

NOBLE ENERGY, INC



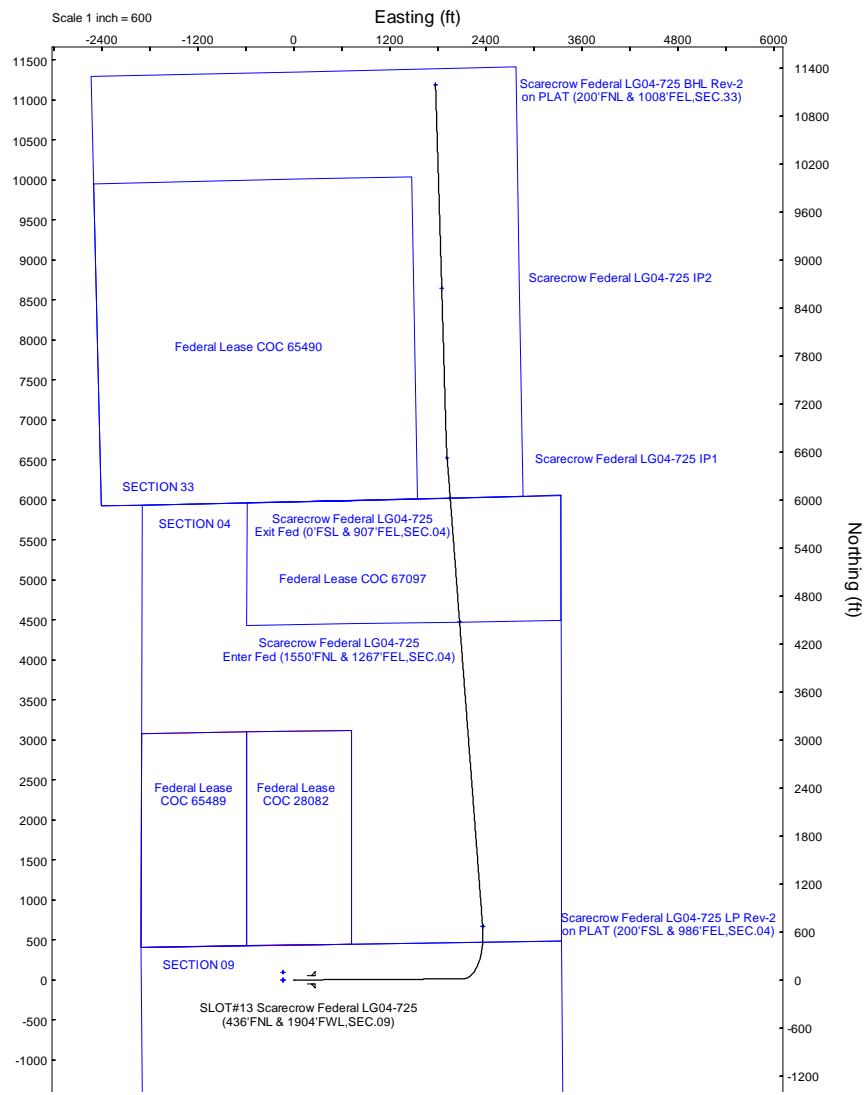
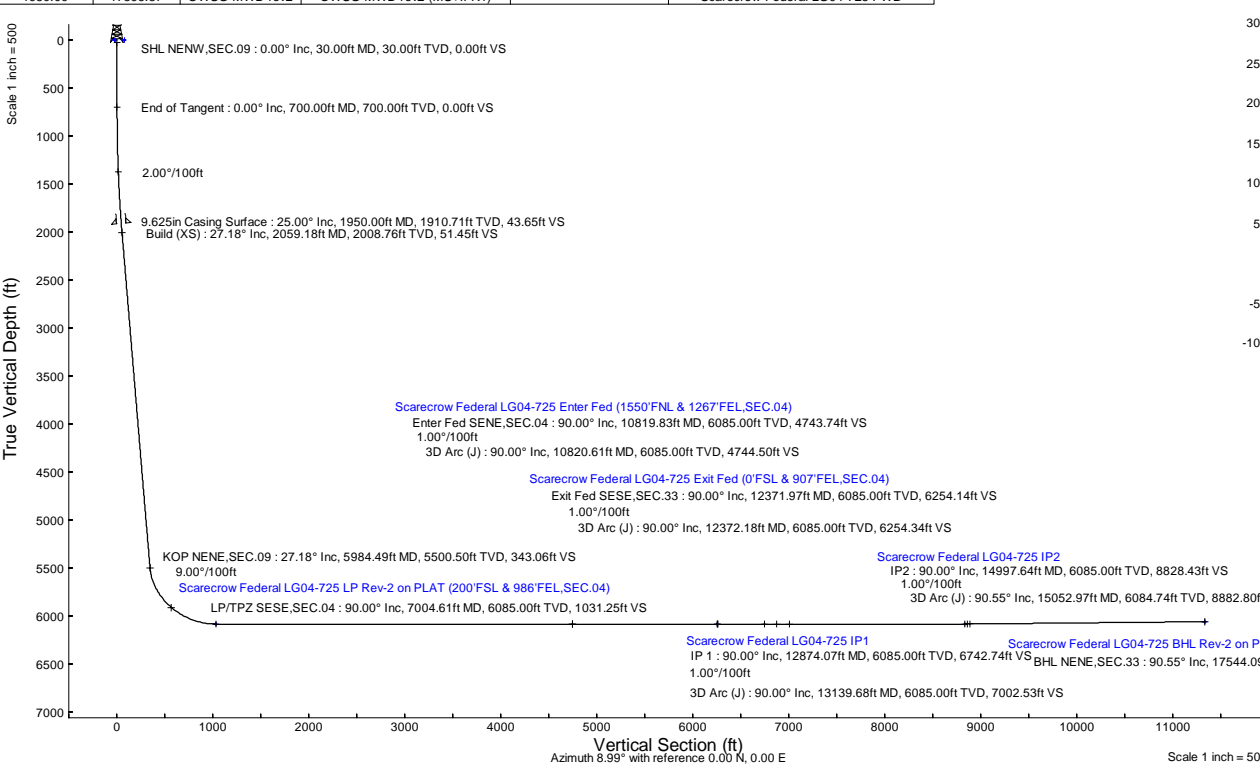
Location: COLORADO Slot: SLOT#13 Scarecrow Federal LG04-725 (436FNL & 1904FWL,SEC.09)
 Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: Scarecrow Federal LG04-725
 Facility: SEC.09-T08N-R59W Wellbore: Scarecrow Federal LG04-725 PWB

Plot reference wellpath is Scarecrow Federal LG04-725 (REV-C.0) PWP
 True vertical depths are referenced to (4862GL+30KB@4892RKB) (RKB)
 Reference wellpath measured depths are referenced to (4862GL+30KB@4892RKB) (RKB)
 (4862GL+30KB@4892RKB) (RKB) to Mean Sea Level: 4892 feet
 Mean Sea Level to Ground level (At Slot: SLOT#13 Scarecrow Federal LG04-725 (436FNL & 1904FWL,SEC.09)): 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: marisan01 on 2024-03-01; Database: WA_Denver

Location Information					
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.09-T08N-R59W		3419979.808	1465319.889	40°42'59.5200"N	103°59'3.3400"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
SLOT#13 Scarecrow Federal LG04-725 (436FNL & 1904FWL,SEC.09)	-93.60	471.78	3420451.580	1465225.490	40°42'58.5156"N
(4862GL+30KB@4892RKB) (RKB) to Ground level (At Slot: SLOT#13 Scarecrow Federal LG04-725 (436FNL & 1904FWL,SEC.09))					4892ft
Mean Sea Level to Ground level (At Slot: SLOT#13 Scarecrow Federal LG04-725 (436FNL & 1904FWL,SEC.09))					0ft
(4862GL+30KB@4892RKB) (RKB) to Mean Sea Level					4892ft

Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
SHL NENW,SEC.09	30.00	0.000	89.636	30.00	0.00	0.00	0.00
End of Tangent	700.00	0.000	89.636	700.00	0.00	0.00	0.00
Build (XS)	2059.18	27.184	89.636	2008.76	2.01	316.42	51.45
KOP NENE,SEC.09	5984.49	27.184	89.636	5500.50	13.39	2109.64	343.06
LP/TPZ SESE,SEC.04	7004.61	90.000	355.669	6085.00	670.49	2360.19	1031.25
Enter Fed SENE,SEC.04	10819.83	90.000	355.669	6085.00	4474.81	2072.07	4743.74
3D Arc (J)	10820.61	90.000	355.677	6085.00	4475.58	2072.01	4744.50
Exit Fed SESE,SEC.33	12371.97	90.000	355.677	6085.00	6022.53	1955.06	6254.14
3D Arc (J)	12372.18	90.000	355.679	6085.00	6022.74	1955.04	6254.34
IP 1	12874.07	90.000	355.679	6085.00	6523.20	1917.23	6742.74
3D Arc (J)	13139.68	90.000	358.335	6085.00	6788.43	1903.36	7002.53
IP2	14997.64	90.000	358.335	6085.00	8645.61	1849.37	8828.43
3D Arc (J)	15052.97	90.546	358.245	6084.74	8700.91	1847.72	8882.80
BHL NENE,SEC.33	17544.09	90.546	358.245	6061.00	11190.75	1771.43	11330.09

Survey Program					
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	1950.00	OWSG MWD rev2	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-725 PWB
1950.00	17596.37	OWSG MWD rev2	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-725 PWB



BGGM (1900.0 to 2024.0) Dip: 66.80° Field: 51940.1 nT
 Magnetic North is 7.42 degrees East of True North (at 4/20/2023)
 Grid North is 0.86 degrees East of True North
 To correct azimuth from True to Grid subtract 0.86 degrees
 To correct azimuth from Magnetic to Grid add 6.44 degrees

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-725 PWB
Slot	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Martsam01
Scale	0.999985	Report Generated	3/1/2024 at 5:03:37 PM
Convergence at slot	0.98° East	Database	WA_Denver

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-93.60	471.78	3420451.58	1495225.49	40°40'58.5156"N	103°59'2.2380"W
Facility Reference Pt			3419979.81	1495319.09	40°40'59.5200"N	103°59'8.3400"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.3150"N	105°30'0.0000"W

WELLPATH DATUM

Calculation method	Minimum curvature	(4862'GL+30'KB@4892'RKB) (RKB) to Facility Vertical Datum	4892.00ft
Horizontal Reference Pt	Slot	(4862'GL+30'KB@4892'RKB) (RKB) to Mean Sea Level	4892.00ft
Vertical Reference Pt	(4862'GL+30'KB@4892'RKB) (RKB)	(4862'GL+30'KB@4892'RKB) (RKB) to Ground Level at Slot (SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09))	4892.00ft
MD Reference Pt	(4862'GL+30'KB@4892'RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	8.99°

REFERENCE WELLPATH IDENTIFICATION			
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Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-725 PWB
Slot	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)		

WELLPATH DATA (206 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	89.636	0.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.2380"W	0.00	
30.00	0.000	89.636	30.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.2380"W	0.00	SHL NENW,SEC.09
130.00†	0.000	89.636	130.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.2380"W	0.00	
230.00†	0.000	89.636	230.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.2380"W	0.00	
330.00†	0.000	89.636	330.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.2380"W	0.00	
429.00†	0.000	89.636	429.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.2380"W	0.00	FOXHILLS-BASE PROD
430.00†	0.000	89.636	430.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.2380"W	0.00	
530.00†	0.000	89.636	530.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.2380"W	0.00	
630.00†	0.000	89.636	630.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.2380"W	0.00	
700.00	0.000	89.636	700.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.2380"W	0.00	End of Tangent
730.00†	0.600	89.636	730.00	0.03	0.00	0.16	40°40'58.5156"N	103°59'2.2360"W	2.00	
830.00†	2.600	89.636	829.96	0.48	0.02	2.95	40°40'58.5153"N	103°59'2.1997"W	2.00	
864.09†	3.282	89.636	864.00	0.76	0.03	4.70	40°40'58.5151"N	103°59'2.1770"W	2.00	PIERRE (UPPER)AQUIFER TOP
930.00†	4.600	89.636	929.75	1.50	0.06	9.23	40°40'58.5146"N	103°59'2.1182"W	2.00	
1030.00†	6.600	89.636	1029.27	3.09	0.12	18.99	40°40'58.5136"N	103°59'1.9916"W	2.00	
1130.00†	8.600	89.636	1128.39	5.24	0.20	32.21	40°40'58.5122"N	103°59'1.8199"W	2.00	
1230.00†	10.600	89.636	1226.98	7.95	0.31	48.89	40°40'58.5104"N	103°59'1.6035"W	2.00	
1330.00†	12.600	89.636	1324.93	11.22	0.44	68.99	40°40'58.5083"N	103°59'1.3425"W	2.00	
1430.00†	14.600	89.636	1422.13	15.04	0.59	92.50	40°40'58.5058"N	103°59'1.0373"W	2.00	
1465.06†	15.301	89.636	1456.00	16.51	0.64	101.55	40°40'58.5048"N	103°59'0.9199"W	2.00	PIERRE (UPPER) AQUIFER BASE
1530.00†	16.600	89.636	1518.44	19.42	0.76	119.39	40°40'58.5029"N	103°59'0.6883"W	2.00	
1630.00†	18.600	89.636	1613.75	24.33	0.95	149.63	40°40'58.4997"N	103°59'0.2959"W	2.00	
1730.00†	20.600	89.636	1707.95	29.79	1.16	183.17	40°40'58.4961"N	103°58'59.8605"W	2.00	
1830.00†	22.600	89.636	1800.93	35.77	1.40	219.98	40°40'58.4922"N	103°58'59.3828"W	2.00	
1930.00†	24.600	89.636	1892.56	42.28	1.65	260.01	40°40'58.4880"N	103°58'58.8632"W	2.00	
2030.00†	26.600	89.636	1982.74	49.31	1.92	303.22	40°40'58.4834"N	103°58'58.3024"W	2.00	
2059.18	27.184	89.636	2008.76	51.45	2.01	316.42	40°40'58.4820"N	103°58'58.1311"W	2.00	Build (XS)
2130.00†	27.184	89.636	2071.76	56.72	2.21	348.77	40°40'58.4785"N	103°58'57.7112"W	0.00	
2230.00†	27.184	89.636	2160.71	64.14	2.50	394.45	40°40'58.4737"N	103°58'57.1182"W	0.00	
2330.00†	27.184	89.636	2249.67	71.57	2.79	440.14	40°40'58.4688"N	103°58'56.5253"W	0.00	
2430.00†	27.184	89.636	2338.62	79.00	3.08	485.82	40°40'58.4639"N	103°58'55.9323"W	0.00	
2530.00†	27.184	89.636	2427.58	86.43	3.37	531.50	40°40'58.4591"N	103°58'55.3394"W	0.00	
2546.21†	27.184	89.636	2442.00	87.64	3.42	538.91	40°40'58.4583"N	103°58'55.2433"W	0.00	PIERRE_MBR_A_SD_TOP
2630.00†	27.184	89.636	2516.53	93.86	3.66	577.19	40°40'58.4542"N	103°58'54.7465"W	0.00	
2730.00†	27.184	89.636	2605.49	101.29	3.95	622.87	40°40'58.4494"N	103°58'54.1535"W	0.00	
2830.00†	27.184	89.636	2694.44	108.72	4.24	668.56	40°40'58.4445"N	103°58'53.5606"W	0.00	
2930.00†	27.184	89.636	2783.39	116.15	4.53	714.24	40°40'58.4396"N	103°58'52.9676"W	0.00	
3030.00†	27.184	89.636	2872.35	123.58	4.82	759.92	40°40'58.4348"N	103°58'52.3747"W	0.00	
3130.00†	27.184	89.636	2961.30	131.00	5.11	805.61	40°40'58.4299"N	103°58'51.7817"W	0.00	
3153.27†	27.184	89.636	2982.00	132.73	5.18	816.23	40°40'58.4288"N	103°58'51.6438"W	0.00	PIERRE_MBR_A_SD_BASE
3230.00†	27.184	89.636	3050.26	138.43	5.40	851.29	40°40'58.4250"N	103°58'51.1888"W	0.00	
3330.00†	27.184	89.636	3139.21	145.86	5.69	896.97	40°40'58.4202"N	103°58'50.5959"W	0.00	
3430.00†	27.184	89.636	3228.17	153.29	5.98	942.66	40°40'58.4153"N	103°58'50.0029"W	0.00	
3530.00†	27.184	89.636	3317.12	160.72	6.27	988.34	40°40'58.4104"N	103°58'49.4100"W	0.00	
3539.98†	27.184	89.636	3326.00	161.46	6.30	992.90	40°40'58.4099"N	103°58'49.3508"W	0.00	PARKMAN

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-725 PWB
Slot	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)		

WELLPATH DATA (206 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3630.00†	27.184	89.636	3406.08	168.15	6.56	1034.02	40°40'58.4055"N	103°58'48.8170"W	0.00	
3730.00†	27.184	89.636	3495.03	175.58	6.85	1079.71	40°40'58.4007"N	103°58'48.2241"W	0.00	
3830.00†	27.184	89.636	3583.99	183.01	7.14	1125.39	40°40'58.3958"N	103°58'47.6311"W	0.00	
3930.00†	27.184	89.636	3672.94	190.44	7.43	1171.07	40°40'58.3909"N	103°58'47.0382"W	0.00	
4030.00†	27.184	89.636	3761.90	197.86	7.72	1216.76	40°40'58.3861"N	103°58'46.4453"W	0.00	
4130.00†	27.184	89.636	3850.85	205.29	8.01	1262.44	40°40'58.3812"N	103°58'45.8523"W	0.00	
4230.00†	27.184	89.636	3939.81	212.72	8.30	1308.12	40°40'58.3763"N	103°58'45.2594"W	0.00	
4312.28†	27.184	89.636	4013.00	218.83	8.54	1345.71	40°40'58.3723"N	103°58'44.7715"W	0.00	SUSSEX
4330.00†	27.184	89.636	4028.76	220.15	8.59	1353.81	40°40'58.3714"N	103°58'44.6664"W	0.00	
4430.00†	27.184	89.636	4117.72	227.58	8.88	1399.49	40°40'58.3665"N	103°58'44.0735"W	0.00	
4530.00†	27.184	89.636	4206.67	235.01	9.17	1445.17	40°40'58.3617"N	103°58'43.4805"W	0.00	
4630.00†	27.184	89.636	4295.62	242.44	9.46	1490.86	40°40'58.3568"N	103°58'42.8876"W	0.00	
4730.00†	27.184	89.636	4384.58	249.87	9.75	1536.54	40°40'58.3519"N	103°58'42.2947"W	0.00	
4830.00†	27.184	89.636	4473.53	257.30	10.04	1582.22	40°40'58.3470"N	103°58'41.7017"W	0.00	
4903.60†	27.184	89.636	4539.00	262.76	10.26	1615.85	40°40'58.3434"N	103°58'41.2653"W	0.00	SHANNON
4930.00†	27.184	89.636	4562.49	264.72	10.33	1627.91	40°40'58.3421"N	103°58'41.1088"W	0.00	
5030.00†	27.184	89.636	4651.44	272.15	10.62	1673.59	40°40'58.3373"N	103°58'40.5158"W	0.00	
5130.00†	27.184	89.636	4740.40	279.58	10.91	1719.28	40°40'58.3324"N	103°58'39.9229"W	0.00	
5230.00†	27.184	89.636	4829.35	287.01	11.20	1764.96	40°40'58.3275"N	103°58'39.3300"W	0.00	
5330.00†	27.184	89.636	4918.31	294.44	11.49	1810.64	40°40'58.3226"N	103°58'38.7370"W	0.00	
5430.00†	27.184	89.636	5007.26	301.87	11.78	1856.33	40°40'58.3177"N	103°58'38.1441"W	0.00	
5530.00†	27.184	89.636	5096.22	309.30	12.07	1902.01	40°40'58.3128"N	103°58'37.5511"W	0.00	
5630.00†	27.184	89.636	5185.17	316.73	12.36	1947.69	40°40'58.3079"N	103°58'36.9582"W	0.00	
5730.00†	27.184	89.636	5274.13	324.16	12.65	1993.38	40°40'58.3031"N	103°58'36.3652"W	0.00	
5816.42†	27.184	89.636	5351.00	330.58	12.90	2032.86	40°40'58.2988"N	103°58'35.8528"W	0.00	TEPEE BUTES
5830.00†	27.184	89.636	5363.08	331.58	12.94	2039.06	40°40'58.2982"N	103°58'35.7723"W	0.00	
5930.00†	27.184	89.636	5452.04	339.01	13.23	2084.74	40°40'58.2933"N	103°58'35.1794"W	0.00	
5984.49	27.184	89.636	5500.50	343.06	13.39	2109.64	40°40'58.2906"N	103°58'34.8563"W	0.00	KOP NENE,SEC.09
5984.49†	27.184	89.636	5500.51	343.06	13.39	2109.64	40°40'58.2906"N	103°58'34.8563"W	9.00	KOP (453'FNL&1241'FEL,SEC.9)
6030.00†	27.217	80.668	5541.00	348.03	15.14	2130.31	40°40'58.3044"N	103°58'34.5876"W	9.00	
6130.00†	29.216	62.034	5629.29	369.94	30.33	2174.52	40°40'58.4469"N	103°58'34.0104"W	9.00	
6230.00†	33.405	46.641	5714.84	406.48	60.73	2216.18	40°40'58.7403"N	103°58'33.4630"W	9.00	
6330.00†	39.081	34.782	5795.56	456.76	105.62	2254.25	40°40'59.1772"N	103°58'32.9589"W	9.00	
6430.00†	45.686	25.683	5869.45	519.54	163.87	2287.81	40°40'59.7470"N	103°58'32.5104"W	9.00	
6530.00†	52.862	18.499	5934.70	593.28	234.05	2316.02	40°41'0.4356"N	103°58'32.1286"W	9.00	
6532.15†	53.021	18.361	5936.00	594.97	235.68	2316.56	40°41'0.4516"N	103°58'32.1212"W	9.00	INTRA_SHARON_SPGS_MK
6552.46†	54.529	17.080	5948.00	611.16	251.28	2321.54	40°41'0.6050"N	103°58'32.0531"W	9.00	SHARON_SPRING_MKR
6599.31†	58.055	14.299	5974.00	649.86	288.80	2332.06	40°41'0.9738"N	103°58'31.9082"W	9.00	NIO A CHALK
6630.00†	60.396	12.593	5989.70	676.15	314.44	2338.19	40°41'1.2261"N	103°58'31.8230"W	9.00	
6653.52†	62.204	11.338	6001.00	696.75	334.63	2342.46	40°41'1.4248"N	103°58'31.7630"W	9.00	NIO A MARL
6730.00†	68.154	7.522	6033.10	766.11	403.06	2353.77	40°41'2.0990"N	103°58'31.6009"W	9.00	
6830.00†	76.051	2.980	6063.82	860.96	497.73	2362.39	40°41'3.0328"N	103°58'31.4680"W	9.00	
6867.98†	79.073	1.345	6072.00	897.78	534.78	2363.79	40°41'3.3987"N	103°58'31.4416"W	9.00	NIO B CHALK
6930.00†	84.026	358.742	6081.11	958.35	596.11	2363.82	40°41'4.0045"N	103°58'31.4274"W	9.00	
7004.61	90.000	355.669	6085.00 ¹	1031.25	670.49	2360.19	40°41'4.7400"N	103°58'31.4580"W	9.00	LP/TPZ SESE,SEC.04

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-725 PWB
Slot	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)		

WELLPATH DATA (206 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7030.00†	90.000	355.669	6085.00	1055.95	695.80	2358.27	40°41'4.9904"N	103°58'31.4772"W	0.00	
7130.00†	90.000	355.669	6085.00	1153.26	795.52	2350.72	40°41'5.9768"N	103°58'31.5530"W	0.00	
7230.00†	90.000	355.669	6085.00	1250.57	895.23	2343.17	40°41'6.9633"N	103°58'31.6288"W	0.00	
7330.00†	90.000	355.669	6085.00	1347.88	994.95	2335.61	40°41'7.9497"N	103°58'31.7045"W	0.00	
7430.00†	90.000	355.669	6085.00	1445.18	1094.66	2328.06	40°41'8.9361"N	103°58'31.7803"W	0.00	
7530.00†	90.000	355.669	6085.00	1542.49	1194.37	2320.51	40°41'9.9226"N	103°58'31.8560"W	0.00	
7630.00†	90.000	355.669	6085.00	1639.80	1294.09	2312.96	40°41'10.9090"N	103°58'31.9318"W	0.00	
7730.00†	90.000	355.669	6085.00	1737.11	1393.80	2305.41	40°41'11.8954"N	103°58'32.0076"W	0.00	
7830.00†	90.000	355.669	6085.00	1834.41	1493.52	2297.85	40°41'12.8819"N	103°58'32.0833"W	0.00	
7930.00†	90.000	355.669	6085.00	1931.72	1593.23	2290.30	40°41'13.8683"N	103°58'32.1591"W	0.00	
8030.00†	90.000	355.669	6085.00	2029.03	1692.95	2282.75	40°41'14.8547"N	103°58'32.2348"W	0.00	
8130.00†	90.000	355.669	6085.00	2126.34	1792.66	2275.20	40°41'15.8411"N	103°58'32.3106"W	0.00	
8230.00†	90.000	355.669	6085.00	2223.64	1892.38	2267.65	40°41'16.8276"N	103°58'32.3864"W	0.00	
8330.00†	90.000	355.669	6085.00	2320.95	1992.09	2260.10	40°41'17.8140"N	103°58'32.4621"W	0.00	
8430.00†	90.000	355.669	6085.00	2418.26	2091.80	2252.54	40°41'18.8004"N	103°58'32.5379"W	0.00	
8530.00†	90.000	355.669	6085.00	2515.57	2191.52	2244.99	40°41'19.7869"N	103°58'32.6137"W	0.00	
8630.00†	90.000	355.669	6085.00	2612.87	2291.23	2237.44	40°41'20.7733"N	103°58'32.6894"W	0.00	
8730.00†	90.000	355.669	6085.00	2710.18	2390.95	2229.89	40°41'21.7597"N	103°58'32.7652"W	0.00	
8830.00†	90.000	355.669	6085.00	2807.49	2490.66	2222.34	40°41'22.7461"N	103°58'32.8410"W	0.00	
8930.00†	90.000	355.669	6085.00	2904.80	2590.38	2214.78	40°41'23.7326"N	103°58'32.9168"W	0.00	
9030.00†	90.000	355.669	6085.00	3002.10	2690.09	2207.23	40°41'24.7190"N	103°58'32.9925"W	0.00	
9130.00†	90.000	355.669	6085.00	3099.41	2789.81	2199.68	40°41'25.7054"N	103°58'33.0683"W	0.00	
9230.00†	90.000	355.669	6085.00	3196.72	2889.52	2192.13	40°41'26.6919"N	103°58'33.1441"W	0.00	
9330.00†	90.000	355.669	6085.00	3294.03	2989.23	2184.58	40°41'27.6783"N	103°58'33.2198"W	0.00	
9430.00†	90.000	355.669	6085.00	3391.33	3088.95	2177.02	40°41'28.6647"N	103°58'33.2956"W	0.00	
9530.00†	90.000	355.669	6085.00	3488.64	3188.66	2169.47	40°41'29.6511"N	103°58'33.3714"W	0.00	
9630.00†	90.000	355.669	6085.00	3585.95	3288.38	2161.92	40°41'30.6376"N	103°58'33.4472"W	0.00	
9730.00†	90.000	355.669	6085.00	3683.26	3388.09	2154.37	40°41'31.6240"N	103°58'33.5229"W	0.00	
9830.00†	90.000	355.669	6085.00	3780.56	3487.81	2146.82	40°41'32.6104"N	103°58'33.5987"W	0.00	
9930.00†	90.000	355.669	6085.00	3877.87	3587.52	2139.26	40°41'33.5969"N	103°58'33.6745"W	0.00	
10030.00†	90.000	355.669	6085.00	3975.18	3687.24	2131.71	40°41'34.5833"N	103°58'33.7503"W	0.00	
10130.00†	90.000	355.669	6085.00	4072.49	3786.95	2124.16	40°41'35.5697"N	103°58'33.8260"W	0.00	
10230.00†	90.000	355.669	6085.00	4169.79	3886.66	2116.61	40°41'36.5561"N	103°58'33.9018"W	0.00	
10330.00†	90.000	355.669	6085.00	4267.10	3986.38	2109.06	40°41'37.5426"N	103°58'33.9776"W	0.00	
10430.00†	90.000	355.669	6085.00	4364.41	4086.09	2101.51	40°41'38.5290"N	103°58'34.0534"W	0.00	
10530.00†	90.000	355.669	6085.00	4461.72	4185.81	2093.95	40°41'39.5154"N	103°58'34.1292"W	0.00	
10630.00†	90.000	355.669	6085.00	4559.02	4285.52	2086.40	40°41'40.5018"N	103°58'34.2049"W	0.00	
10730.00†	90.000	355.669	6085.00	4656.33	4385.24	2078.85	40°41'41.4883"N	103°58'34.2807"W	0.00	
10819.83	90.000	355.669	6085.00 ²	4743.74	4474.81	2072.07	40°41'42.3744"N	103°58'34.3488"W	0.00	Enter Fed SENE,SEC.04
10820.61	90.000	355.677	6085.00	4744.50	4475.58	2072.01	40°41'42.3820"N	103°58'34.3494"W	1.00	3D Arc (J)
10830.00†	90.000	355.677	6085.00	4753.64	4484.95	2071.30	40°41'42.4747"N	103°58'34.3565"W	0.00	
10930.00†	90.000	355.677	6085.00	4850.95	4584.67	2063.76	40°41'43.4611"N	103°58'34.4321"W	0.00	
11030.00†	90.000	355.677	6085.00	4948.26	4684.38	2056.22	40°41'44.4476"N	103°58'34.5077"W	0.00	
11130.00†	90.000	355.677	6085.00	5045.57	4784.10	2048.68	40°41'45.4340"N	103°58'34.5833"W	0.00	
11230.00†	90.000	355.677	6085.00	5142.88	4883.81	2041.15	40°41'46.4204"N	103°58'34.6589"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-725 PWB
Slot	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)		

WELLPATH DATA (206 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11330.00†	90.000	355.677	6085.00	5240.19	4983.53	2033.61	40°41'47.4069"N	103°58'34.7345"W	0.00	
11430.00†	90.000	355.677	6085.00	5337.50	5083.24	2026.07	40°41'48.3933"N	103°58'34.8101"W	0.00	
11530.00†	90.000	355.677	6085.00	5434.81	5182.96	2018.53	40°41'49.3797"N	103°58'34.8858"W	0.00	
11630.00†	90.000	355.677	6085.00	5532.12	5282.67	2010.99	40°41'50.3662"N	103°58'34.9614"W	0.00	
11730.00†	90.000	355.677	6085.00	5629.43	5382.39	2003.45	40°41'51.3526"N	103°58'35.0370"W	0.00	
11830.00†	90.000	355.677	6085.00	5726.74	5482.11	1995.91	40°41'52.3390"N	103°58'35.1126"W	0.00	
11930.00†	90.000	355.677	6085.00	5824.05	5581.82	1988.38	40°41'53.3255"N	103°58'35.1882"W	0.00	
12030.00†	90.000	355.677	6085.00	5921.36	5681.54	1980.84	40°41'54.3119"N	103°58'35.2638"W	0.00	
12130.00†	90.000	355.677	6085.00	6018.67	5781.25	1973.30	40°41'55.2983"N	103°58'35.3394"W	0.00	
12230.00†	90.000	355.677	6085.00	6115.99	5880.97	1965.76	40°41'56.2848"N	103°58'35.4150"W	0.00	
12330.00†	90.000	355.677	6085.00	6213.30	5980.68	1958.22	40°41'57.2712"N	103°58'35.4907"W	0.00	
12371.97	90.000	355.677	6085.00 ³	6254.14	6022.53	1955.06	40°41'57.6852"N	103°58'35.5224"W	0.00	Exit Fed SESE, SEC.33
12372.18	90.000	355.679	6085.00	6254.34	6022.74	1955.04	40°41'57.6873"N	103°58'35.5226"W	1.00	3D Arc (J)
12430.00†	90.000	355.679	6085.00	6310.61	6080.40	1950.69	40°41'58.2576"N	103°58'35.5663"W	0.00	
12530.00†	90.000	355.679	6085.00	6407.92	6180.11	1943.15	40°41'59.2441"N	103°58'35.6418"W	0.00	
12630.00†	90.000	355.679	6085.00	6505.23	6279.83	1935.62	40°42'0.2305"N	103°58'35.7174"W	0.00	
12730.00†	90.000	355.679	6085.00	6602.54	6379.55	1928.08	40°42'1.2169"N	103°58'35.7930"W	0.00	
12830.00†	90.000	355.679	6085.00	6699.85	6479.26	1920.55	40°42'2.2034"N	103°58'35.8685"W	0.00	
12874.07	90.000	355.679	6085.00 ⁴	6742.74	6523.20	1917.23	40°42'2.6381"N	103°58'35.9018"W	0.00	IP 1
12930.00†	90.000	356.238	6085.00	6797.23	6579.00	1913.28	40°42'3.1900"N	103°58'35.9406"W	1.00	
13030.00†	90.000	357.238	6085.00	6894.95	6678.83	1907.59	40°42'4.1773"N	103°58'35.9922"W	1.00	
13130.00†	90.000	358.238	6085.00	6993.02	6778.75	1903.65	40°42'5.1651"N	103°58'36.0211"W	1.00	
13139.68	90.000	358.335	6085.00	7002.53	6788.43	1903.36	40°42'5.2608"N	103°58'36.0227"W	1.00	3D Arc (J)
13230.00†	90.000	358.335	6085.00	7091.29	6878.71	1900.73	40°42'6.1532"N	103°58'36.0366"W	0.00	
13330.00†	90.000	358.335	6085.00	7189.57	6978.67	1897.83	40°42'7.1412"N	103°58'36.0521"W	0.00	
13430.00†	90.000	358.335	6085.00	7287.84	7078.63	1894.92	40°42'8.1292"N	103°58'36.0675"W	0.00	
13530.00†	90.000	358.335	6085.00	7386.12	7178.58	1892.02	40°42'9.1173"N	103°58'36.0829"W	0.00	
13630.00†	90.000	358.335	6085.00	7484.39	7278.54	1889.11	40°42'10.1053"N	103°58'36.0984"W	0.00	
13730.00†	90.000	358.335	6085.00	7582.66	7378.50	1886.21	40°42'11.0934"N	103°58'36.1138"W	0.00	
13830.00†	90.000	358.335	6085.00	7680.94	7478.46	1883.30	40°42'12.0814"N	103°58'36.1292"W	0.00	
13930.00†	90.000	358.335	6085.00	7779.21	7578.42	1880.39	40°42'13.0694"N	103°58'36.1446"W	0.00	
14030.00†	90.000	358.335	6085.00	7877.49	7678.37	1877.49	40°42'14.0575"N	103°58'36.1601"W	0.00	
14130.00†	90.000	358.335	6085.00	7975.76	7778.33	1874.58	40°42'15.0455"N	103°58'36.1755"W	0.00	
14230.00†	90.000	358.335	6085.00	8074.03	7878.29	1871.68	40°42'16.0336"N	103°58'36.1909"W	0.00	
14330.00†	90.000	358.335	6085.00	8172.31	7978.25	1868.77	40°42'17.0216"N	103°58'36.2064"W	0.00	
14430.00†	90.000	358.335	6085.00	8270.58	8078.20	1865.87	40°42'18.0096"N	103°58'36.2218"W	0.00	
14530.00†	90.000	358.335	6085.00	8368.86	8178.16	1862.96	40°42'18.9977"N	103°58'36.2372"W	0.00	
14630.00†	90.000	358.335	6085.00	8467.13	8278.12	1860.05	40°42'19.9857"N	103°58'36.2526"W	0.00	
14730.00†	90.000	358.335	6085.00	8565.41	8378.08	1857.15	40°42'20.9737"N	103°58'36.2681"W	0.00	
14830.00†	90.000	358.335	6085.00	8663.68	8478.04	1854.24	40°42'21.9618"N	103°58'36.2835"W	0.00	
14930.00†	90.000	358.335	6085.00	8761.95	8577.99	1851.34	40°42'22.9498"N	103°58'36.2989"W	0.00	
14997.64	90.000	358.335	6085.00 ⁵	8828.43	8645.61	1849.37	40°42'23.6182"N	103°58'36.3094"W	0.00	IP2
15030.00†	90.319	358.282	6084.91	8860.23	8677.95	1848.42	40°42'23.9379"N	103°58'36.3145"W	1.00	
15052.97	90.546	358.245	6084.74	8882.80	8700.91	1847.72	40°42'24.1648"N	103°58'36.3185"W	1.00	3D Arc (J)
15130.00†	90.546	358.245	6084.00	8958.47	8777.90	1845.36	40°42'24.9258"N	103°58'36.3319"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-725 PWB
Slot	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)		

WELLPATH DATA (206 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
15230.00†	90.546	358.245	6083.05	9056.71	8877.85	1842.30	40°42'25.9138"N	103°58'36.3494"W	0.00	
15330.00†	90.546	358.245	6082.10	9154.95	8977.80	1839.24	40°42'26.9018"N	103°58'36.3668"W	0.00	
15430.00†	90.546	358.245	6081.14	9253.19	9077.75	1836.17	40°42'27.8898"N	103°58'36.3843"W	0.00	
15530.00†	90.546	358.245	6080.19	9351.43	9177.69	1833.11	40°42'28.8777"N	103°58'36.4018"W	0.00	
15630.00†	90.546	358.245	6079.24	9449.67	9277.64	1830.05	40°42'29.8657"N	103°58'36.4192"W	0.00	
15730.00†	90.546	358.245	6078.29	9547.91	9377.59	1826.99	40°42'30.8537"N	103°58'36.4367"W	0.00	
15830.00†	90.546	358.245	6077.33	9646.15	9477.54	1823.92	40°42'31.8416"N	103°58'36.4542"W	0.00	
15930.00†	90.546	358.245	6076.38	9744.39	9577.49	1820.86	40°42'32.8296"N	103°58'36.4716"W	0.00	
16030.00†	90.546	358.245	6075.43	9842.63	9677.44	1817.80	40°42'33.8176"N	103°58'36.4891"W	0.00	
16130.00†	90.546	358.245	6074.47	9940.87	9777.39	1814.74	40°42'34.8056"N	103°58'36.5066"W	0.00	
16230.00†	90.546	358.245	6073.52	10039.11	9877.33	1811.68	40°42'35.7935"N	103°58'36.5240"W	0.00	
16330.00†	90.546	358.245	6072.57	10137.36	9977.28	1808.61	40°42'36.7815"N	103°58'36.5415"W	0.00	
16389.65†	90.546	358.245	6072.00	10195.95	10036.90	1806.79	40°42'37.3708"N	103°58'36.5519"W	0.00	NIO B CHALK
16430.00†	90.546	358.245	6071.62	10235.60	10077.23	1805.55	40°42'37.7695"N	103°58'36.5590"W	0.00	
16530.00†	90.546	358.245	6070.66	10333.84	10177.18	1802.49	40°42'38.7575"N	103°58'36.5765"W	0.00	
16630.00†	90.546	358.245	6069.71	10432.08	10277.13	1799.43	40°42'39.7454"N	103°58'36.5939"W	0.00	
16730.00†	90.546	358.245	6068.76	10530.32	10377.08	1796.36	40°42'40.7334"N	103°58'36.6114"W	0.00	
16830.00†	90.546	358.245	6067.80	10628.56	10477.03	1793.30	40°42'41.7214"N	103°58'36.6289"W	0.00	
16930.00†	90.546	358.245	6066.85	10726.80	10576.97	1790.24	40°42'42.7093"N	103°58'36.6463"W	0.00	
17030.00†	90.546	358.245	6065.90	10825.04	10676.92	1787.18	40°42'43.6973"N	103°58'36.6638"W	0.00	
17130.00†	90.546	358.245	6064.95	10923.28	10776.87	1784.11	40°42'44.6853"N	103°58'36.6813"W	0.00	
17230.00†	90.546	358.245	6063.99	11021.52	10876.82	1781.05	40°42'45.6733"N	103°58'36.6987"W	0.00	
17330.00†	90.546	358.245	6063.04	11119.76	10976.77	1777.99	40°42'46.6612"N	103°58'36.7162"W	0.00	
17430.00†	90.546	358.245	6062.09	11218.00	11076.72	1774.93	40°42'47.6492"N	103°58'36.7337"W	0.00	
17530.00†	90.546	358.245	6061.13	11316.24	11176.67	1771.86	40°42'48.6372"N	103°58'36.7511"W	0.00	
17544.09	90.546	358.245	6061.00 ⁶	11330.09	11190.75	1771.43	40°42'48.7764"N	103°58'36.7536"W	0.00	BHL NENE,SEC.33

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SECTION 04 LG09-03-785	N/A	1.00	97.17	-134.81	3420316.77	1495322.66	40°40'59.4984"N	103°59'3.9660"W	polygon
	2D Polygon: dimensions not calculated								
SECTION 09 LG09-03-785	N/A	1.00	97.17	-134.81	3420316.77	1495322.66	40°40'59.4984"N	103°59'3.9660"W	polygon
	2D Polygon: dimensions not calculated								
SECTION 33 LG09-03-785	N/A	1.00	97.17	-134.81	3420316.77	1495322.66	40°40'59.4984"N	103°59'3.9660"W	polygon
	2D Polygon: dimensions not calculated								
Federal Lease COC 28082	N/A	3.00	-1.94	-135.06	3420316.53	1495223.55	40°40'58.5192"N	103°59'3.9912"W	polygon
	2D Polygon: dimensions not calculated								
Federal Lease COC 65489	N/A	3.00	-1.94	-135.06	3420316.53	1495223.55	40°40'58.5192"N	103°59'3.9912"W	polygon
	2D Polygon: dimensions not calculated								
Federal Lease COC 65490	N/A	3.00	-1.94	-135.06	3420316.53	1495223.55	40°40'58.5192"N	103°59'3.9912"W	polygon
	2D Polygon: dimensions not calculated								
Federal Lease COC 67097	N/A	3.00	-1.94	-135.06	3420316.53	1495223.55	40°40'58.5192"N	103°59'3.9912"W	polygon
	2D Polygon: dimensions not calculated								
Scarecrow Federal LG04-725 BHL (200'FNL & 1008'FEL,SEC.33)	N/A	6061.00	11190.70	1771.46	3422223.01	1506416.00	40°42'48.7759"N	103°58'36.7533"W	point
6) Scarecrow Federal LG04-725 BHL Rev-2 on PLAT (200'FNL & 1008'FEL,SEC.33)	17544.09	6061.00	11190.75	1771.43	3422222.98	1506416.05	40°42'48.7764"N	103°58'36.7536"W	point

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
2) Scarecrow Federal LG04-725 Enter Fed (1550'FNL & 1267'FEL,SEC.04)	10819.83	6085.00	4474.81	2072.07	3422523.61	1499700.23	40°41'42.3744"N	103°58'34.3488"W	point
3) Scarecrow Federal LG04-725 Exit Fed (0'FSL & 907'FEL,SEC.04)	12371.97	6085.00	6022.53	1955.06	3422406.61	1501247.92	40°41'57.6852"N	103°58'35.5224"W	point
4) Scarecrow Federal LG04-725 IP1	12874.07	6085.00	6523.20	1917.23	3422368.77	1501748.59	40°42'2.6381"N	103°58'35.9018"W	point
5) Scarecrow Federal LG04-725 IP2	14997.64	6085.00	8645.61	1849.37	3422300.92	1503870.95	40°42'23.6182"N	103°58'36.3094"W	point

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Scarecrow Federal LG04-725 LP (200'FSL & 986'FEL,SEC.04)	N/A	6085.00	670.36	2359.97	3422811.51	1495895.84	40°41'4.7388"N	103°58'31.4609"W	point
1) Scarecrow Federal LG04-725 LP Rev-2 on PLAT (200'FSL & 986'FEL,SEC.04)	7004.61	6085.00	670.49	2360.19	3422811.73	1495895.97	40°41'4.7400"N	103°58'31.4580"W	point

SURVEY PROGRAM - Ref Wellbore: Scarecrow Federal LG04-725 PWB Ref Wellpath: Scarecrow Federal LG04-725 (REV-C.0) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	1950.00	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-725 PWB
1950.00	17596.37	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-725 PWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-725 PWB
Slot	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]		Comment
429.00	0.000	89.636	429.00		FOXHILLS-BASE PROD
864.09	3.282	89.636	864.00		PIERRE (UPPER)AQUIFER TOP
1465.06	15.301	89.636	1456.00		PIERRE (UPPER) AQUIFER BASE
2546.21	27.184	89.636	2442.00		PIERRE_MBR_A_SD_TOP
3153.27	27.184	89.636	2982.00		PIERRE_MBR_A_SD_BASE
3539.98	27.184	89.636	3326.00		PARKMAN
4312.28	27.184	89.636	4013.00		SUSSEX
4903.60	27.184	89.636	4539.00		SHANNON
5816.42	27.184	89.636	5351.00		TEPEE BUTES
5984.49	27.184	89.636	5500.51		KOP (453'FNL&1241'FEL,SEC.9)
6532.15	53.021	18.361	5936.00		INTRA_SHARON_SPGS_MK
6552.46	54.529	17.080	5948.00		SHARON_SPRING_MKR
6599.31	58.055	14.299	5974.00		NIO A CHALK
6653.52	62.204	11.338	6001.00		NIO A MARL
6867.98	79.073	1.345	6072.00		NIO B CHALK
16389.65	90.546	358.245	6072.00		NIO B CHALK

DESIGN COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]		Comment
30.00	0.000	89.636	30.00		SHL NENW,SEC.09
700.00	0.000	89.636	700.00		End of Tangent
2059.18	27.184	89.636	2008.76		Build (XS)
5984.49	27.184	89.636	5500.50		KOP NENE,SEC.09
7004.61	90.000	355.669	6085.00		LP/TPZ SESE,SEC.04
10819.83	90.000	355.669	6085.00		Enter Fed SENE,SEC.04
10820.61	90.000	355.677	6085.00		3D Arc (J)
12371.97	90.000	355.677	6085.00		Exit Fed SESE,SEC.33
12372.18	90.000	355.679	6085.00		3D Arc (J)
12874.07	90.000	355.679	6085.00		IP 1
13139.68	90.000	358.335	6085.00		3D Arc (J)
14997.64	90.000	358.335	6085.00		IP2
15052.97	90.546	358.245	6084.74		3D Arc (J)
17544.09	90.546	358.245	6061.00		BHL NENE,SEC.33

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-725 PWB
Slot	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Martsam01
Scale	0.999985	Report Generated	3/1/2024 at 5:09:00 PM
Convergence at slot	0.98° East	Database	WA_Denver

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-93.60	471.78	3420451.58	1495225.49	40°40'58.5156"N	103°59'2.2380"W
Facility Reference Pt			3419979.81	1495319.09	40°40'59.5200"N	103°59'8.3400"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.3150"N	105°30'0.0000"W

WELLPATH DATUM			
Calculation method	Minimum Curvature	(4862'GL+30'KB@4892'RKB) (RKB) to Facility Vertical Datum	4892.00ft
Horizontal Reference Pt	Slot	(4862'GL+30'KB@4892'RKB) (RKB) to Mean Sea Level	4892.00ft
Vertical Reference Pt	(4862'GL+30'KB@4892'RKB) (RKB)	(4862'GL+30'KB@4892'RKB) (RKB) to Ground Level at Slot (SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09))	4892.00ft
MD Reference Pt	(4862'GL+30'KB@4892'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	7.42° East of TN	Dip Angle	66.80°	Mag Field Strength	51940 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					

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-725 PWB
Slot	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)		

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

HOLE & CASING SECTIONS - Ref Wellbore: Scarecrow Federal LG04-725 PWB Ref Wellpath: Scarecrow Federal LG04-725 (REV-C.0) 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]
9.625in Casing Surface	30.00	1950.00	1920.00	30.00	1910.71	0.00	0.00	1.70	268.40
8.5in Open Hole	1950.00	17544.09	15594.09	1910.71	6061.00	1.70	268.40	11190.75	1771.43

SURVEY PROGRAM - Ref Wellbore: Scarecrow Federal LG04-725 PWB Ref Wellpath: Scarecrow Federal LG04-725 (REV-C.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	1950.00	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-725 PWB
1950.00	17596.37	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-725 PWB

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-725 PWB
Slot	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)		

CALCULATION RANGE & CUTOFF

From: 30.00ft MD	To: 17544.09ft MD	C-C Cutoff: (none)
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OFFSET WELL CLEARANCE SUMMARY (34 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.33-T09N-R59W	SLOT#01 Ptasnik PC LC33-68HN	Ptasnik PC LC33-68HN (05-123-33945)	Ptasnik PC LC33-68HN	Ptasnik PC LC33-68HN AWP	Drilling	17102.65	26.76	17102.65	17102.04	0.15	17102.04	FAIL
SEC.04-T08N-R59W	SLOT#07 BULLEIT FEDERAL PC LG04-62HN (430'FSL&300'FEL,SEC.04) (PR)	BULLEIT FEDERAL PC LG04-62HN (05-123-38758)	BULLEIT FEDERAL PC LG04-62HN AWB	BULLEIT FEDERAL PC LG04-62HN AWP	Drilling	7499.81	28.68	7499.81	7517.53	0.57	7517.53	FAIL
SEC.04-T08N-R59W	SLOT#06 Ex.GREY #1(660'FSL&660'FEL,SEC.04) (PA)	Ex.GREY #1 (05-123-38758)	Ex.GREY #1 AWB	Ex.GREY #1 AWP	Drilling	7388.50	362.77	7388.50	7390.61	1.85	7390.61	PASS
SEC.09-T08N-R59W	SLOT#12 Scarecrow Federal LG04-735 (436'FNL & 1881'FWL,SEC.09)	Scarecrow Federal LG04-735	Scarecrow Federal LG04-735 PWB	Scarecrow Federal LG04-735 (REV-C.0) PWP	Planned	30.00	22.47	13030.00	746.25	2.45	17544.09	PASS
SEC.04-T08N-R59W	SLOT#14 Scarecrow Federal LG04-715 (436'FNL & 1926'FWL,SEC.09)	Scarecrow Federal LG04-715	Scarecrow Federal LG04-715 PWB	Scarecrow Federal LG04-715 (REV-B.0) PWP	Planned	30.00	22.47	12630.00	17544.09	2.81	17544.09	PASS
SEC.04-T08N-R59W	SLOT#01 DOROTHY STATE LG16-729(350'FSL&1460'FEL,SEC.04)	DOROTHY STATE LG16-729 (05-123-34243)	DOROTHY STATE LG16-729 AWB	DOROTHY STATE LG16-729 AWP	Drilling	6606.70	260.22	6606.70	6649.54	4.15	6649.54	PASS
SEC.09-T08N-R59W	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09)	Scarecrow Federal LG04-745	Scarecrow Federal LG04-745 PWB	Scarecrow Federal LG04-745 (REV-C.0) PWP	Planned	30.00	44.93	13030.00	797.57	5.02	17544.09	PASS
LC Section 34	(Castor LC34-68HN)	Castor LC34-68HN (05-123-33451)	Original Drilling	Original Drilling\Original Drilling - As Drilled	Drilling	17109.37	1206.40	17109.37	17209.55	6.85	17209.55	PASS
SEC.09-T08N-R59W	SLOT#10 Scarecrow Federal LG04-755 (436'FNL & 1837'FWL,SEC.09)	Scarecrow Federal LG04-755	Scarecrow Federal LG04-755 PWB	Scarecrow Federal LG04-755 (REV-C.0) PWP	Planned	30.00	67.40	13030.00	874.61	7.50	17544.09	PASS
LC Section 34	(Faith LC34-785)	Faith LC34-785 (05-123-40647)	Original Drilling	Original Drilling\Original Drilling - As Drilled	Drilling	15541.21	1234.13	15541.21	12658.85	7.55	16830.00	PASS
LC Section 34	(Jessica LC27-785)	Jessica LC27-785 (05-123-40642)	Original Drilling	Original Drilling\Original Drilling - As Drilled	Drilling	17272.64	1372.84	17272.64	17394.12	7.89	17544.09	PASS
SEC.09-T08N-R59W	SLOT#05 McCLELLAN PC LG09-72HN(360'FNL&275'FEL,SEC.09)	Ex.McCLELLAN PC LG09-72HN (05-123-36972)	Ex.McCLELLAN PC LG09-72HN AWB	Ex.McCLELLAN PC LG09-72HN AWP	Drilling	6548.87	401.67	6548.87	6559.58	8.02	6559.58	PASS
SEC.04-T08N-R59W	SLOT#04 Ex.USA #1 (817'FNL&1970'FWL,SEC.04) (DA)	Ex.USA #1 (05-123-07092)	Ex.USA #1 AWB	Ex.USA #1 AWP	Drilling	11705.84	1948.78	11705.84	11741.72	9.28	11741.72	PASS
SEC.09-T08N-R59W	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09)	Scarecrow Federal LG04-765	Scarecrow Federal LG04-765 PWB	Scarecrow Federal LG04-765 (REV-C.0) PWP	Planned	30.00	90.14	13030.00	924.39	9.92	17544.09	PASS
SEC.03-T08N-R59W	SLOT#01 MCCLELLAN FEDERAL PC #LG03-78HN	MCCLELLAN FEDERAL PC #LG03-78HN (05-123-34351)	MCCLELLAN FEDERAL PC #LG03-78HN AWB	MCCLELLAN FEDERAL PC #LG03-78HN AWP	Drilling	7234.93	1726.04	7234.93	11826.61	11.59	11826.61	PASS
SEC.04-T08N-R59W	SLOT#05 Ex.McCLELLAN PC LG04-15 (830'FSL&1810'FEL,SEC.04) (PA)	Ex.McCLELLAN PC LG04-15 (05-123-10256)	Ex.McCLELLAN PC LG04-15 AWB	Ex.McCLELLAN PC LG04-15 AWP	Drilling	7686.98	743.62	7686.98	7680.48	12.16	7680.48	PASS
SEC.09-T08N-R59W	SLOT#08 Scarecrow Federal LG04-775 (436'FNL & 1792'FWL,SEC.09)	Scarecrow Federal LG04-775	Scarecrow Federal LG04-775 PWB	Scarecrow Federal LG04-775 (REV-C.0) PWP	Planned	30.00	112.61	12630.00	827.64	12.77	17544.09	PASS
SEC.04-T08N-R59W	SLOT#02 DOROTHY STATE LG16-739(350'FSL&1497'FEL,SEC.04)	DOROTHY STATE LG16-739 (05-123-33457)	DOROTHY STATE LG16-739 AWB	DOROTHY STATE LG16-739 AWP	Drilling	6303.40	834.03	7130.00	6464.65	13.60	6464.65	PASS
SEC.04-T08N-R59W	SLOT#03 DOROTHY STATE LG16-748(350'FSL&1535'FEL,SEC.04)	DOROTHY STATE LG16-748 (05-123-47703)	DOROTHY STATE LG16-748 AWB	DOROTHY STATE LG16-748 AWP	Drilling	4325.24	814.54	7230.00	4447.73	15.73	7130.00	PASS
SEC.09-T08N-R59W	SLOT#07 Scarecrow Federal LG04-785 (436'FNL & 1769'FWL,SEC.09)	Scarecrow Federal LG04-785	Scarecrow Federal LG04-785 PWB	Scarecrow Federal LG04-785 (REV-C.0) PWP	Planned	30.00	135.07	17544.09	763.80	16.80	17544.09	PASS
SEC.09-T08N-R59W	SLOT#06 Ex.KIRCHNER #1 (660'FSL&660'FEL,SEC.09) (PA)	Ex.KIRCHNER #1 (05-123-05575)	Ex.KIRCHNER #1 AWB	Ex.KIRCHNER #1 AWP	Drilling	6024.05	4249.08	6024.05	6551.57	25.48	6551.57	PASS
SEC.09-T08N-R59W	SLOT#01 DOROTHY STATE LG16-757(335'FNL&1433'FWL,SEC.09)	DOROTHY STATE LG16-757 (05-123-47612)	DOROTHY STATE LG16-757 AWB	DOROTHY STATE LG16-757 AWP	Drilling	704.66	478.86	704.66	6022.31	41.69	6022.31	PASS
SEC.09-T08N-R59W	SLOT#02 DOROTHY STATE LG16-766(335'FNL&1395'FWL,SEC.09)	DOROTHY STATE LG16-766 (05-123-47610)	DOROTHY STATE LG16-766 AWB	DOROTHY STATE LG16-766 AWP	Drilling	30.00	519.02	7130.00	1711.98	51.43	7230.00	PASS
SEC.09-T08N-R59W	SLOT#02 DOROTHY STATE LG16-766(335'FNL&1395'FWL,SEC.09)	DOROTHY STATE LG16-766 (05-123-47610)	DOROTHY STATE LG16-766 ST01 AWB	DOROTHY STATE LG16-766 ST01 AWP	Drilling	30.00	519.02	7130.00	1711.98	51.43	7230.00	PASS
SEC.09-T08N-R59W	SLOT#03 DOROTHY STATE LG16-776(335'FNL&1358'FWL,SEC.09)	DOROTHY STATE LG16-776 (05-123-47609)	DOROTHY STATE LG16-776 AWB	DOROTHY STATE LG16-776 AWP	Drilling	30.00	554.41	7130.00	1769.65	53.94	7530.00	PASS

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-725 PWB
Slot	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)		

CALCULATION RANGE & CUTOFF

From: 30.00ft MD	To: 17544.09ft MD	C-C Cutoff: (none)
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OFFSET WELL CLEARANCE SUMMARY (34 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.09-T08N-R59W	SLOT#04 DOROTHY STATE LG16-785(335'FNL&1320'FWL,SEC.09)	DOROTHY STATE LG16-785 (05-123-47611)	DOROTHY STATE LG16-785 AWB	DOROTHY STATE LG16-785 AWP	Drilling	716.92	591.16	7330.00	1800.45	56.57	9030.00	PASS
SEC.09-T08N-R59W	SLOT#15 Tinman Federal LG07-685 (2454'FNL & 1339'FWL,SEC.09)	Tinman Federal LG07-685	Tinman Federal LG07-685 PWB	Tinman Federal LG07-685 (REV-C.0) PWP	Planned	1865.51	1922.59	1865.51	7079.82	74.16	7430.00	PASS
SEC.09-T08N-R59W	SLOT#16 Tinman Federal LG07-675 (2470'FNL & 1354'FWL,SEC.09)	Tinman Federal LG07-675	Tinman Federal LG07-675 PWB	Tinman Federal LG07-675 (REV-C.0) PWP	Planned	1747.24	2040.83	1747.24	7079.27	80.10	7079.27	PASS
SEC.09-T08N-R59W	SLOT#17 Tinman Federal LG07-665 (2486'FNL & 1370'FWL,SEC.09)	Tinman Federal LG07-665	Tinman Federal LG07-665 PWB	Tinman Federal LG07-665 (REV-C.0) PWP	Planned	130.00	2122.32	700.00	7078.74	88.39	7078.74	PASS
SEC.09-T08N-R59W	SLOT#18 Tinman Federal LG07-655 (2502'FNL & 1386'FWL,SEC.09)	Tinman Federal LG07-655	Tinman Federal LG07-655 PWB	Tinman Federal LG07-655 (REV-C.0) PWP	Planned	130.00	2133.76	700.00	6162.42	95.85	6162.42	PASS
SEC.09-T08N-R59W	SLOT#19 Tinman Federal LG07-645 (2518'FNL & 1402'FWL,SEC.09)	Tinman Federal LG07-645	Tinman Federal LG07-645 PWB	Tinman Federal LG07-645 (REV-C.0) PWP	Planned	130.00	2145.81	700.00	6130.00	103.71	6130.00	PASS
SEC.09-T08N-R59W	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'FWL,SEC.09)	Tinman Federal LG07-635	Tinman Federal LG07-635 PWB	Tinman Federal LG07-635 (REV-C.0) PWP	Planned	130.00	2157.60	700.00	6130.00	112.19	6130.00	PASS
SEC.09-T08N-R59W	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'FWL,SEC.09)	Tinman Federal LG07-625	Tinman Federal LG07-625 PWB	Tinman Federal LG07-625 (REV-C.0) PWP	Planned	130.00	2169.98	700.00	6130.00	122.76	6130.00	PASS
SEC.09-T08N-R59W	SLOT#22 Tinman Federal LG07-615 (2567'FNL & 1449'FWL,SEC.09)	Tinman Federal LG07-615	Tinman Federal LG07-615 PWB	Tinman Federal LG07-615 (REV-B.0) PWP	Planned	130.00	2182.16	530.00	6130.00	131.70	11230.00	PASS