



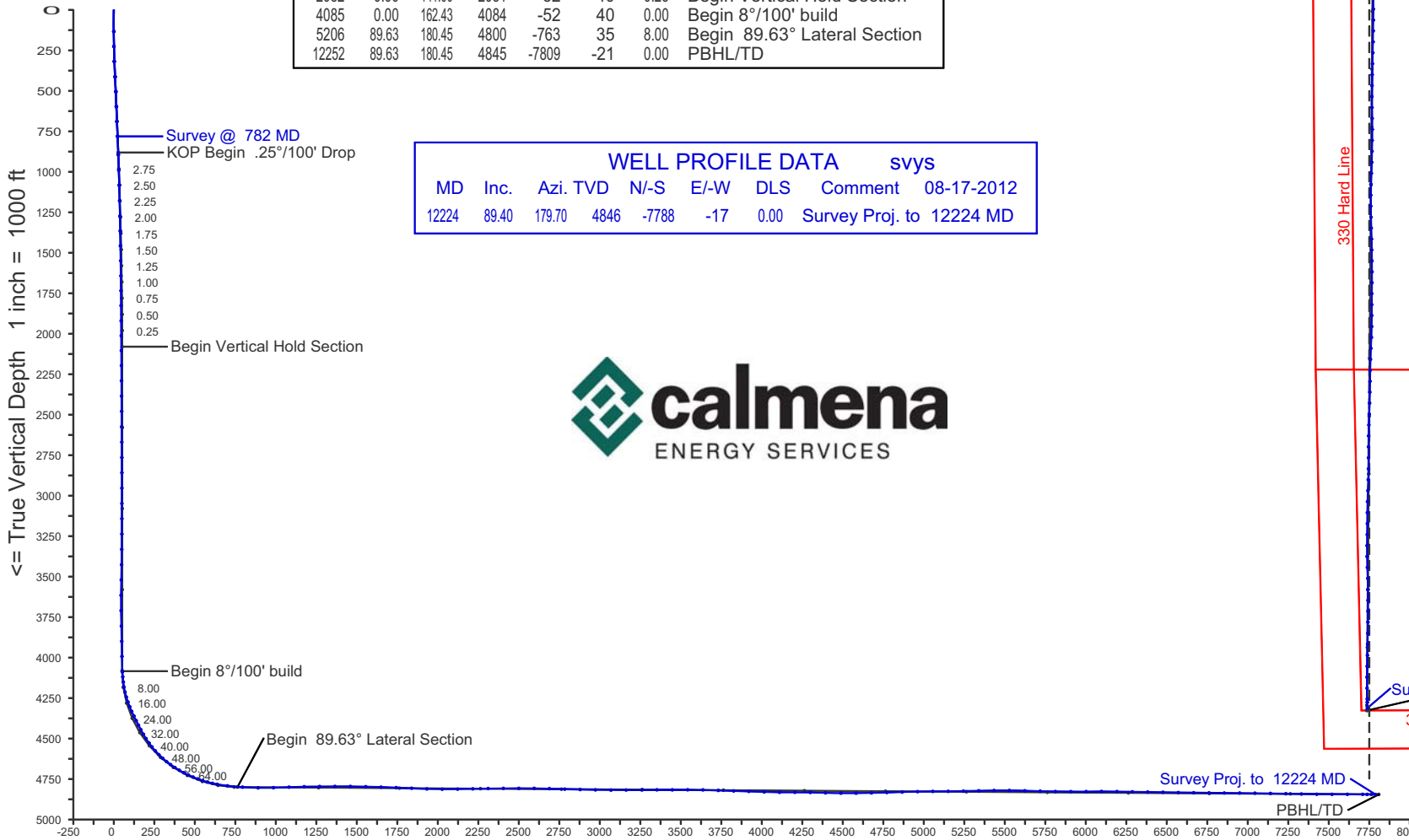
Shell Exploration and Production Company

Chain Land 3509 #11-2H

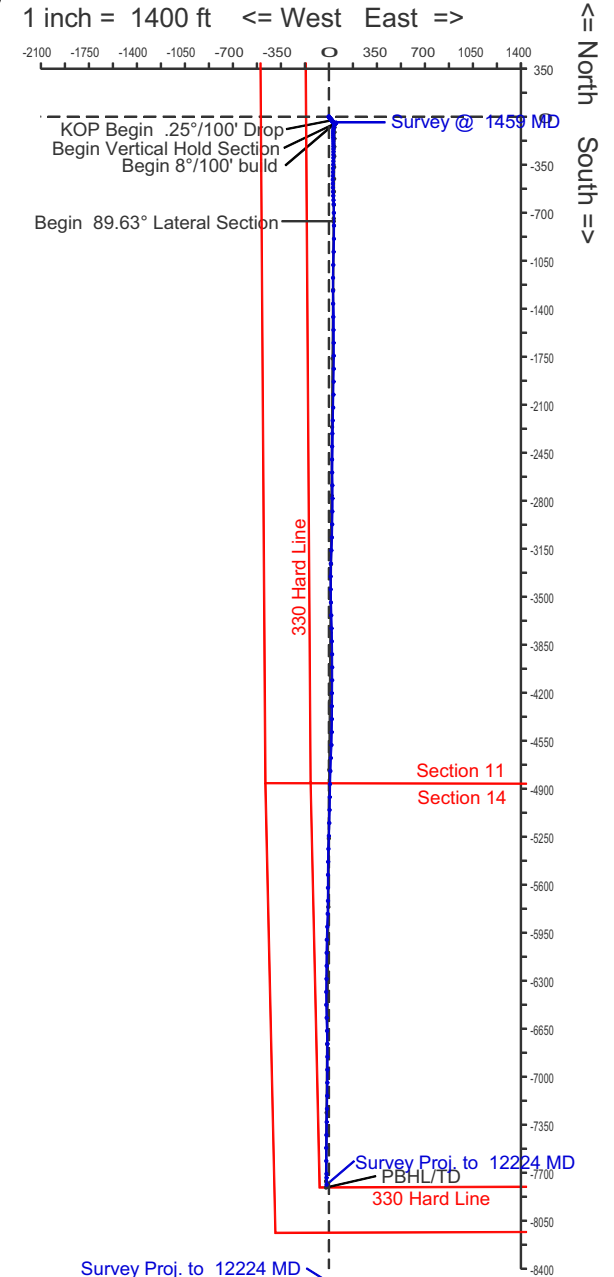
Harper County, Kansas

WELL PROFILE DATA rev3							
MD	Inc.	Azi.	TVD	N-S	E-W	DLS	Comment
782	3.00	141.90	781	-23	18	0.00	Survey @ 782 MD
882	3.00	141.90	881	-27	21	0.00	KOP Begin .25°/100' Drop
2082	0.00	141.90	2081	-52	40	0.25	Begin Vertical Hold Section
4085	0.00	162.43	4084	-52	40	0.00	Begin 8°/100' build
5206	89.63	180.45	4800	-763	35	8.00	Begin 89.63° Lateral Section
12252	89.63	180.45	4845	-7809	-21	0.00	PBHL/TD

WELL PROFILE DATA svys							
MD	Inc.	Azi.	TVD	N-S	E-W	DLS	Comment
12224	89.40	179.70	4846	-7788	-17	0.00	Survey Proj. to 12224 MD



Vertical Section on 180.15 deg azimuth with reference 0.00 N, 0.00 E



Calmena Energy Services

Company: Shell Exploration and Production Company
 Well: Chain Land 3509 #11-2H
 Location: Harper County, Kansas

Date: 17-Aug-2012
 Surveys
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 Job# : 6603

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 180.15° (feet)	Az Grid Y	NAD27 Ks South gr elev=1242 RKB=1269.5 Grid X	Comments
Surface Location								128870.11	2066652.25	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	128870.11	2066652.25	
134.00	0.10	113.80	134.00	-0.05	0.11	0.07	0.05	128870.06	2066652.36	
226.00	0.50	152.90	226.00	-0.44	0.36	0.46	0.44	128869.67	2066652.61	
319.00	2.80	154.10	318.95	-2.84	1.54	2.47	2.84	128867.27	2066653.79	
414.00	3.70	152.80	413.80	-7.66	3.96	0.95	7.65	128862.45	2066656.21	
506.00	3.50	133.50	505.62	-12.23	7.35	1.33	12.21	128857.88	2066659.60	
598.00	3.20	130.40	597.46	-15.83	11.34	0.38	15.80	128854.28	2066663.59	
690.00	2.80	139.70	689.34	-19.20	14.75	0.68	19.17	128850.91	2066667.00	
782.00	3.00	141.90	781.22	-22.81	17.69	0.25	22.77	128847.30	2066669.94	
896.00	2.80	145.40	895.08	-27.45	21.11	0.23	27.40	128842.66	2066673.36	
991.00	2.40	142.30	989.98	-30.94	23.65	0.45	30.87	128839.17	2066675.90	
1085.00	2.00	142.00	1083.91	-33.79	25.86	0.43	33.72	128836.32	2066678.11	
1180.00	1.60	139.40	1178.86	-36.10	27.74	0.43	36.03	128834.01	2066679.99	
1275.00	1.40	143.00	1273.83	-38.03	29.30	0.23	37.96	128832.08	2066681.55	
1367.00	1.30	136.00	1365.80	-39.68	30.71	0.21	39.60	128830.43	2066682.96	
1459.00	1.30	140.10	1457.78	-41.23	32.10	0.10	41.15	128828.88	2066684.35	
1551.00	0.80	144.20	1549.76	-42.55	33.14	0.55	42.47	128827.56	2066685.39	
1644.00	0.60	141.10	1642.76	-43.46	33.83	0.22	43.37	128826.65	2066686.08	
1736.00	0.60	128.10	1734.75	-44.13	34.51	0.15	44.04	128825.98	2066686.76	
1828.00	0.40	128.60	1826.75	-44.63	35.14	0.22	44.54	128825.48	2066687.39	
1922.00	0.60	145.10	1920.74	-45.24	35.68	0.26	45.14	128824.87	2066687.93	
2014.00	0.60	131.10	2012.74	-45.95	36.32	0.16	45.85	128824.16	2066688.57	
2106.00	0.60	125.90	2104.73	-46.55	37.07	0.06	46.45	128823.56	2066689.32	
2198.00	0.60	120.10	2196.73	-47.07	37.88	0.07	46.97	128823.04	2066690.13	
2292.00	0.50	124.60	2290.73	-47.55	38.64	0.12	47.45	128822.56	2066690.89	
2387.00	0.40	127.50	2385.72	-47.99	39.25	0.11	47.89	128822.12	2066691.50	
2481.00	0.40	105.80	2479.72	-48.28	39.82	0.16	48.17	128821.83	2066692.07	
2576.00	0.50	113.60	2574.72	-48.53	40.52	0.12	48.43	128821.58	2066692.77	
2671.00	0.80	110.40	2669.71	-48.93	41.52	0.32	48.82	128821.18	2066693.77	
2766.00	0.70	114.40	2764.70	-49.40	42.67	0.12	49.29	128820.71	2066694.92	

Calmena Energy Services

Company: Shell Exploration and Production Company
 Well: Chain Land 3509 #11-2H
 Location: Harper County, Kansas

Date: 17-Aug-2012
 Surveys
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 Job# : 6603

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 180.15° Az (feet)	Grid Y	Grid X	Comments
2860.00	0.40	89.20	2858.70	-49.64	43.52	0.40	49.52	128820.47	2066695.77	
2955.00	0.40	91.70	2953.70	-49.64	44.19	0.02	49.52	128820.47	2066696.44	
3050.00	0.50	93.00	3048.69	-49.67	44.93	0.11	49.55	128820.44	2066697.18	
3144.00	0.40	78.30	3142.69	-49.63	45.66	0.16	49.51	128820.48	2066697.91	
3239.00	0.50	74.90	3237.69	-49.45	46.39	0.11	49.33	128820.66	2066698.64	
3333.00	1.20	56.40	3331.68	-48.80	47.60	0.79	48.68	128821.31	2066699.85	
3428.00	1.10	61.80	3426.66	-47.82	49.24	0.16	47.69	128822.29	2066701.49	
3522.00	2.40	49.80	3520.61	-46.12	51.53	1.43	45.99	128823.99	2066703.78	
3617.00	0.40	352.60	3615.58	-44.51	53.01	2.33	44.37	128825.60	2066705.26	
3712.00	2.10	238.60	3710.56	-45.09	51.48	2.41	44.95	128825.02	2066703.73	
3807.00	1.90	232.90	3805.50	-46.94	48.74	0.30	46.82	128823.17	2066700.99	
3901.00	1.50	230.20	3899.46	-48.67	46.55	0.43	48.55	128821.44	2066698.80	
3995.00	1.20	235.60	3993.43	-50.02	44.80	0.35	49.90	128820.09	2066697.05	
4090.00	2.90	205.80	4088.37	-52.74	42.93	2.05	52.63	128817.37	2066695.18	
4121.00	5.50	203.90	4119.29	-54.81	41.99	8.40	54.70	128815.30	2066694.24	
4153.00	7.90	198.90	4151.07	-58.29	40.65	7.71	58.18	128811.82	2066692.90	
4184.00	10.00	197.40	4181.69	-62.87	39.16	6.82	62.77	128807.24	2066691.41	
4216.00	13.20	195.60	4213.03	-69.05	37.34	10.06	68.95	128801.06	2066689.59	
4248.00	16.30	192.90	4243.97	-76.94	35.36	9.92	76.85	128793.17	2066687.61	
4280.00	19.50	190.10	4274.42	-86.58	33.42	10.35	86.49	128783.53	2066685.67	
4311.00	22.80	185.20	4303.33	-97.66	31.97	12.07	97.58	128772.45	2066684.22	
4343.00	24.50	181.90	4332.64	-110.47	31.18	6.73	110.39	128759.64	2066683.43	
4374.00	25.30	180.20	4360.76	-123.52	30.95	3.46	123.44	128746.59	2066683.20	
4406.00	26.50	178.70	4389.55	-137.49	31.09	4.27	137.41	128732.62	2066683.34	
4438.00	27.60	178.40	4418.05	-152.04	31.45	3.46	151.96	128718.07	2066683.70	
4469.00	28.70	178.60	4445.38	-166.66	31.84	3.56	166.58	128703.45	2066684.09	
4502.00	30.10	179.30	4474.13	-182.86	32.13	4.37	182.77	128687.25	2066684.38	
4533.00	32.40	180.00	4500.63	-198.94	32.23	7.51	198.85	128671.17	2066684.48	
4565.00	35.60	179.00	4527.15	-216.83	32.39	10.15	216.74	128653.28	2066684.64	
4596.00	38.50	179.40	4551.89	-235.50	32.65	9.39	235.42	128634.61	2066684.90	

Calmena Energy Services

Company: Shell Exploration and Production Company
 Well: Chain Land 3509 #11-2H
 Location: Harper County, Kansas

Date: 17-Aug-2012
 Surveys
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 Job# : 6603

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 180.15° (feet)	Az Grid Y	NAD27 Ks South gr elev=1242 RKB=1269.5 Grid X	Comments
4628.00	41.20	180.40	4576.46	-256.00	32.68	8.67	255.92	128614.11	2066684.93	
4660.00	44.20	181.00	4599.97	-277.70	32.41	9.46	277.62	128592.41	2066684.66	
4692.00	47.90	180.50	4622.18	-300.73	32.11	11.62	300.65	128569.38	2066684.36	
4724.00	52.00	180.90	4642.76	-325.22	31.81	12.85	325.14	128544.89	2066684.06	
4755.00	54.70	181.50	4661.27	-350.09	31.29	8.85	350.00	128520.02	2066683.54	
4787.00	57.40	181.60	4679.14	-376.62	30.57	8.44	376.54	128493.49	2066682.82	
4819.00	59.80	182.00	4695.81	-403.92	29.71	7.58	403.84	128466.19	2066681.96	
4851.00	62.40	181.50	4711.27	-431.92	28.86	8.24	431.84	128438.19	2066681.11	
4882.00	64.80	179.80	4725.05	-459.68	28.54	9.17	459.60	128410.43	2066680.79	
4914.00	66.90	178.50	4738.15	-488.87	28.98	7.54	488.79	128381.24	2066681.23	
4945.00	69.70	179.90	4749.61	-517.67	29.38	9.96	517.59	128352.44	2066681.63	
4977.00	72.30	177.50	4760.03	-547.91	30.07	10.78	547.83	128322.20	2066682.32	
5008.00	74.30	177.20	4768.93	-577.57	31.44	6.52	577.49	128292.54	2066683.69	
5040.00	76.70	177.30	4776.95	-608.51	32.93	7.51	608.42	128261.60	2066685.18	
5071.00	80.10	177.80	4783.18	-638.85	34.23	11.08	638.76	128231.26	2066686.48	
5134.00	83.60	179.30	4792.11	-701.18	35.80	6.03	701.08	128168.93	2066688.05	
5228.00	85.90	179.40	4800.71	-794.77	36.86	2.45	794.67	128075.34	2066689.11	
5324.00	89.20	181.00	4804.81	-890.67	36.53	3.82	890.57	127979.44	2066688.78	
5419.00	91.90	182.00	4803.90	-985.62	34.04	3.03	985.53	127884.49	2066686.29	
5515.00	92.00	181.30	4800.63	-1081.53	31.28	0.74	1081.44	127788.59	2066683.53	
5609.00	91.40	180.40	4797.85	-1175.47	29.88	1.15	1175.39	127694.64	2066682.13	
5704.00	90.30	179.60	4796.44	-1270.46	29.88	1.43	1270.38	127599.65	2066682.13	
5798.00	90.30	179.60	4795.94	-1364.46	30.54	0.00	1364.37	127505.65	2066682.79	
5894.00	89.70	179.00	4795.94	-1460.45	31.71	0.88	1460.36	127409.66	2066683.96	
5989.00	88.10	179.50	4797.77	-1555.42	32.96	1.76	1555.33	127314.69	2066685.21	
6083.00	88.60	178.90	4800.47	-1649.37	34.27	0.83	1649.28	127220.74	2066686.52	
6177.00	87.90	180.20	4803.35	-1743.32	35.01	1.57	1743.22	127126.79	2066687.26	
6272.00	87.40	179.90	4807.24	-1838.24	34.92	0.61	1838.14	127031.87	2066687.17	
6366.00	87.70	180.70	4811.26	-1932.15	34.43	0.91	1932.06	126937.96	2066686.68	
6461.00	90.10	180.90	4813.08	-2027.12	33.11	2.54	2027.03	126842.99	2066685.36	

Calmena Energy Services

Company: Shell Exploration and Production Company
 Well: Chain Land 3509 #11-2H
 Location: Harper County, Kansas

Date: 17-Aug-2012
 Surveys
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 Job# : 6603

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 180.15° Az (feet)	Grid Y	Grid X	Comments
6556.00	90.60	181.70	4812.50	-2122.09	30.95	0.99	2122.00	126748.02	2066683.20	
6650.00	91.40	182.30	4810.86	-2216.02	27.67	1.06	2215.94	126654.09	2066679.92	
6745.00	90.90	181.40	4808.96	-2310.95	24.60	1.08	2310.88	126559.16	2066676.85	
6839.00	90.10	180.30	4808.13	-2404.93	23.21	1.45	2404.86	126465.18	2066675.46	
6934.00	90.10	180.20	4807.97	-2499.93	22.80	0.11	2499.86	126370.18	2066675.05	
7029.00	89.90	179.30	4807.97	-2594.93	23.21	0.97	2594.86	126275.18	2066675.46	
7123.00	88.00	178.70	4809.69	-2688.90	24.85	2.12	2688.82	126181.22	2066677.10	
7218.00	88.20	180.10	4812.84	-2783.84	25.84	1.49	2783.76	126086.28	2066678.09	
7313.00	89.10	181.00	4815.08	-2878.80	24.93	1.34	2878.73	125991.31	2066677.18	
7407.00	88.40	180.70	4817.13	-2972.77	23.54	0.81	2972.70	125897.34	2066675.79	
7503.00	89.80	181.60	4818.64	-3068.73	21.61	1.73	3068.67	125801.38	2066673.86	
7597.00	90.70	182.80	4818.23	-3162.66	18.00	1.60	3162.60	125707.45	2066670.25	
7693.00	90.40	181.70	4817.31	-3258.58	14.23	1.19	3258.53	125611.53	2066666.48	
7787.00	90.00	180.60	4816.98	-3352.56	12.35	1.25	3352.52	125517.55	2066664.60	
7882.00	89.80	178.90	4817.14	-3447.56	12.76	1.80	3447.51	125422.56	2066665.01	
7977.00	90.70	178.60	4816.73	-3542.53	14.83	1.00	3542.48	125327.58	2066667.08	
8071.00	88.50	179.10	4817.39	-3636.50	16.72	2.40	3636.45	125233.61	2066668.97	
8166.00	87.40	178.10	4820.78	-3731.41	19.04	1.56	3731.35	125138.70	2066671.29	
8261.00	88.60	179.10	4824.10	-3826.32	21.36	1.64	3826.25	125043.79	2066673.61	
8355.00	88.30	179.10	4826.64	-3920.28	22.84	0.32	3920.20	124949.83	2066675.09	
8450.00	87.50	179.90	4830.12	-4015.21	23.66	1.19	4015.13	124854.90	2066675.91	
8544.00	89.80	180.60	4832.34	-4109.17	23.25	2.56	4109.10	124760.94	2066675.50	
8639.00	90.40	181.70	4832.17	-4204.15	21.35	1.32	4204.08	124665.96	2066673.60	
8734.00	88.70	179.30	4832.92	-4299.14	20.52	3.10	4299.07	124570.98	2066672.77	
8828.00	88.20	179.50	4835.46	-4393.10	21.50	0.57	4393.02	124477.01	2066673.75	
8923.00	89.30	181.10	4837.53	-4488.07	21.00	2.04	4488.00	124382.04	2066673.25	
9017.00	90.50	182.10	4837.70	-4582.03	18.38	1.66	4581.96	124288.08	2066670.63	
9112.00	91.40	182.70	4836.12	-4676.93	14.40	1.14	4676.88	124193.18	2066666.65	
9207.00	91.80	182.40	4833.47	-4771.80	10.18	0.53	4771.76	124098.31	2066662.43	
9302.00	91.80	181.10	4830.49	-4866.71	7.28	1.37	4866.67	124003.41	2066659.53	

Calmena Energy Services

Company: Shell Exploration and Production Company
 Well: Chain Land 3509 #11-2H
 Location: Harper County, Kansas

Date: 17-Aug-2012
 Surveys
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 Job# : 6603

NAD27 Ks South gr elev=1242 RKB=1269.5

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 180.15° Az (feet)	Grid Y	Grid X	Comments
9397.00	91.00	180.80	4828.16	-4961.66	5.70	0.90	4961.63	123908.45	2066657.95	
9491.00	90.60	181.00	4826.85	-5055.64	4.23	0.48	5055.61	123814.47	2066656.48	
9586.00	89.80	181.40	4826.52	-5150.62	2.24	0.94	5150.60	123719.49	2066654.49	
9680.00	91.50	182.10	4825.45	-5244.57	-0.63	1.96	5244.55	123625.55	2066651.62	
9775.00	91.40	181.80	4823.05	-5339.48	-3.86	0.33	5339.47	123530.63	2066648.39	
9869.00	90.80	180.60	4821.25	-5433.44	-5.83	1.43	5433.44	123436.67	2066646.42	
9964.00	89.40	180.40	4821.08	-5528.43	-6.66	1.49	5528.43	123341.68	2066645.59	
10059.00	88.60	179.70	4822.74	-5623.42	-6.74	1.12	5623.42	123246.69	2066645.51	
10154.00	88.20	180.50	4825.39	-5718.38	-6.91	0.94	5718.38	123151.73	2066645.34	
10248.00	89.10	181.90	4827.60	-5812.33	-8.88	1.77	5812.33	123057.78	2066643.37	
10343.00	90.20	181.90	4828.19	-5907.27	-12.03	1.16	5907.29	122962.84	2066640.22	
10438.00	90.30	181.90	4827.77	-6002.22	-15.18	0.11	6002.24	122867.89	2066637.07	
10533.00	90.40	179.60	4827.19	-6097.21	-16.42	2.42	6097.23	122772.91	2066635.83	
10628.00	88.90	180.60	4827.77	-6192.20	-16.59	1.90	6192.22	122677.91	2066635.66	
10723.00	89.20	180.90	4829.35	-6287.18	-17.83	0.45	6287.20	122582.93	2066634.42	
10818.00	89.10	181.00	4830.76	-6382.15	-19.40	0.15	6382.18	122487.96	2066632.85	
10912.00	89.10	178.80	4832.23	-6476.14	-19.24	2.34	6476.17	122393.97	2066633.01	
11007.00	88.90	177.90	4833.89	-6571.08	-16.51	0.97	6571.10	122299.03	2066635.74	
11102.00	89.30	178.30	4835.38	-6666.02	-13.36	0.60	6666.03	122204.09	2066638.89	
11197.00	89.50	179.60	4836.38	-6760.99	-11.62	1.38	6761.00	122109.12	2066640.63	
11291.00	90.00	180.00	4836.79	-6854.99	-11.29	0.68	6855.00	122015.12	2066640.96	
11386.00	89.80	180.20	4836.95	-6949.99	-11.45	0.30	6950.00	121920.12	2066640.80	
11480.00	89.20	180.10	4837.77	-7043.99	-11.70	0.65	7043.99	121826.12	2066640.55	
11576.00	89.00	181.00	4839.28	-7139.97	-12.62	0.96	7139.98	121730.14	2066639.63	
11671.00	88.70	181.00	4841.19	-7234.94	-14.28	0.32	7234.95	121635.17	2066637.97	
11767.00	89.30	181.30	4842.86	-7330.90	-16.21	0.70	7330.92	121539.21	2066636.04	
11862.00	89.10	181.60	4844.19	-7425.86	-18.61	0.38	7425.89	121444.25	2066633.64	
11956.00	90.10	180.10	4844.85	-7519.85	-20.00	1.92	7519.87	121350.27	2066632.25	
12051.00	90.00	179.10	4844.76	-7614.84	-19.34	1.06	7614.87	121255.27	2066632.91	
12145.00	89.80	179.00	4844.93	-7708.83	-17.78	0.24	7708.85	121161.28	2066634.47	

Calmena Energy Services

Company: Shell Exploration and Production Company
 Well: Chain Land 3509 #11-2H
 Location: Harper County, Kansas

Date: 17-Aug-2012
 Surveys
 Page 6
 Job# : 6603

NAD27 Ks South gr elev=1242 RKB=1269.5

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 180.15° Az (feet)	Grid Y	Grid X	Comments
12173.00	89.40	179.70	4845.12	-7736.83	-17.46	2.88	7736.85	121133.28	2066634.79	
12224.00	89.40	179.70	4845.66	-7787.82	-17.20	0.00	7787.84	121082.29	2066635.05	Survey projected