Company	Western Geophysical Co.
Well	Mesa Petroleum Co. Ltd.
Field	Wildcat
County	Sublette
State	Wyoming
Location	1980' FSL & 1980' FEL
Sec.	10
Twp.	35N
Rge.	108W
Elevation	KB 7,000 ft.
Date	7-Oct-2014
Run No.	ONE
Depth Driller	10,000 ft.
Depth Logger	10,000 ft.
Bottom Log Interval	9,998 ft.
Top Log Interval	7,000 ft.
Casing Driller	9 5/8 @ 7,000 ft.
Casing Logger	7,000 ft.
Bit Size	8 1/2 in.
Type Fluid in Hole	Water Base Mud
Density	9.2 lb/gal
Viscosity	45 sec
Fluid Loss	8.0 cc
Source of Sample	Flowline
Rm @ Meas. Temp.	0.08 @ 75 °F
Rmf @ Meas. Temp.	0.06 @ 75 °F
Rmc @ Meas. Temp.	0.09 @ 75 °F
Rm @ BHT	0.05 @ 180 °F
Time Since Circulation	12 hrs
Max. Rec. Temp.	180 °F
Equipment	10,000 ft.
Location	Pinedale, Wyoming
Recorded By	Jones / Smith
Witnessed By	Mr. Bob Smith

THIS DOCUMENT IS THE PROPERTY OF WESTERN GEOPHYSICAL CO. AND IS LOANED FOR THE USE OF THE RECEIVING COMPANY. IT MUST BE RETURNED UPON REQUEST.

The process for the log run is shown this page by the number after the letter run.

The log was recorded in a Borehole Compensated Sonic Digital Gamma Ray log dated 7-Oct-2014.

Details of all tools are in a field print log.

Tool Combination

Tool 1 Listed

Log Variables

Gamma Ray Scale: 0 API Units (Left Track) to 150 API Units (Right Track)
Sonic Scale: 140 µs/ft (Left Track) to 40 µs/ft (Right Track)

Depth Scale: 1" = 100 ft

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 2 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 3 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 4 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 5 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 6 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 7 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 8 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 9 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 10 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 11 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 12 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 13 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 14 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 15 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 16 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 17 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 18 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 19 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 20 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 21 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 22 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 23 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 24 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 25 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 26 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 27 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 28 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 29 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 30 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 31 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 32 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 33 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 34 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 35 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 36 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 37 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 38 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 39 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 40 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 41 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 42 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 43 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 44 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 45 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 46 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 47 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 48 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 49 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

Tool 50 Listed

Tool	Model	Serial No.	Detector Offset	Mud Density Range	Tool Length	Tool Weight
Sonic	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb
Gamma Ray	3974	3974-1	5 ft	8 - 12 lb/gal	15 ft	1,000 lb

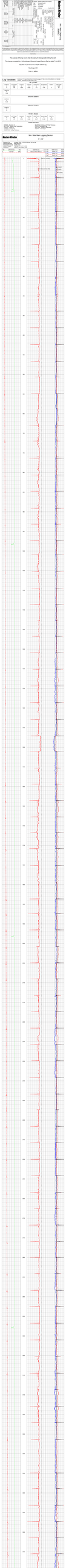
Western Wireline

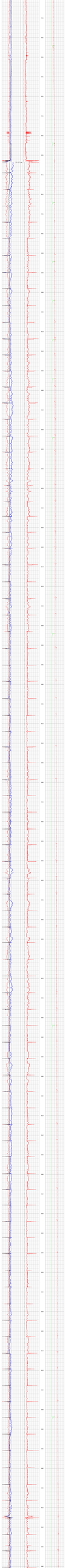
Mesa Petroleum Co. Ltd.
Wildcat
Sublette
Wyoming
Sec. 10 Twp. 35N Rge. 108W
1980' FSL & 1980' FEL
Elevation KB 7,000 ft.
Date 7-Oct-2014
Run No. ONE
Depth Driller 10,000 ft.
Depth Logger 10,000 ft.
Bottom Log Interval 9,998 ft.
Top Log Interval 7,000 ft.
Casing Driller 9 5/8 @ 7,000 ft.
Casing Logger 7,000 ft.
Bit Size 8 1/2 in.
Type Fluid in Hole Water Base Mud
Density 9.2 lb/gal
Viscosity 45 sec
Fluid Loss 8.0 cc
Source of Sample Flowline
Rm @ Meas. Temp. 0.08 @ 75 °F
Rmf @ Meas. Temp. 0.06 @ 75 °F
Rmc @ Meas. Temp. 0.09 @ 75 °F
Rm @ BHT 0.05 @ 180 °F
Time Since Circulation 12 hrs
Max. Rec. Temp. 180 °F
Equipment 10,000 ft.
Location Pinedale, Wyoming
Recorded By Jones / Smith
Witnessed By Mr. Bob Smith

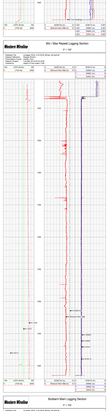
Sonic - Gamma Ray Logging Station

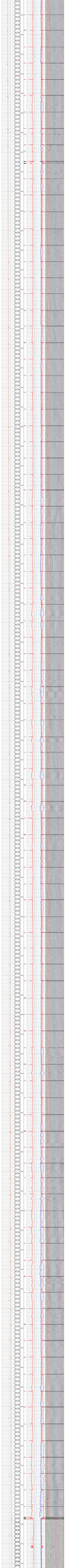
2" = 100'

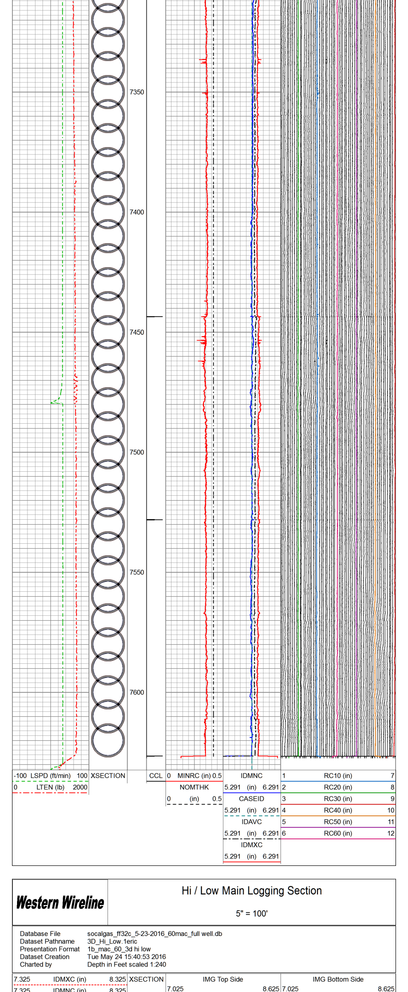
Sonic Tool Model	3974	Sonic Tool Serial No.	3974-1
Sonic Detector Offset	5 ft	Sonic Mud Density Range	8 - 12 lb/gal
Gamma Ray Tool Model	3974	Gamma Ray Tool Serial No.	3974-1
Gamma Ray Detector Offset	5 ft	Gamma Ray Mud Density Range	8 - 12 lb/gal






Rotary Studies
Rim - Vine Planned Logging Section
1" = 5' (1:60)
Company: Rotary Studies, Inc.
Contractor: Rotary Studies, Inc.
Rig: Rotary Studies, Inc.
Hole Size: 7.875"
Date: 2/14/2011
Time: 12:00 AM
Depth: 1000
Rotary Studies, Inc.
Rim - Vine Planned Logging Section
1" = 5' (1:60)
Company: Rotary Studies, Inc.
Contractor: Rotary Studies, Inc.
Rig: Rotary Studies, Inc.
Hole Size: 7.875"
Date: 2/14/2011
Time: 12:00 AM
Depth: 1000
Rotary Studies, Inc.
Mulkern Gas Logging Section
1" = 5' (1:60)
Company: Rotary Studies, Inc.
Contractor: Rotary Studies, Inc.
Rig: Rotary Studies, Inc.
Hole Size: 7.875"
Date: 2/14/2011
Time: 12:00 AM
Depth: 1000
Rotary Studies, Inc.
Mulkern Gas Logging Section
1" = 5' (1:60)
Company: Rotary Studies, Inc.
Contractor: Rotary Studies, Inc.
Rig: Rotary Studies, Inc.
Hole Size: 7.875"
Date: 2/14/2011
Time: 12:00 AM
Depth: 1000





-100 LSPD (ft/min) 100	XSECTION	CCL	0 MINRC (in) 0.5	IDMNC	1 RC10 (in) 7
0 LTEN (lb) 2000			NOMTHK	5.291 (in) 6.291	2 RC20 (in) 8
			0 (in) 0.5	CASEID	3 RC30 (in) 9
				5.291 (in) 6.291	4 RC40 (in) 10
				IDAVC	5 RC50 (in) 11
				5.291 (in) 6.291	6 RC60 (in) 12
				IDMXC	
				5.291 (in) 6.291	

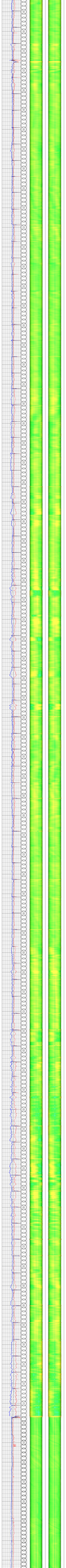
Western Wireline

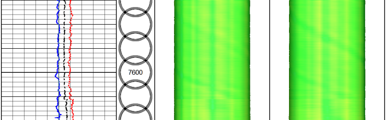
Hi / Low Main Logging Section

5" = 100'

Database File	socalgas_ff32c_5-23-2016_60mac_full well.db
Dataset Pathname	3D_Hi_Low.1eric
Presentation Format	1b_mac_60_3d hi low
Dataset Creation	Tue May 24 15:40:53 2016
Charted by	Depth in Feet scaled 1:240

7.325 IDMXC (in) 8.325	XSECTION	IMG Top Side	IMG Bottom Side
7.325 IDMNC (in) 8.325		7.025 8.625	7.025 8.625
7.325 IDAVC (in) 8.325			
7.325 CASEID (in) 8.325			





Western Wireline

Analysis

5" = 100'

Database File	socalgas_ff32c_5-23-2016_60mac_full well.db
Dataset Pathname	Analysis
Presentation Format	mac_remwallc
Dataset Creation	Tue May 24 02:59:02 2016
Charted by	Depth in Feet scaled 1:240

ANALYSIS

<Joint> -1.3 ft
#183 RW=0.309 in
23% loss @ 1.0 ft
<Joint> 6.6, Len=7.9 ft

#182 RW=0.296 in
26% loss @ 24.1 ft

<Joint> 48.8, Len=42.2 ft

#181 RW=0.320 in
20% loss @ 69.8 ft

<Joint> 92.5, Len=43.7 ft

#180 RW=0.302 in
24% loss @ 127.3 ft

<Joint> 134.8, Len=42.4 ft

#179 RW=0.308 in
23% loss @ 149.6 ft

<Joint> 177.3, Len=42.5 ft

#178 RW=0.323 in
19% loss @ 194.3 ft

<Joint> 219.2, Len=41.8 ft

#177 RW=0.302 in
25% loss @ 225.7 ft

<Joint> 262.0, Len=42.8 ft

#176 RW=0.306 in
23% loss @ 264.2 ft

<Joint> 304.2, Len=42.2 ft

#175 RW=0.298 in
25% loss @ 328.5 ft

<Joint> 347.2, Len=43.0 ft

#174 RW=0.282 in
29% loss @ 350.9 ft

<Joint> 388.4, Len=41.2 ft

#173 RW=0.314 in
21% loss @ 399.5 ft

<Joint> 431.1, Len=42.7 ft

#172 RW=0.314 in
21% loss @ 437.9 ft

<Joint> 473.6, Len=42.7 ft

#171 RW=0.312 in
22% loss @ 479.9 ft

<Joint> 516.6, Len=43.0 ft

#170 RW=0.315 in
21% loss @ 544.9 ft

<Joint> 556.5, Len=39.8 ft

#169 RW=0.326 in
18% loss @ 578.3 ft

<Joint> 599.0, Len=42.5 ft

#168 RW=0.302 in
25% loss @ 639.1 ft

<Joint> 641.2, Len=42.2 ft

#167 RW=0.256 in
36% loss @ 667.0 ft

<Joint> 679.2, Len=38.0 ft

#166 RW=0.283 in
29% loss @ 717.5 ft

<Joint> 719.8, Len=40.7 ft

#165 RW=0.269 in
33% loss @ 758.3 ft

<Joint> 763.3, Len=43.5 ft

#164 RW=0.278 in
30% loss @ 791.7 ft

<Joint> 806.3, Len=42.9 ft

#163 RW=0.272 in
32% loss @ 822.3 ft

<Joint> 847.6, Len=41.4 ft

#162 RW=0.292 in
27% loss @ 884.0 ft

<Joint> 890.9, Len=43.3 ft

#161 RW=0.283 in
29% loss @ 914.8 ft

<Joint> 931.5, Len=40.6 ft

#160 RW=0.302 in
25% loss @ 946.8 ft

<Joint> 972.5, Len=41.0 ft

#159 RW=0.317 in
21% loss @ 1005.8 ft

<Joint> 1009.6, Len=37.1 ft

#158 RW=0.273 in
32% loss @ 1039.1 ft

<Joint> 1052.7, Len=43.1 ft

#157 RW=0.304 in
24% loss @ 1062.5 ft

<Joint> 1096.0, Len=43.4 ft

#156 RW=0.324 in
19% loss @ 1129.5 ft

<Joint> 1136.4, Len=40.3 ft

#155 RW=0.321 in
20% loss @ 1142.5 ft

<Joint> 1176.4, Len=40.0 ft

#154 RW=0.316 in
21% loss @ 1199.3 ft

<Joint> 1217.2, Len=40.8 ft

#153 RW=0.309 in
23% loss @ 1254.4 ft

<Joint> 1259.0, Len=41.8 ft

#152 RW=0.298 in
25% loss @ 1283.6 ft

<Joint> 1301.2, Len=42.2 ft

#151 RW=0.286 in
28% loss @ 1332.5 ft

<Joint> 1343.8, Len=42.7 ft

#150 RW=0.296 in
26% loss @ 1352.4 ft

<Joint> 1385.5, Len=41.6 ft

#149 RW=0.290 in
27% loss @ 1410.3 ft

<Joint> 1428.8, Len=43.3 ft

#148 RW=0.295 in
26% loss @ 1466.6 ft

<Joint> 1471.2, Len=42.4 ft

#147 RW=0.348 in
13% loss @ 1499.5 ft

<Joint> 1510.0, Len=38.8 ft

#146 RW=0.303 in
24% loss @ 1512.5 ft

<Joint> 1553.0, Len=43.0 ft

#145 RW=0.300 in
25% loss @ 1558.3 ft

<Joint> 1594.0, Len=41.0 ft

#144 RW=0.315 in
21% loss @ 1606.8 ft

<Joint> 1635.9, Len=42.0 ft

#143 RW=0.270 in
32% loss @ 1654.8 ft

<Joint> 1677.7, Len=41.8 ft

#142 RW=0.258 in
35% loss @ 1714.9 ft

<Joint> 1717.0, Len=39.3 ft

#141 RW=0.259 in
35% loss @ 1728.8 ft

<Joint> 1758.3, Len=41.4 ft

#140 RW=0.259 in
35% loss @ 1761.1 ft

<Joint> 1801.4, Len=43.0 ft

#139 RW=0.284 in
29% loss @ 1840.1 ft

<Joint> 1843.8, Len=42.4 ft

#138 RW=0.309 in
23% loss @ 1851.1 ft

<Joint> 1886.5, Len=42.7 ft

#137 RW=0.300 in
25% loss @ 1894.0 ft

<Joint> 1924.2, Len=37.7 ft

#136 RW=0.305 in
24% loss @ 1927.3 ft

<Joint> 1965.5, Len=41.3 ft

#135 RW=0.306 in
23% loss @ 1984.0 ft

<Joint> 2008.0, Len=42.5 ft

#134 RW=0.281 in
30% loss @ 2029.3 ft

<Joint> 2049.4, Len=41.4 ft

#133 RW=0.310 in
23% loss @ 2063.1 ft

<Joint> 2090.3, Len=40.9 ft

#132 RW=0.300 in
25% loss @ 2096.5 ft

<Joint> 2132.3, Len=42.0 ft

#131 RW=0.287 in
28% loss @ 2135.3 ft

<Joint> 2173.7, Len=41.4 ft

#130 RW=0.317 in
21% loss @ 2177.1 ft

<Joint> 2215.7, Len=42.0 ft

#129 RW=0.279 in
30% loss @ 2245.7 ft

<Joint> 2257.7, Len=42.0 ft

#128 RW=0.296 in
26% loss @ 2270.5 ft

<Joint> 2298.8, Len=41.2 ft

#127 RW=0.303 in
24% loss @ 2323.0 ft

<Joint> 2341.6, Len=42.8 ft

#126 RW=0.318 in
20% loss @ 2349.9 ft

<Joint> 2383.7, Len=42.1 ft

#125 RW=0.316 in
21% loss @ 2413.3 ft

<Joint> 2423.8, Len=40.1 ft

#124 RW=0.301 in
25% loss @ 2462.3 ft

<Joint> 2465.9, Len=42.1 ft

#123 RW=0.294 in
26% loss @ 2503.5 ft

<Joint> 2507.7, Len=41.8 ft

#122 RW=0.319 in
20% loss @ 2526.0 ft

<Joint> 2549.7, Len=42.0 ft

#121 RW=0.318 in
21% loss @ 2556.5 ft

<Joint> 2591.8, Len=42.1 ft

#120 RW=0.293 in
27% loss @ 2596.6 ft

<Joint> 2634.6, Len=42.8 ft

#119 RW=0.299 in
25% loss @ 2637.5 ft

<Joint> 2675.8, Len=41.2 ft

#118 RW=0.307 in
23% loss @ 2678.0 ft

<Joint> 2717.4, Len=41.6 ft

#117 RW=0.308 in
23% loss @ 2722.3 ft

<Joint> 2759.6, Len=42.2 ft

#116 RW=0.320 in
20% loss @ 2769.4 ft

<Joint> 2799.6, Len=40.0 ft

#115 RW=0.316 in
21% loss @ 2807.4 ft

<Joint> 2840.5, Len=41.0 ft

#114 RW=0.320 in
20% loss @ 2844.6 ft

<Joint> 2883.5, Len=42.9 ft

#113 RW=0.308 in
23% loss @ 2886.8 ft

<Joint> 2925.5, Len=42.0 ft

#112 RW=0.321 in
20% loss @ 2942.1 ft

<Joint> 2967.4, Len=42.0 ft

#111 RW=0.315 in
21% loss @ 2996.7 ft

<Joint> 3010.2, Len=42.8 ft

#110 RW=0.317 in
21% loss @ 3049.6 ft

<Joint> 3052.5, Len=42.3 ft

#109 RW=0.287 in
28% loss @ 3058.3 ft

<Joint> 3095.0, Len=42.5 ft

#108 RW=0.292 in
27% loss @ 3134.4 ft

<Joint> 3136.8, Len=41.8 ft

#107 RW=0.277 in
31% loss @ 3145.2 ft

<Joint> 3179.2, Len=42.4 ft

#106 RW=0.277 in
31% loss @ 3183.5 ft

<Joint> 3221.0, Len=41.8 ft

#105 RW=0.308 in
23% loss @ 3227.8 ft

<Joint> 3263.7, Len=42.7 ft

#104 RW=0.313 in
22% loss @ 3294.5 ft

<Joint> 3307.0, Len=43.3 ft

#103 RW=0.308 in
23% loss @ 3309.7 ft

<Joint> 3349.0, Len=42.1 ft

#102 RW=0.304 in
24% loss @ 3359.4 ft

<Joint> 3389.0, Len=40.0 ft

#101 RW=0.307 in
23% loss @ 3414.8 ft

<Joint> 3431.6, Len=42.6 ft

#100 RW=0.312 in
22% loss @ 3437.2 ft

<Joint> 3473.0, Len=41.3 ft

#99 RW=0.307 in
23% loss @ 3484.8 ft

<Joint> 3514.5, Len=41.5 ft

#98 RW=0.304 in
24% loss @ 3543.0 ft

<Joint> 3555.3, Len=40.8 ft

#97 RW=0.275 in
31% loss @ 3578.7 ft

<Joint> 3597.6, Len=42.3 ft

#96 RW=0.276 in
31% loss @ 3600.7 ft

<Joint> 3639.8, Len=42.2 ft

#95 RW=0.208 in
48% loss @ 3654.1 ft

<Joint> 3681.2, Len=41.4 ft

#94 RW=0.261 in
35% loss @ 3696.9 ft

<Joint> 3723.6, Len=42.5 ft

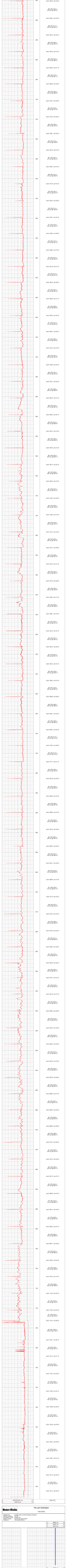
#93 RW=0.149 in
63% loss @ 3728.5 ft

<Joint> 3767.5, Len=43.8 ft

#92 RW=0.286 in
29% loss @ 3785.5 ft

<Joint> 3808.8, Len=41.3 ft

#91 RW=0.305 in
24% loss @ 3845.8 ft



Pre-job Verification

Date Time

Metro Rodes

Contractor: Metro Rodes
Contract No: 1
Contract Description: Metro Rodes
Operator: Metro Rodes
Equipment: Metro Rodes
Equipment Serial No: Metro Rodes
Equipment Type: Metro Rodes
Equipment Model: Metro Rodes
Equipment Serial No: Metro Rodes
Equipment Type: Metro Rodes
Equipment Model: Metro Rodes

Operator
Supervisor
Client Rep

Pre-job Verification

Date Time

Metro Rodes

Contractor: Metro Rodes
Contract No: 1
Contract Description: Metro Rodes
Operator: Metro Rodes
Equipment: Metro Rodes
Equipment Serial No: Metro Rodes
Equipment Type: Metro Rodes
Equipment Model: Metro Rodes
Equipment Serial No: Metro Rodes
Equipment Type: Metro Rodes
Equipment Model: Metro Rodes

Operator
Supervisor
Client Rep

Dataset Pathname	Post-Job
Presentation Format	mac60_mmc
Dataset Creation	Tue May 24 03:05:07 2016
Charted by	Time scaled 360/hour

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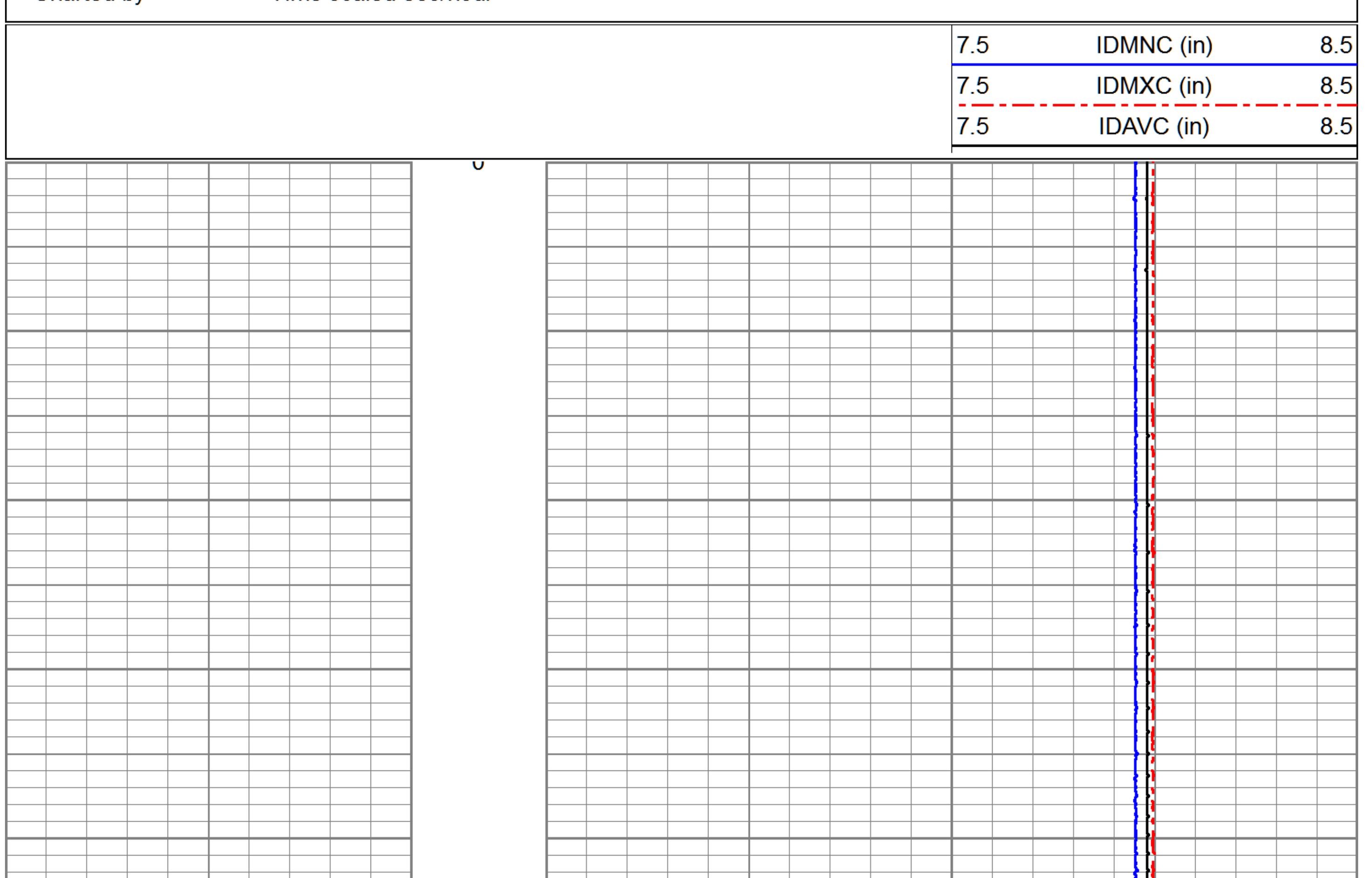
7.5	IDMXC (in)	8.5
7.5	IDAVC (in)	8.5



7.5	IDMNC (in)	8.5
7.5	IDMXC (in)	8.5
7.5	IDAVC (in)	8.5

Company:
Well:

Western Wireline

Joint			Remaining Wall	
No.	Depth	Length	0.000 0.500	in
183	-1.3	7.9		0.309
	6.6	42.2		0.296
	48.8	43.7		0.320
	92.5	42.4		0.302
	134.8	42.5		0.308
	177.3	41.8		0.323
	219.2	42.8		0.302
	262.0	42.2		0.306
	304.2	43.0		0.298
	347.2	41.2		0.282
	388.4	42.7		0.314
	431.1	42.7		0.314
	473.8	43.0		0.312
	516.8	39.8		0.315
	556.5	42.5		0.326
	599.0	42.2		0.302
	641.2	38.0		0.256
	679.2	40.7		0.283
	719.8	43.5		0.269
	763.3	42.9		0.278
	806.3	41.4		0.272
	847.6	43.3		0.292
	890.9	40.6		0.283
	931.5	41.0		0.302
	972.5	37.1		0.317
	1009.6	43.1		0.273
	1052.7	43.4		0.304
	1096.0	40.3		0.324
	1136.4	40.0		0.321
	1176.4	40.8		0.316
	1217.2	41.8		0.309
	1259.0	42.2		0.298
	1301.2	42.7		0.286
	1343.8	41.6		0.296
	1385.5	43.3		0.290
	1428.8	42.4		0.295
	1471.2	38.8		0.348
	1510.0	43.0		0.303
	1553.0	41.0		0.300
	1594.0	42.0		0.315
	1635.9	41.8		0.270
	1677.7	39.3		0.258
	1717.0	41.4		0.259
	1758.3	43.0		0.259
	1801.4	42.4		0.284
	1843.8	42.7		0.309
	1886.5	37.7		0.300
	1924.2	41.3		0.305
	1965.5	42.5		0.306
	2008.0	41.4		0.281

Log Date:

Sheet: 1 of 4

Company:
Well:

Western Wireline

Joint			Remaining Wall	
No.	Depth	Length	0.000 0.500	in
133	2049.4	40.9		0.310
	2090.3	42.0		0.300
	2132.3	41.4		0.287
	2173.7	42.0		0.317
	2215.7	42.0		0.279
	2257.7	41.2		0.296
	2298.8	42.8		0.303
	2341.6	42.1		0.318
	2383.7	40.1		0.316
	2423.8	42.1		0.301
	2465.9	41.8		0.294
	2507.7	42.0		0.319
	2549.7	42.1		0.318
	2591.8	42.8		0.293
	2634.6	41.2		0.299
	2675.8	41.6		0.307
	2717.4	42.2		0.308
	2759.6	40.0		0.320
	2799.6	41.0		0.316
	2840.5	42.9		0.320
	2883.5	42.0		0.308
	2925.5	42.0		0.321
	2967.4	42.8		0.315
	3010.2	42.3		0.317
	3052.5	42.5		0.287
	3095.0	41.8		0.292
	3136.8	42.4		0.277
	3179.2	41.8		0.277
	3221.0	42.7		0.308
	3263.7	43.3		0.313
	3307.0	42.1		0.308
	3349.0	40.0		0.304
	3389.0	42.6		0.307
	3431.6	41.3		0.312
	3473.0	41.5		0.307
	3514.5	40.8		0.304
	3555.3	42.3		0.275
	3597.6	42.2		0.276
	3639.8	41.4		0.208
	3681.2	42.5		0.261
	3723.6	43.8		0.149
	3767.5	41.3		0.286
	3808.8	43.0		0.305
	3851.8	43.5		0.305
	3895.3	42.2		0.311
	3937.5	41.8		0.290
	3979.2	41.1		0.307
	4020.3	40.6		0.316
	4060.9	42.8		0.300
	4103.7	40.2		0.299

Log Date:

Sheet: 2 of 4

Company:
Well:

Western Wireline

Joint			Remaining Wall	
No.	Depth	Length	0.000 0.500	in
83	4143.9	42.2		0.282
	4186.1	41.8		0.316
	4227.9	41.8		0.291
	4269.7	43.2		0.315
	4312.9	42.6		0.287
	4355.5	42.3		0.311
	4397.7	40.6		0.303
	4438.3	41.9		0.315
	4480.2	41.7		0.315
	4521.8	40.0		0.311
	4561.8	41.1		0.281
	4602.9	42.3		0.288
	4645.2	40.5		0.277
	4685.7	41.6		0.293
	4727.3	42.3		0.287
	4769.6	42.5		0.301
	4812.1	41.4		0.286
	4853.5	42.1		0.253
	4895.5	41.8		0.273
	4937.3	41.9		0.305
	4979.2	42.3		0.295
	5021.5	41.9		0.258
	5063.4	42.8		0.247
	5106.3	41.8		0.286
	5148.0	43.5		0.256
	5191.5	39.6		0.249
	5231.1	41.3		0.298
	5272.4	42.6		0.244
	5315.0	41.3		0.285
	5356.3	41.8		0.226
	5398.1	43.1		0.295
	5441.2	40.0		0.281
	5481.2	43.1		0.287
	5524.3	41.9		0.309
	5566.3	40.6		0.290
	5606.9	43.2		0.286
	5650.1	40.3		0.289
	5690.3	39.8		0.310
	5730.2	41.1		0.314
	5771.3	42.5		0.303
	5813.8	44.3		0.293
	5858.0	41.0		0.296
	5899.0	42.8		0.300
	5941.8	42.5		0.294
	5984.4	42.8		0.281
	6027.1	41.6		0.233
	6068.8	43.0		0.293
	6111.8	43.5		0.291
	6155.3	42.5		0.296
	6197.8	40.6		0.271

Log Date:

Sheet: 3 of 4

Company:
Well:

Western Wireline

Joint			Remaining Wall	
No.	Depth	Length	0.000 0.500	in
33	6238.4	40.5		0.274
	6278.9	37.3		0.249
	6316.1	41.5		0.218
	6357.6	42.6		0.232
	6400.2	42.8		0.245
	6443.0	40.6		0.243
	6483.5	43.4		0.277
	6527.0	40.8		0.250
	6567.8	41.3		0.256
	6609.0	40.9		0.261
	6650.0	40.8		0.256
	6690.8	40.5		0.286
	6731.3	42.9		0.284
	6774.2	43.1		0.295
	6817.3	43.5		0.252
	6860.8	40.5		0.276
	6901.3	43.1		0.268
	6944.4	42.8		0.280
	6987.1	42.2		0.251
	7029.3	41.0		0.238
	7070.3	42.3		0.208
	7112.6	42.3		0.224
	7154.9	26.5		0.243
	7181.4	48.7		-0.087
	7230.1	41.1		0.199
	7271.2	44.2		0.340
	7315.4	44.1		0.293
	7359.5	39.4		0.350
	7398.9	44.8		0.338
	7443.6	43.8		0.275
	7487.5	41.3		0.334
	7528.7	42.2		0.332
	7571.0	40.4		0.347
	7611.4	0.0		0.000

Log Date:

Sheet: 4 of 4

Calibration Report

Database File	Socalgas_FF32C_5-23-2016_60MAC_Full Well.db
Dataset Pathname	Pre-Job
Dataset Creation	Tue May 24 03:03:28 2016

60 Arm Multi Sensor Caliper Calibration Report

Serial Number:	111249
Tool Model:	60_INCL
Performed:	Mon May 23 08:03:41 2016

Ref ID:	5.00	6.00	7.00	8.00	9.00	in
Arm1	2.60	3.07	3.56	4.04	4.50	
Arm2	2.66	3.15	3.68	4.19	4.67	
Arm3	2.52	3.00	3.52	4.03	4.49	
Arm4	2.96	3.41	3.90	4.37	4.80	
Arm5	2.44	2.93	3.45	3.96	4.45	
Arm6	2.46	2.96	3.49	4.02	4.50	
Arm7	2.49	2.99	3.52	4.04	4.54	
Arm8	2.63	3.10	3.58	4.06	4.52	
Arm9	2.68	3.18	3.71	4.22	4.71	
Arm10	2.49	2.95	3.44	3.91	4.37	
Arm11	2.45	2.93	3.44	3.94	4.42	
Arm12	2.22	2.70	3.21	3.72	4.21	
Arm13	2.62	3.10	3.60	4.10	4.56	
Arm14	2.65	3.15	3.66	4.17	4.65	
Arm15	2.37	2.87	3.39	3.92	4.42	
Arm16	2.44	2.92	3.42	3.92	4.40	
Arm17	2.22	2.69	3.18	3.67	4.14	
Arm18	1.91	2.44	3.00	3.57	4.12	
Arm19	2.07	2.58	3.12	3.65	4.19	
Arm20	2.51	3.01	3.51	4.00	4.50	
Arm21	2.52	3.02	3.53	4.04	4.54	
Arm22	2.40	2.91	3.40	3.89	4.38	
Arm23	2.62	3.12	3.62	4.12	4.61	
Arm24	2.55	3.05	3.54	4.04	4.53	
Arm25	2.78	3.27	3.75	4.23	4.70	
Arm26	2.25	2.76	3.25	3.76	4.28	
Arm27	2.52	3.02	3.51	4.00	4.50	
Arm28	2.69	3.18	3.68	4.18	4.68	
Arm29	2.28	2.78	3.24	3.72	4.22	
Arm30	2.22	2.74	3.24	3.73	4.25	

* Bad

Ref ID:	5.00	6.00	7.00	8.00	9.00	in
Arm31	2.43	2.96	3.46	3.97	4.50	
Arm32	2.51	3.02	3.50	3.99	4.49	
Arm33	2.72	3.19	3.64	4.10	4.58	
Arm34	2.92	3.41	3.88	4.35	4.83	
Arm35	2.65	3.14	3.61	4.08	4.57	
Arm36	2.50	2.98	3.45	3.93	4.43	
Arm37	2.67	3.16	3.62	4.11	4.63	
Arm38	2.35	2.86	3.34	3.84	4.35	
Arm39	2.54	3.04	3.51	4.00	4.49	
Arm40	2.45	2.97	3.48	4.01	4.55	
Arm41	2.68	3.17	3.64	4.13	4.63	
Arm42	2.65	3.13	3.62	4.10	4.60	
Arm43	2.74	3.23	3.72	4.21	4.68	
Arm44	2.67	3.17	3.68	4.19	4.70	
Arm45	2.45	2.95	3.44	3.94	4.46	
Arm46	2.61	3.13	3.66	4.18	4.70	
Arm47	2.41	2.89	3.37	3.85	4.34	
Arm48	2.78	3.28	3.78	4.28	4.77	
Arm49	2.49	2.98	3.48	3.99	4.49	
Arm50	2.84	3.32	3.80	4.28	4.76	
Arm51	2.84	3.31	3.79	4.27	4.75	
Arm52	2.44	2.95	3.46	3.97	4.47	
Arm53	2.42	2.92	3.46	3.99	4.50	
Arm54	2.32	2.79	3.28	3.79	4.29	
Arm55	2.64	3.13	3.64	4.14	4.62	
Arm56	2.76	3.26	3.78	4.29	4.77	
Arm57	2.58	3.08	3.60	4.11	4.60	
Arm58	2.27	2.75	3.26	3.78	4.28	
Arm59	2.53	3.03	3.57	4.09	4.58	
Arm60	2.34	2.86	3.40	3.93	4.45	

* Bad

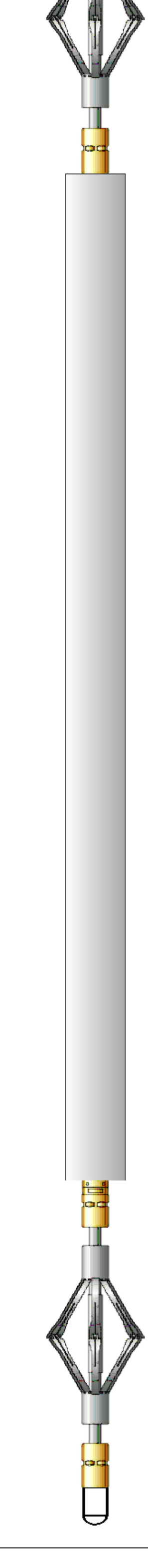
PROBE verifications Calibration Report

	Pre Verification	Post Verification	Casing Check	
Performed:	Mon May 23 08:05:41 2016	Fri Apr 08 11:45:36 2016		
Ref ID:	8.00	7.00	0.00	in
Min.	7.98	6.96	0.00	in
Max.	8.00	7.01	0.00	in
Avg.	7.99	6.99	0.00	in
Dia1	7.99	6.99	0.00	in
Dia2	7.99	6.99	0.00	in
Dia3	7.99	6.99	0.00	in
Dia4	7.99	6.98	0.00	in
Dia5	7.99	6.99	0.00	in
Dia6	8.00	6.99	0.00	in
Dia7	7.99	6.99	0.00	in
Dia8	7.99	6.96	0.00	in
Dia9	7.99	6.99	0.00	in
Dia10	7.99	6.98	0.00	in
Dia11	7.99	7.00	0.00	in
Dia12	7.99	7.00	0.00	in
Dia13	7.99	6.99	0.00	in
Dia14	7.99	6.99	0.00	in
Dia15	7.99	6.99	0.00	in
Dia16	7.99	6.99	0.00	in
Dia17	7.99	7.00	0.00	in
Dia18	7.99	7.00	0.00	in
Dia19	7.99	6.99	0.00	in
Dia20	8.00	6.99	0.00	in
Dia21	7.99	6.99	0.00	in
Dia22	7.99	6.99	0.00	in
Dia23	7.99	6.99	0.00	in
Dia24	7.99	6.99	0.00	in
Dia25	8.00	6.99	0.00	in
Dia26	7.99	6.98	0.00	in
Dia27	7.99	6.99	0.00	in
Dia28	8.00	7.01	0.00	in
Dia29	7.99	6.99	0.00	in
Dia30	7.99	7.00	0.00	in

Inclinometer Calibration Report

Performed: Wed May 07 13:53:36 2014

	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	-3608.00	3624.00	-1.00	1.00	gee
Y Accelerometer	-3632.00	3596.00	-1.00	1.00	gee
Z Accelerometer	1.97	3620.67	0.00	1.00	gee

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			CHD-TITAN (201-A) Titan 1 7/16 inch Cable Head	1.03	1.44	3.60
			CENT-PTS275 (00001)	2.83	2.75	25.00
ACCZ	8.08					
ACCY	8.08					
ACCX	8.08		Probe_MFCAL-60_INCL (111249)	9.00	3.62	85.00
ETEMP	5.58					
Meas	4.75					
			CENT-PTS275 (00002)	2.75	2.75	25.00
			BNS-1.687	0.33	1.69	1.00

Dataset:	Socalgas_FF32C_5-23-2016_60MAC_Full Well.db: field/well/run1/MM_Main
Total length:	15.95 ft
Total weight:	139.60 lb
O.D.:	3.62 in

Western Wireline

Company	Southern California Gas Company
Well	Fernando Fee 32C
Field	Aliso Canyon
County	Los Angeles
State	California
Country	U.S.A.