

NOBLE ENERGY, INC

Location: COLORADO
Field: WELD COUNTY (NOBLE NAD 83)
Facility: SEC.24-T3N-R65W
Slot: Slot #1 Gurtler H 25-27 636°FSL & 838°FEL
Well: Gurtler H 25-27
Wellbore: Gurtler H 25-27 PWB



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Scale 1 inch = 400

Easting (ft)

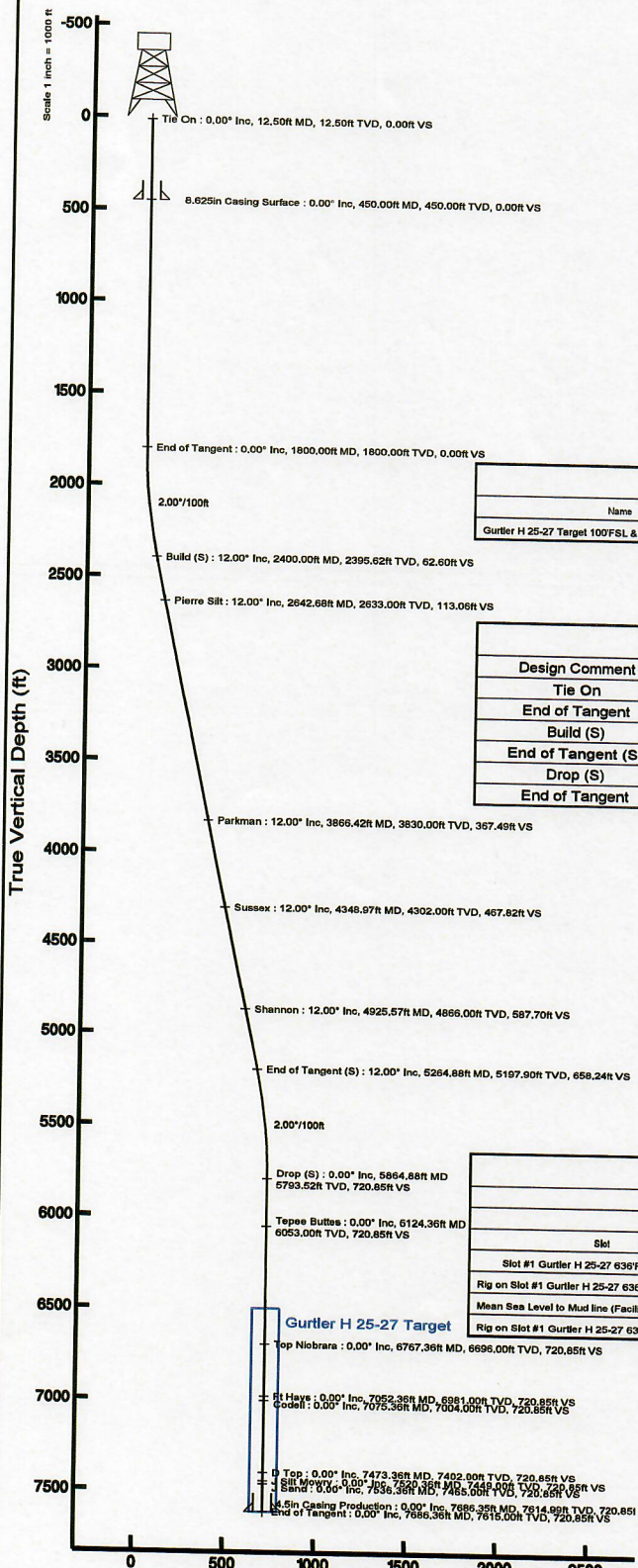
-800 -600 -400 -200 0 200 400

Slot #2 Gurtler 24-16J Existing VW
662°FSL & 875°FEL

Slot #1 Gurtler H 25-27
636°FSL & 838°FEL

Gurtler H 25-27 Target 100' Radius
Center @ BHL 100°FSL & 1320°FEL

Northing (ft)



Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (USft)	Grid North (USft)	Latitude	Longitude
Gurtler H 25-27 Target 100°FSL & 1320°FEL		6500.00	-536.00	-482.00	3249306.88	1318300.82	40° 12' 13.279"N	104° 36' 26.732"W

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	12.50	0.000	221.964	12.50	0.00	0.00	0.00	0.00
End of Tangent	1800.00	0.000	221.964	1800.00	0.00	0.00	0.00	0.00
Build (S)	2400.00	12.000	221.964	2395.62	-46.55	-41.86	2.00	62.60
End of Tangent (S)	5264.88	12.000	221.964	5197.90	-489.45	-440.14	0.00	658.24
Drop (S)	5864.88	0.000	221.964	5793.52	-536.00	-482.00	2.00	720.85
End of Tangent	7686.36	0.000	221.964	7615.00	-536.00	-482.00	0.00	720.85

Location Information

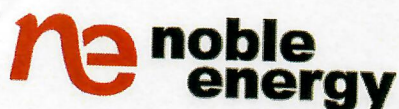
Facility Name			Grid East (USft)	Grid North (USft)	Latitude	Longitude
SEC.24-T3N-R65W			3249783.404	1318841.725	40° 12' 18.576"N	104° 36' 20.520"W
Slot	Local N (ft)	Local E (ft)	Grid East (USft)	Grid North (USft)	Latitude	Longitude
Slot #1 Gurtler H 25-27 636°FSL & 838°FEL	0.00	0.00	3249783.404	1318841.725	40° 12' 18.576"N	104° 36' 20.520"W
Rig on Slot #1 Gurtler H 25-27 636°FSL & 838°FEL (RT) to Mud line (Facility - SEC.24-T3N-R65W)						4747.5ft
Mean Sea Level to Mud line (Facility - SEC.24-T3N-R65W)						0ft
Rig on Slot #1 Gurtler H 25-27 636°FSL & 838°FEL (RT) to Mean Sea Level						4747.5ft

Vertical Section (ft)
Azimuth 221.96° with reference 0.00 N, 0.00 E from wellhead



BGM (1945.0 to 2000.0) Dip: 67.08° Field: 83484.4 nT
Magnetic North is 9.29 degrees East of True North (at 08/23/07)

To correct azimuth from Magnetic to True add 9.29 degrees



Planned Wellpath Report

Gurtler H 25-27 PWB

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	Slot #1 Gurtler H 25-27 636'FSL & 838'FEL
Area	COLORADO	Well	Gurtler H 25-27
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Gurtler H 25-27 PWB
Facility	SEC.24-T3N-R65W		

REPORT SETUP INFORMATION

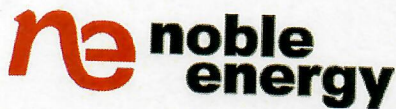
Projection System	NAD83 / Lambert Colorado State Planes, Northern Zone (501), US feet	Software System	WellArchitect™ 1.2
North Reference	True	User	Suzanne Thompson
Scale	0.999957	Report Generated	08/28/07 at 16:19:06
Wellbore last revised	06/04/07	Database/Source file	WA_Denver/Gurtler

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North [feet]	East [feet]	Easting [US feet]	Northing [US feet]	Latitude [°]	Longitude [°]
Slot Location	0.00	0.00	3249783.40	1318841.73	40 12 18.576N	104 36 20.520W
Facility Reference Pt			3249783.40	1318841.73	40 12 18.576N	104 36 20.520W
Field Reference Pt			3000000.00	4454105.15	48 46 34.315N	105 30 00.000W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on Slot #1 Gurtler H 25-27 636'FSL & 838'FEL (RT) to Facility Vertical Datum	4747.50
Horizontal Reference Pt	Slot	Rig on Slot #1 Gurtler H 25-27 636'FSL & 838'FEL (RT) to Mean Sea Level	4747.50
Vertical Reference Pt	Rig on Slot #1 Gurtler H 25-27 636'FSL & 838'FEL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00 feet
MD Reference Pt	Rig on Slot #1 Gurtler H 25-27 636'FSL & 838'FEL (RT)	Section Origin	N 0.00, 1
Field Vertical Reference	Mean Sea Level	Section Azimuth	221.96°



Planned Wellpath Report

Gurtler H 25-27 PWP
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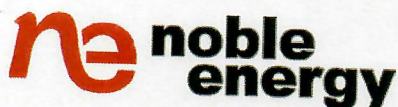


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Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Gurtler H 25-27 PWB
Facility	SEC.24-T3N-R65W		

WELLPATH DATA (83 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
0.00†	0.000	221.964	0.00	0.00	0.00	0.00	0.00
12.50	0.000	221.964	12.50	0.00	0.00	0.00	0.00
112.50†	0.000	0.000	112.50	0.00	0.00	0.00	0.00
212.50†	0.000	0.000	212.50	0.00	0.00	0.00	0.00
312.50†	0.000	0.000	312.50	0.00	0.00	0.00	0.00
412.50†	0.000	0.000	412.50	0.00	0.00	0.00	0.00
512.50†	0.000	0.000	512.50	0.00	0.00	0.00	0.00
612.50†	0.000	0.000	612.50	0.00	0.00	0.00	0.00
712.50†	0.000	0.000	712.50	0.00	0.00	0.00	0.00
812.50†	0.000	0.000	812.50	0.00	0.00	0.00	0.00
912.50†	0.000	0.000	912.50	0.00	0.00	0.00	0.00
1012.50†	0.000	0.000	1012.50	0.00	0.00	0.00	0.00
1112.50†	0.000	0.000	1112.50	0.00	0.00	0.00	0.00
1212.50†	0.000	0.000	1212.50	0.00	0.00	0.00	0.00
1312.50†	0.000	0.000	1312.50	0.00	0.00	0.00	0.00
1412.50†	0.000	0.000	1412.50	0.00	0.00	0.00	0.00
1512.50†	0.000	0.000	1512.50	0.00	0.00	0.00	0.00
1612.50†	0.000	0.000	1612.50	0.00	0.00	0.00	0.00
1712.50†	0.000	0.000	1712.50	0.00	0.00	0.00	0.00
1800.00	0.000	221.964	1800.00	0.00	0.00	0.00	0.00
1812.50†	0.250	221.964	1812.50	0.03	-0.02	-0.02	2.00
1912.50†	2.250	221.964	1912.47	2.21	-1.64	-1.48	2.00
2012.50†	4.250	221.964	2012.31	7.88	-5.86	-5.27	2.00
2112.50†	6.250	221.964	2111.88	17.03	-12.66	-11.39	2.00
2212.50†	8.250	221.964	2211.08	29.65	-22.04	-19.82	2.00
2312.50†	10.250	221.964	2309.77	45.72	-34.00	-30.57	2.00
2400.00	12.000	221.964	2395.62	62.60	-46.55	-41.86	2.00
2412.50†	12.000	221.964	2407.85	65.20	-48.48	-43.60	0.00
2512.50†	12.000	221.964	2505.66	85.99	-63.94	-57.50	0.00
2612.50†	12.000	221.964	2603.48	106.78	-79.40	-71.40	0.00
2712.50†	12.000	221.964	2701.29	127.57	-94.86	-85.30	0.00
2812.50†	12.000	221.964	2799.11	148.37	-110.32	-99.21	0.00
2912.50†	12.000	221.964	2896.92	169.16	-125.78	-113.11	0.00
3012.50†	12.000	221.964	2994.74	189.95	-141.24	-127.01	0.00
3112.50†	12.000	221.964	3092.55	210.74	-156.70	-140.91	0.00
3212.50†	12.000	221.964	3190.37	231.53	-172.16	-154.81	0.00
3312.50†	12.000	221.964	3288.18	252.32	-187.62	-168.72	0.00
3412.50†	12.000	221.964	3386.00	273.11	-203.08	-182.62	0.00
3512.50†	12.000	221.964	3483.81	293.90	-218.54	-196.52	0.00
3612.50†	12.000	221.964	3581.63	314.70	-234.00	-210.42	0.00



Planned Wellpath Report

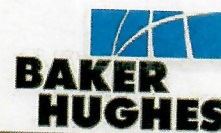
Gurtler H 25-27 PWP

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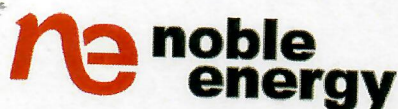
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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	Slot #1 Gurtler H 25-27 636'FSL & 838'FEL
Area	COLORADO	Well	Gurtler H 25-27
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Gurtler H 25-27 PWB
Facility	SEC.24-T3N-R65W		

WELLPATH DATA (83 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
3712.50†	12.000	221.964	3679.44	335.49	-249.46	-224.33	0.00
3812.50†	12.000	221.964	3777.26	356.28	-264.92	-238.23	0.00
3912.50†	12.000	221.964	3875.07	377.07	-280.38	-252.13	0.00
4012.50†	12.000	221.964	3972.89	397.86	-295.84	-266.03	0.00
4112.50†	12.000	221.964	4070.70	418.65	-311.30	-279.93	0.00
4212.50†	12.000	221.964	4168.52	439.44	-326.76	-293.84	0.00
4312.50†	12.000	221.964	4266.33	460.23	-342.22	-307.74	0.00
4412.50†	12.000	221.964	4364.15	481.02	-357.68	-321.64	0.00
4512.50†	12.000	221.964	4461.96	501.82	-373.14	-335.54	0.00
4612.50†	12.000	221.964	4559.77	522.61	-388.59	-349.45	0.00
4712.50†	12.000	221.964	4657.59	543.40	-404.05	-363.35	0.00
4812.50†	12.000	221.964	4755.40	564.19	-419.51	-377.25	0.00
4912.50†	12.000	221.964	4853.22	584.98	-434.97	-391.15	0.00
5012.50†	12.000	221.964	4951.03	605.77	-450.43	-405.05	0.00
5112.50†	12.000	221.964	5048.85	626.56	-465.89	-418.96	0.00
5212.50†	12.000	221.964	5146.66	647.35	-481.35	-432.86	0.00
5264.88	12.000	221.964	5197.90	658.24	-489.45	-440.14	0.00
5312.50†	11.048	221.964	5244.56	667.76	-496.52	-446.50	2.00
5412.50†	9.048	221.964	5343.02	685.20	-509.50	-458.17	2.00
5512.50†	7.048	221.964	5442.03	699.20	-519.91	-467.53	2.00
5612.50†	5.048	221.964	5541.47	709.74	-527.74	-474.57	2.00
5712.50†	3.048	221.964	5641.21	716.80	-532.99	-479.29	2.00
5812.50†	1.048	221.964	5741.14	720.37	-535.64	-481.68	2.00
5864.88	0.000	221.964	5793.52 ¹	720.85	-536.00	-482.00	2.00
5912.50†	0.000	0.000	5841.14	720.85	-536.00	-482.00	0.00
6012.50†	0.000	0.000	5941.14	720.85	-536.00	-482.00	0.00
6112.50†	0.000	0.000	6041.14	720.85	-536.00	-482.00	0.00
6212.50†	0.000	0.000	6141.14	720.85	-536.00	-482.00	0.00
6312.50†	0.000	0.000	6241.14	720.85	-536.00	-482.00	0.00
6412.50†	0.000	0.000	6341.14	720.85	-536.00	-482.00	0.00
6512.50†	0.000	0.000	6441.14	720.85	-536.00	-482.00	0.00
6612.50†	0.000	0.000	6541.14	720.85	-536.00	-482.00	0.00
6712.50†	0.000	0.000	6641.14	720.85	-536.00	-482.00	0.00
6812.50†	0.000	0.000	6741.14	720.85	-536.00	-482.00	0.00
6912.50†	0.000	0.000	6841.14	720.85	-536.00	-482.00	0.00
7012.50†	0.000	0.000	6941.14	720.85	-536.00	-482.00	0.00
7112.50†	0.000	0.000	7041.14	720.85	-536.00	-482.00	0.00
7212.50†	0.000	0.000	7141.14	720.85	-536.00	-482.00	0.00
7312.50†	0.000	0.000	7241.14	720.85	-536.00	-482.00	0.00
7412.50†	0.000	0.000	7341.14	720.85	-536.00	-482.00	0.00



Planned Wellpath Report

Gurtler H 25-27 PWP

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Area	COLORADO	Well	Gurtler H 25-27
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Gurtler H 25-27 PWB
Facility	SEC.24-T3N-R65W		

WELLPATH DATA (83 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
7512.50†	0.000	0.000	7441.14	720.85	-536.00	-482.00	0.00
7612.50†	0.000	0.000	7541.14	720.85	-536.00	-482.00	0.00
7686.36	0.000	221.964	7615.00	720.85	-536.00	-482.00	0.00

HOLE & CASING SECTIONS Ref Wellbore: Gurtler H 25-27 PWB Ref Wellpath: Gurtler H 25-27 PWP

String/Diameter	Start MD [feet]	End MD [feet]	Interval [feet]	Start TVD [feet]	End TVD [feet]	Start N/S [feet]	Start E/W [feet]	End N/S [feet]	End E/W [feet]
12.25in Open Hole	12.50	450.00	437.50	12.50	450.00	0.00	0.00	0.00	0.00
8.625in Casing Surface	12.50	450.00	437.50	12.50	450.00	0.00	0.00	0.00	0.00
7.875in Open Hole	450.00	7686.35	7236.35	450.00	7614.99	0.00	0.00	-536.00	-482.00
4.5in Casing Production	450.00	7686.35	7236.35	450.00	7614.99	0.00	0.00	-536.00	-482.00

TARGETS

Name	MD [feet]	TVD [feet]	North [feet]	East [feet]	Grid East [us survey feet]	Grid North [us survey feet]	Latitude [°]	Longitude [°]	Shape
1) Gurtler H 25-27 Target 100'FSL & 1320'FEL		6500.00	-536.00	-482.00	3249306.86	1318300.92	40 12 13.279N	104 36 26.732W	circle

SURVEY PROGRAM Ref Wellbore: Gurtler H 25-27 PWB Ref Wellpath: Gurtler H 25-27 PWP

Start MD [feet]	End MD [feet]	Positional Uncertainty Model	Log Name/Comment	Wellbore
12.50	7686.36	MTC (Collar, pre-2000) (Standard)		Gurtler H 25-27 PWB

WELLPATH COMMENTS

MD [feet]	Inclination [degrees]	Azimuth [degrees]	TVD [feet]	Comment
2642.68	12.000	221.964	2633.00	Pierre Silt
3866.42	12.000	221.964	3830.00	Parkman
4348.97	12.000	221.964	4302.00	Sussex
4925.57	12.000	221.964	4866.00	Shannon
6124.36	0.000	221.964	6053.00	Tepee Buttes
6767.36	0.000	221.964	6696.00	Top Niobrara
7052.36	0.000	221.964	6981.00	Ft Hays
7075.36	0.000	221.964	7004.00	Codell
7473.36	0.000	221.964	7402.00	D Top
7520.36	0.000	221.964	7449.00	J Silt Mowry
7536.36	0.000	221.964	7465.00	J Sand