

1 : 240

[illegible]

MWD Run Number	100				
Date run completed	04-Jul-13				
Rig Bit Number	0100				
Bit Size (in)	8.750				
Tool Nominal OD (in)	6.750				
Log Start Depth (MD, ft)	1,078.00				
Log End Depth (MD, ft)	7,813.00				
Drill or Wipe	Drill				
Drill/Wipe Start Date and Time	02-Jul-13 14:13				
Drill/Wipe End Date and Time	04-Jul-13 08:05				
Min Inc (deg) @ Depth (MD, ft)	0 @ 6,187.00				
Max Inc (deg) @ Depth (MD, ft)	90.18 @ 7,747.00				
Bit TFA(in2) / Bit Type	1.04 / PDC				
Flow Rate (gpm)	569.81				
Max AV (fpm) / CV (fpm) @ MWD	456.7 / 323.9				
Fluid Type	Fresh Water Gel				
Density (ppg) / Viscosity (spqt)	10.05 / 43.00				
Filtrate CL (ppm)	1,300.00				
pH / Fluid Loss (mptm)	8.50 / 6				
PV (cP) / YP (lbf2)	19 / 13.00				
% Solids / % Sand	10.50 / 0.2				
% Oil / Oil:Water Ratio	N/A / N/A				
Rm @ Measured Temp (degF)	N/A @ N/A				
Rmf @ Measured Temp (degF)	N/A @ N/A				
Rmc @ Measured Temp (degF)	N/A @ N/A				
Max Tool Temp (deg F) / S	112.00 / PGM				

Max Tool Temp (degF) / Source	412.20 / PCM				
Rm @ Max Tool Temp (degF)	N/A @ N/A				
Lead MWD Engineer	Matt Busche				
Customer Representative	Sam Taylor				

SENSOR INFORMATION

Downhole Processor Information

Tool Type	PCM				
Software Version	5.84				
Sub Serial Number	11341336				
Insert Serial Number	11400991				
Date and Time Initialized	02-Jul-13 06:12				
Date and Time Read	04-Jul-13 16:26				
ECMB SW Version	N/A				

Directional Sensor Information

Tool Type	PCDC				
Distance From Bit (ft)	49.74				
Software Version	6.21				
Sub Serial Number	11341336				
Sonde Serial Number	11833221				
Sensor ID Number	N/A				
Toolface Offset (deg)	17.89				

Gamma Ray Sensor Information

Tool Type	PCG				
Distance From Bit (ft)	45.01				
Recorded Sample Period (sec)	10				
Software Version	8.15				
Sub Serial Number	11341336				
Insert/Sonde Serial Number	11680968				

REMARKS

1. All depths are true vertical depths, referenced to the Driller's pipe tally and are measured from the Kelly Bushing, unless otherwise specified.
2. No depth corrections have been made for pipe stretch or compression.
3. All data presented is recorded data unless otherwise specified.
4. The following smoothing parameters have been applied to the data:

PGRC (Corrected Gamma Ray):

Interval Resolution: 0.5 ft
Interval Distance: 0.6 ft
Gap Fill: 3.0 ft

DGRC (Corrected Gamma Ray):

Interval Resolution: 0.5 ft
Interval Distance: 0.6 ft
Gap Fill: 3.0 ft

ROPA (Average Rate Of Penetration):

Interval Resolution: 0.5 ft
Interval Distance: 1.2 ft
Gap Fill: 3.0 ft

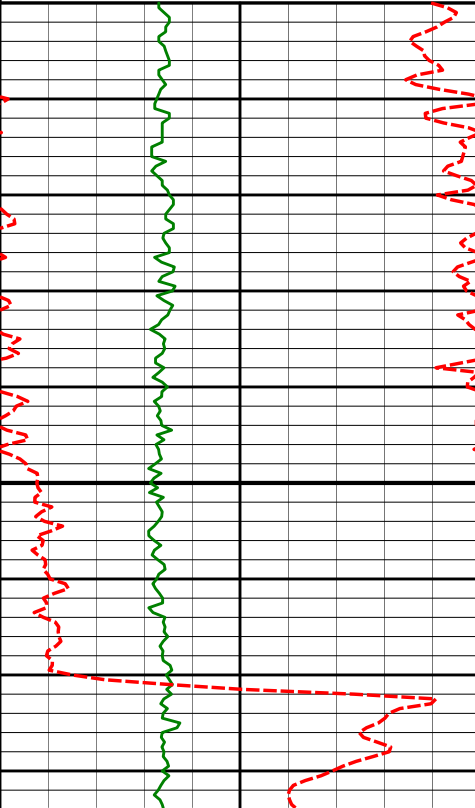
WARRANTY

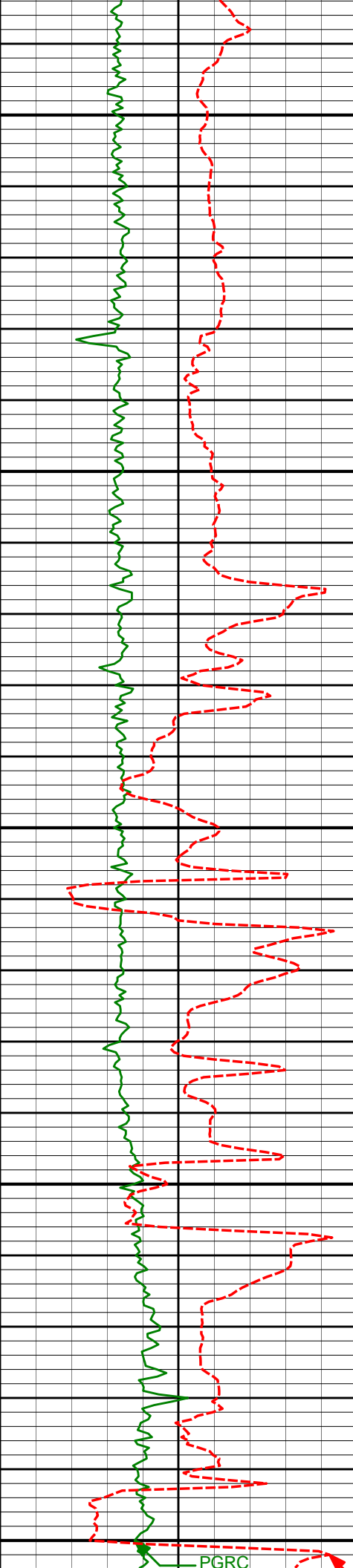
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Gobbler 28N-23HZ Field Plot

TVD Main Log 1:240

PCG Gamma Ray BCorr (PGRC) api					
0300					
Average Rate of Penetration (ROPA) feet per hr		Depth			
5000		Depth	Inc	Azi	TVDV/S
		6760'	1.20°	325.40°	6721.92'-159.67'
		6750			
		6809'	1.09°	332.75°	6770.91'-158.83'



6800

6856'

8.94°

19.13°

6817.70'

-154.99'

6850

6904'

18.52°

26.43°

6864.27'

-144.65'

6900

6951'

18.61°

29.33°

6908.83'

-131.47'

6950

7000'

20.00°

28.69°

6955.07'

-117.36'

7000

7047'

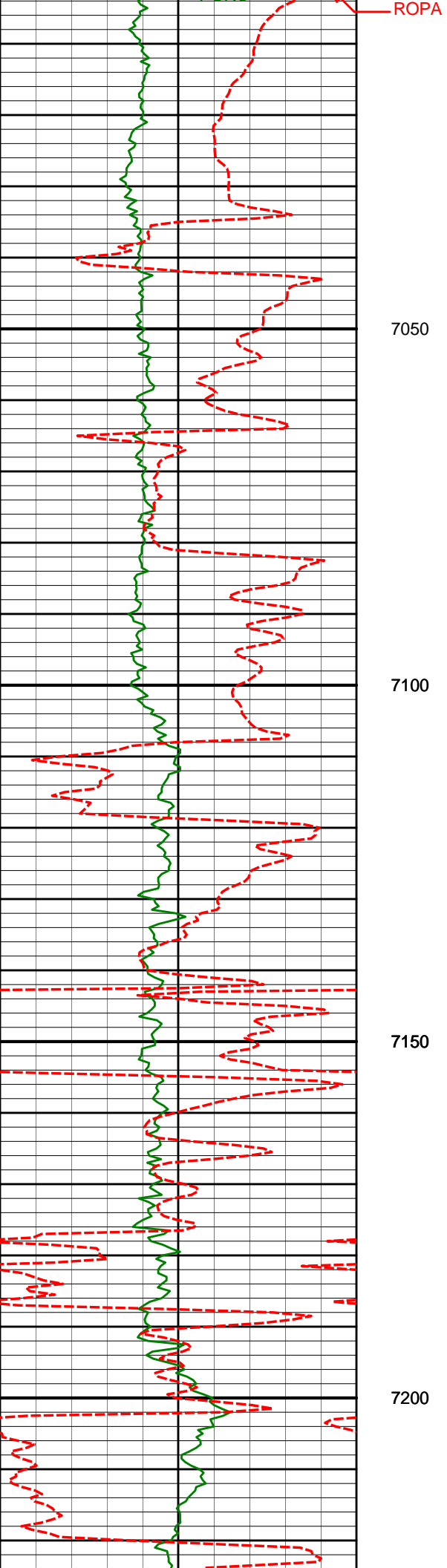
26.62°

24.54°

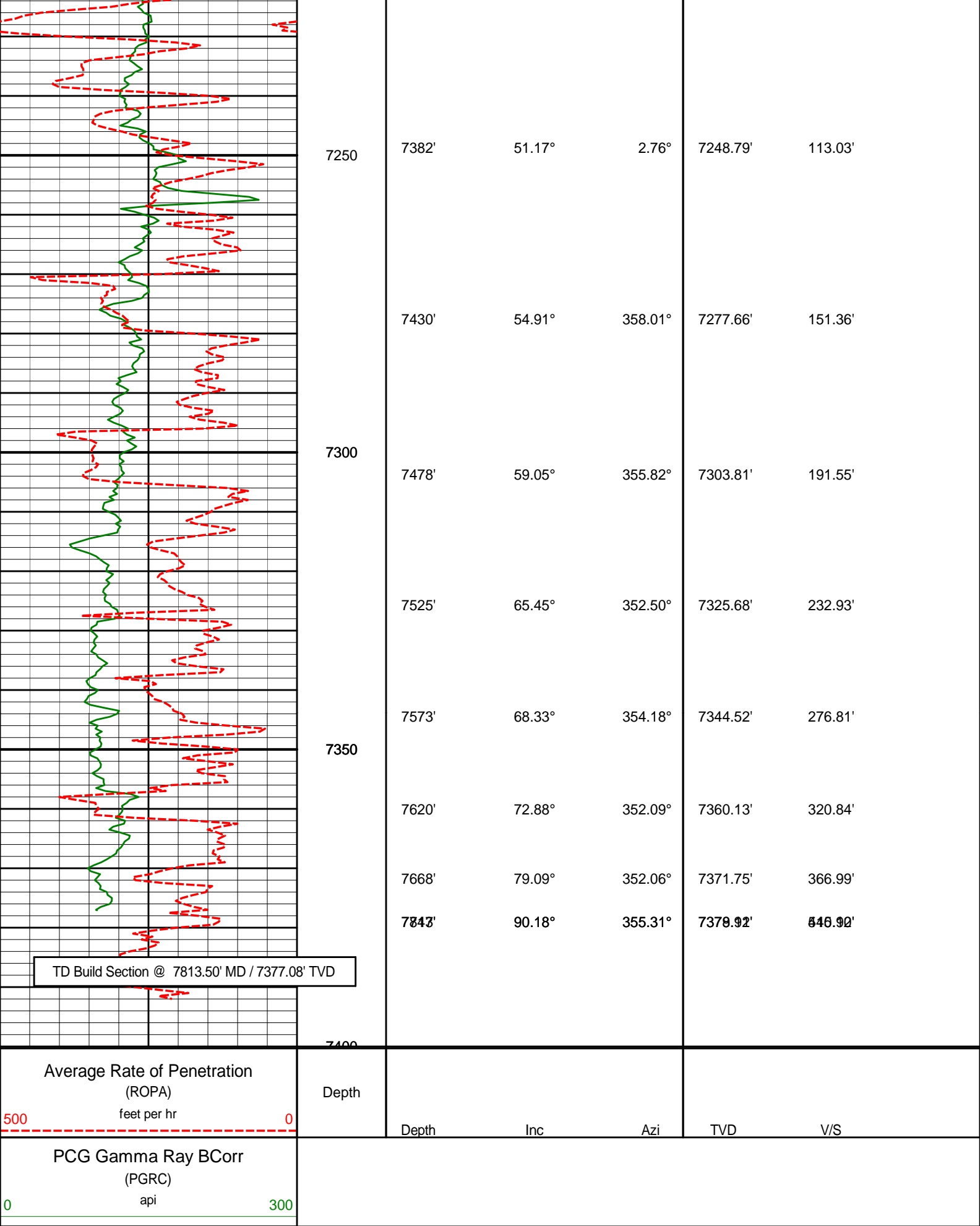
6998.22'

-100.78'

PGRC



7095'	33.44°	23.61°	7039.75'	-78.93'
7142'	36.71°	17.28°	7078.22'	-53.70'
7191'	40.00°	9.11°	7116.66'	-24.19'
7238'	43.92°	3.74°	7151.62'	6.99'
7286'	47.31°	0.05°	7185.19'	41.25'
7334'	47.77°	3.55°	7217.60'	76.63'





HALLIBURTON

DIRECTIONAL SURVEY REPORT

Anadarko Petroleum Corp.
Gobbler 28N-23HZ
Wattenburg
Weld Colorado
USA
CA-XX-0900304811

<i>Measured Depth (feet)</i>	<i>Inclination (degrees)</i>	<i>Direction (degrees)</i>	<i>Vertical Depth (feet)</i>	<i>Latitude (feet)</i>	<i>Departure (feet)</i>	<i>Vertical Section (feet)</i>	<i>Dogleg (deg/100ft)</i>
1013.00	0.42	221.67	1012.98	4.26 N	2.26 E	4.24	TIE-IN
1157.00	0.32	167.04	1156.98	3.48 N	2.00 E	3.46	0.24
1433.00	0.32	135.44	1432.97	2.19 N	2.71 E	2.17	0.06
1709.00	0.22	154.27	1708.97	1.16 N	3.48 E	1.13	0.05
1989.00	0.28	159.46	1988.97	0.03 N	3.95 E	-0.00	0.02
2276.00	0.20	234.92	2275.97	0.91 S	3.79 E	-0.94	0.10
2465.00	0.28	313.66	2464.96	0.78 S	3.20 E	-0.80	0.16
2560.00	3.46	291.07	2559.90	0.41 N	0.35 E	0.41	3.38
2656.00	4.99	264.19	2655.65	1.03 N	6.50 W	1.08	2.56
2751.00	7.55	264.53	2750.07	0.02 N	16.82 W	0.14	2.70
2847.00	9.34	250.86	2845.04	3.14 S	30.46 W	-2.92	2.79
2943.00	10.35	253.14	2939.62	8.20 S	46.07 W	-7.86	1.13
3039.00	8.99	253.75	3034.26	12.80 S	61.53 W	-12.35	1.42
3134.00	10.37	253.43	3127.90	17.31 S	76.85 W	-16.75	1.45
3230.00	11.00	247.46	3222.24	23.29 S	93.60 W	-22.60	1.33
3325.00	10.27	249.74	3315.61	29.70 S	109.91 W	-28.89	0.89
3421.00	9.24	250.76	3410.22	35.20 S	125.22 W	-34.28	1.09
3517.00	8.25	253.38	3505.10	39.71 S	139.09 W	-38.69	1.11
3612.00	9.55	256.47	3598.95	43.51 S	153.29 W	-42.38	1.46
3708.00	9.70	253.09	3693.60	47.72 S	168.77 W	-46.48	0.61
3898.00	10.16	241.90	3880.77	60.27 S	198.87 W	-58.81	1.04
3993.00	8.87	239.51	3974.47	67.93 S	212.57 W	-66.37	1.42
4089.00	8.62	248.82	4069.36	74.29 S	225.66 W	-72.63	1.49
4183.00	9.39	258.83	4162.20	78.32 S	239.75 W	-76.56	1.86
4279.00	8.95	257.77	4256.97	81.42 S	254.74 W	-79.55	0.50
4374.00	9.66	259.75	4350.72	84.40 S	269.80 W	-82.42	0.82
4470.00	9.22	261.36	4445.42	86.99 S	285.33 W	-84.89	0.53
4661.00	7.59	260.27	4634.36	91.42 S	312.90 W	-89.12	0.86
4757.00	9.43	256.41	4729.30	94.34 S	326.80 W	-91.94	2.00
4851.00	10.50	249.31	4821.89	99.18 S	342.29 W	-96.66	1.74
4946.00	11.63	240.43	4915.13	106.96 S	358.72 W	-104.33	2.15
5042.00	11.17	226.95	5009.25	118.09 S	373.93 W	-115.34	2.81
5137.00	6.42	227.25	5103.11	127.98 S	384.56 W	-125.15	5.01
5232.00	8.29	237.56	5197.33	135.25 S	394.24 W	-132.36	2.40
5327.00	7.56	237.18	5291.42	142.32 S	405.27 W	-139.34	0.77
5423.00	7.12	237.94	5386.63	148.90 S	415.62 W	-145.85	0.47
5518.00	6.41	236.09	5480.97	154.98 S	425.01 W	-151.86	0.78
5614.00	5.49	237.75	5576.45	160.43 S	433.35 W	-157.25	0.98
5709.00	3.28	221.94	5671.17	164.88 S	439.01 W	-161.65	2.64
5804.00	2.81	214.81	5766.03	168.81 S	442.16 W	-165.56	0.63
5900.00	0.40	176.22	5861.99	171.08 S	443.48 W	-167.82	2.62
5996.00	0.56	66.96	5957.99	171.23 S	443.03 W	-167.98	0.82
6187.00	0.00	39.80	6148.99	170.87 S	442.18 W	-167.62	0.29
6474.00	1.09	1.13	6435.97	168.13 S	442.13 W	-164.88	0.38
6760.00	1.20	325.40	6721.92	162.93 S	443.77 W	-159.67	0.25
6809.00	1.09	332.75	6770.91	162.09 S	444.28 W	-158.83	0.37
6856.00	8.94	19.13	6817.70	158.24 S	443.28 W	-154.99	17.50
6904.00	18.52	26.43	6864.27	147.87 S	438.66 W	-144.65	20.24
6951.00	18.61	29.33	6908.83	134.64 S	431.66 W	-131.47	1.97
7000.00	20.00	28.69	6955.07	120.47 S	423.81 W	-117.36	2.85
7047.00	26.62	24.54	6998.22	103.83 S	415.57 W	-100.78	14.50
7095.00	33.44	23.61	7039.75	81.90 S	405.79 W	-78.93	14.25
7142.00	36.71	17.28	7078.22	56.61 S	396.43 W	-53.70	10.41
7191.00	40.00	9.11	7116.66	27.04 S	389.57 W	-24.19	12.32
7238.00	43.92	3.74	7151.62	4.16 N	386.12 W	6.99	11.31
7286.00	47.31	0.05	7185.19	38.43 N	385.01 W	41.25	8.94
7334.00	47.77	3.55	7217.60	73.81 N	383.90 W	76.63	5.47
7382.00	51.17	2.76	7248.79	110.24 N	381.89 W	113.03	7.19

7430.00	54.91	358.01	7277.66	148.56 N	381.67 W	151.36	11.10
7478.00	59.05	355.82	7303.81	188.74 N	383.86 W	191.55	9.44
7525.00	65.45	352.50	7325.68	230.09 N	388.12 W	232.93	14.98
7573.00	68.33	354.18	7344.52	273.93 N	393.23 W	276.81	6.80
7620.00	72.88	352.09	7360.13	317.93 N	398.54 W	320.84	10.56
7668.00	79.09	352.06	7371.75	364.03 N	404.96 W	366.99	12.92
7747.00	90.18	355.31	7379.12	442.08 N	413.57 W	445.10	14.64
7813.00	90.18	355.31	7378.91	507.86 N	418.97 W	510.92	0.01

CALCULATION BASED ON MINIMUM CURVATURE METHOD

**SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT**

**VERTICAL SECTION RELATIVE TO WELL HEAD
VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 359.58 DEGREES (TRUE)
A TOTAL CORRECTION OF 8.58 DEG FROM MAGNETIC NORTH TO TRUE NORTH HAS BEEN APPLIED**

**HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 7813.00 FEET
IS 658.37 FEET ALONG 320.48 DEGREES (TRUE)**

All directional surveys tied onto gyro survey at 1013' MD. Final survey is a straight-line projection to the bit.