

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 (PERMIT REV-2) PWP

True vertical depths are referenced to PERMIT (17RKB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to PERMIT (17RKB) (RKB)	North Reference: True north
PERMIT (17RKB) (RKB) to Mean Sea Level: 5031 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: nobled1 on 12/Mar/2014

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.24-T3N-R66W	3215774.916	1319931.915	40°12'32.508"N	104°43'38.712"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24)	-1333.61	2593.82	3218380.139	1318621.016
PERMIT (17RKB) (RKB) to Mud line (At Slot: SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24))				5031ft
Mean Sea Level to Mud line (At Slot: SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24))				0ft
PERMIT (17RKB) (RKB) to Mean Sea Level				5031ft

Survey Program

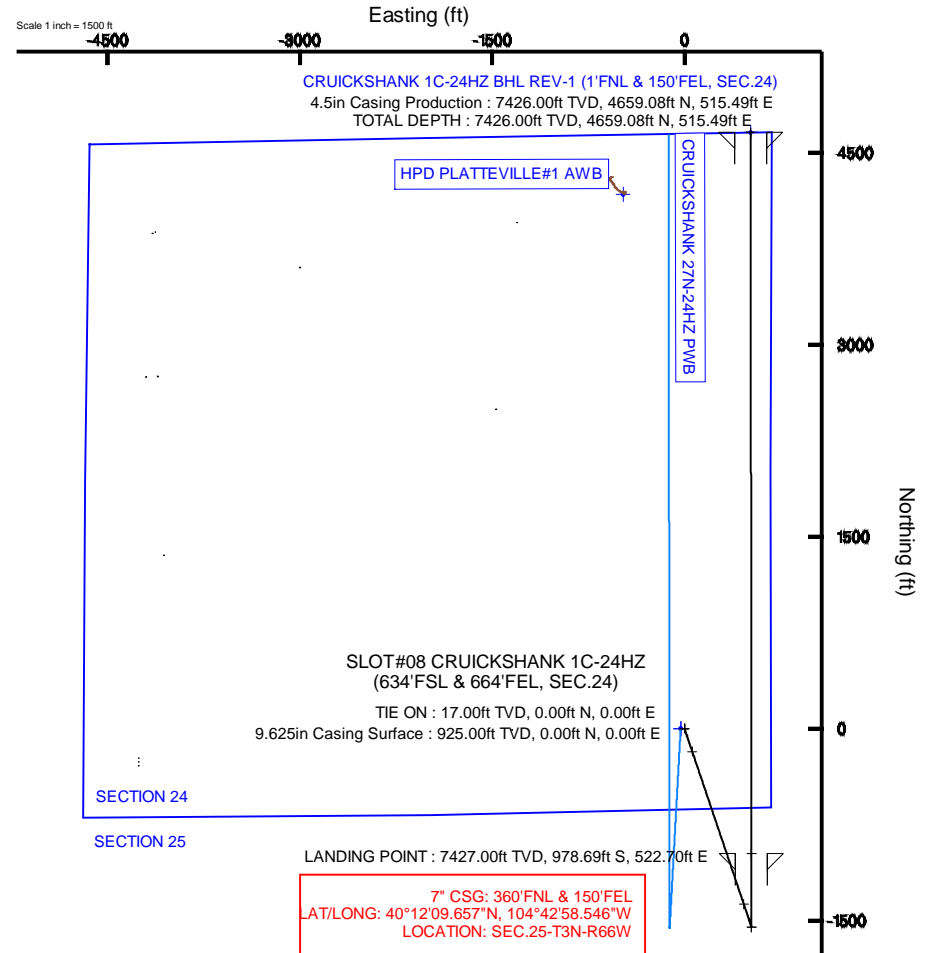
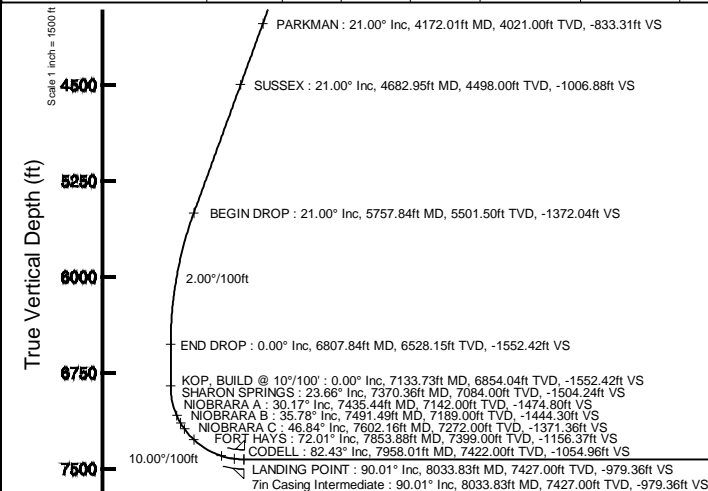
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	8033.83	NavTrak	NavTrak (MAGCORR,IFR)		CRUICKSHANK 1C-24HZ PWB
8033.83	13671.61	NavTrak	NavTrak (MAGCORR,IFR)		CRUICKSHANK 1C-24HZ PWB

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
HPD PLATTEVILLE#1 (SWD WELL @ 10500')		0.00	4175.29	-479.27	3217864.10	1322791.73	40°13'05.588"N	104°43'11.460"W
CRUICKSHANK 1C-24HZ BHL REV-1 (1'FNL & 150'FEL, SEC.24)	13671.61	7426.00	4659.08	515.49	3218854.50	1323284.25	40°13'05.369"N	104°42'58.637"W
CRUICKSHANK PAD HARDLINES (460' SETBACKS)		7426.00	-0.30	-29.95	3218350.19	1318620.45	40°12'19.325"N	104°43'05.668"W
CRUICKSHANK PAD SECTION 24		7426.00	-0.30	-29.95	3218350.19	1318620.45	40°12'19.325"N	104°43'05.668"W

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE ON	17.00	0.000	161.360	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1200.00	0.000	161.360	1200.00	0.00	0.00	0.00	0.00
END NUDGE	2250.00	21.000	161.360	2226.65	-180.30	60.82	2.00	-180.37
BEGIN DROP	5757.84	21.000	161.360	5501.50	-1371.45	462.61	0.00	-1372.04
END DROP	6807.84	0.000	359.927	6528.15	-1551.75	523.43	2.00	-1552.42
KOP, BUILD @ 10°/100'	7133.73	0.000	359.927	6854.04	-1551.75	523.43	0.00	-1552.42
LANDING POINT	8033.83	90.010	359.927	7427.00	-978.69	522.70	10.00	-979.36
TOTAL DEPTH	13671.61	90.010	359.927	7426.00	4659.08	515.49	0.00	4658.42



CRUICKSHANK 1C-24HZ BHL REV-1 (1'FNL & 150'FEL, SEC.24)
4.5in Casing Production : 90.01° Inc, 13671.61ft MD, 7426.00ft TVD, 4658.42ft VS
TOTAL DEPTH : 90.01° Inc, 13671.61ft MD, 7426.00ft TVD, 4658.42ft VS

Vertical Section (ft)
Azimuth 359.93° with reference 0.00 N, 0.00 E

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 PWB
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	Robiale01
Scale	0.999957	Report Generated	12/Mar/2014 at 15:23
Convergence at slot	n/a	Database/Source file	WellArchitectDB/CRUICKSHANK_1C-24HZ_PWB.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	PERMIT (17'RKB) (RKB) to Facility Vertical Datum	5031.00ft
Horizontal Reference Pt	Slot	PERMIT (17'RKB) (RKB) to Mean Sea Level	5031.00ft
Vertical Reference Pt	PERMIT (17'RKB) (RKB)	PERMIT (17'RKB) (RKB) to Mud Line at Slot (SLOT#08 CRUICKSHANK 1C-24HZ (634'FSL & 664'FEL, SEC.24))	5031.00ft
MD Reference Pt	PERMIT (17'RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.93°

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 PWB
Facility	SEC.24-T3N-R66W		

WELLPATH DATA (154 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	161.360	0.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
17.00	0.000	161.360	17.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	TIE ON
117.00†	0.000	161.360	117.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
217.00†	0.000	161.360	217.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
317.00†	0.000	161.360	317.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
417.00†	0.000	161.360	417.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
517.00†	0.000	161.360	517.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
617.00†	0.000	161.360	617.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
717.00†	0.000	161.360	717.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
817.00†	0.000	161.360	817.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
875.00†	0.000	161.360	875.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	FOX HILLS BASE
917.00†	0.000	161.360	917.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
1017.00†	0.000	161.360	1017.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
1117.00†	0.000	161.360	1117.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	
1200.00	0.000	161.360	1200.00	0.00	0.00	0.00	40°12'19.328"N	104°43'05.282"W	0.00	BEGIN NUDGE
1217.00†	0.340	161.360	1217.00	-0.05	-0.05	0.02	40°12'19.328"N	104°43'05.282"W	2.00	
1317.00†	2.340	161.360	1316.97	-2.26	-2.26	0.76	40°12'19.306"N	104°43'05.272"W	2.00	
1417.00†	4.340	161.360	1416.79	-7.79	-7.78	2.63	40°12'19.251"N	104°43'05.248"W	2.00	
1517.00†	6.340	161.360	1516.35	-16.61	-16.60	5.60	40°12'19.164"N	104°43'05.210"W	2.00	
1617.00†	8.340	161.360	1615.53	-28.72	-28.71	9.68	40°12'19.044"N	104°43'05.157"W	2.00	
1717.00†	10.340	161.360	1714.20	-44.10	-44.08	14.87	40°12'18.892"N	104°43'05.090"W	2.00	
1817.00†	12.340	161.360	1812.24	-62.74	-62.71	21.15	40°12'18.708"N	104°43'05.009"W	2.00	
1917.00†	14.340	161.360	1909.54	-84.61	-84.58	28.53	40°12'18.492"N	104°43'04.914"W	2.00	
2017.00†	16.340	161.360	2005.97	-109.69	-109.64	36.98	40°12'18.245"N	104°43'04.805"W	2.00	
2117.00†	18.340	161.360	2101.42	-137.94	-137.88	46.51	40°12'17.965"N	104°43'04.683"W	2.00	
2217.00†	20.340	161.360	2195.77	-169.33	-169.26	57.09	40°12'17.655"N	104°43'04.546"W	2.00	
2250.00	21.000	161.360	2226.65	-180.37	-180.30	60.82	40°12'17.546"N	104°43'04.498"W	2.00	END NUDGE
2317.00†	21.000	161.360	2289.20	-203.14	-203.05	68.49	40°12'17.321"N	104°43'04.399"W	0.00	
2417.00†	21.000	161.360	2382.56	-237.11	-237.01	79.95	40°12'16.986"N	104°43'04.252"W	0.00	
2517.00†	21.000	161.360	2475.91	-271.08	-270.96	91.40	40°12'16.650"N	104°43'04.104"W	0.00	
2617.00†	21.000	161.360	2569.27	-305.05	-304.92	102.85	40°12'16.315"N	104°43'03.956"W	0.00	
2717.00†	21.000	161.360	2662.63	-339.02	-338.88	114.31	40°12'15.979"N	104°43'03.809"W	0.00	
2817.00†	21.000	161.360	2755.99	-372.99	-372.83	125.76	40°12'15.644"N	104°43'03.661"W	0.00	
2917.00†	21.000	161.360	2849.35	-406.96	-406.79	137.22	40°12'15.308"N	104°43'03.514"W	0.00	
3017.00†	21.000	161.360	2942.70	-440.94	-440.75	148.67	40°12'14.973"N	104°43'03.366"W	0.00	
3117.00†	21.000	161.360	3036.06	-474.91	-474.70	160.12	40°12'14.637"N	104°43'03.218"W	0.00	
3217.00†	21.000	161.360	3129.42	-508.88	-508.66	171.58	40°12'14.301"N	104°43'03.071"W	0.00	
3317.00†	21.000	161.360	3222.78	-542.85	-542.62	183.03	40°12'13.966"N	104°43'02.923"W	0.00	
3417.00†	21.000	161.360	3316.14	-576.82	-576.58	194.49	40°12'13.630"N	104°43'02.775"W	0.00	
3517.00†	21.000	161.360	3409.49	-610.79	-610.53	205.94	40°12'13.295"N	104°43'02.628"W	0.00	
3617.00†	21.000	161.360	3502.85	-644.77	-644.49	217.40	40°12'12.959"N	104°43'02.480"W	0.00	
3717.00†	21.000	161.360	3596.21	-678.74	-678.45	228.85	40°12'12.624"N	104°43'02.333"W	0.00	
3817.00†	21.000	161.360	3689.57	-712.71	-712.40	240.30	40°12'12.288"N	104°43'02.185"W	0.00	
3917.00†	21.000	161.360	3782.93	-746.68	-746.36	251.76	40°12'11.952"N	104°43'02.037"W	0.00	
4017.00†	21.000	161.360	3876.29	-780.65	-780.32	263.21	40°12'11.617"N	104°43'01.890"W	0.00	

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 PWB
Facility	SEC.24-T3N-R66W		

WELLPATH DATA (154 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4117.00†	21.000	161.360	3969.64	-814.62	-814.27	274.67	40°12'11.281"N	104°43'01.742"W	0.00	
4172.01†	21.000	161.360	4021.00	-833.31	-832.95	280.97	40°12'11.097"N	104°43'01.661"W	0.00	PARKMAN
4217.00†	21.000	161.360	4063.00	-848.60	-848.23	286.12	40°12'10.946"N	104°43'01.595"W	0.00	
4317.00†	21.000	161.360	4156.36	-882.57	-882.19	297.57	40°12'10.610"N	104°43'01.447"W	0.00	
4417.00†	21.000	161.360	4249.72	-916.54	-916.15	309.03	40°12'10.275"N	104°43'01.299"W	0.00	
4517.00†	21.000	161.360	4343.08	-950.51	-950.10	320.48	40°12'09.939"N	104°43'01.152"W	0.00	
4617.00†	21.000	161.360	4436.43	-984.48	-984.06	331.94	40°12'09.604"N	104°43'01.004"W	0.00	
4682.95†	21.000	161.360	4498.00	-1006.88	-1006.45	339.49	40°12'09.382"N	104°43'00.907"W	0.00	SUSSEX
4717.00†	21.000	161.360	4529.79	-1018.45	-1018.02	343.39	40°12'09.268"N	104°43'00.856"W	0.00	
4817.00†	21.000	161.360	4623.15	-1052.42	-1051.97	354.85	40°12'08.932"N	104°43'00.709"W	0.00	
4917.00†	21.000	161.360	4716.51	-1086.40	-1085.93	366.30	40°12'08.597"N	104°43'00.561"W	0.00	
5017.00†	21.000	161.360	4809.87	-1120.37	-1119.89	377.75	40°12'08.261"N	104°43'00.414"W	0.00	
5117.00†	21.000	161.360	4903.22	-1154.34	-1153.84	389.21	40°12'07.926"N	104°43'00.266"W	0.00	
5217.00†	21.000	161.360	4996.58	-1188.31	-1187.80	400.66	40°12'07.590"N	104°43'00.118"W	0.00	
5317.00†	21.000	161.360	5089.94	-1222.28	-1221.76	412.12	40°12'07.255"N	104°42'59.971"W	0.00	
5417.00†	21.000	161.360	5183.30	-1256.25	-1255.72	423.57	40°12'06.919"N	104°42'59.823"W	0.00	
5517.00†	21.000	161.360	5276.66	-1290.23	-1289.67	435.03	40°12'06.583"N	104°42'59.676"W	0.00	
5617.00†	21.000	161.360	5370.01	-1324.20	-1323.63	446.48	40°12'06.248"N	104°42'59.528"W	0.00	
5717.00†	21.000	161.360	5463.37	-1358.17	-1357.59	457.93	40°12'05.912"N	104°42'59.380"W	0.00	
5757.84	21.000	161.360	5501.50	-1372.04	-1371.45	462.61	40°12'05.775"N	104°42'59.320"W	0.00	BEGIN DROP
5817.00†	19.817	161.360	5556.94	-1391.60	-1391.00	469.21	40°12'05.582"N	104°42'59.235"W	2.00	
5917.00†	17.817	161.360	5651.60	-1422.17	-1421.56	479.51	40°12'05.280"N	104°42'59.102"W	2.00	
6017.00†	15.817	161.360	5747.31	-1449.60	-1448.97	488.76	40°12'05.009"N	104°42'58.983"W	2.00	
6117.00†	13.817	161.360	5843.98	-1473.84	-1473.20	496.93	40°12'04.770"N	104°42'58.878"W	2.00	
6217.00†	11.817	161.360	5941.49	-1494.86	-1494.22	504.02	40°12'04.562"N	104°42'58.786"W	2.00	
6317.00†	9.817	161.360	6039.71	-1512.65	-1512.01	510.02	40°12'04.386"N	104°42'58.709"W	2.00	
6417.00†	7.817	161.360	6138.52	-1527.18	-1526.53	514.92	40°12'04.243"N	104°42'58.646"W	2.00	
6517.00†	5.817	161.360	6237.81	-1538.43	-1537.77	518.71	40°12'04.132"N	104°42'58.597"W	2.00	
6617.00†	3.817	161.360	6337.45	-1546.39	-1545.73	521.40	40°12'04.053"N	104°42'58.562"W	2.00	
6717.00†	1.817	161.360	6437.32	-1551.05	-1550.39	522.97	40°12'04.007"N	104°42'58.542"W	2.00	
6807.84	0.000	359.927	6528.15	-1552.42	-1551.75	523.43	40°12'03.994"N	104°42'58.536"W	2.00	END DROP
6817.00†	0.000	359.927	6537.31	-1552.42	-1551.75	523.43	40°12'03.994"N	104°42'58.536"W	0.00	
6917.00†	0.000	359.927	6637.31	-1552.42	-1551.75	523.43	40°12'03.994"N	104°42'58.536"W	0.00	
7017.00†	0.000	359.927	6737.31	-1552.42	-1551.75	523.43	40°12'03.994"N	104°42'58.536"W	0.00	
7117.00†	0.000	359.927	6837.31	-1552.42	-1551.75	523.43	40°12'03.994"N	104°42'58.536"W	0.00	
7133.73	0.000	359.927	6854.04	-1552.42	-1551.75	523.43	40°12'03.994"N	104°42'58.536"W	0.00	KOP, BUILD @ 10°/100'
7217.00†	8.327	359.927	6937.01	-1546.38	-1545.71	523.42	40°12'04.053"N	104°42'58.536"W	10.00	
7317.00†	18.327	359.927	7034.20	-1523.36	-1522.69	523.39	40°12'04.281"N	104°42'58.537"W	10.00	
7370.36†	23.663	359.927	7084.00	-1504.24	-1503.58	523.37	40°12'04.470"N	104°42'58.537"W	10.00	SHARON SPRINGS
7417.00†	28.327	359.927	7125.91	-1483.81	-1483.14	523.34	40°12'04.672"N	104°42'58.537"W	10.00	
7435.44†	30.171	359.927	7142.00	-1474.80	-1474.13	523.33	40°12'04.761"N	104°42'58.538"W	10.00	NIOBRARA A
7491.49†	35.776	359.927	7189.00	-1444.30	-1443.64	523.29	40°12'05.062"N	104°42'58.538"W	10.00	NIOBRARA B
7517.00†	38.327	359.927	7209.36	-1428.94	-1428.27	523.27	40°12'05.214"N	104°42'58.538"W	10.00	
7602.16†	46.843	359.927	7272.00	-1371.36	-1370.70	523.20	40°12'05.783"N	104°42'58.539"W	10.00	NIOBRARA C
7617.00†	48.327	359.927	7282.01	-1360.41	-1359.74	523.18	40°12'05.891"N	104°42'58.539"W	10.00	

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 PWB
Facility	SEC.24-T3N-R66W		

WELLPATH DATA (154 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7717.00†	58.327	359.927	7341.66	-1280.30	-1279.64	523.08	40°12'06.683"N	104°42'58.541"W	10.00	
7817.00†	68.327	359.927	7386.49	-1191.06	-1190.39	522.97	40°12'07.565"N	104°42'58.542"W	10.00	
7853.88†	72.015	359.927	7399.00	-1156.37	-1155.71	522.92	40°12'07.907"N	104°42'58.543"W	10.00	FORT HAYS
7917.00†	78.327	359.927	7415.15	-1095.38	-1094.72	522.84	40°12'08.510"N	104°42'58.544"W	10.00	
7958.01†	82.428	359.927	7422.00	-1054.96	-1054.30	522.79	40°12'08.909"N	104°42'58.544"W	10.00	CODELL
8017.00†	88.327	359.927	7426.75	-996.19	-995.52	522.72	40°12'09.490"N	104°42'58.545"W	10.00	
8033.83	90.010	359.927	7427.00	-979.36	-978.69	522.70	40°12'09.657"N	104°42'58.546"W	10.00	LANDING POINT
8117.00†	90.010	359.927	7426.98	-896.19	-895.52	522.59	40°12'10.478"N	104°42'58.547"W	0.00	
8217.00†	90.010	359.927	7426.96	-796.19	-795.53	522.46	40°12'11.467"N	104°42'58.549"W	0.00	
8317.00†	90.010	359.927	7426.95	-696.19	-695.53	522.33	40°12'12.455"N	104°42'58.550"W	0.00	
8417.00†	90.010	359.927	7426.93	-596.19	-595.53	522.21	40°12'13.443"N	104°42'58.552"W	0.00	
8517.00†	90.010	359.927	7426.91	-496.19	-495.53	522.08	40°12'14.431"N	104°42'58.553"W	0.00	
8617.00†	90.010	359.927	7426.89	-396.19	-395.53	521.95	40°12'15.419"N	104°42'58.555"W	0.00	
8717.00†	90.010	359.927	7426.88	-296.19	-295.53	521.82	40°12'16.408"N	104°42'58.557"W	0.00	
8817.00†	90.010	359.927	7426.86	-196.19	-195.53	521.69	40°12'17.396"N	104°42'58.558"W	0.00	
8917.00†	90.010	359.927	7426.84	-96.19	-95.53	521.57	40°12'18.384"N	104°42'58.560"W	0.00	
9017.00†	90.010	359.927	7426.82	3.81	4.47	521.44	40°12'19.372"N	104°42'58.562"W	0.00	
9117.00†	90.010	359.927	7426.80	103.81	104.47	521.31	40°12'20.360"N	104°42'58.563"W	0.00	
9217.00†	90.010	359.927	7426.79	203.81	204.47	521.18	40°12'21.349"N	104°42'58.565"W	0.00	
9317.00†	90.010	359.927	7426.77	303.81	304.47	521.05	40°12'22.337"N	104°42'58.566"W	0.00	
9417.00†	90.010	359.927	7426.75	403.81	404.47	520.93	40°12'23.325"N	104°42'58.568"W	0.00	
9517.00†	90.010	359.927	7426.73	503.81	504.47	520.80	40°12'24.313"N	104°42'58.570"W	0.00	
9617.00†	90.010	359.927	7426.72	603.81	604.47	520.67	40°12'25.301"N	104°42'58.571"W	0.00	
9717.00†	90.010	359.927	7426.70	703.81	704.47	520.54	40°12'26.290"N	104°42'58.573"W	0.00	
9817.00†	90.010	359.927	7426.68	803.81	804.47	520.42	40°12'27.278"N	104°42'58.574"W	0.00	
9917.00†	90.010	359.927	7426.66	903.81	904.47	520.29	40°12'28.266"N	104°42'58.576"W	0.00	
10017.00†	90.010	359.927	7426.65	1003.81	1004.47	520.16	40°12'29.254"N	104°42'58.578"W	0.00	
10117.00†	90.010	359.927	7426.63	1103.81	1104.47	520.03	40°12'30.242"N	104°42'58.579"W	0.00	
10217.00†	90.010	359.927	7426.61	1203.81	1204.47	519.90	40°12'31.231"N	104°42'58.581"W	0.00	
10317.00†	90.010	359.927	7426.59	1303.81	1304.47	519.78	40°12'32.219"N	104°42'58.583"W	0.00	
10417.00†	90.010	359.927	7426.58	1403.81	1404.47	519.65	40°12'33.207"N	104°42'58.584"W	0.00	
10517.00†	90.010	359.927	7426.56	1503.81	1504.47	519.52	40°12'34.195"N	104°42'58.586"W	0.00	
10617.00†	90.010	359.927	7426.54	1603.81	1604.47	519.39	40°12'35.183"N	104°42'58.587"W	0.00	
10717.00†	90.010	359.927	7426.52	1703.81	1704.47	519.26	40°12'36.171"N	104°42'58.589"W	0.00	
10817.00†	90.010	359.927	7426.50	1803.81	1804.47	519.14	40°12'37.160"N	104°42'58.591"W	0.00	
10917.00†	90.010	359.927	7426.49	1903.81	1904.47	519.01	40°12'38.148"N	104°42'58.592"W	0.00	
11017.00†	90.010	359.927	7426.47	2003.81	2004.47	518.88	40°12'39.136"N	104°42'58.594"W	0.00	
11117.00†	90.010	359.927	7426.45	2103.81	2104.47	518.75	40°12'40.124"N	104°42'58.596"W	0.00	
11217.00†	90.010	359.927	7426.43	2203.81	2204.47	518.62	40°12'41.112"N	104°42'58.597"W	0.00	
11317.00†	90.010	359.927	7426.42	2303.81	2304.47	518.50	40°12'42.101"N	104°42'58.599"W	0.00	
11417.00†	90.010	359.927	7426.40	2403.81	2404.47	518.37	40°12'43.089"N	104°42'58.600"W	0.00	
11517.00†	90.010	359.927	7426.38	2503.81	2504.47	518.24	40°12'44.077"N	104°42'58.602"W	0.00	
11617.00†	90.010	359.927	7426.36	2603.81	2604.47	518.11	40°12'45.065"N	104°42'58.604"W	0.00	
11717.00†	90.010	359.927	7426.35	2703.81	2704.47	517.99	40°12'46.053"N	104°42'58.605"W	0.00	
11817.00†	90.010	359.927	7426.33	2803.81	2804.47	517.86	40°12'47.042"N	104°42'58.607"W	0.00	

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 PWB
Facility	SEC.24-T3N-R66W		

WELLPATH DATA (154 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11917.00†	90.010	359.927	7426.31	2903.81	2904.47	517.73	40°12'48.030"N	104°42'58.609"W	0.00	
12017.00†	90.010	359.927	7426.29	3003.81	3004.47	517.60	40°12'49.018"N	104°42'58.610"W	0.00	
12117.00†	90.010	359.927	7426.27	3103.81	3104.47	517.47	40°12'50.006"N	104°42'58.612"W	0.00	
12217.00†	90.010	359.927	7426.26	3203.81	3204.47	517.35	40°12'50.994"N	104°42'58.613"W	0.00	
12317.00†	90.010	359.927	7426.24	3303.81	3304.47	517.22	40°12'51.983"N	104°42'58.615"W	0.00	
12417.00†	90.010	359.927	7426.22	3403.81	3404.47	517.09	40°12'52.971"N	104°42'58.617"W	0.00	
12517.00†	90.010	359.927	7426.20	3503.81	3504.47	516.96	40°12'53.959"N	104°42'58.618"W	0.00	
12617.00†	90.010	359.927	7426.19	3603.81	3604.47	516.83	40°12'54.947"N	104°42'58.620"W	0.00	
12717.00†	90.010	359.927	7426.17	3703.81	3704.47	516.71	40°12'55.935"N	104°42'58.622"W	0.00	
12817.00†	90.010	359.927	7426.15	3803.81	3804.47	516.58	40°12'56.924"N	104°42'58.623"W	0.00	
12917.00†	90.010	359.927	7426.13	3903.81	3904.47	516.45	40°12'57.912"N	104°42'58.625"W	0.00	
13017.00†	90.010	359.927	7426.12	4003.81	4004.47	516.32	40°12'58.900"N	104°42'58.626"W	0.00	
13117.00†	90.010	359.927	7426.10	4103.81	4104.47	516.19	40°12'59.888"N	104°42'58.628"W	0.00	
13217.00†	90.010	359.927	7426.08	4203.81	4204.47	516.07	40°13'00.876"N	104°42'58.630"W	0.00	
13317.00†	90.010	359.927	7426.06	4303.81	4304.47	515.94	40°13'01.865"N	104°42'58.631"W	0.00	
13417.00†	90.010	359.927	7426.04	4403.81	4404.47	515.81	40°13'02.853"N	104°42'58.633"W	0.00	
13517.00†	90.010	359.927	7426.03	4503.81	4504.47	515.68	40°13'03.841"N	104°42'58.634"W	0.00	
13617.00†	90.010	359.927	7426.01	4603.81	4604.47	515.56	40°13'04.829"N	104°42'58.636"W	0.00	
13671.61	90.010	359.927	7426.00 ¹	4658.42	4659.08	515.49	40°13'05.369"N	104°42'58.637"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS - Ref Wellbore: CRUICKSHANK 1C-24HZ PWB Ref Wellpath: CRUICKSHANK 1C-24HZ (PERMIT REV-2) PWP									
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	17.00	925.00	908.00	17.00	925.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	925.00	908.00	17.00	925.00	0.00	0.00	0.00	0.00
8.75in Open Hole	925.00	8033.83	7108.83	925.00	7427.00	0.00	0.00	-978.69	522.70
7in Casing Intermediate	17.00	8033.83	8016.83	17.00	7427.00	0.00	0.00	-978.69	522.70
6.125in Open Hole	8033.83	13671.61	5637.78	7427.00	7426.00	-978.69	522.70	4659.08	515.49
4.5in Casing Production	17.00	13671.61	13654.61	17.00	7426.00	0.00	0.00	4659.08	515.49

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 PWB
Facility	SEC.24-T3N-R66W		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
HPD PLATTEVILLE#1 (SWD WELL @ 10500')		0.00	4175.29	-479.27	3217864.10	1322791.73	40°13'00.588"N	104°43'11.460"W	circle
1) CRUICKSHANK 1C-24HZ BHL REV-1 (1'FNL & 150'FEL, SEC.24)	13671.61	7426.00	4659.08	515.49	3218854.50	1323284.25	40°13'05.369"N	104°42'58.637"W	point
CRUICKSHANK PAD HARDLINES (460' SETBACKS)		7426.00	-0.30	-29.95	3218350.19	1318620.45	40°12'19.325"N	104°43'05.668"W	polygon
CRUICKSHANK PAD SECTION 24		7426.00	-0.30	-29.95	3218350.19	1318620.45	40°12'19.325"N	104°43'05.668"W	polygon

SURVEY PROGRAM - Ref Wellbore: CRUICKSHANK 1C-24HZ PWB Ref Wellpath: CRUICKSHANK 1C-24HZ (PERMIT REV-2) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	8033.83	NaviTrak (MAGCORR,IFR)		CRUICKSHANK 1C-24HZ PWB
8033.83	13671.61	NaviTrak (MAGCORR,IFR)		CRUICKSHANK 1C-24HZ PWB

Planned Wellpath Report

CRUICKSHANK 1C-24HZ (PERMIT REV-2) PWP

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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 PWB
Facility	SEC.24-T3N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
875.00	0.000	161.360	875.00	FOX HILLS BASE
4172.01	21.000	161.360	4021.00	PARKMAN
4682.95	21.000	161.360	4498.00	SUSSEX
7370.36	23.663	359.927	7084.00	SHARON SPRINGS
7435.44	30.171	359.927	7142.00	NIOBRARA A
7491.49	35.776	359.927	7189.00	NIOBRARA B
7602.16	46.843	359.927	7272.00	NIOBRARA C
7853.88	72.015	359.927	7399.00	FORT HAYS
7958.01	82.428	359.927	7422.00	CODELL

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	161.360	17.00	TIE ON
1200.00	0.000	161.360	1200.00	BEGIN NUDGE
2250.00	21.000	161.360	2226.65	END NUDGE
5757.84	21.000	161.360	5501.50	BEGIN DROP
6807.84	0.000	359.927	6528.15	END DROP
7133.73	0.000	359.927	6854.04	KOP, BUILD @ 10°/100'
8033.83	90.010	359.927	7427.00	LANDING POINT
13671.61	90.010	359.927	7426.00	TOTAL DEPTH