

NOBLE ENERGY, INC

Location: COLORADO

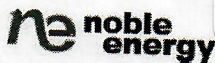
Field: WELD COUNTY (NOBLE NAD 83)

Facility: SEC.28-T2N-R67W

Slot: Slot #2 Heisman V28-13

Well: Heisman V28-13

Wellbore: Heisman V28-13



01617600

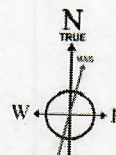


Well Profile Data

Design Comment	MD (ft)	Inc (")	Az (")	TVD (ft)	Local N (ft)	Local E (ft)	DLS ("/100ft)	VS (ft)
Tie On	16.00	0.000	229.583	16.00	0.00	0.00	0.00	0.00
End of Tangent	1800.00	0.000	229.583	1800.00	0.00	0.00	0.00	0.00
End of Build (S)	2400.00	12.000	229.583	2395.62	-40.59	-47.66	2.00	62.60
End of Tangent (S)	3635.12	12.000	229.583	3603.75	-207.08	-243.17	0.00	319.40
Drop (S)	4235.12	0.000	229.583	4199.37	-247.67	-290.83	2.00	382.00
End of Tangent	7835.74	0.000	229.583	7800.00	-247.67	-290.83	0.00	382.00

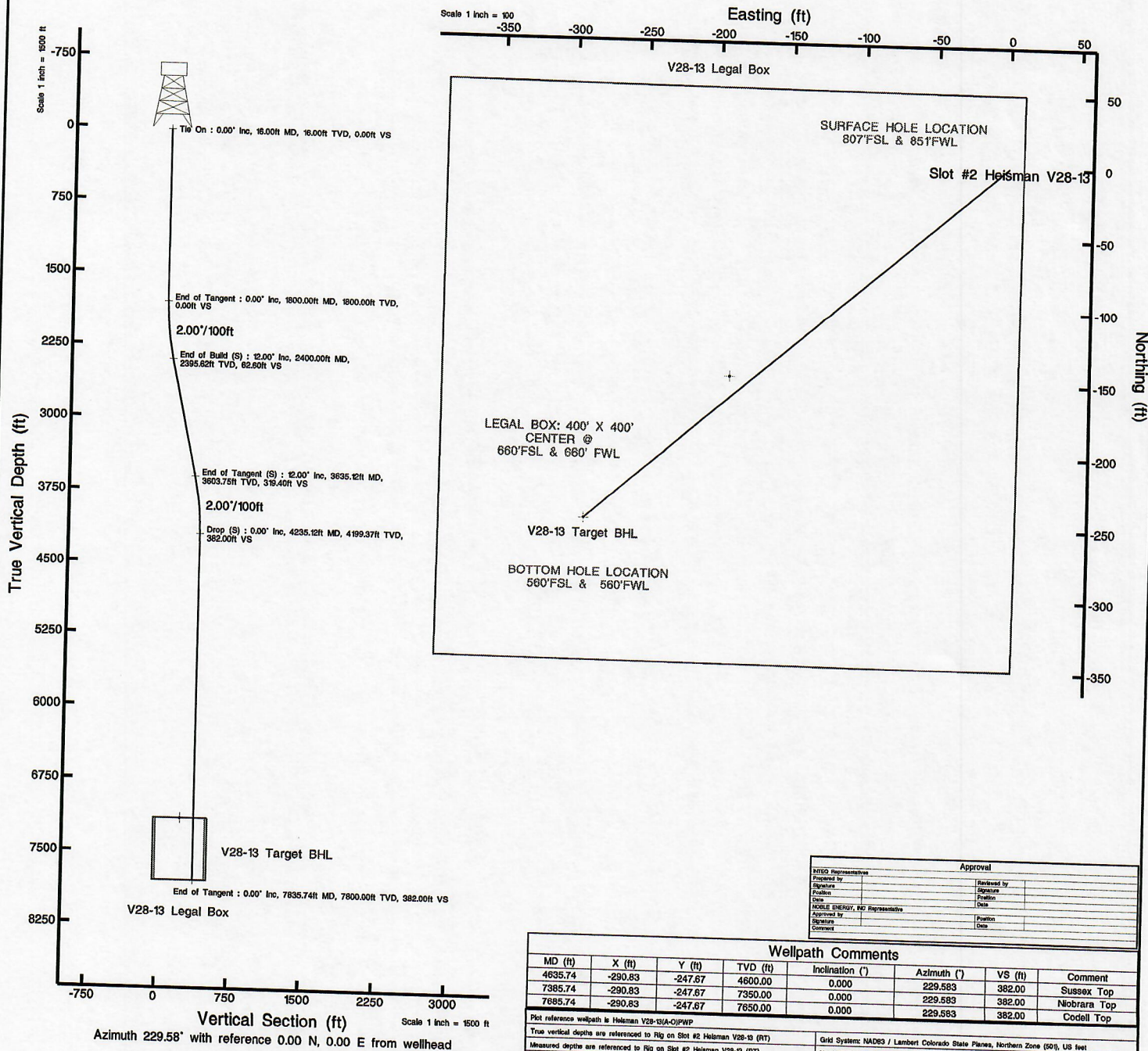
Location Information

Facility Name				Grid East (USft)	Grid North (USft)	Latitude	Longitude
SEC.28-T2N-R67W				3163650.782	1281989.023	40° 06' 21.492"N	104° 54' 53.784"W
Slot	Local N (ft)	Local E (ft)	Grid East (USft)	Grid North (USft)	Latitude	Longitude	
Slot #2 Heisman V28-13	-611.75	3600.21	3167284.802	1281401.063	40° 06' 15.444"N	104° 54' 07.452"W	
Rig on Slot #2 Heisman V28-13 (RT) to Mud line (Facility - SEC.28-T2N-R67W)				5074ft			
Mean Sea Level to Mud line (Facility - SEC.28-T2N-R67W)				0ft			
Rig on Slot #2 Heisman V28-13 (RT) to Mean Sea Level				5074ft			



BGGM (1945.0 to 2007.0) Dip: 67.01° Field: 53557.9 nT
Magnetic North is 9.62 degrees East of True North (at 03/10/06)

To correct azimuth from Magnetic to True add 9.62 degrees



Approval	
Prepared by	Reviewed by
Signature	Signature
Date	Date
NOBLE ENERGY, INC Representative	
Signature	Position
Comment	Date

Wellpath Comments

MD (ft)	X (ft)	Y (ft)	TVD (ft)	Inclination (")	Azimuth (")	VS (ft)	Comment
4635.74	-290.83	-247.67	4600.00	0.000	229.583	382.00	Sussex Top
7385.74	-290.83	-247.67	7350.00	0.000	229.583	382.00	Niobrara Top
7685.74	-290.83	-247.67	7650.00	0.000	229.583	382.00	Codell Top

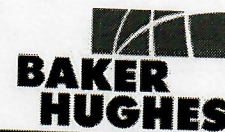
Plot reference wellpath is Heisman V28-13(A-O)PWP	
True vertical depths are referenced to Rig on Slot #2 Heisman V28-13 (RT)	Grid System: NAD83 / Lambert Colorado State Planes, Northern Zone (50), US feet
Measured depths are referenced to Rig on Slot #2 Heisman V28-13 (RT)	North Reference: True north
Rig on Slot #2 Heisman V28-13 (RT) to Mean Sea Level: 5074 feet	Scale: True distance
Mean Sea Level to Mud line (Facility - SEC.28-T2N-R67W): 0 feet	Depth are in feet
Coordinates are in feet referenced to Slot	Created by: bolocasm on 10/Mar/2006



Planned Wellpath Report

Wellpath: Heisman V28-13(A-O)PWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	Slot #2 Heisman V28-13
Area	COLORADO	Well	Heisman V28-13
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Heisman V28-13
Facility	SEC.28-T2N-R67W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado State Planes, Northern Zone (501), US feet	Software System	WellArchitect™ 1.1
North Reference	True	User	Boltcasm
Scale	0.99996	Report Generated	03/10/06 at 13:20:16
Wellbore last revised	03/10/06	Database/Source file	WA_Denver/Heisman

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North [feet]	East [feet]	Easting [US feet]	Northing [US feet]	Latitude [°]	Longitude [°]
Slot Location	-611.75	3600.21	3167254.80	1281401.06	40 06 15.444N	104 54 07.452W
Facility Reference Pt			3163650.78	1281989.02	40 06 21.492N	104 54 53.784W
Field Reference Pt			3000000.00	4454105.15	48 46 34.315N	105 30 00.000W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on Slot #2 Heisman V28-13 (RT) to Facility Vertical Datum	5074.00 feet
Horizontal Reference Pt	Slot	Rig on Slot #2 Heisman V28-13 (RT) to Mean Sea Level	5074.00 feet
Vertical Reference Pt	Rig on Slot #2 Heisman V28-13 (RT)	Facility Vertical Datum to Mud Line	0.00 feet
MD Reference Pt	Rig on Slot #2 Heisman V28-13 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	229.58°

Planned Wellpath Report

Wellpath: Heisman V28-13(A-O)PWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC		
Area	COLORADO	Slot	Slot #2 Heisman V28-13
Field	WELD COUNTY (NOBLE NAD 83)	Well	Heisman V28-13
Facility	SEC.28-T2N-R67W	Wellbore	Heisman V28-13

WELLPATH DATA (85 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
0.00†	0.000	229.583	0.00	0.00	0.00	0.00	0.00
16.00	0.000	229.583	16.00	0.00	0.00	0.00	0.00
116.00†	0.000	0.000	116.00	0.00	0.00	0.00	0.00
216.00†	0.000	0.000	216.00	0.00	0.00	0.00	0.00
316.00†	0.000	0.000	316.00	0.00	0.00	0.00	0.00
416.00†	0.000	0.000	416.00	0.00	0.00	0.00	0.00
516.00†	0.000	0.000	516.00	0.00	0.00	0.00	0.00
616.00†	0.000	0.000	616.00	0.00	0.00	0.00	0.00
716.00†	0.000	0.000	716.00	0.00	0.00	0.00	0.00
816.00†	0.000	0.000	816.00	0.00	0.00	0.00	0.00
916.00†	0.000	0.000	916.00	0.00	0.00	0.00	0.00
1016.00†	0.000	0.000	1016.00	0.00	0.00	0.00	0.00
1116.00†	0.000	0.000	1116.00	0.00	0.00	0.00	0.00
1216.00†	0.000	0.000	1216.00	0.00	0.00	0.00	0.00
1316.00†	0.000	0.000	1316.00	0.00	0.00	0.00	0.00
1416.00†	0.000	0.000	1416.00	0.00	0.00	0.00	0.00
1516.00†	0.000	0.000	1516.00	0.00	0.00	0.00	0.00
1616.00†	0.000	0.000	1616.00	0.00	0.00	0.00	0.00
1716.00†	0.000	0.000	1716.00	0.00	0.00	0.00	0.00
1800.00	0.000	229.583	1800.00	0.00	0.00	0.00	0.00
1816.00†	0.320	229.583	1816.00	0.04	-0.03	-0.03	2.00
1916.00†	2.320	229.583	1915.97	2.35	-1.52	-1.79	2.00
2016.00†	4.320	229.583	2015.80	8.14	-5.28	-6.20	2.00
2116.00†	6.320	229.583	2115.36	17.41	-11.29	-13.26	2.00
2216.00†	8.320	229.583	2214.54	30.15	-19.55	-22.96	2.00
2316.00†	10.320	229.583	2313.21	46.34	-30.05	-35.28	2.00
2400.00	12.000	229.583	2395.62	62.60	-40.59	-47.66	2.00
2416.00†	12.000	229.583	2411.27	65.93	-42.74	-50.19	0.00
2516.00†	12.000	229.583	2509.09	86.72	-56.22	-66.02	0.00
2616.00†	12.000	229.583	2606.90	107.51	-69.70	-81.85	0.00
2716.00†	12.000	229.583	2704.72	128.30	-83.18	-97.68	0.00
2816.00†	12.000	229.583	2802.53	149.09	-96.66	-113.51	0.00
2916.00†	12.000	229.583	2900.35	169.88	-110.14	-129.34	0.00
3016.00†	12.000	229.583	2998.16	190.68	-123.62	-145.17	0.00
3116.00†	12.000	229.583	3095.98	211.47	-137.10	-161.00	0.00
3216.00†	12.000	229.583	3193.79	232.26	-150.58	-176.83	0.00
3316.00†	12.000	229.583	3291.61	253.05	-164.06	-192.66	0.00
3416.00†	12.000	229.583	3389.42	273.84	-177.54	-208.49	0.00
3516.00†	12.000	229.583	3487.24	294.63	-191.02	-224.32	0.00
3616.00†	12.000	229.583	3585.05	315.42	-204.50	-240.15	0.00

Planned Wellpath Report

Wellpath: Heisman V28-13(A-O)PWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	Slot #2 Heisman V28-13
Area	COLORADO	Well	Heisman V28-13
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Heisman V28-13
Facility	SEC.28-T2N-R67W		

WELLPATH DATA (85 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
3635.12	12.000	229.583	3603.75	319.40	-207.08	-243.17	0.00
3716.00†	10.382	229.583	3683.09	335.10	-217.26	-255.12	2.00
3816.00†	8.382	229.583	3781.75	351.40	-227.83	-267.53	2.00
3916.00†	6.382	229.583	3880.92	364.24	-236.16	-277.32	2.00
4016.00†	4.382	229.583	3980.47	373.62	-242.24	-284.46	2.00
4116.00†	2.382	229.583	4080.29	379.52	-246.06	-288.95	2.00
4216.00†	0.382	229.583	4180.26	381.94	-247.63	-290.79	2.00
4235.12	0.000	229.583	4199.37†	382.00	-247.67	-290.83	2.00
4316.00†	0.000	0.000	4280.26	382.00	-247.67	-290.83	0.00
4416.00†	0.000	0.000	4380.26	382.00	-247.67	-290.83	0.00
4516.00†	0.000	0.000	4480.26	382.00	-247.67	-290.83	0.00
4616.00†	0.000	0.000	4580.26	382.00	-247.67	-290.83	0.00
4716.00†	0.000	0.000	4680.26	382.00	-247.67	-290.83	0.00
4816.00†	0.000	0.000	4780.26	382.00	-247.67	-290.83	0.00
4916.00†	0.000	0.000	4880.26	382.00	-247.67	-290.83	0.00
5016.00†	0.000	0.000	4980.26	382.00	-247.67	-290.83	0.00
5116.00†	0.000	0.000	5080.26	382.00	-247.67	-290.83	0.00
5216.00†	0.000	0.000	5180.26	382.00	-247.67	-290.83	0.00
5316.00†	0.000	0.000	5280.26	382.00	-247.67	-290.83	0.00
5416.00†	0.000	0.000	5380.26	382.00	-247.67	-290.83	0.00
5516.00†	0.000	0.000	5480.26	382.00	-247.67	-290.83	0.00
5616.00†	0.000	0.000	5580.26	382.00	-247.67	-290.83	0.00
5716.00†	0.000	0.000	5680.26	382.00	-247.67	-290.83	0.00
5816.00†	0.000	0.000	5780.26	382.00	-247.67	-290.83	0.00
5916.00†	0.000	0.000	5880.26	382.00	-247.67	-290.83	0.00
6016.00†	0.000	0.000	5980.26	382.00	-247.67	-290.83	0.00
6116.00†	0.000	0.000	6080.26	382.00	-247.67	-290.83	0.00
6216.00†	0.000	0.000	6180.26	382.00	-247.67	-290.83	0.00
6316.00†	0.000	0.000	6280.26	382.00	-247.67	-290.83	0.00
6416.00†	0.000	0.000	6380.26	382.00	-247.67	-290.83	0.00
6516.00†	0.000	0.000	6480.26	382.00	-247.67	-290.83	0.00
6616.00†	0.000	0.000	6580.26	382.00	-247.67	-290.83	0.00
6716.00†	0.000	0.000	6680.26	382.00	-247.67	-290.83	0.00
6816.00†	0.000	0.000	6780.26	382.00	-247.67	-290.83	0.00
6916.00†	0.000	0.000	6880.26	382.00	-247.67	-290.83	0.00
7016.00†	0.000	0.000	6980.26	382.00	-247.67	-290.83	0.00
7116.00†	0.000	0.000	7080.26	382.00	-247.67	-290.83	0.00
7216.00†	0.000	0.000	7180.26	382.00	-247.67	-290.83	0.00
7316.00†	0.000	0.000	7280.26	382.00	-247.67	-290.83	0.00
7416.00†	0.000	0.000	7380.26	382.00	-247.67	-290.83	0.00

Planned Wellpath Report

Wellpath: Heisman V28-13(A-O)PWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	Slot #2 Heisman V28-13
Area	COLORADO	Well	Heisman V28-13
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Heisman V28-13
Facility	SEC.28-T2N-R67W		

WELLPATH DATA (85 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
7516.00†	0.000	0.000	7480.26	382.00	-247.67	-290.83	0.00
7616.00†	0.000	0.000	7580.26	382.00	-247.67	-290.83	0.00
7716.00†	0.000	0.000	7680.26	382.00	-247.67	-290.83	0.00
7816.00†	0.000	0.000	7780.26	382.00	-247.67	-290.83	0.00
7835.74	0.000	229.583	7800.00	382.00	-247.67	-290.83	0.00

HOLE & CASING SECTIONS Ref Wellbore: Heisman V28-13 Ref Wellpath: Heisman V28-13(A-O)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	16.00	400.00	384.00	16.00	400.00	0.00	0.00	0.00	0.00
8.625in Casing Surface	16.00	400.00	384.00	16.00	400.00	0.00	0.00	0.00	0.00
7.875in Open Hole	400.00	7835.74	7435.74	400.00	7800.00	0.00	0.00	-247.67	-290.83

TARGETS

Name	MD [feet]	TVD [feet]	North [feet]	East [feet]	Grid East [us survey feet]	Grid North [us survey feet]	Latitude [°]	Longitude [°]	Shape
V28-13 Legal Box		7150.00	-147.67	-190.83	3167064.98	1281252.12	40 06 13.985N	104 54 09.908W	square
1) V28-13 Target BHL		7150.00	-247.67	-290.83	3166965.66	1281151.45	40 06 12.996N	104 54 11.195W	point

SURVEY PROGRAM Ref Wellbore: Heisman V28-13 Ref Wellpath: Heisman V28-13(A-O)PWP

Start MD [feet]	End MD [feet]	Tool Type	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	400.00	MTC (Collar, post-2000)	MTC (Collar, post-2000) (Standard)		Heisman V28-13
400.00	7835.74	MTC (Collar, post-2000)	MTC (Collar, post-2000) (Standard)		Heisman V28-13

WELLPATH COMMENTS

MD [feet]	Inclination [degrees]	Azimuth [degrees]	TVD [feet]	Comment
4635.74	0.000	229.583	4600.00	Sussex Top
7385.74	0.000	229.583	7350.00	Niobrara Top
7685.74	0.000	229.583	7650.00	Codell Top