



Survey Report

Service Company: Calmena

Location: Harper

Well: Parsons Trust 3207 11-2H

Rig: Nabors 744

API or UWI:

Job Number: OK12144

State: Kansas

Operating Company: Shell Exploration and Production Co.

County: Harper

Magnetic Declination: 0.00

Comment:

Proposed Azimuth: 140.05

North Reference: GRID

Tie-In Data:

MD	Inclination	Azimuth	TVD	NS	EW
65.00	0.00	0.00	65.00	0.00	0.00

Survey Data:

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
65.20	0.00	0.00	65.20	0.00	0.00	0.00	0.00	0.00	0.00
105.00	0.40	219.70	105.00	-0.11	-0.09	219.70	0.14	0.02	1.01
136.00	0.70	113.00	136.00	-0.26	0.02	176.44	0.26	0.21	2.90
169.00	1.10	142.20	168.99	-0.59	0.40	146.26	0.71	0.71	1.81
201.00	2.00	132.20	200.98	-1.21	1.00	140.51	1.57	1.57	2.93
231.00	2.60	132.70	230.96	-2.02	1.89	137.02	2.77	2.76	2.00
262.00	3.30	137.80	261.92	-3.16	3.00	136.49	4.36	4.35	2.41
293.00	3.80	137.80	292.86	-4.58	4.29	136.89	6.28	6.27	1.61
324.00	4.50	138.00	323.78	-6.25	5.80	137.16	8.52	8.51	2.26
355.00	4.80	137.50	354.67	-8.11	7.49	137.29	11.04	11.02	0.98
386.00	4.90	137.10	385.56	-10.03	9.26	137.29	13.66	13.64	0.34
418.00	5.30	140.60	417.44	-12.18	11.13	137.57	16.50	16.48	1.58
448.00	5.50	142.30	447.30	-14.39	12.89	138.14	19.32	19.31	0.85
479.00	5.50	139.70	478.16	-16.69	14.76	138.52	22.28	22.28	0.80
510.00	6.10	142.40	509.00	-19.13	16.72	138.84	25.41	25.41	2.13
542.00	6.20	142.90	540.82	-21.86	18.80	139.29	28.83	28.83	0.35
572.00	6.20	147.40	570.64	-24.51	20.65	139.88	32.06	32.06	1.62
603.00	5.40	150.90	601.48	-27.20	22.27	140.70	35.15	35.15	2.82
647.00	5.20	160.10	645.30	-30.88	23.95	142.20	39.08	39.06	1.98
706.00	5.40	159.30	704.04	-35.99	25.84	144.32	44.31	44.19	0.36
801.00	4.40	138.20	798.70	-42.89	29.85	145.16	52.26	52.05	2.15
896.00	2.60	137.20	893.52	-47.19	33.75	144.43	58.02	57.85	1.90
990.00	2.80	115.80	987.42	-49.76	37.26	143.17	62.16	62.07	1.09
1085.00	2.90	115.90	1082.30	-51.81	41.51	141.30	66.39	66.38	0.11
1179.00	2.30	96.10	1176.21	-53.05	45.53	139.37	69.91	69.91	1.14
1274.00	2.30	78.70	1271.13	-52.88	49.29	137.01	72.29	72.19	0.73
1368.00	2.40	80.10	1365.05	-52.18	53.08	134.51	74.43	74.08	0.12
1463.00	2.00	76.70	1459.98	-51.45	56.65	132.25	76.53	75.82	0.44
1558.00	2.20	80.50	1554.92	-50.77	60.06	130.21	78.65	77.49	0.26
1652.00	2.00	77.90	1648.86	-50.13	63.45	128.31	80.86	79.17	0.24
1747.00	2.30	75.00	1743.79	-49.29	66.91	126.38	83.10	80.75	0.34
1841.00	0.20	86.80	1837.76	-48.79	68.90	125.30	84.42	81.64	2.24
1936.00	0.10	190.20	1932.76	-48.86	69.05	125.29	84.59	81.79	0.26

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
2028.00	0.00	170.10	2024.76	-48.94	69.03	125.33	84.62	81.85	0.11
2121.00	0.30	241.80	2117.76	-49.06	68.82	125.48	84.51	81.80	0.32
2307.00	0.60	213.80	2303.75	-50.10	67.85	126.44	84.34	81.97	0.20
2493.00	0.40	251.70	2489.75	-51.11	66.69	127.47	84.02	82.00	0.20
2683.00	0.60	264.40	2679.74	-51.41	65.07	128.31	82.93	81.20	0.12
2870.00	0.60	266.20	2866.73	-51.57	63.12	129.25	81.51	80.07	0.01
3060.00	0.70	244.30	3056.72	-52.14	61.08	130.49	80.31	79.19	0.14
3249.00	1.00	236.30	3245.70	-53.56	58.67	132.39	79.44	78.73	0.17
3438.00	1.20	206.40	3434.66	-56.25	56.42	134.91	79.66	79.34	0.32
3627.00	1.40	211.60	3623.62	-59.99	54.33	137.83	80.93	80.87	0.12
3721.00	1.10	222.70	3717.59	-61.63	53.11	139.24	81.36	81.35	0.41
3753.00	1.20	219.60	3749.59	-62.11	52.69	139.69	81.45	81.45	0.37
3784.00	1.10	205.40	3780.58	-62.63	52.36	140.11	81.63	81.63	0.97
3816.00	2.20	185.90	3812.57	-63.52	52.16	140.61	82.19	82.19	3.81
3848.00	4.20	172.00	3844.52	-65.29	52.26	141.33	83.63	83.61	6.66
3879.00	6.10	164.50	3875.39	-68.00	52.86	142.14	86.13	86.07	6.49
3910.00	8.30	159.20	3906.14	-71.68	54.09	142.96	89.80	89.69	7.41
3941.00	10.80	154.10	3936.71	-76.39	56.16	143.68	94.81	94.62	8.51
3973.00	13.20	156.20	3968.01	-82.43	58.94	144.43	101.33	101.04	7.62
4004.00	15.70	156.90	3998.03	-89.52	62.02	145.29	108.91	108.45	8.08
4036.00	18.30	157.00	4028.63	-98.13	65.68	146.21	118.08	117.40	8.13
4067.00	20.60	156.00	4057.86	-107.60	69.80	147.03	128.25	127.30	7.50
4099.00	23.00	155.60	4087.57	-118.43	74.67	147.77	140.01	138.74	7.51
4130.00	25.80	154.60	4115.79	-130.05	80.07	148.38	152.72	151.11	9.13
4162.00	28.70	154.80	4144.24	-143.29	86.33	148.93	167.29	165.28	9.07
4194.00	31.80	153.90	4171.88	-157.82	93.31	149.41	183.34	180.90	9.79
4225.00	34.70	152.90	4197.80	-173.01	100.93	149.74	200.30	197.44	9.52
4257.00	37.80	151.80	4223.60	-189.77	109.71	149.97	219.20	215.92	9.90
4288.00	40.70	151.20	4247.61	-207.00	119.07	150.09	238.80	235.15	9.43
4320.00	43.70	150.40	4271.31	-225.76	129.56	150.15	260.30	256.26	9.52
4351.00	46.50	150.00	4293.19	-244.81	140.47	150.15	282.25	277.88	9.08
4383.00	49.40	149.70	4314.62	-265.36	152.41	150.13	306.01	301.29	9.09
4414.00	52.00	149.60	4334.26	-286.06	164.53	150.09	330.00	324.94	8.39
4446.00	55.80	149.80	4353.11	-308.38	177.57	150.07	355.85	350.42	11.89
4477.00	58.20	150.10	4369.99	-330.88	190.59	150.06	381.84	376.03	7.78
4509.00	61.40	150.30	4386.08	-354.88	204.33	150.07	409.50	403.25	10.01
4540.00	64.30	150.20	4400.23	-378.82	218.02	150.08	437.08	430.40	9.36
4572.00	67.70	150.30	4413.24	-404.20	232.52	150.09	466.31	459.17	10.63
4633.00	74.30	150.80	4433.09	-454.40	260.86	150.14	523.95	515.84	10.85
4665.00	79.20	149.30	4440.42	-481.37	276.41	150.14	555.09	546.51	15.98
4696.00	85.10	148.60	4444.66	-507.67	292.24	150.07	585.78	576.84	19.16
4728.00	90.80	147.90	4445.80	-534.85	309.06	149.98	617.73	608.48	17.95
4759.00	93.00	148.50	4444.77	-561.18	325.39	149.89	648.69	639.14	7.36
4791.00	92.50	147.40	4443.24	-588.28	342.35	149.80	680.64	670.80	3.77
4822.00	94.20	145.50	4441.42	-614.06	359.45	149.66	711.53	701.55	8.22
4854.00	96.30	142.60	4438.50	-639.86	378.15	149.42	743.25	733.34	11.16
4885.00	96.70	141.60	4434.99	-664.16	397.07	149.13	773.81	764.12	3.46
4917.00	96.70	141.50	4431.25	-689.05	416.84	148.83	805.32	795.89	0.31
4948.00	94.70	139.80	4428.17	-712.90	436.39	148.53	835.86	826.73	8.45
4980.00	92.40	138.40	4426.19	-737.04	457.30	148.18	867.38	858.66	8.41
5011.00	92.00	137.70	4425.00	-760.08	478.01	147.83	897.89	889.62	2.60
5043.00	92.00	137.90	4423.89	-783.77	499.49	147.49	929.40	921.58	0.62
5052.00	92.10	137.40	4423.56	-790.42	505.55	147.40	938.27	930.56	5.66
5083.00	91.70	136.80	4422.54	-813.11	526.64	147.07	968.77	961.50	2.33
5115.00	91.70	136.10	4421.59	-836.30	548.68	146.73	1000.22	993.43	2.19

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
5146.00	91.40	135.30	4420.75	-858.47	570.32	146.40	1030.65	1024.33	2.76
5177.00	91.40	135.10	4419.99	-880.46	592.16	146.08	1061.07	1055.21	0.64
5208.00	91.20	134.10	4419.29	-902.22	614.23	145.75	1091.46	1086.06	3.29
5240.00	91.70	134.00	4418.48	-924.47	637.22	145.42	1122.80	1117.87	1.59
5334.00	92.20	133.80	4415.28	-989.61	704.91	144.54	1215.00	1211.28	0.57
5427.00	89.80	134.40	4413.66	-1054.31	771.68	143.80	1306.55	1303.75	2.66
5521.00	89.80	133.10	4413.99	-1119.31	839.58	143.13	1399.20	1397.18	1.38
5615.00	90.60	135.50	4413.66	-1184.96	906.85	142.57	1492.15	1490.70	2.69
5708.00	90.30	134.30	4412.93	-1250.60	972.72	142.12	1584.36	1583.32	1.33
5802.00	89.70	135.60	4412.93	-1317.01	1039.25	141.72	1677.66	1676.95	1.52
5896.00	89.60	138.00	4413.50	-1385.53	1103.59	141.46	1771.33	1770.79	2.56
5990.00	89.60	137.70	4414.16	-1455.22	1166.67	141.28	1865.15	1864.72	0.32
6081.00	89.30	136.60	4415.03	-1521.93	1228.55	141.09	1955.92	1955.59	1.25
6175.00	88.80	139.40	4416.59	-1591.77	1291.44	140.95	2049.76	2049.51	3.03
6268.00	91.20	142.10	4416.59	-1663.77	1350.27	140.94	2142.75	2142.49	3.88
6361.00	87.40	139.90	4417.73	-1736.02	1408.78	140.94	2235.72	2235.45	4.72
6453.00	90.40	140.50	4419.49	-1806.69	1467.65	140.91	2327.68	2327.42	3.33
6547.00	89.50	139.50	4419.57	-1878.69	1528.07	140.88	2421.67	2421.42	1.43
6640.00	92.40	140.60	4418.03	-1949.97	1587.77	140.85	2514.63	2514.39	3.33
6734.00	93.00	140.70	4413.60	-2022.58	1647.30	140.84	2608.53	2608.28	0.65
6827.00	90.40	140.50	4410.84	-2094.40	1706.30	140.83	2701.48	2701.23	2.80
6921.00	90.90	140.60	4409.78	-2166.98	1766.03	140.82	2795.47	2795.22	0.54
7015.00	90.70	140.40	4408.47	-2239.51	1825.81	140.81	2889.46	2889.21	0.30
7109.00	90.10	140.20	4407.81	-2311.83	1885.86	140.79	2983.45	2983.20	0.67
7203.00	90.80	140.30	4407.07	-2384.10	1945.96	140.78	3077.45	3077.20	0.75
7297.00	91.30	141.10	4405.35	-2456.83	2005.49	140.78	3171.43	3171.18	1.00
7391.00	91.00	140.40	4403.46	-2529.60	2064.95	140.77	3265.41	3265.15	0.81
7422.00	90.30	139.90	4403.11	-2553.40	2084.81	140.77	3296.41	3296.15	2.77
7485.00	87.40	139.30	4404.37	-2601.36	2125.63	140.75	3359.37	3359.13	4.70
7579.00	88.40	138.50	4407.82	-2672.15	2187.38	140.70	3453.26	3453.04	1.36
7672.00	89.60	138.90	4409.44	-2742.00	2248.75	140.64	3546.19	3546.00	1.36
7766.00	89.20	137.80	4410.43	-2812.24	2311.22	140.59	3640.11	3639.95	1.25
7860.00	87.50	137.30	4413.13	-2881.57	2374.63	140.51	3733.94	3733.82	1.89
7954.00	88.10	136.60	4416.74	-2950.21	2438.75	140.42	3827.69	3827.61	0.98
8048.00	87.70	135.50	4420.19	-3017.83	2503.95	140.32	3921.36	3921.32	1.24
8141.00	90.40	136.40	4421.73	-3084.66	2568.59	140.22	4014.07	4014.06	3.06
8235.00	90.90	135.80	4420.66	-3152.39	2633.77	140.12	4107.83	4107.83	0.83
8328.00	92.20	136.00	4418.15	-3219.15	2698.46	140.03	4200.55	4200.55	1.41
8422.00	91.20	135.40	4415.36	-3286.39	2764.08	139.93	4294.24	4294.23	1.24
8516.00	91.50	134.70	4413.14	-3352.90	2830.47	139.83	4387.88	4387.85	0.81
8611.00	90.80	133.70	4411.24	-3419.11	2898.57	139.71	4482.41	4482.33	1.28
8706.00	90.30	133.20	4410.32	-3484.44	2967.53	139.58	4576.85	4576.70	0.74
8800.00	91.50	132.40	4408.85	-3548.30	3036.49	139.44	4670.20	4669.93	1.53
8895.00	89.80	132.00	4407.77	-3612.11	3106.86	139.30	4764.44	4764.03	1.84
8989.00	88.80	131.60	4408.92	-3674.76	3176.93	139.16	4857.65	4857.05	1.15
9084.00	87.80	130.80	4411.74	-3737.30	3248.37	139.00	4951.70	4950.88	1.35
9178.00	87.20	130.60	4415.84	-3798.54	3319.57	138.85	5044.65	5043.54	0.67
9273.00	89.10	130.10	4418.90	-3860.02	3391.93	138.69	5138.57	5137.13	2.07
9368.00	90.00	129.70	4419.65	-3920.95	3464.81	138.53	5232.47	5230.64	1.04
9463.00	90.50	130.00	4419.23	-3981.82	3537.74	138.38	5326.40	5324.14	0.61
9557.00	91.50	129.70	4417.59	-4042.05	3609.89	138.23	5419.36	5416.64	1.11
9569.00	91.80	130.40	4417.25	-4049.77	3619.08	138.21	5431.23	5428.45	6.34