

NOBLE ENERGY, INC



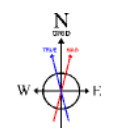
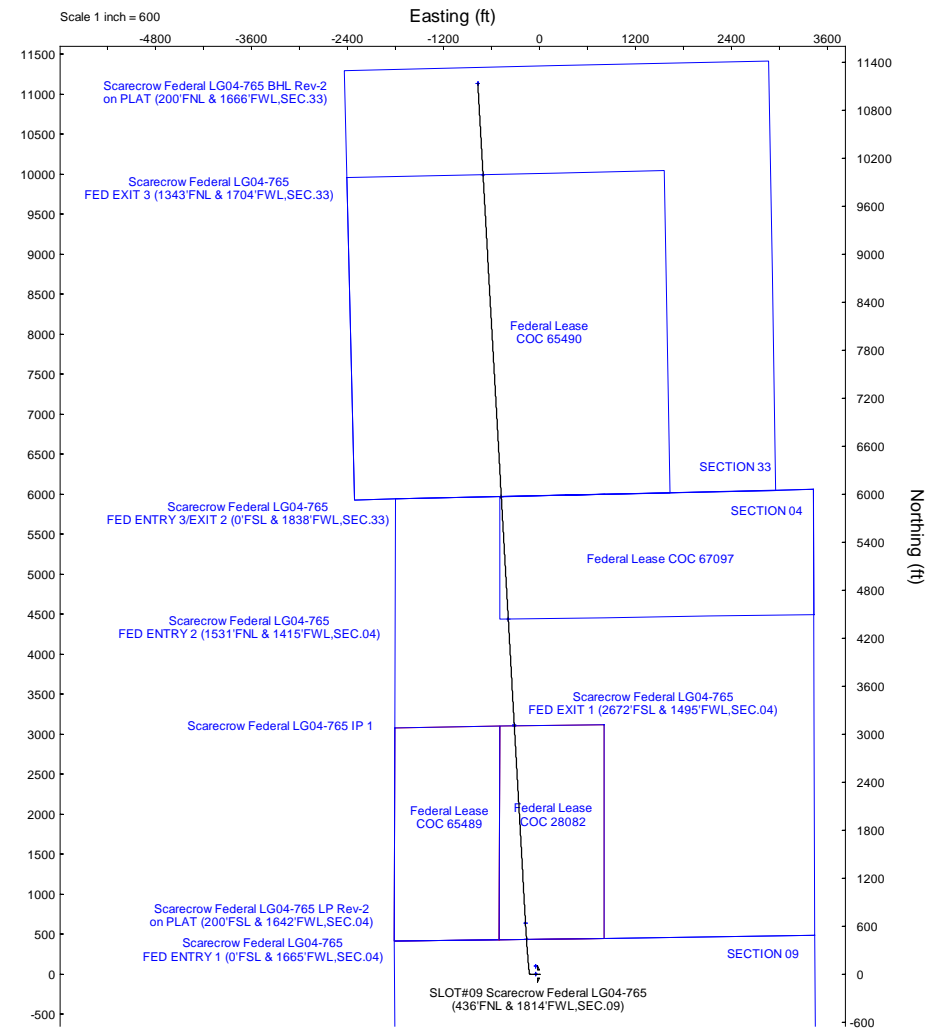
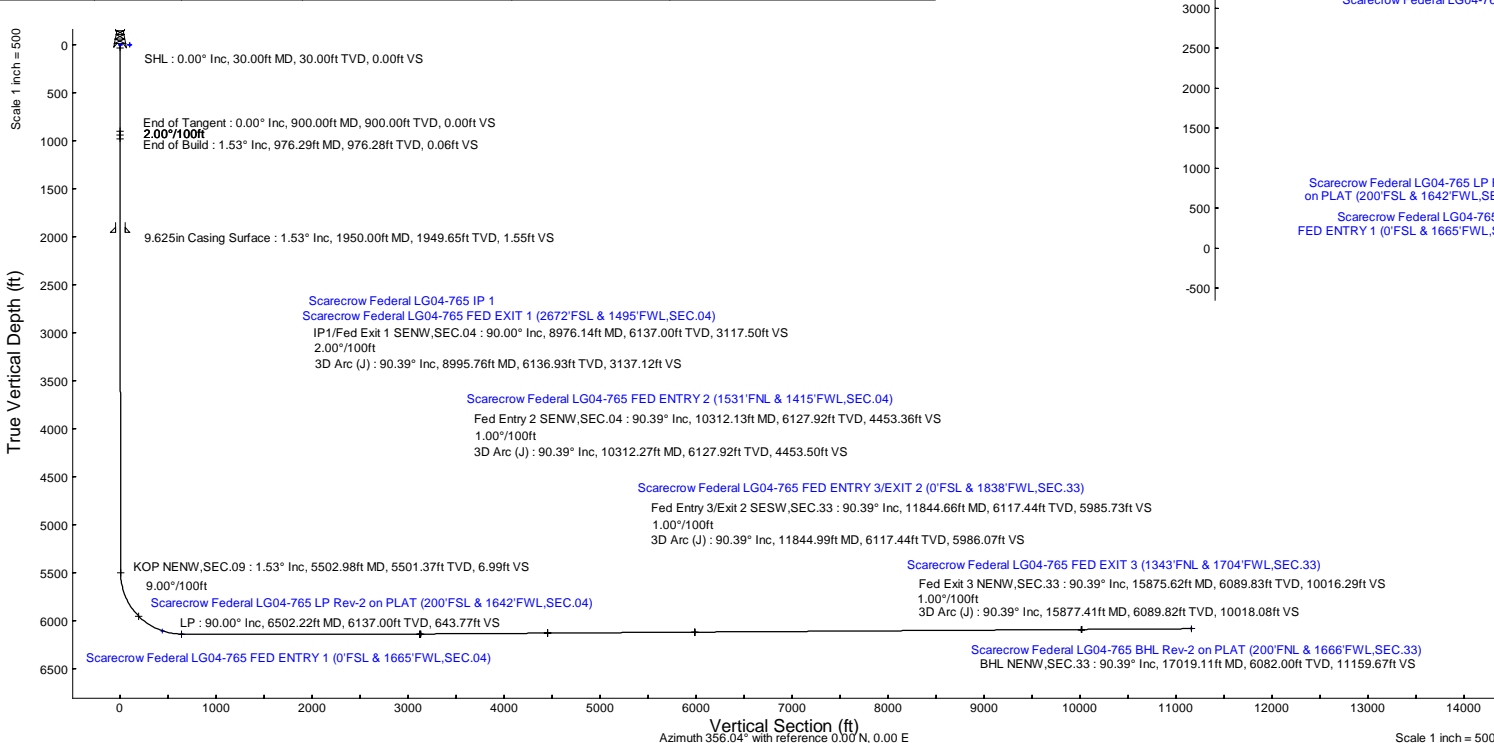
Location: COLORADO Slot: SLO709 Scarecrow Federal LG04-765 (436FNL & 1814FWL,SEC.09)
 Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: Scarecrow Federal LG04-765
 Facility: SEC.09-T08N-R59W Wellbore: Scarecrow Federal LG04-765 PWB

Plot reference wellpath is Scarecrow Federal LG04-765 (REV-C.0) PWP
 True vertical depths are referenced to (4860'GL+30'KB@4890'RKB) (RKB)
 Reference wellpath measured depths are referenced to (4860'GL+30'KB@4890'RKB) (RKB)
 (4860'GL+30'KB@4890'RKB) (RKB) to Mean Sea Level: 4890 feet
 Mean Sea Level to Ground level (At Slot: SLO709 Scarecrow Federal LG04-765 (436FNL & 1814FWL,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: marisam01 on 2024-03-02; 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°59'3.4000"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLO709 Scarecrow Federal LG04-765 (436FNL & 1814FWL,SEC.09)	-94.78	381.65	3420361.449	1465224.314
(4860'GL+30'KB@4890'RKB) (RKB) to Ground level (At Slot: SLO709 Scarecrow Federal LG04-765 (436FNL & 1814FWL,SEC.09))				4890'
Mean Sea Level to Ground level (At Slot: SLO709 Scarecrow Federal LG04-765 (436FNL & 1814FWL,SEC.09))				0'
(4860'GL+30'KB@4890'RKB) (RKB) to Mean Sea Level				4890'

Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)
SHL	30.00	0.000	269.336	30.00	0.00	0.00	0.00
End of Tangent	900.00	0.000	269.336	900.00	0.00	0.00	0.00
End of Build	976.29	1.526	269.336	976.28	-0.01	-1.02	0.06
KOP NENW,SEC.09	5502.98	1.526	269.336	5501.37	-1.41	-121.54	6.99
LP	6502.22	90.000	356.753	6137.00	633.23	-174.48	9.00
IP1/Fed Exit 1 SENW,SEC.04	8976.14	90.000	356.753	6137.00	3103.18	-314.60	0.00
3D Arc (J)	8995.76	90.392	356.749	6136.93	3122.76	-315.71	2.00
Fed Entry 2 SENW,SEC.04	10312.13	90.392	356.749	6127.92	4436.99	-390.36	0.00
3D Arc (J)	10312.27	90.392	356.750	6127.92	4437.13	-390.36	1.00
Fed Entry 3/Exit 2 SESW,SEC.33	11844.66	90.392	356.750	6117.44	5967.02	-477.23	0.00
3D Arc (J)	11844.99	90.392	356.747	6117.44	5967.35	-477.25	1.00
Fed Exit 3 NENW,SEC.33	15875.62	90.392	356.747	6089.83	9991.39	-705.95	0.00
3D Arc (J)	15877.41	90.392	356.729	6089.82	9993.18	-706.05	1.00
BHL NENW,SEC.33	17019.11	90.392	356.729	6082.00	11132.99	-771.19	0.00

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 LG04-765 PWB
1950.00	17076.52	OWSG MWD rev2	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-765 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

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'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 1:03:32 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	-94.78	381.65	3420361.45	1495224.31	40°40'58.5192"N	103°59'3.4080"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	(4860'GL+30'KB@4890'RKB) (RKB) to Facility Vertical Datum	4890.00ft
Horizontal Reference Pt	Slot	(4860'GL+30'KB@4890'RKB) (RKB) to Mean Sea Level	4890.00ft
Vertical Reference Pt	(4860'GL+30'KB@4890'RKB) (RKB)	(4860'GL+30'KB@4890'RKB) (RKB) to Ground Level at Slot (SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09))	4890.00ft
MD Reference Pt	(4860'GL+30'KB@4890'RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	356.04°

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09)		

WELLPATH DATA (202 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	269.336	0.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	
30.00	0.000	269.336	30.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	SHL
130.00†	0.000	269.336	130.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	
230.00†	0.000	269.336	230.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	
330.00†	0.000	269.336	330.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	
427.00†	0.000	269.336	427.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	FOXHILLS-BASE PROD
430.00†	0.000	269.336	430.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	
530.00†	0.000	269.336	530.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	
630.00†	0.000	269.336	630.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	
730.00†	0.000	269.336	730.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	
830.00†	0.000	269.336	830.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	
862.00†	0.000	269.336	862.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	PIERRE (UPPER)AQUIFER TOP
900.00	0.000	269.336	900.00	0.00	0.00	0.00	40°40'58.5192"N	103°59'3.4080"W	0.00	End of Tangent
930.00†	0.600	269.336	930.00	0.01	0.00	-0.16	40°40'58.5192"N	103°59'3.4100"W	2.00	
976.29	1.526	269.336	976.28	0.06	-0.01	-1.02	40°40'58.5193"N	103°59'3.4212"W	2.00	End of Build
1030.00†	1.526	269.336	1029.97	0.14	-0.03	-2.45	40°40'58.5193"N	103°59'3.4397"W	0.00	
1130.00†	1.526	269.336	1129.94	0.29	-0.06	-5.11	40°40'58.5195"N	103°59'3.4743"W	0.00	
1230.00†	1.526	269.336	1229.90	0.45	-0.09	-7.77	40°40'58.5196"N	103°59'3.5089"W	0.00	
1330.00†	1.526	269.336	1329.87	0.60	-0.12	-10.43	40°40'58.5198"N	103°59'3.5434"W	0.00	
1430.00†	1.526	269.336	1429.83	0.75	-0.15	-13.10	40°40'58.5199"N	103°59'3.5780"W	0.00	
1454.18†	1.526	269.336	1454.00	0.79	-0.16	-13.74	40°40'58.5199"N	103°59'3.5863"W	0.00	PIERRE (UPPER) AQUIFER BASE
1530.00†	1.526	269.336	1529.79	0.91	-0.18	-15.76	40°40'58.5201"N	103°59'3.6126"W	0.00	
1630.00†	1.526	269.336	1629.76	1.06	-0.21	-18.42	40°40'58.5202"N	103°59'3.6471"W	0.00	
1730.00†	1.526	269.336	1729.72	1.21	-0.24	-21.08	40°40'58.5203"N	103°59'3.6817"W	0.00	
1830.00†	1.526	269.336	1829.69	1.37	-0.28	-23.75	40°40'58.5205"N	103°59'3.7162"W	0.00	
1930.00†	1.526	269.336	1929.65	1.52	-0.31	-26.41	40°40'58.5206"N	103°59'3.7508"W	0.00	
2030.00†	1.526	269.336	2029.62	1.67	-0.34	-29.07	40°40'58.5208"N	103°59'3.7854"W	0.00	
2130.00†	1.526	269.336	2129.58	1.83	-0.37	-31.73	40°40'58.5209"N	103°59'3.8199"W	0.00	
2230.00†	1.526	269.336	2229.55	1.98	-0.40	-34.40	40°40'58.5211"N	103°59'3.8545"W	0.00	
2330.00†	1.526	269.336	2329.51	2.13	-0.43	-37.06	40°40'58.5212"N	103°59'3.8890"W	0.00	
2430.00†	1.526	269.336	2429.48	2.29	-0.46	-39.72	40°40'58.5214"N	103°59'3.9236"W	0.00	
2440.53†	1.526	269.336	2440.00	2.30	-0.46	-40.00	40°40'58.5214"N	103°59'3.9272"W	0.00	PIERRE_MBR_A_SD_TOP
2530.00†	1.526	269.336	2529.44	2.44	-0.49	-42.38	40°40'58.5215"N	103°59'3.9582"W	0.00	
2630.00†	1.526	269.336	2629.40	2.59	-0.52	-45.05	40°40'58.5217"N	103°59'3.9927"W	0.00	
2730.00†	1.526	269.336	2729.37	2.75	-0.55	-47.71	40°40'58.5218"N	103°59'4.0273"W	0.00	
2830.00†	1.526	269.336	2829.33	2.90	-0.58	-50.37	40°40'58.5219"N	103°59'4.0618"W	0.00	
2930.00†	1.526	269.336	2929.30	3.05	-0.61	-53.03	40°40'58.5221"N	103°59'4.0964"W	0.00	
2980.72†	1.526	269.336	2980.00	3.13	-0.63	-54.38	40°40'58.5222"N	103°59'4.1139"W	0.00	PIERRE_MBR_A_SD_BASE
3030.00†	1.526	269.336	3029.26	3.21	-0.65	-55.70	40°40'58.5222"N	103°59'4.1310"W	0.00	
3130.00†	1.526	269.336	3129.23	3.36	-0.68	-58.36	40°40'58.5224"N	103°59'4.1655"W	0.00	
3230.00†	1.526	269.336	3229.19	3.51	-0.71	-61.02	40°40'58.5225"N	103°59'4.2001"W	0.00	
3324.84†	1.526	269.336	3324.00	3.66	-0.74	-63.55	40°40'58.5227"N	103°59'4.2329"W	0.00	PARKMAN
3330.00†	1.526	269.336	3329.16	3.66	-0.74	-63.68	40°40'58.5227"N	103°59'4.2347"W	0.00	
3430.00†	1.526	269.336	3429.12	3.82	-0.77	-66.35	40°40'58.5228"N	103°59'4.2692"W	0.00	
3530.00†	1.526	269.336	3529.09	3.97	-0.80	-69.01	40°40'58.5230"N	103°59'4.3038"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09)		

WELLPATH DATA (202 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3630.00†	1.526	269.336	3629.05	4.12	-0.83	-71.67	40°40'58.5231"N	103°59'4.3383"W	0.00	
3730.00†	1.526	269.336	3729.01	4.28	-0.86	-74.33	40°40'58.5232"N	103°59'4.3729"W	0.00	
3830.00†	1.526	269.336	3828.98	4.43	-0.89	-77.00	40°40'58.5234"N	103°59'4.4075"W	0.00	
3930.00†	1.526	269.336	3928.94	4.58	-0.92	-79.66	40°40'58.5235"N	103°59'4.4420"W	0.00	
4012.09†	1.526	269.336	4011.00	4.71	-0.95	-81.84	40°40'58.5237"N	103°59'4.4704"W	0.00	SUSSEX
4030.00†	1.526	269.336	4028.91	4.74	-0.95	-82.32	40°40'58.5237"N	103°59'4.4766"W	0.00	
4130.00†	1.526	269.336	4128.87	4.89	-0.98	-84.98	40°40'58.5238"N	103°59'4.5111"W	0.00	
4230.00†	1.526	269.336	4228.84	5.04	-1.02	-87.65	40°40'58.5240"N	103°59'4.5457"W	0.00	
4330.00†	1.526	269.336	4328.80	5.20	-1.05	-90.31	40°40'58.5241"N	103°59'4.5803"W	0.00	
4430.00†	1.526	269.336	4428.77	5.35	-1.08	-92.97	40°40'58.5243"N	103°59'4.6148"W	0.00	
4530.00†	1.526	269.336	4528.73	5.50	-1.11	-95.63	40°40'58.5244"N	103°59'4.6494"W	0.00	
4538.27†	1.526	269.336	4537.00	5.52	-1.11	-95.85	40°40'58.5244"N	103°59'4.6522"W	0.00	SHANNON
4630.00†	1.526	269.336	4628.70	5.66	-1.14	-98.30	40°40'58.5245"N	103°59'4.6839"W	0.00	
4730.00†	1.526	269.336	4728.66	5.81	-1.17	-100.96	40°40'58.5247"N	103°59'4.7185"W	0.00	
4830.00†	1.526	269.336	4828.62	5.96	-1.20	-103.62	40°40'58.5248"N	103°59'4.7531"W	0.00	
4930.00†	1.526	269.336	4928.59	6.12	-1.23	-106.28	40°40'58.5250"N	103°59'4.7876"W	0.00	
5030.00†	1.526	269.336	5028.55	6.27	-1.26	-108.95	40°40'58.5251"N	103°59'4.8222"W	0.00	
5130.00†	1.526	269.336	5128.52	6.42	-1.29	-111.61	40°40'58.5253"N	103°59'4.8567"W	0.00	
5230.00†	1.526	269.336	5228.48	6.58	-1.32	-114.27	40°40'58.5254"N	103°59'4.8913"W	0.00	
5330.00†	1.526	269.336	5328.45	6.73	-1.36	-116.93	40°40'58.5256"N	103°59'4.9259"W	0.00	
5350.56†	1.526	269.336	5349.00	6.76	-1.36	-117.48	40°40'58.5256"N	103°59'4.9330"W	0.00	TEPEE BUTES
5430.00†	1.526	269.336	5428.41	6.88	-1.39	-119.60	40°40'58.5257"N	103°59'4.9604"W	0.00	
5502.98†	1.526	269.336	5501.37	6.99	-1.41	-121.54	40°40'58.5258"N	103°59'4.9857"W	0.00	KOP (435'FNL&1692'FWL,Sec.09)
5502.98	1.526	269.336	5501.37	6.99	-1.41	-121.54	40°40'58.5258"N	103°59'4.9857"W	0.00	KOP NENW,SEC.09
5530.00†	2.928	325.404	5528.37	7.61	-0.84	-122.29	40°40'58.5315"N	103°59'4.9953"W	9.00	
5630.00†	11.599	349.305	5627.49	19.82	11.16	-125.61	40°40'58.6507"N	103°59'5.0357"W	9.00	
5730.00†	20.554	352.684	5723.48	47.38	38.51	-129.72	40°40'58.9216"N	103°59'5.0830"W	9.00	
5830.00†	29.536	354.061	5813.98	89.63	80.52	-134.52	40°40'59.3375"N	103°59'5.1359"W	9.00	
5930.00†	38.526	354.838	5896.77	145.51	136.17	-139.88	40°40'59.8881"N	103°59'5.1932"W	9.00	
5979.14†	42.945	355.115	5934.00	177.57	168.11	-142.69	40°41'0.2042"N	103°59'5.2225"W	9.00	INTRA_SHARON_SPGS_MK
5995.74†	44.437	355.198	5946.00	189.03	179.53	-143.65	40°41'0.3172"N	103°59'5.2325"W	9.00	SHARON_SPRING_MKR
6030.00†	47.519	355.357	5969.81	213.66	204.08	-145.68	40°41'0.5601"N	103°59'5.2534"W	9.00	
6033.26†	47.812	355.371	5972.00	216.07	206.48	-145.88	40°41'0.5838"N	103°59'5.2554"W	9.00	NIO A CHALK
6075.00†	51.566	355.543	5999.00	247.89	238.21	-148.40	40°41'0.8977"N	103°59'5.2810"W	9.00	NIO A MARL
6130.00†	56.514	355.745	6031.29	292.40	282.58	-151.77	40°41'1.3367"N	103°59'5.3150"W	9.00	
6207.47†	63.483	355.992	6070.00	359.44	349.46	-156.60	40°41'1.9982"N	103°59'5.3628"W	9.00	NIO B CHALK
6230.00†	65.510	356.059	6079.70	379.78	369.74	-158.01	40°41'2.1988"N	103°59'5.3766"W	9.00	
6296.31†	71.475	356.242	6104.00	441.44	431.26	-162.15	40°41'2.8073"N	103°59'5.4167"W	9.00	NIO B MARL
6298.54†	71.676	356.248	6104.71	443.56	433.38	-162.28	40°41'2.8283"N	103°59'5.4180"W	9.00	Fed Entry 1 (0'FSL 1665'FWL,SEC.04) SESW
6330.00†	74.506	356.331	6113.86	473.65	463.41	-164.23	40°41'3.1253"N	103°59'5.4366"W	9.00	
6430.00†	83.503	356.580	6132.91	571.71	561.29	-170.29	40°41'4.0933"N	103°59'5.4936"W	9.00	
6502.22	90.000	356.753	6137.00†	643.77	633.23	-174.48	40°41'4.8048"N	103°59'5.5320"W	9.00	LP
6530.00†	90.000	356.753	6137.00	671.55	660.97	-176.06	40°41'5.0791"N	103°59'5.5463"W	0.00	
6630.00†	90.000	356.753	6137.00	771.55	760.81	-181.72	40°41'6.0664"N	103°59'5.5976"W	0.00	
6730.00†	90.000	356.753	6137.00	871.54	860.65	-187.38	40°41'7.0538"N	103°59'5.6490"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09)		

WELLPATH DATA (202 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
6830.00†	90.000	356.753	6137.00	971.53	960.49	-193.05	40°41'8.0411"N	103°59'5.7004"W	0.00	
6930.00†	90.000	356.753	6137.00	1071.52	1060.33	-198.71	40°41'9.0285"N	103°59'5.7517"W	0.00	
7030.00†	90.000	356.753	6137.00	1171.51	1160.16	-204.37	40°41'10.0158"N	103°59'5.8031"W	0.00	
7130.00†	90.000	356.753	6137.00	1271.51	1260.00	-210.04	40°41'11.0031"N	103°59'5.8545"W	0.00	
7230.00†	90.000	356.753	6137.00	1371.50	1359.84	-215.70	40°41'11.9905"N	103°59'5.9058"W	0.00	
7330.00†	90.000	356.753	6137.00	1471.49	1459.68	-221.37	40°41'12.9778"N	103°59'5.9572"W	0.00	
7430.00†	90.000	356.753	6137.00	1571.48	1559.52	-227.03	40°41'13.9652"N	103°59'6.0086"W	0.00	
7530.00†	90.000	356.753	6137.00	1671.48	1659.36	-232.69	40°41'14.9525"N	103°59'6.0599"W	0.00	
7630.00†	90.000	356.753	6137.00	1771.47	1759.20	-238.36	40°41'15.9398"N	103°59'6.1113"W	0.00	
7730.00†	90.000	356.753	6137.00	1871.46	1859.04	-244.02	40°41'16.9272"N	103°59'6.1627"W	0.00	
7830.00†	90.000	356.753	6137.00	1971.45	1958.88	-249.68	40°41'17.9145"N	103°59'6.2140"W	0.00	
7930.00†	90.000	356.753	6137.00	2071.44	2058.72	-255.35	40°41'18.9019"N	103°59'6.2654"W	0.00	
8030.00†	90.000	356.753	6137.00	2171.44	2158.56	-261.01	40°41'19.8892"N	103°59'6.3168"W	0.00	
8130.00†	90.000	356.753	6137.00	2271.43	2258.40	-266.67	40°41'20.8765"N	103°59'6.3681"W	0.00	
8230.00†	90.000	356.753	6137.00	2371.42	2358.24	-272.34	40°41'21.8639"N	103°59'6.4195"W	0.00	
8330.00†	90.000	356.753	6137.00	2471.41	2458.08	-278.00	40°41'22.8512"N	103°59'6.4709"W	0.00	
8430.00†	90.000	356.753	6137.00	2571.41	2557.92	-283.67	40°41'23.8385"N	103°59'6.5222"W	0.00	
8530.00†	90.000	356.753	6137.00	2671.40	2657.76	-289.33	40°41'24.8259"N	103°59'6.5736"W	0.00	
8630.00†	90.000	356.753	6137.00	2771.39	2757.60	-294.99	40°41'25.8132"N	103°59'6.6250"W	0.00	
8730.00†	90.000	356.753	6137.00	2871.38	2857.44	-300.66	40°41'26.8006"N	103°59'6.6764"W	0.00	
8830.00†	90.000	356.753	6137.00	2971.37	2957.28	-306.32	40°41'27.7879"N	103°59'6.7277"W	0.00	
8930.00†	90.000	356.753	6137.00	3071.37	3057.11	-311.98	40°41'28.7752"N	103°59'6.7791"W	0.00	
8976.14	90.000	356.753	6137.00 ²	3117.50	3103.18	-314.60	40°41'29.2308"N	103°59'6.8028"W	0.00	IP1/Fed Exit 1 SENW,SEC.04
8995.76	90.392	356.749	6136.93	3137.12	3122.76	-315.71	40°41'29.4245"N	103°59'6.8129"W	2.00	3D Arc (J)
9030.00†	90.392	356.749	6136.70	3171.36	3156.95	-317.65	40°41'29.7626"N	103°59'6.8305"W	0.00	
9130.00†	90.392	356.749	6136.01	3271.35	3256.79	-323.32	40°41'30.7499"N	103°59'6.8820"W	0.00	
9230.00†	90.392	356.749	6135.33	3371.34	3356.63	-328.99	40°41'31.7372"N	103°59'6.9334"W	0.00	
9330.00†	90.392	356.749	6134.64	3471.33	3456.46	-334.66	40°41'32.7245"N	103°59'6.9849"W	0.00	
9430.00†	90.392	356.749	6133.96	3571.32	3556.30	-340.33	40°41'33.7118"N	103°59'7.0364"W	0.00	
9530.00†	90.392	356.749	6133.28	3671.31	3656.14	-346.00	40°41'34.6991"N	103°59'7.0878"W	0.00	
9630.00†	90.392	356.749	6132.59	3771.30	3755.97	-351.67	40°41'35.6864"N	103°59'7.1393"W	0.00	
9730.00†	90.392	356.749	6131.91	3871.29	3855.81	-357.35	40°41'36.6738"N	103°59'7.1908"W	0.00	
9830.00†	90.392	356.749	6131.22	3971.28	3955.65	-363.02	40°41'37.6611"N	103°59'7.2422"W	0.00	
9930.00†	90.392	356.749	6130.54	4071.27	4055.48	-368.69	40°41'38.6484"N	103°59'7.2937"W	0.00	
10030.00†	90.392	356.749	6129.85	4171.26	4155.32	-374.36	40°41'39.6357"N	103°59'7.3452"W	0.00	
10130.00†	90.392	356.749	6129.17	4271.25	4255.16	-380.03	40°41'40.6230"N	103°59'7.3967"W	0.00	
10230.00†	90.392	356.749	6128.48	4371.24	4354.99	-385.70	40°41'41.6103"N	103°59'7.4481"W	0.00	
10312.13	90.392	356.749	6127.92 ³	4453.36	4436.99	-390.36	40°41'42.4212"N	103°59'7.4904"W	0.00	Fed Entry 2 SENW,SEC.04
10312.27	90.392	356.750	6127.92	4453.50	4437.13	-390.36	40°41'42.4226"N	103°59'7.4905"W	1.00	3D Arc (J)
10330.00†	90.392	356.750	6127.80	4471.23	4454.83	-391.37	40°41'42.5976"N	103°59'7.4996"W	0.00	
10430.00†	90.392	356.750	6127.11	4571.22	4554.67	-397.04	40°41'43.5849"N	103°59'7.5510"W	0.00	
10530.00†	90.392	356.750	6126.43	4671.21	4654.50	-402.71	40°41'44.5723"N	103°59'7.6025"W	0.00	
10630.00†	90.392	356.750	6125.75	4771.20	4754.34	-408.37	40°41'45.5596"N	103°59'7.6539"W	0.00	
10730.00†	90.392	356.750	6125.06	4871.19	4854.18	-414.04	40°41'46.5469"N	103°59'7.7054"W	0.00	
10830.00†	90.392	356.750	6124.38	4971.18	4954.02	-419.71	40°41'47.5342"N	103°59'7.7568"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09)		

WELLPATH DATA (202 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10930.00†	90.392	356.750	6123.69	5071.17	5053.85	-425.38	40°41'48.5215"N	103°59'7.8082"W	0.00	
11030.00†	90.392	356.750	6123.01	5171.16	5153.69	-431.05	40°41'49.5088"N	103°59'7.8597"W	0.00	
11130.00†	90.392	356.750	6122.33	5271.15	5253.53	-436.72	40°41'50.4961"N	103°59'7.9111"W	0.00	
11230.00†	90.392	356.750	6121.64	5371.14	5353.36	-442.38	40°41'51.4834"N	103°59'7.9626"W	0.00	
11330.00†	90.392	356.750	6120.96	5471.13	5453.20	-448.05	40°41'52.4707"N	103°59'8.0140"W	0.00	
11430.00†	90.392	356.750	6120.28	5571.12	5553.04	-453.72	40°41'53.4581"N	103°59'8.0655"W	0.00	
11530.00†	90.392	356.750	6119.59	5671.11	5652.87	-459.39	40°41'54.4454"N	103°59'8.1169"W	0.00	
11630.00†	90.392	356.750	6118.91	5771.10	5752.71	-465.06	40°41'55.4327"N	103°59'8.1684"W	0.00	
11730.00†	90.392	356.750	6118.22	5871.09	5852.55	-470.73	40°41'56.4200"N	103°59'8.2198"W	0.00	
11830.00†	90.392	356.750	6117.54	5971.08	5952.38	-476.40	40°41'57.4073"N	103°59'8.2713"W	0.00	
11844.66	90.392	356.750	6117.44‡	5985.73	5967.02	-477.23	40°41'57.5520"N	103°59'8.2788"W	0.00	Fed Entry 3/Exit 2 SESW,SEC.33
11844.99	90.392	356.747	6117.44	5986.07	5967.35	-477.25	40°41'57.5553"N	103°59'8.2790"W	1.00	3D Arc (J)
11930.00†	90.392	356.747	6116.86	6071.07	6052.22	-482.07	40°41'58.3946"N	103°59'8.3228"W	0.00	
12030.00†	90.392	356.747	6116.17	6171.06	6152.06	-487.74	40°41'59.3819"N	103°59'8.3743"W	0.00	
12130.00†	90.392	356.747	6115.49	6271.05	6251.89	-493.42	40°42'0.3692"N	103°59'8.4258"W	0.00	
12230.00†	90.392	356.747	6114.80	6371.04	6351.73	-499.09	40°42'1.3565"N	103°59'8.4773"W	0.00	
12330.00†	90.392	356.747	6114.12	6471.03	6451.57	-504.77	40°42'2.3438"N	103°59'8.5289"W	0.00	
12430.00†	90.392	356.747	6113.43	6571.02	6551.40	-510.44	40°42'3.3312"N	103°59'8.5804"W	0.00	
12530.00†	90.392	356.747	6112.75	6671.01	6651.24	-516.11	40°42'4.3185"N	103°59'8.6319"W	0.00	
12630.00†	90.392	356.747	6112.06	6771.00	6751.08	-521.79	40°42'5.3058"N	103°59'8.6834"W	0.00	
12730.00†	90.392	356.747	6111.38	6870.99	6850.91	-527.46	40°42'6.2931"N	103°59'8.7350"W	0.00	
12830.00†	90.392	356.747	6110.69	6970.98	6950.75	-533.14	40°42'7.2804"N	103°59'8.7865"W	0.00	
12930.00†	90.392	356.747	6110.01	7070.97	7050.59	-538.81	40°42'8.2677"N	103°59'8.8380"W	0.00	
13030.00†	90.392	356.747	6109.32	7170.96	7150.42	-544.48	40°42'9.2550"N	103°59'8.8895"W	0.00	
13130.00†	90.392	356.747	6108.64	7270.95	7250.26	-550.16	40°42'10.2423"N	103°59'8.9411"W	0.00	
13230.00†	90.392	356.747	6107.95	7370.94	7350.10	-555.83	40°42'11.2296"N	103°59'8.9926"W	0.00	
13330.00†	90.392	356.747	6107.27	7470.93	7449.93	-561.51	40°42'12.2169"N	103°59'9.0441"W	0.00	
13430.00†	90.392	356.747	6106.58	7570.92	7549.77	-567.18	40°42'13.2042"N	103°59'9.0957"W	0.00	
13530.00†	90.392	356.747	6105.90	7670.91	7649.61	-572.86	40°42'14.1915"N	103°59'9.1472"W	0.00	
13630.00†	90.392	356.747	6105.21	7770.90	7749.44	-578.53	40°42'15.1788"N	103°59'9.1987"W	0.00	
13730.00†	90.392	356.747	6104.53	7870.89	7849.28	-584.20	40°42'16.1661"N	103°59'9.2503"W	0.00	
13806.85†	90.392	356.747	6104.00	7947.73	7926.00	-588.56	40°42'16.9249"N	103°59'9.2899"W	0.00	NIO B MARL
13830.00†	90.392	356.747	6103.84	7970.88	7949.11	-589.88	40°42'17.1535"N	103°59'9.3018"W	0.00	
13930.00†	90.392	356.747	6103.16	8070.87	8048.95	-595.55	40°42'18.1408"N	103°59'9.3533"W	0.00	
14030.00†	90.392	356.747	6102.47	8170.86	8148.79	-601.23	40°42'19.1281"N	103°59'9.4048"W	0.00	
14130.00†	90.392	356.747	6101.79	8270.85	8248.62	-606.90	40°42'20.1154"N	103°59'9.4564"W	0.00	
14230.00†	90.392	356.747	6101.10	8370.84	8348.46	-612.57	40°42'21.1027"N	103°59'9.5079"W	0.00	
14330.00†	90.392	356.747	6100.42	8470.83	8448.30	-618.25	40°42'22.0900"N	103°59'9.5594"W	0.00	
14430.00†	90.392	356.747	6099.73	8570.82	8548.13	-623.92	40°42'23.0773"N	103°59'9.6110"W	0.00	
14530.00†	90.392	356.747	6099.05	8670.81	8647.97	-629.60	40°42'24.0646"N	103°59'9.6625"W	0.00	
14630.00†	90.392	356.747	6098.36	8770.80	8747.81	-635.27	40°42'25.0519"N	103°59'9.7140"W	0.00	
14730.00†	90.392	356.747	6097.68	8870.79	8847.64	-640.95	40°42'26.0392"N	103°59'9.7656"W	0.00	
14830.00†	90.392	356.747	6096.99	8970.78	8947.48	-646.62	40°42'27.0265"N	103°59'9.8171"W	0.00	
14930.00†	90.392	356.747	6096.31	9070.77	9047.32	-652.29	40°42'28.0138"N	103°59'9.8686"W	0.00	
15030.00†	90.392	356.747	6095.62	9170.75	9147.15	-657.97	40°42'29.0011"N	103°59'9.9202"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09)		

WELLPATH DATA (202 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS ["/100ft]	Comments
15130.00†	90.392	356.747	6094.94	9270.74	9246.99	-663.64	40°42'29.9884"N	103°59'9.9717"W	0.00	
15230.00†	90.392	356.747	6094.25	9370.73	9346.83	-669.32	40°42'30.9757"N	103°59'10.0233"W	0.00	
15330.00†	90.392	356.747	6093.57	9470.72	9446.66	-674.99	40°42'31.9630"N	103°59'10.0748"W	0.00	
15430.00†	90.392	356.747	6092.88	9570.71	9546.50	-680.67	40°42'32.9504"N	103°59'10.1263"W	0.00	
15530.00†	90.392	356.747	6092.20	9670.70	9646.34	-686.34	40°42'33.9377"N	103°59'10.1779"W	0.00	
15630.00†	90.392	356.747	6091.51	9770.69	9746.17	-692.01	40°42'34.9250"N	103°59'10.2294"W	0.00	
15730.00†	90.392	356.747	6090.83	9870.68	9846.01	-697.69	40°42'35.9123"N	103°59'10.2809"W	0.00	
15830.00†	90.392	356.747	6090.14	9970.67	9945.85	-703.36	40°42'36.8996"N	103°59'10.3325"W	0.00	
15875.62	90.392	356.747	6089.83 ⁵	10016.29	9991.39	-705.95	40°42'37.3500"N	103°59'10.3560"W	0.00	Fed Exit 3 NENW,SEC.33
15877.41	90.392	356.729	6089.82	10018.08	9993.18	-706.05	40°42'37.3676"N	103°59'10.3569"W	1.00	3D Arc (J)
15930.00†	90.392	356.729	6089.46	10070.67	10045.68	-709.05	40°42'37.8869"N	103°59'10.3842"W	0.00	
16030.00†	90.392	356.729	6088.77	10170.66	10145.52	-714.76	40°42'38.8742"N	103°59'10.4362"W	0.00	
16130.00†	90.392	356.729	6088.09	10270.65	10245.35	-720.46	40°42'39.8615"N	103°59'10.4881"W	0.00	
16230.00†	90.392	356.729	6087.40	10370.64	10345.19	-726.17	40°42'40.8487"N	103°59'10.5401"W	0.00	
16330.00†	90.392	356.729	6086.72	10470.63	10445.02	-731.87	40°42'41.8360"N	103°59'10.5920"W	0.00	
16430.00†	90.392	356.729	6086.03	10570.62	10544.86	-737.58	40°42'42.8233"N	103°59'10.6440"W	0.00	
16530.00†	90.392	356.729	6085.35	10670.61	10644.69	-743.28	40°42'43.8106"N	103°59'10.6959"W	0.00	
16630.00†	90.392	356.729	6084.66	10770.60	10744.52	-748.99	40°42'44.7979"N	103°59'10.7479"W	0.00	
16730.00†	90.392	356.729	6083.98	10870.59	10844.36	-754.70	40°42'45.7852"N	103°59'10.7998"W	0.00	
16830.00†	90.392	356.729	6083.29	10970.58	10944.19	-760.40	40°42'46.7725"N	103°59'10.8518"W	0.00	
16930.00†	90.392	356.729	6082.61	11070.57	11044.03	-766.11	40°42'47.7598"N	103°59'10.9037"W	0.00	
17019.11	90.392	356.729	6082.00 ⁶	11159.67	11132.99	-771.19	40°42'48.6396"N	103°59'10.9500"W	0.00	BHL NENW,SEC.33

HOLE & CASING SECTIONS - Ref Wellbore: Scarecrow Federal LG04-765 PWB Ref Wellpath: Scarecrow Federal LG04-765 (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	1949.65	0.00	0.00	-0.31	-26.94
8.5in Open Hole	1950.00	17019.11	15069.11	1949.65	6082.00	-0.31	-26.94	11132.99	-771.19

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'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	-1.00	98.35	-44.68	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	98.35	-44.68	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	98.35	-44.68	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	1.00	-0.77	-44.92	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	1.00	-0.77	-44.92	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	1.00	-0.77	-44.92	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	1.00	-0.77	-44.92	3420316.53	1495223.55	40°40'58.5192"N	103°59'3.9912"W	polygon
2D Polygon: dimensions not calculated									
Scarecrow Federal LG04-765 BHL (200'FNL & 1666'FWL,SEC.33)	N/A	6082.00	11132.92	-770.65	3419590.81	1506357.05	40°42'48.6388"N	103°59'10.9430"W	point
6) Scarecrow Federal LG04-765 BHL Rev-2 on PLAT (200'FNL & 1666'FWL,SEC.33)	17019.11	6082.00	11132.99	-771.19	3419590.27	1506357.12	40°42'48.6396"N	103°59'10.9500"W	point
5) Scarecrow Federal LG04-765 FED EXIT 3 (1343'FNL & 1704'FWL,SEC.33)	15875.62	6089.83	9991.39	-705.95	3419655.51	1505215.54	40°42'37.3500"N	103°59'10.3560"W	point
Scarecrow Federal LG04-765 FED ENTRY 1 (0'FSL & 1665'FWL,SEC.04)	N/A	6104.71	433.39	-162.19	3420199.26	1495657.70	40°41'2.8284"N	103°59'5.4168"W	point
4) Scarecrow Federal LG04-765 FED ENTRY 3/EXIT 2 (0'FSL & 1838'FWL,SEC.33)	11844.66	6117.44	5967.02	-477.23	3419884.23	1501191.23	40°41'57.5520"N	103°59'8.2788"W	point
3) Scarecrow Federal LG04-765 FED ENTRY 2 (1531'FNL & 1415'FWL,SEC.04)	10312.13	6127.92	4436.99	-390.36	3419971.10	1499661.23	40°41'42.4212"N	103°59'7.4904"W	point

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09)		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
2) Scarecrow Federal LG04-765 FED EXIT 1 (2672'FSL & 1495'FWL,SEC.04)	8976.14	6137.00	3103.18	-314.60	3420046.86	1498327.44	40°41'29.2308"N	103°59'6.8028"W	point
Scarecrow Federal LG04-765 IP 1	N/A	6137.00	3120.29	-315.61	3420045.84	1498344.55	40°41'29.4000"N	103°59'6.8122"W	point
Scarecrow Federal LG04-765 LP (200'FSL & 1642'FWL,SEC.04)	N/A	6137.00	633.05	-174.35	3420187.10	1495857.35	40°41'4.8030"N	103°59'5.5304"W	point
1) Scarecrow Federal LG04-765 LP Rev-2 on PLAT (200'FSL & 1642'FWL,SEC.04)	6502.22	6137.00	633.23	-174.48	3420186.97	1495857.53	40°41'4.8048"N	103°59'5.5320"W	point

SURVEY PROGRAM - Ref Wellbore: Scarecrow Federal LG04-765 PWB Ref Wellpath: Scarecrow Federal LG04-765 (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 LG04-765 PWB
1950.00	17076.52	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-765 PWB

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09)		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
427.00	0.000	269.336	427.00	FOXHILLS-BASE PROD
862.00	0.000	269.336	862.00	PIERRE (UPPER)AQUIFER TOP
1454.18	1.526	269.336	1454.00	PIERRE (UPPER) AQUIFER BASE
2440.53	1.526	269.336	2440.00	PIERRE_MBR_A_SD_TOP
2980.72	1.526	269.336	2980.00	PIERRE_MBR_A_SD_BASE
3324.84	1.526	269.336	3324.00	PARKMAN
4012.09	1.526	269.336	4011.00	SUSSEX
4538.27	1.526	269.336	4537.00	SHANNON
5350.56	1.526	269.336	5349.00	TEPEE BUTES
5502.98	1.526	269.336	5501.37	KOP (435'FNL&1692'FWL,Sec.09)
5979.14	42.945	355.115	5934.00	INTRA_SHARON_SPGS_MK
5995.74	44.437	355.198	5946.00	SHARON_SPRING_MKR
6033.26	47.812	355.371	5972.00	NIO A CHALK
6075.00	51.566	355.543	5999.00	NIO A MARL
6207.47	63.483	355.992	6070.00	NIO B CHALK
6296.31	71.475	356.242	6104.00	NIO B MARL
6298.54	71.676	356.248	6104.71	Fed Entry 1 (0'FSL 1665'FWL,SEC.04) SESW
13806.85	90.392	356.747	6104.00	NIO B MARL

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
30.00	0.000	269.336	30.00	SHL
900.00	0.000	269.336	900.00	End of Tangent
976.29	1.526	269.336	976.28	End of Build
5502.98	1.526	269.336	5501.37	KOP NENW,SEC.09
6502.22	90.000	356.753	6137.00	LP
8976.14	90.000	356.753	6137.00	IP1/Fed Exit 1 SENW,SEC.04
8995.76	90.392	356.749	6136.93	3D Arc (J)
10312.13	90.392	356.749	6127.92	Fed Entry 2 SENW,SEC.04
10312.27	90.392	356.750	6127.92	3D Arc (J)
11844.66	90.392	356.750	6117.44	Fed Entry 3/Exit 2 SESW,SEC.33
11844.99	90.392	356.747	6117.44	3D Arc (J)
15875.62	90.392	356.747	6089.83	Fed Exit 3 NENW,SEC.33
15877.41	90.392	356.729	6089.82	3D Arc (J)
17019.11	90.392	356.729	6082.00	BHL NENW,SEC.33

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'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 12:48:24 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	-94.78	381.65	3420361.45	1495224.31	40°40'58.5192"N	103°59'3.4080"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	(4860'GL+30'KB@4890'RKB) (RKB) to Facility Vertical Datum	4890.00ft
Horizontal Reference Pt	Slot	(4860'GL+30'KB@4890'RKB) (RKB) to Mean Sea Level	4890.00ft
Vertical Reference Pt	(4860'GL+30'KB@4890'RKB) (RKB)	(4860'GL+30'KB@4890'RKB) (RKB) to Ground Level at Slot (SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09))	4890.00ft
MD Reference Pt	(4860'GL+30'KB@4890'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 LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'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 LG04-765 PWB Ref Wellpath: Scarecrow Federal LG04-765 (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	1949.65	0.00	0.00	-0.31	-26.94
8.5in Open Hole	1950.00	17019.11	15069.11	1949.65	6082.00	-0.31	-26.94	11132.99	-771.19

SURVEY PROGRAM - Ref Wellbore: Scarecrow Federal LG04-765 PWB Ref Wellpath: Scarecrow Federal LG04-765 (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 LG04-765 PWB
1950.00	17076.52	OWSG MWD rev2 (MS+IFR1)		Scarecrow Federal LG04-765 PWB

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09)		

CALCULATION RANGE & CUTOFF

From: 30.00ft MD	To: 17019.11ft 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	16562.94	32.98	16562.94	16563.05	0.21	16563.05	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 AWP	BULLEIT FEDERAL PC LG04-62HN AWP	Drilling	6979.90	31.14	6979.90	6953.14	0.32	13630.00	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	30.00	22.75	9430.00	944.03	2.14	17019.11	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	22.47	11530.00	747.41	2.45	17019.11	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 AWP	Ex.USA #1 AWP	Drilling	11055.72	585.62	11055.72	11063.08	2.79	11063.08	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 AWP	DOROTHY STATE LG16-766 AWP	Drilling	6102.06	118.58	6102.06	6091.55	2.99	6091.55	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 AWP	DOROTHY STATE LG16-766 ST01 AWP	Drilling	6102.06	118.58	6102.06	6091.55	2.99	6091.55	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	45.21	900.00	1014.69	4.35	17019.11	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	44.93	17019.11	17019.11	5.66	17019.11	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	67.68	830.00	969.81	6.68	17019.11	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	90.14	12330.00	921.30	9.94	17019.11	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 AWP	DOROTHY STATE LG16-757 AWP	Drilling	3279.96	265.00	6130.00	6147.79	11.44	6147.79	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	112.61	12130.00	17019.11	14.08	17019.11	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 AWP	Ex.GREY #1 AWP	Drilling	6782.62	2978.20	6782.62	6827.68	15.29	6827.68	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 AWP	DOROTHY STATE LG16-776 AWP	Drilling	2419.47	431.37	6201.38	6201.38	17.63	6201.38	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 AWP	DOROTHY STATE LG16-748 AWP	Drilling	5950.14	1068.26	5950.14	5987.08	18.16	5987.08	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	4774.02	1246.47	4774.02	5937.02	28.39	5937.02	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 AWP	DOROTHY STATE LG16-739 AWP	Drilling	6081.57	1729.11	6081.57	6163.65	30.22	6163.65	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 AWP	Ex.KIRCHNER #1 AWP	Drilling	130.00	5051.29	900.00	6132.64	30.23	6132.64	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 AWP	DOROTHY STATE LG16-785 AWP	Drilling	2052.72	475.97	6630.00	2143.86	31.11	6630.00	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 AWP	Ex.McCLELLAN PC LG04-15 AWP	Drilling	7060.10	1866.36	7060.10	7356.82	32.85	7356.82	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	5505.80	1449.72	5505.80	5714.12	34.17	5714.12	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 AWP	DOROTHY STATE LG16-729 AWP	Drilling	918.21	2136.30	5930.00	5961.53	40.84	6730.00	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	5409.98	1818.05	5409.98	5701.80	45.44	5701.80	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	1489.66	2111.25	1489.66	5800.64	59.39	5800.64	PASS

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Scarecrow Federal LG04-765
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Scarecrow Federal LG04-765 PWB
Slot	SLOT#09 Scarecrow Federal LG04-765 (436'FNL & 1814'FWL,SEC.09)		

CALCULATION RANGE & CUTOFF

From: 30.00ft MD	To: 17019.11ft 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#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	5803.86	2934.54	5803.86	6120.24	71.67	6120.24	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	1089.22	2125.35	1089.22	5777.98	74.40	5777.98	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	980.26	2138.47	980.26	5762.97	89.17	5762.97	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	2151.76	730.00	5753.72	104.10	5753.72	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	2164.69	530.00	5743.17	118.72	11730.00	PASS