



Weatherford

**HOLE VOLUME
CALIPER
LOG**

COMPANY	KINDER MORGAN C02 Co. L.P		
WELL	DOE CANYON #14		
FIELD	DOE CANYON		
PROVINCE/COUNTY	DOLORES		
COUNTRY/STATE	U.S.A. / COLORADO		
LOCATION	987' FSL & 2384' FEL		
SEC 9	TWP 40N	RGE 18W	Other Services MPD / MDN MIE MDL / MMR
API Number	05-033-06177-01		MSG
Permanent Datum Gl.	Elevation 7105 feet		Elevations: KB 7130.00 DF 7130.00 GL 7105.00
Log Measured From	KB		
Drilling Measured From	KB @ 25 FEET		
Date	17-AUG-2013		
Run Number	ONE		
Service Order	3529584		
Depth Driller	8502.00	feet	
Depth Logger	8502.00	feet	
First Reading	8498.00	feet	
Last Reading	8360.00	feet	
Casing Driller	8368.00	feet	
Casing Logger	8364.00	feet	
Bit Size	6.000	inches	
Hole Fluid Type	H2O		
Density / Viscosity	8.40	g/cc	
PH / Fluid Loss			
Sample Source			
Rm @ Measured Temp	0.92 @ 72.0	ohm-m	
Rmf @ Measured Temp	0.74 @ 72.0	ohm-m	
Rmc @ Measured Temp	1.10 @ 72.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.39 @ 177.0	ohm-m	
Time Since Circulation	8 HOURS		
Max Recorded Temp	177.00	deg F	
Equipment / Base	13173	GJ/CO	
Recorded By	S. LACKEY		P. BATES
Witnessed By	C. SLAUGH		

BOREHOLE RECORD

Last Edited: 01-JAN-2002 00:15

Bit Size inches	Depth From feet	Depth To feet
6.000	8368.00	8503.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
INTERMED	7.000	0.00	8368.00	29.00

REMARKS

WLS VERSION 13.06.9802

TOOLS IN THREE SEPERATE RUNS:

- 1ST RUN: SHA, MBE, MBE, MCG, MUG, MLE AND MMR
- 2ND RUN: SHA, MCG, MISD, MDN AND MPD
- 3RD RUN: SHA, MCG, MIM AND MIE
- 4TH RUN: SHA, MCG, MDM, MRD AND MTD
- 5TH RUM: SHA, MGC, ANS SGS

HARDWARE:

- MUG: 0.5" STANDOFF
- MMR: 0.5" STANDOFF
- MISD: ECCENTRALIZER BOWSPRINGS
- MDN: DUAL BOWSPRINGS
- MPD: 8" PROFILE PLATE
- MIM: NONMAGNETIC BASKET
- MIE: NONMAGNETIC BASKET, 1.0" STANDOFF

2.71 GM/CC DENSITY MATRIX USED TO CALCULATE POROSITY.

ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

TIGHT PULLS, BOREHOLE SIZE AND RUGOSITY WILL AFFECT DATA QUALITY.

MIE CALIPERS CLOSED BEFORE CASING TO ALLOW FOR SAFE ENTRANCE.

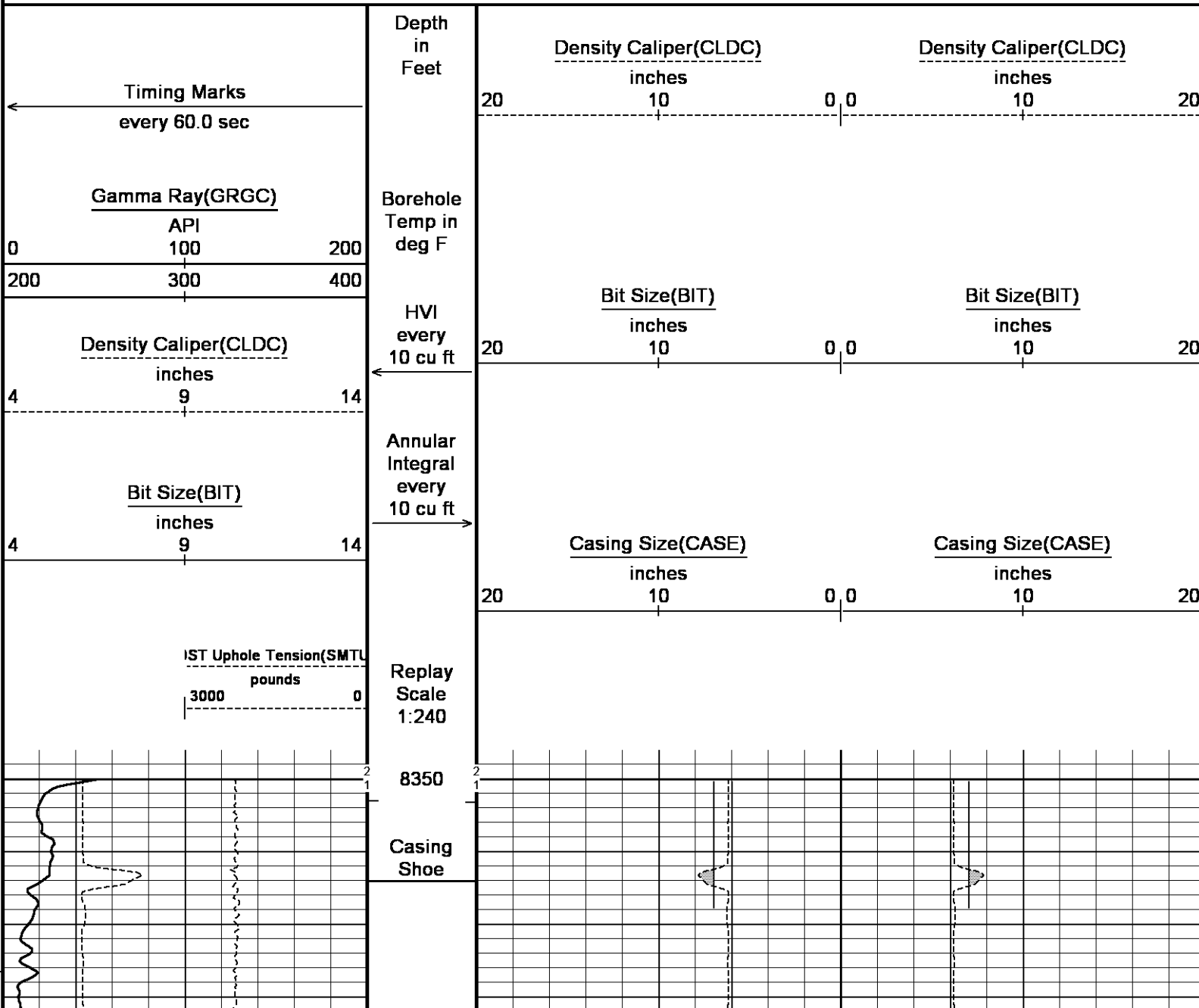
TOTAL HOLE VOLUME = 28 CUBIC FEET.

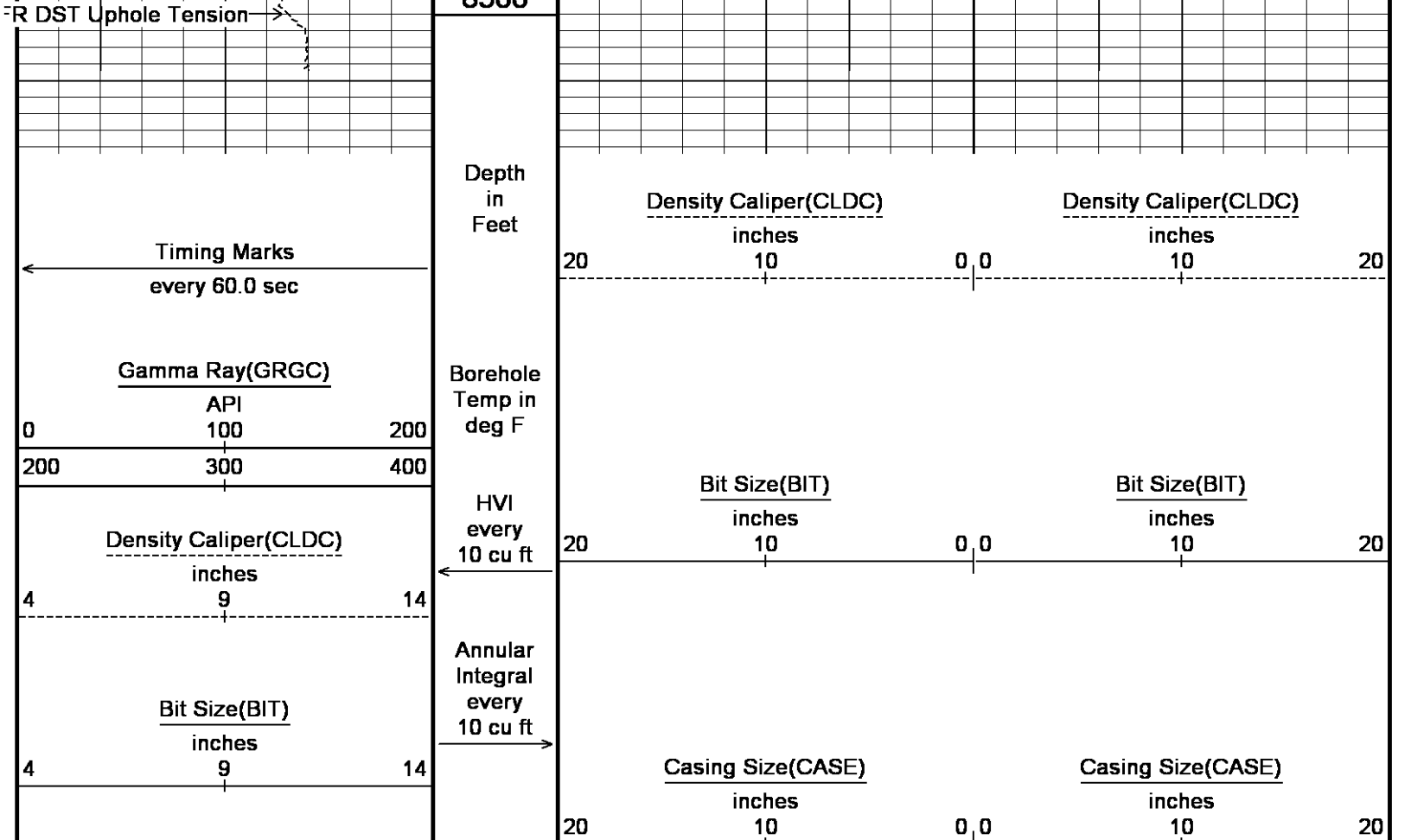
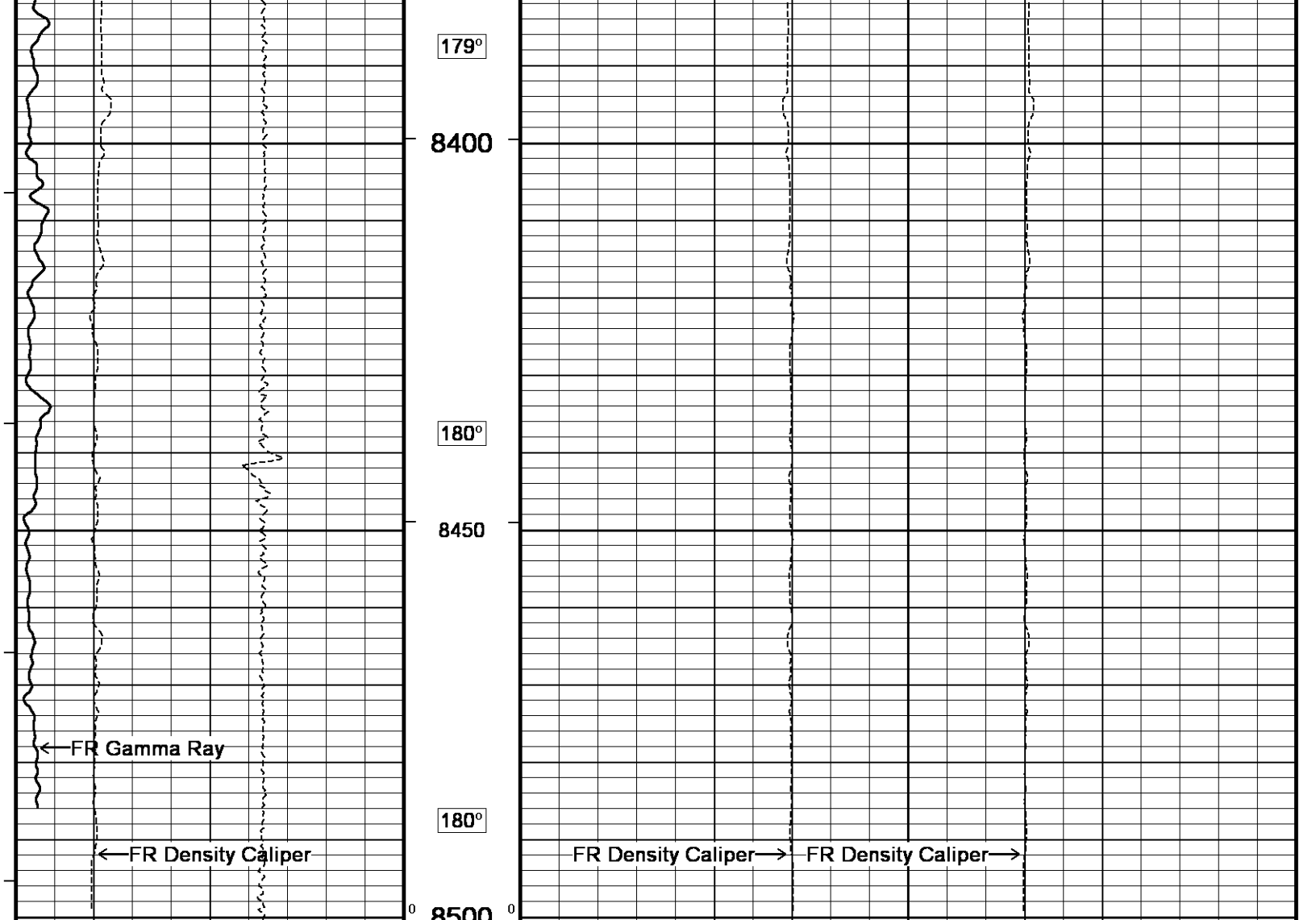
SERVICE ORDER: 3529584

RIG: NABORS 405

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 18-AUG-2013 08:11
 Filename: C:\LOGS\KINDER MORGAN\DC 14\POROSITY MAIN2.dta
 Recorded on 17-AUG-2013 21:25
 System Versions: Logged with 13.06.9804 Processed with 13.06.9804 Plotted with 13.06.9804





IST Uphole Tension(SMTU)

pounds

3000 0

Replay
Scale
1:240

Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 18-AUG-2013 08:11

Filename: C:\LOGS\KINDER MORGAN\DC 14\POROSITY MAIN2.dta

Recorded on 17-AUG-2013 21:25

System Versions: Logged with 13.06.9804 Processed with 13.06.9804 Plotted with 13.06.9804



BEFORE SURVEY CALIBRATION

C:\LOGS\KINDER MORGAN\DC 14\POROSITY MAIN2.dta

General Constants All 000

Last Edited on 17-AUG-2013,19:17

General Parameters

Mud Resistivity	0.920	ohm-metres
Mud Resistivity Temperature	72.000	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	

Hole/Annular Volume and Differential Caliper Parameters

HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	0.000	inches
Caliper for Differential Caliper	None	

Rwa Parameters

Porosity used	N/A
Resistivity used	N/A
RWA Constant A	N/A
RWA Constant M	N/A
SW/APOR Tool Source	

Gamma Calibration MCG-E.A 479

Field Calibration on 17-AUG-2013,17:25

	Measured	Calibrated (API)
Background	43	28
Calibrator (Gross)	1424	940
Calibrator (Net)	1381	912

Gamma Constants MCG-E.A 479

Last Edited on 17-AUG-2013,17:28

Gamma Calibrator Number	GRC 072	
Mud Density	1.00	gm/cc
Caliper Source for Processing	MMR Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

High Resolution Temperature Calibration MCG-E.A 479

Field Calibration on 17-AUG-2013,17:26

	Measured	Calibrated(Deg F)
Lower	30.00	30.00
Upper	150.00	150.00

High Resolution Temperature Constants MCG-E.A 479

Last Edited on 17-AUG-2013,17:26

Pre-filter Length 11

Caliper Calibration MPD-C.A 253

Base Calibration on 17-JUL-2013 10:53

Field Calibration on 17-AUG-2013 20:52

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	17136	3.98
2	25568	5.96
3	33408	7.97

4	41675	9.84
5	51070	11.91
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.99	6.20

DOWNHOLE EQUIPMENT

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3/8" Triple Cone Cable Head (MCB C A)
 MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor
 SHA-J.A 214 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

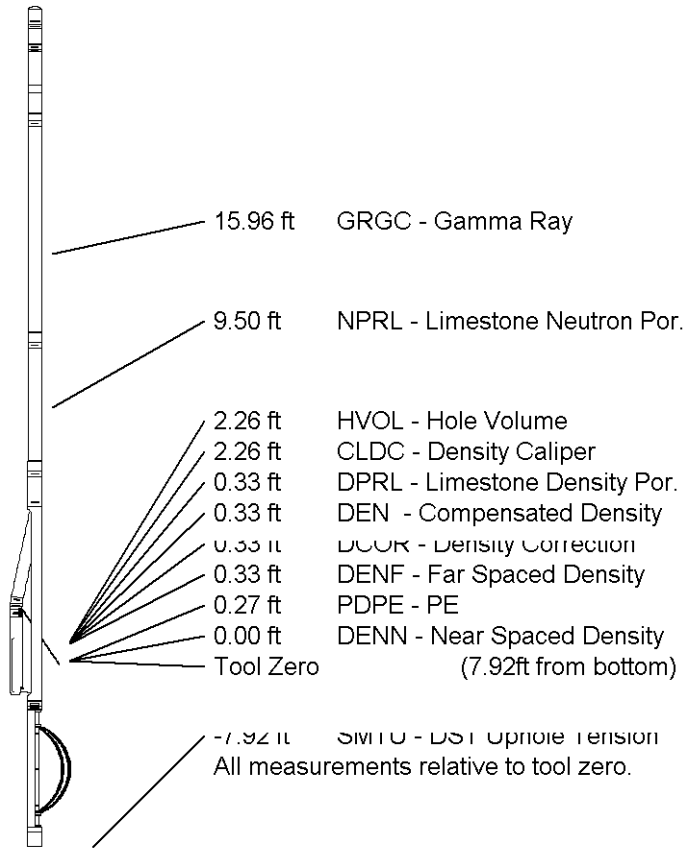
Compact Comms Gamma
 MCG-E.A 479 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Neutron
 MDN-B.A 296 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
 MPD-C.A 253 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

MIS-A.A Compact Inline Bowspring sub
 MIS-A.A 70 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Total Length: 32.91 ft Weight: 275.6 lb



COMPANY	KINDER MORGAN CO2 Co. L.P		
WELL	DOE CANYON #14		
FIELD	DOE CANYON		
PROVINCE/COUNTY	DOLORES		
COUNTRY/STATE	U.S.A. / COLORADO		

Elevation Kelly Bushing	7130.00	feet	First Reading	8498.00	feet
Elevation Drill Floor	7130.00	feet	Depth Driller	8502.00	feet
Elevation Ground Level	7105.00	feet	Depth Logger	8502.00	feet



Weatherford®

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 CALIPER
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