



DRILL STEM TEST REPORT

Prepared For: **GRAND MESA OPERATING**

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206

ATTN: BOB PETERSON

33-13S-31W GOVE

KLAUS-HESS 1-33

Start Date: 2011.02.11 @ 03:00:00

End Date: 2011.02.11 @ 10:53:00

Job Ticket #: 1064 DST #: 1

Eagle Testers LLC.

P.O.Box 1011, Great Bend, KS 67530

620-617-7548

Printed: 2011.02.11 @ 04:14:31



DRILL STEM TEST REPORT

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206
ATTN: BOB PETERSON

33-13S-31W GOVE

Job Ticket: 1064

DST#: 1

Test Start: 2011.02.11 @ 03:00:00

GENERAL INFORMATION:

Formation: **LKC C-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:45:00

Time Test Ended: 10:53:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 43 MRT OAKLEY

Interval: **3928.00 ft (KB) To 3950.00 ft (KB) (TVD)**

Total Depth: 3950.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2853.00 ft (KB)

2846.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **6666** Outside

Press@RunDepth: 508.29 psig @ 3947.00 ft (KB)

Start Date: 2011.02.11

End Date:

2011.02.11

Start Time: 03:00:00

End Time:

10:53:00

Capacity: 5000.00 psig

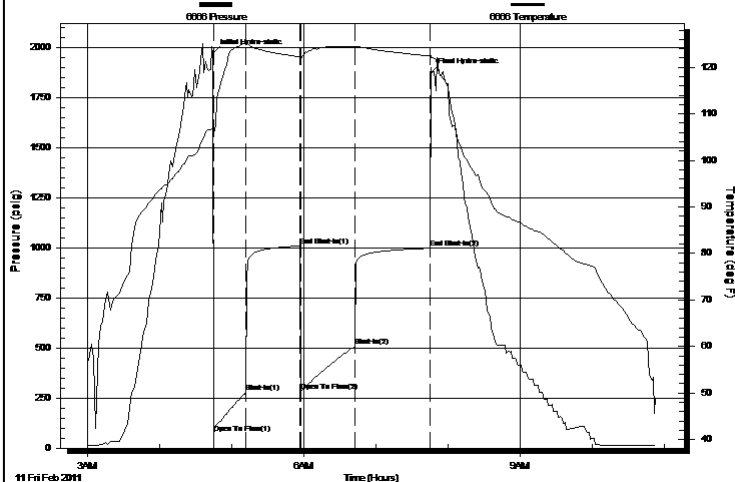
Last Calib.: 2011.02.11

Time On Btm: 2011.02.11 @ 04:44:30

Time Off Btm: 2011.02.11 @ 07:46:00

TEST COMMENT: 30-INITIAL OPENING GOOD BLOW BOTTOM BUCKET IN 6 MINS
45-INITIAL SHUT IN FAIR BLOW BACK
45-FINAL OPENING GOOD BLOW BOTTOM BUCKET IN 6 MINS
60-FINAL SHUT IN FAIR BLOW BACK

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1967.71	106.65	Initial Hydro-static
1	73.53	106.24	Open To Flow (1)
28	280.49	125.17	Shut-In(1)
72	1008.25	122.28	End Shut-In(1)
73	281.68	121.91	Open To Flow (2)
118	508.29	124.41	Shut-In(2)
180	996.32	122.48	End Shut-In(2)
182	1870.79	122.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
480.00	GAS IN PIPE 100%GAS	5.82
960.00	GASSY OIL 75%OIL25%GAS	14.04
240.00	MUD CUTGASSY OIL 15%M15%G70%O	3.51

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206
ATTN: BOB PETERSON

33-13S-31W GOVE

Job Ticket: 1064

DST#: 1

Test Start: 2011.02.11 @ 03:00:00

GENERAL INFORMATION:

Formation: **LKC C-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:45:00

Time Test Ended: 10:53:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 43 MRT OAKLEY

Interval: **3928.00 ft (KB) To 3950.00 ft (KB) (TVD)**

Total Depth: 3950.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2853.00 ft (KB)

2846.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **6651** Inside

Press@RunDepth: 996.88 psig @ 3946.00 ft (KB)

Start Date: 2011.02.11

End Date:

2011.02.11

Start Time: 03:00:00

End Time:

10:53:30

Capacity: 5000.00 psig

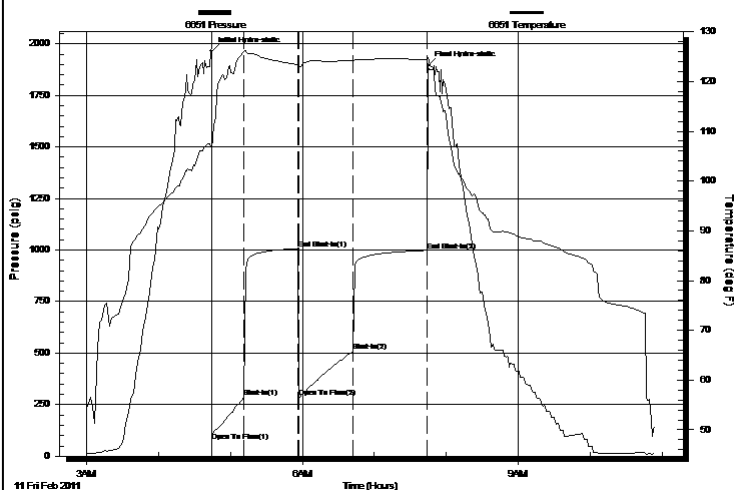
Last Calib.: 2011.02.11

Time On Btm: 2011.02.11 @ 04:44:00

Time Off Btm: 2011.02.11 @ 07:45:00

TEST COMMENT: 30-INITIAL OPENING GOOD BLOW BOTTOM BUCKET IN 6 MINS
45-INITIAL SHUT IN FAIR BLOW BACK
45-FINAL OPENING GOOD BLOW BOTTOM BUCKET IN 6 MINS
60-FINAL SHUT IN FAIR BLOW BACK

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1963.30	107.01	Initial Hydro-static
1	73.87	106.57	Open To Flow (1)
28	283.63	125.94	Shut-In(1)
73	1007.66	123.38	End Shut-In(1)
73	285.59	123.06	Open To Flow (2)
118	507.51	124.17	Shut-In(2)
180	996.88	124.40	End Shut-In(2)
181	1894.78	124.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
480.00	GAS IN PIPE 100%GAS	5.82
960.00	GASSY OIL 75%OIL25%GAS	14.04
240.00	MUD CUTGASSY OIL 15%M15%G70%O	3.51

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

TOOL DIAGRAM

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT

33-13S-31W GOVE

PKWY BLDG 600

Job Ticket: 1064

DST#: 1

WICHITA KS 67206

Test Start: 2011.02.11 @ 03:00:00

ATTN: BOB PETERSON

Tool Information

Drill Pipe:	Length:	3777.00 ft	Diameter:	3.88 inches	Volume:	55.24 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length:	124.00 ft	Diameter:	2.25 inches	Volume:	0.61 bbl	Weight to Pull Loose:	50000.00 lb
					Total Volume:	55.85 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		1.75 ft					String Weight: Initial	44000.00 lb
Depth to Top Packer:		3928.00 ft					Final	48000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		22.00 ft						
Tool Length:		50.75 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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Shut-in tool	5.00			3904.25	
Hydrolic tool	5.00			3909.25	
Change over sub	0.75			3910.00	
Jars	6.00			3916.00	
Safety Joint	2.00			3918.00	
Packer	5.00			3923.00	28.75 Bottom Of Top Packer
Packer	5.00			3928.00	
Anchor	17.00			3945.00	
Recorder	1.00	6651	Inside	3946.00	
Recorder	1.00	6666	Outside	3947.00	
Bull plug	3.00			3950.00	22.00 Bottom Packers & Anchor

Total Tool Length: 50.75



DRILL STEM TEST REPORT

FLUID SUMMARY

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206
ATTN: BOB PETERSON

33-13S-31W GOVE

Job Ticket: 1064

DST#: 1

Test Start: 2011.02.11 @ 03:00:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 58.00 sec/qt

Water Loss: 7.20 in³

Resistivity: 1000.00 ohm.m

Salinity: ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

35 deg API

ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
480.00	GAS IN PIPE 100%GAS	5.816
960.00	GASSY OIL 75%OIL25%GAS	14.039
240.00	MUD CUTGASSY OIL 15%M15%G70%OIL	3.510

Total Length: 1680.00 ft

Total Volume: 23.365 bbl

Num Fluid Samples: 0

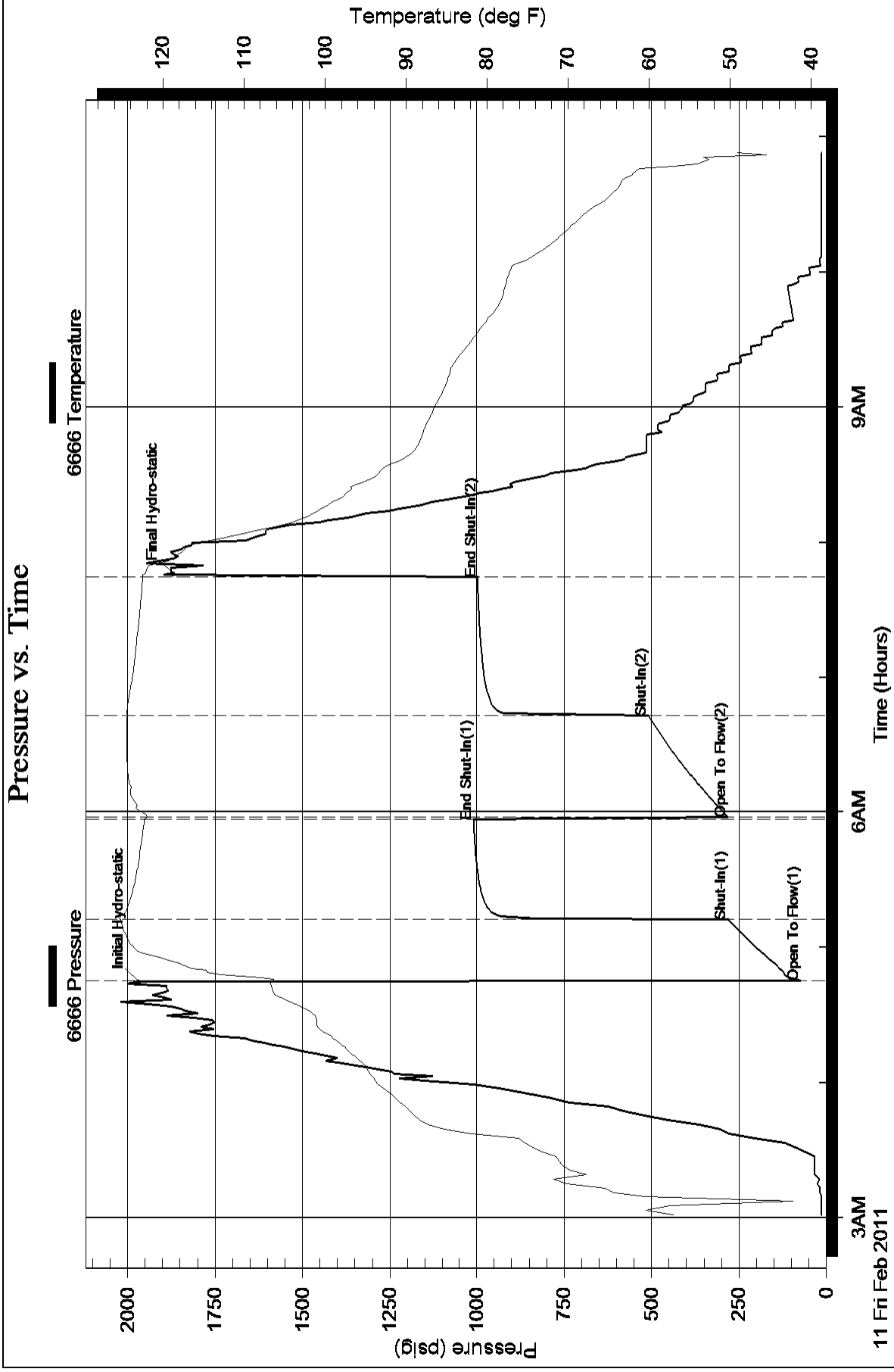
Num Gas Bombs: 0

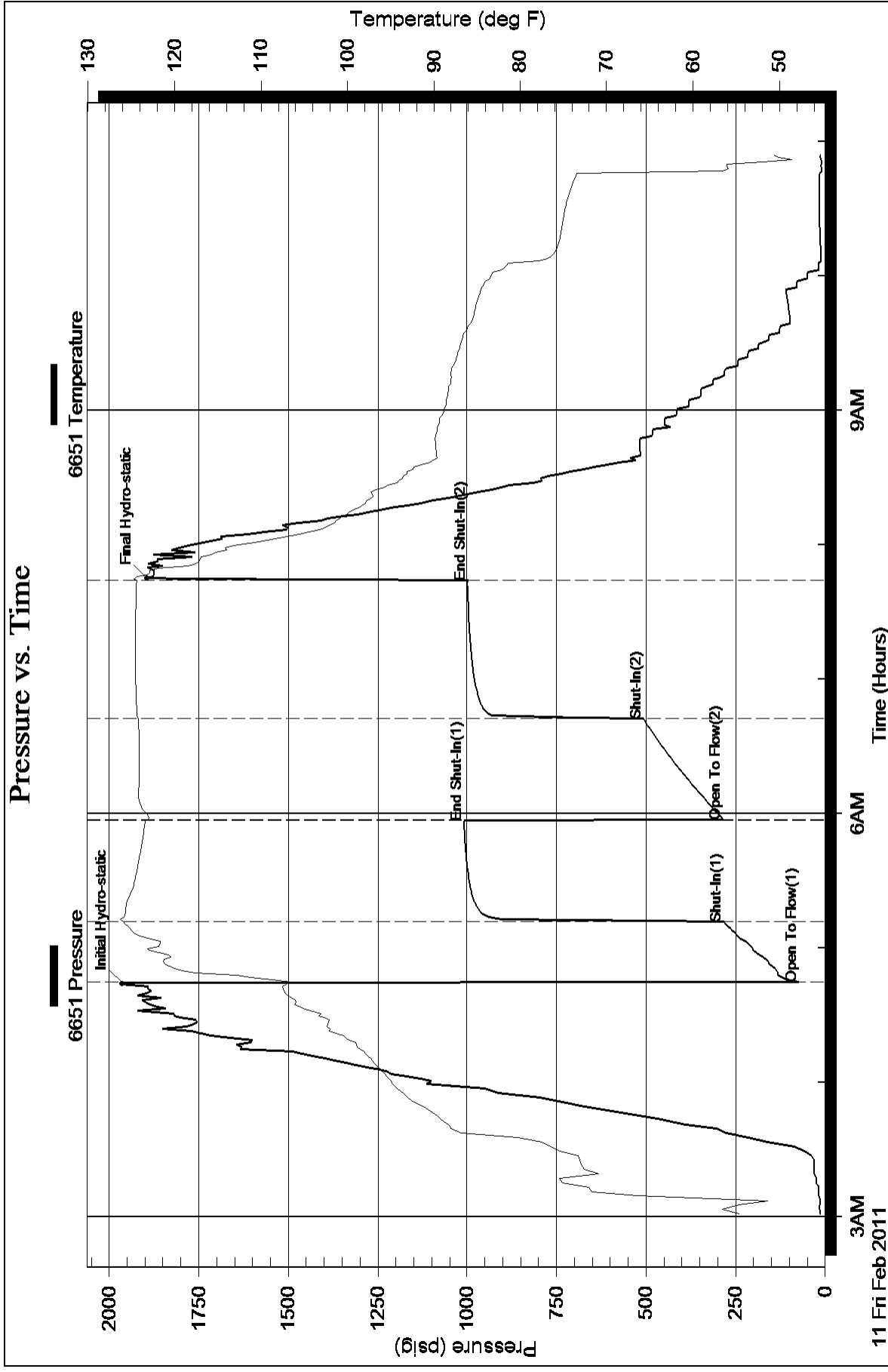
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: GRAVITY OF OIL 35







DRILL STEM TEST REPORT

Prepared For: **GRAND MESA OPERATING**

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206

ATTN: BOB PETERSON

33-13S-31W GOVE

KLAUS-HESS 1-33

Start Date: 2011.02.11 @ 20:00:00

End Date: 2011.02.12 @ 04:42:00

Job Ticket #: 1065 DST #: 2

Eagle Testers LLC.

P.O.Box 1011, Great Bend, KS 67530

620-617-7548

Printed: 2011.02.13 @ 20:43:35

GRAND MESA OPERATING
KLAUS-HESS 1-33
33-13S-31W GOVE
DST # 2
LKC -D-
2011.02.11



DRILL STEM TEST REPORT

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206
ATTN: BOB PETERSON

33-13S-31W GOVE

Job Ticket: 1065

DST#: 2

Test Start: 2011.02.11 @ 20:00:00

GENERAL INFORMATION:

Formation: **LKC -D-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:06:30

Time Test Ended: 04:42:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 42 MRT OAKLEY

Interval: **3950.00 ft (KB) To 3965.00 ft (KB) (TVD)**

Total Depth: 3965.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2853.00 ft (KB)

2846.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **6666** Outside

Press@RunDepth: 705.86 psig @ 3962.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.02.11

End Date:

2011.02.12

Last Calib.: 2011.02.11

Start Time: 20:01:00

End Time:

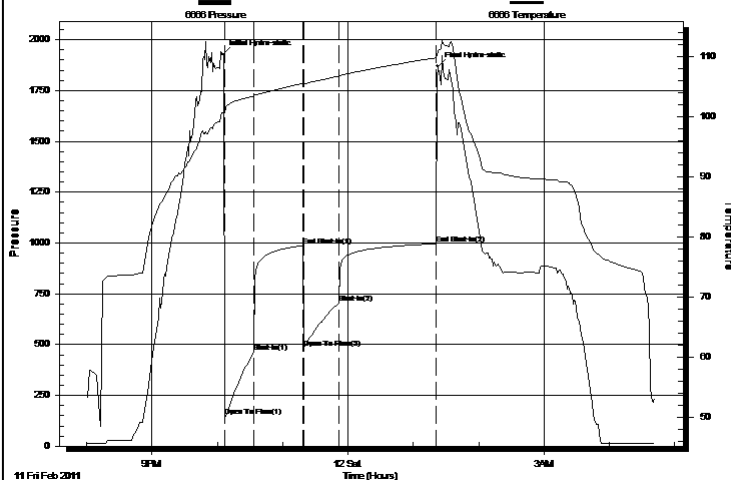
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Time On Btm: 2011.02.11 @ 22:05:00

Time Off Btm: 2011.02.12 @ 01:22:30

TEST COMMENT: 30-INITIAL OPENING GOOD BLOW BOTTOM BUCKET IN 1 1/2 MINS
45-INITIAL SHUT IN GOOD BLOW BACK 4 INCHES INTO WATER
45-FINAL OPENING GOOD BLOW BOTTOM BUCKET IN 2 MINS
75-FINAL SHUT IN GOOD BLOW BACK BOTTOM BUCKET

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1928.99	100.67	Initial Hydro-static
2	147.07	100.65	Open To Flow (1)
29	462.61	103.37	Shut-In(1)
74	987.02	105.51	End Shut-In(1)
75	482.01	105.41	Open To Flow (2)
107	705.86	106.72	Shut-In(2)
196	995.36	109.75	End Shut-In(2)
198	1868.16	110.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	GAS IN PIPE 100%GAS	3.22
1720.00	GASSY OIL 30%GAS 70%OIL	25.15
120.00	MUD CUT GASSY OIL 30%G60%O10%W	1.75
60.00	MUD CUT GASSY OIL TRACE OF WATER	0.88
0.00	30%GAS 40%OIL 15%MUD 15%WATER	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206
ATTN: BOB PETERSON

33-13S-31W GOVE

Job Ticket: 1065

DST#: 2

Test Start: 2011.02.11 @ 20:00:00

GENERAL INFORMATION:

Formation: **LKC -D-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:06:30

Time Test Ended: 04:42:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 42 MRT OAKLEY

Interval: **3950.00 ft (KB) To 3965.00 ft (KB) (TVD)**

Reference Elevations: 2853.00 ft (KB)

Total Depth: 3965.00 ft (KB) (TVD)

2846.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: **6651** Inside

Press@RunDepth: 995.97 psig @ 3961.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.02.11

End Date:

2011.02.12

Last Calib.: 2011.02.11

Start Time: 20:01:00

End Time:

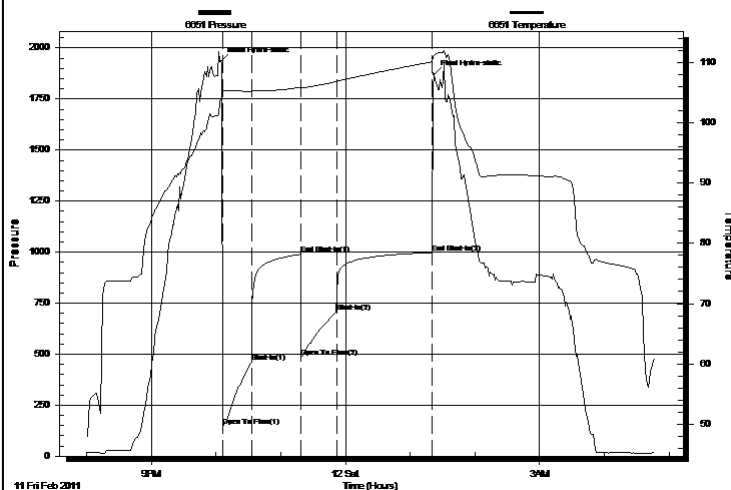
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Time On Btm: 2011.02.11 @ 22:04:00

Time Off Btm: 2011.02.12 @ 01:22:00

TEST COMMENT: 30-INITIAL OPENING GOOD BLOW BOTTOM BUCKET IN 1 1/2 MINS
45-INITIAL SHUT IN GOOD BLOW BACK 4 INCHES INTO WATER
45-FINAL OPENING GOOD BLOW BOTTOM BUCKET IN 2 MINS
75-FINAL SHUT IN GOOD BLOW BACK BOTTOM BUCKET

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1935.20	103.85	Initial Hydro-static
2	147.86	104.91	Open To Flow (1)
29	460.44	105.15	Shut-In(1)
75	989.00	105.88	End Shut-In(1)
75	485.07	105.72	Open To Flow (2)
108	704.64	106.83	Shut-In(2)
197	995.97	110.11	End Shut-In(2)
198	1871.53	111.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	GAS IN PIPE 100%GAS	3.22
1720.00	GASSY OIL 30%GAS 70%OIL	25.15
120.00	MUD CUT GASSY OIL 30%G60%O10%M1.75	
60.00	MUD CUT GASSY OIL TRACE OF WATER0.88	
0.00	30%GAS 40%OIL 15%MUD 15%WATER 0.00	

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

TOOL DIAGRAM

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT

33-13S-31W GOVE

PKWY BLDG 600

Job Ticket: 1065

DST#: 2

WICHITA KS 67206

Test Start: 2011.02.11 @ 20:00:00

ATTN: BOB PETERSON

Tool Information

Drill Pipe:	Length: 3805.00 ft	Diameter: 3.88 inches	Volume: 55.65 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 60000.00 lb
		Total Volume:	56.24 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.75 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3950.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	15.00 ft			
Tool Length:	43.75 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			3926.25	
Hydrolic tool	5.00			3931.25	
Change over sub	0.75			3932.00	
Jars	6.00			3938.00	
Safety Joint	2.00			3940.00	
Packer	5.00			3945.00	28.75 Bottom Of Top Packer
Packer	5.00			3950.00	
Anchor	10.00			3960.00	
Recorder	1.00	6651	Inside	3961.00	
Recorder	1.00	6666	Outside	3962.00	
Bull plug	3.00			3965.00	15.00 Bottom Packers & Anchor

Total Tool Length: 43.75



DRILL STEM TEST REPORT

FLUID SUMMARY

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT

33-13S-31W GOVE

PKWY BLDG 600

Job Ticket: 1065

DST#: 2

WICHITA KS 67206

Test Start: 2011.02.11 @ 20:00:00

ATTN: BOB PETERSON

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: 79.00 sec/qt

Cushion Volume:

bbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	GAS IN PIPE 100%GAS	3.222
1720.00	GASSY OIL 30%GAS 70%OIL	25.154
120.00	MUD CUT GASSY OIL 30%G60%O10%M	1.755
60.00	MUD CUT GASSY OIL TRACE OF WATER	0.877
0.00	30%GAS 40%OIL 15%MUD 15%WATER	0.000

Total Length: 2200.00 ft Total Volume: 31.008 bbl

Num Fluid Samples: 0

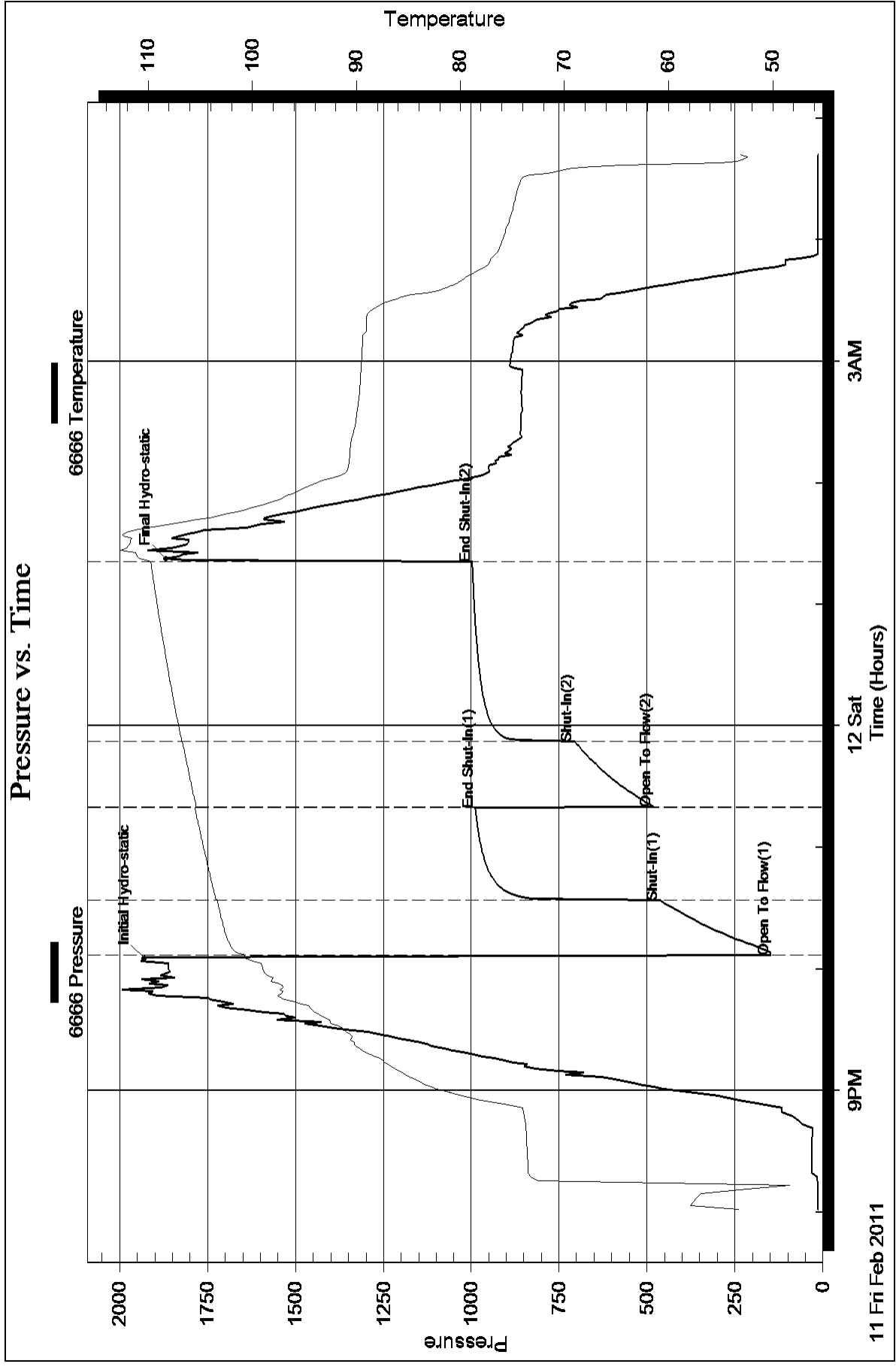
Num Gas Bombs: 0

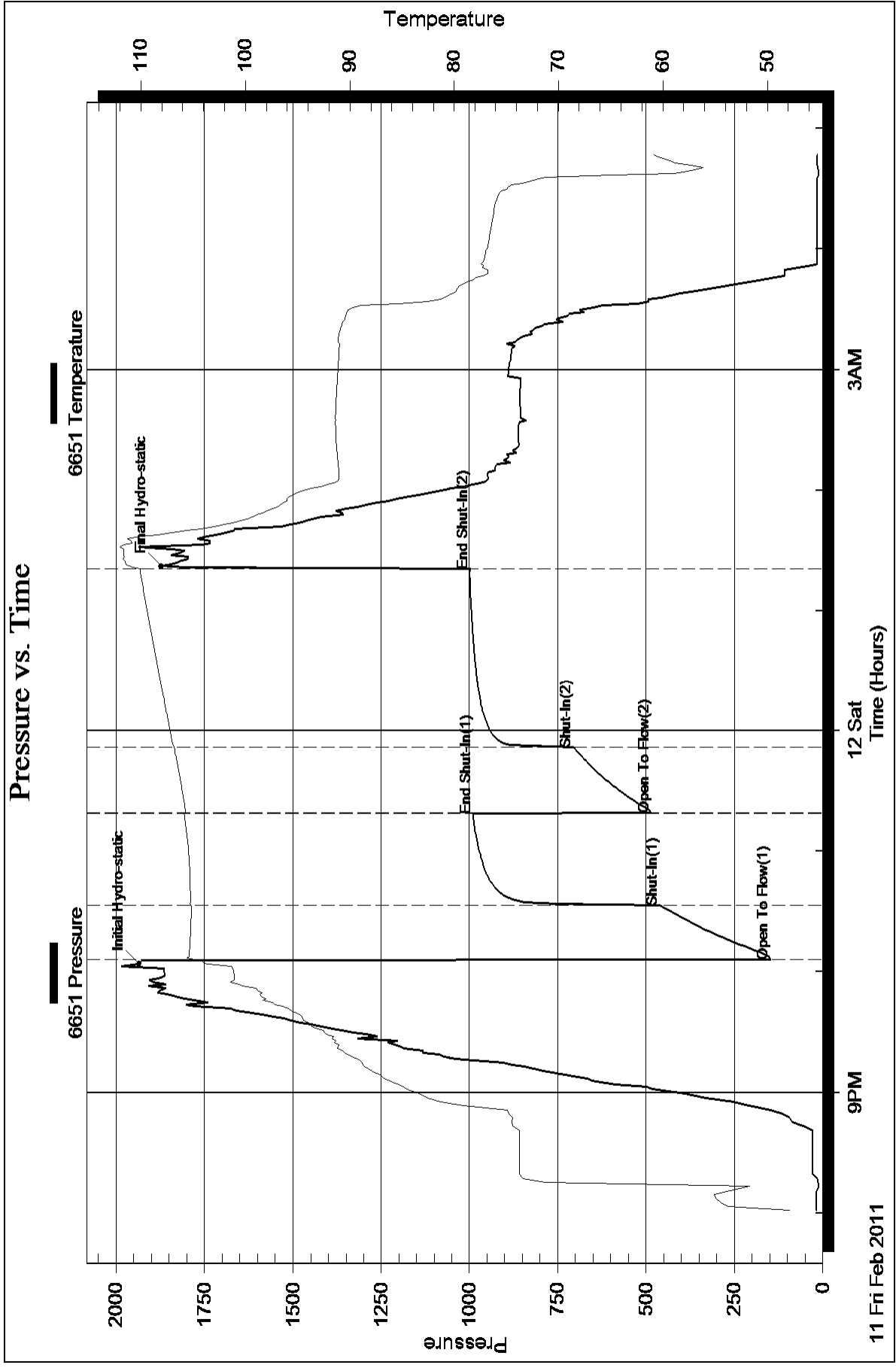
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: GRAVITY OF OIL 35 CORRECTED







DRILL STEM TEST REPORT

Prepared For: **GRAND MESA OPERATING**

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206

ATTN: BOB PETERSON

33-13S-31W GOVE

KLAUS-HESS 1-33

Start Date: 2011.02.13 @ 04:00:00

End Date: 2011.02.13 @ 11:28:30

Job Ticket #: 1066 DST #: 3

Eagle Testers LLC.

P.O.Box 1011, Great Bend, KS 67530

620-617-7548

Printed: 2011.02.13 @ 04:12:04



DRILL STEM TEST REPORT

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206
ATTN: BOB PETERSON

33-13S-31W GOVE

Job Ticket: 1066

DST#: 3

Test Start: 2011.02.13 @ 04:00:00

GENERAL INFORMATION:

Formation: **LKC -J-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:22:00

Time Test Ended: 11:28:30

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 43 MRT OAKLEY

Interval: **4126.00 ft (KB) To 4136.00 ft (KB) (TVD)**

Total Depth: 4136.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2853.00 ft (KB)

2846.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **6666** Outside

Press@RunDepth: 215.20 psig @ 4133.00 ft (KB)

Start Date: 2011.02.13

End Date:

2011.02.13

Start Time: 04:00:00

End Time:

11:28:30

Capacity: 5000.00 psig

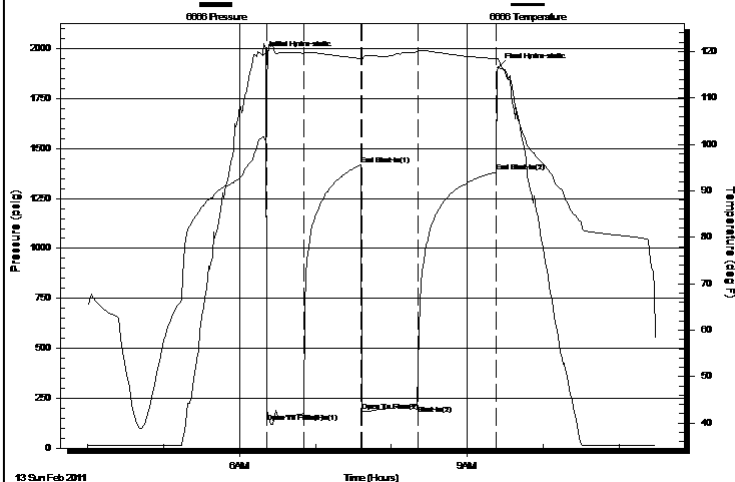
Last Calib.: 2011.02.13

Time On Btm: 2011.02.13 @ 06:18:30

Time Off Btm: 2011.02.13 @ 09:24:30

TEST COMMENT: 30-INITIAL OPENING FAIR BLOW BOTTOM BUCKET IN 12 MINS
45-INITIAL SHUT IN SURFACE BLOW BACK
45-FINAL OPENING WEAK BUILDING BLOW BUILT TO 10 INCHES INTO WATER
60-FINAL SHUT IN NO BLOW BACK

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1965.52	101.54	Initial Hydro-static
4	131.83	113.77	Open To Flow (1)
33	173.97	119.59	Shut-In(1)
77	1418.13	118.44	End Shut-In(1)
79	184.89	118.35	Open To Flow (2)
123	215.20	119.93	Shut-In(2)
184	1382.21	118.44	End Shut-In(2)
186	1903.79	118.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
200.00	MUD 100%MUD	1.76
60.00	MUD CUT WATER 40%W60%MUD	0.88
120.00	MUDDY WATER 40%M60%WATER	1.75

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206
ATTN: BOB PETERSON

33-13S-31W GOVE

Job Ticket: 1066

DST#: 3

Test Start: 2011.02.13 @ 04:00:00

GENERAL INFORMATION:

Formation: LKC -J-

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:22:00

Time Test Ended: 11:28:30

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 43 MRT OAKLEY

Interval: 4126.00 ft (KB) To 4136.00 ft (KB) (TVD)

Total Depth: 4136.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2853.00 ft (KB)

2846.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 6651 Inside

Press@RunDepth: 1381.07 psig @ 4132.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.02.13

End Date:

2011.02.13

Last Calib.: 2011.02.13

Start Time: 04:00:00

End Time:

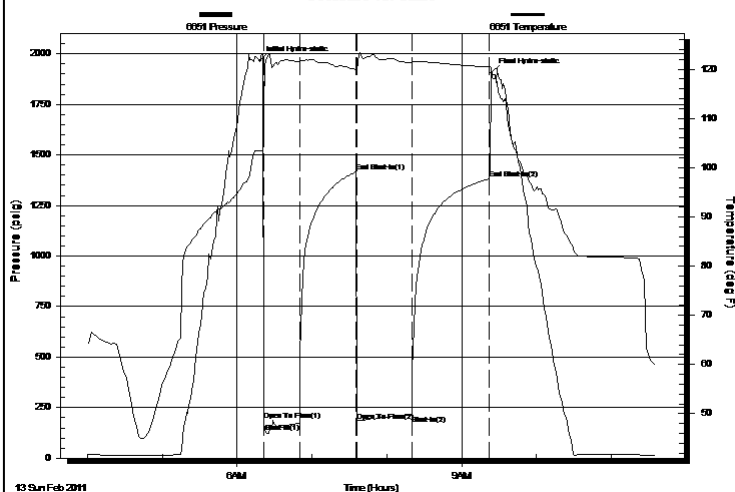
11:36:00

Time On Btm: 2011.02.13 @ 06:18:30

Time Off Btm: 2011.02.13 @ 09:24:00

TEST COMMENT: 30-INITIAL OPENING FAIR BLOW BOTTOM BUCKET IN 12 MINS
45-INITIAL SHUT IN SURFACE BLOW BACK
45-FINAL OPENING WEAK BUILDING BLOW BUILT TO 10 INCHES INTO WATER
60-FINAL SHUT IN NO BLOW BACK

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1966.13	103.51	Initial Hydro-static
3	186.57	112.14	Open To Flow (1)
32	171.84	121.56	Shut-In(1)
77	1418.27	120.00	End Shut-In(1)
78	184.82	119.61	Open To Flow (2)
122	213.64	121.34	Shut-In(2)
184	1381.07	120.44	End Shut-In(2)
186	1907.03	119.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
200.00	MUD 100%MUD	1.76
60.00	MUD CUT WATER 40%W60%MUD	0.88
120.00	MUDDY WATER 40%M60%WATER	1.75

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

TOOL DIAGRAM

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT

33-13S-31W GOVE

PKWY BLDG 600

Job Ticket: 1066

DST#: 3

WICHITA KS 67206

Test Start: 2011.02.13 @ 04:00:00

ATTN: BOB PETERSON

Tool Information

Drill Pipe:	Length:	3980.00 ft	Diameter:	3.88 inches	Volume:	58.20 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length:	120.00 ft	Diameter:	2.25 inches	Volume:	0.59 bbl	Weight to Pull Loose:	55000.00 lb
					Total Volume:	58.79 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		2.75 ft					String Weight: Initial	45000.00 lb
Depth to Top Packer:		4126.00 ft					Final	45000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		10.00 ft						
Tool Length:		38.75 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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Shut-in tool	5.00			4102.25	
Hydrolic tool	5.00			4107.25	
Change over sub	0.75			4108.00	
Jars	6.00			4114.00	
Safety Joint	2.00			4116.00	
Packer	5.00			4121.00	28.75 Bottom Of Top Packer
Packer	5.00			4126.00	
Anchor	5.00			4131.00	
Recorder	1.00	6651	Inside	4132.00	
Recorder	1.00	6666	Outside	4133.00	
Bull plug	3.00			4136.00	10.00 Bottom Packers & Anchor

Total Tool Length: 38.75



DRILL STEM TEST REPORT

FLUID SUMMARY

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206
ATTN: BOB PETERSON

33-13S-31W GOVE

Job Ticket: 1066

DST#: 3

Test Start: 2011.02.13 @ 04:00:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 60.00 sec/qt

Water Loss: 10.50 in³

Resistivity: ohm.m

Salinity: 1500.00 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
200.00	MUD 100%MUD	1.760
60.00	MUD CUT WATER 40%W60%MUD	0.877
120.00	MUDDY WATER 40%M60%WATER	1.755

Total Length: 380.00 ft Total Volume: 4.392 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

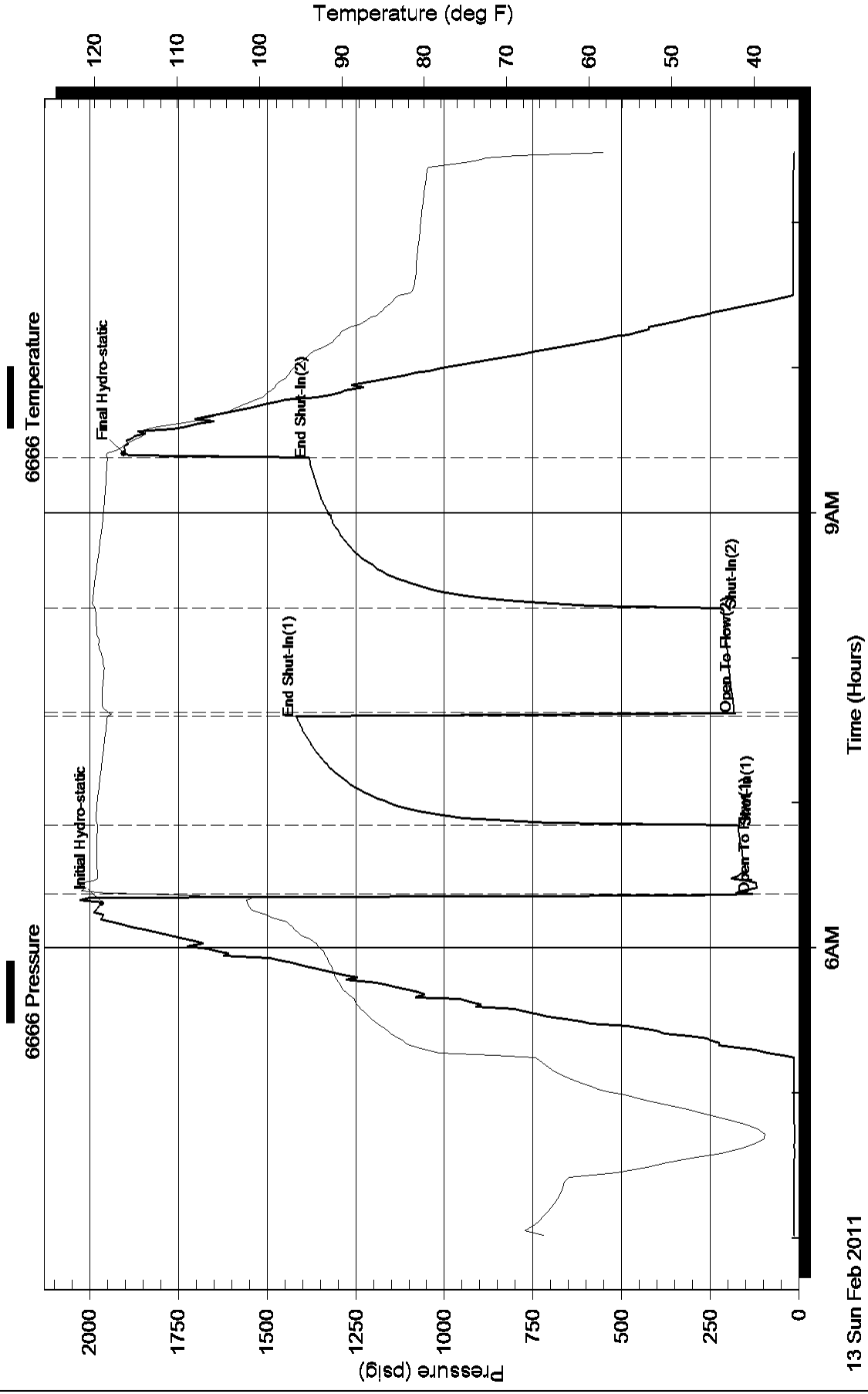
Serial #:

Laboratory Name:

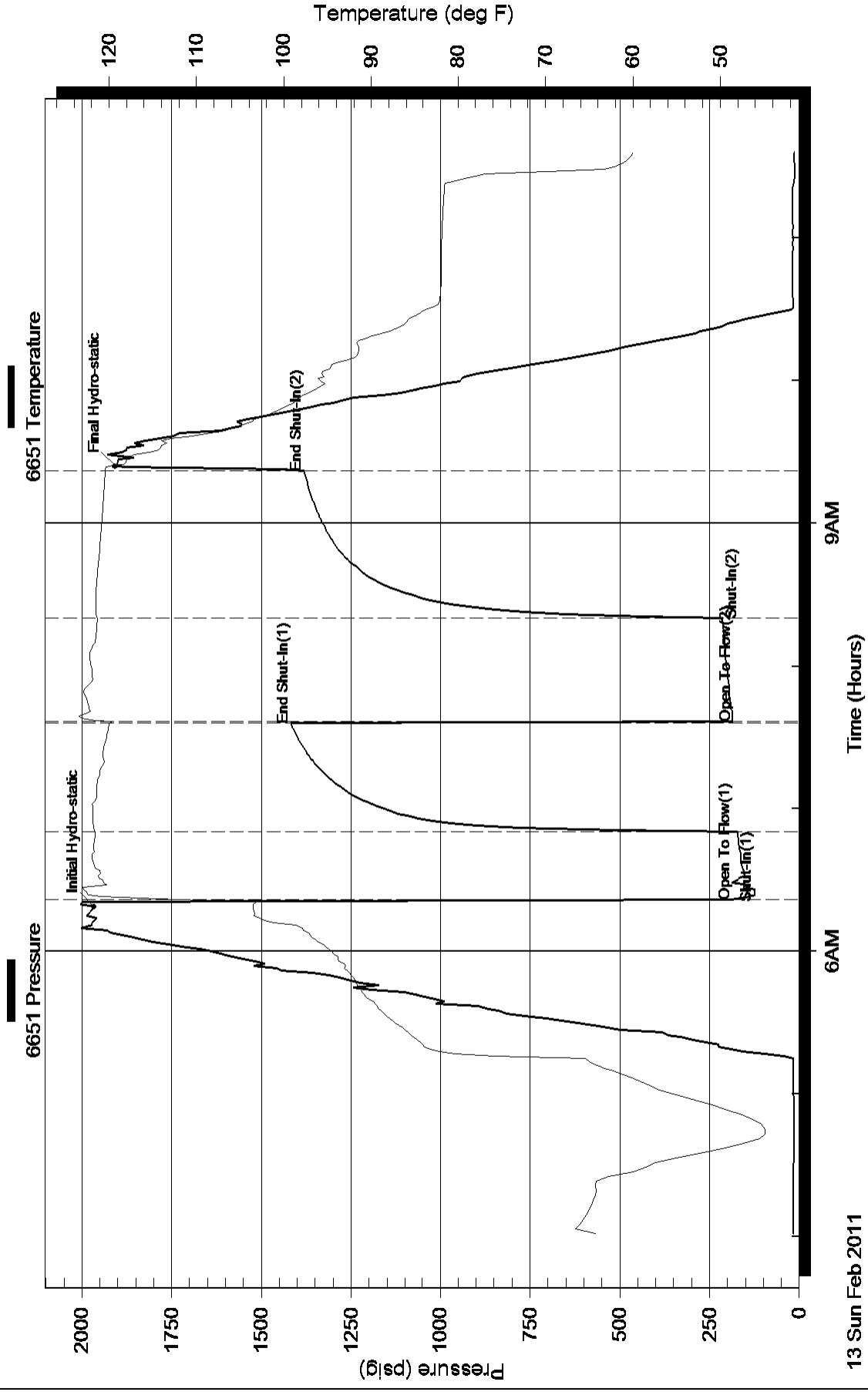
Laboratory Location:

Recovery Comments: RECOVERY CHLORIDES 37,000 PPM

Pressure vs. Time



Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **GRAND MESA OPERATING**

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206

ATTN: BOB PETERSON

33-13S-31W GOVE

KLAUS-HESS 1-33

Start Date: 2011.02.13 @ 19:00:00

End Date: 2011.02.14 @ 00:58:30

Job Ticket #: 1067 DST #: 4

Eagle Testers LLC.

P.O.Box 1011, Great Bend, KS 67530

620-617-7548

Printed: 2011.02.13 @ 19:12:06

GRAND MESA OPERATING
KLAUS-HESS 1-33
33-13S-31W GOVE
DST # 4
LKC-K-
2011.02.13



DRILL STEM TEST REPORT

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206
ATTN: BOB PETERSON

33-13S-31W GOVE

Job Ticket: 1067

DST#: 4

Test Start: 2011.02.13 @ 19:00:00

GENERAL INFORMATION:

Formation: **LKC -K-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:54:30

Time Test Ended: 00:58:30

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 43 MRT OAKLEY

Interval: **4142.00 ft (KB) To 4167.00 ft (KB) (TVD)**

Reference Elevations: 2853.00 ft (KB)

Total Depth: 4167.00 ft (KB) (TVD)

2846.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: **6651** Inside

Press@RunDepth: 133.06 psig @ 4163.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.02.13

End Date:

2011.02.14

Last Calib.: 2011.02.13

Start Time: 19:00:00

End Time:

00:58:30

Time On Btm: 2011.02.13 @ 20:53:30

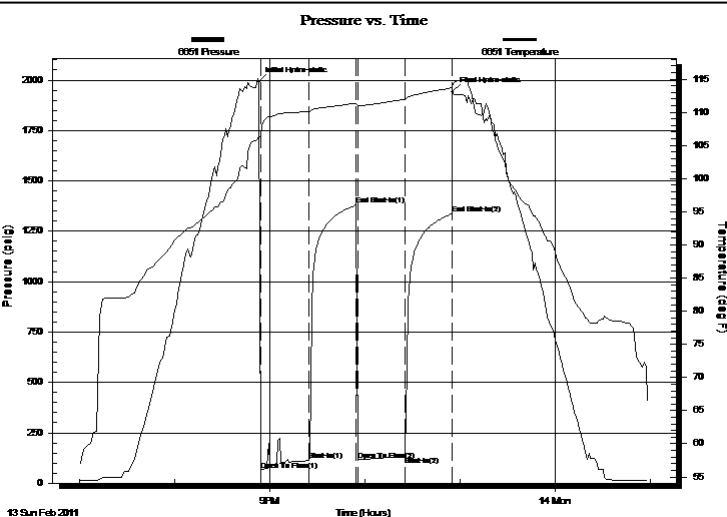
Time Off Btm: 2011.02.13 @ 22:55:30

TEST COMMENT: 30-INITIAL OPENING WEAK BLOW BUILT TO 1 INCH THEN DIED OF TO SURFACE BLOW

30-INITIAL SHUT IN NO BLOW BACK

30-FINAL OPENING SURFACE BLOW

30-FINAL SHUT IN NO BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1990.63	106.34	Initial Hydro-static
1	65.73	106.29	Open To Flow (1)
32	111.85	110.11	Shut-In(1)
61	1379.98	111.36	End Shut-In(1)
63	116.12	111.03	Open To Flow (2)
93	133.06	111.97	Shut-In(2)
122	1335.75	113.69	End Shut-In(2)
122	1942.05	113.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	MUD 100%MUD	0.37
120.00	MUDDY WATER 40%M60%WATER	1.32

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT
PKWY BLDG 600
WICHITA KS 67206
ATTN: BOB PETERSON

33-13S-31W GOVE

Job Ticket: 1067

DST#: 4

Test Start: 2011.02.13 @ 19:00:00

GENERAL INFORMATION:

Formation: **LKC -K-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:54:30

Time Test Ended: 00:58:30

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 43 MRT OAKLEY

Interval: **4142.00 ft (KB) To 4167.00 ft (KB) (TVD)**

Reference Elevations: 2853.00 ft (KB)

Total Depth: 4167.00 ft (KB) (TVD)

2846.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: **6666** Outside

Press@RunDepth: 1335.83 psig @ 4164.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.02.13

End Date:

2011.02.14

Last Calib.:

2011.02.13

Start Time: 19:00:00

End Time:

01:04:30

Time On Btm:

2011.02.13 @ 20:51:00

Time Off Btm:

2011.02.13 @ 22:56:00

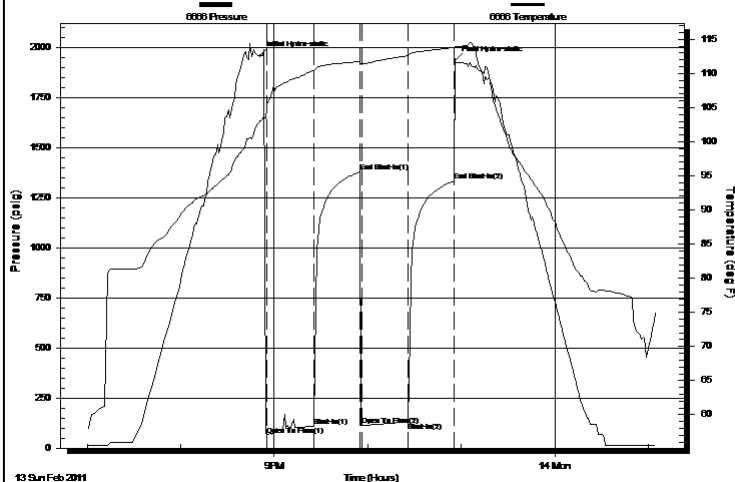
TEST COMMENT: 30-INITIAL OPENING WEAK BLOW BUILT TO 1 INCH THEN DIED OF TO SURFACE BLOW

30-INITIAL SHUT IN NO BLOW BACK

30-FINAL OPENING SURFACE BLOW

30-FINAL SHUT IN NO BLOW BACK

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1959.55	103.04	Initial Hydro-static
4	62.31	104.89	Open To Flow (1)
35	109.72	110.45	Shut-In(1)
64	1380.72	111.77	End Shut-In(1)
65	113.25	111.41	Open To Flow (2)
95	130.63	112.62	Shut-In(2)
125	1335.83	113.81	End Shut-In(2)
125	1938.38	113.92	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	MUD 100%MUD	0.37
120.00	MUDDY WATER 40%M60%WATER	1.32

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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DRILL STEM TEST REPORT

TOOL DIAGRAM

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT

33-13S-31W GOVE

PKWY BLDG 600

Job Ticket: 1067

DST#: 4

WICHITA KS 67206

Test Start: 2011.02.13 @ 19:00:00

ATTN: BOB PETERSON

Tool Information

Drill Pipe:	Length:	3996.00 ft	Diameter:	3.88 inches	Volume:	58.44 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length:	120.00 ft	Diameter:	2.25 inches	Volume:	0.59 bbl	Weight to Pull Loose:	55000.00 lb
					Total Volume:	59.03 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		2.75 ft					String Weight: Initial	48000.00 lb
Depth to Top Packer:		4142.00 ft					Final	48000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		25.00 ft						
Tool Length:		53.75 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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Shut-in tool	5.00			4118.25	
Hydrolic tool	5.00			4123.25	
Change over sub	0.75			4124.00	
Jars	6.00			4130.00	
Safety Joint	2.00			4132.00	
Packer	5.00			4137.00	28.75 Bottom Of Top Packer
Packer	5.00			4142.00	
Anchor	20.00			4162.00	
Recorder	1.00	6651	Inside	4163.00	
Recorder	1.00	6666	Outside	4164.00	
Bull plug	3.00			4167.00	25.00 Bottom Packers & Anchor

Total Tool Length: 53.75



DRILL STEM TEST REPORT

FLUID SUMMARY

GRAND MESA OPERATING

KLAUS-HESS 1-33

1700 N WATERFRONT

33-13S-31W GOVE

PKWY BLDG 600

Job Ticket: 1067

DST#: 4

WICHITA KS 67206

Test Start: 2011.02.13 @ 19:00:00

ATTN: BOB PETERSON

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.80 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	MUD 100%MUD	0.369
120.00	MUDDY WATER 40%M60%WATER	1.318

Total Length: 195.00 ft Total Volume: 1.687 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RECOVERY CHOLRIDES 34,000

