

# NOBLE ENERGY, INC



Location: COLORADO Slot: SLOT#21 Tinman Federal LG07-625 (2551 FNL & 1433 FWL, SEC.09)  
 Field: WELD COUNTY (NOBLE NAD 83 GRD) Well: Tinman Federal LG07-625  
 Facility: SEC.09-T08N-R59W Wellbore: Tinman Federal LG07-625 PWB

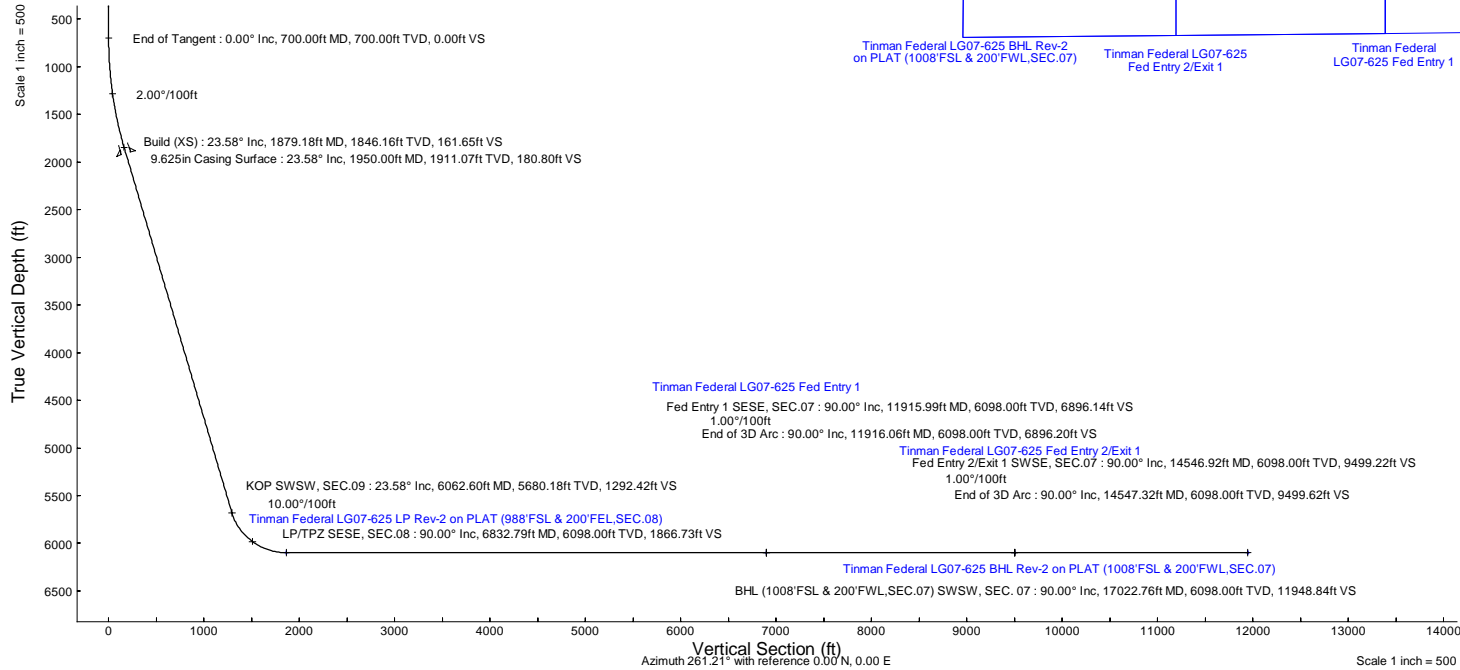
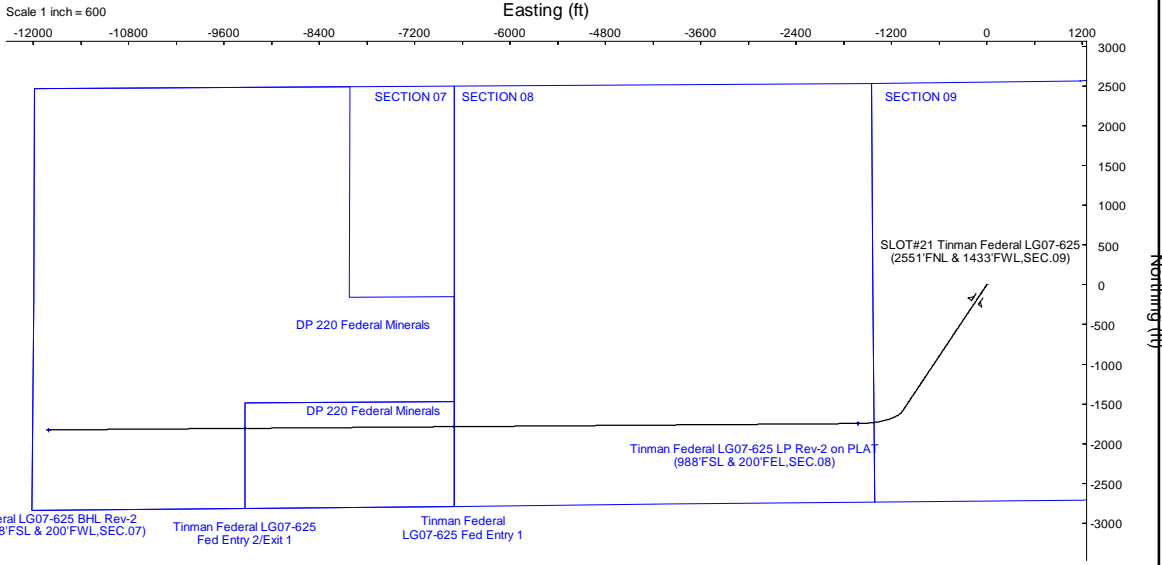
**Plot reference wellpath is Tinman Federal LG07-625 (REV-C.0) PWP**  
 Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet  
 True vertical depths are referenced to (4806GL+30KB@4836RKB) (RKB)  
 North Reference: Grid north  
 Reference wellpath measured depths are referenced to (4806GL+30KB@4836RKB) (RKB)  
 Scale: True distance  
 (4806GL+30KB@4836RKB) (RKB) to Mean Sea Level: 4836 feet  
 Coordinates are in feet referenced to Slot  
 Mean Sea Level to Ground level (At Slot: SLOT#21 Tinman Federal LG07-625 (2551 FNL & 1433 FWL, SEC.09)): 0 feet  
 Depths are in feet  
 Offset wellpath MDs are referenced to each path's default MD datum  
 Created by: guemler on 2024-02-28, Database: WellArchivDB

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	213.706	30.00	0.00	0.00	0.00	0.00
End of Tangent	700.00	0.000	213.706	700.00	0.00	0.00	0.00	0.00
Build (XS)	1879.18	23.584	213.706	1846.16	-199.05	-132.78	2.00	161.65
KOP SWSW, SEC.09	6062.60	23.584	213.706	5680.18	-1591.42	-1061.59	0.00	1292.42
LP/TPZ SESE, SEC.08	6832.79	90.000	269.549	6098.00	-1746.75	-1618.70	10.00	1866.73
Fed Entry 1 SESE, SEC.07	11915.99	90.000	269.549	6098.00	-1786.78	-6701.75	0.00	6896.14
End of 3D Arc	11916.06	90.000	269.548	6098.00	-1786.78	-6701.81	1.00	6896.20
Fed Entry 2/Exit 1 SWSE, SEC.07	14546.92	90.000	269.548	6098.00	-1807.53	-9332.59	0.00	9499.22
End of 3D Arc	14547.32	90.000	269.552	6098.00	-1807.53	-9332.99	1.00	9499.62
BHL (1008'FSL & 200'FWL, SEC.07) SWSW, SEC. 07	17022.76	90.000	269.552	6098.00	-1826.88	-11808.36	0.00	11948.84

Location Information					
Facility Name	Grid East (US Ft)	Grid North (US Ft)	Latitude	Longitude	
SEC.09-T08N-R59W	3419979.808	1495319.089	40°40'59.5200"N	103°59'8.3400"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US Ft)	Grid North (US Ft)	Latitude
SLOT#21 Tinman Federal LG07-625 (2551 FNL & 1433 FWL, SEC.09)	-2215.51	17.59	3419997.396	1493103.615	40°40'37.6284"N
(4806GL+30KB@4836RKB) (RKB) to Ground level (At Slot: SLOT#21 Tinman Federal LG07-625 (2551 FNL & 1433 FWL, SEC.09))					4836ft
Mean Sea Level to Ground level (At Slot: SLOT#21 Tinman Federal LG07-625 (2551 FNL & 1433 FWL, SEC.09))					0ft
(4806GL+30KB@4836RKB) (RKB) to Mean Sea Level					4836ft

Targets								
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US Ft)	Grid North (US Ft)	Latitude	Longitude
SECTION 09 LG 09-03-785	NA	-55.00	2219.08	319.38	3420316.77	1495322.66	40°40'59.4984"N	103°59'3.9660"W
SECTION 07 LG 09-06-785	NA	0.00	106.05	-106.12	3419891.28	1493209.66	40°40'38.6940"N	103°59'9.9564"W
SECTION 08 LG 09-06-785	NA	0.00	106.05	-106.12	3419891.28	1493209.66	40°40'38.6940"N	103°59'9.9564"W
Tinman Federal LG07-625 BHL Rev-1 (1008'FSL & 200'FWL, SEC.07)	NA	6098.00	-1827.02	-11808.37	3408189.23	1491276.63	40°40'21.5422"N	104°01'42.2329"W
Tinman Federal LG07-625 BHL Rev-2 on PLAT (1008'FSL & 200'FWL, SEC.07)	17022.76	6098.00	-1826.88	-11808.36	3408189.24	1491276.77	40°40'21.5436"N	104°01'42.2329"W
Tinman Federal LG07-625 Fed Entry 1	11915.99	6098.00	-1786.79	-6701.75	3413295.77	1491216.87	40°40'21.0972"N	104°00'36.9604"W
Tinman Federal LG07-625 Fed Entry 2/Exit 1	14546.92	6098.00	-1807.53	-9332.59	3410864.97	1491296.12	40°40'21.3278"N	104°01'10.1028"W
Tinman Federal LG07-625 LP Rev-1 (988'FSL & 200'FWL, SEC.08)	NA	6098.00	-1747.18	-1618.71	3418378.72	1491356.47	40°40'20.6384"N	103°59'29.9942"W
Tinman Federal LG07-625 LP Rev-2 on PLAT (988'FSL & 200'FWL, SEC.08)	6832.79	6098.00	-1746.75	-1618.70	3418378.73	1491356.90	40°40'20.6436"N	103°59'29.9940"W
DP 220 Federal Minerals B	NA	6291.00	105.66	-85.40	3419912.00	1493209.27	40°40'38.6867"N	103°59'9.6876"W
DP 220 Federal Minerals C	NA	6291.00	105.66	-85.40	3419912.00	1493209.27	40°40'38.6867"N	103°59'9.6876"W

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 LG07-625 PWB
1950.00	17260.74	OWSG MWD rev2	OWSG MWD rev2 (MS+IFR1)		Tinman Federal LG07-625 PWB



N  
 W + E  
 BGM (1900.0 to 2024.0) Dp: 66.80° Field: 51932.1 mT  
 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 LG07-625 (REV-C.0) PWP  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'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	0.999984	Report Generated	2/28/2024 at 3:40:15 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	-2215.51	17.59	3419997.40	1493103.62	40°40'37.6284"N	103°59'8.6028"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	(4806'GL+30'KB@4836'RKB) (RKB) to Facility Vertical Datum	4836.00ft
Horizontal Reference Pt	Slot	(4806'GL+30'KB@4836'RKB) (RKB) to Mean Sea Level	4836.00ft
Vertical Reference Pt	(4806'GL+30'KB@4836'RKB) (RKB)	(4806'GL+30'KB@4836'RKB) (RKB) to Ground Level at Slot (SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'FWL,SEC.09))	4836.00ft
MD Reference Pt	(4806'GL+30'KB@4836'RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	261.21°



# Planned Wellpath Report

Tinman Federal LG07-625 (REV-C.0) PWP  
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**REFERENCE WELLPATH IDENTIFICATION**

Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'FWL,SEC.09)		

**WELLPATH DATA (193 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	213.706	0.00	0.00	0.00	0.00	40°40'37.6284"N	103°59'8.6028"W	0.00	
30.00	0.000	213.706	30.00	0.00	0.00	0.00	40°40'37.6284"N	103°59'8.6028"W	0.00	SHL SENW, SEC.09
130.00†	0.000	213.706	130.00	0.00	0.00	0.00	40°40'37.6284"N	103°59'8.6028"W	0.00	
230.00†	0.000	213.706	230.00	0.00	0.00	0.00	40°40'37.6284"N	103°59'8.6028"W	0.00	
330.00†	0.000	213.706	330.00	0.00	0.00	0.00	40°40'37.6284"N	103°59'8.6028"W	0.00	
356.00†	0.000	213.706	356.00	0.00	0.00	0.00	40°40'37.6284"N	103°59'8.6028"W	0.00	FOXHILLS-BASE PROD
430.00†	0.000	213.706	430.00	0.00	0.00	0.00	40°40'37.6284"N	103°59'8.6028"W	0.00	
530.00†	0.000	213.706	530.00	0.00	0.00	0.00	40°40'37.6284"N	103°59'8.6028"W	0.00	
630.00†	0.000	213.706	630.00	0.00	0.00	0.00	40°40'37.6284"N	103°59'8.6028"W	0.00	
700.00	0.000	213.706	700.00	0.00	0.00	0.00	40°40'37.6284"N	103°59'8.6028"W	0.00	End of Tangent
730.00†	0.600	213.706	730.00	0.11	-0.13	-0.09	40°40'37.6271"N	103°59'8.6040"W	2.00	
830.00†	2.600	213.706	829.96	1.99	-2.45	-1.64	40°40'37.6044"N	103°59'8.6246"W	2.00	
930.00†	4.600	213.706	929.75	6.23	-7.68	-5.12	40°40'37.5534"N	103°59'8.6710"W	2.00	
1030.00†	6.600	213.706	1029.27	12.83	-15.79	-10.54	40°40'37.4741"N	103°59'8.7430"W	2.00	
1130.00†	8.600	213.706	1128.39	21.76	-26.80	-17.87	40°40'37.3667"N	103°59'8.8407"W	2.00	
1132.64†	8.653	213.706	1131.00	22.03	-27.13	-18.09	40°40'37.3635"N	103°59'8.8436"W	2.00	PIERRE (UPPER) AQUIFER TOP
1230.00†	10.600	213.706	1226.98	33.03	-40.67	-27.13	40°40'37.2312"N	103°59'8.9639"W	2.00	
1330.00†	12.600	213.706	1324.93	46.61	-57.40	-38.29	40°40'37.0678"N	103°59'9.1124"W	2.00	
1430.00†	14.600	213.706	1422.13	62.50	-76.96	-51.33	40°40'36.8768"N	103°59'9.2860"W	2.00	
1530.00†	16.600	213.706	1518.44	80.66	-99.33	-66.26	40°40'36.6583"N	103°59'9.4846"W	2.00	
1630.00†	18.600	213.706	1613.75	101.09	-124.48	-83.04	40°40'36.4126"N	103°59'9.7079"W	2.00	
1730.00†	20.600	213.706	1707.95	123.75	-152.38	-101.65	40°40'36.1400"N	103°59'9.9557"W	2.00	
1746.09†	20.922	213.706	1723.00	127.61	-157.13	-104.82	40°40'36.0937"N	103°59'9.9978"W	2.00	PIERRE (UPPER) AQUIFER BASE
1830.00†	22.600	213.706	1800.93	148.62	-183.01	-122.08	40°40'35.8409"N	103°59'10.2275"W	2.00	
1879.18	23.584	213.706	1846.16	161.65	-199.05	-132.78	40°40'35.6842"N	103°59'10.3700"W	2.00	Build (XS)
1930.00†	23.584	213.706	1892.74	175.39	-215.97	-144.06	40°40'35.5190"N	103°59'10.5202"W	0.00	
2030.00†	23.584	213.706	1984.39	202.42	-249.25	-166.27	40°40'35.1939"N	103°59'10.8156"W	0.00	
2130.00†	23.584	213.706	2076.03	229.45	-282.53	-188.47	40°40'34.8689"N	103°59'11.1111"W	0.00	
2230.00†	23.584	213.706	2167.68	256.48	-315.81	-210.67	40°40'34.5438"N	103°59'11.4066"W	0.00	
2330.00†	23.584	213.706	2259.33	283.51	-349.10	-232.87	40°40'34.2187"N	103°59'11.7021"W	0.00	
2430.00†	23.584	213.706	2350.98	310.54	-382.38	-255.07	40°40'33.8936"N	103°59'11.9976"W	0.00	
2530.00†	23.584	213.706	2442.63	337.57	-415.66	-277.28	40°40'33.5685"N	103°59'12.2930"W	0.00	
2630.00†	23.584	213.706	2534.27	364.60	-448.95	-299.48	40°40'33.2434"N	103°59'12.5885"W	0.00	
2730.00†	23.584	213.706	2625.92	391.63	-482.23	-321.68	40°40'32.9184"N	103°59'12.8840"W	0.00	
2830.00†	23.584	213.706	2717.57	418.66	-515.51	-343.88	40°40'32.5933"N	103°59'13.1795"W	0.00	
2930.00†	23.584	213.706	2809.22	445.69	-548.80	-366.09	40°40'32.2682"N	103°59'13.4750"W	0.00	
3030.00†	23.584	213.706	2900.86	472.72	-582.08	-388.29	40°40'31.9431"N	103°59'13.7704"W	0.00	
3130.00†	23.584	213.706	2992.51	499.75	-615.36	-410.49	40°40'31.6180"N	103°59'14.0659"W	0.00	
3230.00†	23.584	213.706	3084.16	526.78	-648.64	-432.69	40°40'31.2929"N	103°59'14.3614"W	0.00	
3328.03†	23.584	213.706	3174.00	553.27	-681.27	-454.46	40°40'30.9743"N	103°59'14.6510"W	0.00	PARKMAN
3330.00†	23.584	213.706	3175.81	553.81	-681.93	-454.89	40°40'30.9679"N	103°59'14.6569"W	0.00	
3430.00†	23.584	213.706	3267.46	580.84	-715.21	-477.10	40°40'30.6428"N	103°59'14.9523"W	0.00	
3530.00†	23.584	213.706	3359.10	607.87	-748.49	-499.30	40°40'30.3177"N	103°59'15.2478"W	0.00	
3630.00†	23.584	213.706	3450.75	634.90	-781.78	-521.50	40°40'29.9926"N	103°59'15.5433"W	0.00	
3730.00†	23.584	213.706	3542.40	661.93	-815.06	-543.70	40°40'29.6675"N	103°59'15.8387"W	0.00	

## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'FWL,SEC.09)		

## WELLPATH DATA (193 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3830.00†	23.584	213.706	3634.05	688.96	-848.34	-565.90	40°40'29.3424"N	103°59'16.1342"W	0.00	
3930.00†	23.584	213.706	3725.69	715.98	-881.63	-588.11	40°40'29.0173"N	103°59'16.4297"W	0.00	
4030.00†	23.584	213.706	3817.34	743.01	-914.91	-610.31	40°40'28.6923"N	103°59'16.7251"W	0.00	
4079.82†	23.584	213.706	3863.00	756.48	-931.49	-621.37	40°40'28.5303"N	103°59'16.8723"W	0.00	SUSSEX
4130.00†	23.584	213.706	3908.99	770.04	-948.19	-632.51	40°40'28.3672"N	103°59'17.0206"W	0.00	
4230.00†	23.584	213.706	4000.64	797.07	-981.47	-654.71	40°40'28.0421"N	103°59'17.3161"W	0.00	
4330.00†	23.584	213.706	4092.29	824.10	-1014.76	-676.91	40°40'27.7170"N	103°59'17.6115"W	0.00	
4430.00†	23.584	213.706	4183.93	851.13	-1048.04	-699.12	40°40'27.3919"N	103°59'17.9070"W	0.00	
4530.00†	23.584	213.706	4275.58	878.16	-1081.32	-721.32	40°40'27.0668"N	103°59'18.2025"W	0.00	
4630.00†	23.584	213.706	4367.23	905.19	-1114.61	-743.52	40°40'26.7417"N	103°59'18.4979"W	0.00	
4730.00†	23.584	213.706	4458.88	932.22	-1147.89	-765.72	40°40'26.4166"N	103°59'18.7934"W	0.00	
4794.51†	23.584	213.706	4518.00	949.66	-1169.36	-780.05	40°40'26.2069"N	103°59'18.9840"W	0.00	SHANNON
4830.00†	23.584	213.706	4550.52	959.25	-1181.17	-787.92	40°40'26.0916"N	103°59'19.0889"W	0.00	
4930.00†	23.584	213.706	4642.17	986.28	-1214.45	-810.13	40°40'25.7665"N	103°59'19.3843"W	0.00	
5030.00†	23.584	213.706	4733.82	1013.31	-1247.74	-832.33	40°40'25.4414"N	103°59'19.6798"W	0.00	
5130.00†	23.584	213.706	4825.47	1040.34	-1281.02	-854.53	40°40'25.1163"N	103°59'19.9752"W	0.00	
5230.00†	23.584	213.706	4917.12	1067.37	-1314.30	-876.73	40°40'24.7912"N	103°59'20.2707"W	0.00	
5330.00†	23.584	213.706	5008.76	1094.40	-1347.59	-898.94	40°40'24.4661"N	103°59'20.5662"W	0.00	
5430.00†	23.584	213.706	5100.41	1121.43	-1380.87	-921.14	40°40'24.1410"N	103°59'20.8616"W	0.00	
5530.00†	23.584	213.706	5192.06	1148.46	-1414.15	-943.34	40°40'23.8159"N	103°59'21.1571"W	0.00	
5630.00†	23.584	213.706	5283.71	1175.49	-1447.44	-965.54	40°40'23.4909"N	103°59'21.4525"W	0.00	
5643.41†	23.584	213.706	5296.00	1179.12	-1451.90	-968.52	40°40'23.4472"N	103°59'21.4922"W	0.00	TEPEE BUTTES
5730.00†	23.584	213.706	5375.35	1202.52	-1480.72	-987.74	40°40'23.1658"N	103°59'21.7480"W	0.00	
5809.27†	23.584	213.706	5448.00	1223.95	-1507.10	-1005.34	40°40'22.9081"N	103°59'21.9822"W	0.00	TEPEE BUTTES
5830.00†	23.584	213.706	5467.00	1229.55	-1514.00	-1009.95	40°40'22.8407"N	103°59'22.0434"W	0.00	
5930.00†	23.584	213.706	5558.65	1256.58	-1547.28	-1032.15	40°40'22.5156"N	103°59'22.3389"W	0.00	
6030.00†	23.584	213.706	5650.30	1283.61	-1580.57	-1054.35	40°40'22.1905"N	103°59'22.6343"W	0.00	
6062.60	23.584	213.706	5680.18	1292.42	-1591.42	-1061.59	40°40'22.0845"N	103°59'22.7307"W	0.00	KOP SWSW, SEC.09
6130.00†	27.706	226.084	5740.97	1314.37	-1613.53	-1080.38	40°40'21.8692"N	103°59'22.9794"W	10.00	
6230.00†	35.236	238.790	5826.29	1360.17	-1644.68	-1121.90	40°40'21.5685"N	103°59'23.5251"W	10.00	
6330.00†	43.664	247.308	5903.50	1420.50	-1673.01	-1178.57	40°40'21.2980"N	103°59'24.2666"W	10.00	
6399.32†	49.791	251.768	5951.00	1469.90	-1690.55	-1225.84	40°40'21.1328"N	103°59'24.8839"W	10.00	INTRA SHARON SPGS MK
6423.08†	51.927	253.111	5966.00	1488.11	-1696.11	-1243.41	40°40'21.0808"N	103°59'25.1131"W	10.00	SHARON SPRING MKR
6430.00†	52.552	253.487	5970.24	1493.53	-1697.68	-1248.65	40°40'21.0662"N	103°59'25.1815"W	10.00	
6465.46†	55.771	255.322	5991.00	1522.07	-1705.40	-1276.34	40°40'20.9946"N	103°59'25.5424"W	10.00	NIO A CHALK
6516.58†	60.456	257.734	6018.00	1565.32	-1715.48	-1318.54	40°40'20.9020"N	103°59'26.0923"W	10.00	NIO A MARL
6530.00†	61.692	258.329	6024.49	1577.04	-1717.92	-1330.03	40°40'20.8799"N	103°59'26.2419"W	10.00	
6630.00†	70.976	262.394	6064.60	1668.50	-1733.12	-1420.22	40°40'20.7449"N	103°59'27.4156"W	10.00	
6730.00†	80.339	266.023	6089.35	1765.12	-1742.82	-1516.49	40°40'20.6652"N	103°59'28.6669"W	10.00	
6754.67†	82.656	266.880	6093.00	1789.42	-1744.33	-1540.84	40°40'20.6544"N	103°59'28.9832"W	10.00	NIO B CHALK
6830.00†	89.738	269.454	6097.99	1863.97	-1746.72	-1615.91	40°40'20.6434"N	103°59'29.9578"W	10.00	
6832.79	90.000	269.549	6098.00†	1866.73	-1746.75	-1618.70	40°40'20.6436"N	103°59'29.9940"W	10.00	LP/TPZ SESE, SEC.08
6930.00†	90.000	269.549	6098.00	1962.91	-1747.51	-1715.91	40°40'20.6524"N	103°59'31.2556"W	0.00	
7030.00†	90.000	269.549	6098.00	2061.85	-1748.30	-1815.90	40°40'20.6614"N	103°59'32.5533"W	0.00	
7130.00†	90.000	269.549	6098.00	2160.80	-1749.09	-1915.90	40°40'20.6704"N	103°59'33.8510"W	0.00	



# Planned Wellpath Report

Tinman Federal LG07-625 (REV-C.0) PWP  
Page 4 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'FWL,SEC.09)		

WELLPATH DATA (193 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	269.549	6098.00	2259.74	-1749.87	-2015.90	40°40'20.6794"N	103°59'35.1488"W	0.00	
7330.00†	90.000	269.549	6098.00	2358.68	-1750.66	-2115.89	40°40'20.6884"N	103°59'36.4465"W	0.00	
7430.00†	90.000	269.549	6098.00	2457.62	-1751.45	-2215.89	40°40'20.6974"N	103°59'37.7442"W	0.00	
7530.00†	90.000	269.549	6098.00	2556.56	-1752.24	-2315.89	40°40'20.7064"N	103°59'39.0419"W	0.00	
7630.00†	90.000	269.549	6098.00	2655.50	-1753.02	-2415.89	40°40'20.7154"N	103°59'40.3397"W	0.00	
7730.00†	90.000	269.549	6098.00	2754.45	-1753.81	-2515.88	40°40'20.7244"N	103°59'41.6374"W	0.00	
7830.00†	90.000	269.549	6098.00	2853.39	-1754.60	-2615.88	40°40'20.7334"N	103°59'42.9351"W	0.00	
7930.00†	90.000	269.549	6098.00	2952.33	-1755.39	-2715.88	40°40'20.7424"N	103°59'44.2329"W	0.00	
8030.00†	90.000	269.549	6098.00	3051.27	-1756.17	-2815.87	40°40'20.7514"N	103°59'45.5306"W	0.00	
8130.00†	90.000	269.549	6098.00	3150.21	-1756.96	-2915.87	40°40'20.7603"N	103°59'46.8283"W	0.00	
8230.00†	90.000	269.549	6098.00	3249.15	-1757.75	-3015.87	40°40'20.7693"N	103°59'48.1261"W	0.00	
8330.00†	90.000	269.549	6098.00	3348.10	-1758.54	-3115.86	40°40'20.7783"N	103°59'49.4238"W	0.00	
8430.00†	90.000	269.549	6098.00	3447.04	-1759.32	-3215.86	40°40'20.7872"N	103°59'50.7215"W	0.00	
8530.00†	90.000	269.549	6098.00	3545.98	-1760.11	-3315.86	40°40'20.7962"N	103°59'52.0193"W	0.00	
8630.00†	90.000	269.549	6098.00	3644.92	-1760.90	-3415.85	40°40'20.8052"N	103°59'53.3170"W	0.00	
8730.00†	90.000	269.549	6098.00	3743.86	-1761.69	-3515.85	40°40'20.8141"N	103°59'54.6147"W	0.00	
8830.00†	90.000	269.549	6098.00	3842.80	-1762.47	-3615.85	40°40'20.8231"N	103°59'55.9124"W	0.00	
8930.00†	90.000	269.549	6098.00	3941.75	-1763.26	-3715.85	40°40'20.8320"N	103°59'57.2102"W	0.00	
9030.00†	90.000	269.549	6098.00	4040.69	-1764.05	-3815.84	40°40'20.8409"N	103°59'58.5079"W	0.00	
9130.00†	90.000	269.549	6098.00	4139.63	-1764.84	-3915.84	40°40'20.8499"N	103°59'59.8056"W	0.00	
9230.00†	90.000	269.549	6098.00	4238.57	-1765.63	-4015.84	40°40'20.8588"N	104°00'1.1034"W	0.00	
9330.00†	90.000	269.549	6098.00	4337.51	-1766.41	-4115.83	40°40'20.8677"N	104°00'2.4011"W	0.00	
9430.00†	90.000	269.549	6098.00	4436.45	-1767.20	-4215.83	40°40'20.8767"N	104°00'3.6988"W	0.00	
9530.00†	90.000	269.549	6098.00	4535.40	-1767.99	-4315.83	40°40'20.8856"N	104°00'4.9966"W	0.00	
9630.00†	90.000	269.549	6098.00	4634.34	-1768.78	-4415.82	40°40'20.8945"N	104°00'6.2943"W	0.00	
9730.00†	90.000	269.549	6098.00	4733.28	-1769.56	-4515.82	40°40'20.9034"N	104°00'7.5920"W	0.00	
9830.00†	90.000	269.549	6098.00	4832.22	-1770.35	-4615.82	40°40'20.9123"N	104°00'8.8898"W	0.00	
9930.00†	90.000	269.549	6098.00	4931.16	-1771.14	-4715.81	40°40'20.9212"N	104°00'10.1875"W	0.00	
10030.00†	90.000	269.549	6098.00	5030.10	-1771.93	-4815.81	40°40'20.9301"N	104°00'11.4852"W	0.00	
10130.00†	90.000	269.549	6098.00	5129.05	-1772.71	-4915.81	40°40'20.9390"N	104°00'12.7830"W	0.00	
10230.00†	90.000	269.549	6098.00	5227.99	-1773.50	-5015.80	40°40'20.9479"N	104°00'14.0807"W	0.00	
10330.00†	90.000	269.549	6098.00	5326.93	-1774.29	-5115.80	40°40'20.9568"N	104°00'15.3784"W	0.00	
10430.00†	90.000	269.549	6098.00	5425.87	-1775.08	-5215.80	40°40'20.9657"N	104°00'16.6762"W	0.00	
10530.00†	90.000	269.549	6098.00	5524.81	-1775.86	-5315.80	40°40'20.9745"N	104°00'17.9739"W	0.00	
10630.00†	90.000	269.549	6098.00	5623.75	-1776.65	-5415.79	40°40'20.9834"N	104°00'19.2716"W	0.00	
10730.00†	90.000	269.549	6098.00	5722.70	-1777.44	-5515.79	40°40'20.9923"N	104°00'20.5694"W	0.00	
10830.00†	90.000	269.549	6098.00	5821.64	-1778.23	-5615.79	40°40'21.0012"N	104°00'21.8671"W	0.00	
10930.00†	90.000	269.549	6098.00	5920.58	-1779.01	-5715.78	40°40'21.0100"N	104°00'23.1648"W	0.00	
11030.00†	90.000	269.549	6098.00	6019.52	-1779.80	-5815.78	40°40'21.0189"N	104°00'24.4626"W	0.00	
11130.00†	90.000	269.549	6098.00	6118.46	-1780.59	-5915.78	40°40'21.0277"N	104°00'25.7603"W	0.00	
11230.00†	90.000	269.549	6098.00	6217.40	-1781.38	-6015.77	40°40'21.0366"N	104°00'27.0580"W	0.00	
11330.00†	90.000	269.549	6098.00	6316.35	-1782.16	-6115.77	40°40'21.0454"N	104°00'28.3558"W	0.00	
11430.00†	90.000	269.549	6098.00	6415.29	-1782.95	-6215.77	40°40'21.0543"N	104°00'29.6535"W	0.00	
11530.00†	90.000	269.549	6098.00	6514.23	-1783.74	-6315.76	40°40'21.0631"N	104°00'30.9512"W	0.00	
11630.00†	90.000	269.549	6098.00	6613.17	-1784.53	-6415.76	40°40'21.0720"N	104°00'32.2490"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'FWL,SEC.09)		

**WELLPATH DATA (193 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	269.549	6098.00	6712.11	-1785.31	-6515.76	40°40'21.0808"N	104°00'33.5467"W	0.00	
11830.00†	90.000	269.549	6098.00	6811.05	-1786.10	-6615.76	40°40'21.0896"N	104°00'34.8444"W	0.00	
11915.99	90.000	269.549	6098.00 <sup>2</sup>	6896.14	-1786.78	-6701.75	40°40'21.0972"N	104°00'35.9604"W	0.00	Fed Entry 1 SESE, SEC.07
11916.06	90.000	269.548	6098.00	6896.20	-1786.78	-6701.81	40°40'21.0972"N	104°00'35.9612"W	1.00	End of 3D Arc
11930.00†	90.000	269.548	6098.00	6910.00	-1786.89	-6715.75	40°40'21.0984"N	104°00'36.1422"W	0.00	
12030.00†	90.000	269.548	6098.00	7008.94	-1787.68	-6815.75	40°40'21.1072"N	104°00'37.4399"W	0.00	
12130.00†	90.000	269.548	6098.00	7107.88	-1788.47	-6915.75	40°40'21.1160"N	104°00'38.7376"W	0.00	
12230.00†	90.000	269.548	6098.00	7206.82	-1789.25	-7015.74	40°40'21.1248"N	104°00'40.0354"W	0.00	
12330.00†	90.000	269.548	6098.00	7305.76	-1790.04	-7115.74	40°40'21.1336"N	104°00'41.3331"W	0.00	
12430.00†	90.000	269.548	6098.00	7404.70	-1790.83	-7215.74	40°40'21.1424"N	104°00'42.6308"W	0.00	
12530.00†	90.000	269.548	6098.00	7503.65	-1791.62	-7315.73	40°40'21.1512"N	104°00'43.9286"W	0.00	
12630.00†	90.000	269.548	6098.00	7602.59	-1792.41	-7415.73	40°40'21.1600"N	104°00'45.2263"W	0.00	
12730.00†	90.000	269.548	6098.00	7701.53	-1793.20	-7515.73	40°40'21.1688"N	104°00'46.5240"W	0.00	
12830.00†	90.000	269.548	6098.00	7800.47	-1793.99	-7615.72	40°40'21.1776"N	104°00'47.8218"W	0.00	
12930.00†	90.000	269.548	6098.00	7899.41	-1794.78	-7715.72	40°40'21.1863"N	104°00'49.1195"W	0.00	
13030.00†	90.000	269.548	6098.00	7998.35	-1795.56	-7815.72	40°40'21.1951"N	104°00'50.4172"W	0.00	
13130.00†	90.000	269.548	6098.00	8097.30	-1796.35	-7915.71	40°40'21.2039"N	104°00'51.7150"W	0.00	
13230.00†	90.000	269.548	6098.00	8196.24	-1797.14	-8015.71	40°40'21.2126"N	104°00'53.0127"W	0.00	
13330.00†	90.000	269.548	6098.00	8295.18	-1797.93	-8115.71	40°40'21.2214"N	104°00'54.3104"W	0.00	
13430.00†	90.000	269.548	6098.00	8394.12	-1798.72	-8215.71	40°40'21.2301"N	104°00'55.6082"W	0.00	
13530.00†	90.000	269.548	6098.00	8493.06	-1799.51	-8315.70	40°40'21.2389"N	104°00'56.9059"W	0.00	
13630.00†	90.000	269.548	6098.00	8592.01	-1800.30	-8415.70	40°40'21.2476"N	104°00'58.2036"W	0.00	
13730.00†	90.000	269.548	6098.00	8690.95	-1801.08	-8515.70	40°40'21.2564"N	104°00'59.5014"W	0.00	
13830.00†	90.000	269.548	6098.00	8789.89	-1801.87	-8615.69	40°40'21.2651"N	104°01'0.7991"W	0.00	
13930.00†	90.000	269.548	6098.00	8888.83	-1802.66	-8715.69	40°40'21.2738"N	104°01'2.0969"W	0.00	
14030.00†	90.000	269.548	6098.00	8987.77	-1803.45	-8815.69	40°40'21.2826"N	104°01'3.3946"W	0.00	
14130.00†	90.000	269.548	6098.00	9086.71	-1804.24	-8915.68	40°40'21.2913"N	104°01'4.6923"W	0.00	
14230.00†	90.000	269.548	6098.00	9185.66	-1805.03	-9015.68	40°40'21.3000"N	104°01'5.9901"W	0.00	
14330.00†	90.000	269.548	6098.00	9284.60	-1805.82	-9115.68	40°40'21.3087"N	104°01'7.2878"W	0.00	
14430.00†	90.000	269.548	6098.00	9383.54	-1806.61	-9215.67	40°40'21.3174"N	104°01'8.5855"W	0.00	
14530.00†	90.000	269.548	6098.00	9482.48	-1807.39	-9315.67	40°40'21.3261"N	104°01'9.8833"W	0.00	
14546.92	90.000	269.548	6098.00 <sup>3</sup>	9499.22	-1807.53	-9332.59	40°40'21.3276"N	104°01'10.1028"W	0.00	Fed Entry 2/Exit 1 SWSE, SEC.07
14547.32	90.000	269.552	6098.00	9499.62	-1807.53	-9332.99	40°40'21.3276"N	104°01'10.1080"W	1.00	End of 3D Arc
14630.00†	90.000	269.552	6098.00	9581.42	-1808.18	-9415.67	40°40'21.3349"N	104°01'11.1810"W	0.00	
14730.00†	90.000	269.552	6098.00	9680.36	-1808.96	-9515.67	40°40'21.3437"N	104°01'12.4787"W	0.00	
14830.00†	90.000	269.552	6098.00	9779.30	-1809.74	-9615.66	40°40'21.3524"N	104°01'13.7765"W	0.00	
14930.00†	90.000	269.552	6098.00	9878.25	-1810.52	-9715.66	40°40'21.3612"N	104°01'15.0742"W	0.00	
15030.00†	90.000	269.552	6098.00	9977.19	-1811.30	-9815.66	40°40'21.3699"N	104°01'16.3720"W	0.00	
15130.00†	90.000	269.552	6098.00	10076.13	-1812.09	-9915.65	40°40'21.3787"N	104°01'17.6697"W	0.00	
15230.00†	90.000	269.552	6098.00	10175.07	-1812.87	-10015.65	40°40'21.3874"N	104°01'18.9674"W	0.00	
15330.00†	90.000	269.552	6098.00	10274.01	-1813.65	-10115.65	40°40'21.3962"N	104°01'20.2652"W	0.00	
15430.00†	90.000	269.552	6098.00	10372.95	-1814.43	-10215.64	40°40'21.4049"N	104°01'21.5629"W	0.00	
15530.00†	90.000	269.552	6098.00	10471.89	-1815.21	-10315.64	40°40'21.4137"N	104°01'22.8606"W	0.00	
15630.00†	90.000	269.552	6098.00	10570.83	-1815.99	-10415.64	40°40'21.4224"N	104°01'24.1584"W	0.00	
15730.00†	90.000	269.552	6098.00	10669.77	-1816.78	-10515.63	40°40'21.4311"N	104°01'25.4561"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'FWL,SEC.09)		

WELLPATH DATA (193 stations) † = interpolated, ‡ = extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
15830.00†	90.000	269.552	6098.00	10768.71	-1817.56	-10615.63	40°40'21.4398"N	104°01'26.7538"W	0.00	
15930.00†	90.000	269.552	6098.00	10867.65	-1818.34	-10715.63	40°40'21.4486"N	104°01'28.0516"W	0.00	
16030.00†	90.000	269.552	6098.00	10966.59	-1819.12	-10815.63	40°40'21.4573"N	104°01'29.3493"W	0.00	
16130.00†	90.000	269.552	6098.00	11065.53	-1819.90	-10915.62	40°40'21.4660"N	104°01'30.6471"W	0.00	
16230.00†	90.000	269.552	6098.00	11164.48	-1820.68	-11015.62	40°40'21.4747"N	104°01'31.9448"W	0.00	
16330.00†	90.000	269.552	6098.00	11263.42	-1821.47	-11115.62	40°40'21.4834"N	104°01'33.2425"W	0.00	
16430.00†	90.000	269.552	6098.00	11362.36	-1822.25	-11215.61	40°40'21.4921"N	104°01'34.5403"W	0.00	
16530.00†	90.000	269.552	6098.00	11461.30	-1823.03	-11315.61	40°40'21.5008"N	104°01'35.8380"W	0.00	
16630.00†	90.000	269.552	6098.00	11560.24	-1823.81	-11415.61	40°40'21.5095"N	104°01'37.1357"W	0.00	
16730.00†	90.000	269.552	6098.00	11659.18	-1824.59	-11515.60	40°40'21.5182"N	104°01'38.4335"W	0.00	
16830.00†	90.000	269.552	6098.00	11758.12	-1825.37	-11615.60	40°40'21.5269"N	104°01'39.7312"W	0.00	
16930.00†	90.000	269.552	6098.00	11857.06	-1826.15	-11715.60	40°40'21.5356"N	104°01'41.0290"W	0.00	
17022.76	90.000	269.552	6098.00‡	11948.84	-1826.88	-11808.36	40°40'21.5436"N	104°01'42.2328"W	0.00	BHL (1008'FSL & 200'FWL,SEC.07) SWSW, SEC. 07

HOLE & CASING SECTIONS - Ref Wellbore: Tinman Federal LG07-625 PWB    Ref Wellpath: Tinman Federal LG07-625 (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	1911.07	0.00	0.00	-222.62	-148.50
8.5in Open Hole	1950.00	17022.76	15072.76	1911.07	6098.00	-222.62	-148.50	-1826.88	-11808.36

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'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	-55.00	2219.08	319.38	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	0.00	106.05	-106.12	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	0.00	106.05	-106.12	3419891.28	1493209.66	40°40'38.6940"N	103°59'9.9564"W	polygon
2D Polygon: dimensions not calculated									
Tinman Federal LG07-625 BHL Rev-1 (1008'FSL & 200'FWL,SEC.07)	N/A	6098.00	-1827.02	-11808.37	<b>3408189.23</b>	<b>1491276.63</b>	40°40'21.5422"N	104°01'42.2329"W	point
4) Tinman Federal LG07-625 BHL Rev-2 on PLAT (1008'FSL & 200'FWL,SEC.07)	17022.76	6098.00	-1826.88	-11808.36	3408189.24	1491276.77	<b>40°40'21.5436"N</b>	<b>104°01'42.2328"W</b>	point
2) Tinman Federal LG07-625 Fed Entry 1	11915.99	6098.00	-1786.78	-6701.75	3413295.77	1491316.87	<b>40°40'21.0972"N</b>	<b>104°00'35.9604"W</b>	point
3) Tinman Federal LG07-625 Fed Entry 2/Exit 1	14546.92	6098.00	-1807.53	-9332.59	3410664.97	1491296.12	<b>40°40'21.3276"N</b>	<b>104°01'10.1028"W</b>	point
Tinman Federal LG07-625 LP Rev-1 (988'FSL & 200'FEL,SEC.08)	N/A	6098.00	-1747.18	-1618.71	<b>3418378.72</b>	<b>1491356.47</b>	40°40'20.6394"N	103°59'29.9942"W	point
1) Tinman Federal LG07-625 LP Rev-2 on PLAT (988'FSL & 200'FEL,SEC.08)	6832.79	6098.00	-1746.75	-1618.70	3418378.73	1491356.90	<b>40°40'20.6436"N</b>	<b>103°59'29.9940"W</b>	point
DP 220 Federal Minerals B	N/A	6291.00	105.66	-85.40	3419912.00	1493209.27	40°40'38.6867"N	103°59'9.6876"W	polygon
2D Polygon: dimensions not calculated									
DP 220 Federal Minerals C	N/A	6291.00	105.66	-85.40	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 LG07-625 PWB    Ref Wellpath: Tinman Federal LG07-625 (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 LG07-625 PWB
1950.00	17260.74	OWSG MWD rev2 (MS+IFR1)		Tinman Federal LG07-625 PWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'FWL,SEC.09)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
356.00	0.000	213.706	356.00	FOXHILLS-BASE PROD
1132.64	8.653	213.706	1131.00	PIERRE (UPPER) AQUIFER TOP
1746.09	20.922	213.706	1723.00	PIERRE (UPPER) AQUIFER BASE
3328.03	23.584	213.706	3174.00	PARKMAN
4079.82	23.584	213.706	3863.00	SUSSEX
4794.51	23.584	213.706	4518.00	SHANNON
5643.41	23.584	213.706	5296.00	TEPEE BUTTES
5809.27	23.584	213.706	5448.00	TEPEE BUTTES
6399.32	49.791	251.768	5951.00	INTRA SHARON SPGS MK
6423.08	51.927	253.111	5966.00	SHARON SPRING MKR
6465.46	55.771	255.322	5991.00	NIO A CHALK
6516.58	60.456	257.734	6018.00	NIO A MARL
6754.67	82.656	266.880	6093.00	NIO B CHALK

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
30.00	0.000	213.706	30.00	SHL SENW, SEC.09
700.00	0.000	213.706	700.00	End of Tangent
1879.18	23.584	213.706	1846.16	Build (XS)
6062.60	23.584	213.706	5680.18	KOP SWSW, SEC.09
6832.79	90.000	269.549	6098.00	LP/TPZ SESE, SEC.08
11915.99	90.000	269.549	6098.00	Fed Entry 1 SESE, SEC.07
11916.06	90.000	269.548	6098.00	End of 3D Arc
14546.92	90.000	269.548	6098.00	Fed Entry 2/Exit 1 SWSE, SEC.07
14547.32	90.000	269.552	6098.00	End of 3D Arc
17022.76	90.000	269.552	6098.00	BHL (1008'FSL & 200'FWL,SEC.07) SWSW, SEC. 07



# Closest Approach Clearance Summary Report

Tinman Federal LG07-625 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'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	0.999984	Report Generated	2/28/2024 at 3:49:31 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	-2215.51	17.59	3419997.40	1493103.62	40°40'37.6284"N	103°59'8.6028"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	(4806'GL+30'KB@4836'RKB) (RKB) to Facility Vertical Datum	4836.00ft
Horizontal Reference Pt	Slot	(4806'GL+30'KB@4836'RKB) (RKB) to Mean Sea Level	4836.00ft
Vertical Reference Pt	(4806'GL+30'KB@4836'RKB) (RKB)	(4806'GL+30'KB@4836'RKB) (RKB) to Ground Level at Slot (SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'FWL,SEC.09))	4836.00ft
MD Reference Pt	(4806'GL+30'KB@4836'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 LG07-625 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'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 LG07-625 PWB    Ref Wellpath: Tinman Federal LG07-625 (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	1911.07	0.00	0.00	-222.62	-148.50
8.5in Open Hole	1950.00	17022.76	15072.76	1911.07	6098.00	-222.62	-148.50	-1826.88	-11808.36

SURVEY PROGRAM - Ref Wellbore: Tinman Federal LG07-625 PWB    Ref Wellpath: Tinman Federal LG07-625 (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 LG07-625 PWB
1950.00	17260.74	OWSG MWD rev2 (MS+IFR1)		Tinman Federal LG07-625 PWB



# Closest Approach Clearance Summary Report

Tinman Federal LG07-625 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'FWL,SEC.09)		

CALCULATION RANGE & CUTOFF		
From: 30.00ft MD	To: 17022.76ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (28 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			Rule Status
						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]	
LG Section 08	(WELD PAWNEE #11-8 (DA))	WELD PAWNEE #11-8 (05-123-14194)	WELD PAWNEE #11-8	WELD PAWNEE #11-8\No Surveys	Drilling	9957.85	931.33	9957.85	9957.85	0.12	9957.85	FAIL
LG Section 08	(FEDERAL PC #LG08-12 (PR))	FEDERAL PC #LG08-12 (05-123-34244)	FEDERAL PC #LG08-12	FEDERAL PC #LG08-12\No Surveys	Drilling	11253.72	979.80	11253.72	11253.73	0.13	11253.73	FAIL
LG Section 08	(FEDERAL G #4-8 (PA))	FEDERAL G #4-8 (05-123-14371)	FEDERAL G #4-8	FEDERAL G #4-8\No Surveys	Drilling	11243.69	3575.85	11243.69	11244.15	0.48	11244.15	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	6324.59	98.59	6324.59	6328.06	1.19	6328.06	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	22.32	430.00	17022.76	1.89	17022.76	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	30.00	22.58	700.00	17012.76	1.89	17012.76	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	30.00	45.10	700.00	17013.45	3.80	17013.45	PASS
SEC.14-T08N-R60W	SLOT#01 BOOMSLANG FED 8-60 14A-13-18-2 (1369'FNL & 974'FEL,SEC.14)	BOOMSLANG FED 8-60 14A-13-18-2 (05-123-46656)	BOOMSLANG FED 8-60 14A-13-18-2 AWB	BOOMSLANG FED 8-60 14A-13-18-2 AWP	Drilling	16338.05	1375.78	17022.76	17022.76	4.91	17022.76	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	30.00	67.68	700.00	17022.76	5.70	17022.76	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	17022.76	542.14	17022.76	17022.76	5.71	17022.76	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	90.20	700.00	17022.76	7.60	17022.76	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	6178.06	691.66	6178.06	6206.82	8.89	6206.82	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	30.00	112.52	630.00	17022.76	9.49	17022.76	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	135.10	430.00	17022.76	11.40	17022.76	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	6061.87	1214.52	6061.87	6118.94	16.15	6118.94	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	6061.87	1214.52	6061.87	6118.94	16.15	6118.94	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	3798.34	700.00	6343.16	24.17	6343.16	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	5987.21	1778.68	5987.21	6155.99	24.56	6155.99	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	612.00	4181.73	5330.00	6287.51	32.41	6287.51	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	745.56	2142.25	745.56	8635.25	74.54	8635.25	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	715.13	2147.56	715.13	6580.68	81.42	8230.00	PASS
SEC.16-T08N-R59W	SLOT#01 BIG MOUNTAIN VIPER FED 8-59-16-17-18-1(2467'FSL & 635'FWL,SEC.16)	BIG MOUNTAIN VIPER FED 8-59-16-17-18-1 (05-123-50834)	BIG MOUNTAIN VIPER FED 8-59-16-17-18-1 AWB	BIG MOUNTAIN VIPER FED 8-59-16-17-18-1 AWP	Drilling	3632.58	4901.00	3632.58	10741.39	82.62	10741.39	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	2151.76	700.00	6580.42	87.46	6580.42	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	2155.75	700.00	6580.22	92.62	6580.22	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	2160.27	700.00	6580.05	97.06	6580.05	PASS



# Closest Approach Clearance Summary Report

Tinman Federal LG07-625 (REV-C.0) PWP - SPE WPTS Stop Drilling HSE Risk (2017)  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	Tinman Federal LG07-625
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.09-T08N-R59W	Wellbore	Tinman Federal LG07-625 PWB
Slot	SLOT#21 Tinman Federal LG07-625 (2551'FNL & 1433'FWL,SEC.09)		

CALCULATION RANGE & CUTOFF		
From: 30.00ft MD	To: 17022.76ft MD	C-C Cutoff: (none)

OFFSET WELL CLEARANCE SUMMARY (28 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#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	2165.01	700.00	6579.95	105.46	6579.95	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	2169.98	630.00	6579.89	115.08	12530.00	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	2175.16	430.00	6579.87	125.15	12530.00	PASS