



DRILL STEM TEST REPORT

Prepared For: **Cascade Petroleum**

1331 17th St 400
Denver CO. 80202

ATTN: Matt Taylor

Poss A 11s-55w-13-14

13-11s-55w Lincoln,CO

Start Date: 2014.05.14 @ 12:35:00

End Date: 2014.05.15 @ 07:37:30

Job Ticket #: 57007 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.05.16 @ 11:48:53

Cascade Petroleum

13-11s-55w Lincoln,CO

Poss A 11s-55w-13-14

DST # 1

Cherokee A & B

2014.05.14



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TESTING, INC.

DRILL STEM TEST REPORT

Cascade Petroleum

1331 17th St 400
Denver CO. 80202

ATTN: Matt Taylor

13-11s-55w Lincoln, CO

Poss A 11s-55w-13-14

Job Ticket: 57007

DST#: 1

Test Start: 2014.05.14 @ 12:35:00

GENERAL INFORMATION:

Formation: **Cherokee A & B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:54:30

Time Test Ended: 07:37:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jace McKinney, Justi

Unit No: 75

Interval: 6890.00 ft (KB) To 6930.00 ft (KB) (TVD)

Total Depth: 6930.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 5264.00 ft (KB)

5249.00 ft (CF)

KB to GR/CF: 15.00 ft

Serial #: 8675 Inside

Press@RunDepth: 1296.81 psig @ 6927.00 ft (KB)

Start Date: 2014.05.14

End Date:

2014.05.15

Start Time: 12:35:15

End Time:

07:37:30

Capacity: 8000.00 psig

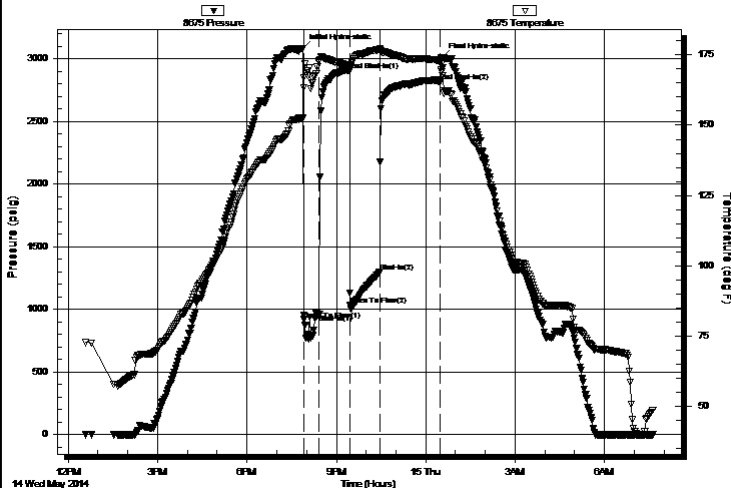
Last Calib.: 2014.05.15

Time On Btm: 2014.05.14 @ 19:53:00

Time Off Btm: 2014.05.15 @ 00:32:00

TEST COMMENT: B.O.B. in 1 min.
Bled off for 10 min. No return blow
B.O.B. in 5 min.
Bled off for 10 min. Built to 6" return blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3083.91	152.49	Initial Hydro-static
2	919.47	163.35	Open To Flow (1)
33	965.43	172.90	Shut-In(1)
94	2906.24	171.23	End Shut-In(1)
95	1032.15	169.93	Open To Flow (2)
154	1296.81	176.94	Shut-In(2)
277	2817.21	172.76	End Shut-In(2)
279	3012.33	169.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	ocw gm 5%O 10%W 15%G 70%M	0.93
63.00	gcm 30%G 70%M	0.46
315.00	ocgm 2%O 8%G 90%M	2.31
573.00	gcm 10%G 90%M	7.10
1863.00	drop the bar and push it down hole	26.13

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Denver CO. 80202

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5249.00 ft (CF)

KB to GR/CF: 15.00 ft

Serial #: 8650 Outside

Press@RunDepth: psig @ 6927.00 ft (KB)

Start Date: 2014.05.14

End Date:

2014.05.15

Start Time: 12:35:15

End Time:

07:37:00

Capacity: 8000.00 psig

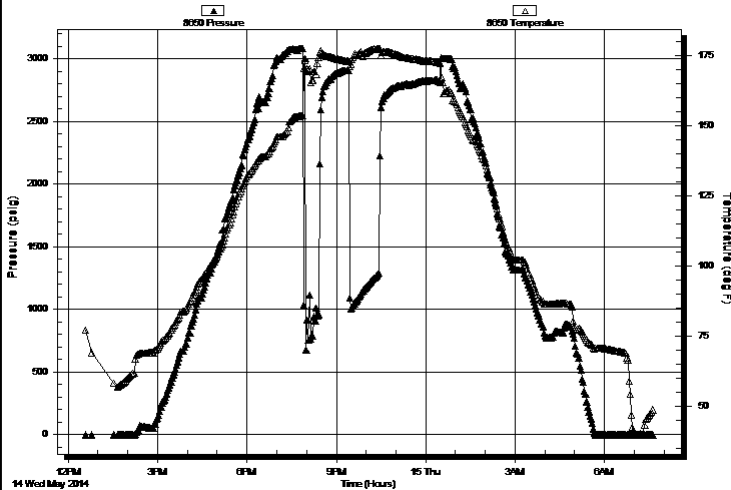
Last Calib.: 2014.05.15

Time On Btm:

Time Off Btm:

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DRILL STEM TEST REPORT

TOOL DIAGRAM

Cascade Petroleum

13-11s-55w Lincoln, CO

1331 17th St 400
Denver CO. 80202

Poss A 11s-55w-13-14

Job Ticket: 57007

DST#: 1

ATTN: Matt Taylor

Test Start: 2014.05.14 @ 12:35:00

Tool Information

Drill Pipe:	Length:	6247.00 ft	Diameter:	3.80 inches	Volume:	87.63 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	645.00 ft	Diameter:	2.75 inches	Volume:	4.74 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:	200000.0 lb
					Total Volume:	92.37 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.50 ft						String Weight: Initial	110000.0 lb
Depth to Top Packer:	6890.00 ft						Final	123000.0 lb
Depth to Bottom Packer:	ft							
Interval between Packers:	40.00 ft							
Tool Length:	69.50 ft							
Number of Packers:	2		Diameter:	6.75 inches				

Tool Comments: Slide to bottom through out the first open

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			6861.50		
Shut In Tool	5.00			6866.50		
Sampler	2.00			6868.50		
Hydraulic tool	5.00			6873.50		
Jars	5.00			6878.50		
Safety Joint	2.50			6881.00		
Packer	5.00			6886.00	29.50	Bottom Of Top Packer
Packer	4.00			6890.00		
Stubb	1.00			6891.00		
Perforations	36.00			6927.00		
Change Over Sub	0.00			6927.00		
Recorder	0.00	8675	Inside	6927.00		
Recorder	0.00	8650	Outside	6927.00		
Drill Pipe	0.00			6927.00		
Change Over Sub	0.00			6927.00		
Perforations	0.00			6927.00		
Bullnose	3.00			6930.00	40.00	Bottom Packers & Anchor
Total Tool Length:	69.50					



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DRILL STEM TEST REPORT

FLUID SUMMARY

Cascade Petroleum

13-11s-55w Lincoln, CO

1331 17th St 400
Denver CO. 80202

Poss A 11s-55w-13-14

Job Ticket: 57007

DST#: 1

ATTN: Matt Taylor

Test Start: 2014.05.14 @ 12:35:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 8.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 4.69 in³

Resistivity: ohm.m

Salinity: 1100.00 ppm

Filter Cake: 1.00 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
126.00	ocw gm 5%O 10%W 15%G 70%M	0.926
63.00	gcm 30%G 70%M	0.463
315.00	ocgm 2%O 8%G 90%M	2.314
573.00	gcm 10%G 90%M	7.096
1863.00	drop the bar and push it down hole	26.133

Total Length: 2940.00 ft Total Volume: 36.932 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .30 @ 40 F = 40,000

Serial #: 8675

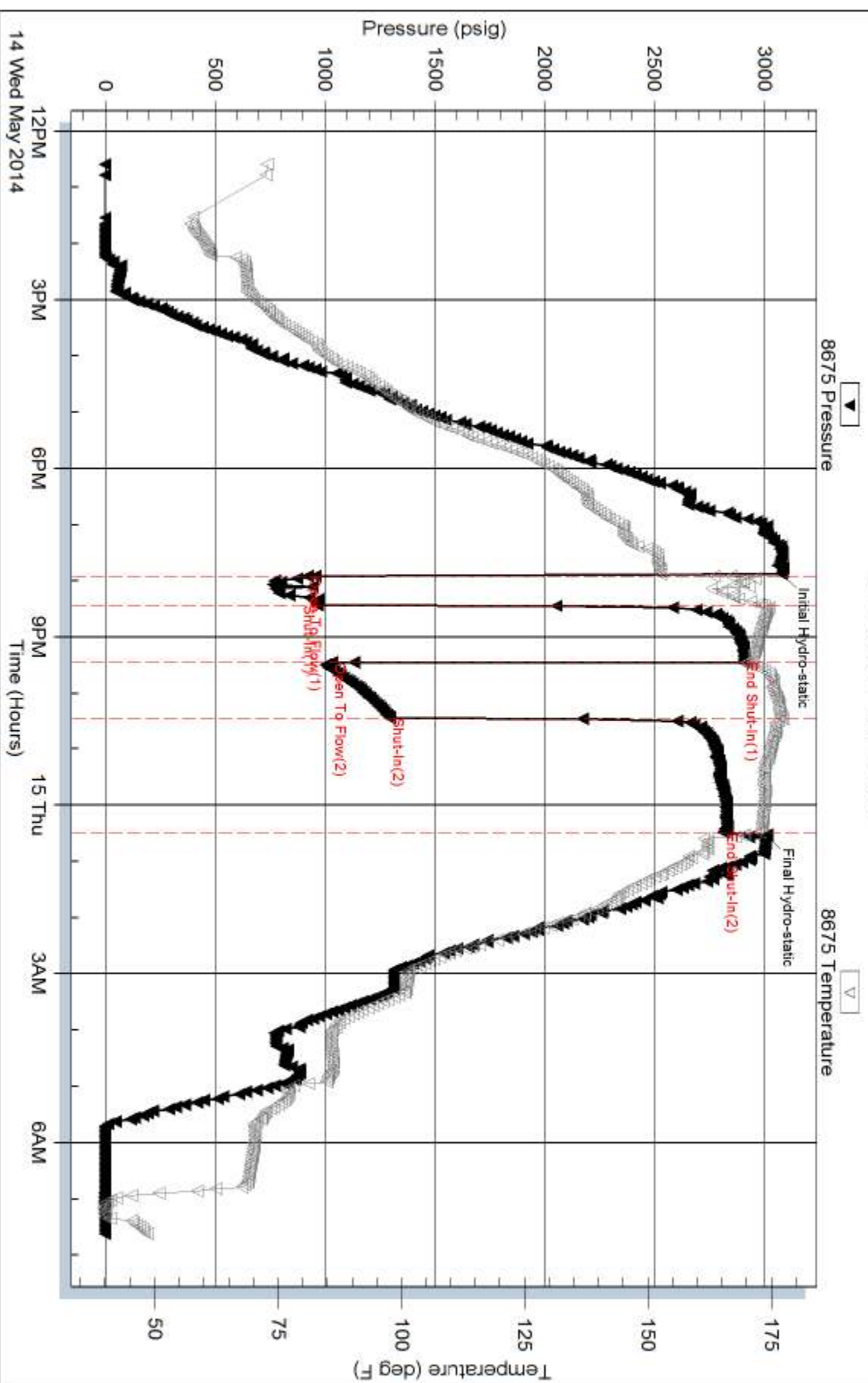
Inside

Cascade Petroleum

Ross A 11s-55w -13-14

DST Test Number: 1

Pressure vs. Time

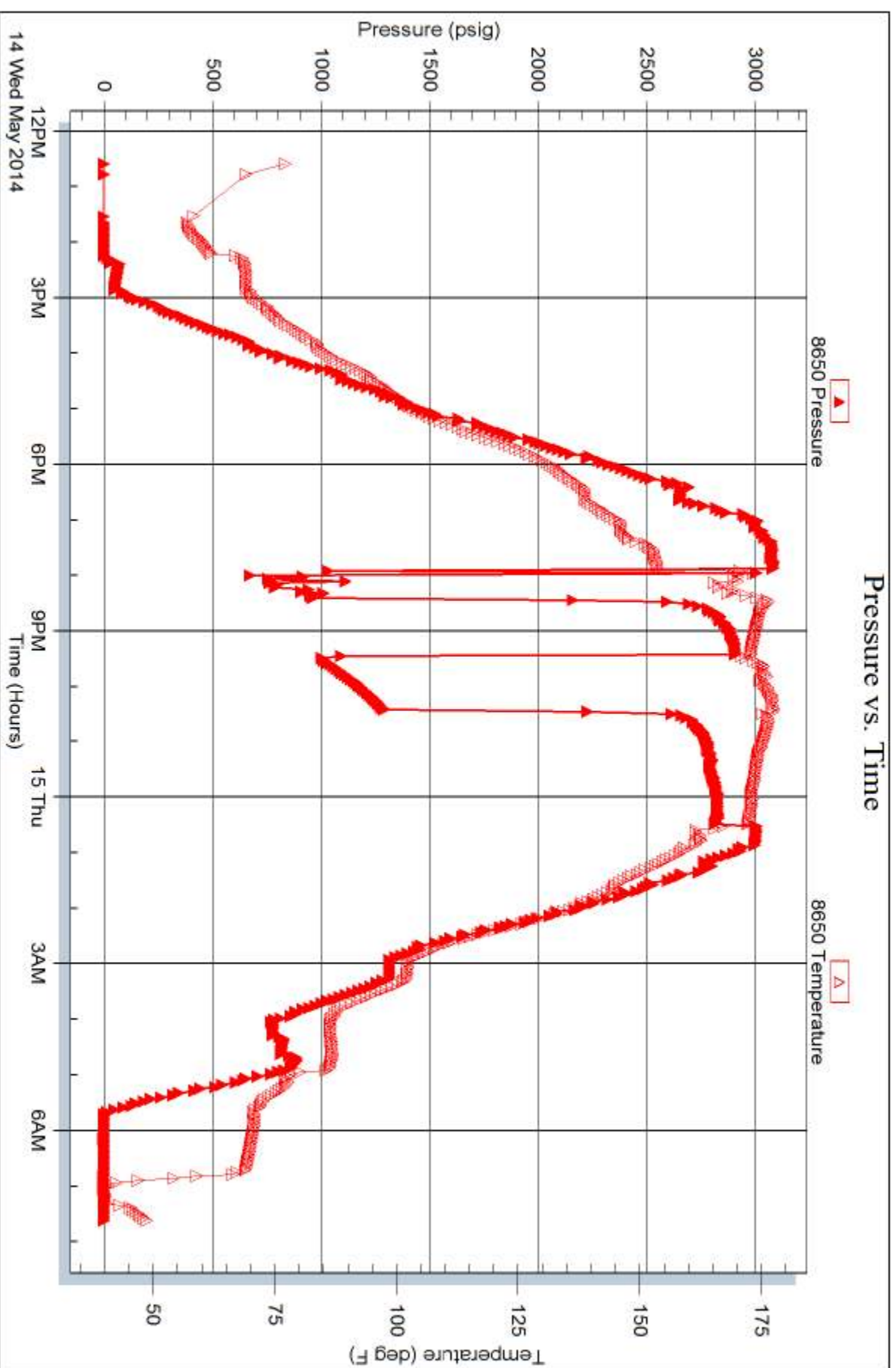


Serial #: 8650

Outside Cascade Petroleum

Ross A 11s-55w -13-14

DST Test Number: 1





1515 Commerce Parkway • Hays, Kansas 67601

NO. 57007

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING, INC.

P.O. Box 362 • Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 57007 Date 5/14/14 5/15/14
Company Name Cascade Petroleum
Lease Poss Alls-55w-13-14 Test No. DST #1
County Lincoln Co. CO. Sec. 13 Twp. 11s Rng. 55w

SAMPLER RECOVERY

Gas 7000 Gas ML Chlorides 1,100 ppm.
Oil _____ ML Resistivity _____ ohms @ _____ F
Mud 300 Mud ML Viscosity 48
Water _____ ML Mud Weight 8.5
Other _____ ML Filtrate 4.7
Pressure 200 psi ML Other cake 1 + Lcm 4#
Total 1000 ML _____

PIT MUD ANALYSIS

SAMPLER ANALYSIS

Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.
Gravity _____ corrected @60F

PIPE RECOVERY

~~TOP~~
~~Resistivity _____ ohms @ _____ F~~
~~Chlorides _____ ppm.~~

~~MIDDLE~~
~~Resistivity _____ ohms @ _____ F~~
~~Chlorides _____ ppm.~~

~~BOTTOM~~
Resistivity 6/30 ohms @ 40 F
Chlorides 40,000 ppm.