



Planned Wellpath Report

DEHAAN SOUTH 5X-HNB-16-07-65 PWP (REV-B.0)

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REFERENCE WELLPATH IDENTIFICATION

Operator	NICKEL ROAD OPERATING	Slot	SLOT#01 DEHAAN SOUTH 5X-HNB-16-07-65 (1129'FSL & 540'FWL,SEC.17)
Area	COLORADO	Well	DEHAAN SOUTH 5X-HNB-16-07-65
Field	WELD COUNTY (NAD83/GRID NORTH)	Wellbore	DEHAAN SOUTH 5X-HNB-16-07-65 PWB
Facility	SEC.17-07N-R65W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Robiale01
Scale	0.999972	Report Generated	2/13/2019 at 10:15:52 AM
Convergence at slot	0.52° East	Database/Source file	WA DENVER/DEHAAN_SOUTH_5X-HNB-16-07-65_PWP__REV-B.0_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	3223759.71	1451814.73	40°34'15.028"N	104°41'40.355"W
Facility Reference Pt			3223759.71	1451814.73	40°34'15.028"N	104°41'40.355"W
Field Reference Pt			3183871.85	1457749.61	40°35'16.933"N	104°50'16.656"W

WELLPATH DATUM

Calculation method	Minimum curvature	RIG (16') (RKB) to Facility Vertical Datum	4924.00ft
Horizontal Reference Pt	Slot	RIG (16') (RKB) to Mean Sea Level	4924.00ft
Vertical Reference Pt	RIG (16') (RKB)	RIG (16') (RKB) to Ground Level at Slot (SLOT#01 DEHAAN SOUTH 5X-HNB-16-07-65 (1129'FSL & 540'FWL,SEC.17))	4924.00ft
MD Reference Pt	RIG (16') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	82.82°



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Facility	SEC.17-07N-R65W		

WELLPATH DATA (180 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	337.248	0.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
16.00	0.000	337.248	16.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	Tie On
116.00†	0.000	337.248	116.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
216.00†	0.000	337.248	216.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
316.00†	0.000	337.248	316.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
416.00†	0.000	337.248	416.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
516.00†	0.000	337.248	516.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
616.00†	0.000	337.248	616.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
716.00†	0.000	337.248	716.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
816.00†	0.000	337.248	816.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
916.00†	0.000	337.248	916.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
1016.00†	0.000	337.248	1016.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
1116.00†	0.000	337.248	1116.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
1216.00†	0.000	337.248	1216.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
1316.00†	0.000	337.248	1316.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
1416.00†	0.000	337.248	1416.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
1516.00†	0.000	337.248	1516.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	
1600.00	0.000	337.248	1600.00	0.00	0.00	0.00	40°34'15.028"N	104°41'40.355"W	0.00	End of Tangent
1616.00†	0.320	337.248	1616.00	-0.01	0.04	-0.02	40°34'15.028"N	104°41'40.355"W	2.00	
1716.00†	2.320	337.248	1715.97	-0.63	2.17	-0.91	40°34'15.049"N	104°41'40.366"W	2.00	
1816.00†	4.320	337.248	1815.80	-2.18	7.51	-3.15	40°34'15.102"N	104°41'40.395"W	2.00	
1916.00†	6.320	337.248	1915.36	-4.67	16.06	-6.73	40°34'15.187"N	104°41'40.440"W	2.00	
2016.00†	8.320	337.248	2014.54	-8.09	27.80	-11.66	40°34'15.303"N	104°41'40.503"W	2.00	
2116.00†	10.320	337.248	2113.21	-12.44	42.74	-17.92	40°34'15.452"N	104°41'40.582"W	2.00	
2216.00†	12.320	337.248	2211.26	-17.71	60.84	-25.51	40°34'15.631"N	104°41'40.678"W	2.00	
2316.00†	14.320	337.248	2308.57	-23.89	82.08	-34.42	40°34'15.842"N	104°41'40.791"W	2.00	
2413.91	16.278	337.248	2403.01	-30.83	105.91	-44.42	40°34'16.078"N	104°41'40.918"W	2.00	End of Build
2416.00†	16.278	337.248	2405.01	-30.98	106.45	-44.64	40°34'16.083"N	104°41'40.921"W	0.00	
2516.00†	16.278	337.248	2501.00	-38.51	132.30	-55.48	40°34'16.340"N	104°41'41.058"W	0.00	
2616.00†	16.278	337.248	2596.99	-46.03	158.15	-66.32	40°34'16.596"N	104°41'41.196"W	0.00	
2716.00†	16.278	337.248	2692.98	-53.55	184.00	-77.16	40°34'16.853"N	104°41'41.333"W	0.00	
2816.00†	16.278	337.248	2788.98	-61.08	209.84	-88.00	40°34'17.109"N	104°41'41.470"W	0.00	
2916.00†	16.278	337.248	2884.97	-68.60	235.69	-98.84	40°34'17.365"N	104°41'41.608"W	0.00	
3016.00†	16.278	337.248	2980.96	-76.13	261.54	-109.68	40°34'17.622"N	104°41'41.745"W	0.00	
3116.00†	16.278	337.248	3076.95	-83.65	287.39	-120.52	40°34'17.878"N	104°41'41.883"W	0.00	
3216.00†	16.278	337.248	3172.94	-91.17	313.24	-131.37	40°34'18.135"N	104°41'42.020"W	0.00	

WELLPATH DATA (180 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3316.00†	16.278	337.248	3268.93	-98.70	339.09	-142.21	40°34'18.391"N	104°41'42.158"W	0.00	
3416.00†	16.278	337.248	3364.92	-106.22	364.94	-153.05	40°34'18.647"N	104°41'42.295"W	0.00	
3516.00†	16.278	337.248	3460.91	-113.74	390.79	-163.89	40°34'18.904"N	104°41'42.432"W	0.00	
3616.00†	16.278	337.248	3556.90	-121.27	416.64	-174.73	40°34'19.160"N	104°41'42.570"W	0.00	
3716.00†	16.278	337.248	3652.90	-128.79	442.49	-185.57	40°34'19.416"N	104°41'42.707"W	0.00	
3816.00†	16.278	337.248	3748.89	-136.32	468.34	-196.41	40°34'19.673"N	104°41'42.845"W	0.00	
3916.00†	16.278	337.248	3844.88	-143.84	494.19	-207.25	40°34'19.929"N	104°41'42.982"W	0.00	
4016.00†	16.278	337.248	3940.87	-151.36	520.03	-218.09	40°34'20.186"N	104°41'43.120"W	0.00	
4116.00†	16.278	337.248	4036.86	-158.89	545.88	-228.93	40°34'20.442"N	104°41'43.257"W	0.00	



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Field	WELD COUNTY (NAD83/GRID NORTH)	Wellbore	DEHAAN SOUTH 5X-HNB-16-07-65 PWB
Facility	SEC.17-07N-R65W		

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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4216.00†	16.278	337.248	4132.85	-166.41	571.73	-239.77	40°34'20.698"N	104°41'43.394"W	0.00	
4316.00†	16.278	337.248	4228.84	-173.93	597.58	-250.61	40°34'20.955"N	104°41'43.532"W	0.00	
4416.00†	16.278	337.248	4324.83	-181.46	623.43	-261.45	40°34'21.211"N	104°41'43.669"W	0.00	
4516.00†	16.278	337.248	4420.83	-188.98	649.28	-272.29	40°34'21.468"N	104°41'43.807"W	0.00	
4616.00†	16.278	337.248	4516.82	-196.51	675.13	-283.13	40°34'21.724"N	104°41'43.944"W	0.00	
4716.00†	16.278	337.248	4612.81	-204.03	700.98	-293.97	40°34'21.980"N	104°41'44.082"W	0.00	
4816.00†	16.278	337.248	4708.80	-211.55	726.83	-304.81	40°34'22.237"N	104°41'44.219"W	0.00	
4916.00†	16.278	337.248	4804.79	-219.08	752.68	-315.65	40°34'22.493"N	104°41'44.356"W	0.00	
5016.00†	16.278	337.248	4900.78	-226.60	778.53	-326.49	40°34'22.749"N	104°41'44.494"W	0.00	
5116.00†	16.278	337.248	4996.77	-234.12	804.38	-337.33	40°34'23.006"N	104°41'44.631"W	0.00	
5216.00†	16.278	337.248	5092.76	-241.65	830.22	-348.17	40°34'23.262"N	104°41'44.769"W	0.00	
5316.00†	16.278	337.248	5188.75	-249.17	856.07	-359.02	40°34'23.519"N	104°41'44.906"W	0.00	
5416.00†	16.278	337.248	5284.75	-256.69	881.92	-369.86	40°34'23.775"N	104°41'45.044"W	0.00	
5516.00†	16.278	337.248	5380.74	-264.22	907.77	-380.70	40°34'24.031"N	104°41'45.181"W	0.00	
5616.00†	16.278	337.248	5476.73	-271.74	933.62	-391.54	40°34'24.288"N	104°41'45.318"W	0.00	
5716.00†	16.278	337.248	5572.72	-279.27	959.47	-402.38	40°34'24.544"N	104°41'45.456"W	0.00	
5816.00†	16.278	337.248	5668.71	-286.79	985.32	-413.22	40°34'24.801"N	104°41'45.593"W	0.00	
5916.00†	16.278	337.248	5764.70	-294.31	1011.17	-424.06	40°34'25.057"N	104°41'45.731"W	0.00	
6016.00†	16.278	337.248	5860.69	-301.84	1037.02	-434.90	40°34'25.313"N	104°41'45.868"W	0.00	
6116.00†	16.278	337.248	5956.68	-309.36	1062.87	-445.74	40°34'25.570"N	104°41'46.006"W	0.00	
6216.00†	16.278	337.248	6052.68	-316.88	1088.72	-456.58	40°34'25.826"N	104°41'46.143"W	0.00	
6316.00†	16.278	337.248	6148.67	-324.41	1114.57	-467.42	40°34'26.082"N	104°41'46.281"W	0.00	
6416.00†	16.278	337.248	6244.66	-331.93	1140.41	-478.26	40°34'26.339"N	104°41'46.418"W	0.00	
6516.00†	16.278	337.248	6340.65	-339.46	1166.26	-489.10	40°34'26.595"N	104°41'46.555"W	0.00	
6616.00†	16.278	337.248	6436.64	-346.98	1192.11	-499.94	40°34'26.852"N	104°41'46.693"W	0.00	
6716.00†	16.278	337.248	6532.63	-354.50	1217.96	-510.78	40°34'27.108"N	104°41'46.830"W	0.00	
6769.73	16.278	337.248	6584.21	-358.55	1231.85	-516.61	40°34'27.246"N	104°41'46.904"W	0.00	End of Tangent
6816.00†	15.081	353.849	6628.78	-360.18	1243.82	-519.76	40°34'27.364"N	104°41'46.944"W	10.00	
6916.00†	17.005	29.973	6725.11	-351.09	1269.49	-513.83	40°34'27.617"N	104°41'46.864"W	10.00	
7016.00†	23.373	52.718	6819.06	-325.03	1294.23	-490.69	40°34'27.860"N	104°41'46.561"W	10.00	
7116.00†	31.601	65.180	6907.77	-282.80	1317.30	-451.02	40°34'28.084"N	104°41'46.044"W	10.00	
7216.00†	40.570	72.743	6988.54	-225.66	1338.00	-396.05	40°34'28.284"N	104°41'45.329"W	10.00	
7316.00†	49.878	77.918	7058.92	-155.37	1355.70	-327.43	40°34'28.453"N	104°41'44.438"W	10.00	
7416.00†	59.359	81.828	7116.77	-74.06	1369.85	-247.26	40°34'28.585"N	104°41'43.398"W	10.00	
7516.00†	68.937	85.030	7160.34	15.80	1380.03	-157.97	40°34'28.678"N	104°41'42.239"W	10.00	
7616.00†	78.567	87.841	7188.29	111.49	1385.94	-62.27	40°34'28.728"N	104°41'40.999"W	10.00	

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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7716.00†	88.222	90.466	7199.78	210.09	1387.38	36.93	40°34'28.733"N	104°41'39.713"W	10.00	
7743.40	90.868	91.173	7200.00†	237.22	1386.99	64.32	40°34'28.727"N	104°41'39.358"W	10.00	End of 3D Arc
7816.00†	90.868	91.173	7198.90	309.04	1385.50	136.90	40°34'28.705"N	104°41'38.418"W	0.00	
7916.00†	90.868	91.173	7197.38	407.97	1383.45	236.87	40°34'28.676"N	104°41'37.123"W	0.00	
8016.00†	90.868	91.173	7195.87	506.90	1381.41	336.84	40°34'28.647"N	104°41'35.827"W	0.00	
8116.00†	90.868	91.173	7194.35	605.82	1379.36	436.80	40°34'28.618"N	104°41'34.532"W	0.00	
8216.00†	90.868	91.173	7192.84	704.75	1377.31	536.77	40°34'28.588"N	104°41'33.237"W	0.00	
8316.00†	90.868	91.173	7191.32	803.68	1375.26	636.74	40°34'28.559"N	104°41'31.942"W	0.00	
8416.00†	90.868	91.173	7189.81	902.61	1373.22	736.71	40°34'28.530"N	104°41'30.647"W	0.00	



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8516.00†	90.868	91.173	7188.29	1001.53	1371.17	836.67	40°34'28.501"N	104°41'29.351"W	0.00	
8616.00†	90.868	91.173	7186.78	1100.46	1369.12	936.64	40°34'28.472"N	104°41'28.056"W	0.00	
8716.00†	90.868	91.173	7185.26	1199.39	1367.07	1036.61	40°34'28.442"N	104°41'26.761"W	0.00	
8816.00†	90.868	91.173	7183.74	1298.32	1365.02	1136.58	40°34'28.413"N	104°41'25.466"W	0.00	
8916.00†	90.868	91.173	7182.23	1397.24	1362.98	1236.54	40°34'28.384"N	104°41'24.171"W	0.00	
9016.00†	90.868	91.173	7180.71	1496.17	1360.93	1336.51	40°34'28.355"N	104°41'22.876"W	0.00	
9116.00†	90.868	91.173	7179.20	1595.10	1358.88	1436.48	40°34'28.325"N	104°41'21.580"W	0.00	
9216.00†	90.868	91.173	7177.68	1694.02	1356.83	1536.45	40°34'28.296"N	104°41'20.285"W	0.00	
9316.00†	90.868	91.173	7176.17	1792.95	1354.79	1636.41	40°34'28.267"N	104°41'18.990"W	0.00	
9416.00†	90.868	91.173	7174.65	1891.88	1352.74	1736.38	40°34'28.237"N	104°41'17.695"W	0.00	
9516.00†	90.868	91.173	7173.14	1990.81	1350.69	1836.35	40°34'28.208"N	104°41'16.400"W	0.00	
9616.00†	90.868	91.173	7171.62	2089.73	1348.64	1936.32	40°34'28.179"N	104°41'15.105"W	0.00	
9716.00†	90.868	91.173	7170.10	2188.66	1346.59	2036.28	40°34'28.150"N	104°41'13.809"W	0.00	
9816.00†	90.868	91.173	7168.59	2287.59	1344.55	2136.25	40°34'28.120"N	104°41'12.514"W	0.00	
9916.00†	90.868	91.173	7167.07	2386.51	1342.50	2236.22	40°34'28.091"N	104°41'11.219"W	0.00	
10016.00†	90.868	91.173	7165.56	2485.44	1340.45	2336.19	40°34'28.062"N	104°41'09.924"W	0.00	
10116.00†	90.868	91.173	7164.04	2584.37	1338.40	2436.15	40°34'28.032"N	104°41'08.629"W	0.00	
10216.00†	90.868	91.173	7162.53	2683.30	1336.36	2536.12	40°34'28.003"N	104°41'07.334"W	0.00	
10316.00†	90.868	91.173	7161.01	2782.22	1334.31	2636.09	40°34'27.974"N	104°41'06.038"W	0.00	
10416.00†	90.868	91.173	7159.50	2881.15	1332.26	2736.06	40°34'27.944"N	104°41'04.743"W	0.00	
10516.00†	90.868	91.173	7157.98	2980.08	1330.21	2836.02	40°34'27.915"N	104°41'03.448"W	0.00	
10616.00†	90.868	91.173	7156.47	3079.00	1328.16	2935.99	40°34'27.886"N	104°41'02.153"W	0.00	
10716.00†	90.868	91.173	7154.95	3177.93	1326.12	3035.96	40°34'27.857"N	104°41'00.858"W	0.00	
10816.00†	90.868	91.173	7153.43	3276.86	1324.07	3135.93	40°34'27.827"N	104°40'59.563"W	0.00	
10916.00†	90.868	91.173	7151.92	3375.79	1322.02	3235.89	40°34'27.798"N	104°40'58.267"W	0.00	
11016.00†	90.868	91.173	7150.40	3474.71	1319.97	3335.86	40°34'27.769"N	104°40'56.972"W	0.00	
11116.00†	90.868	91.173	7148.89	3573.64	1317.93	3435.83	40°34'27.739"N	104°40'55.677"W	0.00	
11216.00†	90.868	91.173	7147.37	3672.57	1315.88	3535.80	40°34'27.710"N	104°40'54.382"W	0.00	
11316.00†	90.868	91.173	7145.86	3771.50	1313.83	3635.76	40°34'27.680"N	104°40'53.087"W	0.00	
11416.00†	90.868	91.173	7144.34	3870.42	1311.78	3735.73	40°34'27.651"N	104°40'51.792"W	0.00	
11516.00†	90.868	91.173	7142.83	3969.35	1309.74	3835.70	40°34'27.622"N	104°40'50.496"W	0.00	
11616.00†	90.868	91.173	7141.31	4068.28	1307.69	3935.67	40°34'27.592"N	104°40'49.201"W	0.00	
11716.00†	90.868	91.173	7139.79	4167.20	1305.64	4035.63	40°34'27.563"N	104°40'47.906"W	0.00	
11816.00†	90.868	91.173	7138.28	4266.13	1303.59	4135.60	40°34'27.534"N	104°40'46.611"W	0.00	
11916.00†	90.868	91.173	7136.76	4365.06	1301.54	4235.57	40°34'27.504"N	104°40'45.316"W	0.00	
12016.00†	90.868	91.173	7135.25	4463.99	1299.50	4335.54	40°34'27.475"N	104°40'44.021"W	0.00	

WELLPATH DATA (180 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12116.00†	90.868	91.173	7133.73	4562.91	1297.45	4435.50	40°34'27.446"N	104°40'42.725"W	0.00	
12135.96	90.868	91.173	7133.43	4582.66	1297.04	4455.46	40°34'27.440"N	104°40'42.467"W	0.00	End of Tangent
12174.79	90.093	91.134	7133.10	4621.08	1296.26	4494.28	40°34'27.428"N	104°40'41.964"W	2.00	End of 3D Arc
12216.00†	90.093	91.134	7133.04	4661.85	1295.44	4535.48	40°34'27.417"N	104°40'41.430"W	0.00	
12316.00†	90.093	91.134	7132.88	4760.80	1293.46	4635.46	40°34'27.388"N	104°40'40.135"W	0.00	
12416.00†	90.093	91.134	7132.71	4859.75	1291.49	4735.44	40°34'27.359"N	104°40'38.839"W	0.00	
12516.00†	90.093	91.134	7132.55	4958.70	1289.51	4835.42	40°34'27.330"N	104°40'37.544"W	0.00	
12616.00†	90.093	91.134	7132.39	5057.65	1287.53	4935.40	40°34'27.302"N	104°40'36.249"W	0.00	
12716.00†	90.093	91.134	7132.23	5156.60	1285.55	5035.38	40°34'27.273"N	104°40'34.953"W	0.00	



Planned Wellpath Report

DEHAAN SOUTH 5X-HNB-16-07-65 PWP (REV-B.0)

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NICKEL ROAD OPERATING	Slot	SLOT#01 DEHAAN SOUTH 5X-HNB-16-07-65 (1129'FSL & 540'FWL,SEC.17)
Area	COLORADO	Well	DEHAAN SOUTH 5X-HNB-16-07-65
Field	WELD COUNTY (NAD83/GRID NORTH)	Wellbore	DEHAAN SOUTH 5X-HNB-16-07-65 PWB
Facility	SEC.17-07N-R65W		

WELLPATH DATA (180 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12816.00†	90.093	91.134	7132.07	5255.54	1283.57	5135.36	40°34'27.244"N	104°40'33.658"W	0.00	
12916.00†	90.093	91.134	7131.90	5354.49	1281.59	5235.34	40°34'27.216"N	104°40'32.363"W	0.00	
13016.00†	90.093	91.134	7131.74	5453.44	1279.61	5335.32	40°34'27.187"N	104°40'31.067"W	0.00	
13116.00†	90.093	91.134	7131.58	5552.39	1277.64	5435.30	40°34'27.158"N	104°40'29.772"W	0.00	
13216.00†	90.093	91.134	7131.42	5651.34	1275.66	5535.28	40°34'27.129"N	104°40'28.477"W	0.00	
13316.00†	90.093	91.134	7131.26	5750.29	1273.68	5635.26	40°34'27.101"N	104°40'27.181"W	0.00	
13416.00†	90.093	91.134	7131.10	5849.24	1271.70	5735.24	40°34'27.072"N	104°40'25.886"W	0.00	
13516.00†	90.093	91.134	7130.93	5948.18	1269.72	5835.22	40°34'27.043"N	104°40'24.591"W	0.00	
13616.00†	90.093	91.134	7130.77	6047.13	1267.74	5935.20	40°34'27.014"N	104°40'23.295"W	0.00	
13716.00†	90.093	91.134	7130.61	6146.08	1265.76	6035.19	40°34'26.986"N	104°40'22.000"W	0.00	
13816.00†	90.093	91.134	7130.45	6245.03	1263.79	6135.17	40°34'26.957"N	104°40'20.705"W	0.00	
13916.00†	90.093	91.134	7130.29	6343.98	1261.81	6235.15	40°34'26.928"N	104°40'19.409"W	0.00	
14016.00†	90.093	91.134	7130.12	6442.93	1259.83	6335.13	40°34'26.899"N	104°40'18.114"W	0.00	
14116.00†	90.093	91.134	7129.96	6541.87	1257.85	6435.11	40°34'26.870"N	104°40'16.819"W	0.00	
14216.00†	90.093	91.134	7129.80	6640.82	1255.87	6535.09	40°34'26.842"N	104°40'15.524"W	0.00	
14316.00†	90.093	91.134	7129.64	6739.77	1253.89	6635.07	40°34'26.813"N	104°40'14.228"W	0.00	
14416.00†	90.093	91.134	7129.48	6838.72	1251.91	6735.05	40°34'26.784"N	104°40'12.933"W	0.00	
14516.00†	90.093	91.134	7129.32	6937.67	1249.93	6835.03	40°34'26.755"N	104°40'11.638"W	0.00	
14616.00†	90.093	91.134	7129.15	7036.62	1247.96	6935.01	40°34'26.726"N	104°40'10.342"W	0.00	
14716.00†	90.093	91.134	7128.99	7135.57	1245.98	7034.99	40°34'26.698"N	104°40'09.047"W	0.00	
14816.00†	90.093	91.134	7128.83	7234.51	1244.00	7134.97	40°34'26.669"N	104°40'07.752"W	0.00	
14916.00†	90.093	91.134	7128.67	7333.46	1242.02	7234.95	40°34'26.640"N	104°40'06.456"W	0.00	
15016.00†	90.093	91.134	7128.51	7432.41	1240.04	7334.93	40°34'26.611"N	104°40'05.161"W	0.00	
15116.00†	90.093	91.134	7128.34	7531.36	1238.06	7434.91	40°34'26.582"N	104°40'03.866"W	0.00	
15216.00†	90.093	91.134	7128.18	7630.31	1236.08	7534.89	40°34'26.554"N	104°40'02.570"W	0.00	
15316.00†	90.093	91.134	7128.02	7729.26	1234.11	7634.87	40°34'26.525"N	104°40'01.275"W	0.00	
15416.00†	90.093	91.134	7127.86	7828.20	1232.13	7734.85	40°34'26.496"N	104°39'59.980"W	0.00	
15516.00†	90.093	91.134	7127.70	7927.15	1230.15	7834.83	40°34'26.467"N	104°39'58.684"W	0.00	
15616.00†	90.093	91.134	7127.53	8026.10	1228.17	7934.81	40°34'26.438"N	104°39'57.389"W	0.00	
15716.00†	90.093	91.134	7127.37	8125.05	1226.19	8034.79	40°34'26.409"N	104°39'56.094"W	0.00	
15816.00†	90.093	91.134	7127.21	8224.00	1224.21	8134.77	40°34'26.381"N	104°39'54.798"W	0.00	
15916.00†	90.093	91.134	7127.05	8322.95	1222.23	8234.75	40°34'26.352"N	104°39'53.503"W	0.00	
16016.00†	90.093	91.134	7126.89	8421.90	1220.26	8334.73	40°34'26.323"N	104°39'52.208"W	0.00	
16116.00†	90.093	91.134	7126.73	8520.84	1218.28	8434.71	40°34'26.294"N	104°39'50.912"W	0.00	
16216.00†	90.093	91.134	7126.56	8619.79	1216.30	8534.69	40°34'26.265"N	104°39'49.617"W	0.00	
16316.00†	90.093	91.134	7126.40	8718.74	1214.32	8634.67	40°34'26.236"N	104°39'48.322"W	0.00	

WELLPATH DATA (180 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16416.00†	90.093	91.134	7126.24	8817.69	1212.34	8734.65	40°34'26.207"N	104°39'47.026"W	0.00	
16516.00†	90.093	91.134	7126.08	8916.64	1210.36	8834.63	40°34'26.178"N	104°39'45.731"W	0.00	
16616.00†	90.093	91.134	7125.92	9015.59	1208.38	8934.61	40°34'26.150"N	104°39'44.436"W	0.00	
16716.00†	90.093	91.134	7125.75	9114.54	1206.41	9034.59	40°34'26.121"N	104°39'43.140"W	0.00	
16816.00†	90.093	91.134	7125.59	9213.48	1204.43	9134.57	40°34'26.092"N	104°39'41.845"W	0.00	
16916.00†	90.093	91.134	7125.43	9312.43	1202.45	9234.55	40°34'26.063"N	104°39'40.550"W	0.00	
17016.00†	90.093	91.134	7125.27	9411.38	1200.47	9334.53	40°34'26.034"N	104°39'39.254"W	0.00	
17116.00†	90.093	91.134	7125.11	9510.33	1198.49	9434.51	40°34'26.005"N	104°39'37.959"W	0.00	
17182.20	90.093	91.134	7125.00 ²	9575.83	1197.18	9500.70	40°34'25.986"N	104°39'37.102"W	0.00	End of Tangent



Planned Wellpath Report

DEHAAN SOUTH 5X-HNB-16-07-65 PWP (REV-B.0)

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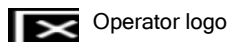


REFERENCE WELLPATH IDENTIFICATION			
Operator	NICKEL ROAD OPERATING	Slot	SLOT#01 DEHAAN SOUTH 5X-HNB-16-07-65 (1129'FSL & 540'FWL,SEC.17)
Area	COLORADO	Well	DEHAAN SOUTH 5X-HNB-16-07-65
Field	WELD COUNTY (NAD83/GRID NORTH)	Wellbore	DEHAAN SOUTH 5X-HNB-16-07-65 PWB
Facility	SEC.17-07N-R65W		

HOLE & CASING SECTIONS - Ref Wellbore: DEHAAN SOUTH 5X-HNB-16-07-65 PWB Ref Wellpath: DEHAAN SOUTH 5X-HNB-16-07-65 PWP (REV-B.0)									
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]
9.625in Casing Surface	16.00	1500.00	1484.00	16.00	1500.00	0.00	0.00	0.00	0.00

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.16&17-T07N-R65W HARDLINES 460'		0.00	0.00	0.00	3223759.71	1451814.73	40°34'15.028"N	104°41'40.355"W	polygon
SEC.16-T07N-R65W		0.00	0.00	0.00	3223759.71	1451814.73	40°34'15.028"N	104°41'40.355"W	polygon
SEC.17-T07N-R65W		0.00	0.00	0.00	3223759.71	1451814.73	40°34'15.028"N	104°41'40.355"W	polygon
2) DEHAAN SOUTH 5X-HNB-16-07-65 BHL ON PLAT (2513'FSL & 460'FEL,SEC.16)	17182.20	7125.00	1197.18	9500.70	3233260.13	1453011.88	40°34'25.986"N	104°39'37.102"W	point
DEHAAN SOUTH 5X-HNB-16-07-65 LP ON PLAT (2514'FSL & 460'FWL,SEC.17)		7200.00	1386.99	-85.39	3223674.33	1453201.68	40°34'28.740"N	104°41'41.298"W	point
1) DEHAAN SOUTH 5X-HNB-16-07-65 LP REV-1 (2514'FSL & 610'FWL,SEC.17)	7743.40	7200.00	1386.99	64.32	3223824.03	1453201.68	40°34'28.727"N	104°41'39.358"W	point

SURVEY PROGRAM - Ref Wellbore: DEHAAN SOUTH 5X-HNB-16-07-65 PWB Ref Wellpath: DEHAAN SOUTH 5X-HNB-16-07-65 PWP (REV-B.0)									
Start MD [ft]	End MD [ft]	Positional Uncertainty Model			Log Name/Comment		Wellbore		
16.00	17182.20	BHI NaviTrak (Rotating)					DEHAAN SOUTH 5X-HNB-16-07-65 PWB		



Planned Wellpath Report

DEHAAN SOUTH 5X-HNB-16-07-65 PWP (REV-B.0)

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NICKEL ROAD OPERATING	Slot	SLOT#01 DEHAAN SOUTH 5X-HNB-16-07-65 (1129'FSL & 540'FWL,SEC.17)
Area	COLORADO	Well	DEHAAN SOUTH 5X-HNB-16-07-65
Field	WELD COUNTY (NAD83/GRID NORTH)	Wellbore	DEHAAN SOUTH 5X-HNB-16-07-65 PWB
Facility	SEC.17-07N-R65W		

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	337.248	16.00	Tie On
1600.00	0.000	337.248	1600.00	End of Tangent
2413.91	16.278	337.248	2403.01	End of Build
6769.73	16.278	337.248	6584.21	End of Tangent
7743.40	90.868	91.173	7200.00	End of 3D Arc
12135.96	90.868	91.173	7133.43	End of Tangent
12174.79	90.093	91.134	7133.10	End of 3D Arc
17182.20	90.093	91.134	7125.00	End of Tangent