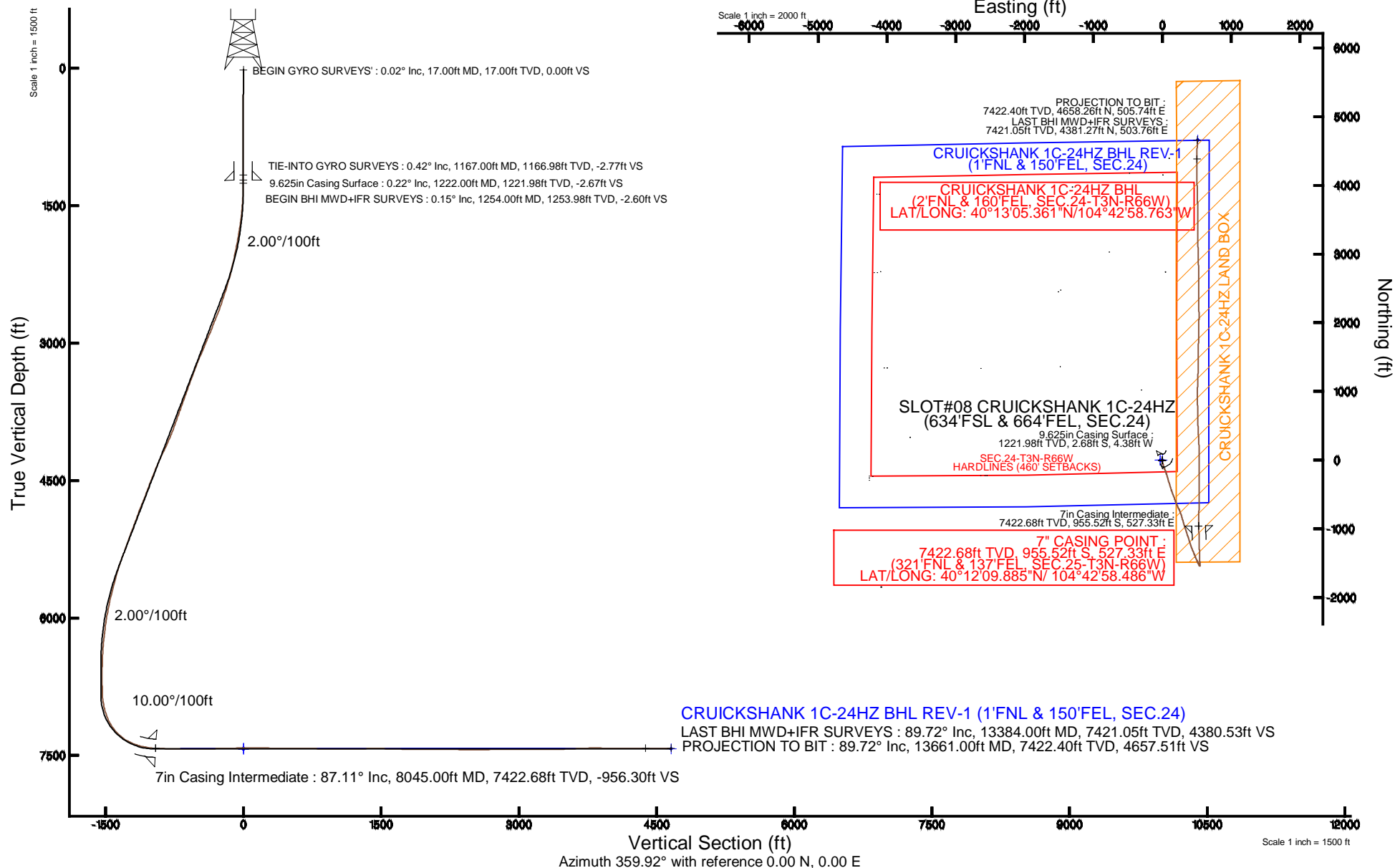


KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24)
Field: WELD COUNTY (KERR MCGEE) Well: CRUICKSHANK 1C-24HZ
Facility: SEC.24-T3N-R66W Wellbore: CRUICKSHANK 1C-24HZ PWB

Plot reference wellpath is CRUICKSHANK 1C-24HZ (REV-A.0) PWP

True vertical depths are referenced to ENSIGN 145 (13KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to ENSIGN 145 (13KB) (RKB)	North Reference: True north
ENSGN 145 (13KB) (RKB) to Mean Sea Level: 5027 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: amarcar on 10/14/2014



Actual Wellpath Report

CRUICKSHANK 1C-24HZ AWP

Page 1 of 7

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24)
Area	COLORADO	Well	CRUICKSHANK 1C-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	CRUICKSHANK 1C-24HZ AWB
Facility	SEC.24-T3N-R66W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Amarcar
Scale	0.999957	Report Generated	10/14/2014 at 8:00:22 AM
Convergence at slot	n/a	Database/Source file	WellArchitectDB/CRUICKSHANK_1C-24HZ_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-1333.61	2593.82	3218380.14	1318621.02	40°12'19.328"N	104°43'05.282"W
Facility Reference Pt			3215774.92	1319931.92	40°12'32.508"N	104°43'38.712"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	ENSIGN 145 (13'KB) (RKB) to Facility Vertical Datum	5027.00ft
Horizontal Reference Pt	Slot	ENSIGN 145 (13'KB) (RKB) to Mean Sea Level	5027.00ft
Vertical Reference Pt	ENSIGN 145 (13'KB) (RKB)	ENSIGN 145 (13'KB) (RKB) to Mud Line at Slot (SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24))	5027.00ft
MD Reference Pt	ENSIGN 145 (13'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.92°

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24)
Area	COLORADO	Well	CRUICKSHANK 1C-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	CRUICKSHANK 1C-24HZ AWB
Facility	SEC.24-T3N-R66W		

WELLPATH DATA (167 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	211.880	0.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
13.00	0.000	211.880	13.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
17.00†	0.016	211.880	17.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.39	BEGIN GYRO SURVEYS'
113.00	0.390	211.880	113.00	-0.29	-0.29	-0.18	40°12'19.325"N	104°43'05.284"W	0.39	
213.00	0.540	205.270	213.00	-1.00	-1.00	-0.56	40°12'19.318"N	104°43'05.289"W	0.16	
313.00	0.330	183.890	312.99	-1.72	-1.72	-0.78	40°12'19.311"N	104°43'05.292"W	0.26	
413.00	0.280	208.960	412.99	-2.22	-2.22	-0.92	40°12'19.306"N	104°43'05.294"W	0.14	
513.00	0.270	209.670	512.99	-2.64	-2.64	-1.15	40°12'19.302"N	104°43'05.297"W	0.01	
613.00	0.350	242.010	612.99	-2.98	-2.99	-1.54	40°12'19.298"N	104°43'05.302"W	0.19	
713.00	0.510	276.160	712.99	-3.08	-3.08	-2.25	40°12'19.298"N	104°43'05.311"W	0.30	
813.00	0.280	258.330	812.98	-3.08	-3.08	-2.93	40°12'19.298"N	104°43'05.320"W	0.26	
913.00	0.190	294.290	912.98	-3.06	-3.06	-3.32	40°12'19.298"N	104°43'05.325"W	0.17	
1013.00	0.190	279.440	1012.98	-2.96	-2.97	-3.64	40°12'19.299"N	104°43'05.329"W	0.05	
1113.00	0.120	325.290	1112.98	-2.85	-2.86	-3.86	40°12'19.300"N	104°43'05.332"W	0.14	
1167.00	0.420	280.480	1166.98	-2.77	-2.77	-4.09	40°12'19.301"N	104°43'05.335"W	0.64	TIE-INTO GYRO SURVEYS
1254.00	0.150	335.930	1253.98	-2.60	-2.61	-4.45	40°12'19.302"N	104°43'05.339"W	0.41	BEGIN BHI MWD+IFR SURVEYS
1285.00	0.060	114.220	1284.98	-2.57	-2.58	-4.45	40°12'19.303"N	104°43'05.339"W	0.64	
1316.00	1.060	161.850	1315.98	-2.85	-2.86	-4.35	40°12'19.300"N	104°43'05.338"W	3.29	
1378.00	2.590	167.550	1377.95	-4.77	-4.77	-3.87	40°12'19.281"N	104°43'05.332"W	2.48	
1440.00	4.210	162.470	1439.83	-8.31	-8.31	-2.88	40°12'19.246"N	104°43'05.319"W	2.66	
1503.00	4.370	159.050	1502.66	-12.76	-12.76	-1.32	40°12'19.202"N	104°43'05.299"W	0.48	
1565.00	5.430	168.030	1564.43	-17.83	-17.83	0.13	40°12'19.152"N	104°43'05.280"W	2.11	
1628.00	7.330	171.440	1627.04	-24.73	-24.72	1.35	40°12'19.084"N	104°43'05.265"W	3.07	
1689.00	8.050	168.200	1687.49	-32.76	-32.75	2.80	40°12'19.004"N	104°43'05.246"W	1.38	
1782.00	9.740	162.080	1779.37	-46.62	-46.61	6.55	40°12'18.867"N	104°43'05.198"W	2.08	
1876.00	10.630	161.520	1871.89	-62.42	-62.40	11.75	40°12'18.711"N	104°43'05.131"W	0.95	
1970.00	11.770	162.860	1964.10	-79.81	-79.79	17.32	40°12'18.540"N	104°43'05.059"W	1.24	
2063.00	12.610	163.600	2055.00	-98.62	-98.59	22.98	40°12'18.354"N	104°43'04.986"W	0.92	
2157.00	13.840	159.420	2146.51	-119.00	-118.96	29.83	40°12'18.152"N	104°43'04.898"W	1.66	
2250.00	14.900	158.700	2236.60	-140.57	-140.51	38.08	40°12'17.939"N	104°43'04.791"W	1.16	
2344.00	16.440	160.060	2327.10	-164.35	-164.28	47.01	40°12'17.705"N	104°43'04.676"W	1.68	
2437.00	18.450	161.930	2415.82	-190.73	-190.64	56.06	40°12'17.444"N	104°43'04.559"W	2.24	
2531.00	19.200	161.400	2504.79	-219.53	-219.43	65.61	40°12'17.160"N	104°43'04.436"W	0.82	
2624.00	20.120	165.050	2592.37	-249.49	-249.38	74.61	40°12'16.864"N	104°43'04.320"W	1.65	
2687.00	21.070	164.760	2651.34	-270.90	-270.78	80.39	40°12'16.652"N	104°43'04.246"W	1.52	
2780.00	23.310	161.900	2737.45	-304.54	-304.40	90.50	40°12'16.320"N	104°43'04.116"W	2.67	
2870.00	22.060	162.890	2820.49	-337.63	-337.48	101.00	40°12'15.993"N	104°43'03.980"W	1.45	
2957.00	23.740	163.000	2900.63	-370.01	-369.85	110.93	40°12'15.673"N	104°43'03.852"W	1.93	
3047.00	23.680	163.920	2983.03	-404.72	-404.54	121.23	40°12'15.330"N	104°43'03.720"W	0.42	
3137.00	23.760	161.070	3065.43	-439.25	-439.06	132.12	40°12'14.989"N	104°43'03.579"W	1.28	
3227.00	24.220	159.130	3147.66	-473.67	-473.46	144.58	40°12'14.649"N	104°43'03.419"W	1.01	
3317.00	22.860	159.260	3230.17	-507.29	-507.06	157.35	40°12'14.317"N	104°43'03.254"W	1.51	
3407.00	21.800	159.140	3313.42	-539.27	-539.02	169.49	40°12'14.001"N	104°43'03.098"W	1.18	
3497.00	21.710	158.870	3397.01	-570.43	-570.17	181.44	40°12'13.694"N	104°43'02.944"W	0.15	
3587.00	20.980	159.130	3480.83	-601.03	-600.75	193.18	40°12'13.391"N	104°43'02.792"W	0.82	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24)
Area	COLORADO	Well	CRUICKSHANK 1C-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	CRUICKSHANK 1C-24HZ AWP
Facility	SEC.24-T3N-R66W		

WELLPATH DATA (167 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3677.00	20.490	157.240	3565.00	-630.63	-630.33	205.02	40°12'13.099"N	104°43'02.640"W	0.92	
3767.00	22.080	156.310	3648.86	-660.66	-660.35	217.91	40°12'12.802"N	104°43'02.474"W	1.81	
3857.00	21.410	154.530	3732.46	-691.01	-690.67	231.77	40°12'12.503"N	104°43'02.295"W	1.04	
3947.00	20.940	155.750	3816.38	-720.52	-720.16	245.44	40°12'12.211"N	104°43'02.119"W	0.72	
4037.00	21.340	159.340	3900.33	-750.53	-750.15	257.82	40°12'11.915"N	104°43'01.959"W	1.51	
4127.00	23.240	161.290	3983.60	-782.69	-782.29	269.30	40°12'11.597"N	104°43'01.811"W	2.27	
4217.00	23.770	164.050	4066.14	-816.96	-816.55	279.98	40°12'11.259"N	104°43'01.674"W	1.36	
4307.00	26.450	164.180	4147.62	-853.71	-853.28	290.43	40°12'10.896"N	104°43'01.539"W	2.98	
4397.00	26.950	163.990	4228.03	-892.61	-892.17	301.52	40°12'10.512"N	104°43'01.396"W	0.56	
4487.00	24.370	162.860	4309.14	-929.98	-929.52	312.62	40°12'10.142"N	104°43'01.253"W	2.92	
4577.00	22.000	162.360	4391.87	-963.81	-963.34	323.20	40°12'09.808"N	104°43'01.117"W	2.64	
4668.00	22.650	161.350	4476.05	-996.67	-996.18	333.97	40°12'09.484"N	104°43'00.978"W	0.83	
4758.00	21.590	161.800	4559.42	-1028.84	-1028.33	344.68	40°12'09.166"N	104°43'00.840"W	1.19	
4848.00	21.420	163.140	4643.16	-1060.31	-1059.79	354.62	40°12'08.855"N	104°43'00.712"W	0.58	
4938.00	23.250	161.380	4726.40	-1092.89	-1092.36	365.06	40°12'08.533"N	104°43'00.577"W	2.16	
5028.00	22.590	162.220	4809.30	-1126.20	-1125.65	376.01	40°12'08.204"N	104°43'00.436"W	0.82	
5118.00	20.820	161.900	4892.91	-1157.88	-1157.32	386.26	40°12'07.891"N	104°43'00.304"W	1.97	
5208.00	20.990	162.240	4976.99	-1188.45	-1187.87	396.14	40°12'07.589"N	104°43'00.177"W	0.23	
5298.00	22.150	162.910	5060.68	-1220.03	-1219.44	406.04	40°12'07.277"N	104°43'00.049"W	1.32	
5388.00	20.150	162.140	5144.62	-1251.02	-1250.41	415.79	40°12'06.971"N	104°42'59.923"W	2.24	
5478.00	21.040	156.530	5228.87	-1280.62	-1279.99	426.98	40°12'06.679"N	104°42'59.779"W	2.40	
5568.00	22.510	157.960	5312.45	-1311.43	-1310.78	439.88	40°12'06.375"N	104°42'59.613"W	1.74	
5658.00	20.100	156.960	5396.29	-1341.65	-1340.99	452.40	40°12'06.076"N	104°42'59.452"W	2.71	
5748.00	18.530	156.900	5481.23	-1369.05	-1368.37	464.06	40°12'05.806"N	104°42'59.301"W	1.74	
5838.00	16.540	157.920	5567.04	-1394.10	-1393.40	474.49	40°12'05.558"N	104°42'59.167"W	2.24	
5928.00	15.520	157.140	5653.54	-1417.08	-1416.37	483.98	40°12'05.331"N	104°42'59.045"W	1.16	
6018.00	15.050	156.330	5740.35	-1438.89	-1438.17	493.35	40°12'05.116"N	104°42'58.924"W	0.57	
6108.00	12.440	155.060	5827.77	-1458.40	-1457.66	502.13	40°12'04.923"N	104°42'58.811"W	2.92	
6198.00	11.910	158.570	5915.75	-1475.84	-1475.10	509.61	40°12'04.751"N	104°42'58.714"W	1.01	
6288.00	10.670	155.290	6004.00	-1492.07	-1491.31	516.49	40°12'04.591"N	104°42'58.626"W	1.55	
6378.00	7.740	150.560	6092.84	-1504.93	-1504.16	522.95	40°12'04.464"N	104°42'58.542"W	3.36	
6468.00	7.520	152.780	6182.04	-1515.45	-1514.68	528.62	40°12'04.360"N	104°42'58.469"W	0.41	
6558.00	6.170	149.890	6271.40	-1524.88	-1524.10	533.74	40°12'04.267"N	104°42'58.403"W	1.55	
6648.00	4.660	143.390	6360.99	-1532.00	-1531.22	538.35	40°12'04.197"N	104°42'58.344"W	1.81	
6738.00	3.100	136.520	6450.79	-1536.71	-1535.92	542.20	40°12'04.150"N	104°42'58.294"W	1.81	
6828.00	2.250	119.730	6540.69	-1539.36	-1538.56	545.41	40°12'04.124"N	104°42'58.253"W	1.28	
6918.00	0.770	88.580	6630.65	-1540.22	-1539.42	547.55	40°12'04.115"N	104°42'58.225"W	1.82	
7008.00	0.940	29.190	6720.65	-1539.56	-1538.76	548.52	40°12'04.122"N	104°42'58.213"W	0.96	
7053.00	1.150	19.160	6765.64	-1538.81	-1538.01	548.85	40°12'04.129"N	104°42'58.209"W	0.62	
7098.00	1.940	11.310	6810.62	-1537.64	-1536.84	549.14	40°12'04.141"N	104°42'58.205"W	1.81	
7143.00	4.540	357.290	6855.55	-1535.12	-1534.31	549.21	40°12'04.166"N	104°42'58.204"W	6.00	
7188.00	7.450	357.450	6900.30	-1530.42	-1529.62	548.99	40°12'04.212"N	104°42'58.207"W	6.47	
7278.00	13.860	355.880	6988.70	-1513.82	-1513.02	547.96	40°12'04.376"N	104°42'58.220"W	7.13	
7323.00	17.180	354.590	7032.05	-1501.82	-1501.02	546.94	40°12'04.495"N	104°42'58.233"W	7.42	
7370.00	20.350	355.750	7076.55	-1486.76	-1485.96	545.68	40°12'04.644"N	104°42'58.249"W	6.79	

Actual Wellpath Report

CRUICKSHANK 1C-24HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24)
Area	COLORADO	Well	CRUICKSHANK 1C-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	CRUICKSHANK 1C-24HZ AWB
Facility	SEC.24-T3N-R66W		

WELLPATH DATA (167 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7415.00	25.000	357.560	7118.06	-1469.44	-1468.65	544.70	40°12'04.815"N	104°42'58.262"W	10.45	
7460.00	30.510	355.240	7157.87	-1448.54	-1447.75	543.35	40°12'05.021"N	104°42'58.280"W	12.48	
7505.00	35.580	356.160	7195.58	-1424.08	-1423.28	541.52	40°12'05.263"N	104°42'58.303"W	11.32	
7550.00	40.000	358.670	7231.13	-1396.54	-1395.75	540.31	40°12'05.535"N	104°42'58.319"W	10.40	
7595.00	44.260	358.850	7264.50	-1366.37	-1365.58	539.65	40°12'05.833"N	104°42'58.327"W	9.47	
7640.00	50.050	358.870	7295.08	-1333.39	-1332.60	539.00	40°12'06.159"N	104°42'58.336"W	12.87	
7685.00	56.830	358.340	7321.87	-1297.28	-1296.49	538.11	40°12'06.516"N	104°42'58.347"W	15.10	
7730.00	61.450	358.500	7344.95	-1258.67	-1257.89	537.05	40°12'06.898"N	104°42'58.361"W	10.27	
7775.00	65.770	358.630	7364.95	-1218.38	-1217.60	536.04	40°12'07.296"N	104°42'58.374"W	9.60	
7820.00	71.000	358.760	7381.52	-1176.57	-1175.79	535.09	40°12'07.709"N	104°42'58.386"W	11.63	
7865.00	74.720	358.110	7394.78	-1133.59	-1132.81	533.91	40°12'08.134"N	104°42'58.401"W	8.38	
7910.00	77.680	357.910	7405.51	-1089.92	-1089.14	532.39	40°12'08.565"N	104°42'58.421"W	6.59	
7955.00	80.560	357.430	7414.00	-1045.77	-1044.99	530.60	40°12'09.001"N	104°42'58.444"W	6.49	
8000.00	85.000	357.820	7419.66	-1001.17	-1000.40	528.75	40°12'09.442"N	104°42'58.468"W	9.90	
8015.00	85.890	357.690	7420.85	-986.23	-985.45	528.16	40°12'09.590"N	104°42'58.475"W	6.00	
8045.00†	87.115	359.115	7422.68	-956.30	-955.52	527.33	40°12'09.885"N	104°42'58.486"W	6.26	7" CASING POINT
8074.00	88.300	0.490	7423.84	-927.32	-926.55	527.23	40°12'10.172"N	104°42'58.487"W	6.26	
8163.00	88.210	1.410	7426.55	-838.38	-837.60	528.70	40°12'11.051"N	104°42'58.468"W	1.04	
8253.00	88.820	1.580	7428.88	-748.44	-747.66	531.05	40°12'11.940"N	104°42'58.438"W	0.70	
8343.00	90.150	2.380	7429.69	-658.51	-657.72	534.16	40°12'12.828"N	104°42'58.398"W	1.72	
8433.00	89.750	0.990	7429.77	-568.55	-567.77	536.81	40°12'13.717"N	104°42'58.364"W	1.61	
8523.00	89.930	359.850	7430.02	-478.56	-477.77	537.47	40°12'14.607"N	104°42'58.355"W	1.28	
8613.00	92.380	359.630	7428.21	-388.58	-387.80	537.06	40°12'15.496"N	104°42'58.360"W	2.73	
8703.00	90.890	359.510	7425.64	-298.62	-297.84	536.38	40°12'16.385"N	104°42'58.369"W	1.66	
8793.00	91.010	0.130	7424.15	-208.64	-207.85	536.10	40°12'17.274"N	104°42'58.373"W	0.70	
8883.00	91.720	359.140	7422.00	-118.66	-117.88	535.53	40°12'18.163"N	104°42'58.380"W	1.35	
8973.00	91.540	359.470	7419.44	-28.71	-27.92	534.44	40°12'19.052"N	104°42'58.394"W	0.42	
9063.00	90.740	359.250	7417.65	61.27	62.05	533.43	40°12'19.941"N	104°42'58.407"W	0.92	
9153.00	90.030	0.420	7417.05	151.27	152.05	533.17	40°12'20.830"N	104°42'58.410"W	1.52	
9243.00	87.370	356.800	7419.09	241.20	241.98	530.99	40°12'21.719"N	104°42'58.438"W	4.99	
9333.00	87.710	356.980	7422.95	330.99	331.76	526.11	40°12'22.606"N	104°42'58.501"W	0.43	
9423.00	89.780	357.520	7424.92	420.86	421.63	521.80	40°12'23.494"N	104°42'58.557"W	2.38	
9513.00	90.710	357.680	7424.54	510.79	511.55	518.03	40°12'24.383"N	104°42'58.605"W	1.05	
9604.00	90.980	358.820	7423.20	601.74	602.49	515.25	40°12'25.282"N	104°42'58.641"W	1.29	
9694.00	88.490	358.580	7423.61	691.71	692.46	513.21	40°12'26.171"N	104°42'58.667"W	2.78	
9784.00	89.130	359.550	7425.48	781.68	782.43	511.74	40°12'27.060"N	104°42'58.686"W	1.29	
9874.00	90.030	359.700	7426.14	871.67	872.43	511.15	40°12'27.949"N	104°42'58.694"W	1.01	
9964.00	89.470	359.270	7426.53	961.67	962.42	510.34	40°12'28.839"N	104°42'58.704"W	0.78	
10054.00	89.930	1.630	7427.01	1051.66	1052.41	511.05	40°12'29.728"N	104°42'58.695"W	2.67	
10144.00	89.750	2.360	7427.26	1141.60	1142.35	514.18	40°12'30.617"N	104°42'58.655"W	0.84	
10234.00	90.300	1.790	7427.22	1231.53	1232.29	517.44	40°12'31.505"N	104°42'58.613"W	0.88	
10324.00	91.320	1.270	7425.95	1321.49	1322.25	519.84	40°12'32.394"N	104°42'58.582"W	1.27	
10414.00	91.170	1.880	7423.99	1411.43	1412.20	522.32	40°12'33.283"N	104°42'58.550"W	0.70	
10504.00	88.330	359.900	7424.38	1501.40	1502.17	523.71	40°12'34.172"N	104°42'58.532"W	3.85	
10594.00	88.040	0.130	7427.23	1591.36	1592.13	523.74	40°12'35.061"N	104°42'58.531"W	0.41	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24)
Area	COLORADO	Well	CRUICKSHANK 1C-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	CRUICKSHANK 1C-24HZ AWP
Facility	SEC.24-T3N-R66W		

WELLPATH DATA (167 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10684.00	88.670	1.060	7429.82	1681.31	1682.08	524.67	40°12'35.950"N	104°42'58.519"W	1.25	
10774.00	89.190	0.290	7431.50	1771.29	1772.06	525.73	40°12'36.839"N	104°42'58.506"W	1.03	
10864.00	90.120	1.070	7432.04	1861.27	1862.05	526.80	40°12'37.729"N	104°42'58.492"W	1.35	
10954.00	89.720	1.520	7432.17	1951.25	1952.03	528.83	40°12'38.618"N	104°42'58.466"W	0.67	
11044.00	90.030	1.760	7432.36	2041.21	2041.99	531.41	40°12'39.507"N	104°42'58.432"W	0.44	
11134.00	89.500	359.020	7432.73	2131.19	2131.98	532.02	40°12'40.396"N	104°42'58.425"W	3.10	
11224.00	89.440	359.740	7433.56	2221.19	2221.97	531.05	40°12'41.285"N	104°42'58.437"W	0.80	
11314.00	88.640	359.850	7435.07	2311.17	2311.95	530.73	40°12'42.175"N	104°42'58.441"W	0.90	
11404.00	88.490	358.940	7437.32	2401.14	2401.92	529.78	40°12'43.064"N	104°42'58.453"W	1.02	
11494.00	89.650	358.410	7438.79	2491.10	2491.88	527.69	40°12'43.953"N	104°42'58.480"W	1.42	
11584.00	90.980	359.610	7438.29	2581.09	2581.86	526.14	40°12'44.842"N	104°42'58.500"W	1.99	
11674.00	91.940	359.790	7436.00	2671.06	2671.83	525.67	40°12'45.731"N	104°42'58.506"W	1.09	
11764.00	91.320	0.050	7433.44	2761.02	2761.79	525.54	40°12'46.620"N	104°42'58.508"W	0.75	
11854.00	89.500	359.040	7432.79	2851.01	2851.78	524.83	40°12'47.509"N	104°42'58.517"W	2.31	
11944.00	88.860	359.020	7434.08	2940.99	2941.76	523.30	40°12'48.398"N	104°42'58.537"W	0.71	
12034.00	89.780	357.930	7435.15	3030.95	3031.72	520.91	40°12'49.287"N	104°42'58.568"W	1.58	
12124.00	90.890	358.100	7434.62	3120.90	3121.66	517.79	40°12'50.176"N	104°42'58.608"W	1.25	
12214.00	90.680	359.110	7433.39	3210.87	3211.63	515.60	40°12'51.065"N	104°42'58.636"W	1.15	
12304.00	90.550	359.270	7432.42	3300.86	3301.61	514.33	40°12'51.954"N	104°42'58.652"W	0.23	
12394.00	90.180	359.730	7431.85	3390.85	3391.61	513.54	40°12'52.844"N	104°42'58.662"W	0.66	
12484.00	90.860	0.630	7431.03	3480.85	3481.60	513.83	40°12'53.733"N	104°42'58.659"W	1.25	
12574.00	92.680	359.080	7428.25	3570.80	3571.55	513.60	40°12'54.622"N	104°42'58.662"W	2.66	
12664.00	92.350	359.650	7424.31	3660.70	3661.46	512.60	40°12'55.510"N	104°42'58.674"W	0.73	
12754.00	91.890	358.990	7420.98	3750.64	3751.39	511.54	40°12'56.399"N	104°42'58.688"W	0.89	
12844.00	89.290	358.000	7420.05	3840.60	3841.35	509.17	40°12'57.288"N	104°42'58.719"W	3.09	
12934.00	89.560	358.640	7420.95	3930.56	3931.30	506.53	40°12'58.177"N	104°42'58.753"W	0.77	
13024.00	90.030	358.890	7421.27	4020.54	4021.28	504.59	40°12'59.066"N	104°42'58.778"W	0.59	
13114.00	90.120	0.100	7421.16	4110.53	4111.28	503.80	40°12'59.955"N	104°42'58.788"W	1.35	
13204.00	89.780	359.420	7421.24	4200.53	4201.27	503.42	40°13'00.845"N	104°42'58.793"W	0.84	
13294.00	90.370	0.300	7421.12	4290.53	4291.27	503.20	40°13'01.734"N	104°42'58.795"W	1.18	
13384.00	89.720	0.410	7421.05	4380.53	4381.27	503.76	40°13'02.623"N	104°42'58.788"W	0.73	LAST BHI MWD+IFR SURVEYS
13661.00	89.720	0.410	7422.40	4657.51	4658.26	505.74	40°13'05.361"N	104°42'58.763"W	0.00	PROJECTION TO BIT

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24)
Area	COLORADO	Well	CRUICKSHANK 1C-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	CRUICKSHANK 1C-24HZ AWB
Facility	SEC.24-T3N-R66W		

HOLE & CASING SECTIONS - Ref Wellbore: CRUICKSHANK 1C-24HZ AWB Ref Wellpath: CRUICKSHANK 1C-24HZ 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	13.00	1238.00	1225.00	13.00	1237.98	0.00	0.00	-2.65	-4.42
9.625in Casing Surface	13.00	1222.00	1209.00	13.00	1221.98	0.00	0.00	-2.68	-4.38
8.75in Open Hole	1238.00	8057.00	6819.00	1237.98	7423.23	-2.65	-4.42	-943.54	527.20
7in Casing Intermediate	13.00	8045.00	8032.00	13.00	7422.68	0.00	0.00	-955.52	527.33
6.125in Open Hole	8057.00	13661.00	5604.00	7423.23	7422.40	-943.54	527.20	4658.26	505.74

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
CRUICKSHANK PAD HARDLINES (460' SETBACKS)		7422.00	-0.30	-29.95	3218350.19	1318620.45	40°12'19.325"N	104°43'05.668"W	polygon
CRUICKSHANK PAD SECTION 24		7422.00	-0.30	-29.95	3218350.19	1318620.45	40°12'19.325"N	104°43'05.668"W	polygon
CRUICKSHANK 1C-24HZ BHL REV-1 (1'FNL & 150'FEL, SEC.24)		7427.00	4659.10	515.49	3218854.50	1323284.27	40°13'05.369"N	104°42'58.637"W	point
CRUICKSHANK 1C-24HZ LAND BOX		7432.00	0.00	0.00	3218380.14	1318621.02	40°12'19.328"N	104°43'05.282"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: CRUICKSHANK 1C-24HZ AWB Ref Wellpath: CRUICKSHANK 1C-24HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	1167.00	Generic gyro - continuous (Standard)	MS ENERGY <113-1167>	CRUICKSHANK 1C-24HZ AWB
1167.00	8015.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEYS 8 3/4" HOLE <1254-8015>	CRUICKSHANK 1C-24HZ AWB
8015.00	13384.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEYS 6 1/8" HOLE <8074-13384>	CRUICKSHANK 1C-24HZ AWB
13384.00	13661.00	Blind Drilling (std)	Projection to bit	CRUICKSHANK 1C-24HZ AWB

Actual Wellpath Report

CRUICKSHANK 1C-24HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24)
Area	COLORADO	Well	CRUICKSHANK 1C-24HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	CRUICKSHANK 1C-24HZ AWB
Facility	SEC.24-T3N-R66W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.016	211.880	17.00	BEGIN GYRO SURVEYS'
1167.00	0.420	280.480	1166.98	TIE-INTO GYRO SURVEYS
1254.00	0.150	335.930	1253.98	BEGIN BHI MWD+IFR SURVEYS
8045.00	87.115	359.115	7422.68	7" CASING POINT
13384.00	89.720	0.410	7421.05	LAST BHI MWD+IFR SURVEYS
13661.00	89.720	0.410	7422.40	PROJECTION TO BIT