



Helmer Directional Drilling Inc.

Smith Production Mermentau Minerals & Land Co. 13 #1 Rev Cameron Parish, LA Final As Drilled		Page: 1 Minimum of Curvature Slot Location: 424725.00', 1491139.00' Plane of Vertical Section: 289.25°
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Measured Depth Feet	BORE Inc Degrees	HOLE Direction Degrees	True Vertical Depth Feet	RECTANGULAR COORDINATES		LAMBERT COORDINATES		Vertical Section Feet	CLOSURES		Dogleg Severity Deg/100'
				North(-South) Feet	East(-West) Feet	Y Feet	X Feet		Distance Feet	Direction Deg	
3800.00	1.75	256.46	3799.49	-18.09	-52.15	424706.91	1491086.85	43.27	55.20	250.87	0.00
3900.00	1.75	264.63	3899.44	-18.59	-55.15	424706.41	1491083.85	45.94	58.20	251.37	0.25
3950.00	2.00	268.34	3949.42	-18.69	-56.79	424706.31	1491082.21	47.45	59.78	251.78	0.56
4020.00	1.80	259.50	4019.38	-18.92	-59.09	424706.08	1491079.91	49.55	62.04	252.24	0.51
4082.00	1.80	260.90	4081.35	-19.25	-61.01	424705.75	1491077.99	51.25	63.97	252.48	0.07
4144.00	2.30	278.10	4143.31	-19.23	-63.20	424705.77	1491075.80	53.33	66.06	253.07	1.27
4206.00	3.00	278.10	4205.24	-18.83	-66.04	424706.17	1491072.96	56.14	68.67	254.09	1.13
4268.00	3.20	278.80	4267.15	-18.34	-69.36	424706.66	1491069.64	59.43	71.74	255.19	0.33
4331.00	3.70	283.90	4330.04	-17.58	-73.07	424707.42	1491065.93	63.19	75.15	256.47	0.93
4393.00	4.60	294.80	4391.87	-16.05	-77.27	424708.95	1491061.73	67.65	78.92	258.26	1.92
4455.00	5.45	295.50	4453.64	-13.74	-82.18	424711.26	1491056.82	73.05	83.32	260.51	1.37
4517.00	6.50	296.00	4515.30	-10.94	-87.99	424714.06	1491051.01	79.47	88.67	262.91	1.70
4579.00	7.60	291.70	4576.83	-7.88	-94.96	424717.12	1491044.04	87.05	95.28	265.25	1.97
4641.00	8.40	293.10	4638.22	-4.59	-102.93	424720.41	1491036.07	95.66	103.03	267.45	1.33
4703.00	9.90	292.40	4699.43	-0.78	-112.02	424724.22	1491026.98	105.50	112.03	269.60	2.43
4765.00	11.10	290.10	4760.40	3.30	-122.56	424728.30	1491016.44	116.79	122.60	271.54	2.05
4828.00	12.30	290.20	4822.09	7.70	-134.55	424732.70	1491004.45	129.57	134.77	273.28	1.91
4891.00	12.80	293.20	4883.58	12.77	-147.26	424737.77	1490991.74	143.24	147.81	274.95	1.30
4953.00	13.50	291.50	4943.95	18.12	-160.31	424743.12	1490978.69	157.32	161.33	276.45	1.29
5015.00	15.10	289.20	5004.03	23.43	-174.67	424748.43	1490964.33	172.63	176.23	277.64	2.74
5076.00	17.10	285.80	5062.64	28.49	-190.80	424753.49	1490948.20	189.53	192.92	278.49	3.62
5138.00	18.80	287.60	5121.62	33.99	-209.10	424758.99	1490929.90	208.61	211.84	279.23	2.88
5201.00	19.20	291.10	5181.19	40.79	-228.44	424765.79	1490910.56	229.12	232.05	280.12	1.92
5263.00	19.20	291.30	5239.74	48.16	-247.45	424773.16	1490891.55	249.49	252.09	281.01	0.11
5325.00	18.70	291.80	5298.38	55.56	-266.18	424780.56	1490872.82	269.61	271.91	281.79	0.85
5387.00	19.00	293.90	5357.05	63.34	-284.63	424788.34	1490854.37	289.60	291.59	282.55	1.20
5449.00	19.70	295.30	5415.55	71.89	-303.31	424796.89	1490835.69	310.05	311.71	283.33	1.35

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Measured Depth Feet	BORE Inc Degrees	HOLE Direction Degrees	True Vertical Depth Feet	RECTANGULAR COORDINATES		LAMBERT COORDINATES		Vertical Section Feet	CLOSURES		Dogleg Severity Deg/100'
				North(-South) Feet	East(-West) Feet	Y Feet	X Feet		Distance Feet	Direction Deg	
5509.00	19.70	295.00	5472.04	80.49	-321.62	424805.49	1490817.38	330.17	331.54	284.05	0.17
5571.00	19.50	295.50	5530.45	89.36	-340.43	424814.36	1490798.57	350.85	351.96	284.71	0.42
5634.00	19.50	295.70	5589.83	98.45	-359.39	424823.45	1490779.61	371.76	372.63	285.32	0.11
5698.00	19.20	298.20	5650.22	108.05	-378.29	424833.05	1490760.71	392.77	393.42	285.94	1.38
5760.00	19.50	298.20	5708.72	117.76	-396.40	424842.76	1490742.60	413.06	413.52	286.55	0.48
5822.00	19.90	296.40	5767.09	127.34	-414.97	424852.34	1490724.03	433.75	434.07	287.06	1.17
5885.00	20.10	297.50	5826.29	137.11	-434.17	424862.11	1490704.83	455.10	455.31	287.53	0.68
5947.00	19.70	298.20	5884.59	146.97	-452.83	424871.97	1490686.17	475.97	476.09	287.98	0.75
6009.00	19.50	298.30	5943.00	156.81	-471.15	424881.81	1490667.85	496.51	496.56	288.41	0.33
6072.00	19.70	296.60	6002.35	166.55	-489.91	424891.55	1490649.09	517.43	517.44	288.78	0.96
6134.00	19.70	292.20	6060.72	175.18	-508.93	424900.18	1490630.07	538.23	538.23	288.99	2.39
6197.00	19.90	292.70	6120.00	183.33	-528.65	424908.33	1490610.35	559.53	559.54	289.13	0.42
6259.00	19.50	291.80	6178.37	191.24	-547.99	424916.24	1490591.01	580.40	580.40	289.24	0.81
6321.00	19.20	289.50	6236.87	198.49	-567.21	424923.49	1490571.79	600.94	600.94	289.29	1.32
6383.00	19.40	289.40	6295.38	205.31	-586.53	424930.31	1490552.47	621.43	621.43	289.29	0.33
6444.00	19.90	290.60	6352.83	212.33	-605.81	424937.33	1490533.19	641.94	641.94	289.32	1.05
6506.00	19.20	289.70	6411.25	219.48	-625.28	424944.48	1490513.72	662.68	662.68	289.34	1.23
6568.00	18.30	288.50	6469.96	226.00	-644.11	424951.00	1490494.89	682.61	682.61	289.33	1.58
6631.00	18.10	289.20	6529.81	232.36	-662.73	424957.36	1490476.27	702.29	702.29	289.32	0.47
6693.00	18.50	290.80	6588.68	239.02	-681.03	424964.02	1490457.97	721.75	721.75	289.34	1.04
6754.00	18.30	290.80	6646.56	245.86	-699.02	424970.86	1490439.98	741.00	741.00	289.38	0.33
6817.00	18.50	291.50	6706.34	253.03	-717.57	424978.03	1490421.43	760.87	760.88	289.42	0.47
6878.00	18.50	289.20	6764.19	259.76	-735.71	424984.76	1490403.29	780.22	780.23	289.45	1.20
6940.00	18.70	285.80	6822.95	265.70	-754.57	424990.70	1490384.43	799.98	799.98	289.40	1.78
7003.00	18.50	286.70	6882.66	271.33	-773.86	424996.33	1490365.14	820.05	820.05	289.32	0.56
7066.00	18.10	287.60	6942.47	277.16	-792.76	425002.16	1490346.24	839.81	839.81	289.27	0.78
7128.00	18.60	287.60	7001.32	283.06	-811.37	425008.06	1490327.63	859.32	859.32	289.23	0.81

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				North(-South) Feet	East(-West) Feet	Y Feet	X Feet		Distance Feet	Direction Deg	
7188.00	18.50	288.00	7058.20	288.89	-829.54	425013.89	1490309.46	878.41	878.41	289.20	0.27
7250.00	18.10	288.10	7117.07	294.93	-848.05	425019.93	1490290.95	897.87	897.87	289.18	0.65
7314.00	18.30	288.70	7177.86	301.24	-867.02	425026.24	1490271.98	917.86	917.86	289.16	0.43
7376.00	18.50	289.50	7236.69	307.64	-885.51	425032.64	1490253.49	937.43	937.43	289.16	0.52
7438.00	18.50	289.90	7295.49	314.27	-904.03	425039.27	1490234.97	957.10	957.10	289.17	0.20
7501.00	18.30	290.80	7355.27	321.19	-922.68	425046.19	1490216.32	976.98	976.98	289.19	0.55
7563.00	17.90	291.70	7414.20	328.17	-940.63	425053.17	1490198.37	996.23	996.23	289.23	0.79
7626.00	17.90	292.20	7474.15	335.40	-958.59	425060.40	1490180.41	1015.57	1015.57	289.28	0.24
7688.00	17.90	292.50	7533.15	342.65	-976.21	425067.65	1490162.79	1034.60	1034.60	289.34	0.15
7750.00	18.50	291.80	7592.05	349.95	-994.15	425074.95	1490144.85	1053.94	1053.94	289.39	1.03
7812.00	19.00	290.10	7650.76	357.07	-1012.76	425082.07	1490126.24	1073.86	1073.86	289.42	1.19
7874.00	19.20	290.20	7709.35	364.06	-1031.80	425089.06	1490107.20	1094.14	1094.15	289.43	0.33
7936.00	20.10	289.50	7767.74	371.14	-1051.42	425096.14	1490087.58	1114.99	1115.00	289.44	1.50
7998.00	20.60	289.50	7825.87	378.33	-1071.74	425103.33	1490067.26	1136.55	1136.56	289.44	0.81
8059.00	20.60	290.40	7882.97	385.66	-1091.91	425110.66	1490047.09	1158.01	1158.02	289.45	0.52
8122.00	20.40	291.10	7941.98	393.47	-1112.54	425118.47	1490026.46	1180.07	1180.07	289.48	0.50
8185.00	20.10	292.00	8001.08	401.48	-1132.83	425126.48	1490006.17	1201.85	1201.87	289.51	0.69
8247.00	19.90	292.70	8059.34	409.54	-1152.44	425134.54	1489986.56	1223.03	1223.04	289.56	0.50
8309.00	19.70	292.50	8117.68	417.61	-1171.83	425142.61	1489967.17	1243.99	1244.02	289.62	0.34
8371.00	19.90	293.10	8176.01	425.75	-1191.19	425150.75	1489947.81	1264.95	1264.99	289.67	0.46
8434.00	20.10	292.50	8235.21	434.10	-1211.05	425159.10	1489927.95	1286.46	1286.50	289.72	0.45
8497.00	20.20	292.90	8294.36	442.48	-1231.07	425167.48	1489907.93	1308.12	1308.18	289.77	0.27
8527.00	20.20	292.50	8322.51	446.48	-1240.63	425171.48	1489898.37	1318.46	1318.52	289.79	0.46

Final Station Closure Distance: 1318.52' Direction: 289.79°