ENSIGN Directional

Well Name: Embree C10-20D

Surface Location: Embree C10-20D Sec.10-T4N-R64W

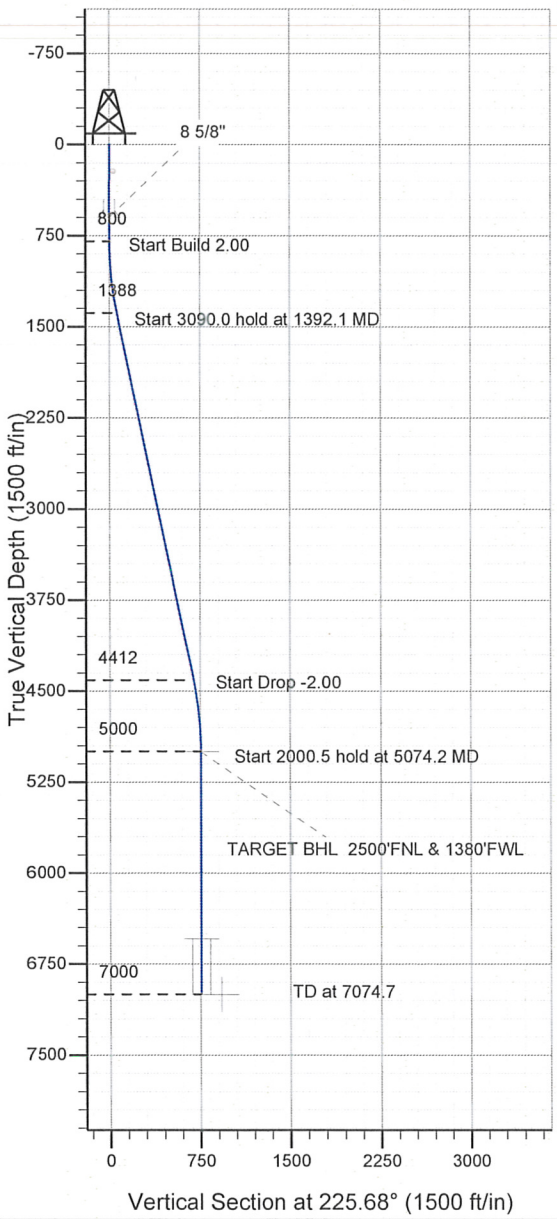
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

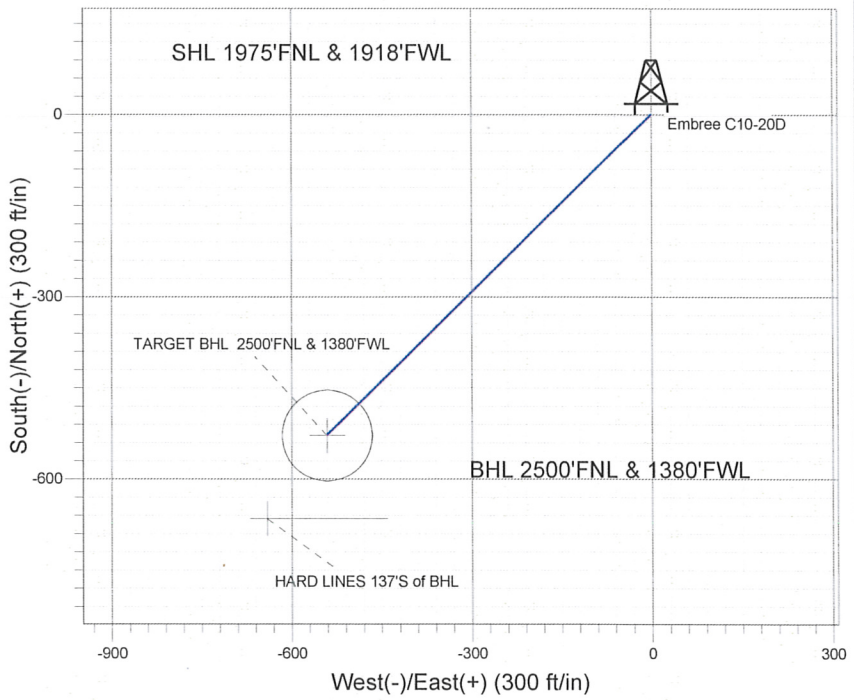
Ground Elevation: 4663.0

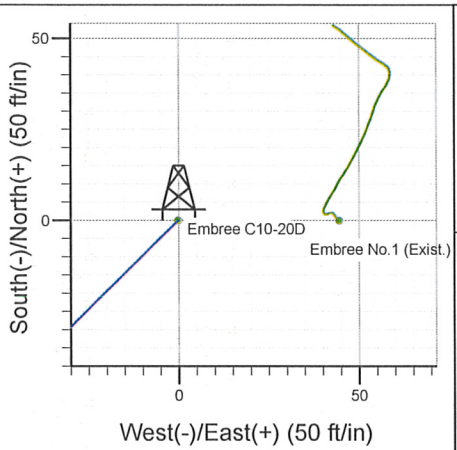
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
0.0	0.0	1364037.47	3267874.52	40° 19' 43.320 N	104° 32' 21.048 W	

Original Well Elev WELL @ 4676.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO







Embree C10-20D Sec.10-T4N-R64W
Embree C10-20D
Noble Embree C10-20D Plan #2 (11-17-10)
7:27, November 18 2010

Azimuths to True North
Magnetic North: 8.81°

Magnetic Field
Strength: 53180.2snT
Dip Angle: 67.05°
Date: 11/18/2010
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2500'FNL & 1380'FWL	5000.0	-528.2	-540.9	40° 19' 38.100 N	104° 32' 28.032 W	Point
TARGET CIRCLE 2500'FNL & 1380'FWL	6541.0	-528.2	-540.9	40° 19' 38.100 N	104° 32' 28.032 W	Circle (Radius: 75.0)
HARD LINES 137'S of BHL	7001.0	-665.2	-640.9	40° 19' 36.746 N	104° 32' 29.323 W	Polygon

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1392.1	11.84	225.68	1387.9	-42.6	-43.6	2.00	225.68	61.0	
4	4482.1	11.84	225.68	4412.1	-485.6	-497.3	0.00	0.00	695.1	
5	5074.2	0.00	0.00	5000.0	-528.2	-540.9	2.00	180.00	756.1	TARGET BHL 2500'FNL & 1380'FWL
6	7074.7	0.00	0.00	7000.5	-528.2	-540.9	0.00	0.00	756.1	

ENSIGN
Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.10-T4N-R64W
Embree C10-20D Sec.10-T4N-R64W
Embree C10-20D

Embree C10-20D

Plan: Noble Embree C10-20D Plan #2 (11-17-10)

Standard Planning Report

18 November, 2010

noble energy

Database:	Landmark	**Local Co-ordinate Reference:**	Well Embree C10-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	**TVD Reference:**	WELL @ 4676.0ft (Original Well Elev)
Project:	SEC.10-T4N-R64W	**MD Reference:**	WELL @ 4676.0ft (Original Well Elev)
Site:	Embree C10-20D Sec.10-T4N-R64W	**North Reference:**	True
Well:	Embree C10-20D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Embree C10-20D		
Design:	Noble Embree C10-20D Plan #2 (11-17-10)		

Project SEC.10-T4N-R64W

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site Embree C10-20D Sec.10-T4N-R64W

Site Position:		**Northing:**	1,364,037.49 ft	**Latitude:**	40° 19' 43.320 N
From:	Lat/Long	**Easting:**	3,267,874.52 ft	**Longitude:**	104° 32' 21.048 W
Position Uncertainty:	0.0 ft	**Slot Radius:**	"	**Grid Convergence:**	0.62 °

Well Embree C10-20D

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,364,037.47 ft	**Latitude:**	40° 19' 43.320 N
	+E/-W	0.0 ft	**Easting:**	3,267,874.52 ft	**Longitude:**	104° 32' 21.048 W
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,663.0 ft

Wellbore Embree C10-20D

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/12/2007	9.18	67.16	53,505
	IGRF2010	11/18/2010	8.81	67.05	53,180

Design Noble Embree C10-20D Plan #2 (11-17-10)

Audit Notes:

Version:	**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	225.68

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,392.1	11.84	225.68	1,387.9	-42.6	-43.6	2.00	2.00	0.00	225.68	
4,482.1	11.84	225.68	4,412.1	-485.6	-497.3	0.00	0.00	0.00	0.00	
5,074.2	0.00	0.00	5,000.0	-528.2	-540.9	2.00	-2.00	0.00	180.00	TARGET BHL 250
7,074.7	0.00	0.00	7,000.5	-528.2	-540.9	0.00	0.00	0.00	0.00	

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Project:	SEC.10-T4N-R64W	**MD Reference:**	WELL @ 4676.0ft (Original Well Elev)
Site:	Embree C10-20D Sec.10-T4N-R64W	**North Reference:**	True
Well:	Embree C10-20D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Embree C10-20D		
Design:	Noble Embree C10-20D Plan #2 (11-17-10)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.80	225.68	840.0	-0.2	-0.2	0.3	2.00	2.00	0.00
880.0	1.60	225.68	880.0	-0.8	-0.8	1.1	2.00	2.00	0.00
920.0	2.40	225.68	920.0	-1.8	-1.8	2.5	2.00	2.00	0.00
960.0	3.20	225.68	959.9	-3.1	-3.2	4.5	2.00	2.00	0.00
1,000.0	4.00	225.68	999.8	-4.9	-5.0	7.0	2.00	2.00	0.00
1,040.0	4.80	225.68	1,039.7	-7.0	-7.2	10.0	2.00	2.00	0.00
1,080.0	5.60	225.68	1,079.6	-9.6	-9.8	13.7	2.00	2.00	0.00
1,120.0	6.40	225.68	1,119.3	-12.5	-12.8	17.9	2.00	2.00	0.00
1,160.0	7.20	225.68	1,159.1	-15.8	-16.2	22.6	2.00	2.00	0.00
1,200.0	8.00	225.68	1,198.7	-19.5	-19.9	27.9	2.00	2.00	0.00
1,240.0	8.80	225.68	1,238.3	-23.6	-24.1	33.7	2.00	2.00	0.00
1,280.0	9.60	225.68	1,277.8	-28.0	-28.7	40.1	2.00	2.00	0.00
1,320.0	10.40	225.68	1,317.1	-32.9	-33.7	47.1	2.00	2.00	0.00
1,360.0	11.20	225.68	1,356.4	-38.1	-39.0	54.6	2.00	2.00	0.00
1,392.1	11.84	225.68	1,387.9	-42.6	-43.6	61.0	2.00	2.00	0.00
1,400.0	11.84	225.68	1,395.6	-43.7	-44.8	62.6	0.00	0.00	0.00
1,440.0	11.84	225.68	1,434.8	-49.5	-50.7	70.8	0.00	0.00	0.00
1,480.0	11.84	225.68	1,473.9	-55.2	-56.5	79.0	0.00	0.00	0.00
1,520.0	11.84	225.68	1,513.1	-60.9	-62.4	87.2	0.00	0.00	0.00
1,560.0	11.84	225.68	1,552.2	-66.7	-68.3	95.4	0.00	0.00	0.00
1,600.0	11.84	225.68	1,591.4	-72.4	-74.1	103.6	0.00	0.00	0.00
1,640.0	11.84	225.68	1,630.5	-78.1	-80.0	111.8	0.00	0.00	0.00
1,680.0	11.84	225.68	1,669.7	-83.9	-85.9	120.1	0.00	0.00	0.00
1,720.0	11.84	225.68	1,708.8	-89.6	-91.8	128.3	0.00	0.00	0.00
1,760.0	11.84	225.68	1,748.0	-95.3	-97.6	136.5	0.00	0.00	0.00
1,800.0	11.84	225.68	1,787.1	-101.1	-103.5	144.7	0.00	0.00	0.00
1,840.0	11.84	225.68	1,826.3	-106.8	-109.4	152.9	0.00	0.00	0.00
1,880.0	11.84	225.68	1,865.4	-112.6	-115.3	161.1	0.00	0.00	0.00
1,920.0	11.84	225.68	1,904.6	-118.3	-121.1	169.3	0.00	0.00	0.00
1,960.0	11.84	225.68	1,943.7	-124.0	-127.0	177.5	0.00	0.00	0.00
2,000.0	11.84	225.68	1,982.9	-129.8	-132.9	185.7	0.00	0.00	0.00
2,040.0	11.84	225.68	2,022.0	-135.5	-138.7	193.9	0.00	0.00	0.00

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Project:	SEC.10-T4N-R64W	**MD Reference:**	WELL @ 4676.0ft (Original Well Elev)
Site:	Embree C10-20D Sec.10-T4N-R64W	**North Reference:**	True
Well:	Embree C10-20D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Embree C10-20D		
Design:	Noble Embree C10-20D Plan #2 (11-17-10)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,080.0	11.84	225.68	2,061.2	-141.2	-144.6	202.1	0.00	0.00	0.00
2,120.0	11.84	225.68	2,100.3	-147.0	-150.5	210.3	0.00	0.00	0.00
2,160.0	11.84	225.68	2,139.5	-152.7	-156.4	218.6	0.00	0.00	0.00
2,200.0	11.84	225.68	2,178.6	-158.4	-162.2	226.8	0.00	0.00	0.00
2,240.0	11.84	225.68	2,217.7	-164.2	-168.1	235.0	0.00	0.00	0.00
2,280.0	11.84	225.68	2,256.9	-169.9	-174.0	243.2	0.00	0.00	0.00
2,320.0	11.84	225.68	2,296.0	-175.6	-179.9	251.4	0.00	0.00	0.00
2,360.0	11.84	225.68	2,335.2	-181.4	-185.7	259.6	0.00	0.00	0.00
2,400.0	11.84	225.68	2,374.3	-187.1	-191.6	267.8	0.00	0.00	0.00
2,440.0	11.84	225.68	2,413.5	-192.8	-197.5	276.0	0.00	0.00	0.00
2,480.0	11.84	225.68	2,452.6	-198.6	-203.3	284.2	0.00	0.00	0.00
2,520.0	11.84	225.68	2,491.8	-204.3	-209.2	292.4	0.00	0.00	0.00
2,560.0	11.84	225.68	2,530.9	-210.0	-215.1	300.6	0.00	0.00	0.00
2,600.0	11.84	225.68	2,570.1	-215.8	-221.0	308.8	0.00	0.00	0.00
2,640.0	11.84	225.68	2,609.2	-221.5	-226.8	317.1	0.00	0.00	0.00
2,680.0	11.84	225.68	2,648.4	-227.3	-232.7	325.3	0.00	0.00	0.00
2,720.0	11.84	225.68	2,687.5	-233.0	-238.6	333.5	0.00	0.00	0.00
2,760.0	11.84	225.68	2,726.7	-238.7	-244.5	341.7	0.00	0.00	0.00
2,800.0	11.84	225.68	2,765.8	-244.5	-250.3	349.9	0.00	0.00	0.00
2,840.0	11.84	225.68	2,805.0	-250.2	-256.2	358.1	0.00	0.00	0.00
2,880.0	11.84	225.68	2,844.1	-255.9	-262.1	366.3	0.00	0.00	0.00
2,920.0	11.84	225.68	2,883.3	-261.7	-267.9	374.5	0.00	0.00	0.00
2,960.0	11.84	225.68	2,922.4	-267.4	-273.8	382.7	0.00	0.00	0.00
3,000.0	11.84	225.68	2,961.6	-273.1	-279.7	390.9	0.00	0.00	0.00
3,040.0	11.84	225.68	3,000.7	-278.9	-285.6	399.1	0.00	0.00	0.00
3,080.0	11.84	225.68	3,039.9	-284.6	-291.4	407.4	0.00	0.00	0.00
3,120.0	11.84	225.68	3,079.0	-290.3	-297.3	415.6	0.00	0.00	0.00
3,160.0	11.84	225.68	3,118.2	-296.1	-303.2	423.8	0.00	0.00	0.00
3,200.0	11.84	225.68	3,157.3	-301.8	-309.1	432.0	0.00	0.00	0.00
3,240.0	11.84	225.68	3,196.5	-307.5	-314.9	440.2	0.00	0.00	0.00
3,280.0	11.84	225.68	3,235.6	-313.3	-320.8	448.4	0.00	0.00	0.00
3,320.0	11.84	225.68	3,274.8	-319.0	-326.7	456.6	0.00	0.00	0.00
3,360.0	11.84	225.68	3,313.9	-324.7	-332.5	464.8	0.00	0.00	0.00
3,400.0	11.84	225.68	3,353.1	-330.5	-338.4	473.0	0.00	0.00	0.00
3,440.0	11.84	225.68	3,392.2	-336.2	-344.3	481.2	0.00	0.00	0.00
3,480.0	11.84	225.68	3,431.4	-342.0	-350.2	489.4	0.00	0.00	0.00
3,520.0	11.84	225.68	3,470.5	-347.7	-356.0	497.6	0.00	0.00	0.00
3,560.0	11.84	225.68	3,509.7	-353.4	-361.9	505.9	0.00	0.00	0.00
3,600.0	11.84	225.68	3,548.8	-359.2	-367.8	514.1	0.00	0.00	0.00
3,640.0	11.84	225.68	3,588.0	-364.9	-373.7	522.3	0.00	0.00	0.00
3,680.0	11.84	225.68	3,627.1	-370.6	-379.5	530.5	0.00	0.00	0.00
3,720.0	11.84	225.68	3,666.2	-376.4	-385.4	538.7	0.00	0.00	0.00
3,760.0	11.84	225.68	3,705.4	-382.1	-391.3	546.9	0.00	0.00	0.00
3,800.0	11.84	225.68	3,744.5	-387.8	-397.1	555.1	0.00	0.00	0.00
3,840.0	11.84	225.68	3,783.7	-393.6	-403.0	563.3	0.00	0.00	0.00
3,880.0	11.84	225.68	3,822.8	-399.3	-408.9	571.5	0.00	0.00	0.00
3,920.0	11.84	225.68	3,862.0	-405.0	-414.8	579.7	0.00	0.00	0.00
3,960.0	11.84	225.68	3,901.1	-410.8	-420.6	587.9	0.00	0.00	0.00
4,000.0	11.84	225.68	3,940.3	-416.5	-426.5	596.2	0.00	0.00	0.00
4,040.0	11.84	225.68	3,979.4	-422.2	-432.4	604.4	0.00	0.00	0.00
4,080.0	11.84	225.68	4,018.6	-428.0	-438.3	612.6	0.00	0.00	0.00
4,120.0	11.84	225.68	4,057.7	-433.7	-444.1	620.8	0.00	0.00	0.00
4,160.0	11.84	225.68	4,096.9	-439.5	-450.0	629.0	0.00	0.00	0.00
4,200.0	11.84	225.68	4,136.0	-445.2	-455.9	637.2	0.00	0.00	0.00

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Well:	Embree C10-20D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Embree C10-20D		
Design:	Noble Embree C10-20D Plan #2 (11-17-10)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,240.0	11.84	225.68	4,175.2	-450.9	-461.8	645.4	0.00	0.00	0.00
4,280.0	11.84	225.68	4,214.3	-456.7	-467.6	653.6	0.00	0.00	0.00
4,320.0	11.84	225.68	4,253.5	-462.4	-473.5	661.8	0.00	0.00	0.00
4,360.0	11.84	225.68	4,292.6	-468.1	-479.4	670.0	0.00	0.00	0.00
4,400.0	11.84	225.68	4,331.8	-473.9	-485.2	678.2	0.00	0.00	0.00
4,440.0	11.84	225.68	4,370.9	-479.6	-491.1	686.4	0.00	0.00	0.00
4,480.0	11.84	225.68	4,410.1	-485.3	-497.0	694.7	0.00	0.00	0.00
4,482.1	11.84	225.68	4,412.1	-485.6	-497.3	695.1	0.00	0.00	0.00
4,520.0	11.08	225.68	4,449.3	-490.9	-502.7	702.6	2.00	-2.00	0.00
4,560.0	10.28	225.68	4,488.6	-496.1	-508.0	710.0	2.00	-2.00	0.00
4,600.0	9.48	225.68	4,528.0	-500.9	-512.9	716.9	2.00	-2.00	0.00
4,640.0	8.68	225.68	4,567.5	-505.3	-517.4	723.2	2.00	-2.00	0.00
4,680.0	7.88	225.68	4,607.1	-509.3	-521.5	729.0	2.00	-2.00	0.00
4,720.0	7.08	225.68	4,646.7	-513.0	-525.3	734.2	2.00	-2.00	0.00
4,760.0	6.28	225.68	4,686.5	-516.2	-528.6	738.8	2.00	-2.00	0.00
4,800.0	5.48	225.68	4,726.2	-519.1	-531.5	742.9	2.00	-2.00	0.00
4,840.0	4.68	225.68	4,766.1	-521.5	-534.1	746.5	2.00	-2.00	0.00
4,880.0	3.88	225.68	4,806.0	-523.6	-536.2	749.5	2.00	-2.00	0.00
4,920.0	3.08	225.68	4,845.9	-525.3	-537.9	751.9	2.00	-2.00	0.00
4,960.0	2.28	225.68	4,885.9	-526.6	-539.3	753.8	2.00	-2.00	0.00
5,000.0	1.48	225.68	4,925.8	-527.6	-540.2	755.1	2.00	-2.00	0.00
5,040.0	0.68	225.68	4,965.8	-528.1	-540.8	755.8	2.00	-2.00	0.00
5,074.2	0.00	0.00	5,000.0	-528.2	-540.9	756.1	2.00	-2.00	0.00
TARGET BHL 2500'FNL & 1380'FWL									
5,080.0	0.00	0.00	5,005.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,120.0	0.00	0.00	5,045.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,160.0	0.00	0.00	5,085.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,200.0	0.00	0.00	5,125.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,240.0	0.00	0.00	5,165.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,280.0	0.00	0.00	5,205.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,320.0	0.00	0.00	5,245.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,360.0	0.00	0.00	5,285.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,400.0	0.00	0.00	5,325.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,440.0	0.00	0.00	5,365.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,480.0	0.00	0.00	5,405.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,520.0	0.00	0.00	5,445.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,560.0	0.00	0.00	5,485.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,600.0	0.00	0.00	5,525.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,640.0	0.00	0.00	5,565.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,680.0	0.00	0.00	5,605.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,720.0	0.00	0.00	5,645.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,760.0	0.00	0.00	5,685.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,725.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,840.0	0.00	0.00	5,765.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,880.0	0.00	0.00	5,805.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,920.0	0.00	0.00	5,845.8	-528.2	-540.9	756.1	0.00	0.00	0.00
5,960.0	0.00	0.00	5,885.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,925.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,040.0	0.00	0.00	5,965.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,080.0	0.00	0.00	6,005.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,120.0	0.00	0.00	6,045.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,160.0	0.00	0.00	6,085.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,125.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,240.0	0.00	0.00	6,165.8	-528.2	-540.9	756.1	0.00	0.00	0.00

Database:	Landmark	**Local Co-ordinate Reference:**	Well Embree C10-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	**TVD Reference:**	WELL @ 4676.0ft (Original Well Elev)
Project:	SEC.10-T4N-R64W	**MD Reference:**	WELL @ 4676.0ft (Original Well Elev)
Site:	Embree C10-20D Sec.10-T4N-R64W	**North Reference:**	True
Well:	Embree C10-20D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Embree C10-20D		
Design:	Noble Embree C10-20D Plan #2 (11-17-10)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,280.0	0.00	0.00	6,205.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,320.0	0.00	0.00	6,245.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,360.0	0.00	0.00	6,285.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,325.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,440.0	0.00	0.00	6,365.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,480.0	0.00	0.00	6,405.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,520.0	0.00	0.00	6,445.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,560.0	0.00	0.00	6,485.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,525.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,615.2	0.00	0.00	6,541.0	-528.2	-540.9	756.1	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 2500'FNL & 1380'FWL									
6,640.0	0.00	0.00	6,565.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,680.0	0.00	0.00	6,605.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,720.0	0.00	0.00	6,645.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,760.0	0.00	0.00	6,685.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,725.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,840.0	0.00	0.00	6,765.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,880.0	0.00	0.00	6,805.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,920.0	0.00	0.00	6,845.8	-528.2	-540.9	756.1	0.00	0.00	0.00
6,925.2	0.00	0.00	6,851.0	-528.2	-540.9	756.1	0.00	0.00	0.00
CODELL									
6,960.0	0.00	0.00	6,885.8	-528.2	-540.9	756.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,925.8	-528.2	-540.9	756.1	0.00	0.00	0.00
7,040.0	0.00	0.00	6,965.8	-528.2	-540.9	756.1	0.00	0.00	0.00
7,074.7	0.00	0.00	7,000.5	-528.2	-540.9	756.1	0.00	0.00	0.00
HARD LINES 137'S of BHL									

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TARGET BHL 2500'F	0.00	0.00	5,000.0	-528.2	-540.9	1,363,503.44	3,267,339.38	40° 19' 38.100 N	104° 32' 28.032 W
- plan hits target									
- Point									
TARGET CIRCLE 25(	0.00	0.00	6,541.0	-528.2	-540.9	1,363,503.44	3,267,339.38	40° 19' 38.100 N	104° 32' 28.032 W
- plan hits target									
- Circle (radius 75.0)									
HARD LINES 137'S o	0.00	0.00	7,001.0	-665.2	-640.9	1,363,365.40	3,267,240.89	40° 19' 36.746 N	104° 32' 29.323 W
- plan misses by 169.6ft at 7074.7ft MD (7000.5 TVD, -528.2 N, -540.9 E)									
- Polygon									
Point 1			7,001.0	0.0	0.0	1,363,365.40	3,267,240.89		
Point 2			7,001.0	0.0	200.0	1,363,367.57	3,267,440.87		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
600.0	600.0	8 5/8"	8-5/8	12-1/4

Database:	Landmark	**Local Co-ordinate Reference:**	Well Embree C10-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	**TVD Reference:**	WELL @ 4676.0ft (Original Well Elev)
Project:	SEC.10-T4N-R64W	**MD Reference:**	WELL @ 4676.0ft (Original Well Elev)
Site:	Embree C10-20D Sec.10-T4N-R64W	**North Reference:**	True
Well:	Embree C10-20D	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Embree C10-20D		
Design:	Noble Embree C10-20D Plan #2 (11-17-10)		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,615.2	6,541.0	NIOBRARA		0.00	
6,925.2	6,851.0	CODELL		0.00	