Noble Energy Inc.- Weld County, CO (Grid North)

Well Name: **Dechant H25-65HN**

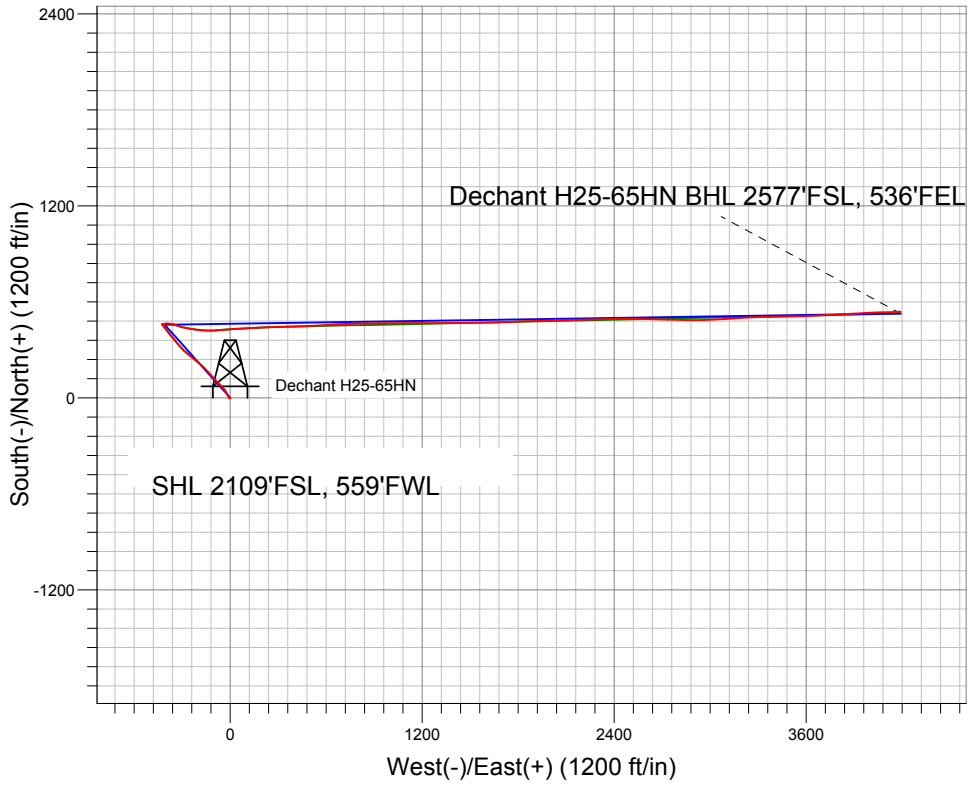
Surface Location: Dechant H25-65HN Pad Sec.25-T3N-R65W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4837.0

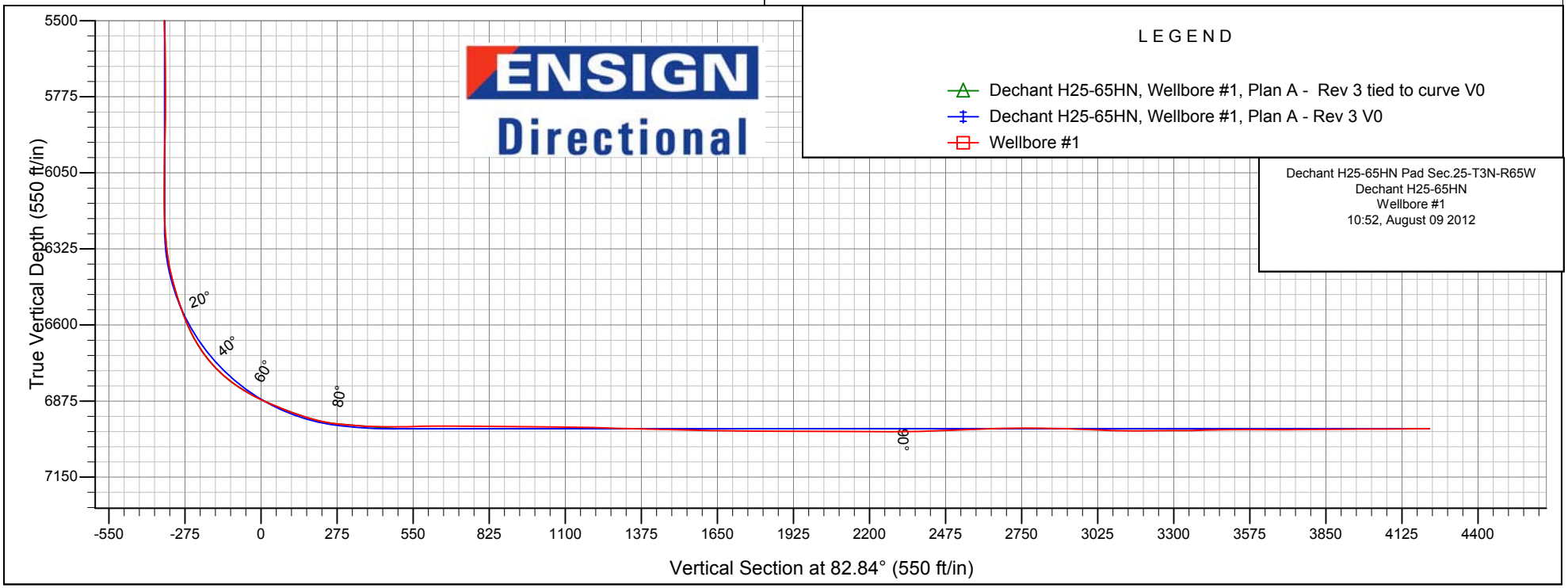
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1314952.28	3245908.68	40.194590	-104.619710	

Original Well Elev WELL @ 4850.0ft (Original Well Elev)

FINAL SURVEY

Projected Bottom Hole Location
11344' MD 6974.4' TVD 538.5' N & 4190' E
of SHL
90.4 degree Incl @ 87.9 degree AZM





Noble Energy Inc.- Weld County, CO (Grid North)

Sec.25-T3N-R65W
Dechant H25-65HN Pad Sec.25-T3N-R65W
Dechant H25-65HN

Wellbore #1

Design: Wellbore #1

Standard Survey Report

09 August, 2012

ENSIGN Directional

Survey Report

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	**Local Co-ordinate Reference:**	Well Dechant H25-65HN
Project:	Sec.25-T3N-R65W	**TVD Reference:**	WELL @ 4850.0ft (Original Well Elev)
Site:	Dechant H25-65HN Pad Sec.25-T3N-R65W	**MD Reference:**	WELL @ 4850.0ft (Original Well Elev)
Well:	Dechant H25-65HN	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	Landmark

Project Sec.25-T3N-R65W, Weld County, CO

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 Dechant H25-65HN Pad Sec.25-T3N-R65W

Site Position:		**Northing:**	1,314,952.29 ft	**Latitude:**	40.194590
From:	Lat/Long	**Easting:**	3,245,908.68 ft	**Longitude:**	-104.619710
Position Uncertainty:	0.0 ft	**Slot Radius:**	"	**Grid Convergence:**	0.57 °

Well Dechant H25-65HN

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,314,952.28 ft	**Latitude:**	40.194590
	+E/-W	0.0 ft	**Easting:**	3,245,908.68 ft	**Longitude:**	-104.619710
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,837.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/14/2012	8.63	66.87	52,934

Design Wellbore #1

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	6,975.0	0.0	0.0	82.84

Survey Program **Date** 8/9/2012

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
744.0	11,344.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard

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
21.0	0.00	0.00	21.0	0.0	0.0	0.0	0.00	0.00	0.00
KY Blue #H25-11									
744.0	0.00	0.00	744.0	0.0	0.0	0.0	0.00	0.00	0.00
819.0	1.90	204.10	819.0	-1.1	-0.5	-0.6	2.53	2.53	0.00
912.0	1.20	242.60	912.0	-3.0	-2.0	-2.4	1.31	-0.75	41.40
1,005.0	1.60	306.70	1,004.9	-2.7	-3.9	-4.2	1.64	0.43	68.92
1,102.0	0.40	45.90	1,101.9	-1.6	-4.8	-4.9	1.76	-1.24	102.27
1,197.0	0.70	75.20	1,196.9	-1.2	-4.0	-4.1	0.42	0.32	30.84
1,292.0	0.40	78.40	1,291.9	-1.0	-3.1	-3.2	0.32	-0.32	3.37
1,387.0	0.70	85.10	1,386.9	-0.9	-2.2	-2.3	0.32	0.32	7.05
1,482.0	0.80	91.20	1,481.9	-0.9	-0.9	-1.0	0.13	0.11	6.42

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	**Local Co-ordinate Reference:**	Well Dechant H25-65HN
Project:	Sec.25-T3N-R65W	**TVD Reference:**	WELL @ 4850.0ft (Original Well Elev)
Site:	Dechant H25-65HN Pad Sec.25-T3N-R65W	**MD Reference:**	WELL @ 4850.0ft (Original Well Elev)
Well:	Dechant H25-65HN	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	Landmark

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)
1,576.0	1.00	79.80	1,575.9	-0.7	0.5	0.4	0.28	0.21	-12.13
1,670.0	0.80	248.20	1,669.9	-0.8	0.7	0.6	1.91	-0.21	179.15
1,765.0	1.40	302.00	1,764.9	-0.5	-0.9	-0.9	1.19	0.63	56.63
1,860.0	3.00	315.70	1,859.8	1.9	-3.6	-3.3	1.76	1.68	14.42
1,955.0	4.50	305.30	1,954.6	5.9	-8.4	-7.6	1.73	1.58	-10.95
2,050.0	6.80	328.50	2,049.1	12.8	-14.3	-12.6	3.37	2.42	24.42
2,145.0	9.60	334.30	2,143.2	24.7	-20.7	-17.5	3.07	2.95	6.11
2,240.0	11.80	329.00	2,236.5	40.2	-29.2	-23.9	2.53	2.32	-5.58
2,335.0	12.30	320.20	2,329.4	56.3	-40.6	-33.3	2.00	0.53	-9.26
2,430.0	13.80	316.00	2,422.0	72.2	-55.0	-45.6	1.87	1.58	-4.42
2,525.0	14.90	313.90	2,514.0	88.9	-71.7	-60.0	1.28	1.16	-2.21
2,620.0	15.60	316.20	2,605.6	106.5	-89.3	-75.3	0.97	0.74	2.42
2,715.0	15.90	316.60	2,697.1	125.2	-107.1	-90.6	0.34	0.32	0.42
2,810.0	17.20	320.60	2,788.1	145.5	-124.9	-105.8	1.82	1.37	4.21
2,905.0	16.60	318.50	2,879.0	166.5	-142.8	-121.0	0.90	-0.63	-2.21
3,000.0	17.20	316.20	2,969.9	186.9	-161.6	-137.0	0.95	0.63	-2.42
3,095.0	16.70	311.10	3,060.8	206.0	-181.6	-154.5	1.65	-0.53	-5.37
3,190.0	16.10	308.60	3,152.0	223.2	-202.2	-172.8	0.98	-0.63	-2.63
3,285.0	15.80	310.20	3,243.3	239.7	-222.3	-190.7	0.56	-0.32	1.68
3,380.0	14.70	308.30	3,335.0	255.5	-241.7	-207.9	1.27	-1.16	-2.00
3,475.0	14.20	311.60	3,426.9	270.7	-259.8	-224.1	1.01	-0.53	3.47
3,569.0	14.70	309.90	3,518.0	286.1	-277.6	-239.8	0.70	0.53	-1.81
3,664.0	14.40	310.40	3,609.9	301.4	-295.9	-256.0	0.34	-0.32	0.53
3,759.0	13.50	322.00	3,702.1	317.8	-311.7	-269.6	3.09	-0.95	12.21
3,854.0	14.20	321.00	3,794.4	335.6	-325.8	-281.5	0.78	0.74	-1.05
3,949.0	13.20	318.30	3,886.7	352.8	-340.4	-293.8	1.25	-1.05	-2.84
4,044.0	14.00	320.10	3,979.0	369.7	-355.0	-306.1	0.95	0.84	1.89
4,139.0	13.40	318.70	4,071.3	386.8	-369.6	-318.5	0.72	-0.63	-1.47
4,234.0	12.40	325.50	4,163.9	403.5	-382.7	-329.4	1.91	-1.05	7.16
4,329.0	12.10	321.70	4,256.8	419.7	-394.6	-339.2	0.91	-0.32	-4.00
4,424.0	9.10	322.20	4,350.1	433.4	-405.4	-348.2	3.16	-3.16	0.53
4,519.0	7.50	321.10	4,444.1	444.2	-413.9	-355.3	1.69	-1.68	-1.16
4,614.0	4.70	319.40	4,538.6	452.0	-420.3	-360.7	2.95	-2.95	-1.79
4,709.0	2.90	341.20	4,633.4	457.2	-423.6	-363.3	2.40	-1.89	22.95
4,804.0	1.80	42.00	4,728.3	460.6	-423.4	-362.7	2.69	-1.16	64.00
4,899.0	1.00	129.30	4,823.3	461.2	-421.7	-361.0	2.12	-0.84	91.89
4,994.0	0.90	114.80	4,918.3	460.3	-420.4	-359.8	0.27	-0.11	-15.26
5,089.0	0.60	55.50	5,013.3	460.3	-419.3	-358.7	0.83	-0.32	-62.42
5,183.0	0.70	74.50	5,107.3	460.7	-418.4	-357.7	0.25	0.11	20.21
5,278.0	1.10	91.40	5,202.2	460.9	-416.9	-356.2	0.50	0.42	17.79
5,373.0	1.10	67.30	5,297.2	461.2	-415.2	-354.4	0.48	0.00	-25.37
5,468.0	2.40	119.50	5,392.2	460.6	-412.6	-352.0	2.03	1.37	54.95
5,563.0	0.90	95.40	5,487.1	459.5	-410.1	-349.6	1.71	-1.58	-25.37
5,658.0	1.30	75.60	5,582.1	459.7	-408.3	-347.8	0.57	0.42	-20.84
5,753.0	0.40	166.30	5,677.1	459.7	-407.2	-346.7	1.44	-0.95	95.47
5,848.0	0.40	84.50	5,772.1	459.4	-406.8	-346.4	0.55	0.00	-86.11
5,943.0	1.00	241.30	5,867.1	459.0	-407.2	-346.8	1.45	0.63	165.05
6,038.0	0.90	270.00	5,962.1	458.6	-408.7	-348.3	0.51	-0.11	30.21
6,133.0	0.90	329.00	6,057.1	459.3	-409.8	-349.4	0.93	0.00	62.11
6,227.0	0.90	348.20	6,151.1	460.6	-410.3	-349.7	0.32	0.00	20.43
6,322.0	2.70	64.70	6,246.0	462.3	-408.5	-347.6	2.78	1.89	80.53
6,417.0	7.30	88.60	6,340.7	463.4	-400.4	-339.5	5.21	4.84	25.16
6,512.0	14.80	92.60	6,433.8	463.0	-382.2	-321.5	7.93	7.89	4.21
6,607.0	19.90	105.10	6,524.5	458.2	-354.5	-294.6	6.62	5.37	13.16

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Site:	Dechant H25-65HN Pad Sec.25-T3N-R65W	**MD Reference:**	WELL @ 4850.0ft (Original Well Elev)
Well:	Dechant H25-65HN	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	Landmark

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)
6,702.0	26.60	108.60	6,611.8	447.2	-318.6	-260.4	7.20	7.05	3.68
6,797.0	35.90	100.50	6,692.9	435.3	-271.0	-214.6	10.72	9.79	-8.53
6,892.0	45.90	98.10	6,764.6	425.4	-209.7	-155.0	10.65	10.53	-2.53
6,987.0	57.20	90.50	6,823.7	420.2	-135.7	-82.2	13.43	11.89	-8.00
7,082.0	64.70	85.10	6,869.8	423.6	-52.8	0.4	9.32	7.89	-5.68
7,177.0	69.00	86.50	6,907.1	430.0	34.3	87.6	4.72	4.53	1.47
7,224.0	71.10	86.50	6,923.2	432.7	78.4	131.7	4.47	4.47	0.00
7,272.0	73.10	86.30	6,937.9	435.5	124.0	177.3	4.19	4.17	-0.42
7,319.0	78.50	87.00	6,949.4	438.2	169.5	222.8	11.58	11.49	1.49
7,393.0	85.60	88.60	6,959.7	441.0	242.6	295.7	9.83	9.59	2.16
7,444.0	85.60	88.60	6,963.6	442.2	293.5	346.3	0.00	0.00	0.00
7,491.0	87.10	88.20	6,966.6	443.5	340.4	393.0	3.30	3.19	-0.85
7,586.0	91.50	87.70	6,967.7	446.9	435.3	487.6	4.66	4.63	-0.53
7,681.0	90.80	87.50	6,965.8	450.9	530.2	582.2	0.77	-0.74	-0.21
7,776.0	89.60	85.90	6,965.5	456.4	625.0	677.0	2.11	-1.26	-1.68
7,870.0	89.40	87.70	6,966.3	461.6	718.9	770.8	1.93	-0.21	1.91
7,965.0	90.00	89.10	6,966.8	464.3	813.8	865.3	1.60	0.63	1.47
8,060.0	89.00	90.00	6,967.6	465.0	908.8	959.7	1.42	-1.05	0.95
8,155.0	89.60	89.10	6,968.8	465.8	1,003.8	1,054.0	1.14	0.63	-0.95
8,250.0	89.30	90.30	6,969.7	466.3	1,098.8	1,148.3	1.30	-0.32	1.26
8,345.0	87.80	90.00	6,972.1	466.0	1,193.8	1,242.5	1.61	-1.58	-0.32
8,440.0	88.80	88.90	6,974.9	466.9	1,288.7	1,336.9	1.56	1.05	-1.16
8,535.0	88.50	89.40	6,977.2	468.3	1,383.7	1,431.3	0.61	-0.32	0.53
8,630.0	88.70	90.30	6,979.5	468.6	1,478.6	1,525.5	0.97	0.21	0.95
8,725.0	89.00	89.80	6,981.4	468.5	1,573.6	1,619.7	0.61	0.32	-0.53
8,820.0	89.30	87.90	6,982.8	470.4	1,668.6	1,714.2	2.02	0.32	-2.00
8,915.0	89.50	87.20	6,983.8	474.5	1,763.5	1,808.9	0.77	0.21	-0.74
9,009.0	90.10	88.60	6,984.1	477.9	1,857.4	1,902.5	1.62	0.64	1.49
9,104.0	90.10	87.30	6,984.0	481.3	1,952.4	1,997.1	1.37	0.00	-1.37
9,199.0	89.30	89.10	6,984.5	484.3	2,047.3	2,091.7	2.07	-0.84	1.89
9,294.0	89.60	88.70	6,985.4	486.1	2,142.3	2,186.2	0.53	0.32	-0.42
9,389.0	89.90	88.40	6,985.8	488.5	2,237.3	2,280.7	0.45	0.32	-0.32
9,484.0	91.50	88.20	6,984.6	491.3	2,332.2	2,375.3	1.70	1.68	-0.21
9,579.0	92.20	89.10	6,981.6	493.6	2,427.1	2,469.7	1.20	0.74	0.95
9,674.0	92.30	90.70	6,977.8	493.7	2,522.0	2,563.9	1.69	0.11	1.68
9,769.0	91.90	91.90	6,974.4	491.6	2,617.0	2,657.8	1.33	-0.42	1.26
9,864.0	89.90	91.20	6,972.9	489.0	2,711.9	2,751.7	2.23	-2.11	-0.74
9,959.0	89.30	91.70	6,973.5	486.6	2,806.9	2,845.6	0.82	-0.63	0.53
10,054.0	87.80	90.10	6,975.9	485.1	2,901.8	2,939.7	2.31	-1.58	-1.68
10,149.0	87.40	87.20	6,979.9	487.4	2,996.7	3,034.1	3.08	-0.42	-3.05
10,244.0	89.40	86.30	6,982.6	492.7	3,091.5	3,128.8	2.31	2.11	-0.95
10,339.0	90.80	86.30	6,982.4	498.9	3,186.3	3,223.6	1.47	1.47	0.00
10,434.0	90.10	88.20	6,981.7	503.4	3,281.2	3,318.4	2.13	-0.74	2.00
10,529.0	92.00	88.70	6,979.9	506.0	3,376.1	3,412.9	2.07	2.00	0.53
10,624.0	90.20	89.60	6,978.1	507.4	3,471.1	3,507.3	2.12	-1.89	0.95
10,719.0	89.30	87.50	6,978.5	509.8	3,566.1	3,601.8	2.40	-0.95	-2.21
10,814.0	91.00	87.90	6,978.3	513.6	3,661.0	3,696.5	1.84	1.79	0.42
10,909.0	89.90	86.50	6,977.5	518.3	3,755.9	3,791.2	1.87	-1.16	-1.47
11,004.0	90.60	87.20	6,977.1	523.5	3,850.7	3,885.9	1.04	0.74	0.74
11,099.0	90.50	86.80	6,976.2	528.5	3,945.6	3,980.7	0.43	-0.11	-0.42
11,194.0	90.00	87.90	6,975.8	532.9	4,040.5	4,075.4	1.27	-0.53	1.16
11,288.0	90.40	87.90	6,975.4	536.3	4,134.4	4,169.0	0.43	0.43	0.00
11,344.0	90.40	87.90	6,975.0	538.3	4,190.4	4,224.8	0.00	0.00	0.00

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	**Local Co-ordinate Reference:**	Well Dechant H25-65HN
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Site:	Dechant H25-65HN Pad Sec.25-T3N-R65W	**MD Reference:**	WELL @ 4850.0ft (Original Well Elev)
Well:	Dechant H25-65HN	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	Wellbore #1	**Database:**	Landmark

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)
Dechant H25-65HN BHL 2565'FSL, 535'FEL									

Checked By: _____ Approved By: _____ Date: _____