



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (LAMBERT STATE PLANE COORD)	Slot	SLOT#15 DOCHEFF 32N-13HZ (2228'FSL & 1694'FWL, SEC.14)
Area	COLORADO	Well	DOCHEFF 32N-13HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	DOCHEFF 32N-13HZ PWB
Facility	SEC.14-T3N-R68W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.1.1
North Reference	True	User	Amarcar
Scale	0.999957	Report Generated	26/Mar/2015 at 11:53
Convergence at slot	0.34° East	Database/Source file	WellArchitectDB/DOCHEFF_32N-13HZ_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1533.20	230.53	3146987.81	1325264.06	40°13'30.180"N	104°58'24.928"W
Facility Reference Pt			3146766.38	1323729.59	40°13'15.029"N	104°58'27.900"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'KB) (RKB) to Facility Vertical Datum	4951.00ft
Horizontal Reference Pt	Slot	PERMIT (17'KB) (RKB) to Mean Sea Level	4951.00ft
Vertical Reference Pt	PERMIT (17'KB) (RKB)	PERMIT (17'KB) (RKB) to Mud Line at Slot (SLOT#15 DOCHEFF 32N-13HZ (2228'FSL & 1694'FWL, SEC.14))	4951.00ft
MD Reference Pt	PERMIT (17'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	90.02°

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WELLPATH DATA (142 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	281.620	0.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	
17.00	0.000	281.620	17.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	TIE ON
117.00†	0.000	281.620	117.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	
217.00†	0.000	281.620	217.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	
317.00†	0.000	281.620	317.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	
417.00†	0.000	281.620	417.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	
517.00†	0.000	281.620	517.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	
551.00†	0.000	281.620	551.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	BASE FOX HILLS
617.00†	0.000	281.620	617.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	
717.00†	0.000	281.620	717.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	
743.00†	0.000	281.620	743.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	SURFACE CSG SETTING DEPTH
817.00†	0.000	281.620	817.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	
917.00†	0.000	281.620	917.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	
1000.00	0.000	281.620	1000.00	0.00	0.00	0.00	40°13'30.180°N	104°58'24.928°W	0.00	BEGIN NUDDGE
1017.00†	0.340	281.620	1017.00	-0.05	0.01	-0.05	40°13'30.180°N	104°58'24.929°W	2.00	
1117.00†	2.340	281.620	1116.97	-2.34	0.48	-2.34	40°13'30.185°N	104°58'24.958°W	2.00	
1217.00†	4.340	281.620	1216.79	-8.05	1.65	-8.05	40°13'30.196°N	104°58'25.032°W	2.00	
1317.00†	6.340	281.620	1316.35	-17.16	3.53	-17.16	40°13'30.215°N	104°58'25.149°W	2.00	
1417.00†	8.340	281.620	1415.53	-29.68	6.10	-29.67	40°13'30.240°N	104°58'25.311°W	2.00	
1517.00†	10.340	281.620	1514.20	-45.57	9.37	-45.57	40°13'30.273°N	104°58'25.516°W	2.00	
1617.00†	12.340	281.620	1612.24	-64.84	13.33	-64.83	40°13'30.312°N	104°58'25.764°W	2.00	
1717.00†	14.340	281.620	1709.54	-87.44	17.98	-87.43	40°13'30.358°N	104°58'26.055°W	2.00	
1817.00†	16.340	281.620	1805.97	-113.35	23.31	-113.34	40°13'30.410°N	104°58'26.389°W	2.00	
1917.00†	18.340	281.620	1901.42	-142.54	29.31	-142.53	40°13'30.470°N	104°58'26.766°W	2.00	
2017.00†	20.340	281.620	1995.77	-174.98	35.98	-174.97	40°13'30.536°N	104°58'27.184°W	2.00	
2100.00	22.000	281.620	2073.17	-204.35	42.02	-204.33	40°13'30.595°N	104°58'27.562°W	2.00	END NUDDGE
2117.00†	22.000	281.620	2088.93	-210.58	43.30	-210.57	40°13'30.608°N	104°58'27.643°W	0.00	
2217.00†	22.000	281.620	2181.65	-247.28	50.84	-247.26	40°13'30.682°N	104°58'28.116°W	0.00	
2317.00†	22.000	281.620	2274.37	-283.98	58.39	-283.95	40°13'30.757°N	104°58'28.589°W	0.00	
2417.00†	22.000	281.620	2367.09	-320.67	65.94	-320.64	40°13'30.832°N	104°58'29.062°W	0.00	
2517.00†	22.000	281.620	2459.80	-357.37	73.48	-357.34	40°13'30.906°N	104°58'29.535°W	0.00	
2617.00†	22.000	281.620	2552.52	-394.06	81.03	-394.03	40°13'30.981°N	104°58'30.008°W	0.00	
2717.00†	22.000	281.620	2645.24	-430.76	88.57	-430.72	40°13'31.055°N	104°58'30.481°W	0.00	
2817.00†	22.000	281.620	2737.96	-467.46	96.12	-467.42	40°13'31.130°N	104°58'30.954°W	0.00	
2917.00†	22.000	281.620	2830.68	-504.15	103.66	-504.11	40°13'31.204°N	104°58'31.427°W	0.00	
3017.00†	22.000	281.620	2923.40	-540.85	111.21	-540.80	40°13'31.279°N	104°58'31.900°W	0.00	
3117.00†	22.000	281.620	3016.11	-577.54	118.75	-577.49	40°13'31.353°N	104°58'32.373°W	0.00	
3217.00†	22.000	281.620	3108.83	-614.24	126.30	-614.19	40°13'31.428°N	104°58'32.846°W	0.00	
3317.00†	22.000	281.620	3201.55	-650.94	133.84	-650.88	40°13'31.503°N	104°58'33.319°W	0.00	
3417.00†	22.000	281.620	3294.27	-687.63	141.39	-687.57	40°13'31.577°N	104°58'33.792°W	0.00	
3517.00†	22.000	281.620	3386.99	-724.33	148.93	-724.27	40°13'31.652°N	104°58'34.265°W	0.00	
3617.00†	22.000	281.620	3479.71	-761.02	156.48	-760.96	40°13'31.726°N	104°58'34.738°W	0.00	
3717.00†	22.000	281.620	3572.43	-797.72	164.02	-797.65	40°13'31.801°N	104°58'35.211°W	0.00	
3807.14†	22.000	281.620	3656.00	-830.80	170.83	-830.73	40°13'31.868°N	104°58'35.638°W	0.00	PARKMAN
3817.00†	22.000	281.620	3665.14	-834.42	171.57	-834.34	40°13'31.875°N	104°58'35.684°W	0.00	

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Facility	SEC.14-T3N-R68W		

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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3917.00†	22.000	281.620	3757.86	-871.11	179.12	-871.04	40°13'31.950"N	104°58'36.158"W	0.00	
4017.00†	22.000	281.620	3850.58	-907.81	186.66	-907.73	40°13'32.024"N	104°58'36.631"W	0.00	
4117.00†	22.000	281.620	3943.30	-944.50	194.21	-944.42	40°13'32.099"N	104°58'37.104"W	0.00	
4217.00†	22.000	281.620	4036.02	-981.20	201.75	-981.12	40°13'32.174"N	104°58'37.577"W	0.00	
4306.50†	22.000	281.620	4119.00	-1014.04	208.50	-1013.96	40°13'32.240"N	104°58'38.000"W	0.00	SUSSEX
4317.00†	22.000	281.620	4128.74	-1017.90	209.30	-1017.81	40°13'32.248"N	104°58'38.050"W	0.00	
4417.00†	22.000	281.620	4221.45	-1054.59	216.84	-1054.50	40°13'32.323"N	104°58'38.523"W	0.00	
4517.00†	22.000	281.620	4314.17	-1091.29	224.39	-1091.20	40°13'32.397"N	104°58'38.996"W	0.00	
4617.00†	22.000	281.620	4406.89	-1127.98	231.93	-1127.89	40°13'32.472"N	104°58'39.469"W	0.00	
4717.00†	22.000	281.620	4499.61	-1164.68	239.48	-1164.58	40°13'32.546"N	104°58'39.942"W	0.00	
4817.00†	22.000	281.620	4592.33	-1201.38	247.02	-1201.27	40°13'32.621"N	104°58'40.415"W	0.00	
4917.00†	22.000	281.620	4685.05	-1238.07	254.57	-1237.97	40°13'32.695"N	104°58'40.888"W	0.00	
5017.00†	22.000	281.620	4777.76	-1274.77	262.11	-1274.66	40°13'32.770"N	104°58'41.361"W	0.00	
5117.00†	22.000	281.620	4870.48	-1311.47	269.66	-1311.35	40°13'32.844"N	104°58'41.834"W	0.00	
5217.00†	22.000	281.620	4963.20	-1348.16	277.20	-1348.05	40°13'32.919"N	104°58'42.307"W	0.00	
5317.00†	22.000	281.620	5055.92	-1384.86	284.75	-1384.74	40°13'32.993"N	104°58'42.780"W	0.00	
5417.00†	22.000	281.620	5148.64	-1421.55	292.30	-1421.43	40°13'33.068"N	104°58'43.253"W	0.00	
5517.00†	22.000	281.620	5241.36	-1458.25	299.84	-1458.12	40°13'33.143"N	104°58'43.726"W	0.00	
5522.18	22.000	281.620	5246.16	-1460.15	300.23	-1460.03	40°13'33.146"N	104°58'43.751"W	0.00	BEGIN DROP
5617.00†	20.104	281.620	5334.65	-1493.51	307.09	-1493.39	40°13'33.214"N	104°58'44.181"W	2.00	
5717.00†	18.104	281.620	5429.13	-1525.57	313.68	-1525.44	40°13'33.279"N	104°58'44.594"W	2.00	
5817.00†	16.104	281.620	5524.71	-1554.38	319.61	-1554.25	40°13'33.338"N	104°58'44.966"W	2.00	
5917.00†	14.104	281.620	5621.25	-1579.90	324.85	-1579.77	40°13'33.390"N	104°58'45.295"W	2.00	
6017.00†	12.104	281.620	5718.64	-1602.11	329.42	-1601.97	40°13'33.435"N	104°58'45.581"W	2.00	
6117.00†	10.104	281.620	5816.76	-1620.98	333.30	-1620.84	40°13'33.473"N	104°58'45.824"W	2.00	
6217.00†	8.104	281.620	5915.50	-1636.47	336.49	-1636.33	40°13'33.505"N	104°58'46.024"W	2.00	
6317.00†	6.104	281.620	6014.72	-1648.59	338.98	-1648.45	40°13'33.529"N	104°58'46.180"W	2.00	
6417.00†	4.104	281.620	6114.32	-1657.30	340.77	-1657.16	40°13'33.547"N	104°58'46.292"W	2.00	
6517.00†	2.104	281.620	6214.17	-1662.61	341.86	-1662.46	40°13'33.558"N	104°58'46.361"W	2.00	
6617.00†	0.104	281.620	6314.15	-1664.49	342.25	-1664.35	40°13'33.562"N	104°58'46.385"W	2.00	
6622.18	0.000	90.024	6319.33	-1664.50	342.25	-1664.35	40°13'33.562"N	104°58'46.385"W	2.00	END DROP
6713.90†	0.000	90.024	6411.05	-1664.50	342.25	-1664.35	40°13'33.562"N	104°58'46.385"W	0.00	4 1/2" LINER TOP
6717.00†	0.000	90.024	6414.15	-1664.50	342.25	-1664.35	40°13'33.562"N	104°58'46.385"W	0.00	
6813.90	0.000	90.024	6511.05	-1664.50	342.25	-1664.35	40°13'33.562"N	104°58'46.385"W	0.00	KOP, BUILD @ 10°/100'
6817.00†	0.310	90.024	6514.15	-1664.49	342.25	-1664.35	40°13'33.562"N	104°58'46.385"W	10.00	
6917.00†	10.310	90.024	6613.59	-1655.25	342.24	-1655.10	40°13'33.561"N	104°58'46.266"W	10.00	
7017.00†	20.310	90.024	6709.92	-1628.88	342.23	-1628.73	40°13'33.561"N	104°58'45.926"W	10.00	
7117.00†	30.310	90.024	6800.21	-1586.18	342.22	-1586.04	40°13'33.561"N	104°58'45.376"W	10.00	
7217.00†	40.310	90.024	6881.71	-1528.45	342.19	-1528.31	40°13'33.561"N	104°58'44.631"W	10.00	
7317.00†	50.310	90.024	6951.95	-1457.45	342.16	-1457.31	40°13'33.561"N	104°58'43.716"W	10.00	
7324.98†	51.108	90.024	6957.00	-1451.27	342.16	-1451.13	40°13'33.561"N	104°58'43.636"W	10.00	SHARON SPRINGS
7417.00†	60.310	90.024	7008.79	-1375.33	342.13	-1375.19	40°13'33.561"N	104°58'42.657"W	10.00	
7442.67†	62.877	90.024	7021.00	-1352.75	342.12	-1352.61	40°13'33.560"N	104°58'42.366"W	10.00	NIOBRARA
7517.00†	70.310	90.024	7050.51	-1284.59	342.09	-1284.45	40°13'33.560"N	104°58'41.487"W	10.00	
7617.00†	80.310	90.024	7075.83	-1187.98	342.05	-1187.84	40°13'33.560"N	104°58'40.242"W	10.00	

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7638.09†	82.419	90.024	7079.00	-1167.13	342.04	-1166.99	40°13'33.560"N	104°58'39.973"W	10.00	NIOBRARA B	
7711.30	89.740	90.024	7084.00	-1094.14	342.01	-1094.00	40°13'33.560"N	104°58'39.032"W	10.00	LANDING POINT	
7717.00†	89.740	90.024	7084.03	-1088.44	342.01	-1088.30	40°13'33.559"N	104°58'38.959"W	0.00		
7817.00†	89.740	90.024	7084.48	-988.44	341.97	-988.30	40°13'33.559"N	104°58'37.669"W	0.00		
7917.00†	89.740	90.024	7084.94	-888.44	341.93	-888.30	40°13'33.559"N	104°58'36.380"W	0.00		
8017.00†	89.740	90.024	7085.39	-788.45	341.89	-788.30	40°13'33.558"N	104°58'35.091"W	0.00		
8117.00†	89.740	90.024	7085.84	-688.45	341.84	-688.30	40°13'33.558"N	104°58'33.802"W	0.00		
8217.00†	89.740	90.024	7086.30	-588.45	341.80	-588.30	40°13'33.558"N	104°58'32.513"W	0.00		
8317.00†	89.740	90.024	7086.75	-488.45	341.76	-488.31	40°13'33.557"N	104°58'31.223"W	0.00		
8417.00†	89.740	90.024	7087.21	-388.45	341.72	-388.31	40°13'33.557"N	104°58'29.934"W	0.00		
8517.00†	89.740	90.024	7087.66	-288.45	341.68	-288.31	40°13'33.556"N	104°58'28.645"W	0.00		
8617.00†	89.740	90.024	7088.11	-188.45	341.64	-188.31	40°13'33.556"N	104°58'27.356"W	0.00		
8717.00†	89.740	90.024	7088.57	-88.45	341.60	-88.31	40°13'33.556"N	104°58'26.067"W	0.00		
8817.00†	89.740	90.024	7089.02	11.55	341.56	11.69	40°13'33.555"N	104°58'24.777"W	0.00		
8917.00†	89.740	90.024	7089.47	111.55	341.51	111.69	40°13'33.555"N	104°58'23.488"W	0.00		
9017.00†	89.740	90.024	7089.93	211.54	341.47	211.69	40°13'33.554"N	104°58'22.199"W	0.00		
9117.00†	89.740	90.024	7090.38	311.54	341.43	311.69	40°13'33.554"N	104°58'20.910"W	0.00		
9217.00†	89.740	90.024	7090.84	411.54	341.39	411.69	40°13'33.554"N	104°58'19.620"W	0.00		
9317.00†	89.740	90.024	7091.29	511.54	341.35	511.68	40°13'33.553"N	104°58'18.331"W	0.00		
9417.00†	89.740	90.024	7091.74	611.54	341.31	611.68	40°13'33.553"N	104°58'17.042"W	0.00		
9517.00†	89.740	90.024	7092.20	711.54	341.27	711.68	40°13'33.552"N	104°58'15.753"W	0.00		
9617.00†	89.740	90.024	7092.65	811.54	341.23	811.68	40°13'33.552"N	104°58'14.464"W	0.00		
9717.00†	89.740	90.024	7093.11	911.54	341.18	911.68	40°13'33.551"N	104°58'13.174"W	0.00		
9817.00†	89.740	90.024	7093.56	1011.54	341.14	1011.68	40°13'33.551"N	104°58'11.885"W	0.00		
9917.00†	89.740	90.024	7094.01	1111.54	341.10	1111.68	40°13'33.550"N	104°58'10.596"W	0.00		
10017.00†	89.740	90.024	7094.47	1211.53	341.06	1211.68	40°13'33.550"N	104°58'09.307"W	0.00		
10117.00†	89.740	90.024	7094.92	1311.53	341.02	1311.68	40°13'33.550"N	104°58'08.018"W	0.00		
10217.00†	89.740	90.024	7095.37	1411.53	340.98	1411.67	40°13'33.549"N	104°58'06.728"W	0.00		
10317.00†	89.740	90.024	7095.83	1511.53	340.94	1511.67	40°13'33.549"N	104°58'05.439"W	0.00		
10417.00†	89.740	90.024	7096.28	1611.53	340.89	1611.67	40°13'33.548"N	104°58'04.150"W	0.00		
10517.00†	89.740	90.024	7096.74	1711.53	340.85	1711.67	40°13'33.548"N	104°58'02.861"W	0.00		
10617.00†	89.740	90.024	7097.19	1811.53	340.81	1811.67	40°13'33.547"N	104°58'01.572"W	0.00		
10717.00†	89.740	90.024	7097.64	1911.53	340.77	1911.67	40°13'33.547"N	104°58'00.282"W	0.00		
10817.00†	89.740	90.024	7098.10	2011.53	340.73	2011.67	40°13'33.546"N	104°57'58.993"W	0.00		
10917.00†	89.740	90.024	7098.55	2111.52	340.69	2111.67	40°13'33.546"N	104°57'57.704"W	0.00		
11017.00†	89.740	90.024	7099.01	2211.52	340.65	2211.67	40°13'33.545"N	104°57'56.415"W	0.00		
11117.00†	89.740	90.024	7099.46	2311.52	340.61	2311.67	40°13'33.545"N	104°57'55.125"W	0.00		
11217.00†	89.740	90.024	7099.91	2411.52	340.56	2411.66	40°13'33.544"N	104°57'53.836"W	0.00		
11317.00†	89.740	90.024	7100.37	2511.52	340.52	2511.66	40°13'33.544"N	104°57'52.547"W	0.00		
11417.00†	89.740	90.024	7100.82	2611.52	340.48	2611.66	40°13'33.543"N	104°57'51.258"W	0.00		
11517.00†	89.740	90.024	7101.28	2711.52	340.44	2711.66	40°13'33.543"N	104°57'49.969"W	0.00		
11617.00†	89.740	90.024	7101.73	2811.52	340.40	2811.66	40°13'33.542"N	104°57'48.679"W	0.00		
11717.00†	89.740	90.024	7102.18	2911.52	340.36	2911.66	40°13'33.542"N	104°57'47.390"W	0.00		
11817.00†	89.740	90.024	7102.64	3011.52	340.32	3011.66	40°13'33.541"N	104°57'46.101"W	0.00		
11917.00†	89.740	90.024	7103.09	3111.51	340.27	3111.66	40°13'33.541"N	104°57'44.812"W	0.00		

## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (LAMBERT STATE PLANE COORD)	Slot	SLOT#15 DOCHEFF 32N-13HZ (2228'FSL & 1694'FWL, SEC.14)
Area	COLORADO	Well	DOCHEFF 32N-13HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	DOCHEFF 32N-13HZ PWB
Facility	SEC.14-T3N-R68W		

## WELLPATH DATA (142 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12017.00†	89.740	90.024	7103.54	3211.51	340.23	3211.66	40°13'33.540"N	104°57'43.523"W	0.00	
12117.00†	89.740	90.024	7104.00	3311.51	340.19	3311.66	40°13'33.540"N	104°57'42.233"W	0.00	
12217.00†	89.740	90.024	7104.45	3411.51	340.15	3411.65	40°13'33.539"N	104°57'40.944"W	0.00	
12317.00†	89.740	90.024	7104.91	3511.51	340.11	3511.65	40°13'33.538"N	104°57'39.655"W	0.00	
12417.00†	89.740	90.024	7105.36	3611.51	340.07	3611.65	40°13'33.538"N	104°57'38.366"W	0.00	
12517.00†	89.740	90.024	7105.81	3711.51	340.03	3711.65	40°13'33.537"N	104°57'37.077"W	0.00	
12558.04	89.740	90.024	7106.00 <sup>1</sup>	3752.55	340.01	3752.69	40°13'33.537"N	104°57'36.547"W	0.00	TOTAL DEPTH

## HOLE & CASING SECTIONS - Ref Wellbore: DOCHEFF 32N-13HZ PWB Ref Wellpath: DOCHEFF 32N-13HZ (PERMIT REV-1) 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	743.00	726.00	17.00	743.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	743.00	726.00	17.00	743.00	0.00	0.00	0.00	0.00
8.75in Open Hole	743.00	7711.30	6968.30	743.00	7084.00	0.00	0.00	342.01	-1094.00
7in Casing Intermediate	17.00	7711.30	7694.30	17.00	7084.00	0.00	0.00	342.01	-1094.00
6.125in Open Hole	7711.30	12558.04	4846.74	7084.00	7106.00	342.01	-1094.00	340.01	3752.69
4.5in Casing Production	17.00	12558.04	12541.04	17.00	7106.00	0.00	0.00	340.01	3752.69

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.15-T3N-R68W SECTION LINES		0.00	0.00	0.00	3146987.81	1325264.06	40°13'30.180"N	104°58'24.928"W	polygon
SEC.13-T3N-R68W SECTION LINES		4951.00	2234.14	8271.79	3155245.81	1327547.17	40°13'52.244"N	104°56'38.278"W	polygon
SEC.14-T3N-R68W SECTION LINES		4951.00	2234.14	8271.79	3155245.81	1327547.17	40°13'52.244"N	104°56'38.278"W	polygon
1) DOCHEFF 32N-13HZ BHL (2570'FSL & 200'FWL, SEC.13)	12558.04	7106.00	340.01	3752.69	3150738.24	1325626.33	40°13'33.537"N	104°57'36.547"W	point
DOCHEFF 32N-13HZ LANDBOX		7106.00	0.00	0.00	3146987.81	1325264.06	40°13'30.180"N	104°58'24.928"W	polygon

## SURVEY PROGRAM - Ref Wellbore: DOCHEFF 32N-13HZ PWB Ref Wellpath: DOCHEFF 32N-13HZ (PERMIT REV-1) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	12558.04	ISCWSA MWD, Rev. 2 (Standard) (MagVAR IFR Wattenberg)		DOCHEFF 32N-13HZ PWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (LAMBERT STATE PLANE COORD)	Slot	SLOT#15 DOCHEFF 32N-13HZ (2228'FSL & 1694'FWL, SEC.14)
Area	COLORADO	Well	DOCHEFF 32N-13HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	DOCHEFF 32N-13HZ PWB
Facility	SEC.14-T3N-R68W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
551.00	0.000	281.620	551.00	BASE FOX HILLS
743.00	0.000	281.620	743.00	SURFACE CSG SETTING DEPTH
3807.14	22.000	281.620	3656.00	PARKMAN
4306.50	22.000	281.620	4119.00	SUSSEX
6713.90	0.000	90.024	6411.05	4 1/2" LINER TOP
7324.98	51.108	90.024	6957.00	SHARON SPRINGS
7442.67	62.877	90.024	7021.00	NIOBRARA
7638.09	82.419	90.024	7079.00	NIOBRARA B

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	281.620	17.00	TIE ON
1000.00	0.000	281.620	1000.00	BEGIN NUDGE
2100.00	22.000	281.620	2073.17	END NUDGE
5522.18	22.000	281.620	5246.16	BEGIN DROP
6622.18	0.000	90.024	6319.33	END DROP
6813.90	0.000	90.024	6511.05	KOP, BUILD @ 10°/100'
7711.30	89.740	90.024	7084.00	LANDING POINT
12558.04	89.740	90.024	7106.00	TOTAL DEPTH