

# Helmer Directional Drilling, Inc.

SG Interests Federal 11-90-9 #3 SE Proposed Well Plan		Page: 1  Minimum of Curvature Plane of Vertical Section: 136.18°
-------------------------------------------------------------	------------------------------------------------------------------------------------	---------------------------------------------------------------------------


Measured Depth Feet	B O R E Inc Degrees	H O L E Direction Degrees	True Vertical Depth Feet	RECTANGULAR COORDINATES North/South East/West Feet Feet		Vertical Section Feet	C L O S U R E S Distance Direction Feet Deg		Dogleg Severity Deg/100'
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP/ Start Build									
1100.00	1.50	14.54	1099.99	1.27	0.33	-0.69	1.31	14.54	1.50
1200.00	3.00	14.54	1199.91	5.07	1.31	-2.75	5.23	14.54	1.50
1300.00	4.50	14.54	1299.69	11.40	2.96	-6.18	11.77	14.54	1.50
1400.00	6.00	14.54	1399.27	20.25	5.25	-10.98	20.92	14.54	1.50
1500.00	7.50	14.54	1498.57	31.63	8.20	-17.14	32.68	14.54	1.50
1517.47	7.76	14.54	1515.89	33.88	8.79	-18.36	35.00	14.54	1.50
End Build									
2017.47	7.76	14.54	2011.31	99.24	25.74	-53.78	102.53	14.54	0.00
2517.47	7.76	14.54	2506.72	164.61	42.69	-89.20	170.06	14.54	0.00
3017.47	7.76	14.54	3002.14	229.98	59.65	-124.62	237.59	14.54	0.00
3517.47	7.76	14.54	3497.56	295.34	76.60	-160.04	305.11	14.54	0.00
4017.47	7.76	14.54	3992.98	360.71	93.55	-195.47	372.64	14.54	0.00
4517.47	7.76	14.54	4488.40	426.08	110.51	-230.89	440.17	14.54	0.00
5017.47	7.76	14.54	4983.82	491.44	127.46	-266.31	507.70	14.54	0.00
5517.47	7.76	14.54	5479.24	556.81	144.42	-301.73	575.23	14.54	0.00
6017.47	7.76	14.54	5974.66	622.17	161.37	-337.15	642.76	14.54	0.00
6517.47	7.76	14.54	6470.07	687.54	178.32	-372.57	710.29	14.54	0.00
7017.47	7.76	14.54	6965.49	752.91	195.28	-407.99	777.82	14.54	0.00
7517.47	7.76	14.54	7460.91	818.27	212.23	-443.42	845.35	14.54	0.00
8000.73	7.76	14.54	7939.75	881.45	228.62	-477.65	910.62	14.54	0.00
Start Drop									
8100.73	6.76	14.54	8038.95	893.69	231.79	-484.28	923.26	14.54	1.00
8200.73	5.76	14.54	8138.35	904.25	234.53	-490.00	934.17	14.54	1.00

# Helmer Directional Drilling, Inc.

SG Interests Federal 11-90-9 #3 SE Proposed Well Plan		Page: 2  Minimum of Curvature Plane of Vertical Section: 136.18°
-------------------------------------------------------------	------------------------------------------------------------------------------------	---------------------------------------------------------------------------

Measured Depth Feet	B O R E Inc Degrees	H O L E Direction Degrees	True Vertical Depth Feet	RECTANGULAR COORDINATES		Vertical Section Feet	C L O S U R E S		Dogleg Severity Deg/100'
				North/South Feet	East/West Feet		Distance Feet	Direction Deg	
8300.73	4.76	14.54	8237.92	913.12	236.83	-494.81	943.34	14.54	1.00
8400.73	3.76	14.54	8337.65	920.32	238.70	-498.71	950.77	14.54	1.00
8500.73	2.76	14.54	8437.48	925.83	240.12	-501.70	956.46	14.54	1.00
8600.73	1.76	14.54	8537.40	929.65	241.12	-503.77	960.40	14.54	1.00
8700.73	0.76	14.54	8637.38	931.78	241.67	-504.92	962.61	14.54	1.00
8776.94	0.00	14.54	8713.58	932.27	241.80	-505.19	963.11	14.54	1.00
KOP 2									
8806.94	3.00	145.23	8743.57	931.62	242.24	-504.41	962.60	14.58	10.00
8836.94	6.00	145.23	8773.47	929.69	243.59	-502.09	961.07	14.68	10.00
8866.94	9.00	145.23	8803.21	926.47	245.82	-498.22	958.53	14.86	10.00
8896.94	12.00	145.23	8832.71	921.98	248.94	-492.82	955.00	15.11	10.00
8926.94	15.00	145.23	8861.87	916.23	252.93	-485.91	950.50	15.43	10.00
8956.94	18.00	145.23	8890.63	909.23	257.79	-477.49	945.07	15.83	10.00
8986.94	21.00	145.23	8918.91	901.01	263.50	-467.61	938.75	16.30	10.00
9016.94	24.00	145.23	8946.62	891.58	270.05	-456.27	931.58	16.85	10.00
9046.94	27.00	145.23	8973.70	880.97	277.41	-443.52	923.62	17.48	10.00
9076.94	30.00	145.23	9000.06	869.21	285.57	-429.38	914.92	18.19	10.00
9106.94	33.00	145.23	9025.64	856.34	294.51	-413.90	905.57	18.98	10.00
9136.94	36.00	145.23	9050.36	842.38	304.20	-397.12	895.63	19.86	10.00
9166.94	39.00	145.23	9074.15	827.38	314.62	-379.09	885.18	20.82	10.00
9196.94	42.00	145.23	9096.96	811.38	325.73	-359.85	874.32	21.87	10.00
9226.94	45.00	145.23	9118.72	794.42	337.51	-339.46	863.14	23.02	10.00
9256.94	48.00	145.23	9139.37	776.55	349.91	-317.97	851.74	24.26	10.00
9286.94	51.00	145.23	9158.85	757.81	362.92	-295.45	840.23	25.59	10.00
9316.94	54.00	145.23	9177.11	738.26	376.50	-271.95	828.72	27.02	10.00

# Helmer Directional Drilling, Inc.

SG Interests Federal 11-90-9 #3 SE Proposed Well Plan		Page: 3  Minimum of Curvature Plane of Vertical Section: 136.18°
-------------------------------------------------------------	------------------------------------------------------------------------------------	---------------------------------------------------------------------------

Measured Depth Feet	B O R E Inc Degrees	H O L E Direction Degrees	True Vertical Depth Feet	RECTANGULAR COORDINATES North/South East/West Feet Feet		Vertical Section Feet	C L O S U R E S Distance Direction Feet Deg		Dogleg Severity Deg/100'
9346.94	57.00	145.23	9194.10	717.96	390.60	-247.53	817.33	28.55	10.00
9376.94	60.00	145.23	9209.78	696.95	405.18	-222.28	806.17	30.17	10.00
9406.94	63.00	145.23	9224.09	675.30	420.22	-196.24	795.37	31.89	10.00
9436.94	66.00	145.23	9237.00	653.06	435.66	-169.50	785.03	33.71	10.00
9466.94	69.00	145.23	9248.48	630.29	451.46	-142.14	775.30	35.61	10.00
9496.94	72.00	145.23	9258.50	607.07	467.59	-114.21	766.27	37.61	10.00
9526.94	75.00	145.23	9267.02	583.44	483.99	-85.81	758.06	39.68	10.00
9556.94	78.00	145.23	9274.02	559.48	500.63	-57.00	750.77	41.82	10.00
9586.94	81.00	145.23	9279.48	535.25	517.45	-27.88	744.48	44.03	10.00
9616.94	84.00	145.23	9283.40	510.83	534.41	1.49	739.28	46.29	10.00
9646.94	87.00	145.23	9285.75	486.26	551.47	31.02	735.23	48.60	10.00
9676.94	90.00	145.23	9286.54	461.63	568.57	60.64	732.37	50.93	10.00
9706.94	93.00	145.23	9285.75	437.00	585.67	90.25	730.74	53.27	10.00
9736.94	96.00	145.23	9283.40	412.44	602.73	119.78	730.33	55.62	10.00
9746.39	96.95	145.23	9282.33	404.72	608.08	129.06	730.45	56.35	10.00
Landing/Start Reach									
10246.39	96.95	145.23	9221.87	-2.98	891.15	619.21	891.16	90.19	0.00
10746.39	96.95	145.23	9161.40	-410.67	1174.22	1109.36	1243.97	109.28	0.00
11246.39	96.95	145.23	9100.93	-818.37	1457.30	1599.52	1671.36	119.32	0.00
11746.39	96.95	145.23	9040.47	-1226.06	1740.37	2089.67	2128.87	125.16	0.00
12246.39	96.95	145.23	8980.00	-1633.76	2023.44	2579.82	2600.66	128.92	0.00
12746.39	96.95	145.23	8919.53	-2041.45	2306.51	3069.97	3080.18	131.51	0.00
13246.39	96.95	145.23	8859.07	-2449.15	2589.58	3560.12	3564.30	133.40	0.00
13746.39	96.95	145.23	8798.60	-2856.84	2872.65	4050.27	4051.37	134.84	0.00
14246.39	96.95	145.23	8738.13	-3264.53	3155.72	4540.43	4540.46	135.97	0.00

# Helmer Directional Drilling, Inc.

SG Interests  
Federal 11-90-9 #3 SE  
Proposed Well Plan



Page: 4

Minimum of Curvature  
Plane of Vertical Section: 136.18°

Measured Depth Feet	B O R E Inc Degrees	H O L E Direction Degrees	True Vertical Depth Feet	RECTANGULAR COORDINATES		Vertical Section Feet	CLOSURES		Dogleg Severity Deg/100'
				North/South Feet	East/West Feet		Distance Feet	Direction Deg	
14350.80	96.95	145.23	8725.50	-3349.67	3214.83	4642.78	4642.78	136.18	0.00
Terminus									
Final Station Closure Distance: 4642.78' Direction: 136.18°									