

# NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#17 Blackhawk F01-2NU (2062FSL & 735FWL, SEC.01)  
 Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: Blackhawk F01-2NU  
 Facility: SEC.01-T05N-R65W Wellbore: Blackhawk F01-2NU PWB

Plot reference wellpath is Blackhawk F01-2NU (REV-A.0) PWP  
 True vertical depths are referenced to (4636'GL+30'KB@4666'RKB) (RKB)  
 Reference wellpath measured depths are referenced to (4636'GL+30'KB@4666'RKB) (RKB)  
 (4636'GL+30'KB@4666'RKB) (RKB) to Mean Sea Level: 4666 feet  
 Mean Sea Level to Ground level (At Slot: SLOT#17 Blackhawk F01-2NU (2062FSL & 735FWL, SEC.01)): 0 feet  
 Offset wellpath MDs are referenced to each path's default MD datum  
 Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet  
 North Reference: Grid north  
 Scale: True distance  
 Coordinates are in feet referenced to Slot  
 Depths are in feet  
 Created by: meyedav on 2025-02-06; Database: WellArchitectDB

## Location Information

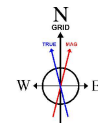
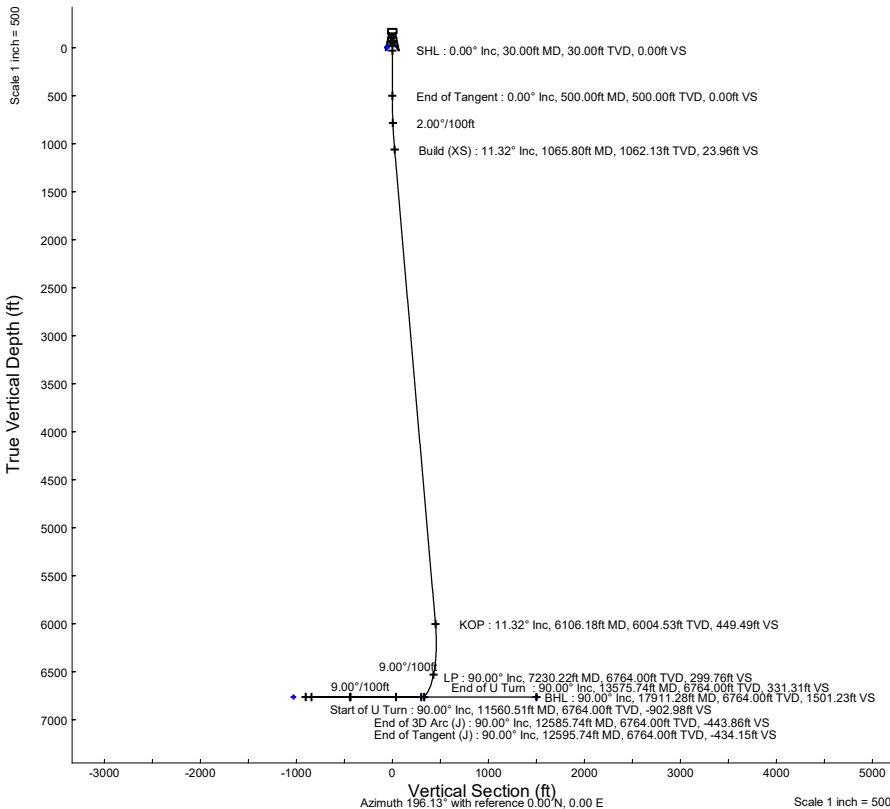
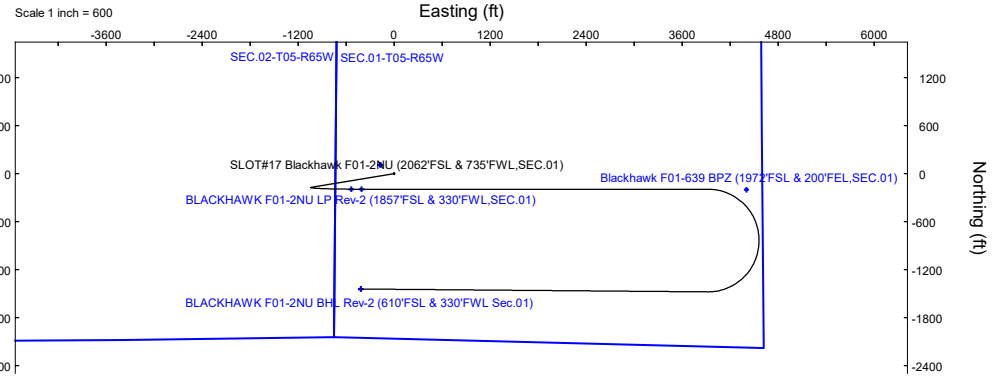
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
SEC.01-T05N-R65W	3245263.240	1395710.610	40°25'36.1468"N	104°37'8.4218"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#17 Blackhawk F01-2NU (2062FSL & 735FWL, SEC.01)	-127.68	202.85	3245466.084	1395682.934	40°25'36.8652"N	104°37'5.8152"W
(4636'GL+30'KB@4666'RKB) (RKB) to Ground level (At Slot: SLOT#17 Blackhawk F01-2NU (2062FSL & 735FWL, SEC.01))						4666ft
Mean Sea Level to Ground level (At Slot: SLOT#17 Blackhawk F01-2NU (2062FSL & 735FWL, SEC.01))						0ft
(4636'GL+30'KB@4666'RKB) (RKB) to Mean Sea Level						4666ft

### Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
SHL	30.00	0.000	260.642	30.00	0.00	0.00	0.00	0.00
End of Tangent	500.00	0.000	260.642	500.00	0.00	0.00	0.00	0.00
Build (XS)	1065.80	11.316	260.642	1062.13	-9.06	-54.95	2.00	23.96
KOP	6106.18	11.316	260.642	6004.53	-169.87	-1030.81	0.00	449.49
LP	7230.22	90.000	90.000	6764.00	-194.58	-406.24	9.00	299.76
Start of U Turn	11560.51	90.000	90.000	6764.00	-194.58	3924.05	0.00	-902.98
End of 3D Arc (J)	12585.74	90.000	182.271	6764.00	-856.43	4560.17	9.00	-443.86
End of Tangent (J)	12595.74	90.000	182.271	6764.00	-866.42	4559.77	0.00	-434.15
End of U Turn	13575.74	90.000	270.471	6764.00	-1477.79	3918.42	9.00	331.31
BHL	17911.28	90.000	270.471	6764.00	-1442.16	-416.96	0.00	1501.23

### Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.01-T05-R65W	N/A	-1.00	109.04	-172.87	3245293.22	1399691.97	40°25'37.6596"N	104°37'8.0364"W
SEC.02-T05-R65W	N/A	-1.00	109.04	-172.87	3245293.22	1399691.97	40°25'37.6596"N	104°37'8.0364"W
BLACKHAWK F01-2NU BHL Rev-2 (610'FSL & 330'FWL, SEC.01)	17911.28	6764.00	-1442.16	-416.96	3245049.14	1398140.63	40°25'22.6560"N	104°37'11.3916"W
BLACKHAWK F01-2NU LP Rev-2 (1857'FSL & 330'FWL, SEC.01)	7230.22	6764.00	-194.58	-406.24	3245059.86	1399388.36	40°25'34.8624"N	104°37'11.0928"W
Blackhawk F01-2NU Rev-1 BHL	N/A	6764.00	-1442.14	-417.05	3245049.05	1398140.85	40°25'22.6562"N	104°37'11.3927"W
Blackhawk F01-639 BPZ (1972'FSL & 200'FEL, SEC.01)	N/A	6764.00	-200.90	4404.26	3249870.16	1399382.04	40°25'34.4435"N	104°36'8.8951"W
Blackhawk F01-639 LP (1854'FSL & 200'FWL, SEC.01)	N/A	6764.00	-194.66	-536.33	3244929.78	1399388.28	40°25'34.9944"N	104°37'12.7748"W



BGMN (1900.0 to 2024.0) Dip: 66.63° Field: 51662.6 nT  
 Magnetic North is 7.48 degrees East of True North (at 11/02/2023)  
 Grid North is 0.57 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.57 degrees  
 To correct azimuth from Magnetic to Grid add 6.91 degrees



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Blackhawk F01-2NU
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.01-T05N-R65W	Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Meyedavr
Scale	0.999962	Report Generated	2/7/2025 at 9:40:55 AM
Convergence at slot	0.57° East	Database	WellArchitectDB

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-127.68	202.85	3245466.08	1399582.93	40.4269070°	-104.6182820°
Facility Reference Pt			3245263.24	1399710.61	40.4272630°	-104.6190060°
Field Reference Pt			3000000.00	4454105.15	48.7761986°	-105.5000000°

WELLPATH DATUM			
Calculation method	Minimum curvature	(4636'GL+30'KB@4666'RKB) (RKB) to Facility Vertical Datum	4666.00ft
Horizontal Reference Pt	Slot	(4636'GL+30'KB@4666'RKB) (RKB) to Mean Sea Level	4666.00ft
Vertical Reference Pt	(4636'GL+30'KB@4666'RKB) (RKB)	(4636'GL+30'KB@4666'RKB) (RKB) to Ground Level at Slot (SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01))	4666.00ft
MD Reference Pt	(4636'GL+30'KB@4666'RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	196.13°



# Planned Wellpath Report

Blackhawk F01-2NU (REV-A.0) PWP  
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REFERENCE WELLPATH IDENTIFICATION			
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Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.01-T05N-R65W	Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)		

WELLPATH DATA (189 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	260.642	0.00	0.00	0.00	0.00	40.4269070	-104.6182820	0.00	
30.00	0.000	260.642	30.00	0.00	0.00	0.00	40.4269070	-104.6182820	0.00	SHL
130.00†	0.000	260.642	130.00	0.00	0.00	0.00	40.4269070	-104.6182820	0.00	
230.00†	0.000	260.642	230.00	0.00	0.00	0.00	40.4269070	-104.6182820	0.00	
330.00†	0.000	260.642	330.00	0.00	0.00	0.00	40.4269070	-104.6182820	0.00	
430.00†	0.000	260.642	430.00	0.00	0.00	0.00	40.4269070	-104.6182820	0.00	
500.00	0.000	260.642	500.00	0.00	0.00	0.00	40.4269070	-104.6182820	0.00	End of Tangent
530.00†	0.600	260.642	530.00	0.07	-0.03	-0.15	40.4269069	-104.6182826	2.00	
630.00†	2.600	260.642	629.96	1.27	-0.48	-2.91	40.4269058	-104.6182925	2.00	
730.00†	4.600	260.642	729.75	3.97	-1.50	-9.11	40.4269031	-104.6183148	2.00	
830.00†	6.600	260.642	829.27	8.17	-3.09	-18.73	40.4268990	-104.6183494	2.00	
930.00†	8.600	260.642	928.39	13.86	-5.24	-31.78	40.4268935	-104.6183963	2.00	
1030.00†	10.600	260.642	1026.98	21.03	-7.95	-48.24	40.4268865	-104.6184555	2.00	
1065.80	11.316	260.642	1062.13	23.96	-9.06	-54.95	40.4268836	-104.6184797	2.00	Build (XS)
1130.00†	11.316	260.642	1125.08	29.38	-11.10	-67.38	40.4268784	-104.6185244	0.00	
1230.00†	11.316	260.642	1223.14	37.82	-14.29	-86.74	40.4268701	-104.6185941	0.00	
1330.00†	11.316	260.642	1321.19	46.27	-17.48	-106.10	40.4268619	-104.6186637	0.00	
1430.00†	11.316	260.642	1419.25	54.71	-20.68	-125.46	40.4268537	-104.6187334	0.00	
1530.00†	11.316	260.642	1517.30	63.15	-23.87	-144.82	40.4268454	-104.6188030	0.00	
1630.00†	11.316	260.642	1615.36	71.59	-27.06	-164.18	40.4268372	-104.6188727	0.00	
1730.00†	11.316	260.642	1713.42	80.04	-30.25	-183.55	40.4268290	-104.6189423	0.00	
1830.00†	11.316	260.642	1811.47	88.48	-33.44	-202.91	40.4268208	-104.6190120	0.00	
1930.00†	11.316	260.642	1909.53	96.92	-36.63	-222.27	40.4268125	-104.6190816	0.00	
2030.00†	11.316	260.642	2007.58	105.36	-39.82	-241.63	40.4268043	-104.6191513	0.00	
2130.00†	11.316	260.642	2105.64	113.81	-43.01	-260.99	40.4267961	-104.6192209	0.00	
2230.00†	11.316	260.642	2203.70	122.25	-46.20	-280.35	40.4267878	-104.6192906	0.00	
2330.00†	11.316	260.642	2301.75	130.69	-49.39	-299.71	40.4267796	-104.6193602	0.00	
2430.00†	11.316	260.642	2399.81	139.13	-52.58	-319.07	40.4267714	-104.6194299	0.00	
2530.00†	11.316	260.642	2497.86	147.58	-55.77	-338.43	40.4267632	-104.6194995	0.00	
2630.00†	11.316	260.642	2595.92	156.02	-58.96	-357.79	40.4267549	-104.6195692	0.00	
2730.00†	11.316	260.642	2693.98	164.46	-62.15	-377.15	40.4267467	-104.6196388	0.00	
2830.00†	11.316	260.642	2792.03	172.90	-65.34	-396.52	40.4267385	-104.6197085	0.00	
2930.00†	11.316	260.642	2890.09	181.35	-68.53	-415.88	40.4267302	-104.6197781	0.00	
3030.00†	11.316	260.642	2988.14	189.79	-71.72	-435.24	40.4267220	-104.6198478	0.00	
3130.00†	11.316	260.642	3086.20	198.23	-74.91	-454.60	40.4267138	-104.6199174	0.00	
3230.00†	11.316	260.642	3184.26	206.67	-78.10	-473.96	40.4267055	-104.6199871	0.00	
3330.00†	11.316	260.642	3282.31	215.12	-81.30	-493.32	40.4266973	-104.6200567	0.00	
3430.00†	11.316	260.642	3380.37	223.56	-84.49	-512.68	40.4266891	-104.6201264	0.00	
3530.00†	11.316	260.642	3478.42	232.00	-87.68	-532.04	40.4266809	-104.6201960	0.00	
3630.00†	11.316	260.642	3576.48	240.44	-90.87	-551.40	40.4266726	-104.6202657	0.00	
3730.00†	11.316	260.642	3674.54	248.89	-94.06	-570.76	40.4266644	-104.6203353	0.00	
3830.00†	11.316	260.642	3772.59	257.33	-97.25	-590.12	40.4266562	-104.6204050	0.00	
3930.00†	11.316	260.642	3870.65	265.77	-100.44	-609.48	40.4266479	-104.6204746	0.00	

**WELLPATH DATA (189 stations) † = interpolated, ‡ = extrapolated station**

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4030.00†	11.316	260.642	3968.70	274.21	-103.63	-628.85	40.4266397	-104.6205443	0.00	
4130.00†	11.316	260.642	4066.76	282.66	-106.82	-648.21	40.4266315	-104.6206139	0.00	



# Planned Wellpath Report

Blackhawk F01-2NU (REV-A.0) PWP  
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REFERENCE WELLPATH IDENTIFICATION			
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Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.01-T05N-R65W	Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)		

WELLPATH DATA (189 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4230.00†	11.316	260.642	4164.82	291.10	-110.01	-667.57	40.4266232	-104.6206836	0.00	
4330.00†	11.316	260.642	4262.87	299.54	-113.20	-686.93	40.4266150	-104.6207532	0.00	
4430.00†	11.316	260.642	4360.93	307.98	-116.39	-706.29	40.4266068	-104.6208229	0.00	
4530.00†	11.316	260.642	4458.98	316.43	-119.58	-725.65	40.4265986	-104.6208925	0.00	
4630.00†	11.316	260.642	4557.04	324.87	-122.77	-745.01	40.4265903	-104.6209622	0.00	
4730.00†	11.316	260.642	4655.10	333.31	-125.96	-764.37	40.4265821	-104.6210318	0.00	
4830.00†	11.316	260.642	4753.15	341.75	-129.15	-783.73	40.4265739	-104.6211015	0.00	
4930.00†	11.316	260.642	4851.21	350.20	-132.34	-803.09	40.4265656	-104.6211711	0.00	
5030.00†	11.316	260.642	4949.26	358.64	-135.53	-822.45	40.4265574	-104.6212408	0.00	
5130.00†	11.316	260.642	5047.32	367.08	-138.72	-841.82	40.4265492	-104.6213104	0.00	
5230.00†	11.316	260.642	5145.38	375.52	-141.92	-861.18	40.4265409	-104.6213801	0.00	
5330.00†	11.316	260.642	5243.43	383.97	-145.11	-880.54	40.4265327	-104.6214497	0.00	
5430.00†	11.316	260.642	5341.49	392.41	-148.30	-899.90	40.4265245	-104.6215194	0.00	
5530.00†	11.316	260.642	5439.54	400.85	-151.49	-919.26	40.4265162	-104.6215890	0.00	
5630.00†	11.316	260.642	5537.60	409.29	-154.68	-938.62	40.4265080	-104.6216587	0.00	
5730.00†	11.316	260.642	5635.66	417.73	-157.87	-957.98	40.4264998	-104.6217283	0.00	
5830.00†	11.316	260.642	5733.71	426.18	-161.06	-977.34	40.4264916	-104.6217980	0.00	
5930.00†	11.316	260.642	5831.77	434.62	-164.25	-996.70	40.4264833	-104.6218676	0.00	
6030.00†	11.316	260.642	5929.82	443.06	-167.44	-1016.06	40.4264751	-104.6219373	0.00	
6106.18	11.316	260.642	6004.53	449.49	-169.87	-1030.81	40.4264668	-104.6219903	0.00	KOP
6130.00†	9.209	258.422	6027.96	451.39	-170.63	-1034.99	40.4264668	-104.6220054	9.00	
6230.00†	1.864	180.615	6127.49	456.68	-173.87	-1042.86	40.4264582	-104.6220338	9.00	
6330.00†	9.170	101.629	6227.03	457.63	-177.11	-1035.06	40.4264491	-104.6220058	9.00	
6430.00†	18.073	95.722	6324.13	454.19	-180.27	-1011.77	40.4264398	-104.6219223	9.00	
6530.00†	27.039	93.655	6416.39	446.47	-183.27	-973.57	40.4264305	-104.6217852	9.00	
6630.00†	36.022	92.565	6501.53	434.64	-186.04	-921.41	40.4264215	-104.6215980	9.00	
6730.00†	45.010	91.864	6577.48	419.00	-188.51	-856.55	40.4264129	-104.6213651	9.00	
6830.00†	54.002	91.355	6642.35	399.94	-190.62	-780.61	40.4264051	-104.6210925	9.00	
6930.00†	62.995	90.950	6694.55	377.92	-192.32	-695.46	40.4263981	-104.6207867	9.00	
7030.00†	71.990	90.606	6732.79	353.48	-193.57	-603.18	40.4263922	-104.6204553	9.00	
7130.00†	80.985	90.296	6756.13	327.23	-194.33	-506.05	40.4263874	-104.6201065	9.00	
7230.00†	89.980	90.001	6764.00	299.82	-194.58	-406.46	40.4263840	-104.6197488	9.00	
7230.22	90.000	90.000	6764.00†	299.76	-194.58	-406.24	40.4263840	-104.6197480	9.00	LP
7330.00†	90.000	90.000	6764.00	272.04	-194.58	-306.46	40.4263813	-104.6193896	0.00	
7430.00†	90.000	90.000	6764.00	244.27	-194.58	-206.46	40.4263786	-104.6190305	0.00	
7530.00†	90.000	90.000	6764.00	216.50	-194.58	-106.46	40.4263758	-104.6186713	0.00	
7630.00†	90.000	90.000	6764.00	188.72	-194.58	-6.46	40.4263731	-104.6183122	0.00	
7730.00†	90.000	90.000	6764.00	160.95	-194.58	93.54	40.4263704	-104.6179530	0.00	
7830.00†	90.000	90.000	6764.00	133.17	-194.58	193.54	40.4263676	-104.6175938	0.00	
7930.00†	90.000	90.000	6764.00	105.40	-194.58	293.54	40.4263649	-104.6172347	0.00	
8030.00†	90.000	90.000	6764.00	77.62	-194.58	393.54	40.4263622	-104.6168755	0.00	
8130.00†	90.000	90.000	6764.00	49.85	-194.58	493.54	40.4263594	-104.6165164	0.00	

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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8230.00†	90.000	90.000	6764.00	22.07	-194.58	593.54	40.4263567	-104.6161572	0.00	
8330.00†	90.000	90.000	6764.00	-5.70	-194.58	693.54	40.4263540	-104.6157980	0.00	
8430.00†	90.000	90.000	6764.00	-33.48	-194.58	793.54	40.4263512	-104.6154389	0.00	



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Blackhawk F01-2NU (REV-A.0) PWP  
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REFERENCE WELLPATH IDENTIFICATION			
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Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.01-T05N-R65W	Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)		

WELLPATH DATA (189 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8530.00†	90.000	90.000	6764.00	-61.25	-194.58	893.54	40.4263485	-104.6150797	0.00	
8630.00†	90.000	90.000	6764.00	-89.03	-194.58	993.54	40.4263458	-104.6147206	0.00	
8730.00†	90.000	90.000	6764.00	-116.80	-194.58	1093.54	40.4263430	-104.6143614	0.00	
8830.00†	90.000	90.000	6764.00	-144.58	-194.58	1193.54	40.4263403	-104.6140022	0.00	
8930.00†	90.000	90.000	6764.00	-172.35	-194.58	1293.54	40.4263375	-104.6136431	0.00	
9030.00†	90.000	90.000	6764.00	-200.13	-194.58	1393.54	40.4263348	-104.6132839	0.00	
9130.00†	90.000	90.000	6764.00	-227.90	-194.58	1493.54	40.4263320	-104.6129248	0.00	
9230.00†	90.000	90.000	6764.00	-255.68	-194.58	1593.54	40.4263293	-104.6125656	0.00	
9330.00†	90.000	90.000	6764.00	-283.45	-194.58	1693.54	40.4263265	-104.6122064	0.00	
9430.00†	90.000	90.000	6764.00	-311.23	-194.58	1793.54	40.4263238	-104.6118473	0.00	
9530.00†	90.000	90.000	6764.00	-339.00	-194.58	1893.54	40.4263210	-104.6114881	0.00	
9630.00†	90.000	90.000	6764.00	-366.78	-194.58	1993.54	40.4263183	-104.6111290	0.00	
9730.00†	90.000	90.000	6764.00	-394.55	-194.58	2093.54	40.4263155	-104.6107698	0.00	
9830.00†	90.000	90.000	6764.00	-422.33	-194.58	2193.54	40.4263128	-104.6104106	0.00	
9930.00†	90.000	90.000	6764.00	-450.10	-194.58	2293.54	40.4263100	-104.6100515	0.00	
10030.00†	90.000	90.000	6764.00	-477.88	-194.58	2393.54	40.4263073	-104.6096923	0.00	
10130.00†	90.000	90.000	6764.00	-505.65	-194.58	2493.54	40.4263045	-104.6093332	0.00	
10230.00†	90.000	90.000	6764.00	-533.43	-194.58	2593.54	40.4263018	-104.6089740	0.00	
10330.00†	90.000	90.000	6764.00	-561.20	-194.58	2693.54	40.4262990	-104.6086148	0.00	
10430.00†	90.000	90.000	6764.00	-588.98	-194.58	2793.54	40.4262962	-104.6082557	0.00	
10530.00†	90.000	90.000	6764.00	-616.75	-194.58	2893.54	40.4262935	-104.6078965	0.00	
10630.00†	90.000	90.000	6764.00	-644.53	-194.58	2993.54	40.4262907	-104.6075374	0.00	
10730.00†	90.000	90.000	6764.00	-672.30	-194.58	3093.54	40.4262880	-104.6071782	0.00	
10830.00†	90.000	90.000	6764.00	-700.08	-194.58	3193.54	40.4262852	-104.6068190	0.00	
10930.00†	90.000	90.000	6764.00	-727.85	-194.58	3293.54	40.4262824	-104.6064599	0.00	
11030.00†	90.000	90.000	6764.00	-755.63	-194.58	3393.54	40.4262797	-104.6061007	0.00	
11130.00†	90.000	90.000	6764.00	-783.40	-194.58	3493.54	40.4262769	-104.6057416	0.00	
11230.00†	90.000	90.000	6764.00	-811.18	-194.58	3593.54	40.4262741	-104.6053824	0.00	
11330.00†	90.000	90.000	6764.00	-838.95	-194.58	3693.54	40.4262714	-104.6050232	0.00	
11430.00†	90.000	90.000	6764.00	-866.73	-194.58	3793.54	40.4262686	-104.6046641	0.00	
11530.00†	90.000	90.000	6764.00	-894.50	-194.58	3893.54	40.4262658	-104.6043049	0.00	
11560.51	90.000	90.000	6764.00	-902.98	-194.58	3924.05	40.4262650	-104.6041953	0.00	Start of U Turn
11630.00†	90.000	96.254	6764.00	-918.60	-198.37	3993.40	40.4262526	-104.6039464	9.00	
11730.00†	90.000	105.254	6764.00	-927.95	-217.01	4091.54	40.4261988	-104.6035946	9.00	
11830.00†	90.000	114.254	6764.00	-921.63	-250.77	4185.56	40.4261035	-104.6032581	9.00	
11930.00†	90.000	123.254	6764.00	-899.79	-298.83	4273.14	40.4259692	-104.6029453	9.00	
12030.00†	90.000	132.254	6764.00	-862.97	-359.99	4352.12	40.4257991	-104.6026639	9.00	
12130.00†	90.000	141.254	6764.00	-812.08	-432.76	4420.57	40.4255974	-104.6024207	9.00	
12230.00†	90.000	150.254	6764.00	-748.36	-515.34	4476.78	40.4253692	-104.6022218	9.00	
12330.00†	90.000	159.254	6764.00	-673.40	-605.69	4519.39	40.4251200	-104.6020721	9.00	
12430.00†	90.000	168.254	6764.00	-589.02	-701.60	4547.34	40.4248560	-104.6019752	9.00	
12530.00†	90.000	177.254	6764.00	-497.32	-800.70	4559.94	40.4245837	-104.6019335	9.00	
12585.74	90.000	182.271	6764.00	-443.86	-856.43	4560.17	40.4244307	-104.6019347	9.00	End of 3D Arc (J)

**WELLPATH DATA (189 stations) † = interpolated, ‡ = extrapolated station**

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12595.74	90.000	182.271	6764.00	-434.15	-866.42	4559.77	40.4244033	-104.6019365	0.00	End of Tangent (J)
12630.00†	90.000	185.354	6764.00	-400.68	-900.59	4557.50	40.4243096	-104.6019459	9.00	



# Planned Wellpath Report

Blackhawk F01-2NU (REV-A.0) PWP  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Blackhawk F01-2NU
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.01-T05N-R65W	Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)		

WELLPATH DATA (189 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12730.00†	90.000	194.354	6764.00	-301.38	-999.02	4540.40	40.4240399	-104.6020109	9.00	
12830.00†	90.000	203.354	6764.00	-201.60	-1093.56	4508.12	40.4237813	-104.6021303	9.00	
12930.00†	90.000	212.354	6764.00	-103.79	-1181.88	4461.45	40.4235402	-104.6023011	9.00	
13030.00†	90.000	221.354	6764.00	-10.36	-1261.81	4401.53	40.4233224	-104.6025192	9.00	
13130.00†	90.000	230.354	6764.00	76.39	-1331.39	4329.85	40.4231335	-104.6027792	9.00	
13230.00†	90.000	239.354	6764.00	154.33	-1388.90	4248.16	40.4229779	-104.6030746	9.00	
13330.00†	90.000	248.354	6764.00	221.52	-1432.92	4158.49	40.4228595	-104.6033983	9.00	
13430.00†	90.000	257.354	6764.00	276.33	-1462.37	4063.03	40.4227814	-104.6037422	9.00	
13530.00†	90.000	266.354	6764.00	317.39	-1476.52	3964.14	40.4227452	-104.6040979	9.00	
13575.74	90.000	270.471	6764.00	331.31	-1477.79	3918.42	40.4227430	-104.6042621	9.00	End of U Turn
13630.00†	90.000	270.471	6764.00	345.95	-1477.35	3864.17	40.4227458	-104.6044569	0.00	
13730.00†	90.000	270.471	6764.00	372.93	-1476.52	3764.17	40.4227508	-104.6048160	0.00	
13830.00†	90.000	270.471	6764.00	399.92	-1475.70	3664.18	40.4227558	-104.6051751	0.00	
13930.00†	90.000	270.471	6764.00	426.90	-1474.88	3564.18	40.4227608	-104.6055342	0.00	
14030.00†	90.000	270.471	6764.00	453.88	-1474.06	3464.18	40.4227659	-104.6058933	0.00	
14130.00†	90.000	270.471	6764.00	480.87	-1473.24	3364.19	40.4227709	-104.6062524	0.00	
14230.00†	90.000	270.471	6764.00	507.85	-1472.41	3264.19	40.4227759	-104.6066115	0.00	
14330.00†	90.000	270.471	6764.00	534.84	-1471.59	3164.19	40.4227809	-104.6069706	0.00	
14430.00†	90.000	270.471	6764.00	561.82	-1470.77	3064.20	40.4227860	-104.6073297	0.00	
14530.00†	90.000	270.471	6764.00	588.81	-1469.95	2964.20	40.4227910	-104.6076888	0.00	
14630.00†	90.000	270.471	6764.00	615.79	-1469.13	2864.20	40.4227960	-104.6080479	0.00	
14730.00†	90.000	270.471	6764.00	642.78	-1468.31	2764.21	40.4228010	-104.6084070	0.00	
14830.00†	90.000	270.471	6764.00	669.76	-1467.48	2664.21	40.4228060	-104.6087661	0.00	
14930.00†	90.000	270.471	6764.00	696.75	-1466.66	2564.21	40.4228110	-104.6091252	0.00	
15030.00†	90.000	270.471	6764.00	723.73	-1465.84	2464.22	40.4228160	-104.6094843	0.00	
15130.00†	90.000	270.471	6764.00	750.71	-1465.02	2364.22	40.4228211	-104.6098434	0.00	
15230.00†	90.000	270.471	6764.00	777.70	-1464.20	2264.22	40.4228261	-104.6102025	0.00	
15330.00†	90.000	270.471	6764.00	804.68	-1463.37	2164.23	40.4228311	-104.6105616	0.00	
15430.00†	90.000	270.471	6764.00	831.67	-1462.55	2064.23	40.4228361	-104.6109207	0.00	
15530.00†	90.000	270.471	6764.00	858.65	-1461.73	1964.23	40.4228411	-104.6112798	0.00	
15630.00†	90.000	270.471	6764.00	885.64	-1460.91	1864.24	40.4228461	-104.6116389	0.00	
15730.00†	90.000	270.471	6764.00	912.62	-1460.09	1764.24	40.4228511	-104.6119980	0.00	
15830.00†	90.000	270.471	6764.00	939.61	-1459.26	1664.24	40.4228561	-104.6123571	0.00	
15930.00†	90.000	270.471	6764.00	966.59	-1458.44	1564.25	40.4228611	-104.6127162	0.00	
16030.00†	90.000	270.471	6764.00	993.57	-1457.62	1464.25	40.4228661	-104.6130753	0.00	
16130.00†	90.000	270.471	6764.00	1020.56	-1456.80	1364.25	40.4228711	-104.6134344	0.00	
16230.00†	90.000	270.471	6764.00	1047.54	-1455.98	1264.26	40.4228761	-104.6137935	0.00	
16330.00†	90.000	270.471	6764.00	1074.53	-1455.16	1164.26	40.4228811	-104.6141526	0.00	
16430.00†	90.000	270.471	6764.00	1101.51	-1454.33	1064.26	40.4228861	-104.6145117	0.00	
16530.00†	90.000	270.471	6764.00	1128.50	-1453.51	964.27	40.4228911	-104.6148708	0.00	
16630.00†	90.000	270.471	6764.00	1155.48	-1452.69	864.27	40.4228961	-104.6152299	0.00	
16730.00†	90.000	270.471	6764.00	1182.47	-1451.87	764.27	40.4229011	-104.6155890	0.00	
16830.00†	90.000	270.471	6764.00	1209.45	-1451.05	664.28	40.4229061	-104.6159481	0.00	

**WELLPATH DATA (189 stations) † = interpolated, ‡ = extrapolated station**

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16930.00†	90.000	270.471	6764.00	1236.43	-1450.22	564.28	40.4229111	-104.6163072	0.00	
17030.00†	90.000	270.471	6764.00	1263.42	-1449.40	464.28	40.4229161	-104.6166663	0.00	



# Planned Wellpath Report

Blackhawk F01-2NU (REV-A.0) PWP  
Page 6 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Blackhawk F01-2NU
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.01-T05N-R65W	Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)		

WELLPATH DATA (189 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17130.00†	90.000	270.471	6764.00	1290.40	-1448.58	364.29	40.4229211	-104.6170254	0.00	
17230.00†	90.000	270.471	6764.00	1317.39	-1447.76	264.29	40.4229260	-104.6173845	0.00	
17330.00†	90.000	270.471	6764.00	1344.37	-1446.94	164.29	40.4229310	-104.6177436	0.00	
17430.00†	90.000	270.471	6764.00	1371.36	-1446.11	64.30	40.4229360	-104.6181027	0.00	
17530.00†	90.000	270.471	6764.00	1398.34	-1445.29	-35.70	40.4229410	-104.6184618	0.00	
17630.00†	90.000	270.471	6764.00	1425.33	-1444.47	-135.70	40.4229460	-104.6188209	0.00	
17730.00†	90.000	270.471	6764.00	1452.31	-1443.65	-235.69	40.4229510	-104.6191800	0.00	
17830.00†	90.000	270.471	6764.00	1479.29	-1442.83	-335.69	40.4229560	-104.6195391	0.00	
17911.28	90.000	270.471	6764.00‡	1501.23	-1442.16	-416.96	40.4229600	-104.6198310	0.00	BHL

TARGETS										
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
SEC.01-T05-R65W	N/A	-1.00	109.04	-172.87	3245293.22	1399691.97	40.4272110	-104.6188990	polygon	
	2D Polygon: dimensions not calculated									
SEC.02-T05-R65W	N/A	-1.00	109.04	-172.87	3245293.22	1399691.97	40.4272110	-104.6188990	polygon	
	2D Polygon: dimensions not calculated									
2) BLACKHAWK F01-2NU BHL Rev-2 (610'FSL & 330'FWL Sec.01)	17911.28	6764.00	-1442.16	-416.96	3245049.14	1398140.83	40.4229600	-104.6198310	point	
1) BLACKHAWK F01-2NU LP Rev-2 (1857'FSL & 330'FWL,SEC.01)	7230.22	6764.00	-194.58	-406.24	3245059.86	1399388.36	40.4263840	-104.6197480	point	
Blackhawk F01-2NU Rev-1 BHL	N/A	6764.00	-1442.14	-417.05	3245049.05	1398140.85	40.4229601	-104.6198313	point	
Blackhawk F01-639 BPZ (1972'FSL & 200'FEL,SEC.01)	N/A	6764.00	-200.90	4404.26	3249870.16	1399382.04	40.4262343	-104.6024709	point	
Blackhawk F01-639 LP (1854'FSL & 200'FWL,SEC.01)	N/A	6764.00	-194.66	-536.33	3244929.78	1399388.28	40.4263873	-104.6202152	point	

SURVEY PROGRAM -				
Ref Wellbore: Blackhawk F01-2NU PWB      Ref Wellpath: Blackhawk F01-2NU (REV-A.0) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	1950.00	OWSG MWD rev2 (MS+IFR1)_1		

**SURVEY PROGRAM -****Ref Wellbore: Blackhawk F01-2NU PWB****Ref Wellpath: Blackhawk F01-2NU (REV-A.0) PWP**

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
				Blackhawk F01-2NU PWB
1950.00	18068.25	OWSG MWD rev2 (MS+IFR1)_1		Blackhawk F01-2NU PWB



# Planned Wellpath Report

Blackhawk F01-2NU (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Blackhawk F01-2NU
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.01-T05N-R65W	Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)		

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
30.00	0.000	260.642	30.00	SHL
500.00	0.000	260.642	500.00	End of Tangent
1065.80	11.316	260.642	1062.13	Build (XS)
6106.18	11.316	260.642	6004.53	KOP
7230.22	90.000	90.000	6764.00	LP
11560.51	90.000	90.000	6764.00	Start of U Turn
12585.74	90.000	182.271	6764.00	End of 3D Arc (J)
12595.74	90.000	182.271	6764.00	End of Tangent (J)
13575.74	90.000	270.471	6764.00	End of U Turn
17911.28	90.000	270.471	6764.00	BHL



# Closest Approach Clearance Summary Report

Blackhawk F01-2NU (REV-A.0) PWP - SPE WPTS  
Stop Drilling HSE Risk (2017)



## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Blackhawk F01-2NU
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.01-T05N-R65W	Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Meyedavr
Scale	0.999962	Report Generated	2/6/2025 at 9:35:01 PM
Convergence at slot	0.57° East	Database	WellArchitectDB

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-127.68	202.85	3245466.08	1399582.93	40°25'36.8652"N	104°37'5.8152"W
Facility Reference Pt			3245263.24	1399710.61	40°25'38.1468"N	104°37'8.4216"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.3150"N	105°30'0.0000"W

## WELLPATH DATUM

Calculation method	Minimum Curvature	(4636'GL+30'KB@4666'RKB) (RKB) to Facility Vertical Datum	4666.00ft
Horizontal Reference Pt	Slot	(4636'GL+30'KB@4666'RKB) (RKB) to Mean Sea Level	4666.00ft
Vertical Reference Pt	(4636'GL+30'KB@4666'RKB) (RKB)	(4636'GL+30'KB@4666'RKB) (RKB) to Ground Level at Slot (SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01))	4666.00ft
MD Reference Pt	(4636'GL+30'KB@4666'RKB) (RKB)		
Field Vertical Reference	Mean Sea Level		

## POSITIONAL UNCERTAINTY CALCULATION SETTINGS

Ellipse Confidence Limit	3.50 Std Dev	Ellipse Start MD	30.00ft	Surface Position Uncertainty	included
Declination	7.48° East of TN	Dip Angle	66.63°	Mag Field Strength	51653 nT
Slot Surface Uncertainty @1SD		Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD		Horizontal	8.200ft	Vertical	3.000ft

Positional Uncertainty values in the WELLPATH DATA table are the projection of the ellipsoid of uncertainty onto the vertical and horizontal planes



# Closest Approach Clearance Summary Report

Blackhawk F01-2NU (REV-A.0) PWP - SPE WPTS  
Stop Drilling HSE Risk (2017)

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Blackhawk F01-2NU
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.01-T05N-R65W	Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)		

PROXIMITY-SCAN RULE			
Rule Name	SPE WPTS Stop Drilling HSE Risk (2017)	Rule Based On	Ratio
Plane of Rule	Closest Approach	Threshold Value	1.00
Include Casing & Hole Size	yes	Apply Cone of Safety	no

SURVEY PROGRAM -				
Ref Wellbore: Blackhawk F01-2NU PWB		Ref Wellpath: Blackhawk F01-2NU (REV-A.0) PWP		
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	1950.00	OWSG MWD rev2 (MS+IFR1)_1		Blackhawk F01-2NU PWB
1950.00	18068.25	OWSG MWD rev2 (MS+IFR1)_1		Blackhawk F01-2NU PWB



# Closest Approach Clearance Summary Report

Blackhawk F01-2NU (REV-A.0) PWP - SPE WPTS  
Stop Drilling HSE Risk (2017)



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Blackhawk F01-2NU
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.01-T05N-R65W	Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)		

CALCULATION RANGE & CUTOFF		
From: 30.00ft MD	To: 17911.28ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (74 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane												
Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
F Section 01	(Weld County 1-9H5)	Weld County 1-9H5 (05-123-18314)	Wellbore #1	Wellbore #1 \No Surveys	Drilling	11372.63	3.57	13730.00	11372.63	0.00	13730.00	FAIL
F Section 01	(DPG Bird Farm 1-15H5(SI))	DPG Bird Farm 1-15H5(SI) (05-123-18174)	Wellbore #1	Wellbore #1 \No Surveys	Drilling	14685.39	93.93	14685.39	14685.39	0.01	14685.39	FAIL
F Section 01	(DPG F 1-23(SI))	DPG F 1-23 (SI) (05-123-25875)	Wellbore #1	Wellbore #1 \No Surveys	Drilling	14360.52	627.64	14360.52	14360.54	0.08	14360.54	FAIL
F Section 01	(DPG F 1-13(SI))	DPG F 1-13 (SI) (05-123-25569)	Wellbore #1	Wellbore #1 \Inc Only Surveys	Drilling	17608.57	61.92	17608.57	17608.64	0.18	17608.64	FAIL
F Section 01	(CDOT F 1-10(SI))	CDOT F 1-10(SI) (05-123-25082)	Wellbore #1	Wellbore #1 \Inc Only Surveys	Drilling	10219.95	53.22	14930.00	10220.02	0.20	14930.00	FAIL
F Section 01	(Gatewood 5(SI))	Gatewood 5 (SI) (05-123-24919)	Wellbore #1	Wellbore #1 \No Surveys	Drilling	30.00	1825.04	16930.00	8237.98	0.23	16930.00	FAIL
F Section 02	(Wagner-Ehrlich 1 (PA))	Wagner-Ehrlich 1 (PA) (05-123-11739)	Wellbore #1	Wellbore #1 \No Surveys	Drilling	6203.46	2124.90	17911.28	6524.66	0.28	17911.28	FAIL
F Section 02	(Noffsinger 2C)	Noffsinger 2C (05-123-29741)	Wellbore #1	Wellbore #1 \No Surveys	Drilling	6175.83	2258.50	17911.28	6662.01	0.29	17911.28	FAIL
F Section 01	(Noffsinger 1 (PA))	Noffsinger 1 (PA) (05-123-11185)	Wellbore #1	Wellbore #1 \No Surveys	Drilling	11560.92	2532.13	11560.92	11560.92	0.31	11560.92	FAIL
F Section 01	(Gatewood F 1-12 (SI))	Gatewood F 1-12(SI) (05-123-16079)	Wellbore #1	Wellbore #1 \Inc Only Surveys	Drilling	1672.64	33.45	17630.00	7469.56	0.43	17730.00	FAIL
F Section 01	(DPG Bird Farm 1-14H5(SI))	DPG Bird Farm 1-14H5(SI) (05-123-18188)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	15976.93	86.73	15976.93	15977.90	0.49	15977.90	FAIL
F Section 02	(Zabka 1(PA))	Zabka 1(PA) (05-123-12041)	Wellbore #1	Wellbore #1 \No Surveys	Drilling	6212.80	3873.03	17911.28	6643.68	0.50	17911.28	FAIL
SEC.01-T05N-R65W	SLOT#16 Blackhawk F01-1NU (2070'FSL & 722'FWL,SEC.01)	Blackhawk F01-1NU	Blackhawk F01-1NU PWB	Blackhawk F01-1NU	Planned	30.00	14.87	12410.01	12410.01	0.51	17911.28	FAIL

**OFFSET WELL CLEARANCE SUMMARY (74 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane**

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
				(REV-A.0) PWP								
SEC.01-T05N-R65W	SLOT#18 Blackhawk F01-3NU (2054'FSL & 747'FWL,SEC.01)	Blackhawk F01-3NU	Blackhawk F01-3NU PWB	Blackhawk F01-3NU (REV-A.0) PWP	Planned	30.00	15.30	17911.28	12728.93	0.65	17911.28	FAIL
F Section 01	(DPG Bird Farm 1-16H5)	DPG Bird Farm 1-16H5 (05-123-18176)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	13657.35	117.89	13657.35	13660.50	0.84	13660.50	FAIL
F Section 01	(BJB 4)	BJB 4 (05-123-14761)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	11193.37	2483.09	13930.00	11184.91	0.94	14030.00	FAIL
F Section 01	(Gatewood 11-1)	Gatewood 11-1 (05-123-13437)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	8913.01	153.14	16230.00	8910.15	1.06	16430.00	WARN
SEC.01-T05N-R65W	SLOT#15 Blackhawk F04-615 (2077'FSL & 709'FWL,SEC.01)	Blackhawk F04-615	Blackhawk F04-615 PWB	Blackhawk F04-615 (REV-C.0) PWP	Planned	857.79	19.67	17911.28	17911.28	1.14	17911.28	PASS
SEC.01-T05N-R65W	SLOT#14 Blackhawk F04-620 (2085'FSL & 696'FWL,SEC.01)	Blackhawk F04-620	Blackhawk F04-620 PWB	Blackhawk F04-620 (REV-C.0) PWP	Planned	937.98	29.86	17911.28	17911.28	1.15	17911.28	PASS
SEC.01-T05N-R65W	SLOT#10 Blackhawk F04-640 (2116'FSL & 645'FWL,SEC.01)	Blackhawk F04-640	Blackhawk F04-640 PWB	Blackhawk F04-640 (REV-C.0) PWP	Planned	7010.20	63.37	17911.28	7011.15	1.22	17911.28	PASS
F Section 01	(DPG F 1-24(SI))	DPG F 1-24 (SI) (05-123-27169)	Wellbore #1	Wellbore #1 \Inc Only Surveys	Drilling	15265.84	430.73	15265.84	15272.30	1.56	15272.30	PASS
F Section 01	(DPG F 12-28(SI))	DPG F 12-28(SI) (05-123-28053)	Wellbore #1	Wellbore #1 \Inc Only Surveys	Drilling	15588.71	494.11	15588.71	15591.96	1.58	15591.96	PASS
F Section 01	(DPG F 1-25(SI))	DPG F 1-25 (SI) (05-123-26787)	Wellbore #1	Wellbore #1 \Inc Only Surveys	Drilling	16999.20	593.00	16999.20	17009.56	2.05	17009.56	PASS
SEC.01-T05N-R65W	SLOT#13 Blackhawk F04-625 (2093'FSL & 684'FWL,SEC.01)	Blackhawk F04-625	Blackhawk F04-625 PWB	Blackhawk F04-625 (REV-C.0) PWP	Planned	1007.57	39.74	17911.28	17911.28	2.31	17911.28	PASS
F Section 01	(BJB 3(PA))	BJB 3(PA) (05-123-14588)	Wellbore #1	Wellbore #1 \No Surveys	Drilling	10243.17	1044.03	14930.00	10252.62	2.46	14930.00	PASS



# Closest Approach Clearance Summary Report

Blackhawk F01-2NU (REV-A.0) PWP - SPE WPTS  
Stop Drilling HSE Risk (2017)



REFERENCE WELLPATH IDENTIFICATION				
Operator	NOBLE ENERGY, INC		Well	Blackhawk F01-2NU
Field	WELD COUNTY (NOBLE NAD 83 GRID)		API/Legal	
Facility	SEC.01-T05N-R65W		Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)			

CALCULATION RANGE & CUTOFF		
From: 30.00ft MD	To: 17911.28ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (74 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane												
Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
SEC.01-T05N-R65W	SLOT#12 Blackhawk F04-630 (2100'FSL & 671'FWL,SEC.01)	Blackhawk F04-630	Blackhawk F04-630 PWB	Blackhawk F04-630 (REV-C.0) PWP	Planned	1067.39	49.58	14030.00	17911.28	2.67	17911.28	PASS
F Section 01	(LDS 1W-414)	LDS 1W-414 (05-123-41205)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	9692.33	861.41	17911.28	6964.91	3.59	17911.28	PASS
F Section 01	(DPG F 1-33(SI))	DPG F 1-33 (SI) (05-123-25683)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	6994.43	517.37	17911.28	17911.28	3.97	17911.28	PASS
F Section 01	(LDS 1W-314)	LDS 1W-314 (05-123-41208)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	11586.78	1165.64	17911.28	6797.62	4.76	17911.28	PASS
SEC.01-T05N-R65W	SLOT#11 Blackhawk F04-635 (2108'FSL & 658'FWL,SEC.01)	Blackhawk F04-635	Blackhawk F04-635 PWB	Blackhawk F04-635 (REV-C.0) PWP	Planned	1124.25	59.41	17911.28	1190.87	4.81	17911.28	PASS
F Section 02	(GWAA 2-41)	GWAA 2-41 (05-123-27019)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	6212.66	357.82	17911.28	6235.72	5.12	17911.28	PASS
F Section 01	(LDS 1V-234)	LDS 1V-234 (05-123-41206)	Wellbore #1	Wellbore #1 \MWD Surveys	Drilling	8643.80	1336.94	17911.28	6690.09	5.35	17911.28	PASS
F Section 01	(LDS 1W-234)	LDS 1W-234 (05-123-41206)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	8646.39	1362.45	17911.28	6683.37	5.44	17911.28	PASS
SEC.01-T05N-R65W	SLOT#09 Blackhawk F04-644 (2123'FSL & 633'FWL,SEC.01)	Blackhawk F04-644	Blackhawk F04-644 PWB	Blackhawk F04-644 (REV-C.0) PWP	Planned	1239.09	79.48	17911.28	1340.32	5.99	17911.28	PASS
F Section 01	(LDS 1V-334)	LDS 1V-334 (05-123-41207)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	8087.14	1558.06	17911.28	6743.23	6.22	17911.28	PASS
SEC.01-T05N-R65W	SLOT#08 Blackhawk F04-651 (2131'FSL & 620'FWL,SEC.01)	Blackhawk F04-651	Blackhawk F04-651 PWB	Blackhawk F04-651 (REV-C.0) PWP	Planned	1295.94	89.32	17911.28	1421.17	6.49	17911.28	PASS
SEC.01-T05N-R65W	SLOT#07 Blackhawk F04-656 (2139'FSL & 607'FWL,SEC.01)	Blackhawk F04-656	Blackhawk F04-656 PWB	Blackhawk F04-656 (REV-C.0) PWP	Planned	1319.84	100.72	17911.28	1554.11	7.12	17911.28	PASS
F Section 01	(LDS 1V-204)	LDS 1V-204 (05-123-41126)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	11314.27	1816.70	17630.00	6664.22	7.12	17911.28	PASS

**OFFSET WELL CLEARANCE SUMMARY (74 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane**

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
F Section 01	(LDS 1V-304)	LDS 1V-304 (05-123-41127)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	7319.03	2073.51	17830.00	6608.20	8.28	17911.28	PASS
SEC.01-T05N-R65W	SLOT#06 Blackhawk F04-660 (2146'FSL & 594'FWL,SEC.01)	Blackhawk F04-660	Blackhawk F04-660 PWB	Blackhawk F04-660 (REV-C.0) PWP	Planned	1267.50	120.86	17911.28	1520.77	8.78	17911.28	PASS
F Section 01	(LDS 1V-314)	LDS 1V-314 (05-123-41130)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	7646.13	2487.94	17911.28	6664.69	9.67	17911.28	PASS
SEC.01-T05N-R65W	SLOT#05 Blackhawk F04-665 (2154'FSL & 582'FWL,SEC.01)	Blackhawk F04-665	Blackhawk F04-665 PWB	Blackhawk F04-665 (REV-C.0) PWP	Planned	1214.27	142.48	17911.28	1467.03	10.72	17911.28	PASS
F Section 01	(BJB 5)	BJB 5 (05-123-22828)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	10992.64	1959.00	14130.00	11296.04	10.99	14330.00	PASS
F Section 01	(LDS 1U-234)	LDS 1U-234 (05-123-41128)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	10873.72	2805.71	17911.28	6635.26	10.99	17911.28	PASS
F Section 01	(LDS 1U-304)	LDS 1U-304 (05-123-41129)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	11560.51	3042.94	17630.00	6599.46	11.69	17911.28	PASS
F Section 01	(Gatewood 4-1(SI))	Gatewood 4-1(SI) (05-123-13436)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	710.00	2342.31	17730.00	7662.11	12.94	17911.28	PASS
SEC.01-T05N-R65W	SLOT#04 Blackhawk F04-670 (2162'FSL & 569'FWL,SEC.01)	Blackhawk F04-670	Blackhawk F04-670 PWB	Blackhawk F04-670 (REV-C.0) PWP	Planned	1147.60	167.10	17911.28	1430.00	13.06	17911.28	PASS
F Section 02	(Caraccioli 1)	Caraccioli 1 (05-123-12096)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	6186.98	1092.91	17911.28	17911.28	13.58	17911.28	PASS
F Section 02	(Noffsinger 2SD)	Noffsinger 2SD (05-123-31907)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	6230.00	1234.97	17911.28	17911.28	15.73	17911.28	PASS
SEC.01-T05N-R65W	SLOT#03 Blackhawk F04-675 (2169'FSL & 556'FWL,SEC.01)	Blackhawk F04-675	Blackhawk F04-675 PWB	Blackhawk F04-675 (REV-C.0) PWP	Planned	1075.07	193.48	17911.28	1402.09	15.78	17911.28	PASS



# Closest Approach Clearance Summary Report

Blackhawk F01-2NU (REV-A.0) PWP - SPE WPTS  
Stop Drilling HSE Risk (2017)



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Blackhawk F01-2NU
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.01-T05N-R65W	Wellbore	Blackhawk F01-2NU PWB
Slot	SLOT#17 Blackhawk F01-2NU (2062'FSL & 735'FWL,SEC.01)		

CALCULATION RANGE & CUTOFF		
From: 30.00ft MD	To: 17911.28ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (74 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane												
Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
F Section 02	(Noffsinger 2VD)	Noffsinger 2VD (05-123-31905)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	4939.54	1864.85	17911.28	17911.28	15.81	17911.28	PASS
F Section 01	(Gatewood 6-1)	Gatewood 6-1 (05-123-13457)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	9046.50	1512.82	16130.00	16501.99	16.03	16501.99	PASS
F Section 01	(Gatewood 3-1)	Gatewood 3-1 (05-123-13387)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	9150.68	2558.25	16030.00	9311.93	17.70	16730.00	PASS
F Section 02	(Geisert F 2-16 (SI))	Geisert F 2-16 (SI) (05-123-25287)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	17911.28	1199.56	17911.28	17911.28	17.83	17911.28	PASS
SEC.01-T05N-R65W	SLOT#02 Blackhawk F04-680 (2177'FSL & 543'FWL,SEC.01)	Blackhawk F04-680	Blackhawk F04-680 PWB	Blackhawk F04-680 (REV-C.0) PWP	Planned	890.44	219.38	17911.28	1342.53	18.65	17911.28	PASS
F Section 01	(BJB 6I)	BJB 6I (05-123-25818)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	9630.75	1895.19	15530.00	16027.52	19.13	16027.52	PASS
F Section 02	(Frudden 1)	Frudden 1 (05-123-11546)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	5226.10	2512.43	17911.28	17911.28	20.04	17911.28	PASS
F Section 02	(Noffsinger F 2-4)	Noffsinger F 2-4 (05-123-26429)	Wellbore #1	Wellbore #1 \Inc Only Surveys	Drilling	6230.00	4977.82	17911.28	6648.55	21.66	17911.28	PASS
F Section 02	(Noffsinger 32-2D)	Noffsinger 32-2D (05-123-29747)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	6230.00	2099.16	17911.28	17911.28	21.67	17911.28	PASS
SEC.01-T05N-R65W	SLOT#01 Blackhawk F04-685 (2185'FSL & 531'FWL,SEC.01)	Blackhawk F04-685	Blackhawk F04-685 PWB	Blackhawk F04-685 (REV-C.0) PWP	Planned	30.00	239.69	17911.28	1349.85	21.94	17911.28	PASS
F Section 02	(GWAA 2-42)	GWAA 2-42 (05-123-27020)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	6230.00	1692.99	17911.28	17911.28	23.29	17911.28	PASS
F Section 01	(BJB 1 (PA))	BJB 1 (PA) (05-123-14586)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	10188.45	2780.41	14930.00	15788.66	24.41	15788.66	PASS
F Section 02	(Noffsinger 2RD)	Noffsinger 2RD (05-123-31903)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	1318.38	2624.03	17911.28	17911.28	24.58	17911.28	PASS
	(Noffsinger 31-2D)		Wellbore #1	Wellbore #1 \As Drilled	Drilling	1378.23	2662.91	17911.28	17911.28	25.22	17911.28	PASS

**OFFSET WELL CLEARANCE SUMMARY** (74 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	Wellbore Status	C-C Clearance Distance			Rule Separation Ratio			
						Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	Rule Status
F Section 02		Noffsinger 31-2D (05-123-29748)										
F Section 02	(GWAA 2-45)	GWAA 2-45 (05-123-27018)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	6249.90	1581.31	17911.28	6371.50	26.35	17911.28	PASS
F Section 02	(Zabka 2-24(SI))	Zabka 2-24 (SI) (05-123-28026)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	6230.00	3070.83	17911.28	17911.28	33.94	17911.28	PASS
F Section 02	(GWAA 2-43)	GWAA 2-43 (05-123-26995)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	6260.87	2282.22	17911.28	17911.28	36.43	17911.28	PASS
F Section 02	(Zabka 2-25(SI))	Zabka 2-25 (SI) (05-123-27125)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	6230.00	3870.90	17911.28	17911.28	39.01	17911.28	PASS
F Section 02	(GWAA 2-31)	GWAA 2-31 (05-123-27067)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	6230.00	2983.01	17911.28	17911.28	39.17	17911.28	PASS
F Section 02	(GWAA 2-33(SI))	GWAA 2-33 (SI) (05-123-27068)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	6230.00	4652.36	17911.28	7222.30	39.26	17911.28	PASS
F Section 02	(Noffsinger F 2-5)	Noffsinger F 2-5 (05-123-26428)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	6230.00	4446.53	17911.28	17911.28	49.69	17911.28	PASS
F Section 02	(GWAA 2-34(SI))	GWAA 2-34 (SI) (05-123-27069)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	6230.00	3269.77	17911.28	6416.25	50.56	17911.28	PASS
F Section 02	(GWAA 2-32(SI))	GWAA 2-32 (SI) (05-123-27066)	Wellbore #1	Wellbore #1 \As Drilled	Drilling	6230.00	4312.21	17911.28	17911.28	61.48	17911.28	PASS
F Section 02	(GWAA 2-35(SI))	GWAA 2-35 (SI) (05-123-27065)	Wellbore #1	Wellbore #1 \Gyro Surveys	Drilling	6230.00	4099.03	17911.28	6434.92	68.60	17911.28	PASS