

**ENSIGN**

## United States Drilling

# INTEO

NOBLE ENERGY, INC

Location: COLORADO

Field: WELD COUNTY (NOBLE NAD 83)

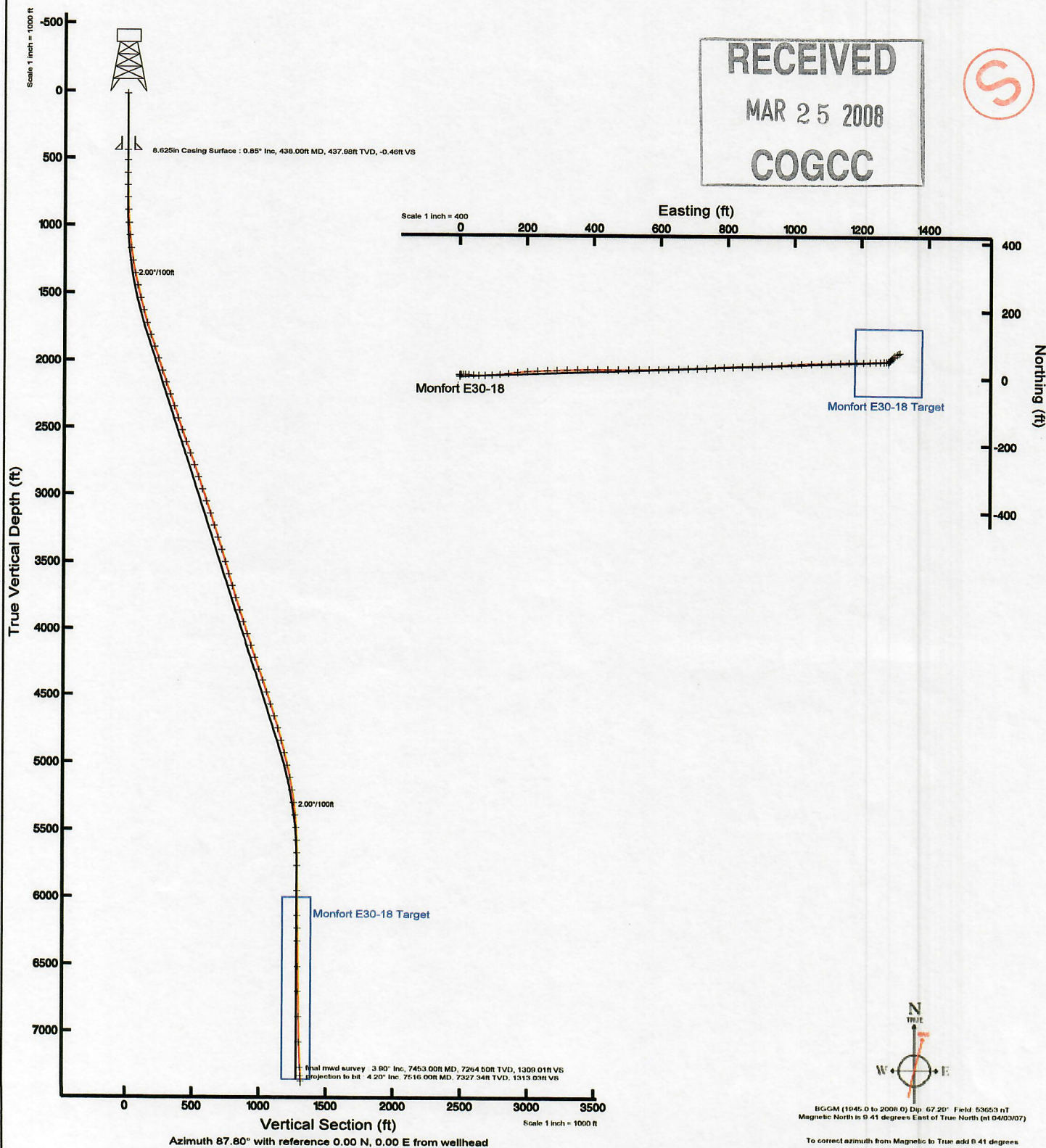
Facility: SEC.30-T6N-R65W

Slot: Monfort E30-18

Well: Monfort E30-18

Wellbore: Monfort E30-18 PWB

Plot reference wellpath is Morfort E30-18 PWP	
True vertical depths are referenced to Ensign 7 (RT)	Grid System: NAD83 / Lambert Colorado State Planes, Northern Zone (501), US feet
Measured depths are referenced to Ensign 7 (RT)	North Reference: True north
Ensign 7 (RT) to Mean Sea Level: 4749 feet	Scale: True distance
Mean Sea Level to Mud line (Facility - SEC-30-T6N-R65W): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: Suzanne Thompson on 4/30/2007



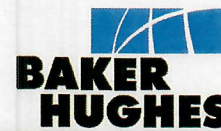




# Actual Wellpath Report

Monfort E30-18 AWP

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INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	Monfort E30-18
Area	COLORADO	Well	Monfort E30-18
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Monfort E30-18 AWB
Facility	SEC.30-T6N-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	0.999964	Report Generated	04/30/07 at 13:51:14
Wellbore last revised	04/30/07	Database/Source file	WA_Denver/Monfort

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North [feet]	East [feet]	Easting [US feet]	Northing [US feet]	Latitude [°]	Longitude [°]
Slot Location	1985.77	-3469.94	3219460.40	1412403.47	40 27 45.972N	104 42 40.608W
Facility Reference Pt			3222948.01	1410449.21	40 27 26.352N	104 41 55.716W
Field Reference Pt			3000000.00	4454105.15	48 46 34.315N	105 30 00.000W

## WELLPATH DATUM

Calculation method	Minimum curvature	Ensign 7 (RT) to Installation Vertical Datum	4749.00 feet
Horizontal Reference Pt	Slot	Ensign 7 (RT) to Mean Sea Level	4749.00 feet
Vertical Reference Pt	Ensign 7 (RT)	Installation Vertical Datum to Mud Line (Facility)	0.00 feet
MD Reference Pt	Ensign 7 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	87.80°





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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	Monfort E30-18
Area	COLORADO	Well	Monfort E30-18
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Monfort E30-18 AWP
Facility	SEC.30-T6N-R65W		

WELLPATH DATA (72 stations) † = interpolated/extrapolated station							
MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
0.00†	0.000	0.000	0.00	0.00	0.00	0.00	0.00
16.00	0.000	0.000	16.00	0.00	0.00	0.00	0.00
514.00	1.000	349.400	513.97	-0.64	4.27	-0.80	0.20
608.00	0.500	2.700	607.97	-0.72	5.49	-0.93	0.56
701.00	0.900	95.600	700.96	0.04	5.82	-0.18	1.13
795.00	1.200	86.100	794.95	1.75	5.82	1.53	0.37
889.00	1.900	84.000	888.91	4.29	6.05	4.06	0.75
983.00	3.500	90.300	982.80	8.71	6.19	8.48	1.73
1076.00	5.500	93.400	1075.51	15.99	5.92	15.77	2.17
1170.00	7.400	95.200	1168.91	26.47	5.10	26.30	2.03
1264.00	9.100	94.500	1261.94	39.86	3.97	39.74	1.81
1358.00	10.600	92.400	1354.55	55.86	3.02	55.79	1.64
1451.00	12.600	87.800	1445.65	74.53	3.05	74.47	2.37
1545.00	13.700	86.100	1537.18	95.91	4.20	95.82	1.24
1639.00	15.200	83.300	1628.21	119.33	6.40	119.17	1.76
1733.00	16.300	83.300	1718.68	144.76	9.38	144.51	1.17
1827.00	18.200	84.300	1808.44	172.57	12.37	172.22	2.05
1921.00	18.600	85.400	1897.64	202.20	15.03	201.77	0.56
2014.00	18.400	86.100	1985.83	231.69	17.22	231.20	0.32
2108.00	18.100	89.200	2075.11	261.12	18.43	260.60	1.08
2200.00	19.100	87.500	2162.30	290.46	19.29	289.93	1.24
2294.00	19.100	88.500	2251.13	321.21	20.36	320.67	0.35
2388.00	19.200	88.200	2339.92	352.05	21.25	351.49	0.15
2482.00	18.000	88.900	2429.01	382.03	22.02	381.46	1.30
2576.00	19.100	90.300	2518.13	411.91	22.21	411.36	1.26
2669.00	19.300	90.600	2605.95	442.46	21.97	441.95	0.24
2763.00	19.000	90.300	2694.75	473.27	21.73	472.78	0.34
2857.00	19.600	88.900	2783.47	504.32	21.95	503.85	0.81
2951.00	19.200	88.900	2872.13	535.54	22.55	535.07	0.43
3045.00	17.900	89.900	2961.25	565.43	22.87	564.97	1.42
3138.00	18.700	87.800	3049.54	594.62	23.47	594.16	1.11
3232.00	18.400	88.200	3138.66	624.52	24.52	624.04	0.35
3326.00	17.700	87.800	3228.03	653.65	25.53	653.15	0.76
3420.00	17.900	88.200	3317.53	682.38	26.53	681.87	0.25
3514.00	16.700	88.900	3407.28	710.33	27.25	709.81	1.30
3608.00	16.600	87.100	3497.34	737.26	28.19	736.72	0.56
3701.00	16.200	86.100	3586.56	763.51	29.74	762.94	0.53
3795.00	16.300	87.500	3676.80	789.81	31.21	789.20	0.43
3889.00	17.100	88.200	3766.84	816.82	32.22	816.19	0.88
3983.00	17.900	87.800	3856.48	845.09	33.20	844.44	0.86





# Actual Wellpath Report

Monfort E30-18 AWP  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	Monfort E30-18
Area	COLORADO	Well	Monfort E30-18
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Monfort E30-18 AWB
Facility	SEC.30-T6N-R65W		

## WELLPATH DATA (72 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
4077.00	18.500	87.800	3945.78	874.45	34.33	873.78	0.64
4171.00	18.600	86.800	4034.90	904.35	35.74	903.65	0.35
4264.00	17.500	87.100	4123.32	933.16	37.28	932.42	1.19
4357.00	18.300	86.400	4211.82	961.74	38.90	960.96	0.89
4451.00	18.900	86.400	4300.91	991.71	40.78	990.88	0.64
4545.00	18.600	87.500	4389.92	1021.93	42.39	1021.05	0.49
4638.00	18.700	88.200	4478.04	1051.66	43.51	1050.77	0.26
4732.00	18.200	89.200	4567.20	1081.41	44.19	1080.51	0.63
4826.00	17.900	87.500	4656.58	1110.53	45.02	1109.62	0.64
4920.00	16.300	87.500	4746.42	1138.17	46.23	1137.23	1.70
5014.00	15.300	87.800	4836.87	1163.76	47.28	1162.80	1.07
5108.00	13.400	89.900	4927.93	1187.05	47.77	1186.09	2.10
5201.00	12.500	89.200	5018.56	1207.88	47.93	1206.93	0.98
5295.00	11.300	86.800	5110.54	1227.26	48.59	1226.30	1.38
5388.00	9.100	89.200	5202.07	1243.73	49.20	1242.75	2.41
5482.00	7.300	88.500	5295.10	1257.13	49.46	1256.16	1.92
5576.00	5.700	88.500	5388.50	1267.77	49.74	1266.79	1.70
5669.00	3.900	87.500	5481.17	1275.55	50.00	1274.57	1.94
5763.00	2.100	93.400	5575.03	1280.46	50.04	1279.48	1.94
5857.00	0.400	46.300	5669.01	1282.42	50.16	1281.44	1.97
5952.00	0.400	49.500	5764.01	1282.93	50.60	1281.93	0.02
6139.00	0.500	46.300	5951.00	1284.05	51.59	1283.02	0.06
6327.00	1.000	50.900	6138.98	1285.98	53.19	1284.89	0.27
6420.00	0.900	43.500	6231.97	1287.15	54.24	1286.02	0.17
6514.00	1.300	41.400	6325.95	1288.42	55.57	1287.23	0.43
6702.00	0.600	47.700	6513.93	1290.64	57.83	1289.37	0.38
6889.00	1.500	41.100	6700.89	1293.07	60.34	1291.70	0.48
7077.00	1.200	42.800	6888.84	1296.15	63.64	1294.66	0.16
7265.00	2.100	53.700	7076.76	1300.39	67.12	1298.77	0.50
7453.00	3.900	62.200	7264.50	1309.01	72.14	1307.20	0.98
7516.00	4.200	62.500	7327.34	1313.03	74.20	1311.15	0.48
7564.00†	4.200	62.500	7375.21	1316.20	75.83	1314.26	0.00

## HOLE & CASING SECTIONS Ref Wellbore: Monfort E30-18 AWB Ref Wellpath: Monfort E30-18 AWP

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	438.00	422.00	16.00	437.98	0.00	0.00	3.07	-0.57
8.625in Casing Surface	16.00	438.00	422.00	16.00	437.98	0.00	0.00	3.07	-0.57
7.78in Open Hole	438.00	7564.00	7126.00	437.98	7375.21	3.07	-0.57	75.83	1314.26





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Monfort E30-18 AWP

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INTEQ

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Area	COLORADO	Well	Monfort E30-18
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Monfort E30-18 AWB
Facility	SEC.30-T6N-R65W		

## TARGETS

Name	MD [feet]	TVD [feet]	North [feet]	East [feet]	Grid East [us survey feet]	Grid North [us survey feet]	Latitude [°]	Longitude [°]	Shape
Monfort E30-18 Target		6000.00	49.09	1280.40	3220740.27	1412463.95	40 27 46.457N	104 42 24.043W	square

## WELLPATH COMPOSITION Ref Wellbore: Monfort E30-18 AWB Ref Wellpath: Monfort E30-18 AWP

Start MD [feet]	End MD [feet]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	7516.00	NaviTrak (Standard)	BHI MWD <514-7564>	Monfort E30-18 AWB
7516.00	7564.00	Blind Drilling (std)	Projection to bit	Monfort E30-18 AWB

## WELLPATH COMMENTS

MD [feet]	Inclination [degrees]	Azimuth [degrees]	TVD [feet]	Comment
7453.00	3.900	62.200	7264.50	final mwd survey
7516.00	4.200	62.500	7327.34	projection to bit