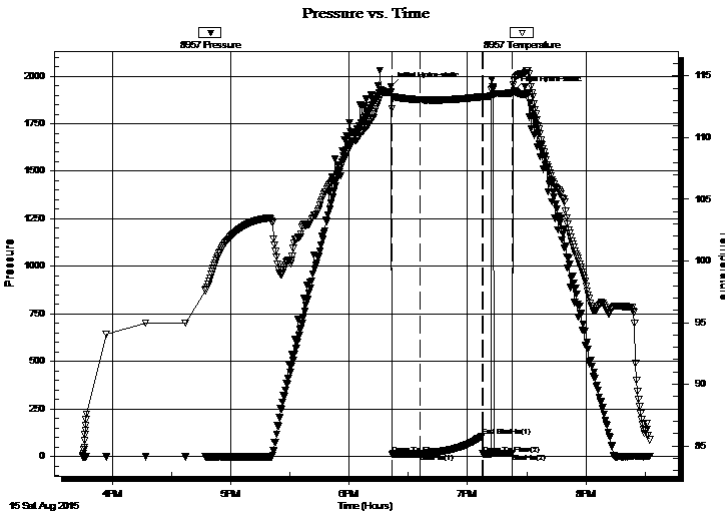
Serial #: 8957

Inside

Press@RunDepth: 14.23 psig @ 3891.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.08.15 End Date: 2015.08.15 Last Calib.: 2015.08.15
Start Time: 15:45:05 End Time: 20:32:14 Time On Btm: 2015.08.15 @ 18:21:15
Time Off Btm: 2015.08.15 @ 19:23:45

TEST COMMENT: IF-Very Weak Surface blow died in 7 min
IS-No blow
FF-No blow Flush tool Surge No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1945.05	113.70	Initial Hydro-static
1	11.97	112.36	Open To Flow (1)
15	14.23	113.07	Shut-In(1)
46	107.01	113.32	End Shut-In(1)
47	13.88	113.30	Open To Flow (2)
62	14.67	113.63	Shut-In(2)
63	1921.52	114.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt #1-12

12-14s-26w Gove,KS

PO Box 47
Great Bend, KS 67530

Lipp-Harvey #1-12

Job Ticket: 64710

DST#: 1

ATTN: Pat Deenihan

Test Start: 2015.08.15 @ 15:45:00

Tool Information

Drill Pipe:	Length: 3865.00 ft	Diameter: 3.80 inches	Volume: 54.22 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	49000.00 lb
Drill Pipe Above KB:	25.00 ft			Final	49000.00 lb
Depth to Top Packer:	3890.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	27.00 ft				
Tool Length:	47.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3875.00	
Hydraulic tool	5.00			3880.00	
Packer	5.00			3885.00	20.00 Bottom Of Top Packer
Packer	5.00			3890.00	
Packer - Shale	0.00			3890.00	
Stubb	1.00			3891.00	
Recorder	0.00	8957	Inside	3891.00	
Recorder	0.00	8736	Outside	3891.00	
Perforations	23.00			3914.00	
Bullnose	3.00			3917.00	27.00 Bottom Packers & Anchor
Total Tool Length:	47.00				



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt #1-12

12-14s-26w Gove,KS

PO Box 47
Great Bend, KS 67530

Lipp-Harvey #1-12

Job Ticket: 64710

DST#: 1

ATTN: Pat Deenihan

Test Start: 2015.08.15 @ 15:45:00

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: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

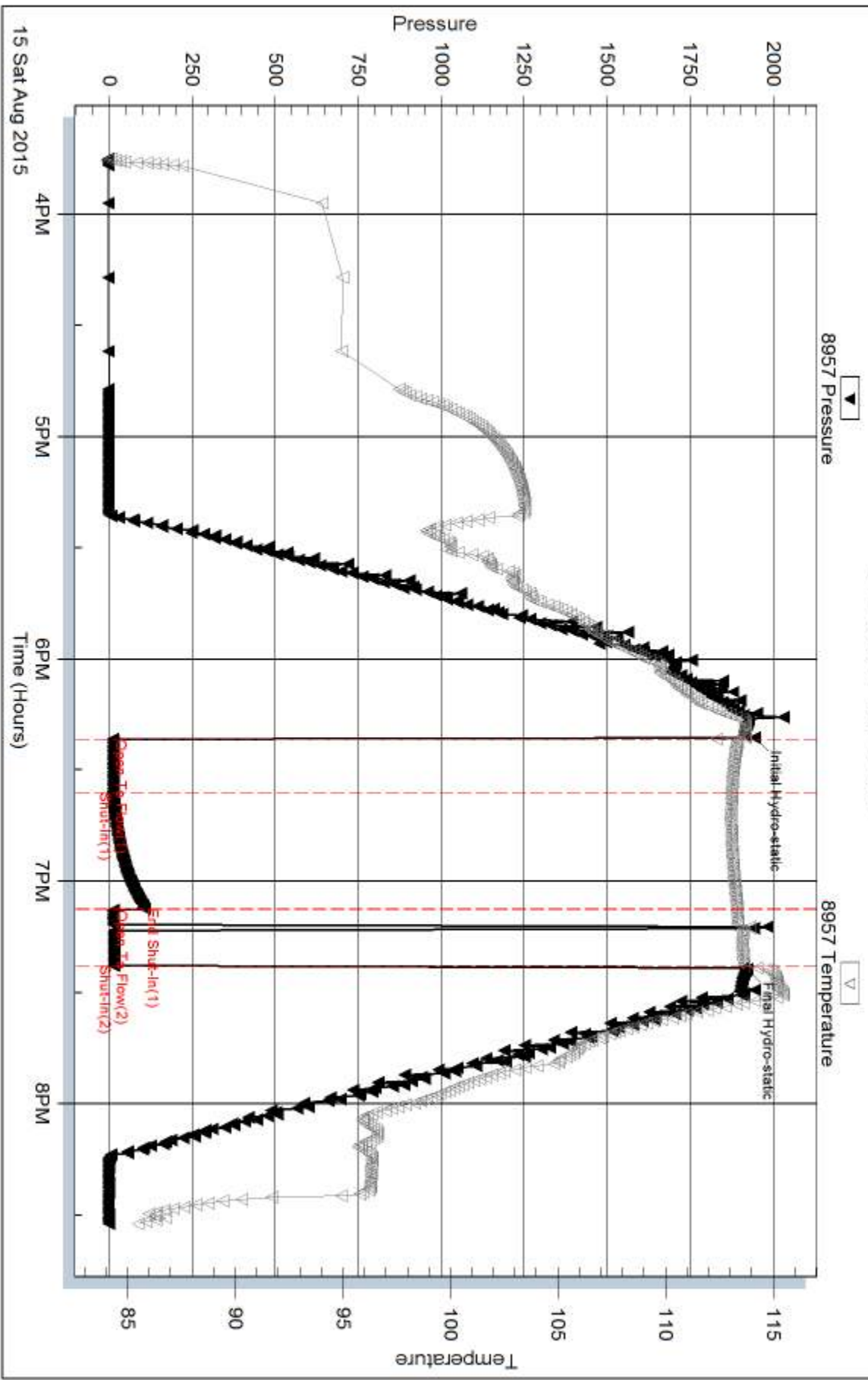
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

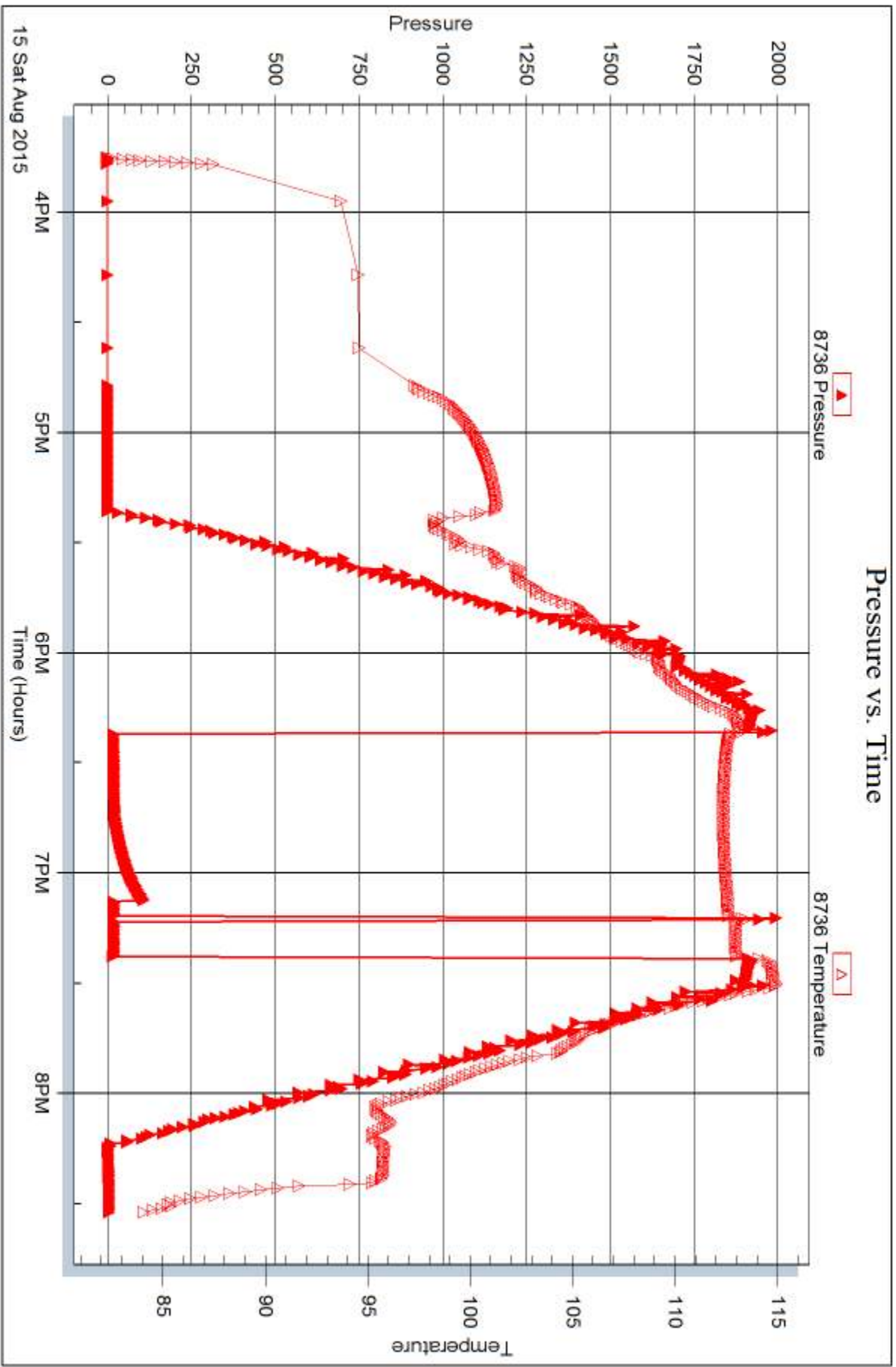


Serial #: 8736

Outside Carmen Schnitt #1-12

Lipp-Harvey #1-12

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt #1-12**

PO Box 47
Great Bend, KS 67530

ATTN: Pat Deenihan

Lipp-Harvey #1-12

12-14s-26w Gove,KS

Start Date: 2015.08.16 @ 09:00:00

End Date: 2015.08.16 @ 15:34:15

Job Ticket #: 64712 DST #: 2

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

Printed: 2015.08.20 @ 10:22:24



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Carmen Schmitt #1-12
PO Box 47
Great Bend, KS 67530
ATTN: Pat Deenihan

12-14s-26w Gove,KS
Lipp-Harvey #1-12
Job Ticket: 64712 **DST#: 2**
Test Start: 2015.08.16 @ 09:00:00

GENERAL INFORMATION:

Formation: **KC"K"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 11:14:00 Tester: Brett Dickinson
Time Test Ended: 15:34:15 Unit No: 81
Interval: 3967.00 ft (KB) To 3994.00 ft (KB) (TVD) Reference Elevations: 2464.00 ft (KB)
Total Depth: 3994.00 ft (KB) (TVD) 2459.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

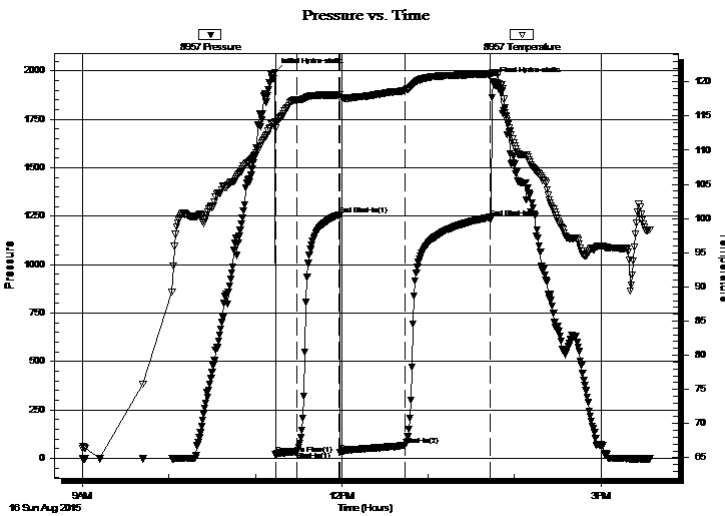
Serial #: 8957

Inside

Press@RunDepth: 67.05 psig @ 3968.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.08.16 End Date: 2015.08.16 Last Calib.: 2015.08.16
Start Time: 09:00:05 End Time: 15:34:14 Time On Btm: 2015.08.16 @ 11:13:30
Time Off Btm: 2015.08.16 @ 13:44:45

TEST COMMENT: IF-BOB in 15 min
IS-No Blow
FF-BOB in 7 min
FS-No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1992.74	114.09	Initial Hydro-static
1	18.65	113.25	Open To Flow (1)
16	35.14	117.35	Shut-In(1)
45	1257.54	118.06	End Shut-In(1)
46	31.61	117.68	Open To Flow (2)
91	67.05	118.77	Shut-In(2)
150	1244.44	121.08	End Shut-In(2)
152	1942.66	121.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
115.00	SGMCO 15%G 55%O 30%M	1.34
25.00	SGO 10%G 90%O	0.35
0.00	580ft GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt #1-12
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 Great Bend, KS 67530
 ATTN: Pat Deenihan

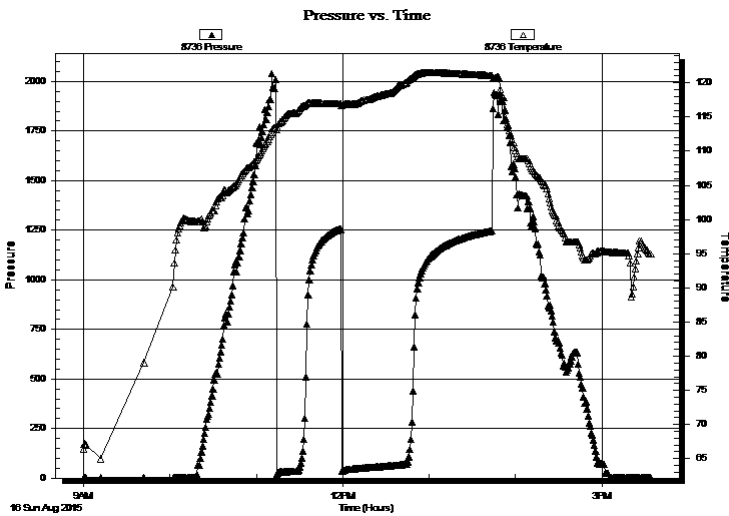
12-14s-26w Gove,KS
Lipp-Harvey #1-12
 Job Ticket: 64712 **DST#: 2**
 Test Start: 2015.08.16 @ 09:00:00

GENERAL INFORMATION:

Formation: **KC"K"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:14:00
 Time Test Ended: 15:34:15
 Interval: **3967.00 ft (KB) To 3994.00 ft (KB) (TVD)**
 Total Depth: 3994.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brett Dickinson
 Unit No: 81
 Reference Elevations: 2464.00 ft (KB)
 2459.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8736 Outside
 Press@RunDepth: psig @ 3968.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.08.16 End Date: 2015.08.16 Last Calib.: 2015.08.16
 Start Time: 09:00:05 End Time: 15:34:14 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF-BOB in 15 min
 IS- No Blow
 FF-BOB in 7 min
 FS- No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
115.00	SGMCO 15%G 55%O 30%M	1.34
25.00	SGO 10%G 90%O	0.35
0.00	580ft GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt #1-12

12-14s-26w Gove,KS

PO Box 47
Great Bend, KS 67530

Lipp-Harvey #1-12

Job Ticket: 64712

DST#: 2

ATTN: Pat Deenihan

Test Start: 2015.08.16 @ 09:00:00

Tool Information

Drill Pipe:	Length: 3925.00 ft	Diameter: 3.80 inches	Volume: 55.06 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	52000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	47000.00 lb
Drill Pipe Above KB:	8.00 ft			Final	49000.00 lb
Depth to Top Packer:	3967.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	27.00 ft				
Tool Length:	47.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3952.00	
Hydraulic tool	5.00			3957.00	
Packer	5.00			3962.00	20.00 Bottom Of Top Packer
Packer	5.00			3967.00	
Packer - Shale	0.00			3967.00	
Stubb	1.00			3968.00	
Recorder	0.00	8957	Inside	3968.00	
Recorder	0.00	8736	Outside	3968.00	
Perforations	23.00			3991.00	
Bullnose	3.00			3994.00	27.00 Bottom Packers & Anchor
Total Tool Length:	47.00				



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt #1-12

12-14s-26w Gove,KS

PO Box 47
Great Bend, KS 67530

Lipp-Harvey #1-12

Job Ticket: 64712

DST#: 2

ATTN: Pat Deenihan

Test Start: 2015.08.16 @ 09:00:00

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: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
115.00	SGMCO 15%G 55%O 30%M	1.340
25.00	SGO 10%G 90%O	0.351
0.00	580ft GIP	0.000

Total Length: 140.00 ft

Total Volume: 1.691 bbl

Num Fluid Samples: 0

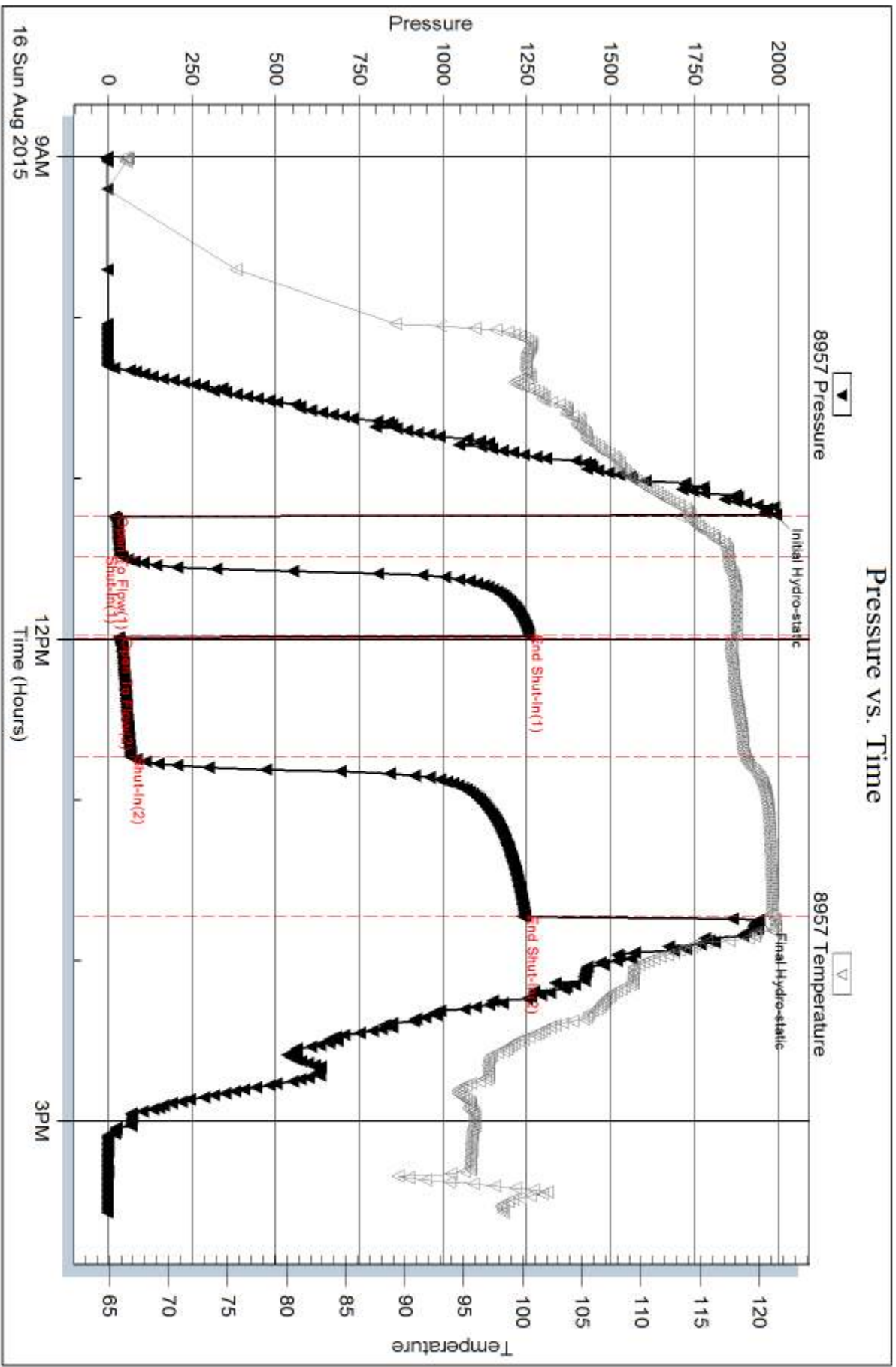
Num Gas Bombs: 0

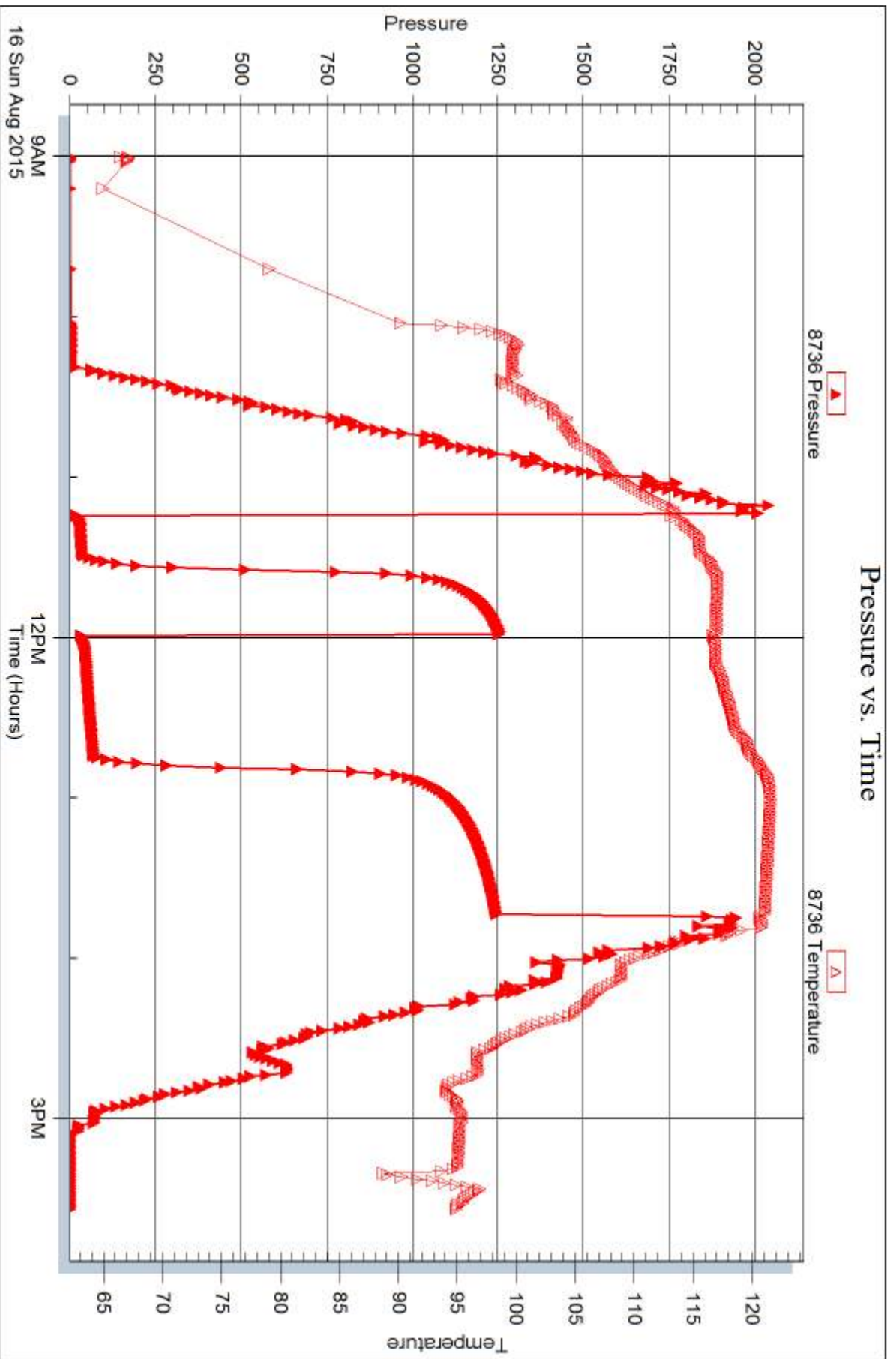
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt #1-12**

PO Box 47
Great Bend, KS 67530

ATTN: Pat Deenihan

Lipp-Harvey #1-12

12-14s-26w Gove,KS

Start Date: 2015.08.16 @ 22:15:00

End Date: 2015.08.17 @ 04:31:15

Job Ticket #: 64713 DST #: 3

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

Printed: 2015.08.20 @ 10:22:03



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Carmen Schmitt #1-12
PO Box 47
Great Bend, KS 67530
ATTN: Pat Deenihan

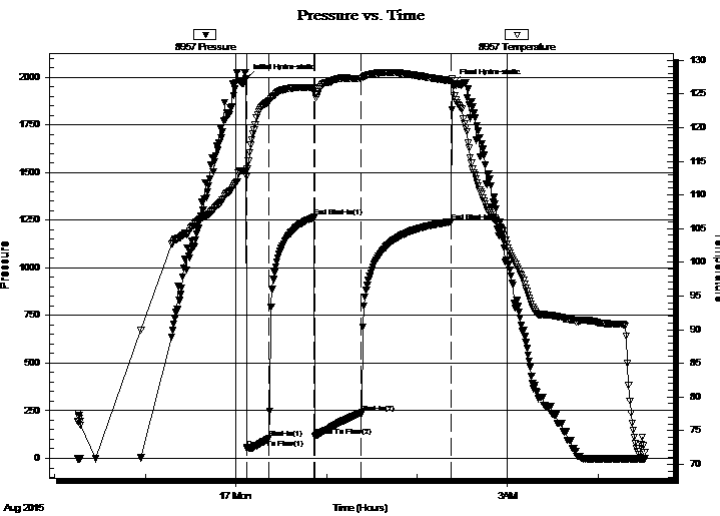
12-14s-26w Gove, KS
Lipp-Harvey #1-12
Job Ticket: 64713 **DST#: 3**
Test Start: 2015.08.16 @ 22:15:00

GENERAL INFORMATION:

Formation: **KC"L"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:07:15
Time Test Ended: 04:31:15
Interval: **3996.00 ft (KB) To 4030.00 ft (KB) (TVD)**
Total Depth: 4030.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 2464.00 ft (KB)
2459.00 ft (CF)
KB to GR/CF: 5.00 ft
Test Type: Conventional Bottom Hole (Reset)
Tester: Brett Dickinson
Unit No: 81

Serial #: 8957 Inside
Press@RunDepth: 237.65 psig @ 3997.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.08.16 End Date: 2015.08.17 Last Calib.: 2015.08.17
Start Time: 22:15:05 End Time: 04:31:14 Time On Btm: 2015.08.17 @ 00:06:45
Time Off Btm: 2015.08.17 @ 02:24:00

TEST COMMENT: IF-BOB in 2 min
IS-BOB in 7 min
FF-BOB in 3 1/2 min
FS-BOB in 9 min



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1993.80	113.62	Initial Hydro-static
1	53.54	112.69	Open To Flow (1)
16	105.02	124.00	Shut-In(1)
45	1264.84	125.88	End Shut-In(1)
46	117.34	125.03	Open To Flow (2)
77	237.65	127.27	Shut-In(2)
136	1242.01	126.93	End Shut-In(2)
138	1965.08	126.21	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GOCM 30%G 30%O 40%M	0.57
185.00	GSMCO 30%G 60%O 10%M	2.60
405.00	GO 40%G 60%O	5.68
0.00	1550ft GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Carmen Schmitt #1-12
PO Box 47
Great Bend, KS 67530
ATTN: Pat Deenihan

12-14s-26w Gove,KS
Lipp-Harvey #1-12
Job Ticket: 64713 **DST#: 3**
Test Start: 2015.08.16 @ 22:15:00

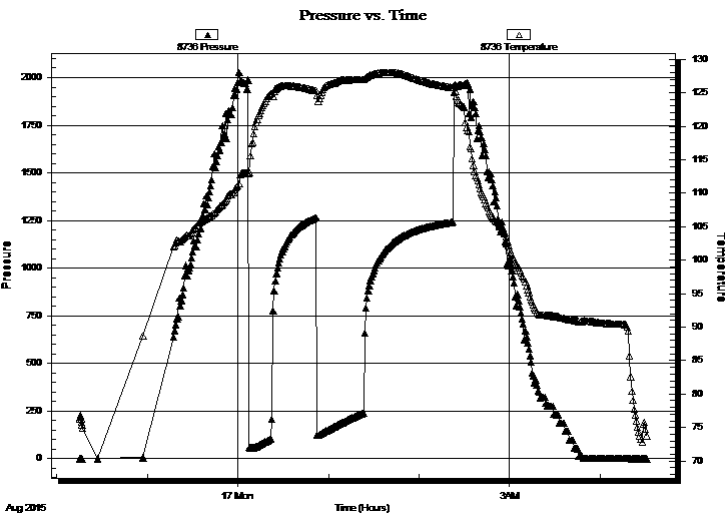
GENERAL INFORMATION:

Formation: **KC"L"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 00:07:15 Tester: Brett Dickinson
Time Test Ended: 04:31:15 Unit No: 81
Interval: 3996.00 ft (KB) To 4030.00 ft (KB) (TVD) Reference Elevations: 2464.00 ft (KB)
Total Depth: 4030.00 ft (KB) (TVD) 2459.00 ft (CF)
Hole Diameter: 7.88 inchesHole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8736 Outside

Press@RunDepth: psig @ 3997.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.08.16 End Date: 2015.08.17 Last Calib.: 2015.08.17
Start Time: 22:15:05 End Time: 04:31:14 Time On Btm:
Time Off Btm:

TEST COMMENT: IF-BOB in 2 min
ISI-BOB in 7 min
FF-BOB in 3 1/2 min
FSI-BOB in 9 min



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GOCM 30%G 30%O 40%M	0.57
185.00	GSMCO 30%G 60%O 10%M	2.60
405.00	GO 40%G 60%O	5.68
0.00	1550ft GIP	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

Carmen Schmitt #1-12

12-14s-26w Gove,KS

PO Box 47
Great Bend, KS 67530

Lipp-Harvey #1-12

Job Ticket: 64713

DST#: 3

ATTN: Pat Deenihan

Test Start: 2015.08.16 @ 22:15:00

Tool Information

Drill Pipe:	Length: 3960.00 ft	Diameter: 3.80 inches	Volume: 55.55 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	56000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	47000.00 lb
Drill Pipe Above KB:	14.00 ft			Final	50000.00 lb
Depth to Top Packer:	3996.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	34.00 ft				
Tool Length:	54.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3981.00	
Hydraulic tool	5.00			3986.00	
Packer	5.00			3991.00	20.00 Bottom Of Top Packer
Packer	5.00			3996.00	
Packer - Shale	0.00			3996.00	
Stubb	1.00			3997.00	
Recorder	0.00	8957	Inside	3997.00	
Recorder	0.00	8736	Outside	3997.00	
Perforations	30.00			4027.00	
Bullnose	3.00			4030.00	34.00 Bottom Packers & Anchor
Total Tool Length:	54.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt #1-12

12-14s-26w Gove,KS

PO Box 47
Great Bend, KS 67530

Lipp-Harvey #1-12

Job Ticket: 64713

DST#: 3

ATTN: Pat Deenihan

Test Start: 2015.08.16 @ 22:15:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 64.00 sec/qt
Water Loss: 7.19 in³
Resistivity: ohm.m
Salinity: 2800.00 ppm
Filter Cake: inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 34 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	GOCM 30%G 30%O 40%M	0.568
185.00	GSMCO 30%G 60%O 10%M	2.595
405.00	GO 40%G 60%O	5.681
0.00	1550ft GIP	0.000

Total Length: 650.00 ft Total Volume: 8.844 bbl

Num Fluid Samples: 0

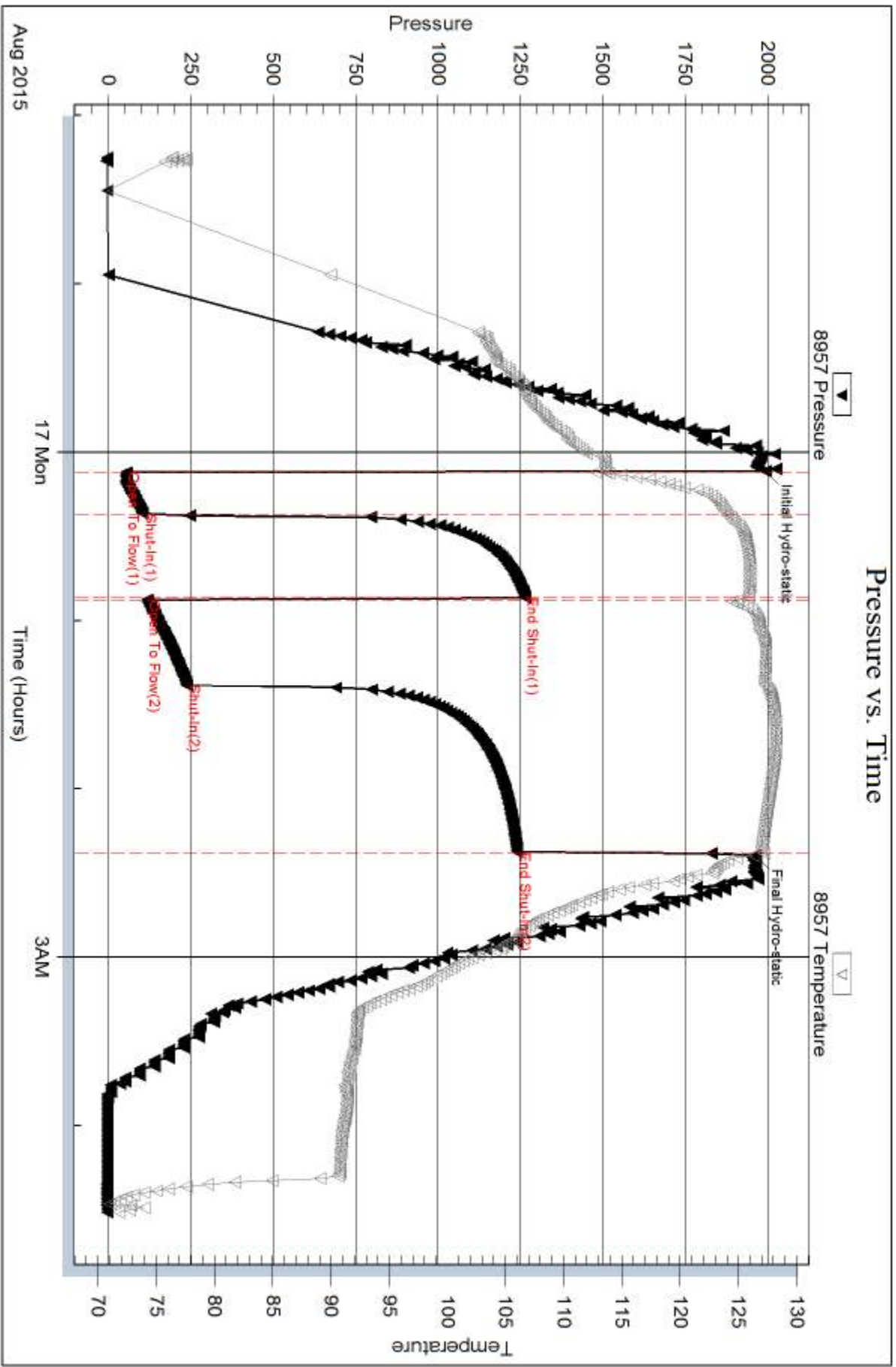
Num Gas Bombs: 0

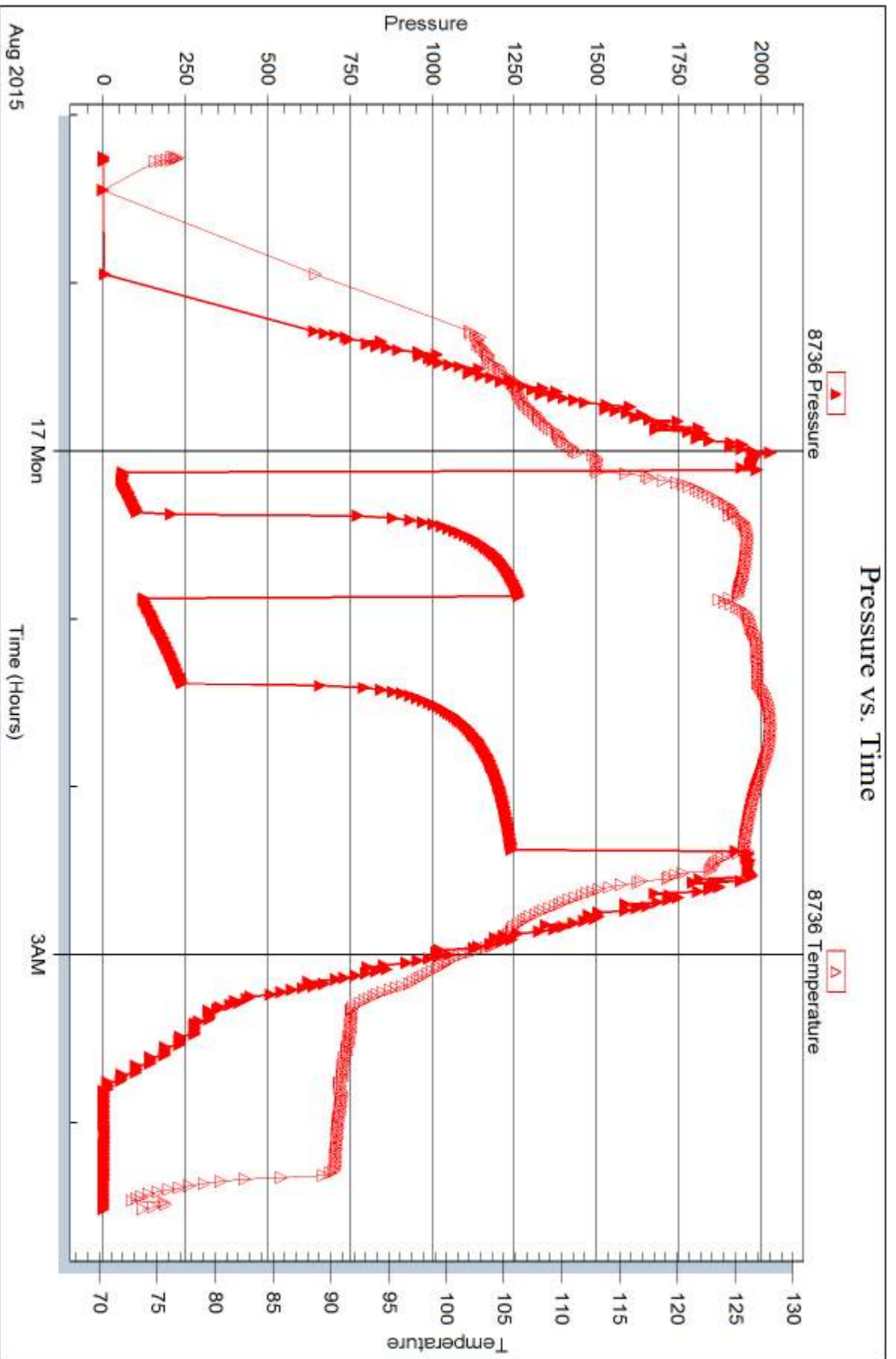
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt #1-12**

PO Box 47
Great Bend, KS 67530

ATTN: Pat Deenihan

Lipp-Harvey #1-12

12-14s-26w Gove,KS

Start Date: 2015.08.17 @ 17:30:00

End Date: 2015.08.17 @ 21:47:30

Job Ticket #: 64714 DST #: 4

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

Printed: 2015.08.20 @ 10:21:28

Carmen Schmitt #1-12
12-14s-26w Gove,KS
Lipp-Harvey #1-12
DST # 4
Marmaton
2015.08.17



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt #1-12

12-14s-26w Gove, KS

PO Box 47
Great Bend, KS 67530

Lipp-Harvey #1-12

Job Ticket: 64714 **DST#: 4**

ATTN: Pat Deenihan

Test Start: 2015.08.17 @ 17:30:00

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:21:15

Time Test Ended: 21:47:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 81

Interval: 4088.00 ft (KB) To 4150.00 ft (KB) (TVD)

Reference Elevations: 2464.00 ft (KB)

Total Depth: 4150.00 ft (KB) (TVD)

2459.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8957 Inside

Press@RunDepth: 30.37 psig @ 4089.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.08.17 End Date: 2015.08.17

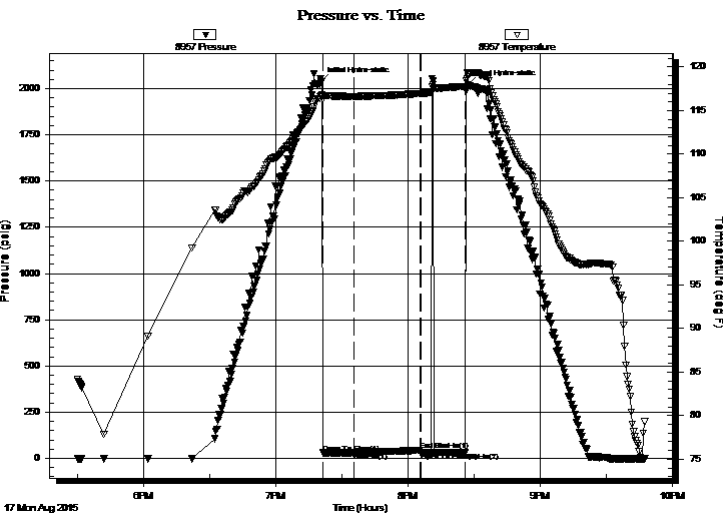
Last Calib.: 2015.08.17

Start Time: 17:30:05 End Time: 21:47:29

Time On Btm: 2015.08.17 @ 19:20:30

Time Off Btm: 2015.08.17 @ 20:27:15

TEST COMMENT: IF-Very weak surface blow
IS-No blow
FF-No blow Flush tool Very weak surface blow died in 5min



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2035.31	116.74	Initial Hydro-static
1	29.71	116.33	Open To Flow (1)
15	30.37	116.64	Shut-In(1)
45	43.37	116.97	End Shut-In(1)
46	30.67	116.97	Open To Flow (2)
66	30.96	117.78	Shut-In(2)
67	2019.29	118.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt #1-12

12-14s-26w Gove,KS

PO Box 47
Great Bend, KS 67530

Lipp-Harvey #1-12

Job Ticket: 64714

DST#: 4

ATTN: Pat Deenihan

Test Start: 2015.08.17 @ 17:30:00

Tool Information

Drill Pipe:	Length: 4055.00 ft	Diameter: 3.80 inches	Volume: 56.88 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	47000.00 lb
Depth to Top Packer:	4088.00 ft			Final	47000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	62.00 ft				
Tool Length:	82.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

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

Shut In Tool	5.00			4073.00	
Hydraulic tool	5.00			4078.00	
Packer	5.00			4083.00	20.00 Bottom Of Top Packer
Packer	5.00			4088.00	
Packer - Shale	0.00			4088.00	
Stubb	1.00			4089.00	
Recorder	0.00	8957	Inside	4089.00	
Recorder	0.00	8736	Outside	4089.00	
Perforations	5.00			4094.00	
Change Over Sub	1.00			4095.00	
Drill Pipe	32.00			4127.00	
Change Over Sub	1.00			4128.00	
Perforations	19.00			4147.00	
Bullnose	3.00			4150.00	62.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt #1-12

12-14s-26w Gove,KS

PO Box 47
Great Bend, KS 67530

Lipp-Harvey #1-12

Job Ticket: 64714

DST#: 4

ATTN: Pat Deenihan

Test Start: 2015.08.17 @ 17:30:00

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: 64.00 sec/qt

Cushion Volume: bbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 2800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

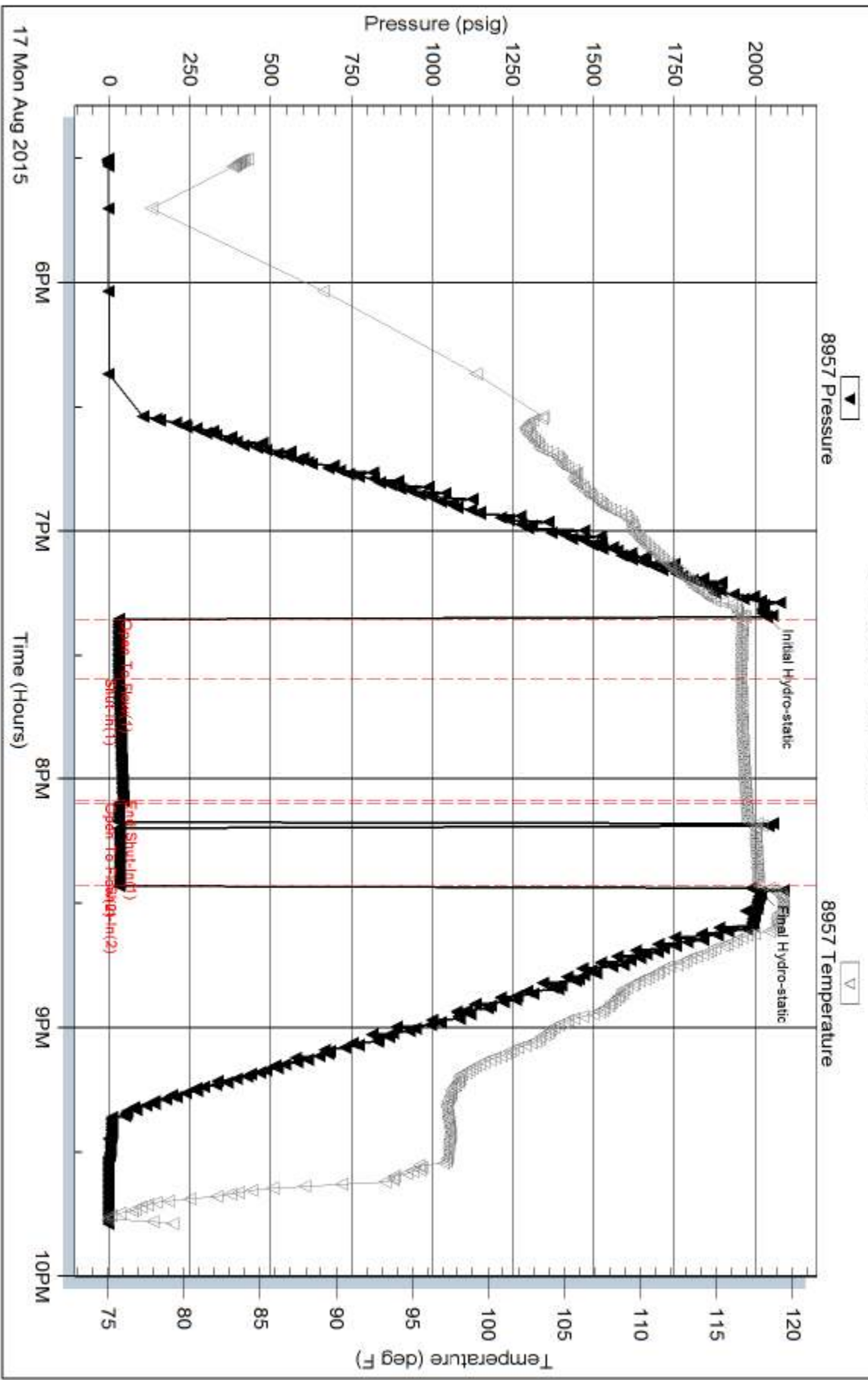
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

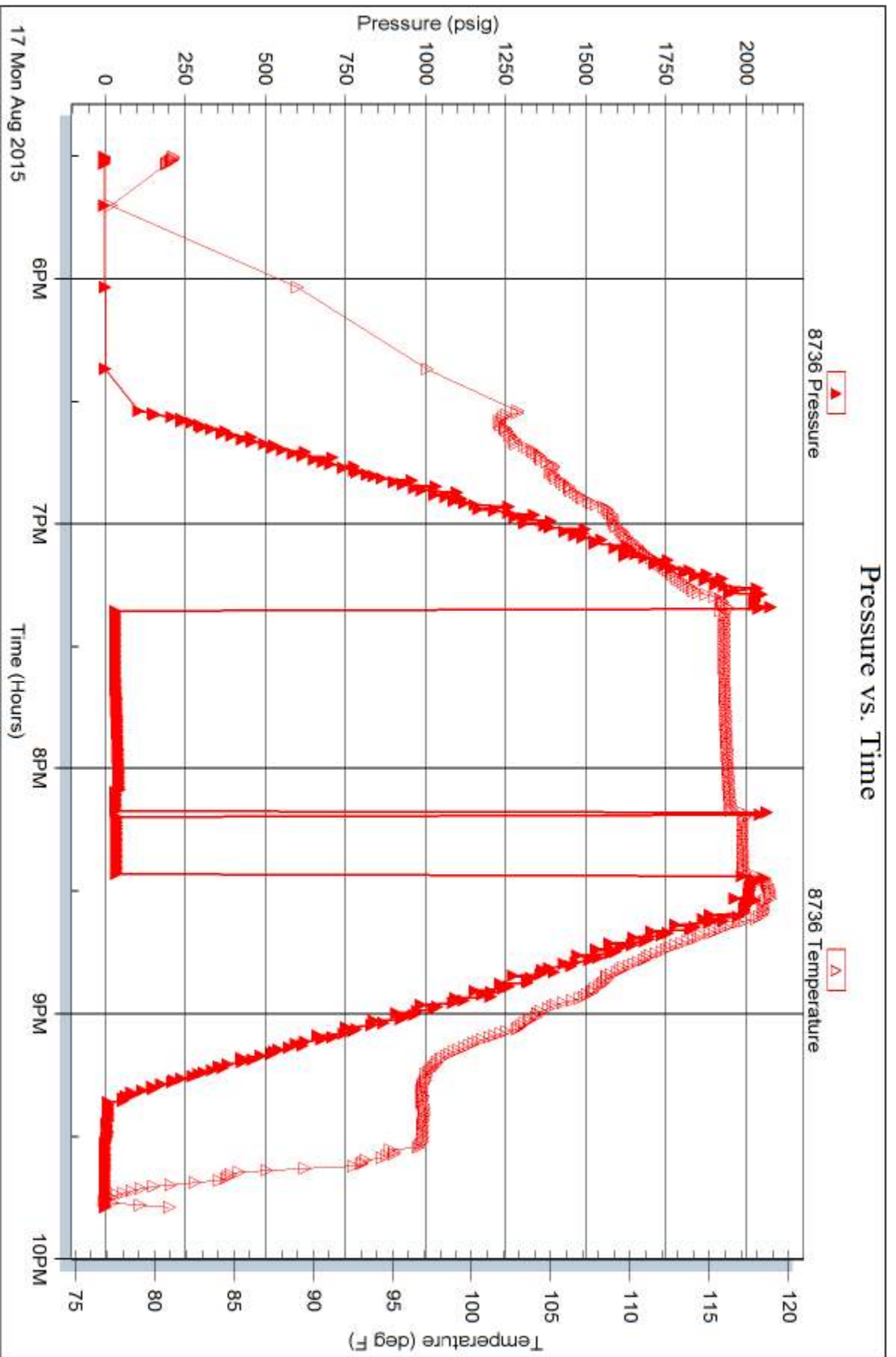


Serial #: 8736

Outside Carmen Schnitt #1-12

Lipp-Harvey #1-12

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 64714

Printed: 2015.08.20 @ 10:21:29



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64710**

Well Name & No. Lipp-Harvey # 1-12 Test No. 1 Date 8-15-15
 Company Carmen Schmitt, Inc. Elevation 2464 KB 2459 GL
 Address PO Box 47 Great Bend KS 67530
 Co. Rep / Geo. Pat Deenihan Rig Martin #16
 Location: Sec. 12 Twp. 14s Rge. 26w Co. Gove State KS

Interval Tested 3890 - 3917 Zone Tested KC "H"
 Anchor Length 27 Drill Pipe Run 3865 Mud Wt. 9.1
 Top Packer Depth 3885 Drill Collars Run 30 Vis 62
 Bottom Packer Depth 3890 Wt. Pipe Run - WL 7.8
 Total Depth 3917 Chlorides 2,800 ppm System LCM 2 #
 Blow Description IF - west surface blow died in 7min
ISI - No blow
FF - No blow flush tool surge No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud</u>				

Rec Total 2 BHT 113 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1,945 Test 1050 T-On Location 15:45
 (B) First Initial Flow 12 Jars _____ T-Started 15:45
 (C) First Final Flow 14 Safety Joint _____ T-Open 18:20
 (D) Initial Shut-In 107 Circ Sub _____ T-Pulled ~~18~~ 19:20
 (E) Second Initial Flow _____ Hourly Standby _____ T-Out 20:30
 (F) Second Final Flow _____ Mileage 128rT Comments _____
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic _____ Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 15 Extra Recorder _____ Sub Total 0
 Initial Shut-In 30 Day Standby _____ Total 1428
 Final Flow 15 Accessibility _____ MP/DST Disc't _____
 Final Shut-In _____ Sub Total 1428

Approved By _____ Our Representative Pat Deenihan

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64712**

Well Name & No. Lipp - Harvey #1-12 Test No. 2 Date 8-16-15
 Company Carmen Schmitt, Inc. Elevation 2464 KB 2459 GL
 Address PO Box 47 Greatbend KS 67530
 Co. Rep / Geo. Pat Deenihan Rig Martin #16
 Location: Sec. 12 Twp. 14s Rge. 26w Co. Gove State KS

Interval Tested ~~3900~~ 3967-3994 Zone Tested KC "K"
 Anchor Length 27 Drill Pipe Run 3925 Mud Wt. 9.2
 Top Packer Depth 3962 Drill Collars Run 30 Vis 64
 Bottom Packer Depth 3967 Wt. Pipe Run — WL 7.2
 Total Depth 3994 Chlorides 2,800 ppm System LCM 2#

Blow Description IF - POB in 15 min
ISI - No blow
FF - BOB in 7 min
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>115</u>	<u>SGMCO</u>	<u>15</u>	<u>55</u>	<u>30</u>	
<u>25</u>	<u>SGO</u>	<u>10</u>	<u>90</u>		
<u>—</u>	<u>5809 G2P</u>				
<u>—</u>					
<u>—</u>					

Rec Total 140 BHT 121 Gravity 35 API RW @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1,993</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>9:00</u>
(B) First Initial Flow <u>19</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>9:00</u>
(C) First Final Flow <u>35</u>	<input type="checkbox"/> Safety Joint <u>—</u>	T-Open <u>10:55</u>
(D) Initial Shut-In <u>1,258</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>13:25</u>
(E) Second Initial Flow <u>32</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>15:15</u>
(F) Second Final Flow <u>67</u>	<input checked="" type="checkbox"/> Mileage <u>128RT</u>	Comments <u>—</u>
(G) Final Shut-In <u>1,244</u>	<input type="checkbox"/> Sampler <u>—</u>	
(H) Final Hydrostatic <u>1,943</u>	<input type="checkbox"/> Straddle <u>—</u>	
Initial Open <u>15</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby <u>—</u>	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility <u>—</u>	Total <u>1428</u>
	Sub Total <u>1428</u>	MP/DST Disc't <u>—</u>

Approved By _____ Our Representative Beth Dore

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64713**

Well Name & No. Lipp - Harvey #1-12 Test No. 3 Date 8-16-15
 Company Carmen Schmitt, Inc. Elevation 2464 KB 2459 GL
 Address PO Box 47 Great Bend KS 67530
 Co. Rep / Geo. Pat Deenihan Rig Murfin #16
 Location: Sec. 12 Twp. 14s Rge. 26w Co. Gove State KS

Interval Tested 3996 - 4030 Zone Tested KC" L"
 Anchor Length 34 Drill Pipe Run 3960 Mud Wt. 9.2
 Top Packer Depth 3991 Drill Collars Run 30 Vis 64
 Bottom Packer Depth 3996 Wt. Pipe Run - WL 7.2
 Total Depth 4030 Chlorides 2,800 ppm System LCM 2#
 Blow Description IF - BOB in 2min
ISF - BOB in 7min
FF - BOB in 3 1/2 min
FST - BOB in 9min

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>60CM</u>	<u>30</u>	<u>30</u>	<u>40</u>	
<u>185</u>	<u>65MCO</u>	<u>30</u>	<u>60</u>	<u>10</u>	
	<u>60</u>	<u>40</u>	<u>60</u>		
	<u>1550 FT GIP</u>				

Rec Total 650 BHT 127 Gravity 34 API RW @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 1,994 Test 1150 T-On Location 22:05
 (B) First Initial Flow 54 Jars T-Started 22:15
 (C) First Final Flow 105 Safety Joint T-Open 00:06
 (D) Initial Shut-In 1,265 Circ Sub T-Pulled 2:21
 (E) Second Initial Flow 117 Hourly Standby T-Out 4:33
 (F) Second Final Flow 238 Mileage 128.5 Comments _____
 (G) Final Shut-In 1,242 Sampler _____
 (H) Final Hydrostatic 1,965 Straddle _____
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total _____
 Sub Total 1528 MP/DST Disc't _____

Approved By _____ Our Representative Beth Deenihan
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64714**

Well Name & No. Lipp-Harvey # 1-12 Test No. 4 Date 8-17-15
 Company Carmen Schmitt, Inc. Elevation 2464 KB 2459 GL
 Address PO Box 47 Great Bend KS 67530
 Co. Rep / Geo. Pat Deenihan Rig Marfin #16
 Location: Sec. 12 Twp. 14s Rge. 26w Co. Gove State KS

Interval Tested 4088 - 4150 Zone Tested Marmaton
 Anchor Length 62 Drill Pipe Run 4055 Mud Wt. 9.2
 Top Packer Depth 4083 Drill Collars Run 30 Vis 64
 Bottom Packer Depth 4088 Wt. Pipe Run - WL 7.2
 Total Depth 4150 Chlorides 2,800 ppm System LCM 2#
 Blow Description IF - weak surface blow
ISI - No blow
FF - No blow flush tool very weak surface blow died in 5min

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

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

(A) Initial Hydrostatic 2,035 Test 1150 T-On Location 17:30
 (B) First Initial Flow 30 Jars _____ T-Started 17:30
 (C) First Final Flow 30 Safety Joint _____ T-Open 19:00
 (D) Initial Shut-In 43 Circ Sub _____ T-Pulled 20:05
 (E) Second Initial Flow 31 Hourly Standby _____ T-Out 21:30
 (F) Second Final Flow _____ Mileage 128rT Comments _____
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic 2,019 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 15 Extra Recorder _____ Sub Total 0
 Initial Shut-In 30 Day Standby _____ Total 1528
 Final Flow 20 Accessibility _____ MP/DST Disc't _____
 Final Shut-In _____ Sub Total 1528

Approved By _____ Our Representative Butt Deenihan

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