



Scientific Drilling

Survey Report

MD ft	Type	Inc deg	Azim deg	TVD ft	VS ft	Northing ft	Easting ft	DLS deg/100ft
0.00	Tie-in	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
100.00	Mag	0.26	146.33	100.00	-0.22	-0.19	0.13	0.26
200.00	Mag	0.06	169.64	200.00	-0.49	-0.43	0.26	0.21
300.00	Mag	0.08	280.73	300.00	-0.51	-0.47	0.20	0.12
400.00	Mag	0.12	102.67	400.00	-0.53	-0.48	0.24	0.20
500.00	Mag	0.07	167.55	500.00	-0.65	-0.56	0.35	0.11
600.00	Mag	0.12	175.61	600.00	-0.81	-0.72	0.37	0.05
700.00	Mag	0.04	190.30	700.00	-0.94	-0.86	0.37	0.08
800.00	Mag	0.03	174.07	800.00	-0.99	-0.92	0.37	0.01
900.00	Mag	0.06	124.90	900.00	-1.06	-0.98	0.42	0.05
1000.00	Mag	0.10	132.73	1000.00	-1.18	-1.07	0.52	0.04
1100.00	Mag	0.13	108.60	1100.00	-1.33	-1.16	0.69	0.06
1200.00	Mag	0.16	178.64	1200.00	-1.53	-1.34	0.81	0.17
1300.00	Mag	0.42	145.66	1300.00	-2.02	-1.78	1.02	0.30
1400.00	Mag	0.48	171.14	1399.99	-2.78	-2.50	1.29	0.21
1500.00	Mag	0.54	143.22	1499.99	-3.65	-3.29	1.63	0.25
1600.00	Mag	0.63	64.78	1599.99	-4.04	-3.43	2.41	0.74
1700.00	Mag	0.37	22.62	1699.98	-3.75	-2.90	3.03	0.43
1800.00	Mag	0.09	287.65	1799.98	-3.46	-2.58	3.08	0.39
1900.00	Mag	0.57	186.99	1899.98	-3.86	-3.05	2.95	0.59
2000.00	Mag	0.64	176.63	1999.97	-4.84	-4.10	2.92	0.13
2100.00	Mag	0.67	153.46	2099.97	-5.96	-5.18	3.21	0.26
2200.00	Mag	0.99	145.57	2199.96	-7.37	-6.42	3.96	0.34
2300.00	Mag	1.49	155.41	2299.93	-9.50	-8.31	4.99	0.54
2400.00	Mag	1.76	144.20	2399.89	-12.27	-10.74	6.43	0.42
2500.00	Mag	1.81	123.18	2499.85	-15.00	-12.85	8.65	0.65
2600.00	Mag	1.62	120.21	2599.80	-17.34	-14.42	11.20	0.21
2700.00	User mag	1.63	128.13	2699.76	-19.62	-16.01	13.54	0.22
2776.00	User mag	1.76	132.46	2775.73	-21.56	-17.47	15.25	0.24
2851.00	User mag	1.20	136.28	2850.70	-23.29	-18.81	16.64	0.76
2914.00	User mag	1.01	137.91	2913.69	-24.40	-19.70	17.47	0.31
2978.00	User mag	0.99	147.66	2977.68	-25.46	-20.58	18.14	0.27
3042.00	User mag	1.62	138.81	3041.66	-26.84	-21.73	19.03	1.04
3106.00	User mag	2.71	131.90	3105.62	-29.01	-23.43	20.76	1.75
3170.00	User mag	3.84	133.58	3169.51	-32.26	-25.92	23.44	1.77
3233.00	User mag	4.72	138.37	3232.34	-36.54	-29.31	26.69	1.50
3297.00	User mag	5.64	149.14	3296.08	-42.06	-33.98	30.05	2.09
3359.00	User mag	4.96	147.02	3357.81	-47.66	-38.84	33.07	1.15
3422.00	User mag	4.89	140.35	3420.58	-52.82	-43.19	36.26	0.91



Scientific Drilling

Survey Report

Well Name:		Mills-Wetzel # 2H						
Survey:		Computed from Mills Wetzel 2h.txt's Mills Wetzel 2h.txt, MWDRun Mills-Wetzel #2H Run 1's RawMSur, MWDRun...						
Survey Date:		10/21/2010, 10/26/2010, 11/1/2010, 11/17/2010, 11/19/2010, 11/22/2010, 11/23/2010, 11/27/2010, 11/4/2010						
MD	Type	Inc	Azim	TVD	VS	Northing	Easting	DLS
ft		deg	deg	ft	ft	ft	ft	deg/100ft
3486.00	User mag	4.54	136.42	3484.36	-57.69	-47.12	39.75	0.74
3550.00	User mag	4.29	127.99	3548.17	-62.02	-50.43	43.38	1.09
3614.00	User mag	3.91	119.13	3612.01	-65.68	-52.96	47.17	1.15
3677.00	User mag	3.52	113.99	3674.88	-68.62	-54.79	50.81	0.81
3740.00	User mag	3.08	108.82	3737.77	-71.00	-56.12	54.17	0.84
3804.00	User mag	2.98	107.38	3801.68	-73.06	-57.17	57.39	0.19
3868.00	User mag	2.87	111.16	3865.60	-75.11	-58.25	60.48	0.35
3930.00	User mag	2.66	112.71	3927.53	-77.09	-59.37	63.25	0.36
3994.00	User mag	2.39	109.36	3991.47	-78.93	-60.38	65.88	0.47
4057.00	User mag	2.12	114.22	4054.42	-80.56	-61.30	68.19	0.53
4120.00	User mag	1.53	111.68	4117.39	-81.92	-62.09	70.03	0.95
4184.00	User mag	1.25	101.90	4181.37	-82.84	-62.54	71.50	0.57
4247.00	User mag	1.11	107.73	4244.35	-83.57	-62.87	72.76	0.28
4311.00	User mag	1.10	98.12	4308.34	-84.23	-63.15	73.96	0.29
4374.00	User mag	0.96	87.04	4371.33	-84.66	-63.21	75.08	0.38
4438.00	User mag	0.87	88.40	4435.32	-84.96	-63.16	76.10	0.14
4501.00	User mag	0.78	94.05	4498.32	-85.28	-63.18	77.01	0.19
4565.00	User mag	0.71	89.92	4562.31	-85.59	-63.21	77.84	0.14
4628.00	User mag	0.74	78.48	4625.31	-85.78	-63.13	78.63	0.23
4692.00	User mag	0.77	70.11	4689.30	-85.83	-62.90	79.44	0.18
4755.00	User mag	0.74	58.02	4752.30	-85.74	-62.54	80.18	0.26
4819.00	User mag	0.74	61.52	4816.29	-85.59	-62.13	80.90	0.07
4883.00	User mag	0.59	55.76	4880.29	-85.44	-61.75	81.53	0.26
4947.00	User mag	0.51	48.81	4944.28	-85.25	-61.37	82.02	0.16
5010.00	User mag	0.47	35.43	5007.28	-85.00	-60.97	82.38	0.19
5073.00	User mag	0.44	21.14	5070.28	-84.66	-60.54	82.62	0.19
5137.00	User mag	0.29	12.50	5134.28	-84.34	-60.15	82.74	0.25
5201.00	User mag	0.44	7.79	5198.28	-83.99	-59.75	82.81	0.24
5264.00	User mag	0.42	6.95	5261.27	-83.56	-59.28	82.87	0.03
5328.00	User mag	0.50	17.90	5325.27	-83.13	-58.78	82.98	0.19
5391.00	User mag	0.38	29.59	5388.27	-82.77	-58.34	83.17	0.24
5455.00	User mag	0.53	10.95	5452.27	-82.38	-57.86	83.33	0.32
5518.00	User mag	0.54	15.39	5515.27	-81.89	-57.29	83.47	0.07
5582.00	User mag	0.38	19.65	5579.26	-81.48	-56.80	83.62	0.26
5645.00	User mag	0.37	9.97	5642.26	-81.14	-56.40	83.73	0.10
5709.00	User mag	0.53	10.90	5706.26	-80.70	-55.91	83.82	0.25
5773.00	User mag	0.68	0.34	5770.26	-80.09	-55.24	83.87	0.30
5836.00	User mag	0.53	18.05	5833.25	-79.51	-54.59	83.97	0.39



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Survey Date:		10/21/2010, 10/26/2010, 11/1/2010, 11/17/2010, 11/19/2010, 11/22/2010, 11/23/2010, 11/27/2010, 11/4/2010						
MD	Type	Inc	Azim	TVD	VS	Northing	Easting	DLS
ft		deg	deg	ft	ft	ft	ft	deg/100ft
5900.00	User mag	0.53	20.38	5897.25	-79.05	-54.03	84.16	0.03
5963.00	User mag	0.54	355.00	5960.25	-78.54	-53.47	84.23	0.37
6003.00	User mag	0.62	1.45	6000.25	-78.15	-53.06	84.22	0.25
6065.00	User mag	0.48	16.16	6062.24	-77.63	-52.48	84.30	0.31
6126.00	User mag	0.47	2.41	6123.24	-77.19	-51.98	84.39	0.19
6188.00	User mag	0.54	4.87	6185.24	-76.69	-51.44	84.42	0.13
6250.00	User mag	0.42	14.04	6247.24	-76.23	-50.93	84.50	0.23
6282.00	User mag	0.64	21.09	6279.23	-76.00	-50.65	84.59	0.72
6314.00	User mag	1.71	40.67	6311.23	-75.63	-50.12	84.97	3.52
6345.00	User mag	3.56	41.30	6342.19	-74.93	-49.04	85.91	5.97
6382.00	User mag	5.12	49.26	6379.09	-73.77	-47.10	87.92	4.52
6414.00	User mag	5.90	48.99	6410.94	-72.65	-45.09	90.24	2.44
6446.00	User mag	6.65	52.80	6442.75	-71.48	-42.89	92.96	2.68
6477.00	User mag	7.48	56.94	6473.51	-70.47	-40.70	96.08	3.12
6509.00	User mag	7.54	59.47	6505.24	-69.58	-38.50	99.64	1.06
6541.00	User mag	8.57	58.53	6536.92	-68.68	-36.19	103.48	3.22
6573.00	User mag	10.73	57.64	6568.46	-67.53	-33.35	108.03	6.78
6605.00	User mag	12.84	55.19	6599.79	-65.93	-29.72	113.46	6.76
6636.00	User mag	14.89	54.09	6629.88	-63.89	-25.42	119.52	6.69
6668.00	User mag	17.38	52.66	6660.62	-61.27	-20.11	126.65	7.87
6700.00	User mag	19.31	51.70	6690.99	-58.11	-13.93	134.60	6.11
6731.00	User mag	21.70	50.95	6720.03	-54.54	-7.14	143.08	7.76
6763.00	User mag	23.69	50.20	6749.55	-50.33	0.70	152.61	6.29
6794.00	User mag	25.68	50.79	6777.71	-45.91	8.94	162.61	6.45
6826.00	User mag	28.35	47.62	6806.22	-40.62	18.44	173.59	9.49
6858.00	User mag	32.16	43.53	6833.86	-33.81	29.74	185.07	13.51
6889.00	User mag	35.17	40.01	6859.66	-25.54	42.57	196.50	11.59
6921.00	User mag	38.79	37.44	6885.22	-15.39	57.59	208.52	12.28
6953.00	User mag	42.69	35.33	6909.46	-3.68	74.41	220.89	12.93
6985.00	User mag	46.68	32.63	6932.21	9.72	93.07	233.45	13.81
7016.00	User mag	50.24	30.24	6952.77	24.34	112.87	245.54	12.85
7048.00	User mag	52.15	28.63	6972.82	40.72	134.59	257.79	7.14
7079.00	User mag	53.91	27.86	6991.46	57.37	156.41	269.51	6.02
7111.00	User mag	55.86	27.35	7009.86	75.18	179.60	281.64	6.23
7143.00	User mag	57.41	26.73	7027.46	93.55	203.41	293.79	5.09
7175.00	User mag	59.04	26.23	7044.32	112.45	227.76	305.91	5.28
7207.00	User mag	60.61	25.48	7060.40	131.88	252.65	317.98	5.33
7238.00	User mag	62.72	24.42	7075.11	151.36	277.39	329.48	7.43



Scientific Drilling

Survey Report

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Survey Date:		10/21/2010, 10/26/2010, 11/1/2010, 11/17/2010, 11/19/2010, 11/22/2010, 11/23/2010, 11/27/2010, 11/4/2010						
MD	Type	Inc	Azim	TVD	VS	Northing	Easting	DLS
ft		deg	deg	ft	ft	ft	ft	deg/100ft
7270.00	User mag	64.10	24.89	7089.43	171.88	303.40	341.42	4.51
7302.00	User mag	65.70	25.22	7103.00	192.52	329.65	353.69	5.07
7333.00	User mag	67.26	24.57	7115.38	212.82	355.43	365.66	5.38
7365.00	User mag	69.42	24.07	7127.19	234.27	382.53	377.90	6.92
7397.00	User mag	71.35	24.15	7137.93	256.09	410.04	390.22	6.04
7429.00	User mag	71.37	22.68	7148.15	278.29	437.87	402.26	4.37
7460.00	User mag	71.59	20.59	7158.00	300.42	465.19	413.10	6.42
7492.00	User mag	72.12	18.77	7167.97	323.99	493.82	423.34	5.65
7524.00	User mag	73.63	16.45	7177.39	348.37	522.97	432.59	8.39
7556.00	User mag	74.95	14.36	7186.05	373.62	552.66	440.77	7.52
7588.00	User mag	76.43	12.36	7193.96	399.66	582.83	447.93	7.60
7620.00	User mag	77.31	10.09	7201.24	426.44	613.39	454.00	7.45
7651.00	User mag	77.80	7.70	7207.92	453.07	643.30	458.68	7.68
7683.00	User mag	78.14	5.34	7214.59	481.18	674.39	462.23	7.30
7715.00	User mag	78.58	3.06	7221.05	509.88	705.65	464.52	7.12
7747.00	User mag	78.86	1.18	7227.31	539.05	737.01	465.68	5.83
7778.00	User mag	79.02	358.41	7233.25	567.76	767.43	465.57	8.79
7810.00	User mag	79.45	356.17	7239.23	597.85	798.83	464.08	6.99
7842.00	User mag	80.34	354.10	7244.85	628.32	830.21	461.41	6.95
7874.00	User mag	80.74	351.19	7250.11	659.18	861.52	457.37	9.04
7906.00	User mag	81.07	348.39	7255.16	690.35	892.61	451.77	8.72
7938.00	User mag	82.29	345.90	7259.79	721.80	923.48	444.73	8.58
7969.00	User mag	83.38	344.26	7263.66	752.46	953.20	436.81	6.31
8001.00	User mag	84.30	342.29	7267.09	784.23	983.66	427.66	6.76
8033.00	User mag	85.56	341.40	7269.92	816.10	1013.95	417.72	4.84
8065.00	User mag	85.60	340.89	7272.39	848.00	1044.14	407.41	1.59
8097.00	User mag	86.95	339.68	7274.47	879.93	1074.20	396.64	5.64
8129.00	User mag	87.65	339.10	7275.97	911.89	1104.12	385.39	2.85
8161.00	User mag	87.25	337.39	7277.40	943.83	1133.81	373.55	5.48
8225.00	User mag	89.50	333.21	7279.22	1007.53	1191.92	346.82	7.42
8288.00	User mag	89.60	331.30	7279.71	1069.87	1247.67	317.49	3.04
8352.00	User mag	89.63	329.00	7280.15	1132.83	1303.17	285.64	3.59
8415.00	User mag	90.20	328.18	7280.24	1194.48	1356.94	252.80	1.58
8479.00	User mag	90.47	328.53	7279.86	1257.05	1411.42	219.23	0.69
8543.00	User mag	90.71	329.04	7279.21	1319.72	1466.16	186.07	0.88
8607.00	User mag	90.87	329.06	7278.32	1382.44	1521.04	153.16	0.26
8670.00	User mag	91.34	328.63	7277.11	1444.14	1574.94	120.57	1.02
8734.00	User mag	90.37	327.22	7276.15	1506.60	1629.16	86.58	2.67
8798.00	User mag	90.10	328.20	7275.89	1569.01	1683.27	52.40	1.59



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MD ft	Type	Inc deg	Azim deg	TVD ft	VS ft	Northing ft	Easting ft	DLS deg/100ft
8861.00	User mag	90.44	328.23	7275.59	1630.57	1736.82	19.21	0.53
8924.00	User mag	90.47	328.17	7275.10	1692.13	1790.36	-13.98	0.10
8988.00	User mag	90.87	328.37	7274.35	1754.68	1844.79	-47.64	0.70
9052.00	User mag	89.93	327.44	7273.90	1817.14	1899.01	-81.64	2.07
9116.00	User mag	89.83	327.09	7274.03	1879.45	1952.84	-116.25	0.57
9179.00	User mag	90.40	326.67	7273.90	1940.68	2005.61	-150.67	1.12
9243.00	User mag	90.74	326.97	7273.26	2002.87	2059.17	-185.69	0.70
9307.00	User mag	90.94	326.75	7272.33	2065.06	2112.76	-220.67	0.46
9370.00	User mag	90.00	325.97	7271.81	2126.15	2165.20	-255.57	1.94
9434.00	User mag	89.66	326.10	7272.00	2188.13	2218.28	-291.33	0.56
9497.00	User mag	89.53	325.41	7272.44	2249.06	2270.36	-326.78	1.11
9561.00	User mag	89.83	324.83	7272.80	2310.77	2322.86	-363.38	1.02
9625.00	User mag	89.90	324.38	7272.95	2372.33	2375.03	-400.45	0.72
9688.00	User mag	90.13	324.71	7272.93	2432.91	2426.35	-436.99	0.65
9752.00	User mag	90.34	325.30	7272.67	2494.59	2478.78	-473.70	0.98
9815.00	User mag	90.47	326.19	7272.23	2555.52	2530.85	-509.15	1.43
9879.00	User mag	90.87	327.24	7271.47	2617.67	2584.35	-544.27	1.75
9943.00	User mag	90.81	327.63	7270.54	2680.01	2638.28	-578.72	0.63
10007.00	User mag	89.73	326.51	7270.24	2742.27	2692.00	-613.50	2.43
10070.00	User mag	88.92	326.71	7270.98	2803.42	2744.59	-648.17	1.32
10134.00	User mag	89.36	326.93	7271.93	2865.61	2798.15	-683.19	0.76
10198.00	User mag	89.36	326.29	7272.65	2927.74	2851.59	-718.41	1.00
10262.00	User mag	90.10	327.87	7272.95	2989.99	2905.31	-753.19	2.72
10324.00	User mag	90.64	327.91	7272.55	3050.50	2957.82	-786.15	0.87
10388.00	User mag	91.61	327.95	7271.29	3112.96	3012.04	-820.12	1.53
10451.00	User mag	90.13	326.96	7270.33	3174.33	3065.14	-854.01	2.82
10515.00	User mag	91.78	328.82	7269.26	3236.77	3119.34	-888.02	3.88
10578.00	User mag	90.98	328.32	7267.74	3298.40	3173.09	-920.85	1.50
10642.00	User mag	89.73	328.25	7267.35	3360.96	3227.53	-954.50	1.95
10705.00	User mag	89.53	328.64	7267.75	3422.57	3281.21	-987.46	0.70
10769.00	User mag	89.26	329.04	7268.43	3485.25	3335.97	-1020.58	0.75
10832.00	User mag	89.83	330.76	7268.93	3547.17	3390.47	-1052.17	2.88
10896.00	User mag	90.71	333.83	7268.63	3610.51	3447.13	-1081.92	4.99
10960.00	User mag	90.37	334.63	7268.03	3674.13	3504.76	-1109.74	1.34
11023.00	User mag	89.76	335.41	7267.95	3736.84	3561.87	-1136.35	1.57
11087.00	User mag	90.47	335.74	7267.82	3800.61	3620.14	-1162.82	1.22
11151.00	User mag	91.82	339.70	7266.54	3864.50	3679.33	-1187.07	6.54
11182.00	User mag	92.09	340.18	7265.48	3895.49	3708.43	-1197.70	1.77

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