

Scientific Drilling

30-015-28690

E.O.G.

Field: Ranger
Site: Eddy County, NM
Well: Ranger 7 Fed Com #1
Wellpath: VH - Job #32K1104742
Survey: 11/25/04

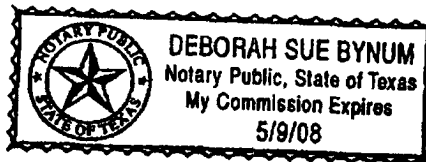
This survey is correct to the best of my knowledge
and is supported by actual field data.

.....*Becky St. Hart*..... Company Representative

Notorized this date *20th* of *December*, 2004.

Deborah Sue Bynum

Notary Signature
County of Midland
State of Texas





Scientific
Drilling

Scientific Drilling International Survey Report

Company: E.O.G.	Date: 12/20/2004	Time: 08:25:49	Page: 1
Field: Ranger	Co-ordinate(NE) Reference:	Site: Eddy County, NM, Grid North	
Site: Eddy County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Ranger 7 Fed Com #1	Section (VS) Reference:	Well (0.00N,0.00E,280.38Azi)	
Wellpath: VH - Job #32K1104742	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: 11/25/04	Start Date: 11/25/2004
Company: Scientific Drilling Internatio	Engineer: Gonzales w/P&M
Tool: Keeper;Keeper Surface Readout Gyro	Tied-to: From Surface

Survey

MD ft	Incl deg	Azma deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.00
100.0	0.47	241.90	100.0	0.3	-0.2	-0.4	0.47	0.4	241.90
200.0	0.60	240.55	200.0	1.0	-0.6	-1.2	0.13	1.3	241.37
300.0	0.55	246.22	300.0	1.8	-1.1	-2.1	0.08	2.3	242.18
400.0	0.48	250.87	400.0	2.6	-1.4	-2.9	0.08	3.2	243.90
500.0	0.54	237.48	500.0	3.3	-1.8	-3.7	0.13	4.1	243.87
600.0	0.52	256.52	600.0	4.1	-2.2	-4.5	0.18	5.0	244.41
700.0	0.29	325.30	700.0	4.7	-2.1	-5.1	0.50	5.5	247.98
800.0	0.38	346.93	800.0	5.0	-1.5	-5.3	0.15	5.6	253.91
900.0	0.39	1.88	900.0	5.2	-0.9	-5.4	0.10	5.5	260.77
1000.0	0.53	19.34	1000.0	5.1	-0.1	-5.2	0.20	5.2	268.88
1100.0	0.71	22.28	1100.0	4.9	0.9	-4.9	0.18	4.9	280.58
1200.0	0.73	19.47	1200.0	4.7	2.1	-4.4	0.04	4.9	295.27
1300.0	0.69	15.90	1299.9	4.6	3.3	-4.0	0.06	5.2	308.96
1400.0	0.50	346.89	1399.9	4.7	4.3	-4.0	0.35	5.8	317.08
1500.0	0.47	343.32	1499.9	5.0	5.1	-4.2	0.04	6.6	320.55
1600.0	0.56	340.62	1599.9	5.5	5.9	-4.5	0.09	7.4	323.07
1700.0	0.67	324.33	1699.9	6.1	6.9	-5.0	0.21	8.5	324.15
1800.0	0.72	311.57	1799.9	7.1	7.8	-5.8	0.16	9.7	323.35
1900.0	0.72	305.80	1899.9	8.2	8.5	-6.8	0.07	10.9	321.68
2000.0	0.72	287.56	1999.9	9.4	9.1	-7.9	0.23	12.0	319.18
2100.0	0.80	271.95	2099.9	10.7	9.3	-9.2	0.22	13.1	315.49
2200.0	1.03	270.14	2199.9	12.3	9.3	-10.8	0.23	14.3	310.98
2300.0	1.10	270.02	2299.9	14.1	9.3	-12.6	0.07	15.7	306.53
2400.0	1.14	270.40	2399.8	16.0	9.4	-14.6	0.04	17.3	302.70
2500.0	1.14	275.54	2499.8	18.0	9.5	-16.6	0.10	19.1	299.74
2600.0	1.20	276.35	2599.8	20.0	9.7	-18.6	0.06	21.0	297.49
2700.0	0.97	264.22	2699.8	21.9	9.7	-20.5	0.32	22.7	295.36
2800.0	1.02	261.61	2799.8	23.5	9.5	-22.2	0.07	24.1	293.14
2900.0	1.05	264.64	2899.8	25.3	9.3	-24.0	0.06	25.7	291.13
3000.0	1.05	262.99	2999.7	27.0	9.1	-25.8	0.03	27.4	289.37
3100.0	1.09	265.27	3099.7	28.8	8.9	-27.7	0.06	29.1	287.80
3200.0	1.11	261.85	3199.7	30.6	8.7	-29.6	0.07	30.8	286.33
3300.0	1.07	263.07	3299.7	32.5	8.4	-31.5	0.05	32.6	284.98
3400.0	1.20	253.00	3399.7	34.3	8.0	-33.4	0.24	34.3	283.47
3500.0	1.42	251.40	3499.6	36.3	7.3	-35.6	0.22	36.3	281.60
3600.0	1.56	259.69	3599.6	38.7	6.7	-38.1	0.26	38.7	279.92
3700.0	1.95	269.39	3699.6	41.6	6.4	-41.1	0.49	41.6	278.84
3800.0	2.43	272.59	3799.5	45.4	6.5	-44.9	0.50	45.4	278.20
3900.0	2.90	272.46	3899.4	50.0	6.7	-49.6	0.47	50.0	277.67
4000.0	2.91	273.49	3999.3	55.0	6.9	-54.6	0.05	55.1	277.24
4100.0	3.03	273.43	4099.1	60.1	7.3	-59.8	0.12	60.3	276.91
4200.0	3.02	273.13	4199.0	65.4	7.6	-65.1	0.02	65.5	276.62
4300.0	3.06	272.00	4298.8	70.6	7.8	-70.4	0.07	70.8	276.32
4400.0	3.12	270.53	4398.7	76.0	7.9	-75.8	0.10	76.2	275.96
4500.0	3.18	269.50	4498.5	81.4	7.9	-81.3	0.08	81.6	275.56
4600.0	3.23	269.60	4598.4	86.8	7.9	-86.9	0.05	87.2	275.18
4700.0	3.31	269.08	4698.2	92.4	7.8	-92.6	0.09	92.9	274.82
4800.0	3.36	270.73	4798.1	98.2	7.8	-98.4	0.11	98.7	274.53



Scientific
Drilling

Scientific Drilling International Survey Report

Company: E.O.G.	Date: 12/20/2004	Time: 08:25:49	Page: 2
Field: Ranger	Co-ordinate(NE) Reference:	Site: Eddy County, NM, Grid North	
Site: Eddy County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Ranger 7 Fed Com #1	Section (V'S) Reference:	Well (0.00N,0.00E,280.38Azi)	
Wellpath: VH - Job #32K1104742	Survey Calculation Method:	Minimum Curvature	Db: Sybase

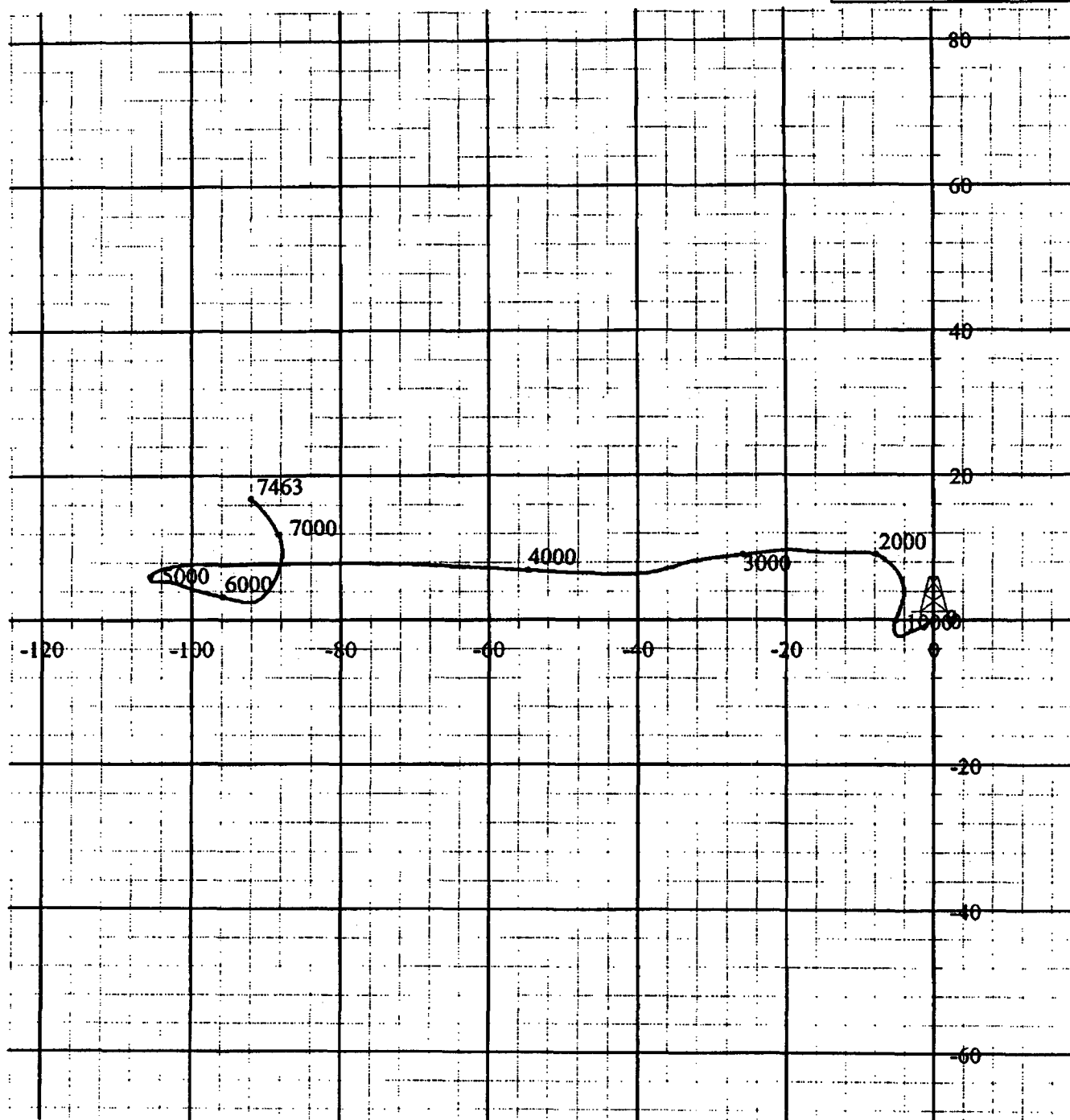
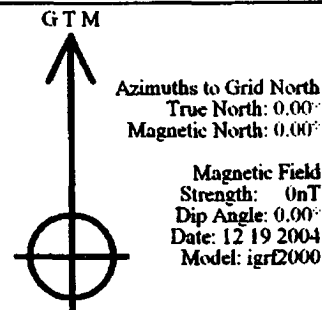
Survey

MD ft	Incl deg	Azhu deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.0	2.40	255.26	4897.9	103.0	7.3	-103.3	1.23	103.6	274.04
5000.0	0.75	189.97	4997.9	104.8	6.1	-105.5	2.19	105.6	273.32
5100.0	0.43	96.18	5097.9	104.5	5.4	-105.2	0.89	105.3	272.96
5200.0	0.38	91.89	5197.9	103.8	5.4	-104.5	0.06	104.6	272.95
5300.0	0.44	81.24	5297.9	103.1	5.4	-103.8	0.10	103.9	272.99
5400.0	0.45	102.45	5397.9	102.3	5.4	-103.0	0.16	103.2	273.00
5500.0	0.52	105.86	5497.9	101.5	5.2	-102.2	0.08	102.3	272.91
5600.0	0.68	110.80	5597.9	100.4	4.9	-101.2	0.17	101.3	272.75
5700.0	0.72	112.15	5697.9	99.2	4.4	-100.1	0.04	100.2	272.52
5800.0	0.86	105.01	5797.9	97.9	4.0	-98.8	0.17	98.9	272.31
5900.0	0.85	101.99	5897.8	96.4	3.6	-97.3	0.05	97.4	272.14
6000.0	0.83	103.00	5997.8	94.9	3.3	-95.9	0.02	96.0	271.98
6100.0	0.82	106.11	6097.8	93.5	3.0	-94.5	0.05	94.5	271.79
6200.0	0.80	100.13	6197.8	92.1	2.6	-93.1	0.09	93.2	271.62
6300.0	0.73	81.95	6297.8	90.8	2.6	-91.8	0.25	91.8	271.62
6400.0	0.94	48.91	6397.8	89.7	3.2	-90.6	0.52	90.6	272.04
6500.0	0.99	33.14	6497.8	88.8	4.5	-89.5	0.27	89.6	272.87
6600.0	1.00	24.63	6597.8	88.3	6.0	-88.6	0.15	88.8	273.88
6700.0	0.93	14.08	6697.7	88.0	7.6	-88.1	0.19	88.4	274.92
6800.0	0.82	2.95	6797.7	88.0	9.1	-87.8	0.20	88.3	275.91
6900.0	0.86	348.64	6897.7	88.4	10.5	-87.9	0.21	88.6	276.83
7000.0	0.80	336.68	6997.7	89.1	11.9	-88.4	0.18	89.2	277.68
7100.0	0.85	329.86	7097.7	89.9	13.2	-89.0	0.11	90.0	278.43
7200.0	0.92	324.85	7197.7	91.0	14.5	-89.9	0.10	91.0	279.17
7300.0	0.61	317.17	7297.7	92.0	15.5	-90.7	0.33	92.0	279.73
7400.0	0.68	318.71	7397.7	92.9	16.4	-91.4	0.07	92.9	280.16
7465.0	0.72	298.13	7462.7	93.6	16.9	-92.0	0.39	93.6	280.38



**Scientific
Drilling**

Field: Ranger
Site: Eddy County, NM
Well: Ranger 7 Fed Com #1
Wellpath: VH - Job #32K1104742
Survey: 11/25/04



West(-)/East(+) [20ft/in]

South(-)/North(+) [20ft/in]

Survey Report

Calculated using the Minimum Curvature Method
Computed using PDS VER2.2.6
Vertical Section Plane: 182.55 deg.

Page 1
Job No: J-WT-0406-0068
Date: 6/23/2004
Time: 8:36 am
Wellpath ID: amazon8
Date Created: 6/12/2004
Last Revision: 6/23/2004

Survey Reference: WELLHEAD
Vertical Section Reference: WELLHEAD
Closure Reference: WELLHEAD
TVD Reference: WELLHEAD

Gray Young

EOG Resources
Amazon
McVay #7
Eddy County, NM
Eddy County, NM
Amazon 8 Fee Com #1

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Closure Dist. (ft)	Dir. (deg.)	DLS (dg/100ft)
Gyro Tie- In										
4600.00	1.20	69.68	4599.56	0.00	-53.17	53.04 N	4.12 E	53.20@	4.44	0.00
4679.00	12.40	190.50	4677.97	79.00	-45.06	44.95 N	3.35 E	45.08@	4.26	16.53
4700.00	15.30	189.27	4698.36	21.00	-40.07	40.00 N	2.49 E	40.08@	3.56	13.88
4732.00	22.25	187.51	4728.64	32.00	-29.83	29.81 N	1.02 E	29.83@	1.95	21.79
4764.00	29.90	188.30	4757.36	32.00	-15.84	15.89 N	0.93W	15.82@	356.65	23.93
4796.00	33.59	189.00	4784.56	32.00	0.90	0.75 S	3.47W	3.55@	257.85	11.59
4828.00	37.37	190.50	4810.62	32.00	19.32	19.05 S	6.62W	20.16@	199.18	12.12
4860.00	41.15	190.67	4836.39	32.00	39.37	38.95 S	10.34W	40.30@	194.87	11.82
4892.00	44.49	191.11	4858.86	32.00	60.89	60.30 S	14.45W	62.01@	193.48	10.48
4924.00	48.36	190.06	4880.91	32.00	83.84	83.09 S	18.71W	85.17@	192.69	12.32
4956.00	51.00	189.00	4901.62	32.00	108.05	107.15 S	22.74W	109.53@	191.98	8.63
4988.00	53.20	189.53	4921.27	32.00	133.13	132.07 S	26.81W	134.76@	191.47	7.00
5019.00	54.87	189.97	4939.48	31.00	158.02	156.79 S	31.06W	159.84@	191.20	5.51
5051.00	57.24	189.71	4957.35	32.00	184.35	182.95 S	35.59W	186.38@	191.01	7.44
5083.00	60.15	190.41	4973.97	32.00	211.45	209.86 S	40.37W	213.71@	190.89	9.28
5115.00	62.70	190.67	4989.28	32.00	239.28	237.49 S	45.51W	241.81@	190.85	8.00
5147.00	64.02	190.50	5003.63	32.00	267.60	265.61 S	50.77W	270.41@	190.82	4.15
5179.00	64.89	190.50	5017.42	32.00	296.20	293.99 S	56.03W	299.28@	190.79	2.72
5211.00	70.52	189.36	5029.56	32.00	325.55	323.15 S	61.12W	328.88@	190.71	17.90
5243.00	77.29	188.21	5038.43	32.00	356.09	353.51 S	65.81W	359.56@	190.55	21.44
5261.00	81.51	187.86	5041.74	18.00	373.70	371.03 S	68.28W	377.28@	190.43	23.52
5273.00	83.89	187.77	5043.26	12.00	385.55	382.82 S	69.90W	389.15@	190.35	19.85
5305.00	90.40	187.77	5044.85	32.00	417.36	414.47 S	74.22W	421.06@	190.15	20.34
5337.00	96.02	189.79	5043.06	32.00	449.11	446.03 S	79.09W	452.96@	190.06	16.66
5369.00	97.78	190.41	5039.22	32.00	480.60	477.31 S	84.66W	484.76@	190.06	5.83
5401.00	95.94	189.79	5035.40	32.00	512.10	508.58 S	90.24W	516.53@	190.06	6.06
5433.00	96.02	189.62	5032.06	32.00	543.67	539.95 S	95.80W	548.35@	190.04	0.58
5465.00	97.08	188.39	5028.41	32.00	575.26	571.35 S	100.59W	580.14@	189.98	5.06
5497.00	97.87	187.69	5024.25	32.00	606.84	602.77 S	105.01W	611.85@	189.88	3.29
5529.00	95.85	186.45	5020.43	32.00	638.51	634.30 S	108.92W	643.58@	189.74	7.39
5561.00	93.47	185.84	5017.83	32.00	670.34	666.00 S	112.34W	675.41@	189.57	7.68
5593.00	91.10	183.47	5016.55	32.00	702.29	697.87 S	114.93W	707.27@	189.35	10.47
5625.00	90.57	180.04	5016.08	32.00	734.28	729.85 S	115.91W	738.96@	189.02	10.84

PathFinder Energy Services

Survey Report

Page 2
Date: 6/23/2004
Wellpath ID: amazon8

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)	Closure Dist. (ft)	Dir. (deg.)	DLS (dg/100ft)
5657.00	89.60	178.72	5016.04	32.00	766.23	761.84 S	115.57W	770.56@188.83	5.12
5688.00	91.36	179.16	5015.78	31.00	797.17	792.83 S	114.99W	801.13@188.25	5.85
5720.00	92.07	179.60	5014.82	32.00	829.10	824.82 S	114.65W	832.75@187.91	2.61
5752.00	92.42	179.25	5013.57	32.00	861.03	856.79 S	114.32W	864.35@187.60	1.55
5784.00	89.87	179.07	5012.93	32.00	892.96	888.78 S	113.86W	896.04@187.30	7.99
5849.00	88.02	178.90	5014.12	65.00	957.83	953.76 S	112.70W	960.35@186.74	2.86
5880.00	88.55	178.37	5015.05	31.00	988.74	984.73 S	111.97W	991.08@186.49	2.42
5912.00	89.16	178.63	5015.69	32.00	1020.65	1016.71 S	111.13W	1022.77@186.24	2.07
5944.00	89.08	178.28	5016.18	32.00	1052.57	1048.70 S	110.27W	1054.48@186.00	1.12
5976.00	89.08	177.87	5016.70	32.00	1084.46	1080.68 S	109.14W	1086.17@185.77	1.91
6017.00	88.11	178.11	5017.70	41.00	1125.31	1121.83 S	107.63W	1126.75@185.48	2.60
6040.00	88.11	179.51	5018.46	23.00	1148.25	1144.62 S	107.15W	1149.62@185.36	6.08
6072.00	88.20	179.78	5019.49	32.00	1180.19	1176.60 S	106.96W	1181.45@185.19	0.89
6104.00	89.52	181.71	5020.13	32.00	1212.17	1208.59 S	107.37W	1213.35@185.08	7.31
6136.00	90.22	182.41	5020.20	32.00	1244.17	1240.57 S	108.52W	1245.30@185.00	3.09
6168.00	90.84	182.41	5019.91	32.00	1276.16	1272.54 S	108.86W	1277.27@184.93	1.94
6198.00	91.71	182.85	5019.24	30.00	1306.16	1302.50 S	111.24W	1307.24@184.88	3.25
6230.00	92.59	183.73	5018.04	32.00	1338.13	1334.42 S	113.07W	1339.20@184.84	3.89
6262.00	91.63	184.87	5016.86	32.00	1370.09	1366.31 S	115.47W	1371.18@184.83	4.66
6294.00	91.89	185.49	5015.88	32.00	1402.04	1398.16 S	118.36W	1403.16@184.84	2.10
6326.00	90.22	184.96	5015.29	32.00	1434.00	1430.02 S	121.27W	1435.16@184.85	5.48
6358.00	89.16	183.91	5015.46	32.00	1465.98	1461.93 S	123.75W	1467.15@184.84	4.66
6390.00	88.99	183.82	5015.98	32.00	1497.97	1493.85 S	125.90W	1499.15@184.82	0.60
6422.00	89.52	184.08	5016.39	32.00	1529.96	1525.77 S	128.11W	1531.14@184.80	1.84
6455.00	89.96	184.35	5016.54	33.00	1562.94	1558.68 S	130.53W	1564.14@184.79	1.56
6487.00	89.08	182.85	5016.81	32.00	1594.94	1590.82 S	132.54W	1596.13@184.78	5.43
6518.00	89.25	183.12	5017.26	31.00	1625.93	1621.57 S	134.16W	1627.11@184.73	1.03
6550.00	89.52	183.29	5017.61	32.00	1657.93	1653.52 S	135.95W	1659.10@184.70	1.00
6582.00	90.40	183.38	5017.63	32.00	1689.93	1685.46 S	137.81W	1691.06@184.67	2.76
6614.00	91.45	183.47	5017.11	32.00	1721.92	1717.40 S	139.72W	1723.08@184.65	3.29
6647.00	91.63	183.82	5016.22	33.00	1754.90	1750.32 S	141.82W	1756.06@184.63	1.19
6679.00	92.51	184.52	5015.07	32.00	1786.86	1782.22 S	144.14W	1788.04@184.62	3.61
6711.00	93.21	184.96	5013.47	32.00	1818.80	1814.07 S	146.78W	1820.00@184.63	2.58
6743.00	91.19	184.34	5012.24	32.00	1850.75	1845.94 S	149.37W	1851.97@184.63	6.60
6775.00	91.19	184.26	5011.58	32.00	1882.73	1877.84 S	151.77W	1883.96@184.62	0.25
6807.00	90.92	184.70	5010.99	32.00	1914.71	1909.74 S	154.27W	1915.96@184.62	1.61
6839.00	89.43	184.35	5010.89	32.00	1946.69	1941.64 S	156.80W	1947.96@184.62	4.78
6871.00	88.55	183.99	5011.46	32.00	1978.67	1973.55 S	159.12W	1979.95@184.61	2.97
6903.00	88.02	184.08	5012.41	32.00	2010.65	2005.45 S	161.37W	2011.93@184.60	1.68
6935.00	87.76	184.26	5013.59	32.00	2042.61	2037.35 S	163.70W	2043.91@184.59	0.99
6967.00	89.69	183.47	5014.30	32.00	2074.59	2069.26 S	165.86W	2075.90@184.58	6.52
6999.00	90.92	182.59	5014.13	32.00	2106.59	2101.22 S	167.55W	2107.86@184.56	4.73
7031.00	90.40	182.41	5013.76	32.00	2138.59	2133.18 S	168.94W	2139.86@184.53	1.72
7063.00	87.93	182.06	5014.23	32.00	2170.58	2165.15 S	170.19W	2171.83@184.49	7.80
7094.00	86.96	181.27	5015.61	31.00	2201.55	2196.11 S	171.09W	2202.76@184.45	4.03
7126.00	88.02	181.09	5017.01	32.00	2233.51	2228.07 S	171.75W	2234.66@184.41	3.36
7158.00	88.58	181.36	5017.96	32.00	2265.48	2260.05 S	172.43W	2266.62@184.36	1.94

PathFinder Energy Services

Survey Report

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Wellpath ID: amazon8

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Closure Dist. (ft)	Dir. (deg.)	DLS (dg/100ft)
7190.00	88.72	181.53	5018.72	32.00	2297.47	2292.03 S	173.24W	2298.57	@184.32	0.69
7222.00	88.90	181.62	5019.38	32.00	2329.46	2324.01 S	174.12W	2330.53	@184.28	0.63
7255.00	88.90	181.80	5020.02	33.00	2362.45	2356.99 S	175.10W	2363.45	@184.25	0.55
7287.00	88.81	181.80	5020.65	32.00	2394.44	2388.97 S	176.11W	2395.45	@184.22	0.28
7318.00	88.72	182.15	5021.32	31.00	2425.43	2419.94 S	177.16W	2426.42	@184.19	1.17
7350.00	88.90	182.50	5021.99	32.00	2457.42	2451.91 S	178.47W	2458.40	@184.16	1.23
7381.00	88.90	182.59	5022.58	31.00	2488.42	2482.87 S	179.85W	2489.38	@184.14	0.29
7414.00	89.78	182.41	5022.96	33.00	2521.41	2515.84 S	181.29W	2522.36	@184.12	2.72
7456.00	91.01	182.94	5022.67	42.00	2563.41	2557.79 S	183.25W	2564.35	@184.10	3.19
Projection to Bit - Target Depth										
7500.00	91.01	182.94	5021.90	44.00	2607.40	2601.73 S	185.51W	2608.33	@184.08	0.00