

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

Well Name: Dechant H25-64-1HN

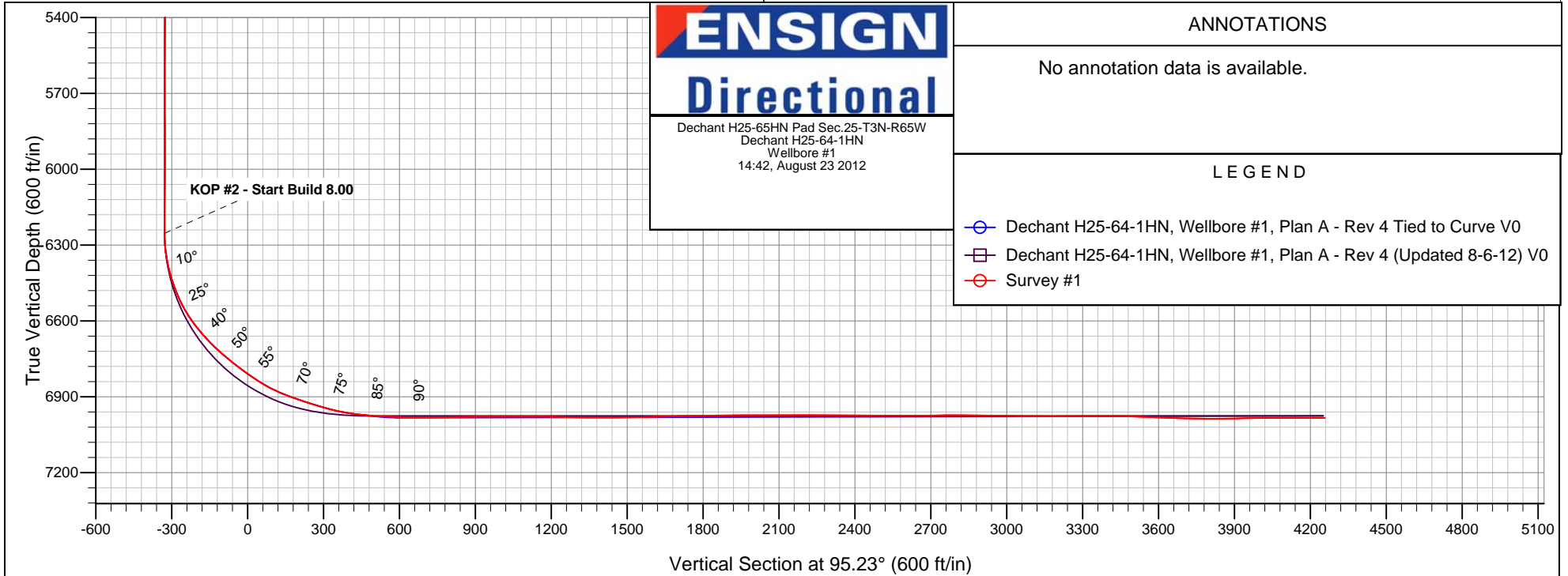
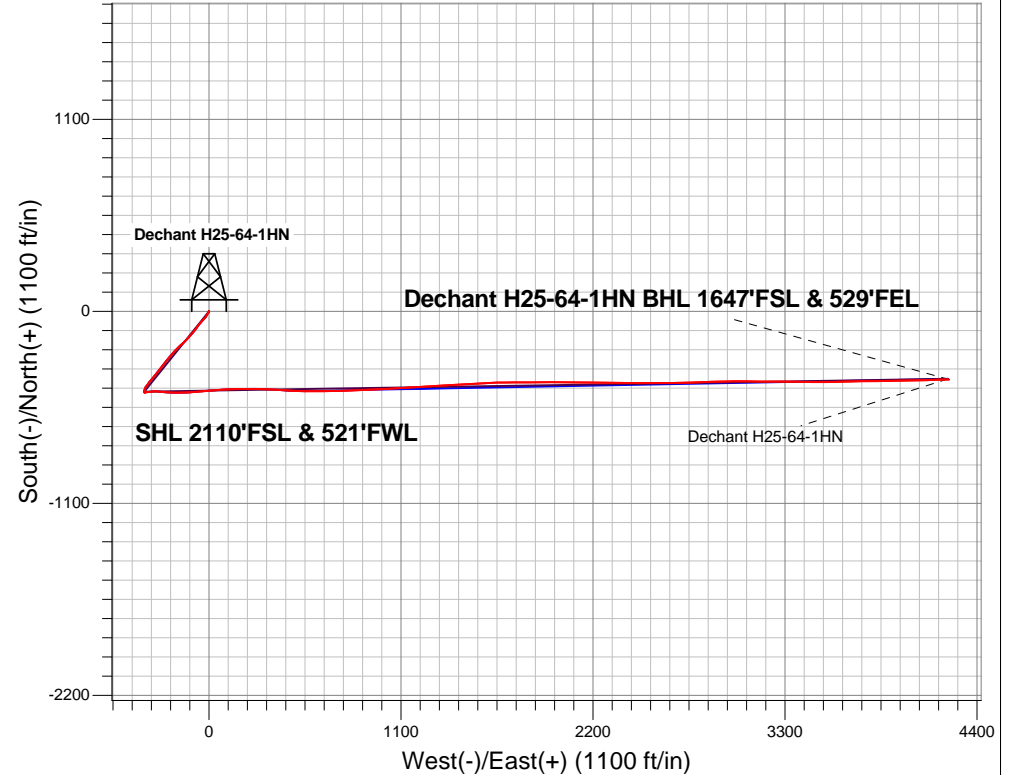
Surface Location: Dechant H25-65HN Pad Sec.25-T3N-R65W
North American Datum 1983 , US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4838.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1314951.89	3245869.57	40.194590	-104.619850	
		Original Well Elev WELL @ 4851.0ft (Original Well Elev)				

FINAL SURVEY

Projected Bottom Hole Location
11317' MD 6984' TVD 390' S & 4239' E of SHL

90.20 degree Incl @ 88.40 degree AZM





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

Sec.25-T3N-R65W

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

Dechant H25-64-1HN

Wellbore #1

Survey: Survey #1

Standard Survey Report

23 August, 2012

Company:	Noble Energy Inc.- Weld County, CO (Grid North)	Local Co-ordinate Reference:	Well Dechant H25-64-1HN
Project:	Sec.25-T3N-R65W	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Dechant H25-65HN Pad Sec.25-T3N-R65W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Well:	Dechant H25-64-1HN	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:		1,314,952.29ft	
From:	Lat/Long	Easting:		Longitude:	
		3,245,908.68ft		-104.619710	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
0.0 ft		"		0.57 °	

Well	Dechant H25-64-1HN					
Well Position	+N-S	0.0 ft	Northing:	1,314,951.89 ft	Latitude:	40.194590
	+E-W	0.0 ft	Easting:	3,245,869.57 ft	Longitude:	-104.619850
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,838.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/30/2012	8.62	66.87	52,920

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 (°)	
	6,976.0	0.0	0.0	95.23	

Survey Program		Date		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
735.0	11,317.0	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	
14.0	0.00	0.00	14.0	0.0	0.0	0.0	0.00	0.00	0.00	
Von Feldt 1-25B										
22.0	0.00	0.00	22.0	0.0	0.0	0.0	0.00	0.00	0.00	
KY Blue #H25-11										
39.0	0.00	0.00	39.0	0.0	0.0	0.0	0.00	0.00	0.00	
KY Blue H25-4J										
735.0	0.00	0.00	735.0	0.0	0.0	0.0	0.00	0.00	0.00	
819.0	1.00	287.00	819.0	0.2	-0.7	-0.7	1.19	1.19	0.00	
912.0	1.70	172.60	912.0	-0.9	-1.3	-1.2	2.47	0.75	-123.01	
1,005.0	1.10	206.50	1,005.0	-3.1	-1.5	-1.2	1.07	-0.65	36.45	
1,107.0	1.10	202.10	1,106.9	-4.9	-2.3	-1.9	0.08	0.00	-4.31	

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Site:	Dechant H25-65HN Pad Sec.25-T3N-R65W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Well:	Dechant H25-64-1HN	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)
1,203.0	1.00	191.90	1,202.9	-6.5	-2.8	-2.2	0.22	-0.10	-10.63
1,298.0	2.90	216.20	1,297.9	-9.3	-4.4	-3.6	2.14	2.00	25.58
1,392.0	4.20	215.10	1,391.7	-14.0	-7.8	-6.5	1.38	1.38	-1.17
1,487.0	5.90	210.20	1,486.3	-21.1	-12.3	-10.3	1.84	1.79	-5.16
1,581.0	8.10	214.20	1,579.6	-30.7	-18.4	-15.5	2.40	2.34	4.26
1,675.0	9.20	224.80	1,672.5	-41.6	-27.4	-23.5	2.06	1.17	11.28
1,770.0	10.90	220.20	1,766.1	-53.8	-38.6	-33.5	1.98	1.79	-4.84
1,865.0	12.50	222.00	1,859.1	-68.3	-51.3	-44.8	1.73	1.68	1.89
1,960.0	14.20	214.20	1,951.5	-85.6	-64.7	-56.6	2.60	1.79	-8.21
2,055.0	14.20	220.00	2,043.6	-104.2	-78.7	-68.9	1.50	0.00	6.11
2,150.0	15.70	215.50	2,135.4	-123.5	-93.7	-82.0	2.00	1.58	-4.74
2,245.0	14.60	223.60	2,227.1	-142.7	-109.4	-96.0	2.51	-1.16	8.53
2,340.0	15.00	228.30	2,319.0	-159.5	-126.9	-111.8	1.33	0.42	4.95
2,435.0	15.70	222.70	2,410.6	-177.2	-144.8	-128.0	1.72	0.74	-5.89
2,530.0	15.90	229.20	2,502.0	-195.1	-163.3	-144.9	1.87	0.21	6.84
2,625.0	15.30	225.70	2,593.5	-212.4	-182.1	-162.0	1.17	-0.63	-3.68
2,720.0	15.40	223.60	2,685.1	-230.3	-199.8	-178.0	0.59	0.11	-2.21
2,815.0	17.60	218.80	2,776.2	-250.6	-217.5	-193.8	2.72	2.32	-5.05
2,910.0	17.20	217.60	2,866.9	-272.9	-235.1	-209.2	0.57	-0.42	-1.26
3,005.0	16.30	218.10	2,957.8	-294.5	-251.9	-224.0	0.96	-0.95	0.53
3,100.0	14.90	220.70	3,049.3	-314.3	-268.1	-238.3	1.65	-1.47	2.74
3,195.0	16.10	218.10	3,140.9	-333.9	-284.2	-252.6	1.46	1.26	-2.74
3,290.0	15.00	217.40	3,232.4	-354.0	-299.8	-266.2	1.17	-1.16	-0.74
3,385.0	15.30	218.50	3,324.1	-373.6	-315.0	-279.7	0.44	0.32	1.16
3,480.0	15.10	221.30	3,415.8	-392.7	-331.0	-293.8	0.80	-0.21	2.95
3,575.0	11.10	217.80	3,508.3	-409.3	-344.8	-306.0	4.29	-4.21	-3.68
3,670.0	9.50	214.90	3,601.8	-422.9	-354.9	-314.9	1.77	-1.68	-3.05
3,765.0	8.10	215.60	3,695.6	-434.8	-363.3	-322.1	1.48	-1.47	0.74
3,860.0	6.60	195.60	3,789.9	-445.5	-368.6	-326.5	3.10	-1.58	-21.05
3,955.0	4.00	175.20	3,884.5	-454.0	-369.8	-326.9	3.34	-2.74	-21.47
4,050.0	3.60	167.70	3,979.3	-460.3	-368.9	-325.4	0.67	-0.42	-7.89
4,145.0	2.70	196.10	4,074.1	-465.3	-368.9	-324.9	1.87	-0.95	29.89
4,239.0	0.50	24.20	4,168.1	-467.1	-369.3	-325.2	3.40	-2.34	-182.87
4,334.0	1.30	3.10	4,263.1	-465.6	-369.1	-325.1	0.90	0.84	-22.21
4,429.0	1.10	333.60	4,358.1	-463.7	-369.5	-325.6	0.67	-0.21	-31.05
4,524.0	2.10	354.90	4,453.0	-461.2	-370.0	-326.4	1.21	1.05	22.42
4,619.0	1.10	23.00	4,548.0	-458.6	-369.8	-326.5	1.31	-1.05	29.58
4,714.0	0.20	345.00	4,643.0	-457.6	-369.5	-326.2	1.00	-0.95	-40.00
4,809.0	0.20	167.30	4,738.0	-457.6	-369.5	-326.3	0.42	0.00	-187.05
4,904.0	0.40	110.40	4,833.0	-457.9	-369.2	-325.9	0.35	0.21	-59.89
4,999.0	0.60	259.40	4,928.0	-458.1	-369.3	-326.0	1.02	0.21	156.84
5,094.0	0.40	162.40	5,023.0	-458.5	-369.7	-326.4	0.80	-0.21	-102.11
5,189.0	0.80	178.00	5,118.0	-459.5	-369.6	-326.2	0.45	0.42	16.42
5,284.0	0.30	29.10	5,213.0	-459.9	-369.5	-326.0	1.12	-0.53	-156.74
5,379.0	0.20	205.10	5,308.0	-459.9	-369.4	-326.0	0.53	-0.11	185.26
5,473.0	0.50	313.20	5,402.0	-459.7	-369.8	-326.3	0.63	0.32	115.00
5,568.0	0.80	287.20	5,497.0	-459.2	-370.7	-327.3	0.44	0.32	-27.37
5,663.0	0.20	66.10	5,591.9	-459.0	-371.2	-327.8	1.01	-0.63	146.21
5,758.0	0.10	258.90	5,686.9	-458.9	-371.1	-327.7	0.31	-0.11	-176.00
5,853.0	0.40	149.90	5,781.9	-459.2	-371.0	-327.6	0.47	0.32	-114.74
5,948.0	0.50	162.90	5,876.9	-459.9	-370.7	-327.3	0.15	0.11	13.68
6,043.0	1.30	164.80	5,971.9	-461.4	-370.3	-326.8	0.84	0.84	2.00
6,138.0	0.80	273.50	6,066.9	-462.4	-370.7	-327.0	1.82	-0.53	114.42

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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)
6,233.0	1.20	255.60	6,161.9	-462.6	-372.3	-328.6	0.53	0.42	-18.84
6,328.0	1.20	102.10	6,256.9	-463.0	-372.3	-328.6	2.46	0.00	-161.58
6,423.0	9.50	93.70	6,351.4	-463.7	-363.5	-319.7	8.75	8.74	-8.84
6,517.0	18.60	80.10	6,442.5	-461.7	-341.0	-297.5	10.23	9.68	-14.47
6,612.0	26.50	90.50	6,530.2	-459.2	-304.8	-261.6	9.29	8.32	10.95
6,707.0	37.10	97.00	6,610.9	-462.9	-255.0	-211.7	11.71	11.16	6.84
6,802.0	43.90	90.30	6,683.1	-466.6	-193.5	-150.2	8.49	7.16	-7.05
6,897.0	51.70	86.30	6,746.9	-464.3	-123.2	-80.4	8.78	8.21	-4.21
6,992.0	53.30	85.90	6,804.7	-459.2	-48.1	-6.0	1.72	1.68	-0.42
7,087.0	61.10	85.90	6,856.1	-453.5	31.5	72.7	8.21	8.21	0.00
7,182.0	69.60	86.10	6,895.7	-447.5	117.6	157.9	8.95	8.95	0.21
7,229.0	71.20	88.70	6,911.5	-445.5	161.8	201.7	6.22	3.40	5.53
7,277.0	72.40	90.30	6,926.5	-445.1	207.4	247.1	4.03	2.50	3.33
7,324.0	73.70	90.00	6,940.2	-445.2	252.4	291.9	2.83	2.77	-0.64
7,372.0	76.20	90.80	6,952.6	-445.5	298.7	338.1	5.45	5.21	1.67
7,412.0	79.70	93.50	6,961.0	-447.0	337.8	377.1	10.96	8.75	6.75
7,491.0	84.60	94.00	6,971.8	-452.1	415.9	455.3	6.23	6.20	0.63
7,586.0	87.10	91.70	6,978.7	-456.8	510.5	550.0	3.57	2.63	-2.42
7,681.0	90.00	90.00	6,981.1	-458.3	605.4	644.7	3.54	3.05	-1.79
7,775.0	90.50	88.60	6,980.6	-457.1	699.4	738.2	1.58	0.53	-1.49
7,870.0	90.20	87.90	6,980.1	-454.2	794.4	832.5	0.80	-0.32	-0.74
7,965.0	90.60	87.70	6,979.4	-450.6	889.3	926.7	0.47	0.42	-0.21
8,060.0	89.90	87.30	6,979.0	-446.4	984.2	1,020.8	0.85	-0.74	-0.42
8,155.0	90.40	87.00	6,978.7	-441.7	1,079.1	1,114.8	0.61	0.53	-0.32
8,250.0	88.50	86.80	6,979.7	-436.6	1,173.9	1,208.8	2.01	-2.00	-0.21
8,345.0	88.90	85.70	6,981.8	-430.3	1,268.7	1,302.6	1.23	0.42	-1.16
8,440.0	90.00	86.10	6,982.7	-423.5	1,363.5	1,396.4	1.23	1.16	0.42
8,535.0	91.20	86.80	6,981.7	-417.7	1,458.3	1,490.3	1.46	1.26	0.74
8,630.0	91.10	87.00	6,979.8	-412.5	1,553.1	1,584.2	0.24	-0.11	0.21
8,725.0	91.50	88.60	6,977.7	-408.9	1,648.0	1,678.4	1.74	0.42	1.68
8,820.0	91.10	90.10	6,975.5	-407.8	1,743.0	1,772.9	1.63	-0.42	1.58
8,914.0	90.50	90.00	6,974.2	-407.9	1,837.0	1,866.5	0.65	-0.64	-0.11
9,009.0	90.10	89.30	6,973.7	-407.3	1,932.0	1,961.0	0.85	-0.42	-0.74
9,104.0	89.90	90.10	6,973.7	-406.8	2,027.0	2,055.6	0.87	-0.21	0.84
9,199.0	90.10	90.70	6,973.7	-407.5	2,122.0	2,150.3	0.67	0.21	0.63
9,294.0	90.20	90.70	6,973.4	-408.6	2,217.0	2,245.0	0.11	0.11	0.00
9,389.0	89.90	90.70	6,973.4	-409.8	2,311.9	2,339.7	0.32	-0.32	0.00
9,484.0	89.40	90.50	6,973.9	-410.8	2,406.9	2,434.4	0.57	-0.53	-0.21
9,579.0	90.00	90.50	6,974.4	-411.6	2,501.9	2,529.0	0.63	0.63	0.00
9,674.0	90.00	89.60	6,974.4	-411.7	2,596.9	2,623.6	0.95	0.00	-0.95
9,769.0	90.70	88.00	6,973.9	-409.7	2,691.9	2,718.0	1.84	0.74	-1.68
9,864.0	89.50	87.90	6,973.7	-406.3	2,786.8	2,812.3	1.27	-1.26	-0.11
9,959.0	89.80	89.10	6,974.3	-403.8	2,881.8	2,906.6	1.30	0.32	1.26
10,054.0	88.80	88.60	6,975.4	-401.9	2,976.8	3,001.0	1.18	-1.05	-0.53
10,149.0	89.30	90.70	6,977.0	-401.3	3,071.8	3,095.6	2.27	0.53	2.21
10,244.0	90.20	90.70	6,977.4	-402.5	3,166.7	3,190.3	0.95	0.95	0.00
10,339.0	90.10	90.30	6,977.2	-403.3	3,261.7	3,284.9	0.43	-0.11	-0.42
10,434.0	90.70	90.30	6,976.5	-403.8	3,356.7	3,379.6	0.63	0.63	0.00
10,529.0	88.40	90.70	6,977.3	-404.7	3,451.7	3,474.2	2.46	-2.42	0.42
10,624.0	87.60	89.30	6,980.6	-404.7	3,546.7	3,568.8	1.70	-0.84	-1.47
10,719.0	87.70	88.70	6,984.5	-403.0	3,641.6	3,663.1	0.64	0.11	-0.63
10,814.0	89.90	89.30	6,986.5	-401.3	3,736.5	3,757.6	2.40	2.32	0.63
10,909.0	90.00	89.10	6,986.5	-400.0	3,831.5	3,852.0	0.24	0.11	-0.21

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Site:	Dechant H25-65HN Pad Sec.25-T3N-R65W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Well:	Dechant H25-64-1HN	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)
11,004.0	91.70	89.30	6,985.1	-398.7	3,926.5	3,946.5	1.80	1.79	0.21
11,099.0	89.90	88.60	6,983.8	-397.0	4,021.5	4,040.9	2.03	-1.89	-0.74
11,194.0	89.90	88.00	6,984.0	-394.1	4,116.4	4,135.2	0.63	0.00	-0.63
11,261.0	90.20	88.40	6,983.9	-392.0	4,183.4	4,201.7	0.75	0.45	0.60
11,311.5	90.20	88.40	6,983.7	-390.6	4,233.9	4,251.8	0.00	0.00	0.00
Dechant H25-64-1HN BHL 1650'FSL, 535'FEL									
11,317.0	90.20	88.40	6,983.7	-390.5	4,239.4	4,257.3	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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