

**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Grand Mesa Operating
1700 N Waterfront Pkw y Blvd
BLDG 600
Wichita Ks 67206
ATTN: Macklin Armstrong

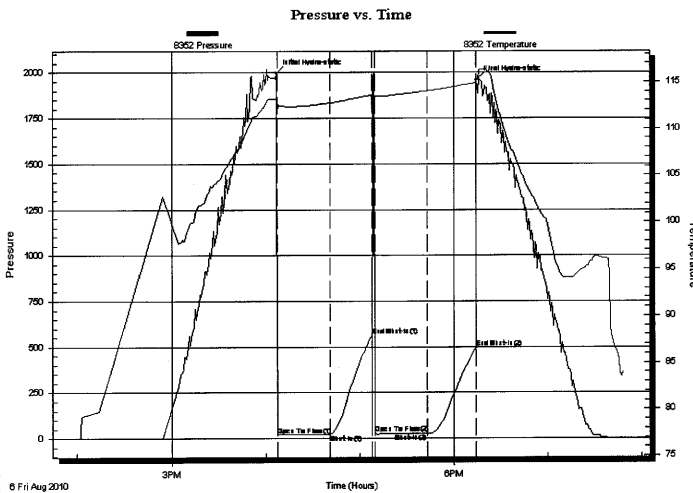
Hess 1-16
16-14s-31w Gove KS
Job Ticket: 039978 **DST#: 1**
Test Start: 2010.08.06 @ 14:02:05

GENERAL INFORMATION:

Formation: **LKC "H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:07:10
Time Test Ended: 19:48:09
Interval: **4094.00 ft (KB) To 4138.00 ft (KB) (TVD)**
Total Depth: 4138.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole
Tester: Andy Carreira
Unit No: 31
Reference Elevations: 2890.00 ft (KB)
2885.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8352 Outside
Press@RunDepth: 24.59 psig @ 4101.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2010.08.06 End Date: 2010.08.06 Last Calib.: 2010.08.06
Start Time: 14:02:05 End Time: 19:48:10 Time On Btm: 2010.08.06 @ 16:06:30
Time Off Btm: 2010.08.06 @ 18:14:30

TEST COMMENT: IF: Weak, died in 1 min.
IS: No return
FF: No blow , Flushed tool, surge, no blow
FS: No return



PRESSURE SUMMARY

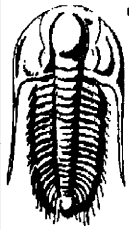
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1998.10	113.11	Initial Hydro-static
1	19.02	111.84	Open To Flow (1)
35	23.77	112.71	Shut-In(1)
61	561.48	113.56	End Shut-In(1)
63	24.55	112.73	Open To Flow (2)
97	24.59	114.00	Shut-In(2)
128	491.56	114.86	End Shut-In(2)
128	1959.84	115.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M m=100%	0.02

Gas Rates

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



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ATTN: Macklin Armstrong

16-14s-31w Gove KS

Job Ticket: 039978

DST#: 1

Test Start: 2010.08.06 @ 14:02:05

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: 47.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.52 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	M m=100%	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

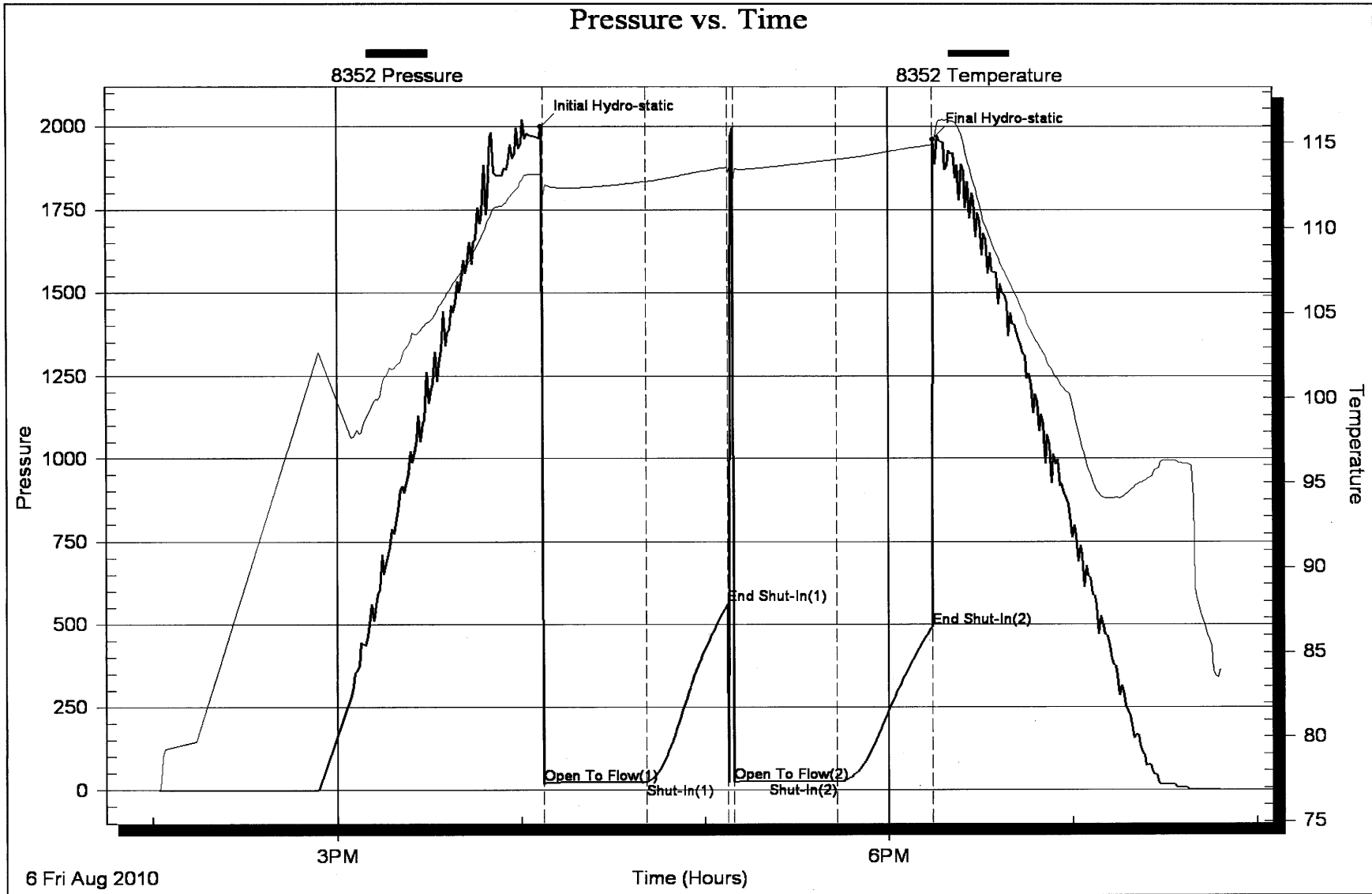
Num Gas Bombs: 0

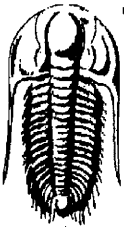
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





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Grand Mesa Operating

Hess 1-16

1700 N Waterfront Pkw y Blvd
BLDG 600
Wichita Ks 67206
ATTN: Macklin Armstrong

16-14s-31w Gove KS

Job Ticket: 039979

DST#: 2

Test Start: 2010.08.07 @ 05:20:05

GENERAL INFORMATION:

Formation: **LKC "I-J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:44:10

Time Test Ended: 11:57:20

Test Type: Conventional Bottom Hole

Tester: Andy Carreira

Unit No: 31

Interval: **4151.00 ft (KB) To 4186.00 ft (KB) (TVD)**

Reference Elevations: 2890.00 ft (KB)

Total Depth: 4138.00 ft (KB) (TVD)

2885.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8352

Outside

Press@RunDepth: 80.37 psig @ 4152.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2010.08.07 End Date: 2010.08.07

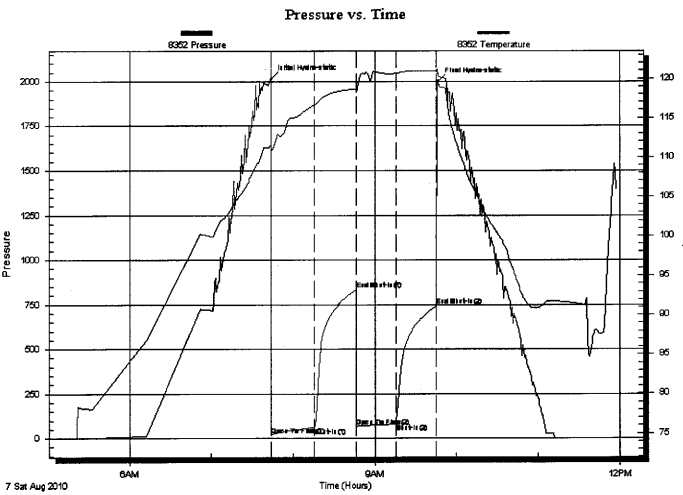
Last Calib.: 2010.08.07

Start Time: 05:20:05 End Time: 11:57:20

Time On Btm: 2010.08.07 @ 07:43:50

Time Off Btm: 2010.08.07 @ 09:46:39

TEST COMMENT: IF: Weak, 1.5 inches
IS: No return
FF: Weak, half inch
FS: No return



PRESSURE SUMMARY

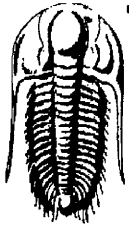
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2015.15	111.41	Initial Hydro-static
1	20.06	110.65	Open To Flow (1)
32	61.36	116.66	Shut-In(1)
63	834.06	118.63	End Shut-In(1)
63	66.78	118.27	Open To Flow (2)
92	80.37	120.62	Shut-In(2)
122	741.89	120.93	End Shut-In(2)
123	2000.24	120.45	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
150.00	MW	1.00
3.00	O	0.04

Gas Rates

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



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ATTN: Macklin Armstrong

16-14s-31w Gove KS

Job Ticket: 039979

DST#: 2

Test Start: 2010.08.07 @ 05:20:05

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.95 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
150.00	MW	1.004
3.00	O	0.042

Total Length: 153.00 ft

Total Volume: 1.046 bbl

Num Fluid Samples: 0

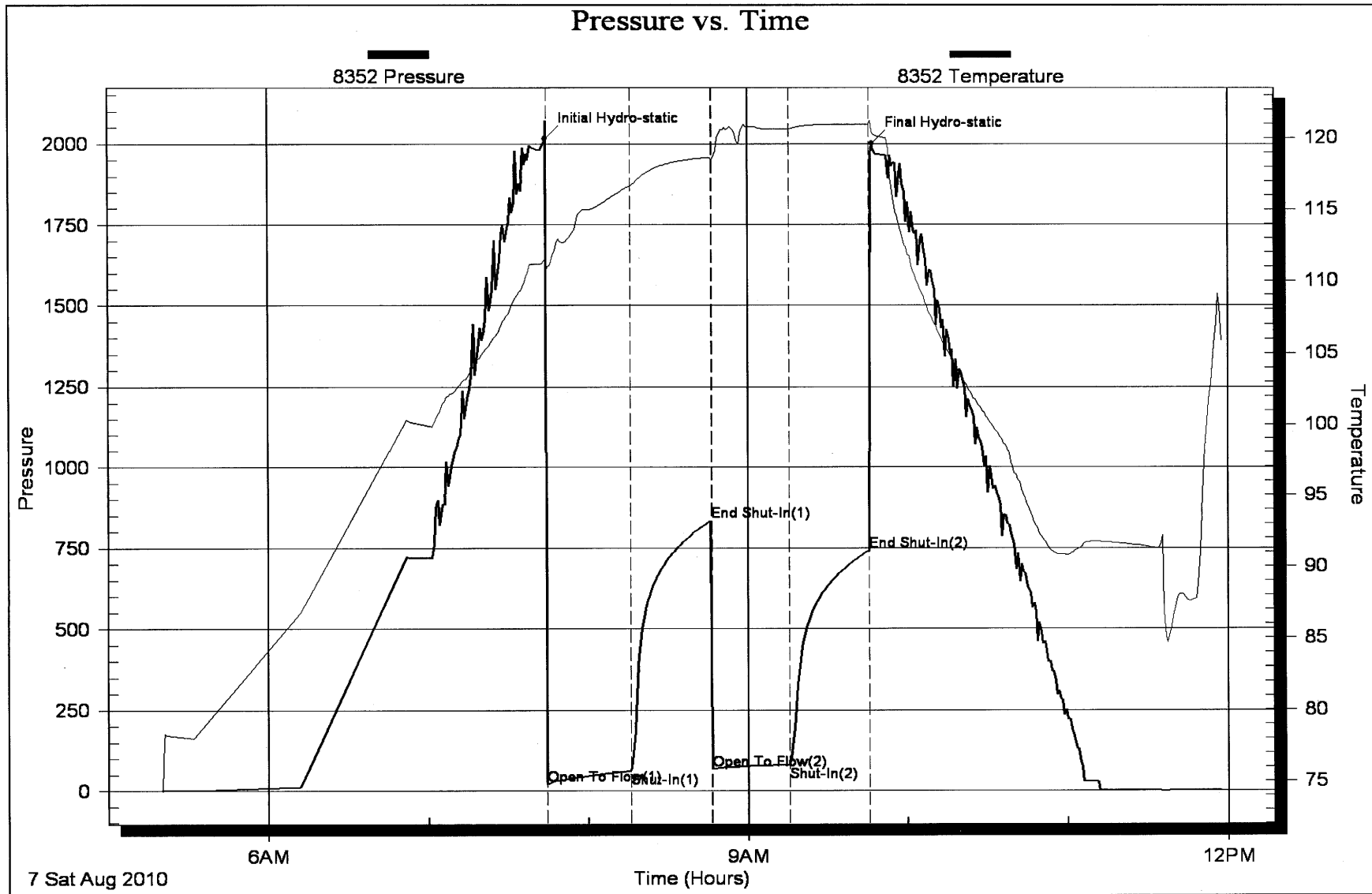
Num Gas Bombs: 0

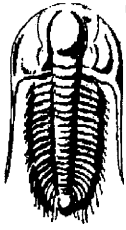
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





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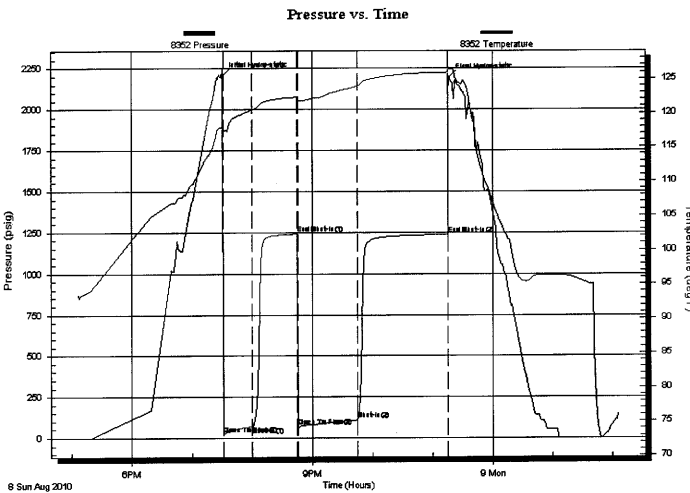
Hess 1-16
16-14s-31w Gove KS
Job Ticket: 039980 **DST#: 3**
Test Start: 2010.08.08 @ 17:07:05

GENERAL INFORMATION:

Formation: **Johnson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:31:30
Time Test Ended: 02:05:50
Interval: **4495.00 ft (KB) To 4546.00 ft (KB) (TVD)**
Total Depth: 4138.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole
Tester: Andy Carreira
Unit No: 31
Reference Elevations: 2890.00 ft (KB)
2885.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8352 Outside
Press@RunDepth: 110.27 psig @ 4507.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2010.08.08 End Date: 2010.08.09 Last Calib.: 2010.08.09
Start Time: 17:07:05 End Time: 02:05:50 Time On Btm: 2010.08.08 @ 19:30:20
Time Off Btm: 2010.08.08 @ 23:16:29

TEST COMMENT: IF: Strong, building to 10 inches
IS: No return
FF: BOB, 22 min
FS: No return



PRESSURE SUMMARY

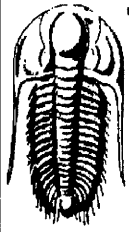
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2206.21	117.80	Initial Hydro-static
2	24.63	116.68	Open To Flow (1)
31	68.79	120.43	Shut-In(1)
75	1241.07	122.30	End Shut-In(1)
76	71.48	121.90	Open To Flow (2)
135	110.27	123.94	Shut-In(2)
225	1237.02	125.88	End Shut-In(2)
227	2191.50	126.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
226.00	MCGO g=15% m=20% o=65%	2.07
0.00	GIP= 620ft	0.00

Gas Rates

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



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Job Ticket: 039980

DST#: 3

Test Start: 2010.08.08 @ 17:07:05

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: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.76 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3400.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
226.00	MCGO g=15% m=20% o=65%	2.070
0.00	GIP= 620ft	0.000

Total Length: 226.00 ft Total Volume: 2.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

