

NOBLE ENERGY, INC



Location: COLORADO Slot: SLOT#20 Tinman Federal LG07-635 (2534FNL & 1417FWL,SEC.09)
 Field: WELD COUNTY (NOBLE NAD 83 GRD) Well: Tinman Federal LG07-635
 Facility: SEC.09-T08N-R59W Wellbore: Tinman Federal LG07-635 PWB

Plot reference wellpath is Tinman Federal LG07-635 (REV-C.0) PWP

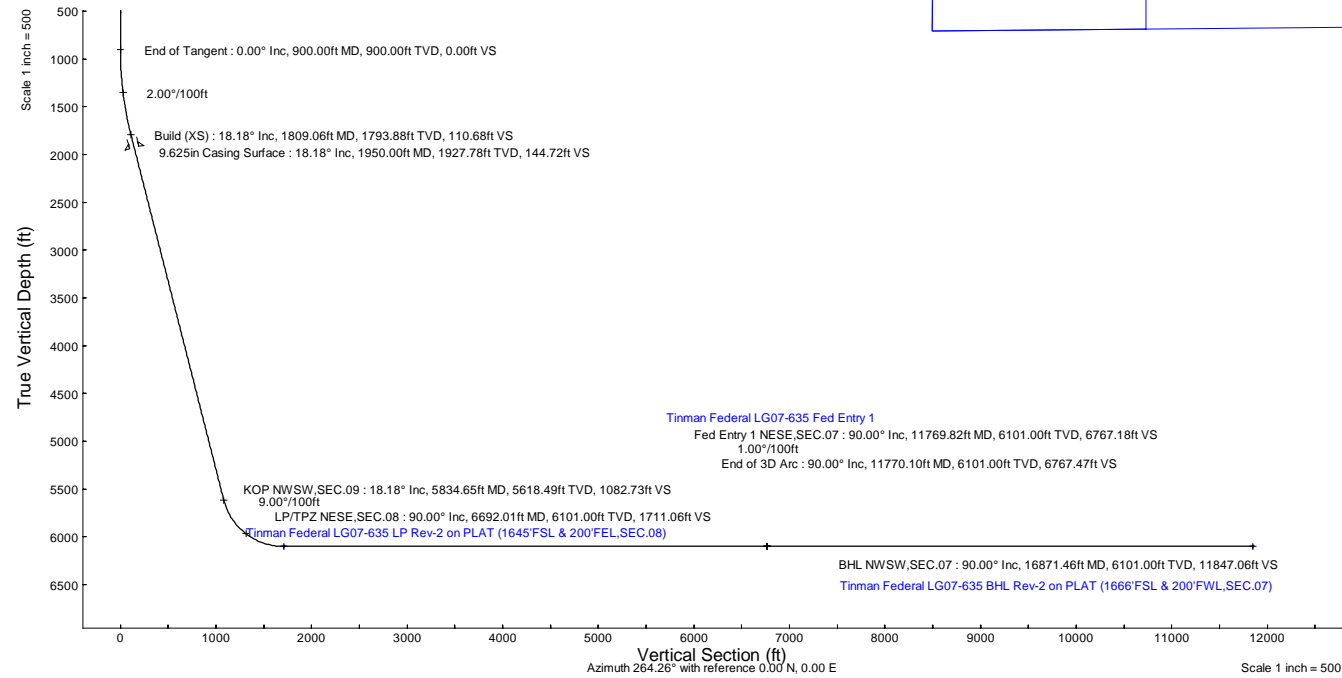
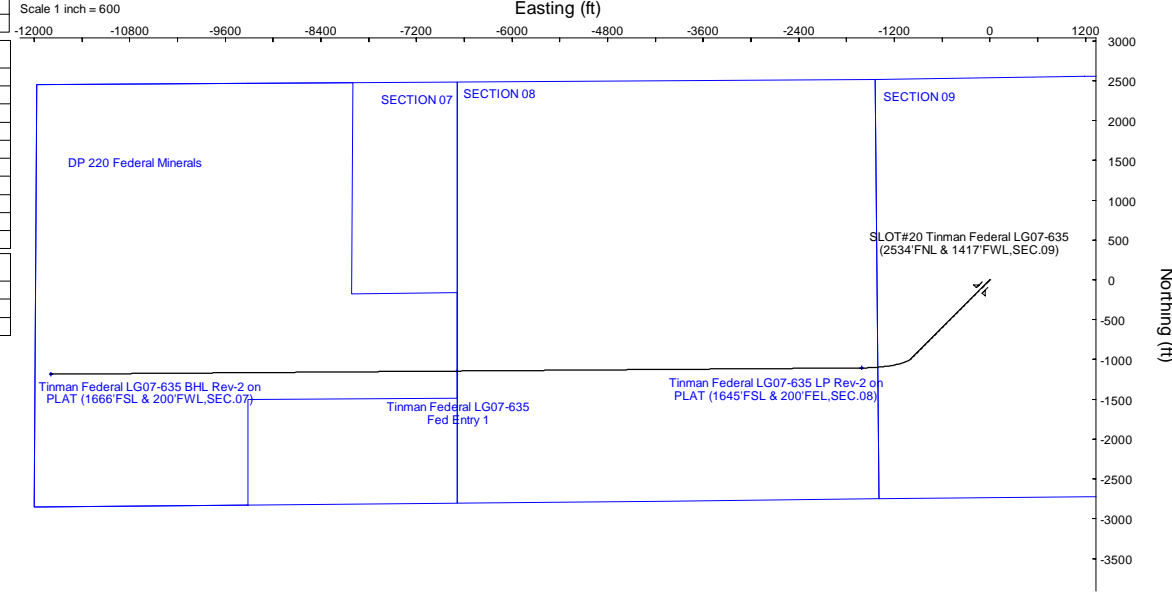
Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
North Reference: Grid north
Scale: True distance
Coordinates are in feet referenced to Slot
Depths are in feet
Created by: gumarier on 2024-02-28; Database: WellArchitectDB

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.09-T08N-R59W	3419979.808	1495318.089	40°40'59.5200"N	103°59'9.3400"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLOT#20 Tinman Federal LG07-635 (2534FNL & 1417FWL,SEC.09)	-2199.38	1.78	3419981.585	1493119.742
(4808GL+30KB@4838RKB) (RKB) to Ground level (At Slot: SLOT#20 Tinman Federal LG07-635 (2534FNL & 1417FWL,SEC.09))				4838R
Mean Sea Level to Ground level (At Slot: SLOT#20 Tinman Federal LG07-635 (2534FNL & 1417FWL,SEC.09))				OR
(4808GL+30KB@4838RKB) (RKB) to Mean Sea Level				4838R

Targets							
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Longitude
SECTION 09 LG09-03-785	N/A	53.00	2202.96	335.19	3420316.77	1495322.66	40°40'59.4984"N
SECTION 07 LG-09-06-785	N/A	2.00	89.92	-90.31	3419891.28	1493208.66	40°40'38.6940"N
SECTION 08 LG-09-06-785	N/A	2.00	89.92	-90.31	3419891.28	1493208.66	40°40'38.6940"N
Tinman Federal LG07-635 BHL Rev-1 (1666FSL & 200FWL,SEC.07)	N/A	6101.00	-1185.17	-11787.60	3428194.19	1491934.59	40°40'28.0421"N
Tinman Federal LG07-635 BHL Rev-2 on PLAT (1666FSL & 200FWL,SEC.07)	16871.46	6101.00	-1184.86	-11787.66	3428194.13	1491934.91	40°40'28.0452"N
Tinman Federal LG07-635 Fed Entry 1	11769.82	6101.00	-1145.20	-6686.17	3413205.53	1491974.56	40°40'27.5952"N
Tinman Federal LG07-635 LP Rev-1 (1645FSL & 200FEL,SEC.08)	N/A	6101.00	-1105.71	-1608.43	3418373.18	1492014.05	40°40'27.1371"N
Tinman Federal LG07-635 LP Rev-2 on PLAT (1645FSL & 200FEL,SEC.08)	6692.01	6101.00	-1105.99	-1608.51	3418373.10	1492013.77	40°40'27.1344"N
DP 220 Federal Minerals B	N/A	6293.00	89.53	-69.59	3419912.00	1493209.27	40°40'38.6867"N

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)		Tinman Federal LG07-635 PWB
1950.00	17011.40	OWSG MWD rev2	OWSG MWD rev2 (MS+IFR1)		Tinman Federal LG07-635 PWB

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
SHL SENW,SEC.09	30.00	0.000	224.963	30.00	0.00	0.00	0.00	0.00
End of Tangent	900.00	0.000	224.963	900.00	0.00	0.00	0.00	0.00
Build (XS)	1809.06	18.181	224.963	1793.88	-101.20	-101.07	2.00	110.68
KOP NWSW,SEC.09	5834.65	18.181	224.963	5618.49	-989.94	-988.68	0.00	1082.73
LP/TPZ NESE,SEC.08	6692.01	90.000	269.558	6101.00	-1105.99	-1608.51	9.00	1711.06
Fed Entry 1 NESE,SEC.07	11769.82	90.000	269.558	6101.00	-1145.20	-6686.17	0.00	6767.18
End of 3D Arc	11770.10	90.000	269.555	6101.00	-1145.20	-6686.46	1.00	6767.47
BHL NWSW,SEC.07	16871.46	90.000	269.555	6101.00	-1184.86	-11787.66	0.00	11847.06



N
S
E
W

BGGM (1900.0 to 2024.0) Dip: 66.80° Field: 51932.1 nT
 Magnetic North is 7.44 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 6.46 degrees



Planned Wellpath Report

Tinman Federal LG07-635 (REV-C.0) PWP
Page 1 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'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	2/28/2024 at 3:40:16 PM
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	-2199.38	1.78	3419981.59	1493119.74	40°40'37.7904"N	103°59'8.8044"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	(4808'GL+30'KB@4838'RKB) (RKB) to Facility Vertical Datum	4838.00ft
Horizontal Reference Pt	Slot	(4808'GL+30'KB@4838'RKB) (RKB) to Mean Sea Level	4838.00ft
Vertical Reference Pt	(4808'GL+30'KB@4838'RKB) (RKB)	(4808'GL+30'KB@4838'RKB) (RKB) to Ground Level at Slot (SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'FWL,SEC.09))	4838.00ft
MD Reference Pt	(4808'GL+30'KB@4838'RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	264.26°



Planned Wellpath Report

Tinman Federal LG07-635 (REV-C.0) PWP
Page 2 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'FWL,SEC.09)		

WELLPATH DATA (190 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	224.963	0.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	
30.00	0.000	224.963	30.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	SHL SENW,SEC.09
130.00†	0.000	224.963	130.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	
230.00†	0.000	224.963	230.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	
330.00†	0.000	224.963	330.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	
358.00†	0.000	224.963	358.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	FOXHILLS-BASE PROD
430.00†	0.000	224.963	430.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	
530.00†	0.000	224.963	530.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	
630.00†	0.000	224.963	630.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	
730.00†	0.000	224.963	730.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	
830.00†	0.000	224.963	830.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	
900.00	0.000	224.963	900.00	0.00	0.00	0.00	40°40'37.7904"N	103°59'8.8044"W	0.00	End of Tangent
930.00†	0.600	224.963	930.00	0.12	-0.11	-0.11	40°40'37.7893"N	103°59'8.8059"W	2.00	
1030.00†	2.600	224.963	1029.96	2.28	-2.09	-2.08	40°40'37.7701"N	103°59'8.8319"W	2.00	
1130.00†	4.600	224.963	1129.75	7.14	-6.53	-6.52	40°40'37.7270"N	103°59'8.8905"W	2.00	
1133.26†	4.665	224.963	1133.00	7.34	-6.72	-6.71	40°40'37.7252"N	103°59'8.8929"W	2.00	PIERRE (UPPER) AQUIFER TOP
1230.00†	6.600	224.963	1229.27	14.69	-13.43	-13.42	40°40'37.6599"N	103°59'8.9815"W	2.00	
1330.00†	8.600	224.963	1328.39	24.93	-22.79	-22.76	40°40'37.5691"N	103°59'9.1048"W	2.00	
1430.00†	10.600	224.963	1426.98	37.83	-34.59	-34.55	40°40'37.4545"N	103°59'9.2604"W	2.00	
1530.00†	12.600	224.963	1524.93	53.39	-48.82	-48.75	40°40'37.3163"N	103°59'9.4479"W	2.00	
1630.00†	14.600	224.963	1622.13	71.59	-65.45	-65.37	40°40'37.1548"N	103°59'9.6672"W	2.00	
1730.00†	16.600	224.963	1718.44	92.40	-84.48	-84.37	40°40'36.9700"N	103°59'9.9180"W	2.00	
1736.85†	16.737	224.963	1725.00	93.92	-85.87	-85.76	40°40'36.9565"N	103°59'9.9363"W	2.00	PIERRE (UPPER) AQUIFER BASE
1809.06	18.181	224.963	1793.88	110.68	-101.20	-101.07	40°40'36.8076"N	103°59'10.1384"W	2.00	Build (XS)
1830.00†	18.181	224.963	1813.78	115.74	-105.82	-105.69	40°40'36.7627"N	103°59'10.1993"W	0.00	
1930.00†	18.181	224.963	1908.78	139.89	-127.90	-127.74	40°40'36.5483"N	103°59'10.4904"W	0.00	
2030.00†	18.181	224.963	2003.79	164.03	-149.98	-149.79	40°40'36.3339"N	103°59'10.7814"W	0.00	
2130.00†	18.181	224.963	2098.80	188.18	-172.05	-171.84	40°40'36.1195"N	103°59'11.0724"W	0.00	
2230.00†	18.181	224.963	2193.81	212.33	-194.13	-193.88	40°40'35.9051"N	103°59'11.3634"W	0.00	
2330.00†	18.181	224.963	2288.81	236.47	-216.21	-215.93	40°40'35.6907"N	103°59'11.6544"W	0.00	
2430.00†	18.181	224.963	2383.82	260.62	-238.29	-237.98	40°40'35.4763"N	103°59'11.9454"W	0.00	
2530.00†	18.181	224.963	2478.83	284.77	-260.36	-260.03	40°40'35.2619"N	103°59'12.2365"W	0.00	
2630.00†	18.181	224.963	2573.83	308.91	-282.44	-282.08	40°40'35.0475"N	103°59'12.5275"W	0.00	
2730.00†	18.181	224.963	2668.84	333.06	-304.52	-304.13	40°40'34.8331"N	103°59'12.8185"W	0.00	
2830.00†	18.181	224.963	2763.85	357.21	-326.60	-326.18	40°40'34.6187"N	103°59'13.1095"W	0.00	
2930.00†	18.181	224.963	2858.86	381.35	-348.67	-348.23	40°40'34.4043"N	103°59'13.4005"W	0.00	
3030.00†	18.181	224.963	2953.86	405.50	-370.75	-370.28	40°40'34.1899"N	103°59'13.6915"W	0.00	
3130.00†	18.181	224.963	3048.87	429.65	-392.83	-392.33	40°40'33.9755"N	103°59'13.9826"W	0.00	
3230.00†	18.181	224.963	3143.88	453.80	-414.91	-414.38	40°40'33.7611"N	103°59'14.2736"W	0.00	
3263.81†	18.181	224.963	3176.00	461.96	-422.37	-421.83	40°40'33.6886"N	103°59'14.3720"W	0.00	PARKMAN
3330.00†	18.181	224.963	3238.89	477.94	-436.98	-436.43	40°40'33.5467"N	103°59'14.5646"W	0.00	
3430.00†	18.181	224.963	3333.89	502.09	-459.06	-458.48	40°40'33.3323"N	103°59'14.8556"W	0.00	
3530.00†	18.181	224.963	3428.90	526.24	-481.14	-480.52	40°40'33.1179"N	103°59'15.1466"W	0.00	
3630.00†	18.181	224.963	3523.91	550.38	-503.21	-502.57	40°40'32.9035"N	103°59'15.4376"W	0.00	
3730.00†	18.181	224.963	3618.92	574.53	-525.29	-524.62	40°40'32.6891"N	103°59'15.7286"W	0.00	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'FWL,SEC.09)		

WELLPATH DATA (190 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3830.00†	18.181	224.963	3713.92	598.68	-547.37	-546.67	40°40'32.4747"N	103°59'16.0196"W	0.00	
3930.00†	18.181	224.963	3808.93	622.82	-569.45	-568.72	40°40'32.2603"N	103°59'16.3106"W	0.00	
3989.01†	18.181	224.963	3865.00	637.07	-582.48	-581.73	40°40'32.1338"N	103°59'16.4824"W	0.00	SUSSEX
4030.00†	18.181	224.963	3903.94	646.97	-591.52	-590.77	40°40'32.0459"N	103°59'16.6017"W	0.00	
4130.00†	18.181	224.963	3998.95	671.12	-613.60	-612.82	40°40'31.8315"N	103°59'16.8927"W	0.00	
4230.00†	18.181	224.963	4093.95	695.26	-635.68	-634.87	40°40'31.6171"N	103°59'17.1837"W	0.00	
4330.00†	18.181	224.963	4188.96	719.41	-657.76	-656.92	40°40'31.4027"N	103°59'17.4747"W	0.00	
4430.00†	18.181	224.963	4283.97	743.56	-679.83	-678.97	40°40'31.1883"N	103°59'17.7657"W	0.00	
4530.00†	18.181	224.963	4378.98	767.70	-701.91	-701.02	40°40'30.9739"N	103°59'18.0567"W	0.00	
4630.00†	18.181	224.963	4473.98	791.85	-723.99	-723.07	40°40'30.7595"N	103°59'18.3477"W	0.00	
4678.43†	18.181	224.963	4520.00	803.54	-734.68	-733.75	40°40'30.6556"N	103°59'18.4886"W	0.00	SHANNON
4730.00†	18.181	224.963	4568.99	816.00	-746.07	-745.12	40°40'30.5451"N	103°59'18.6387"W	0.00	
4830.00†	18.181	224.963	4664.00	840.14	-768.14	-767.17	40°40'30.3307"N	103°59'18.9297"W	0.00	
4930.00†	18.181	224.963	4759.01	864.29	-790.22	-789.21	40°40'30.1163"N	103°59'19.2207"W	0.00	
5030.00†	18.181	224.963	4854.01	888.44	-812.30	-811.26	40°40'29.9019"N	103°59'19.5117"W	0.00	
5130.00†	18.181	224.963	4949.02	912.58	-834.38	-833.31	40°40'29.6875"N	103°59'19.8027"W	0.00	
5230.00†	18.181	224.963	5044.03	936.73	-856.45	-855.36	40°40'29.4731"N	103°59'20.0937"W	0.00	
5330.00†	18.181	224.963	5139.04	960.88	-878.53	-877.41	40°40'29.2586"N	103°59'20.3847"W	0.00	
5430.00†	18.181	224.963	5234.04	985.02	-900.61	-899.46	40°40'29.0442"N	103°59'20.6757"W	0.00	
5497.32†	18.181	224.963	5298.00	1001.28	-915.47	-914.30	40°40'28.8999"N	103°59'20.8716"W	0.00	TEPEE BUTTES
5530.00†	18.181	224.963	5329.05	1009.17	-922.68	-921.51	40°40'28.8298"N	103°59'20.9667"W	0.00	
5630.00†	18.181	224.963	5424.06	1033.32	-944.76	-943.56	40°40'28.6154"N	103°59'21.2577"W	0.00	
5657.30†	18.181	224.963	5450.00	1039.91	-950.79	-949.58	40°40'28.5569"N	103°59'21.3372"W	0.00	TEPEE BUTTES
5730.00†	18.181	224.963	5519.07	1057.46	-966.84	-965.61	40°40'28.4010"N	103°59'21.5487"W	0.00	
5830.00†	18.181	224.963	5614.07	1081.61	-988.92	-987.66	40°40'28.1866"N	103°59'21.8397"W	0.00	
5834.65	18.181	224.963	5618.49	1082.73	-989.94	-988.68	40°40'28.1766"N	103°59'21.8533"W	0.00	KOP NWSW,SEC.09
5930.00†	24.888	239.756	5707.20	1112.56	-1010.61	-1016.58	40°40'27.9771"N	103°59'22.2198"W	9.00	
6030.00†	32.829	248.617	5794.75	1157.90	-1031.14	-1060.09	40°40'27.7817"N	103°59'22.7890"W	9.00	
6130.00†	41.169	254.270	5874.57	1216.54	-1049.98	-1117.13	40°40'27.6051"N	103°59'23.5333"W	9.00	
6230.00†	49.706	258.284	5944.69	1287.03	-1066.68	-1186.29	40°40'27.4517"N	103°59'24.4345"W	9.00	
6243.01†	50.826	258.728	5953.00	1296.98	-1068.68	-1196.09	40°40'27.4337"N	103°59'24.5621"W	9.00	INTRA SHARON SPGS MK
6267.30†	52.921	259.523	5968.00	1316.01	-1072.28	-1214.86	40°40'27.4012"N	103°59'24.8065"W	9.00	SHARON SPRING MKR
6310.68†	56.674	260.837	5993.00	1351.36	-1078.32	-1249.78	40°40'27.3475"N	103°59'25.2609"W	9.00	NIO A CHALK
6330.00†	58.351	261.387	6003.38	1367.63	-1080.83	-1265.88	40°40'27.3253"N	103°59'25.4704"W	9.00	
6363.03†	61.221	262.282	6020.00	1396.15	-1084.88	-1294.14	40°40'27.2901"N	103°59'25.8379"W	9.00	NIO A MARL
6430.00†	67.057	263.956	6049.20	1456.37	-1092.08	-1353.94	40°40'27.2290"N	103°59'26.6155"W	9.00	
6530.00†	75.800	266.213	6081.02	1551.05	-1100.14	-1448.29	40°40'27.1652"N	103°59'27.8416"W	9.00	
6603.39†	82.230	267.755	6095.00	1622.98	-1103.92	-1520.20	40°40'27.1400"N	103°59'28.7755"W	9.00	NIO B CHALK
6630.00†	84.562	268.300	6098.06	1649.35	-1104.83	-1546.61	40°40'27.1354"N	103°59'29.1185"W	9.00	
6692.01	90.000	269.558	6101.00 [†]	1711.06	-1105.99	-1608.51	40°40'27.1344"N	103°59'29.9220"W	9.00	LP/TPZ NESE,SEC.08
6730.00†	90.000	269.558	6101.00	1748.89	-1106.28	-1646.50	40°40'27.1379"N	103°59'30.4150"W	0.00	
6830.00†	90.000	269.558	6101.00	1848.46	-1107.05	-1746.50	40°40'27.1471"N	103°59'31.7128"W	0.00	
6930.00†	90.000	269.558	6101.00	1948.04	-1107.83	-1846.50	40°40'27.1562"N	103°59'33.0106"W	0.00	
7030.00†	90.000	269.558	6101.00	2047.61	-1108.60	-1946.49	40°40'27.1654"N	103°59'34.3083"W	0.00	
7130.00†	90.000	269.558	6101.00	2147.18	-1109.37	-2046.49	40°40'27.1746"N	103°59'35.6061"W	0.00	



Planned Wellpath Report

Tinman Federal LG07-635 (REV-C.0) PWP
Page 4 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'FWL,SEC.09)		

WELLPATH DATA (190 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7230.00†	90.000	269.558	6101.00	2246.75	-1110.14	-2146.49	40°40'27.1837"N	103°59'36.9039"W	0.00	
7330.00†	90.000	269.558	6101.00	2346.33	-1110.92	-2246.48	40°40'27.1929"N	103°59'38.2016"W	0.00	
7430.00†	90.000	269.558	6101.00	2445.90	-1111.69	-2346.48	40°40'27.2020"N	103°59'39.4994"W	0.00	
7530.00†	90.000	269.558	6101.00	2545.47	-1112.46	-2446.48	40°40'27.2112"N	103°59'40.7971"W	0.00	
7630.00†	90.000	269.558	6101.00	2645.05	-1113.23	-2546.48	40°40'27.2203"N	103°59'42.0949"W	0.00	
7730.00†	90.000	269.558	6101.00	2744.62	-1114.00	-2646.47	40°40'27.2294"N	103°59'43.3927"W	0.00	
7830.00†	90.000	269.558	6101.00	2844.19	-1114.78	-2746.47	40°40'27.2386"N	103°59'44.6904"W	0.00	
7930.00†	90.000	269.558	6101.00	2943.76	-1115.55	-2846.47	40°40'27.2477"N	103°59'45.9882"W	0.00	
8030.00†	90.000	269.558	6101.00	3043.34	-1116.32	-2946.46	40°40'27.2568"N	103°59'47.2860"W	0.00	
8130.00†	90.000	269.558	6101.00	3142.91	-1117.09	-3046.46	40°40'27.2659"N	103°59'48.5837"W	0.00	
8230.00†	90.000	269.558	6101.00	3242.48	-1117.87	-3146.46	40°40'27.2751"N	103°59'49.8815"W	0.00	
8330.00†	90.000	269.558	6101.00	3342.06	-1118.64	-3246.45	40°40'27.2842"N	103°59'51.1793"W	0.00	
8430.00†	90.000	269.558	6101.00	3441.63	-1119.41	-3346.45	40°40'27.2933"N	103°59'52.4770"W	0.00	
8530.00†	90.000	269.558	6101.00	3541.20	-1120.18	-3446.45	40°40'27.3024"N	103°59'53.7748"W	0.00	
8630.00†	90.000	269.558	6101.00	3640.77	-1120.95	-3546.45	40°40'27.3115"N	103°59'55.0725"W	0.00	
8730.00†	90.000	269.558	6101.00	3740.35	-1121.73	-3646.44	40°40'27.3206"N	103°59'56.3703"W	0.00	
8830.00†	90.000	269.558	6101.00	3839.92	-1122.50	-3746.44	40°40'27.3297"N	103°59'57.6681"W	0.00	
8930.00†	90.000	269.558	6101.00	3939.49	-1123.27	-3846.44	40°40'27.3388"N	103°59'58.9658"W	0.00	
9030.00†	90.000	269.558	6101.00	4039.07	-1124.04	-3946.43	40°40'27.3479"N	104°00'0.2636"W	0.00	
9130.00†	90.000	269.558	6101.00	4138.64	-1124.82	-4046.43	40°40'27.3569"N	104°00'1.5614"W	0.00	
9230.00†	90.000	269.558	6101.00	4238.21	-1125.59	-4146.43	40°40'27.3660"N	104°00'2.8591"W	0.00	
9330.00†	90.000	269.558	6101.00	4337.78	-1126.36	-4246.42	40°40'27.3751"N	104°00'4.1569"W	0.00	
9430.00†	90.000	269.558	6101.00	4437.36	-1127.13	-4346.42	40°40'27.3842"N	104°00'5.4547"W	0.00	
9530.00†	90.000	269.558	6101.00	4536.93	-1127.91	-4446.42	40°40'27.3932"N	104°00'6.7524"W	0.00	
9630.00†	90.000	269.558	6101.00	4636.50	-1128.68	-4546.42	40°40'27.4023"N	104°00'8.0502"W	0.00	
9730.00†	90.000	269.558	6101.00	4736.08	-1129.45	-4646.41	40°40'27.4113"N	104°00'9.3480"W	0.00	
9830.00†	90.000	269.558	6101.00	4835.65	-1130.22	-4746.41	40°40'27.4204"N	104°00'10.6457"W	0.00	
9930.00†	90.000	269.558	6101.00	4935.22	-1130.99	-4846.41	40°40'27.4294"N	104°00'11.9435"W	0.00	
10030.00†	90.000	269.558	6101.00	5034.79	-1131.77	-4946.40	40°40'27.4385"N	104°00'13.2412"W	0.00	
10130.00†	90.000	269.558	6101.00	5134.37	-1132.54	-5046.40	40°40'27.4475"N	104°00'14.5390"W	0.00	
10230.00†	90.000	269.558	6101.00	5233.94	-1133.31	-5146.40	40°40'27.4566"N	104°00'15.8368"W	0.00	
10330.00†	90.000	269.558	6101.00	5333.51	-1134.08	-5246.39	40°40'27.4656"N	104°00'17.1345"W	0.00	
10430.00†	90.000	269.558	6101.00	5433.09	-1134.86	-5346.39	40°40'27.4746"N	104°00'18.4323"W	0.00	
10530.00†	90.000	269.558	6101.00	5532.66	-1135.63	-5446.39	40°40'27.4836"N	104°00'19.7301"W	0.00	
10630.00†	90.000	269.558	6101.00	5632.23	-1136.40	-5546.39	40°40'27.4927"N	104°00'21.0278"W	0.00	
10730.00†	90.000	269.558	6101.00	5731.80	-1137.17	-5646.38	40°40'27.5017"N	104°00'22.3256"W	0.00	
10830.00†	90.000	269.558	6101.00	5831.38	-1137.94	-5746.38	40°40'27.5107"N	104°00'23.6234"W	0.00	
10930.00†	90.000	269.558	6101.00	5930.95	-1138.72	-5846.38	40°40'27.5197"N	104°00'24.9211"W	0.00	
11030.00†	90.000	269.558	6101.00	6030.52	-1139.49	-5946.37	40°40'27.5287"N	104°00'26.2189"W	0.00	
11130.00†	90.000	269.558	6101.00	6130.10	-1140.26	-6046.37	40°40'27.5377"N	104°00'27.5167"W	0.00	
11230.00†	90.000	269.558	6101.00	6229.67	-1141.03	-6146.37	40°40'27.5467"N	104°00'28.8144"W	0.00	
11330.00†	90.000	269.558	6101.00	6329.24	-1141.81	-6246.37	40°40'27.5557"N	104°00'30.1122"W	0.00	
11430.00†	90.000	269.558	6101.00	6428.81	-1142.58	-6346.36	40°40'27.5647"N	104°00'31.4100"W	0.00	
11530.00†	90.000	269.558	6101.00	6528.39	-1143.35	-6446.36	40°40'27.5737"N	104°00'32.7077"W	0.00	
11630.00†	90.000	269.558	6101.00	6627.96	-1144.12	-6546.36	40°40'27.5827"N	104°00'34.0055"W	0.00	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'FWL,SEC.09)		

WELLPATH DATA (190 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11730.00†	90.000	269.558	6101.00	6727.53	-1144.89	-6646.35	40°40'27.5916"N	104°00'35.3033"W	0.00	
11769.82	90.000	269.558	6101.00‡	6767.18	-1145.20	-6686.17	40°40'27.5952"N	104°00'35.8200"W	0.00	Fed Entry 1 NESE,SEC.07
11770.10	90.000	269.555	6101.00	6767.47	-1145.20	-6686.46	40°40'27.5952"N	104°00'35.8237"W	1.00	End of 3D Arc
11830.00†	90.000	269.555	6101.00	6827.11	-1145.67	-6746.35	40°40'27.6006"N	104°00'36.6010"W	0.00	
11930.00†	90.000	269.555	6101.00	6926.68	-1146.45	-6846.35	40°40'27.6095"N	104°00'37.8988"W	0.00	
12030.00†	90.000	269.555	6101.00	7026.25	-1147.22	-6946.34	40°40'27.6184"N	104°00'39.1966"W	0.00	
12130.00†	90.000	269.555	6101.00	7125.83	-1148.00	-7046.34	40°40'27.6273"N	104°00'40.4943"W	0.00	
12230.00†	90.000	269.555	6101.00	7225.40	-1148.78	-7146.34	40°40'27.6362"N	104°00'41.7921"W	0.00	
12330.00†	90.000	269.555	6101.00	7324.97	-1149.56	-7246.34	40°40'27.6451"N	104°00'43.0899"W	0.00	
12430.00†	90.000	269.555	6101.00	7424.55	-1150.33	-7346.33	40°40'27.6540"N	104°00'44.3876"W	0.00	
12530.00†	90.000	269.555	6101.00	7524.12	-1151.11	-7446.33	40°40'27.6629"N	104°00'45.6854"W	0.00	
12630.00†	90.000	269.555	6101.00	7623.69	-1151.89	-7546.33	40°40'27.6718"N	104°00'46.9832"W	0.00	
12730.00†	90.000	269.555	6101.00	7723.27	-1152.67	-7646.32	40°40'27.6807"N	104°00'48.2809"W	0.00	
12830.00†	90.000	269.555	6101.00	7822.84	-1153.44	-7746.32	40°40'27.6896"N	104°00'49.5787"W	0.00	
12930.00†	90.000	269.555	6101.00	7922.41	-1154.22	-7846.32	40°40'27.6985"N	104°00'50.8765"W	0.00	
13030.00†	90.000	269.555	6101.00	8021.99	-1155.00	-7946.31	40°40'27.7073"N	104°00'52.1743"W	0.00	
13130.00†	90.000	269.555	6101.00	8121.56	-1155.77	-8046.31	40°40'27.7162"N	104°00'53.4720"W	0.00	
13230.00†	90.000	269.555	6101.00	8221.13	-1156.55	-8146.31	40°40'27.7251"N	104°00'54.7698"W	0.00	
13330.00†	90.000	269.555	6101.00	8320.71	-1157.33	-8246.30	40°40'27.7339"N	104°00'56.0676"W	0.00	
13430.00†	90.000	269.555	6101.00	8420.28	-1158.11	-8346.30	40°40'27.7428"N	104°00'57.3653"W	0.00	
13530.00†	90.000	269.555	6101.00	8519.85	-1158.88	-8446.30	40°40'27.7516"N	104°00'58.6631"W	0.00	
13630.00†	90.000	269.555	6101.00	8619.43	-1159.66	-8546.30	40°40'27.7605"N	104°00'59.9609"W	0.00	
13730.00†	90.000	269.555	6101.00	8719.00	-1160.44	-8646.29	40°40'27.7693"N	104°01'1.2586"W	0.00	
13830.00†	90.000	269.555	6101.00	8818.57	-1161.22	-8746.29	40°40'27.7782"N	104°01'2.5564"W	0.00	
13930.00†	90.000	269.555	6101.00	8918.15	-1161.99	-8846.29	40°40'27.7870"N	104°01'3.8542"W	0.00	
14030.00†	90.000	269.555	6101.00	9017.72	-1162.77	-8946.28	40°40'27.7959"N	104°01'5.1519"W	0.00	
14130.00†	90.000	269.555	6101.00	9117.29	-1163.55	-9046.28	40°40'27.8047"N	104°01'6.4497"W	0.00	
14230.00†	90.000	269.555	6101.00	9216.87	-1164.33	-9146.28	40°40'27.8135"N	104°01'7.7475"W	0.00	
14330.00†	90.000	269.555	6101.00	9316.44	-1165.10	-9246.27	40°40'27.8223"N	104°01'9.0453"W	0.00	
14430.00†	90.000	269.555	6101.00	9416.01	-1165.88	-9346.27	40°40'27.8312"N	104°01'10.3430"W	0.00	
14530.00†	90.000	269.555	6101.00	9515.59	-1166.66	-9446.27	40°40'27.8400"N	104°01'11.6408"W	0.00	
14630.00†	90.000	269.555	6101.00	9615.16	-1167.43	-9546.27	40°40'27.8488"N	104°01'12.9386"W	0.00	
14730.00†	90.000	269.555	6101.00	9714.73	-1168.21	-9646.26	40°40'27.8576"N	104°01'14.2363"W	0.00	
14830.00†	90.000	269.555	6101.00	9814.31	-1168.99	-9746.26	40°40'27.8664"N	104°01'15.5341"W	0.00	
14930.00†	90.000	269.555	6101.00	9913.88	-1169.77	-9846.26	40°40'27.8752"N	104°01'16.8319"W	0.00	
15030.00†	90.000	269.555	6101.00	10013.45	-1170.54	-9946.25	40°40'27.8840"N	104°01'18.1296"W	0.00	
15130.00†	90.000	269.555	6101.00	10113.03	-1171.32	-10046.25	40°40'27.8928"N	104°01'19.4274"W	0.00	
15230.00†	90.000	269.555	6101.00	10212.60	-1172.10	-10146.25	40°40'27.9016"N	104°01'20.7252"W	0.00	
15330.00†	90.000	269.555	6101.00	10312.17	-1172.88	-10246.24	40°40'27.9103"N	104°01'22.0230"W	0.00	
15430.00†	90.000	269.555	6101.00	10411.75	-1173.65	-10346.24	40°40'27.9191"N	104°01'23.3207"W	0.00	
15530.00†	90.000	269.555	6101.00	10511.32	-1174.43	-10446.24	40°40'27.9279"N	104°01'24.6185"W	0.00	
15630.00†	90.000	269.555	6101.00	10610.89	-1175.21	-10546.24	40°40'27.9367"N	104°01'25.9163"W	0.00	
15730.00†	90.000	269.555	6101.00	10710.47	-1175.98	-10646.23	40°40'27.9454"N	104°01'27.2140"W	0.00	
15830.00†	90.000	269.555	6101.00	10810.04	-1176.76	-10746.23	40°40'27.9542"N	104°01'28.5118"W	0.00	
15930.00†	90.000	269.555	6101.00	10909.61	-1177.54	-10846.23	40°40'27.9629"N	104°01'29.8096"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'FWL,SEC.09)		

WELLPATH DATA (190 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16030.00†	90.000	269.555	6101.00	11009.19	-1178.32	-10946.22	40°40'27.9717"N	104°01'31.1074"W	0.00	
16130.00†	90.000	269.555	6101.00	11108.76	-1179.09	-11046.22	40°40'27.9804"N	104°01'32.4051"W	0.00	
16230.00†	90.000	269.555	6101.00	11208.33	-1179.87	-11146.22	40°40'27.9892"N	104°01'33.7029"W	0.00	
16330.00†	90.000	269.555	6101.00	11307.91	-1180.65	-11246.21	40°40'27.9979"N	104°01'35.0007"W	0.00	
16430.00†	90.000	269.555	6101.00	11407.48	-1181.43	-11346.21	40°40'28.0067"N	104°01'36.2984"W	0.00	
16530.00†	90.000	269.555	6101.00	11507.05	-1182.20	-11446.21	40°40'28.0154"N	104°01'37.5962"W	0.00	
16630.00†	90.000	269.555	6101.00	11606.63	-1182.98	-11546.21	40°40'28.0241"N	104°01'38.8940"W	0.00	
16730.00†	90.000	269.555	6101.00	11706.20	-1183.76	-11646.20	40°40'28.0329"N	104°01'40.1918"W	0.00	
16830.00†	90.000	269.555	6101.00	11805.77	-1184.53	-11746.20	40°40'28.0416"N	104°01'41.4895"W	0.00	
16871.46	90.000	269.555	6101.00 [‡]	11847.06	-1184.86	-11787.66	40°40'28.0452"N	104°01'42.0276"W	0.00	BHL NWSW,SEC.07

HOLE & CASING SECTIONS - Ref Wellbore: Tinman Federal LG07-635 PWB Ref Wellpath: Tinman Federal LG07-635 (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	1927.78	0.00	0.00	-132.31	-132.15
8.5in Open Hole	1950.00	16871.46	14921.46	1927.78	6101.00	-132.31	-132.15	-1184.86	-11787.66



Planned Wellpath Report

Tinman Federal LG07-635 (REV-C.0) PWP
Page 7 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'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 09 LG09-03-785	N/A	-53.00	2202.96	335.19	3420316.77	1495322.66	40°40'59.4984"N	103°59'3.9660"W	polygon
2D Polygon: dimensions not calculated									
SECTION 07 LG-09-06-785	N/A	2.00	89.92	-90.31	3419891.28	1493209.66	40°40'38.6940"N	103°59'9.9564"W	polygon
2D Polygon: dimensions not calculated									
SECTION 08 LG-09-06-785	N/A	2.00	89.92	-90.31	3419891.28	1493209.66	40°40'38.6940"N	103°59'9.9564"W	polygon
2D Polygon: dimensions not calculated									
Tinman Federal LG07-635 BHL Rev-1 (1666'FSL & 200'FWL,SEC.07)	N/A	6101.00	-1185.17	-11787.60	3408194.19	1491934.59	40°40'28.0421"N	104°01'42.0269"W	point
3) Tinman Federal LG07-635 BHL Rev-2 on PLAT (1666'FSL & 200'FWL,SEC.07)	16871.46	6101.00	-1184.86	-11787.66	3408194.13	1491934.91	40°40'28.0452"N	104°01'42.0276"W	point
2) Tinman Federal LG07-635 Fed Entry 1	11769.82	6101.00	-1145.20	-6686.17	3413295.53	1491974.56	40°40'27.5952"N	104°00'35.8200"W	point
Tinman Federal LG07-635 LP Rev-1 (1645'FSL & 200'FEL,SEC.08)	N/A	6101.00	-1105.71	-1608.43	3418373.18	1492014.05	40°40'27.1371"N	103°59'29.9209"W	point
1) Tinman Federal LG07-635 LP Rev-2 on PLAT (1645'FSL & 200'FEL,SEC.08)	6692.01	6101.00	-1105.99	-1608.51	3418373.10	1492013.77	40°40'27.1344"N	103°59'29.9220"W	point
DP 220 Federal Minerals B	N/A	6293.00	89.53	-69.59	3419912.00	1493209.27	40°40'38.6867"N	103°59'9.6876"W	polygon
2D Polygon: dimensions not calculated									

SURVEY PROGRAM - Ref Wellbore: Tinman Federal LG07-635 PWB Ref Wellpath: Tinman Federal LG07-635 (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)		Tinman Federal LG07-635 PWB
1950.00	17011.40	OWSG MWD rev2 (MS+IFR1)		Tinman Federal LG07-635 PWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'FWL,SEC.09)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
358.00	0.000	224.963	358.00	FOXHILLS-BASE PROD
1133.26	4.665	224.963	1133.00	PIERRE (UPPER) AQUIFER TOP
1736.85	16.737	224.963	1725.00	PIERRE (UPPER) AQUIFER BASE
3263.81	18.181	224.963	3176.00	PARKMAN
3989.01	18.181	224.963	3865.00	SUSSEX
4678.43	18.181	224.963	4520.00	SHANNON
5497.32	18.181	224.963	5298.00	TEPEE BUTTES
5657.30	18.181	224.963	5450.00	TEPEE BUTTES
6243.01	50.826	258.728	5953.00	INTRA SHARON SPGS MK
6267.30	52.921	259.523	5968.00	SHARON SPRING MKR
6310.68	56.674	260.837	5993.00	NIO A CHALK
6363.03	61.221	262.282	6020.00	NIO A MARL
6603.39	82.230	267.755	6095.00	NIO B CHALK

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
30.00	0.000	224.963	30.00	SHL SENW,SEC.09
900.00	0.000	224.963	900.00	End of Tangent
1809.06	18.181	224.963	1793.88	Build (XS)
5834.65	18.181	224.963	5618.49	KOP NWSW,SEC.09
6692.01	90.000	269.558	6101.00	LP/TPZ NESE,SEC.08
11769.82	90.000	269.558	6101.00	Fed Entry 1 NESE,SEC.07
11770.10	90.000	269.555	6101.00	End of 3D Arc
16871.46	90.000	269.555	6101.00	BHL NWSW,SEC.07



Closest Approach Clearance Summary Report

Tinman Federal LG07-635 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
Page 1 of 4



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'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	2/28/2024 at 3:49:13 PM
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	-2199.38	1.78	3419981.59	1493119.74	40°40'37.7904"N	103°59'8.8044"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	(4808'GL+30'KB@4838'RKB) (RKB) to Facility Vertical Datum	4838.00ft
Horizontal Reference Pt	Slot	(4808'GL+30'KB@4838'RKB) (RKB) to Mean Sea Level	4838.00ft
Vertical Reference Pt	(4808'GL+30'KB@4838'RKB) (RKB)	(4808'GL+30'KB@4838'RKB) (RKB) to Ground Level at Slot (SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'FWL,SEC.09))	4838.00ft
MD Reference Pt	(4808'GL+30'KB@4838'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	7.44° East of TN	Dip Angle	66.80°	Mag Field Strength	51932 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

Tinman Federal LG07-635 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
Page 2 of 4



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'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: Tinman Federal LG07-635 PWB Ref Wellpath: Tinman Federal LG07-635 (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	1927.78	0.00	0.00	-132.31	-132.15
8.5in Open Hole	1950.00	16871.46	14921.46	1927.78	6101.00	-132.31	-132.15	-1184.86	-11787.66

SURVEY PROGRAM - Ref Wellbore: Tinman Federal LG07-635 PWB Ref Wellpath: Tinman Federal LG07-635 (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)		Tinman Federal LG07-635 PWB
1950.00	17011.40	OWSG MWD rev2 (MS+IFR1)		Tinman Federal LG07-635 PWB



Closest Approach Clearance Summary Report

Tinman Federal LG07-635 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
Page 3 of 4



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'FWL,SEC.09)		

CALCULATION RANGE & CUTOFF		
From: 30.00ft MD	To: 16871.46ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (26 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
LG Section 08	(WELD PAWNEE #11-8 (DA))	WELD PAWNEE #11-8 (05-123-14194)	WELD PAWNEE #11-8	WELD PAWNEE #11-8No Surveys	Drilling	9816.66	273.94	9816.66	9816.66	0.04	9816.66	FAIL
LG Section 08	(FEDERAL PC #LG08-12 (PR))	FEDERAL PC #LG08-12 (05-123-34244)	FEDERAL PC #LG08-12	FEDERAL PC #LG08-12No Surveys	Drilling	11112.54	322.22	11112.54	11112.54	0.04	11112.54	FAIL
LG Section 08	(FEDERAL G #4-8 (PA))	FEDERAL G #4-8 (05-123-14371)	FEDERAL G #4-8	FEDERAL G #4-8No Surveys	Drilling	11102.90	2918.27	11102.90	11102.90	0.39	11102.90	FAIL
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	6182.93	78.72	6182.93	6187.10	1.06	6187.10	WARN
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	30.00	22.58	630.00	16871.46	1.89	16871.46	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	935.06	22.51	11770.10	16861.46	1.89	16861.46	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	30.00	44.91	430.00	16871.46	3.79	16871.46	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	900.00	45.10	11769.82	16871.46	3.79	16871.46	PASS
SEC.11-T08N-R60W	SLOT#01 SONIC STAR #1101-16H	SONIC STAR #1101-(05-123-49003)	SONIC STAR #1101-16H AWB	SONIC STAR #1101-16H AWP	Drilling	16871.46	554.39	16871.46	16871.46	5.49	16871.46	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	30.00	67.61	11769.82	16871.46	5.69	16871.46	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	30.00	89.93	630.00	16871.46	7.59	16871.46	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	30.00	112.52	430.00	16871.46	9.49	16871.46	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	5981.42	663.49	5981.42	6009.88	10.00	6009.88	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	5862.94	1163.19	5862.94	5926.33	17.75	5926.33	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	5862.94	1163.19	5862.94	5926.33	17.75	5926.33	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	30.00	3820.39	900.00	6187.66	24.80	6187.66	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	5834.65	1744.77	5834.65	5981.11	27.24	5981.11	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	5318.02	4152.91	5318.02	5914.91	37.15	5914.91	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	972.90	2125.10	972.90	7859.32	66.16	7859.32	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	982.55	2131.31	982.55	6481.30	73.50	7130.00	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	917.51	2138.48	917.51	6480.89	80.68	6480.89	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	2142.80	900.00	6480.59	87.14	6480.59	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	2147.51	900.00	6480.37	92.79	6480.37	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	2152.44	830.00	6480.24	102.45	6480.24	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	2157.60	630.00	6480.17	113.37	12330.00	PASS



Closest Approach Clearance Summary Report

Tinman Federal LG07-635 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)
Page 4 of 4



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-635 PWB
Slot	SLOT#20 Tinman Federal LG07-635 (2534'FNL & 1417'FWL,SEC.09)		

CALCULATION RANGE & CUTOFF		
From: 30.00ft MD	To: 16871.46ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (26 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#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	2162.98	430.00	5994.16	127.99	11730.00	PASS