

NOBLE ENERGY, INC



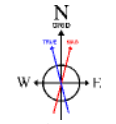
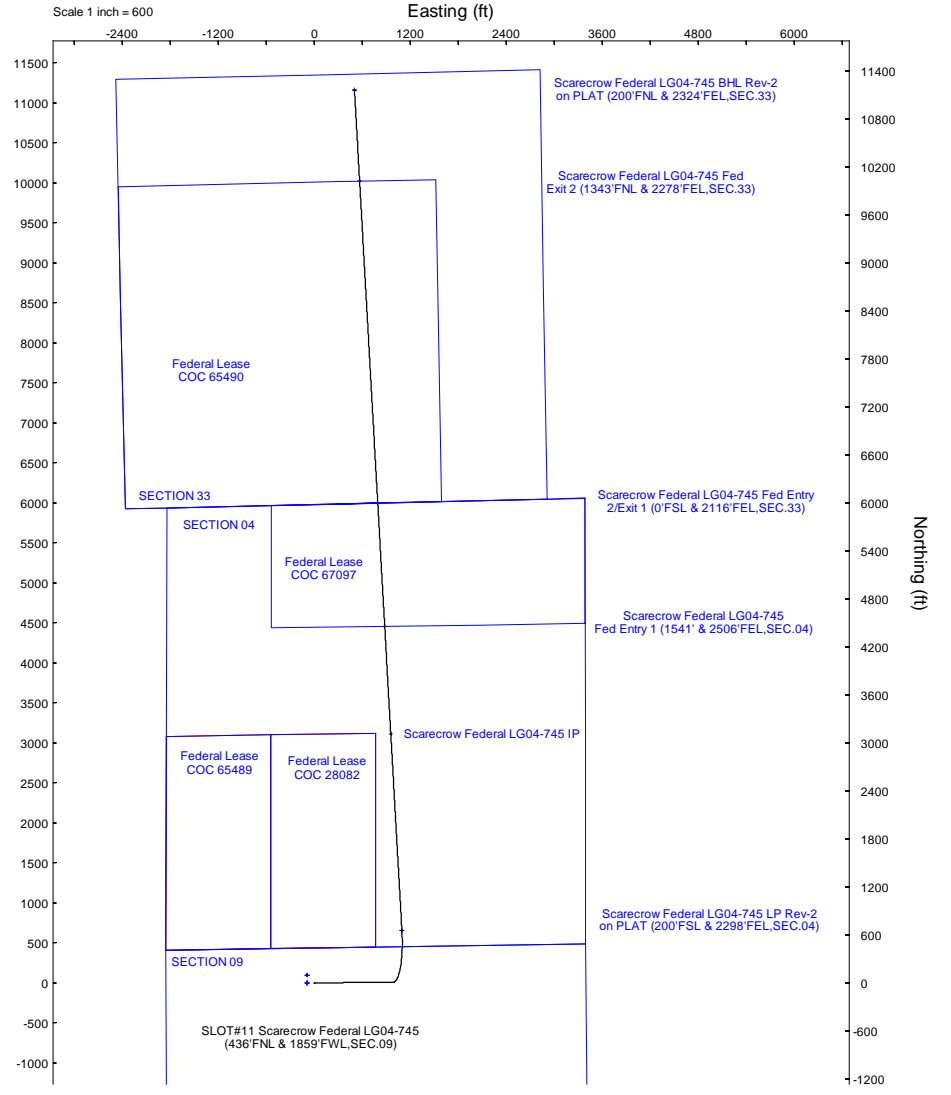
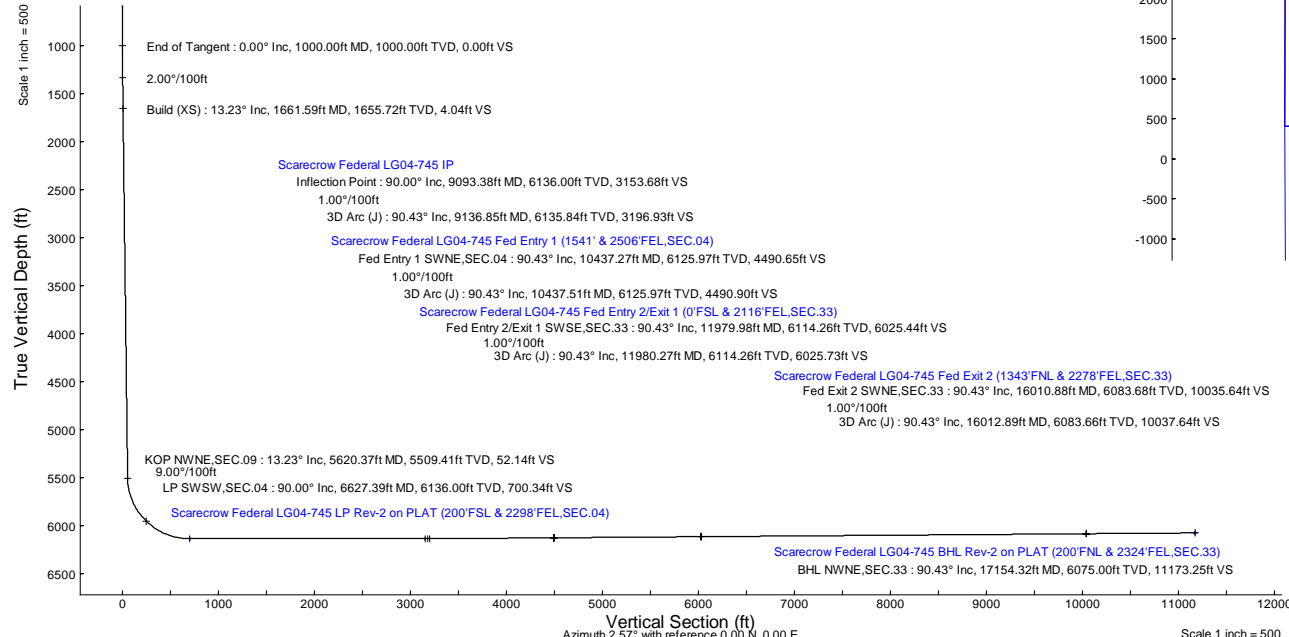
Location: COLORADO Slot: SLOT#11 Scarecrow Federal LG04-745 (436FNL & 1859FWL,SEC.09)
 Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: Scarecrow Federal LG04-745
 Facility: SEC.09-T08N-R59W Wellbore: Scarecrow Federal LG04-745 PWB

Plot reference wellpath is Scarecrow Federal LG04-745 (REV-C.0) PWB
 True vertical depths are referenced to (4861GL+30KB@4891RKB) (RKB)
 Reference wellpath measured depths are referenced to (4861GL+30KB@4891RKB) (RKB)
 (4861GL+30KB@4891RKB) (RKB) to Mean Sea Level: 4891 feet
 Mean Sea Level to Ground level (At Slot: SLOT#11 Scarecrow Federal LG04-745 (436FNL & 1859FWL,SEC.09)): 0 feet
 Offset wellpath MDs are referenced to each path's default MD datum
 Grid System: NAD83 / Lambert Colorado SP, Northern Zone (S01), US feet
 North Reference: Grid north
 Scale: True distance
 Coordinates are in feet referenced to Slot
 Depths are in feet
 Created by: guanelar 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°40'59.3200"N	103°59'9.3400"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLOT#11 Scarecrow Federal LG04-745 (436FNL & 1859FWL,SEC.09)	-94.37	426.86	3420406.656	1465224.722
(4861GL+30KB@4891RKB) to Ground level (At Slot: SLOT#11 Scarecrow Federal LG04-745 (436FNL & 1859FWL,SEC.09))				4891ft
Mean Sea Level to Ground level (At Slot: SLOT#11 Scarecrow Federal LG04-745 (436FNL & 1859FWL,SEC.09))				0ft
(4861GL+30KB@4891RKB) to Mean Sea Level				4891ft

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	89.525	30.00	0.00	0.00	0.00
End of Tangent	1000.00	0.000	89.525	1000.00	0.00	0.00	0.00
Build (XS)	1661.59	13.232	89.525	1655.72	0.63	76.05	4.04
KOP NWNE,SEC.09	5620.37	13.232	89.525	5509.41	8.14	982.15	52.14
LP SWSW,SEC.04	6627.39	90.000	356.763	6136.00	652.01	1093.13	700.34
Inflection Point	9093.38	90.000	356.763	6136.00	3114.06	953.88	3153.68
3D Arc (J)	9136.85	90.435	356.770	6135.84	3157.47	951.42	3196.93
Fed Entry 1 SWNE,SEC.04	10437.27	90.435	356.770	6125.97	4455.78	878.16	4490.65
3D Arc (J)	10437.51	90.435	356.773	6125.97	4456.03	878.15	4490.90
Fed Entry 2/Exit 1 SWSE,SEC.33	11979.98	90.435	356.773	6114.26	5996.00	791.31	6025.44
3D Arc (J)	11980.27	90.435	356.776	6114.26	5996.29	791.29	6025.73
Fed Exit 2 SWNE,SEC.33	16010.88	90.435	356.776	6083.68	10020.41	564.59	10035.64
3D Arc (J)	16012.89	90.435	356.796	6083.66	10022.41	564.48	10037.64
BHL NWNE,SEC.33	17154.32	90.435	356.796	6075.00	11162.03	500.67	11173.25

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 LG04-745 PWB
1950.00	17210.87	OWSG MWD rev2	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-745 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 0.98 degrees East of True North
 To correct azimuth from True to Grid subtract 0.98 degrees
 To correct azimuth from Magnetic to Grid add 6.44 degrees

Scale 1 inch = 500



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Scarecrow Federal LG04-745 (REV-C.0) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'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	Guenaler
Scale	0.999985	Report Generated	3/1/2024 at 10:08:28 AM
Convergence at slot	0.98° 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	-94.37	426.86	3420406.66	1495224.72	40°40'58.5156"N	103°59'2.8212"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	(4861'GL+30'KB@4891'RKB) (RKB) to Facility Vertical Datum	4891.00ft
Horizontal Reference Pt	Slot	(4861'GL+30'KB@4891'RKB) (RKB) to Mean Sea Level	4891.00ft
Vertical Reference Pt	(4861'GL+30'KB@4891'RKB) (RKB)	(4861'GL+30'KB@4891'RKB) (RKB) to Ground Level at Slot (SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09))	4891.00ft
MD Reference Pt	(4861'GL+30'KB@4891'RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	2.57°



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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09)		

WELLPATH DATA (203 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	89.525	0.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	
30.00	0.000	89.525	30.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	SHL NENW,SEC.09
130.00†	0.000	89.525	130.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	
230.00†	0.000	89.525	230.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	
330.00†	0.000	89.525	330.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	
428.00†	0.000	89.525	428.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	FOXHILLS-BASE PROD
430.00†	0.000	89.525	430.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	
530.00†	0.000	89.525	530.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	
630.00†	0.000	89.525	630.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	
730.00†	0.000	89.525	730.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	
830.00†	0.000	89.525	830.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	
863.00†	0.000	89.525	863.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	PIERRE (UPPER)AQUIFER TOP
930.00†	0.000	89.525	930.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	
1000.00	0.000	89.525	1000.00	0.00	0.00	0.00	40°40'58.5156"N	103°59'2.8212"W	0.00	End of Tangent
1030.00†	0.600	89.525	1030.00	0.01	0.00	0.16	40°40'58.5156"N	103°59'2.8192"W	2.00	
1130.00†	2.600	89.525	1129.96	0.16	0.02	2.95	40°40'58.5153"N	103°59'2.7829"W	2.00	
1230.00†	4.600	89.525	1229.75	0.49	0.08	9.23	40°40'58.5148"N	103°59'2.7014"W	2.00	
1330.00†	6.600	89.525	1329.27	1.01	0.16	18.98	40°40'58.5139"N	103°59'2.5748"W	2.00	
1430.00†	8.600	89.525	1428.39	1.71	0.27	32.21	40°40'58.5128"N	103°59'2.4031"W	2.00	
1456.93†	9.139	89.525	1455.00	1.93	0.30	36.36	40°40'58.5124"N	103°59'2.3492"W	2.00	PIERRE (UPPER) AQUIFER BASE
1530.00†	10.600	89.525	1526.98	2.60	0.40	48.88	40°40'58.5113"N	103°59'2.1867"W	2.00	
1630.00†	12.600	89.525	1624.93	3.66	0.57	68.99	40°40'58.5096"N	103°59'1.9257"W	2.00	
1661.59	13.232	89.525	1655.72	4.04	0.63	76.05	40°40'58.5090"N	103°59'1.8341"W	2.00	Build (XS)
1730.00†	13.232	89.525	1722.32	4.87	0.76	91.71	40°40'58.5076"N	103°59'1.6308"W	0.00	
1830.00†	13.232	89.525	1819.66	6.08	0.95	114.60	40°40'58.5056"N	103°59'1.3337"W	0.00	
1930.00†	13.232	89.525	1917.01	7.30	1.14	137.49	40°40'58.5036"N	103°59'1.0367"W	0.00	
2030.00†	13.232	89.525	2014.35	8.51	1.33	160.37	40°40'58.5016"N	103°59'0.7396"W	0.00	
2130.00†	13.232	89.525	2111.70	9.73	1.52	183.26	40°40'58.4996"N	103°59'0.4425"W	0.00	
2230.00†	13.232	89.525	2209.04	10.94	1.71	206.15	40°40'58.4976"N	103°59'0.1454"W	0.00	
2330.00†	13.232	89.525	2306.39	12.16	1.90	229.04	40°40'58.4956"N	103°58'59.8483"W	0.00	
2430.00†	13.232	89.525	2403.74	13.37	2.09	251.93	40°40'58.4937"N	103°58'59.5512"W	0.00	
2468.28†	13.232	89.525	2441.00	13.84	2.16	260.69	40°40'58.4929"N	103°58'59.4375"W	0.00	PIERRE_MBR_A_SD_TOP
2530.00†	13.232	89.525	2501.08	14.59	2.28	274.82	40°40'58.4917"N	103°58'59.2541"W	0.00	
2630.00†	13.232	89.525	2598.43	15.80	2.47	297.70	40°40'58.4897"N	103°58'58.9571"W	0.00	
2730.00†	13.232	89.525	2695.77	17.02	2.66	320.59	40°40'58.4877"N	103°58'58.6600"W	0.00	
2830.00†	13.232	89.525	2793.12	18.23	2.85	343.48	40°40'58.4857"N	103°58'58.3629"W	0.00	
2930.00†	13.232	89.525	2890.46	19.45	3.04	366.37	40°40'58.4837"N	103°58'58.0658"W	0.00	
3023.01†	13.232	89.525	2981.00	20.58	3.21	387.66	40°40'58.4818"N	103°58'57.7895"W	0.00	PIERRE_MBR_A_SD_BASE
3030.00†	13.232	89.525	2987.81	20.66	3.22	389.26	40°40'58.4817"N	103°58'57.7687"W	0.00	
3130.00†	13.232	89.525	3085.15	21.88	3.41	412.15	40°40'58.4797"N	103°58'57.4716"W	0.00	
3230.00†	13.232	89.525	3182.50	23.09	3.60	435.03	40°40'58.4777"N	103°58'57.1746"W	0.00	
3330.00†	13.232	89.525	3279.84	24.31	3.79	457.92	40°40'58.4757"N	103°58'56.8775"W	0.00	
3376.39†	13.232	89.525	3325.00	24.87	3.88	468.54	40°40'58.4748"N	103°58'56.7397"W	0.00	PARKMAN
3430.00†	13.232	89.525	3377.19	25.52	3.98	480.81	40°40'58.4737"N	103°58'56.5804"W	0.00	
3530.00†	13.232	89.525	3474.53	26.74	4.17	503.70	40°40'58.4717"N	103°58'56.2833"W	0.00	



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Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09)		

WELLPATH DATA (203 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3630.00†	13.232	89.525	3571.88	27.95	4.36	526.59	40°40'58.4697"N	103°58'55.9862"W	0.00	
3730.00†	13.232	89.525	3669.22	29.17	4.55	549.47	40°40'58.4677"N	103°58'55.6891"W	0.00	
3830.00†	13.232	89.525	3766.57	30.38	4.74	572.36	40°40'58.4657"N	103°58'55.3920"W	0.00	
3930.00†	13.232	89.525	3863.91	31.60	4.93	595.25	40°40'58.4637"N	103°58'55.0950"W	0.00	
4030.00†	13.232	89.525	3961.26	32.81	5.12	618.14	40°40'58.4617"N	103°58'54.7979"W	0.00	
4082.12†	13.232	89.525	4012.00	33.45	5.22	630.07	40°40'58.4607"N	103°58'54.6430"W	0.00	SUSSEX
4130.00†	13.232	89.525	4058.60	34.03	5.31	641.03	40°40'58.4597"N	103°58'54.5008"W	0.00	
4230.00†	13.232	89.525	4155.95	35.24	5.50	663.92	40°40'58.4577"N	103°58'54.2037"W	0.00	
4330.00†	13.232	89.525	4253.29	36.46	5.69	686.80	40°40'58.4557"N	103°58'53.9066"W	0.00	
4430.00†	13.232	89.525	4350.64	37.67	5.88	709.69	40°40'58.4537"N	103°58'53.6095"W	0.00	
4530.00†	13.232	89.525	4447.98	38.89	6.07	732.58	40°40'58.4517"N	103°58'53.3124"W	0.00	
4622.47†	13.232	89.525	4538.00	40.01	6.24	753.75	40°40'58.4499"N	103°58'53.0377"W	0.00	SHANNON
4630.00†	13.232	89.525	4545.33	40.10	6.26	755.47	40°40'58.4497"N	103°58'53.0154"W	0.00	
4730.00†	13.232	89.525	4642.68	41.32	6.45	778.36	40°40'58.4477"N	103°58'52.7183"W	0.00	
4830.00†	13.232	89.525	4740.02	42.53	6.64	801.25	40°40'58.4457"N	103°58'52.4212"W	0.00	
4930.00†	13.232	89.525	4837.37	43.75	6.83	824.13	40°40'58.4437"N	103°58'52.1241"W	0.00	
5030.00†	13.232	89.525	4934.71	44.96	7.02	847.02	40°40'58.4417"N	103°58'51.8270"W	0.00	
5130.00†	13.232	89.525	5032.06	46.18	7.21	869.91	40°40'58.4397"N	103°58'51.5299"W	0.00	
5230.00†	13.232	89.525	5129.40	47.40	7.40	892.80	40°40'58.4377"N	103°58'51.2329"W	0.00	
5330.00†	13.232	89.525	5226.75	48.61	7.59	915.69	40°40'58.4357"N	103°58'50.9358"W	0.00	
5430.00†	13.232	89.525	5324.09	49.83	7.78	938.57	40°40'58.4337"N	103°58'50.6387"W	0.00	
5456.61†	13.232	89.525	5350.00	50.15	7.83	944.67	40°40'58.4332"N	103°58'50.5596"W	0.00	TEPEE BUTES
5530.00†	13.232	89.525	5421.44	51.04	7.97	961.46	40°40'58.4317"N	103°58'50.3416"W	0.00	
5620.37	13.232	89.525	5509.41	52.14	8.14	982.15	40°40'58.4299"N	103°58'50.0731"W	0.00	KOP NWNE,SEC.09
5620.37†	13.232	89.525	5509.41	52.14	8.14	982.15	40°40'58.4299"N	103°58'50.0731"W	9.00	KOP (442'FNL&2414'FEL,SEC.09)
5630.00†	13.219	85.736	5518.78	52.33	8.23	984.35	40°40'58.4304"N	103°58'50.0445"W	9.00	
5730.00†	16.076	51.346	5615.70	62.83	17.75	1006.61	40°40'58.5207"N	103°58'49.7535"W	9.00	
5830.00†	22.388	31.523	5710.17	88.67	42.68	1027.42	40°40'58.7635"N	103°58'49.4779"W	9.00	
5930.00†	30.050	20.715	5799.87	129.21	82.41	1046.27	40°40'59.1529"N	103°58'49.2244"W	9.00	
6030.00†	38.257	14.091	5882.58	183.45	135.97	1062.70	40°40'59.6792"N	103°58'48.9993"W	9.00	
6099.69†	44.138	10.770	5935.00	228.66	180.78	1072.50	40°41'0.1203"N	103°58'48.8622"W	9.00	INTRA_SHARON_SPGS_MK
6116.62†	45.579	10.069	5947.00	240.49	192.53	1074.66	40°41'0.2359"N	103°58'48.8315"W	9.00	SHARON_SPRING_MKR
6130.00†	46.721	9.540	5956.27	250.06	202.03	1076.30	40°41'0.3296"N	103°58'48.8081"W	9.00	
6154.90†	48.853	8.605	5973.00	268.38	220.25	1079.20	40°41'0.5090"N	103°58'48.7663"W	9.00	NIO A CHALK
6197.52†	52.517	7.139	6000.00	301.21	252.90	1083.71	40°41'0.8309"N	103°58'48.7006"W	9.00	NIO A MARL
6230.00†	55.321	6.115	6019.13	327.39	278.97	1086.73	40°41'1.0880"N	103°58'48.6556"W	9.00	
6330.00†	63.998	3.341	6069.60	413.54	364.90	1093.75	40°41'1.9357"N	103°58'48.5454"W	9.00	
6333.21†	64.277	3.259	6071.00	416.43	367.78	1093.91	40°41'1.9642"N	103°58'48.5426"W	9.00	NIO B CHALK
6425.19†	72.300	1.061	6105.00	501.80	453.10	1097.08	40°41'2.8065"N	103°58'48.4825"W	9.00	NIO B MARL
6430.00†	72.720	0.953	6106.45	506.39	457.69	1097.17	40°41'2.8518"N	103°58'48.4804"W	9.00	
6530.00†	81.469	358.782	6128.76	603.65	555.06	1096.91	40°41'3.8139"N	103°58'48.4621"W	9.00	
6627.39	90.000	356.763	6136.00†	700.34	652.01	1093.13	40°41'4.7724"N	103°58'48.4896"W	9.00	LP SWSW,SEC.04
6630.00†	90.000	356.763	6136.00	702.93	654.62	1092.98	40°41'4.7982"N	103°58'48.4909"W	0.00	
6730.00†	90.000	356.763	6136.00	802.42	754.46	1087.33	40°41'5.7855"N	103°58'48.5420"W	0.00	
6830.00†	90.000	356.763	6136.00	901.91	854.30	1081.69	40°41'6.7729"N	103°58'48.5931"W	0.00	



Planned Wellpath Report

Scarecrow Federal LG04-745 (REV-C.0) PWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09)		

WELLPATH DATA (203 stations) † = interpolated, ‡ = extrapolated station										
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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
6930.00†	90.000	356.763	6136.00	1001.40	954.14	1076.04	40°41'7.7602"N	103°58'48.6442"W	0.00	
7030.00†	90.000	356.763	6136.00	1100.88	1053.98	1070.39	40°41'8.7476"N	103°58'48.6952"W	0.00	
7130.00†	90.000	356.763	6136.00	1200.37	1153.82	1064.75	40°41'9.7349"N	103°58'48.7463"W	0.00	
7230.00†	90.000	356.763	6136.00	1299.86	1253.66	1059.10	40°41'10.7223"N	103°58'48.7974"W	0.00	
7330.00†	90.000	356.763	6136.00	1399.34	1353.50	1053.45	40°41'11.7096"N	103°58'48.8485"W	0.00	
7430.00†	90.000	356.763	6136.00	1498.83	1453.34	1047.80	40°41'12.6969"N	103°58'48.8995"W	0.00	
7530.00†	90.000	356.763	6136.00	1598.32	1553.18	1042.16	40°41'13.6843"N	103°58'48.9506"W	0.00	
7630.00†	90.000	356.763	6136.00	1697.81	1653.02	1036.51	40°41'14.6716"N	103°58'49.0017"W	0.00	
7730.00†	90.000	356.763	6136.00	1797.29	1752.86	1030.86	40°41'15.6590"N	103°58'49.0528"W	0.00	
7830.00†	90.000	356.763	6136.00	1896.78	1852.70	1025.22	40°41'16.6463"N	103°58'49.1039"W	0.00	
7930.00†	90.000	356.763	6136.00	1996.27	1952.54	1019.57	40°41'17.6337"N	103°58'49.1549"W	0.00	
8030.00†	90.000	356.763	6136.00	2095.75	2052.38	1013.92	40°41'18.6210"N	103°58'49.2060"W	0.00	
8130.00†	90.000	356.763	6136.00	2195.24	2152.22	1008.28	40°41'19.6084"N	103°58'49.2571"W	0.00	
8230.00†	90.000	356.763	6136.00	2294.73	2252.06	1002.63	40°41'20.5957"N	103°58'49.3082"W	0.00	
8330.00†	90.000	356.763	6136.00	2394.22	2351.90	996.98	40°41'21.5831"N	103°58'49.3593"W	0.00	
8430.00†	90.000	356.763	6136.00	2493.70	2451.74	991.34	40°41'22.5704"N	103°58'49.4104"W	0.00	
8530.00†	90.000	356.763	6136.00	2593.19	2551.58	985.69	40°41'23.5578"N	103°58'49.4614"W	0.00	
8630.00†	90.000	356.763	6136.00	2692.68	2651.42	980.04	40°41'24.5451"N	103°58'49.5125"W	0.00	
8730.00†	90.000	356.763	6136.00	2792.16	2751.27	974.40	40°41'25.5325"N	103°58'49.5636"W	0.00	
8830.00†	90.000	356.763	6136.00	2891.65	2851.11	968.75	40°41'26.5198"N	103°58'49.6147"W	0.00	
8930.00†	90.000	356.763	6136.00	2991.14	2950.95	963.10	40°41'27.5072"N	103°58'49.6658"W	0.00	
9030.00†	90.000	356.763	6136.00	3090.63	3050.79	957.45	40°41'28.4945"N	103°58'49.7169"W	0.00	
9093.38	90.000	356.763	6136.00 ²	3153.68	3114.06	953.88	40°41'29.1203"N	103°58'49.7492"W	0.00	Inflection Point
9130.00†	90.366	356.769	6135.88	3190.11	3150.63	951.81	40°41'29.4819"N	103°58'49.7679"W	1.00	
9136.85	90.435	356.770	6135.84	3196.93	3157.47	951.42	40°41'29.5495"N	103°58'49.7714"W	1.00	3D Arc (J)
9230.00†	90.435	356.770	6135.13	3289.60	3250.47	946.18	40°41'30.4692"N	103°58'49.8188"W	0.00	
9330.00†	90.435	356.770	6134.37	3389.08	3350.30	940.54	40°41'31.4565"N	103°58'49.8698"W	0.00	
9430.00†	90.435	356.770	6133.61	3488.57	3450.14	934.91	40°41'32.4438"N	103°58'49.9207"W	0.00	
9530.00†	90.435	356.770	6132.85	3588.05	3549.98	929.27	40°41'33.4312"N	103°58'49.9716"W	0.00	
9630.00†	90.435	356.770	6132.09	3687.54	3649.82	923.64	40°41'34.4185"N	103°58'50.0225"W	0.00	
9730.00†	90.435	356.770	6131.34	3787.03	3749.66	918.01	40°41'35.4058"N	103°58'50.0734"W	0.00	
9830.00†	90.435	356.770	6130.58	3886.51	3849.49	912.37	40°41'36.3931"N	103°58'50.1244"W	0.00	
9930.00†	90.435	356.770	6129.82	3986.00	3949.33	906.74	40°41'37.3804"N	103°58'50.1753"W	0.00	
10030.00†	90.435	356.770	6129.06	4085.48	4049.17	901.10	40°41'38.3678"N	103°58'50.2262"W	0.00	
10130.00†	90.435	356.770	6128.30	4184.97	4149.01	895.47	40°41'39.3551"N	103°58'50.2771"W	0.00	
10230.00†	90.435	356.770	6127.54	4284.45	4248.85	889.84	40°41'40.3424"N	103°58'50.3281"W	0.00	
10330.00†	90.435	356.770	6126.78	4383.94	4348.69	884.20	40°41'41.3297"N	103°58'50.3790"W	0.00	
10430.00†	90.435	356.770	6126.03	4483.42	4448.52	878.57	40°41'42.3171"N	103°58'50.4299"W	0.00	
10437.27	90.435	356.770	6125.97 ³	4490.65	4455.78	878.16	40°41'42.3888"N	103°58'50.4336"W	0.00	Fed Entry 1 SWNE,SEC.04
10437.51	90.435	356.773	6125.97	4490.90	4456.03	878.15	40°41'42.3912"N	103°58'50.4337"W	1.00	3D Arc (J)
10530.00†	90.435	356.773	6125.27	4582.91	4548.36	872.94	40°41'43.3044"N	103°58'50.4808"W	0.00	
10630.00†	90.435	356.773	6124.51	4682.40	4648.20	867.31	40°41'44.2917"N	103°58'50.5316"W	0.00	
10730.00†	90.435	356.773	6123.75	4781.88	4748.04	861.68	40°41'45.2790"N	103°58'50.5825"W	0.00	
10830.00†	90.435	356.773	6122.99	4881.37	4847.88	856.05	40°41'46.2664"N	103°58'50.6334"W	0.00	
10930.00†	90.435	356.773	6122.23	4980.85	4947.72	850.42	40°41'47.2537"N	103°58'50.6842"W	0.00	



Planned Wellpath Report

Scarecrow Federal LG04-745 (REV-C.0) PWP
Page 5 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09)		

WELLPATH DATA (203 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11030.00†	90.435	356.773	6121.47	5080.34	5047.56	844.79	40°41'48.2410"N	103°58'50.7351"W	0.00	
11130.00†	90.435	356.773	6120.71	5179.83	5147.39	839.16	40°41'49.2283"N	103°58'50.7860"W	0.00	
11230.00†	90.435	356.773	6119.95	5279.31	5247.23	833.53	40°41'50.2157"N	103°58'50.8369"W	0.00	
11330.00†	90.435	356.773	6119.19	5378.80	5347.07	827.90	40°41'51.2030"N	103°58'50.8877"W	0.00	
11430.00†	90.435	356.773	6118.43	5478.28	5446.91	822.27	40°41'52.1903"N	103°58'50.9386"W	0.00	
11530.00†	90.435	356.773	6117.68	5577.77	5546.75	816.64	40°41'53.1776"N	103°58'50.9895"W	0.00	
11630.00†	90.435	356.773	6116.92	5677.26	5646.59	811.01	40°41'54.1649"N	103°58'51.0404"W	0.00	
11730.00†	90.435	356.773	6116.16	5776.74	5746.43	805.38	40°41'55.1523"N	103°58'51.0912"W	0.00	
11830.00†	90.435	356.773	6115.40	5876.23	5846.26	799.75	40°41'56.1396"N	103°58'51.1421"W	0.00	
11930.00†	90.435	356.773	6114.64	5975.71	5946.10	794.12	40°41'57.1269"N	103°58'51.1930"W	0.00	
11979.98	90.435	356.773	6114.26 [‡]	6025.44	5996.00	791.31	40°41'57.6204"N	103°58'51.2184"W	0.00	Fed Entry 2/Exit 1 SWSE,SEC.33
11980.27	90.435	356.776	6114.26	6025.73	5996.29	791.29	40°41'57.6233"N	103°58'51.2185"W	1.00	3D Arc (J)
12030.00†	90.435	356.776	6113.88	6075.20	6045.94	788.50	40°41'58.1142"N	103°58'51.2438"W	0.00	
12130.00†	90.435	356.776	6113.12	6174.69	6145.78	782.87	40°41'59.1016"N	103°58'51.2946"W	0.00	
12230.00†	90.435	356.776	6112.36	6274.17	6245.62	777.25	40°42'0.0889"N	103°58'51.3454"W	0.00	
12330.00†	90.435	356.776	6111.60	6373.66	6345.46	771.62	40°42'1.0762"N	103°58'51.3962"W	0.00	
12430.00†	90.435	356.776	6110.85	6473.15	6445.30	766.00	40°42'2.0635"N	103°58'51.4471"W	0.00	
12530.00†	90.435	356.776	6110.09	6572.63	6545.14	760.37	40°42'3.0509"N	103°58'51.4979"W	0.00	
12630.00†	90.435	356.776	6109.33	6672.12	6644.97	754.75	40°42'4.0382"N	103°58'51.5487"W	0.00	
12730.00†	90.435	356.776	6108.57	6771.61	6744.81	749.12	40°42'5.0255"N	103°58'51.5995"W	0.00	
12830.00†	90.435	356.776	6107.81	6871.09	6844.65	743.50	40°42'6.0128"N	103°58'51.6503"W	0.00	
12930.00†	90.435	356.776	6107.05	6970.58	6944.49	737.88	40°42'7.0002"N	103°58'51.7011"W	0.00	
13030.00†	90.435	356.776	6106.29	7070.07	7044.33	732.25	40°42'7.9875"N	103°58'51.7519"W	0.00	
13130.00†	90.435	356.776	6105.54	7169.55	7144.17	726.63	40°42'8.9748"N	103°58'51.8027"W	0.00	
13200.59†	90.435	356.776	6105.00	7239.78	7214.64	722.66	40°42'9.6717"N	103°58'51.8386"W	0.00	NIO B MARL
13230.00†	90.435	356.776	6104.78	7269.04	7244.01	721.00	40°42'9.9621"N	103°58'51.8536"W	0.00	
13330.00†	90.435	356.776	6104.02	7368.53	7343.85	715.38	40°42'10.9495"N	103°58'51.9044"W	0.00	
13430.00†	90.435	356.776	6103.26	7468.01	7443.68	709.75	40°42'11.9368"N	103°58'51.9552"W	0.00	
13530.00†	90.435	356.776	6102.50	7567.50	7543.52	704.13	40°42'12.9241"N	103°58'52.0060"W	0.00	
13630.00†	90.435	356.776	6101.74	7666.98	7643.36	698.50	40°42'13.9114"N	103°58'52.0568"W	0.00	
13730.00†	90.435	356.776	6100.98	7766.47	7743.20	692.88	40°42'14.8987"N	103°58'52.1076"W	0.00	
13830.00†	90.435	356.776	6100.23	7865.96	7843.04	687.25	40°42'15.8861"N	103°58'52.1584"W	0.00	
13930.00†	90.435	356.776	6099.47	7965.44	7942.88	681.63	40°42'16.8734"N	103°58'52.2093"W	0.00	
14030.00†	90.435	356.776	6098.71	8064.93	8042.72	676.00	40°42'17.8607"N	103°58'52.2601"W	0.00	
14130.00†	90.435	356.776	6097.95	8164.42	8142.56	670.38	40°42'18.8480"N	103°58'52.3109"W	0.00	
14230.00†	90.435	356.776	6097.19	8263.90	8242.40	664.76	40°42'19.8354"N	103°58'52.3617"W	0.00	
14330.00†	90.435	356.776	6096.43	8363.39	8342.23	659.13	40°42'20.8227"N	103°58'52.4125"W	0.00	
14430.00†	90.435	356.776	6095.67	8462.88	8442.07	653.51	40°42'21.8100"N	103°58'52.4634"W	0.00	
14530.00†	90.435	356.776	6094.91	8562.36	8541.91	647.88	40°42'22.7973"N	103°58'52.5142"W	0.00	
14630.00†	90.435	356.776	6094.16	8661.85	8641.75	642.26	40°42'23.7847"N	103°58'52.5650"W	0.00	
14730.00†	90.435	356.776	6093.40	8761.34	8741.59	636.63	40°42'24.7720"N	103°58'52.6158"W	0.00	
14830.00†	90.435	356.776	6092.64	8860.82	8841.43	631.01	40°42'25.7593"N	103°58'52.6666"W	0.00	
14930.00†	90.435	356.776	6091.88	8960.31	8941.27	625.38	40°42'26.7466"N	103°58'52.7175"W	0.00	
15030.00†	90.435	356.776	6091.12	9059.80	9041.11	619.76	40°42'27.7339"N	103°58'52.7683"W	0.00	
15130.00†	90.435	356.776	6090.36	9159.28	9140.94	614.13	40°42'28.7213"N	103°58'52.8191"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09)		

WELLPATH DATA (203 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
15230.00†	90.435	356.776	6089.60	9258.77	9240.78	608.51	40°42'29.7086"N	103°58'52.8699"W	0.00	
15330.00†	90.435	356.776	6088.85	9358.25	9340.62	602.88	40°42'30.6959"N	103°58'52.9207"W	0.00	
15430.00†	90.435	356.776	6088.09	9457.74	9440.46	597.26	40°42'31.6832"N	103°58'52.9716"W	0.00	
15530.00†	90.435	356.776	6087.33	9557.23	9540.30	591.64	40°42'32.6705"N	103°58'53.0224"W	0.00	
15630.00†	90.435	356.776	6086.57	9656.71	9640.14	586.01	40°42'33.6579"N	103°58'53.0732"W	0.00	
15730.00†	90.435	356.776	6085.81	9756.20	9739.98	580.39	40°42'34.6452"N	103°58'53.1240"W	0.00	
15830.00†	90.435	356.776	6085.05	9855.69	9839.82	574.76	40°42'35.6325"N	103°58'53.1749"W	0.00	
15930.00†	90.435	356.776	6084.29	9955.17	9939.65	569.14	40°42'36.6198"N	103°58'53.2257"W	0.00	
16010.88	90.435	356.776	6083.68 ⁵	10035.64	10020.41	564.59	40°42'37.4184"N	103°58'53.2668"W	0.00	Fed Exit 2 SWNE,SEC.33
16012.89	90.435	356.796	6083.66	10037.64	10022.41	564.48	40°42'37.4382"N	103°58'53.2678"W	1.00	3D Arc (J)
16030.00†	90.435	356.796	6083.53	10054.66	10039.49	563.52	40°42'37.6072"N	103°58'53.2764"W	0.00	
16130.00†	90.435	356.796	6082.78	10154.15	10139.33	557.93	40°42'38.5945"N	103°58'53.3268"W	0.00	
16230.00†	90.435	356.796	6082.02	10253.64	10239.18	552.34	40°42'39.5818"N	103°58'53.3772"W	0.00	
16330.00†	90.435	356.796	6081.26	10353.13	10339.02	546.75	40°42'40.5692"N	103°58'53.4276"W	0.00	
16430.00†	90.435	356.796	6080.50	10452.62	10438.86	541.16	40°42'41.5565"N	103°58'53.4779"W	0.00	
16530.00†	90.435	356.796	6079.74	10552.11	10538.70	535.57	40°42'42.5438"N	103°58'53.5283"W	0.00	
16630.00†	90.435	356.796	6078.98	10651.60	10638.54	529.98	40°42'43.5312"N	103°58'53.5787"W	0.00	
16730.00†	90.435	356.796	6078.22	10751.09	10738.38	524.39	40°42'44.5185"N	103°58'53.6290"W	0.00	
16830.00†	90.435	356.796	6077.46	10850.58	10838.22	518.80	40°42'45.5058"N	103°58'53.6794"W	0.00	
16930.00†	90.435	356.796	6076.70	10950.07	10938.06	513.21	40°42'46.4932"N	103°58'53.7298"W	0.00	
17030.00†	90.435	356.796	6075.94	11049.56	11037.90	507.62	40°42'47.4805"N	103°58'53.7802"W	0.00	
17130.00†	90.435	356.796	6075.18	11149.05	11137.74	502.03	40°42'48.4678"N	103°58'53.8305"W	0.00	
17154.32	90.435	356.796	6075.00 ⁶	11173.25	11162.03	500.67	40°42'48.7080"N	103°58'53.8428"W	0.00	BHL NWNE,SEC.33

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09)		

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	0.00	97.94	-89.89	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	0.00	97.94	-89.89	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	0.00	97.94	-89.89	3420316.77	1495322.66	40°40'59.4984"N	103°59'3.9660"W	polygon
2D Polygon: dimensions not calculated									
Scarecrow Federal LG04-745 BHL (200'FNL & 2324'FEL,SEC.33)	N/A	6075.00	11162.04	500.26	3420906.91	1506386.58	40°42'48.7082"N	103°58'53.8482"W	point
6) Scarecrow Federal LG04-745 BHL Rev-2 on PLAT (200'FNL & 2324'FEL,SEC.33)	17154.32	6075.00	11162.03	500.67	3420907.32	1506386.56	40°42'48.7080"N	103°58'53.8428"W	point
5) Scarecrow Federal LG04-745 Fed Exit 2 (1343'FNL & 2278'FEL,SEC.33)	16010.88	6083.68	10020.41	564.59	3420971.23	1505244.96	40°42'37.4184"N	103°58'53.2668"W	point
4) Scarecrow Federal LG04-745 Fed Entry 2/Exit 1 (0'FSL & 2116'FEL,SEC.33)	11979.98	6114.26	5996.00	791.31	3421197.95	1501220.63	40°41'57.6204"N	103°58'51.2184"W	point
3) Scarecrow Federal LG04-745 Fed Entry 1 (1541' & 2506'FEL,SEC.04)	10437.27	6125.97	4455.78	878.16	3421284.80	1499680.43	40°41'42.3888"N	103°58'50.4336"W	point
2) Scarecrow Federal LG04-745 IP	9093.38	6136.00	3114.06	953.88	3421360.52	1498338.73	40°41'29.1203"N	103°58'49.7492"W	point
Scarecrow Federal LG04-745 LP (200'FSL & 2298'FEL,SEC.04)	N/A	6136.00	651.90	1092.67	3421499.30	1495876.61	40°41'4.7714"N	103°58'48.4956"W	point
1) Scarecrow Federal LG04-745 LP Rev-2 on PLAT (200'FSL & 2298'FEL,SEC.04)	6627.39	6136.00	652.01	1093.13	3421499.76	1495876.72	40°41'4.7724"N	103°58'48.4896"W	point

SURVEY PROGRAM - Ref Wellbore: Scarecrow Federal LG04-745 PWB Ref Wellpath: Scarecrow Federal LG04-745 (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 LG04-745 PWB
1950.00	17210.87	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-745 PWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
428.00	0.000	89.525	428.00	FOXHILLS-BASE PROD
863.00	0.000	89.525	863.00	PIERRE (UPPER)AQUIFER TOP
1456.93	9.139	89.525	1455.00	PIERRE (UPPER) AQUIFER BASE
2468.28	13.232	89.525	2441.00	PIERRE_MBR_A_SD_TOP
3023.01	13.232	89.525	2981.00	PIERRE_MBR_A_SD_BASE
3376.39	13.232	89.525	3325.00	PARKMAN
4082.12	13.232	89.525	4012.00	SUSSEX
4622.47	13.232	89.525	4538.00	SHANNON
5456.61	13.232	89.525	5350.00	TEPEE BUTES
5620.37	13.232	89.525	5509.41	KOP (442'FNL&2414'FEL,SEC.09)
6099.69	44.138	10.770	5935.00	INTRA_SHARON_SPGS_MK
6116.62	45.579	10.069	5947.00	SHARON_SPRING_MKR
6154.90	48.853	8.605	5973.00	NIO A CHALK
6197.52	52.517	7.139	6000.00	NIO A MARL
6333.21	64.277	3.259	6071.00	NIO B CHALK
6425.19	72.300	1.061	6105.00	NIO B MARL
13200.59	90.435	356.776	6105.00	NIO B MARL

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
30.00	0.000	89.525	30.00	SHL NENW,SEC.09
1000.00	0.000	89.525	1000.00	End of Tangent
1661.59	13.232	89.525	1655.72	Build (XS)
5620.37	13.232	89.525	5509.41	KOP NWNE,SEC.09
6627.39	90.000	356.763	6136.00	LP SWSW,SEC.04
9093.38	90.000	356.763	6136.00	Inflection Point
9136.85	90.435	356.770	6135.84	3D Arc (J)
10437.27	90.435	356.770	6125.97	Fed Entry 1 SWNE,SEC.04
10437.51	90.435	356.773	6125.97	3D Arc (J)
11979.98	90.435	356.773	6114.26	Fed Entry 2/Exit 1 SWSE,SEC.33
11980.27	90.435	356.776	6114.26	3D Arc (J)
16010.88	90.435	356.776	6083.68	Fed Exit 2 SWNE,SEC.33
16012.89	90.435	356.796	6083.66	3D Arc (J)
17154.32	90.435	356.796	6075.00	BHL NWNE,SEC.33



Closest Approach Clearance Summary Report

Scarecrow Federal LG04-745 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'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	Guenaler
Scale	0.999985	Report Generated	3/1/2024 at 10:28:09 AM
Convergence at slot	0.98° 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	-94.37	426.86	3420406.66	1495224.72	40°40'58.5156"N	103°59'2.8212"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	(4861'GL+30'KB@4891'RKB) (RKB) to Facility Vertical Datum	4891.00ft
Horizontal Reference Pt	Slot	(4861'GL+30'KB@4891'RKB) (RKB) to Mean Sea Level	4891.00ft
Vertical Reference Pt	(4861'GL+30'KB@4891'RKB) (RKB)	(4861'GL+30'KB@4891'RKB) (RKB) to Ground Level at Slot (SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09))	4891.00ft
MD Reference Pt	(4861'GL+30'KB@4891'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					



Closest Approach Clearance Summary Report

Scarecrow Federal LG04-745 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'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

SURVEY PROGRAM - Ref Wellbore: Scarecrow Federal LG04-745 PWB Ref Wellpath: Scarecrow Federal LG04-745 (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 LG04-745 PWB
1950.00	17210.87	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-745 PWB



Closest Approach Clearance Summary Report

Scarecrow Federal LG04-745 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09)		

CALCULATION RANGE & CUTOFF		
From: 30.00ft MD	To: 17154.32ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (30 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	16685.88	34.68	16685.88	16685.92	0.20	16685.92	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	7098.15	33.15	7098.15	7072.18	0.47	7130.00	FAIL
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	1284.28	22.45	16030.00	1317.39	1.46	17154.32	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	830.00	936.38	1.89	17154.32	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	6296.65	199.88	6296.65	6299.42	3.34	6299.42	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	11235.88	727.39	11235.88	11238.23	3.45	11238.23	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	45.21	830.00	1011.47	4.14	17154.32	PASS
SEC.09-T08N-R59W	SLOT#13 Scarecrow Federal LG04-725 (436'FNL & 1904'FWL,SEC.09)	Scarecrow Federal LG04-725	Scarecrow Federal LG04-725 PWB	Scarecrow Federal LG04-725 (REV-C.0) PWP	Planned	30.00	44.93	12530.00	792.15	4.78	17154.32	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	67.68	11730.00	880.90	7.12	17154.32	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	6420.35	432.18	6420.35	6431.75	7.35	6431.75	PASS
SEC.09-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	67.40	12330.00	17154.32	8.43	17154.32	PASS
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	6963.27	1666.35	6963.27	6980.66	8.53	6980.66	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	7240.56	554.46	7240.56	7279.65	9.55	7279.65	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	90.14	17154.32	875.69	11.16	17154.32	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	6507.16	1034.44	6507.16	6510.88	17.66	6510.88	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	1003.19	434.83	6030.00	6091.22	18.86	6091.22	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	5679.47	4563.15	5679.47	6227.82	27.06	6227.82	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	475.04	5830.00	5952.95	33.40	5952.95	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	475.04	5830.00	5952.95	33.40	5952.95	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	6208.10	1675.93	6208.10	6384.86	38.07	6384.86	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	510.31	830.00	1956.23	43.25	6230.00	PASS
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	911.66	546.11	6830.00	1970.12	45.80	7330.00	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	2689.89	1780.33	2689.89	6353.29	54.17	6353.29	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	2488.50	1945.04	2488.50	6080.88	59.47	6080.88	PASS

OFFSET WELL CLEARANCE SUMMARY (30 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#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	1813.20	2086.89	1813.20	5961.34	68.29	5961.34	PASS



Closest Approach Clearance Summary Report

Scarecrow Federal LG04-745 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-745 PWB
Slot	SLOT#11 Scarecrow Federal LG04-745 (436'FNL & 1859'FWL,SEC.09)		

CALCULATION RANGE & CUTOFF		
From: 30.00ft MD	To: 17154.32ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (30 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#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	2122.90	1000.00	5924.53	79.23	5924.53	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	2135.33	1000.00	5881.04	91.19	5881.04	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	2147.51	930.00	5852.39	103.43	5852.39	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	2160.27	730.00	5833.15	116.97	5833.15	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	2172.83	530.00	5830.00	129.50	11430.00	PASS