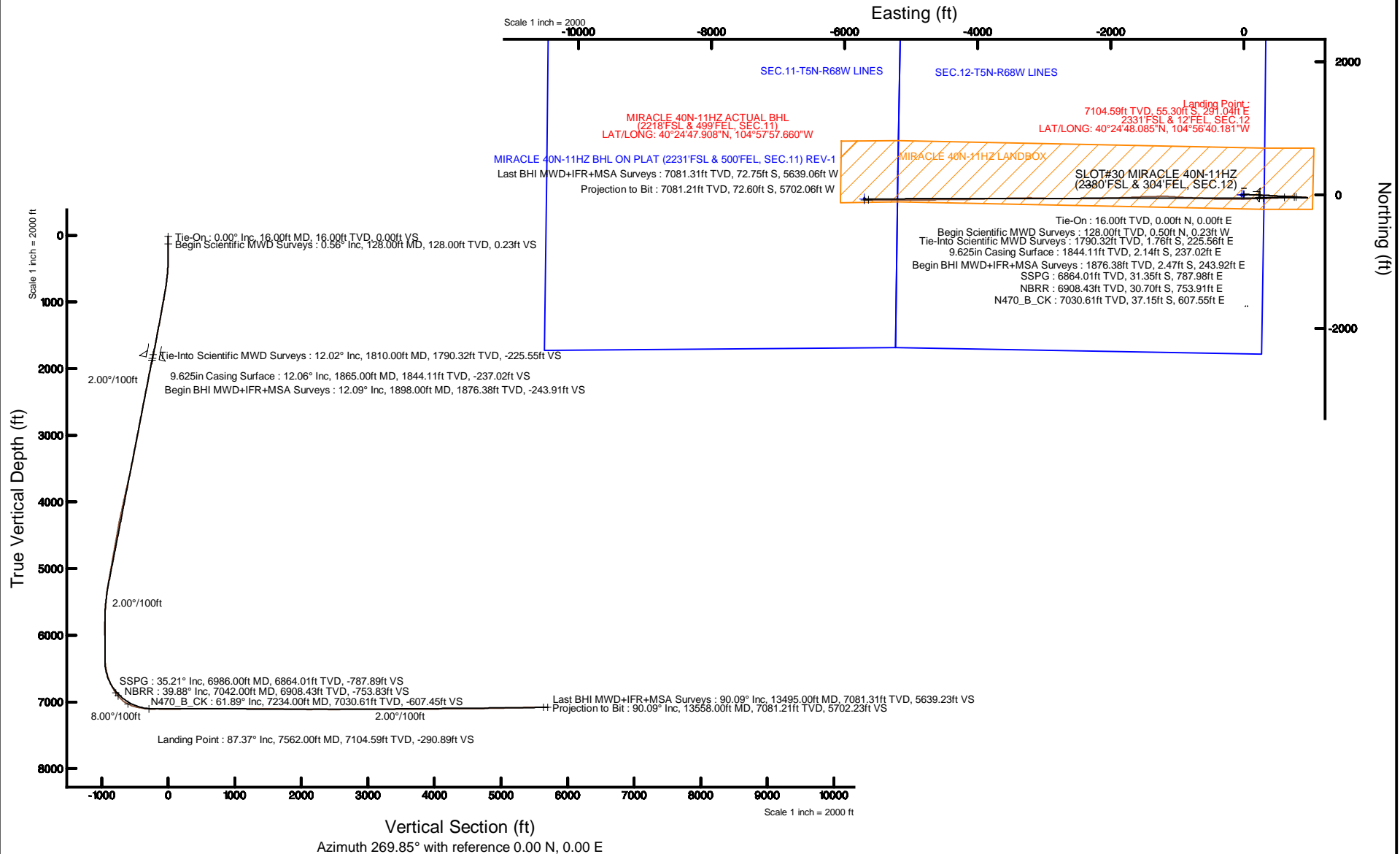


# KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#30 MIRACLE 40N-11HZ (2380'FSL & 304'FEL, SEC.12)  
Field: LARIMER COUNTY Well: MIRACLE 40N-11HZ  
Facility: SEC.12-T5N-R68W Wellbore: MIRACLE 40N-11HZ PWP

Plot reference wellpath is MIRACLE 40N-11HZ (REV-B.0) PWP

True vertical depths are referenced to XTREME 23 (16'KB) (RKB)	Grid System: NAD83 / UTM Zone 13 North, US feet
Measured depths are referenced to XTREME 23 (16'KB) (RKB)	North Reference: True north
XTREME 23 (16'KB) (RKB) to Mean Sea Level: 4964 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#30 MIRACLE 40N-11HZ (2380'FSL & 304'FEL, SEC.12)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: precain on 8/4/2015



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#30 MIRACLE 40N-11HZ (2380'FSL & 304'FEL, SEC.12)
Area	COLORADO	Well	MIRACLE 40N-11HZ
Field	LARIMER COUNTY	Wellbore	MIRACLE 40N-11HZ AWB <13558>
Facility	SEC.12-T5N-R68W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 4.1.1
North Reference	True	User	Precain
Scale	0.9996	Report Generated	8/4/2015 at 12:52:40 PM
Convergence at slot	0.04° East	Database/Source file	WellArchitectAPC/MIRACLE_40N-11HZ_AWB_13558_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-99.17	-30.09	1655575.85	14677318.83	40°24'48.632"N	104°56'43.944"W
Facility Reference Pt			1655605.86	14677417.99	40°24'49.612"N	104°56'43.555"W
Field Reference Pt			0.00	0.00	0°00'00.000"	109°29'19.478"W

WELLPATH DATUM			
Calculation method	Minimum curvature	XTREME 23 (16'KB) (RKB) to Facility Vertical Datum	4964.00ft
Horizontal Reference Pt	Slot	XTREME 23 (16'KB) (RKB) to Mean Sea Level	4964.00ft
Vertical Reference Pt	XTREME 23 (16'KB) (RKB)	XTREME 23 (16'KB) (RKB) to Mud Line at Slot (SLOT#30 MIRACLE 40N-11HZ (2380'FSL & 304'FEL, SEC.12))	4964.00ft
MD Reference Pt	XTREME 23 (16'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	269.85°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#30 MIRACLE 40N-11HZ (2380'FSL & 304'FEL, SEC.12)
Area	COLORADO	Well	MIRACLE 40N-11HZ
Field	LARIMER COUNTY	Wellbore	MIRACLE 40N-11HZ AWP <13558>
Facility	SEC.12-T5N-R68W		

WELLPATH DATA (148 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	335.360	0.00	0.00	0.00	0.00	40°24'48.632"N	104°56'43.944"W	0.00	
16.00	0.000	335.360	16.00	0.00	0.00	0.00	40°24'48.632"N	104°56'43.944"W	0.00	Tie-On
128.00	0.560	335.360	128.00	0.23	0.50	-0.23	40°24'48.637"N	104°56'43.947"W	0.50	Begin Scientific MWD Surveys
218.00	0.650	330.030	217.99	0.66	1.34	-0.67	40°24'48.645"N	104°56'43.953"W	0.12	
307.00	1.050	30.150	306.98	0.50	2.48	-0.51	40°24'48.657"N	104°56'43.951"W	1.03	
434.00	2.910	56.920	433.91	-2.79	5.25	2.78	40°24'48.684"N	104°56'43.908"W	1.60	
529.00	4.550	69.900	528.70	-8.36	7.86	8.34	40°24'48.710"N	104°56'43.836"W	1.93	
624.00	6.100	80.660	623.29	-16.88	9.97	16.86	40°24'48.731"N	104°56'43.726"W	1.93	
719.00	7.650	89.220	717.61	-28.19	10.88	28.16	40°24'48.740"N	104°56'43.580"W	1.95	
877.00	10.060	98.250	873.72	-52.36	9.04	52.34	40°24'48.721"N	104°56'43.267"W	1.76	
972.00	10.290	99.870	967.23	-68.93	6.40	68.91	40°24'48.695"N	104°56'43.053"W	0.39	
1068.00	10.280	100.370	1061.68	-85.79	3.38	85.78	40°24'48.665"N	104°56'42.835"W	0.09	
1162.00	10.530	97.090	1154.14	-102.56	0.82	102.56	40°24'48.640"N	104°56'42.618"W	0.68	
1257.00	10.910	91.220	1247.48	-120.16	-0.45	120.16	40°24'48.628"N	104°56'42.391"W	1.22	
1352.00	11.290	91.880	1340.71	-138.44	-0.94	138.44	40°24'48.623"N	104°56'42.154"W	0.42	
1447.00	10.380	92.360	1434.01	-156.28	-1.60	156.29	40°24'48.616"N	104°56'41.924"W	0.96	
1542.00	10.430	89.630	1527.45	-173.43	-1.90	173.44	40°24'48.613"N	104°56'41.702"W	0.52	
1637.00	10.920	90.450	1620.81	-191.03	-1.91	191.04	40°24'48.613"N	104°56'41.474"W	0.54	
1732.00	11.610	88.680	1713.98	-209.58	-1.76	209.59	40°24'48.615"N	104°56'41.234"W	0.81	
1810.00	12.020	91.270	1790.32	-225.55	-1.76	225.56	40°24'48.615"N	104°56'41.028"W	0.86	Tie-Into Scientific MWD Surveys
1898.00	12.090	93.160	1876.38	-243.91	-2.47	243.92	40°24'48.608"N	104°56'40.791"W	0.46	Begin BHI MWD+IFR+MSA Surveys
1993.00	11.610	92.120	1969.36	-263.40	-3.38	263.41	40°24'48.599"N	104°56'40.539"W	0.55	
2088.00	11.080	90.520	2062.50	-282.08	-3.81	282.09	40°24'48.594"N	104°56'40.297"W	0.65	
2183.00	10.510	89.180	2155.82	-299.87	-3.77	299.88	40°24'48.595"N	104°56'40.067"W	0.66	
2279.00	10.880	91.080	2250.15	-317.68	-3.82	317.69	40°24'48.594"N	104°56'39.837"W	0.53	
2373.00	11.610	94.780	2342.35	-335.97	-4.77	335.99	40°24'48.585"N	104°56'39.600"W	1.09	
2469.00	11.420	94.570	2436.42	-355.07	-6.34	355.09	40°24'48.569"N	104°56'39.353"W	0.20	
2564.00	11.130	94.410	2529.58	-373.58	-7.79	373.61	40°24'48.555"N	104°56'39.114"W	0.31	
2659.00	10.130	96.470	2622.95	-391.02	-9.44	391.05	40°24'48.539"N	104°56'38.889"W	1.13	
2755.00	10.710	95.360	2717.37	-408.29	-11.22	408.32	40°24'48.521"N	104°56'38.665"W	0.64	
2850.00	11.710	93.980	2810.56	-426.69	-12.71	426.73	40°24'48.506"N	104°56'38.427"W	1.09	
2946.00	10.330	96.590	2904.78	-444.96	-14.38	445.00	40°24'48.490"N	104°56'38.191"W	1.53	
3041.00	10.040	95.150	2998.29	-461.66	-16.10	461.70	40°24'48.473"N	104°56'37.975"W	0.41	
3136.00	11.850	93.040	3091.56	-479.65	-17.36	479.69	40°24'48.460"N	104°56'37.743"W	1.95	
3232.00	10.190	91.260	3185.78	-497.98	-18.07	498.03	40°24'48.453"N	104°56'37.506"W	1.76	
3327.00	10.380	88.170	3279.26	-514.93	-17.98	514.98	40°24'48.454"N	104°56'37.286"W	0.61	
3421.00	11.380	90.600	3371.57	-532.67	-17.81	532.72	40°24'48.456"N	104°56'37.057"W	1.17	
3516.00	11.690	88.220	3464.65	-551.66	-17.61	551.71	40°24'48.458"N	104°56'36.811"W	0.60	
3611.00	12.460	91.290	3557.55	-571.53	-17.54	571.58	40°24'48.459"N	104°56'36.555"W	1.06	
3707.00	12.860	91.310	3651.21	-592.56	-18.02	592.61	40°24'48.454"N	104°56'36.283"W	0.42	
3801.00	13.110	91.860	3742.81	-613.67	-18.60	613.73	40°24'48.448"N	104°56'36.010"W	0.30	
3896.00	12.960	90.520	3835.36	-635.09	-19.05	635.15	40°24'48.444"N	104°56'35.733"W	0.36	
3991.00	12.440	86.730	3928.04	-655.96	-18.56	656.02	40°24'48.449"N	104°56'35.463"W	1.03	
4086.00	12.690	86.380	4020.76	-676.60	-17.32	676.65	40°24'48.461"N	104°56'35.196"W	0.28	
4182.00	12.600	96.880	4114.45	-697.52	-17.91	697.57	40°24'48.455"N	104°56'34.926"W	2.39	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#30 MIRACLE 40N-11HZ (2380'FSL & 304'FEL, SEC.12)
Area	COLORADO	Well	MIRACLE 40N-11HZ
Field	LARIMER COUNTY	Wellbore	MIRACLE 40N-11HZ AWB <13558>
Facility	SEC.12-T5N-R68W		

WELLPATH DATA (148 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4277.00	11.630	96.930	4207.33	-717.30	-20.30	717.36	40°24'48.431"N	104°56'34.670"W	1.02	
4372.00	11.610	95.080	4300.38	-736.33	-22.31	736.39	40°24'48.411"N	104°56'34.424"W	0.39	
4467.00	10.440	95.470	4393.63	-754.41	-23.97	754.48	40°24'48.395"N	104°56'34.190"W	1.23	
4562.00	9.380	95.580	4487.21	-770.68	-25.55	770.75	40°24'48.379"N	104°56'33.980"W	1.12	
4657.00	10.450	99.060	4580.79	-786.89	-27.66	786.97	40°24'48.359"N	104°56'33.770"W	1.29	
4752.00	11.120	95.080	4674.11	-804.52	-29.82	804.60	40°24'48.337"N	104°56'33.542"W	1.05	
4847.00	9.670	96.420	4767.55	-821.57	-31.53	821.65	40°24'48.320"N	104°56'33.322"W	1.55	
4941.00	9.860	98.900	4860.19	-837.36	-33.65	837.45	40°24'48.299"N	104°56'33.117"W	0.49	
5036.00	10.070	98.870	4953.76	-853.59	-36.19	853.69	40°24'48.274"N	104°56'32.908"W	0.22	
5132.00	10.210	96.730	5048.26	-870.33	-38.48	870.43	40°24'48.252"N	104°56'32.691"W	0.42	
5227.00	9.750	92.280	5141.82	-886.73	-39.79	886.83	40°24'48.239"N	104°56'32.479"W	0.94	
5322.00	9.660	91.430	5235.46	-902.73	-40.31	902.84	40°24'48.234"N	104°56'32.272"W	0.18	
5417.00	8.750	95.260	5329.24	-917.89	-41.17	918.00	40°24'48.225"N	104°56'32.076"W	1.15	
5512.00	5.550	88.870	5423.49	-929.68	-41.74	929.80	40°24'48.219"N	104°56'31.924"W	3.47	
5608.00	5.020	96.400	5519.08	-938.50	-42.12	938.61	40°24'48.216"N	104°56'31.810"W	0.91	
5703.00	3.580	83.790	5613.81	-945.57	-42.26	945.69	40°24'48.214"N	104°56'31.718"W	1.80	
5798.00	2.840	70.190	5708.66	-950.74	-41.14	950.85	40°24'48.225"N	104°56'31.651"W	1.11	
5893.00	0.740	35.670	5803.61	-953.32	-39.85	953.43	40°24'48.238"N	104°56'31.618"W	2.39	
5988.00	0.370	344.710	5898.61	-953.60	-39.05	953.70	40°24'48.246"N	104°56'31.615"W	0.61	
6082.00	0.570	313.670	5992.61	-953.18	-38.44	953.28	40°24'48.252"N	104°56'31.620"W	0.34	
6178.00	0.810	291.910	6088.60	-952.21	-37.86	952.31	40°24'48.258"N	104°56'31.633"W	0.37	
6273.00	0.760	261.410	6183.59	-950.96	-37.70	951.06	40°24'48.259"N	104°56'31.649"W	0.44	
6368.00	0.920	271.310	6278.58	-949.57	-37.78	949.68	40°24'48.259"N	104°56'31.667"W	0.23	
6463.00	1.260	258.020	6373.56	-947.79	-37.97	947.89	40°24'48.257"N	104°56'31.690"W	0.44	
6558.00	8.180	272.110	6468.19	-940.00	-37.94	940.11	40°24'48.257"N	104°56'31.790"W	7.33	
6654.00	13.340	273.530	6562.47	-922.12	-37.01	922.22	40°24'48.266"N	104°56'32.022"W	5.38	
6749.00	19.700	271.780	6653.50	-895.15	-35.84	895.25	40°24'48.278"N	104°56'32.370"W	6.71	
6844.00	25.380	272.820	6741.21	-858.78	-34.34	858.88	40°24'48.293"N	104°56'32.840"W	5.99	
6939.00	31.410	272.490	6824.74	-813.68	-32.26	813.77	40°24'48.313"N	104°56'33.424"W	6.35	
6986.00†	35.212	271.573	6864.01	-787.89	-31.35	787.98	40°24'48.322"N	104°56'33.757"W	8.16	SSPG
7034.00	39.100	270.800	6902.26	-758.92	-30.76	759.00	40°24'48.328"N	104°56'34.132"W	8.16	
7042.00†	39.883	270.496	6908.43	-753.83	-30.70	753.91	40°24'48.328"N	104°56'34.197"W	10.08	NBRR
7130.00	48.540	267.690	6971.45	-692.54	-31.79	692.63	40°24'48.318"N	104°56'34.990"W	10.08	
7225.00	60.800	265.460	7026.29	-615.33	-36.53	615.43	40°24'48.271"N	104°56'35.988"W	13.05	
7234.00†	61.889	265.463	7030.61	-607.45	-37.15	607.55	40°24'48.265"N	104°56'36.090"W	12.09	N470_B_CK
7320.00	72.290	265.490	7064.04	-528.58	-43.39	528.69	40°24'48.203"N	104°56'37.109"W	12.09	
7415.00	79.930	266.760	7086.83	-436.62	-49.60	436.75	40°24'48.142"N	104°56'38.298"W	8.15	
7510.00	83.550	268.150	7100.48	-342.70	-53.77	342.85	40°24'48.101"N	104°56'39.512"W	4.08	
7562.00†	87.365	268.452	7104.59	-290.89	-55.30	291.04	40°24'48.085"N	104°56'40.181"W	7.36	Landing Point
7605.00	90.520	268.700	7105.39	-247.92	-56.37	248.07	40°24'48.075"N	104°56'40.737"W	7.36	
7700.00	89.940	269.620	7105.01	-152.93	-57.76	153.08	40°24'48.061"N	104°56'41.965"W	1.14	
7795.00	89.260	268.540	7105.67	-57.94	-59.29	58.10	40°24'48.046"N	104°56'43.193"W	1.34	
7890.00	90.430	268.550	7105.93	37.03	-61.70	-36.87	40°24'48.022"N	104°56'44.421"W	1.23	
7985.00	90.000	269.780	7105.57	132.02	-63.09	-131.86	40°24'48.009"N	104°56'45.649"W	1.37	
8081.00	91.200	269.890	7104.56	228.02	-63.36	-227.85	40°24'48.006"N	104°56'46.890"W	1.26	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#30 MIRACLE 40N-11HZ (2380'FSL & 304'FEL, SEC.12)
Area	COLORADO	Well	MIRACLE 40N-11HZ
Field	LARIMER COUNTY	Wellbore	MIRACLE 40N-11HZ AWB <13558>
Facility	SEC.12-T5N-R68W		

WELLPATH DATA (148 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8176.00	90.250	271.810	7103.36	322.99	-61.95	-322.83	40°24'48.020"N	104°56'48.117"W	2.25	
8271.00	90.920	271.730	7102.39	417.93	-59.02	-417.77	40°24'48.049"N	104°56'49.345"W	0.71	
8366.00	89.540	272.500	7102.01	512.85	-55.51	-512.71	40°24'48.083"N	104°56'50.572"W	1.66	
8461.00	90.220	272.300	7102.21	607.76	-51.54	-607.62	40°24'48.123"N	104°56'51.799"W	0.75	
8556.00	90.710	272.560	7101.44	702.66	-47.51	-702.53	40°24'48.162"N	104°56'53.026"W	0.58	
8652.00	88.980	272.790	7101.70	798.54	-43.03	-798.42	40°24'48.207"N	104°56'54.266"W	1.82	
8747.00	89.230	272.720	7103.18	893.40	-38.46	-893.30	40°24'48.252"N	104°56'55.493"W	0.27	
8842.00	89.660	273.740	7104.10	988.23	-33.11	-988.15	40°24'48.305"N	104°56'56.719"W	1.17	
8937.00	90.890	274.340	7103.65	1082.97	-26.42	-1082.91	40°24'48.371"N	104°56'57.944"W	1.44	
9032.00	90.090	270.840	7102.83	1177.85	-22.13	-1177.79	40°24'48.413"N	104°56'59.170"W	3.78	
9128.00	89.720	268.710	7102.99	1273.84	-22.50	-1273.78	40°24'48.409"N	104°57'00.411"W	2.25	
9223.00	89.910	269.860	7103.30	1368.83	-23.69	-1368.77	40°24'48.398"N	104°57'01.639"W	1.23	
9319.00	90.710	267.590	7102.78	1464.81	-25.82	-1464.74	40°24'48.376"N	104°57'02.880"W	2.51	
9414.00	89.570	267.050	7102.55	1559.71	-30.27	-1559.64	40°24'48.332"N	104°57'04.107"W	1.33	
9509.00	89.170	266.580	7103.59	1654.57	-35.54	-1654.48	40°24'48.280"N	104°57'05.333"W	0.65	
9604.00	88.340	267.580	7105.66	1749.44	-40.38	-1749.34	40°24'48.232"N	104°57'06.559"W	1.37	
9700.00	88.340	268.760	7108.44	1845.35	-43.45	-1845.24	40°24'48.202"N	104°57'07.799"W	1.23	
9795.00	89.350	268.210	7110.35	1940.31	-45.96	-1940.19	40°24'48.177"N	104°57'09.027"W	1.21	
9890.00	89.170	267.630	7111.58	2035.24	-49.40	-2035.12	40°24'48.143"N	104°57'10.254"W	0.64	
9985.00	90.090	269.250	7112.19	2130.21	-51.99	-2130.08	40°24'48.117"N	104°57'11.481"W	1.96	
10081.00	90.710	270.360	7111.52	2226.21	-52.32	-2226.07	40°24'48.114"N	104°57'12.723"W	1.32	
10176.00	89.380	269.570	7111.45	2321.20	-52.38	-2321.07	40°24'48.113"N	104°57'13.951"W	1.63	
10271.00	89.630	269.740	7112.27	2416.20	-52.95	-2416.06	40°24'48.108"N	104°57'15.179"W	0.32	
10367.00	89.940	269.520	7112.63	2512.20	-53.57	-2512.06	40°24'48.101"N	104°57'16.420"W	0.40	
10462.00	90.950	269.140	7111.89	2607.19	-54.68	-2607.05	40°24'48.090"N	104°57'17.648"W	1.14	
10557.00	89.570	270.200	7111.46	2702.18	-55.23	-2702.05	40°24'48.085"N	104°57'18.876"W	1.83	
10652.00	90.250	270.460	7111.61	2797.18	-54.68	-2797.04	40°24'48.090"N	104°57'20.104"W	0.77	
10747.00	91.260	270.990	7110.36	2892.16	-53.48	-2892.03	40°24'48.102"N	104°57'21.332"W	1.20	
10843.00	89.820	271.950	7109.45	2988.11	-51.01	-2987.99	40°24'48.126"N	104°57'22.572"W	1.80	
10937.00	90.280	272.320	7109.37	3082.04	-47.51	-3081.92	40°24'48.161"N	104°57'23.787"W	0.63	
11032.00	90.890	271.340	7108.40	3176.97	-44.48	-3176.87	40°24'48.190"N	104°57'25.014"W	1.22	
11128.00	88.060	268.310	7109.28	3272.95	-44.77	-3272.84	40°24'48.187"N	104°57'26.255"W	4.32	
11223.00	89.480	268.900	7111.32	3367.90	-47.08	-3367.79	40°24'48.164"N	104°57'27.483"W	1.62	
11319.00	89.780	268.750	7111.94	3463.88	-49.05	-3463.76	40°24'48.145"N	104°57'28.723"W	0.35	
11414.00	90.580	269.060	7111.64	3558.87	-50.87	-3558.75	40°24'48.127"N	104°57'29.951"W	0.90	
11509.00	91.420	268.330	7109.98	3653.83	-53.03	-3653.71	40°24'48.105"N	104°57'31.179"W	1.17	
11605.00	91.410	269.100	7107.61	3749.79	-55.18	-3749.65	40°24'48.084"N	104°57'32.419"W	0.80	
11700.00	90.150	268.510	7106.32	3844.76	-57.16	-3844.62	40°24'48.064"N	104°57'33.647"W	1.46	
11795.00	90.180	268.190	7106.05	3939.73	-59.90	-3939.58	40°24'48.037"N	104°57'34.875"W	0.34	
11889.00	90.710	267.820	7105.32	4033.67	-63.17	-4033.52	40°24'48.005"N	104°57'36.089"W	0.69	
11984.00	89.910	269.230	7104.80	4128.64	-65.62	-4128.48	40°24'47.980"N	104°57'37.317"W	1.71	
12079.00	90.150	269.830	7104.75	4223.64	-66.40	-4223.48	40°24'47.972"N	104°57'38.545"W	0.68	
12174.00	90.120	269.040	7104.53	4318.64	-67.33	-4318.47	40°24'47.963"N	104°57'39.773"W	0.83	
12269.00	90.180	268.350	7104.28	4413.62	-69.50	-4413.45	40°24'47.941"N	104°57'41.001"W	0.73	
12364.00	90.340	269.670	7103.85	4508.60	-71.14	-4508.43	40°24'47.925"N	104°57'42.229"W	1.40	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#30 MIRACLE 40N-11HZ (2380'FSL & 304'FEL, SEC.12)
Area	COLORADO	Well	MIRACLE 40N-11HZ
Field	LARIMER COUNTY	Wellbore	MIRACLE 40N-11HZ AWB <13558>
Facility	SEC.12-T5N-R68W		

WELLPATH DATA (148 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12460.00	91.110	269.340	7102.63	4604.59	-71.97	-4604.42	40°24'47.917"N	104°57'43.470"W	0.87	
12554.00	92.220	268.640	7099.90	4698.54	-73.62	-4698.36	40°24'47.900"N	104°57'44.684"W	1.40	
12649.00	91.570	270.090	7096.76	4793.48	-74.67	-4793.30	40°24'47.889"N	104°57'45.911"W	1.67	
12744.00	91.200	270.290	7094.47	4888.45	-74.36	-4888.27	40°24'47.892"N	104°57'47.139"W	0.44	
12839.00	91.320	268.570	7092.38	4983.43	-75.30	-4983.24	40°24'47.883"N	104°57'48.367"W	1.81	
12934.00	91.140	269.980	7090.34	5078.40	-76.51	-5078.21	40°24'47.871"N	104°57'49.595"W	1.50	
13029.00	91.480	270.040	7088.17	5173.37	-76.49	-5173.18	40°24'47.871"N	104°57'50.822"W	0.36	
13124.00	91.630	269.260	7085.59	5268.33	-77.07	-5268.15	40°24'47.865"N	104°57'52.050"W	0.84	
13219.00	90.770	269.940	7083.60	5363.31	-77.73	-5363.12	40°24'47.858"N	104°57'53.278"W	1.15	
13315.00	90.220	271.710	7082.77	5459.29	-76.35	-5459.11	40°24'47.872"N	104°57'54.519"W	1.93	
13410.00	90.770	271.330	7081.95	5554.24	-73.83	-5554.07	40°24'47.896"N	104°57'55.747"W	0.70	
13495.00	90.090	270.130	7081.31	5639.23	-72.75	-5639.06	40°24'47.907"N	104°57'56.845"W	1.62	Last BHI MWD+IFR+MSA Surveys
13558.00	90.090	270.130	7081.21	5702.23	-72.60	-5702.06	40°24'47.908"N	104°57'57.660"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: MIRACLE 40N-11HZ AWB <13558>      Ref Wellpath: MIRACLE 40N-11HZ AWP										
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]	
13.5in Open Hole	16.00	1869.00	1853.00	16.00	1848.03	0.00	0.00	-2.17	237.86	
9.625in Casing Surface	16.00	1865.00	1849.00	16.00	1844.11	0.00	0.00	-2.14	237.02	
8.5in Open Hole	1869.00	13558.00	11689.00	1848.03	7081.21	-2.17	237.86	-72.60	-5702.06	

TARGETS									
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
SEC.11-T5N-R68W LINES	0.00	0.40	-30.07	1655545.78	14677319.22	40°24'48.636"N	104°56'44.333"W	polygon	
SEC.12-T5N-R68W LINES	0.00	0.40	-30.07	1655545.78	14677319.22	40°24'48.636"N	104°56'44.333"W	polygon	
MIRACLE 40N-11HZ BHL ON PLAT (2231'FSL & 500'FEL, SEC.11) REV-1	7082.00	-59.82	-5702.73	1649875.45	14677255.53	40°24'48.034"N	104°57'57.668"W	point	
MIRACLE 40N-11HZ LANDBOX	7082.00	0.00	0.00	1655575.85	14677318.83	40°24'48.632"N	104°56'43.944"W	polygon	

WELLPATH COMPOSITION - Ref Wellbore: MIRACLE 40N-11HZ AWB <13558>      Ref Wellpath: MIRACLE 40N-11HZ AWP									
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore					
16.00	1810.00	Custom APC_ISCWSA REV 2 MWD	SCIENTIFIC DRILLING MWD SURVEYS <128-1810>	MIRACLE 40N-11HZ AWB <13558>					
1810.00	13495.00	Custom APC_ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHI MWD+IFR+MSA 8 1/2" HOLE <1898-13495>	MIRACLE 40N-11HZ AWB <13558>					
13495.00	13558.00	Blind Drilling (std)	Projection to bit	MIRACLE 40N-11HZ AWB <13558>					

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#30 MIRACLE 40N-11HZ (2380'FSL & 304'FEL, SEC.12)
Area	COLORADO	Well	MIRACLE 40N-11HZ
Field	LARIMER COUNTY	Wellbore	MIRACLE 40N-11HZ AWP <13558>
Facility	SEC.12-T5N-R68W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	335.360	16.00	Tie-On
128.00	0.560	335.360	128.00	Begin Scientific MWD Surveys
1810.00	12.020	91.270	1790.32	Tie-Into Scientific MWD Surveys
1898.00	12.090	93.160	1876.38	Begin BHI MWD+IFR+MSA Surveys
6986.00	35.212	271.573	6864.01	SSPG
7042.00	39.883	270.496	6908.43	NBRR
7234.00	61.889	265.463	7030.61	N470_B_CK
7562.00	87.365	268.452	7104.59	Landing Point
13495.00	90.090	270.130	7081.31	Last BHI MWD+IFR+MSA Surveys
13558.00	90.090	270.130	7081.21	Projection to Bit