



Noble Energy, Inc

Weld County, CO (NAD 83)

Sec 11 - T5N R64W (Trebor B11 Pad)

Trebor B11-69-1HN

Wellbore #1

Design: OH

Final Survey Report

11 August, 2013





IDS Final Survey Report



Company:	Noble Energy, Inc	Local Co-ordinate Reference:	Well Trebor B11-69-1HN
Project:	Weld County, CO (NAD 83)	TVD Reference:	WELL @ 4636.0usft (HP 330)
Site:	Sec 11 - T5N R64W (Trebor B11 Pad)	MD Reference:	WELL @ 4636.0usft (HP 330)
Well:	Trebor B11-69-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Weld County, CO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec 11 - T5N R64W (Trebor B11 Pad)			
Site Position: From:	Lat/Long	Northing:	1,397,463.77 usft	Latitude:	40° 25' 13.224 N
		Easting:	3,271,566.45 usft	Longitude:	104° 31' 28.632 W
	Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:

Well	Trebor B11-69-1HN					
Well Position	+N/-S	0.0 usft	Northing:	1,397,485.62 usft	Latitude:	40° 25' 13.440 N
	+E/-W	0.0 usft	Easting:	3,271,566.21 usft	Longitude:	104° 31' 28.632 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,606.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/16/2013	8.46	67.03	52,949

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	90.19	

Survey Program	Date 8/11/2013				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
230.0	675.0	Survey #1 (Wellbore #1)	EMS	EMS - Standard	
728.0	11,136.0	Survey #2 (Wellbore #1)	MWD	MWD - Standard	

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	
230.0	0.20	217.63	230.0	-0.2	-0.2	0.09	
477.0	1.20	147.23	477.0	0.9	0.9	0.46	
675.0	1.20	147.23	674.9	3.1	3.2	0.00	
728.0	1.60	171.80	727.9	3.5	3.6	1.34	
First MWD							
821.0	1.60	172.40	820.9	3.9	3.9	0.02	
915.0	2.60	234.60	914.8	2.3	2.4	2.48	
1,009.0	3.90	256.00	1,008.7	-2.5	-2.5	1.87	
1,103.0	3.70	255.00	1,102.5	-8.5	-8.5	0.22	
1,196.0	3.70	251.60	1,195.3	-14.3	-14.2	0.24	

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Well:	Trebor B11-69-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey						
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
1,291.0	3.70	250.20	1,290.1	-20.1	-20.0	0.10
1,386.0	3.90	249.40	1,384.9	-26.0	-25.9	0.22
1,481.0	3.30	246.00	1,479.7	-31.5	-31.4	0.67
1,576.0	3.20	242.10	1,574.5	-36.3	-36.3	0.26
1,670.0	4.60	255.50	1,668.3	-42.3	-42.2	1.77
1,765.0	6.00	263.10	1,762.9	-50.9	-50.8	1.65
1,860.0	7.40	262.20	1,857.3	-61.9	-61.8	1.48
1,954.0	8.80	263.80	1,950.3	-75.1	-75.0	1.51
2,049.0	10.00	273.10	2,044.0	-90.5	-90.4	2.03
2,143.0	11.30	277.30	2,136.4	-107.8	-107.7	1.61
2,238.0	12.50	274.00	2,229.4	-127.3	-127.2	1.45
2,333.0	14.30	273.10	2,321.8	-149.3	-149.2	1.91
2,428.0	13.90	266.80	2,413.9	-172.4	-172.3	1.67
2,522.0	13.00	259.20	2,505.4	-194.1	-193.9	2.11
2,617.0	12.30	256.90	2,598.1	-214.4	-214.3	0.91
2,712.0	14.40	259.20	2,690.5	-235.9	-235.7	2.28
2,807.0	14.60	263.90	2,782.5	-259.4	-259.2	1.26
2,902.0	15.70	264.10	2,874.2	-284.1	-283.9	1.16
2,997.0	14.80	263.80	2,965.8	-308.9	-308.7	0.95
3,091.0	13.90	267.60	3,056.9	-332.1	-332.0	1.39
3,186.0	14.40	265.70	3,149.0	-355.3	-355.1	0.72
3,281.0	13.70	266.10	3,241.2	-378.3	-378.1	0.74
3,376.0	13.40	261.00	3,333.5	-400.4	-400.2	1.30
3,471.0	14.40	262.00	3,425.7	-423.0	-422.8	1.08
3,566.0	16.00	263.80	3,517.4	-447.7	-447.5	1.76
3,660.0	17.40	263.40	3,607.4	-474.5	-474.3	1.49
3,755.0	18.70	263.90	3,697.8	-503.8	-503.6	1.38
3,850.0	17.60	262.90	3,788.0	-533.2	-532.9	1.20
3,945.0	12.50	262.00	3,879.7	-557.6	-557.4	5.37
4,040.0	10.40	261.10	3,972.9	-576.3	-576.0	2.22
4,135.0	8.60	257.30	4,066.5	-591.7	-591.4	2.01
4,229.0	7.40	254.10	4,159.6	-604.4	-604.1	1.36
4,324.0	6.20	249.70	4,254.0	-615.1	-614.8	1.38
4,419.0	4.00	243.60	4,348.6	-622.9	-622.5	2.38
4,514.0	2.80	241.40	4,443.4	-627.9	-627.5	1.27
4,609.0	0.90	167.80	4,538.4	-629.7	-629.4	2.83
4,704.0	1.40	166.70	4,633.3	-629.3	-629.0	0.53
4,799.0	1.60	97.70	4,728.3	-627.7	-627.4	1.80
4,894.0	2.30	58.50	4,823.3	-624.8	-624.5	1.54
4,989.0	2.50	53.90	4,918.2	-621.5	-621.2	0.29
5,084.0	1.20	80.60	5,013.1	-618.8	-618.5	1.61
5,179.0	1.10	75.50	5,108.1	-617.0	-616.7	0.15
5,274.0	0.90	66.50	5,203.1	-615.4	-615.1	0.27
5,369.0	0.40	124.50	5,298.1	-614.4	-614.1	0.81
5,463.0	1.10	58.80	5,392.1	-613.4	-613.1	1.07



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Well:	Trebor B11-69-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
5,558.0	1.10	46.90	5,487.1	-612.0	-611.7	0.24	
5,653.0	0.90	31.90	5,582.1	-610.9	-610.6	0.35	
5,748.0	1.80	7.30	5,677.0	-610.3	-610.0	1.11	
5,843.0	1.80	1.00	5,772.0	-610.1	-609.8	0.21	
5,937.0	1.40	342.50	5,865.9	-610.4	-610.1	0.69	
6,032.0	1.00	346.80	5,960.9	-611.0	-610.7	0.43	
6,080.0	2.90	356.20	6,008.9	-611.1	-610.9	4.00	
6,127.0	4.80	28.90	6,055.8	-610.3	-610.0	6.02	
6,175.0	7.70	55.10	6,103.5	-606.7	-606.4	8.33	
6,222.0	13.20	58.80	6,149.7	-599.5	-599.2	11.78	
6,270.0	18.70	61.00	6,195.9	-588.0	-587.8	11.53	
6,317.0	23.80	67.80	6,239.6	-572.7	-572.5	12.03	
6,364.0	28.80	75.70	6,281.8	-552.9	-552.7	12.97	
6,412.0	34.30	84.30	6,322.7	-528.2	-528.1	14.78	
6,459.0	39.30	93.20	6,360.3	-500.1	-500.0	15.53	
6,507.0	43.10	98.40	6,396.5	-468.7	-468.5	10.65	
6,554.0	45.50	98.40	6,430.1	-436.2	-436.1	5.11	
6,601.0	47.40	99.70	6,462.5	-402.6	-402.4	4.51	
6,649.0	49.20	101.00	6,494.4	-367.3	-367.1	4.26	
6,696.0	52.80	100.50	6,524.0	-331.5	-331.2	7.70	
6,744.0	56.60	96.10	6,551.7	-292.7	-292.5	10.89	
6,791.0	60.80	90.70	6,576.1	-252.7	-252.4	13.27	
6,838.0	63.80	87.30	6,598.0	-211.1	-210.8	9.04	
6,886.0	66.00	87.10	6,618.4	-167.7	-167.4	4.60	
6,933.0	68.90	88.70	6,636.4	-124.3	-124.0	6.92	
6,981.0	71.80	89.10	6,652.5	-79.1	-78.9	6.09	
7,028.0	75.20	89.80	6,665.9	-34.0	-33.8	7.37	
7,076.0	79.50	90.60	6,676.4	12.8	13.0	9.10	
7,200.0	89.00	88.50	6,688.8	136.0	136.2	7.84	
7,231.0	89.00	88.20	6,689.3	167.0	167.2	0.97	
7,326.0	88.30	88.30	6,691.6	261.9	262.1	0.74	
7,421.0	89.20	88.70	6,693.6	356.9	357.1	1.04	
7,516.0	89.60	88.90	6,694.6	451.8	452.0	0.47	
7,611.0	88.90	87.30	6,695.9	546.8	547.0	1.84	
7,705.0	90.60	86.20	6,696.3	640.6	640.8	2.15	
7,800.0	89.60	87.10	6,696.1	735.5	735.6	1.42	
7,895.0	91.10	87.30	6,695.5	830.3	830.5	1.59	
7,990.0	91.30	88.90	6,693.6	925.3	925.4	1.70	
8,084.0	92.20	89.00	6,690.7	1,019.2	1,019.3	0.96	
8,179.0	90.80	91.00	6,688.2	1,114.2	1,114.3	2.57	
8,274.0	93.30	90.80	6,684.8	1,209.1	1,209.2	2.64	
8,369.0	92.00	90.80	6,680.4	1,304.0	1,304.1	1.37	
8,464.0	90.60	90.80	6,678.2	1,398.9	1,399.1	1.47	
8,559.0	88.90	91.30	6,678.7	1,493.9	1,494.1	1.87	



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Site:	Sec 11 - T5N R64W (Trebor B11 Pad)	MD Reference:	WELL @ 4636.0usft (HP 330)
Well:	Trebor B11-69-1HN	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
8,654.0	88.00	91.20	6,681.2	1,588.9	1,589.0	0.95	
8,749.0	88.20	89.00	6,684.4	1,683.8	1,683.9	2.32	
8,843.0	87.80	88.50	6,687.7	1,777.7	1,777.9	0.68	
8,938.0	89.40	89.00	6,690.0	1,872.7	1,872.8	1.76	
9,033.0	90.60	88.90	6,690.0	1,967.6	1,967.8	1.27	
9,127.0	90.60	88.00	6,689.0	2,061.6	2,061.7	0.96	
9,222.0	91.70	87.80	6,687.1	2,156.5	2,156.6	1.18	
9,317.0	92.60	87.10	6,683.5	2,251.4	2,251.4	1.20	
9,412.0	92.90	87.60	6,679.0	2,346.1	2,346.2	0.61	
9,507.0	91.50	88.20	6,675.3	2,441.0	2,441.1	1.60	
9,601.0	91.10	88.70	6,673.2	2,534.9	2,535.0	0.68	
9,696.0	89.60	89.00	6,672.6	2,629.9	2,630.0	1.61	
9,791.0	88.20	90.80	6,674.4	2,724.9	2,724.9	2.40	
9,885.0	88.20	91.70	6,677.4	2,818.8	2,818.9	0.96	
9,980.0	89.60	91.00	6,679.2	2,913.8	2,913.8	1.65	
10,075.0	90.30	89.90	6,679.3	3,008.8	3,008.8	1.37	
10,170.0	91.00	89.60	6,678.2	3,103.8	3,103.8	0.80	
10,265.0	92.20	90.30	6,675.6	3,198.7	3,198.8	1.46	
10,359.0	91.80	89.60	6,672.3	3,292.7	3,292.7	0.86	
10,454.0	92.60	90.10	6,668.6	3,387.6	3,387.7	0.99	
10,549.0	91.80	88.20	6,665.0	3,482.5	3,482.6	2.17	
10,643.0	92.00	87.60	6,661.9	3,576.4	3,576.4	0.67	
10,738.0	92.00	87.80	6,658.6	3,671.3	3,671.3	0.21	
10,833.0	93.10	88.30	6,654.3	3,766.1	3,766.1	1.27	
10,928.0	93.60	87.30	6,648.8	3,860.9	3,860.9	1.18	
11,023.0	94.70	86.40	6,641.9	3,955.5	3,955.5	1.49	
11,070.0	95.40	86.20	6,637.8	4,002.2	4,002.2	1.55	
Last MWD @ 11070' MD / 6638' TVD							
11,136.0	95.40	86.20	6,631.6	4,067.8	4,067.7	0.00	
PTD @ 11136' MD / 6632' TVD / 306' FNL & 530' FEL Sec 11							

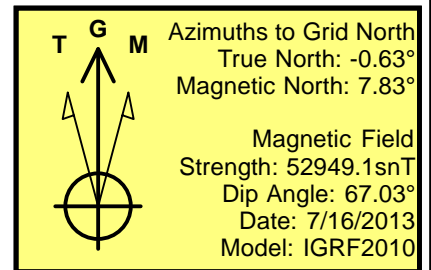
Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
728.0	727.9	-7.5	3.5	First MWD	
11,070.0	6,637.8	0.3	4,002.2	Last MWD @ 11070' MD / 6638' TVD	
11,136.0	6,631.6	4.6	4,067.8	PTD @ 11136' MD / 6632' TVD / 306' FNL & 530' FEL Sec 11	

Checked By: _____	Approved By: _____	Date: _____
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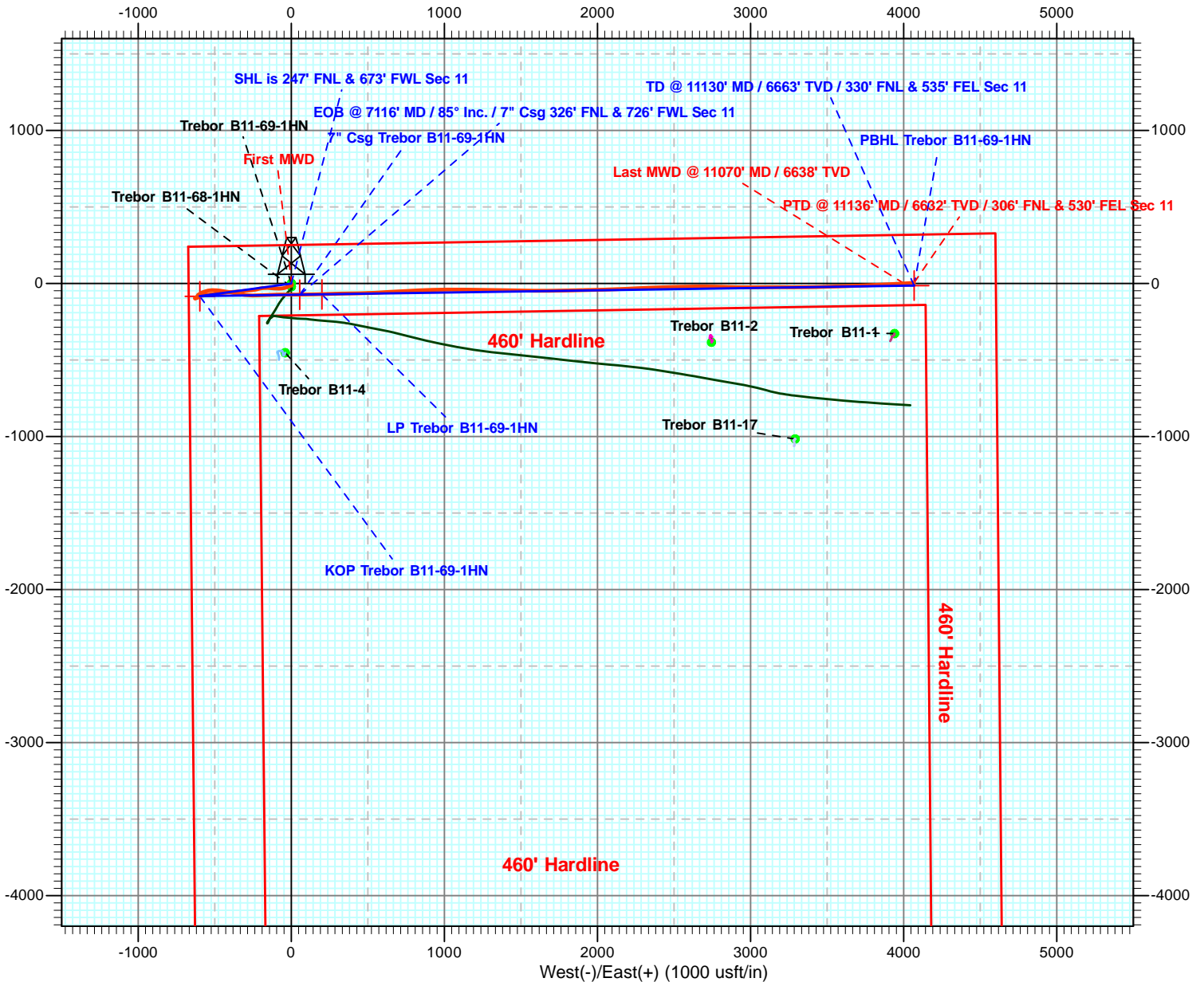
Weld County, CO (NAD 83)
 Sec 11 - T5N R64W (Trebor B11 Pad)
 Trebor B11-69-1HN

HP 330
 Plan #1



LEGEND

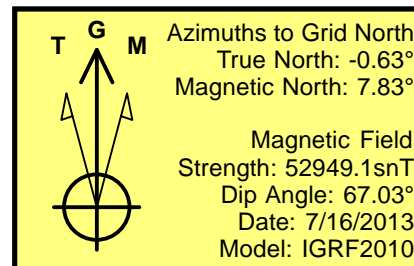
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- ◇ Trebor B11-17, Wellbore #1, OH V0
- ✦ Trebor B11-2, Wellbore #1, OH V0
- Trebor B11-4, Wellbore #1, OH V0
- Trebor B11-68-1HN, Wellbore #1, OH V0
- △ Trebor B11-69-1HN, Wellbore #1, OH V0
- ✕ Plan #1





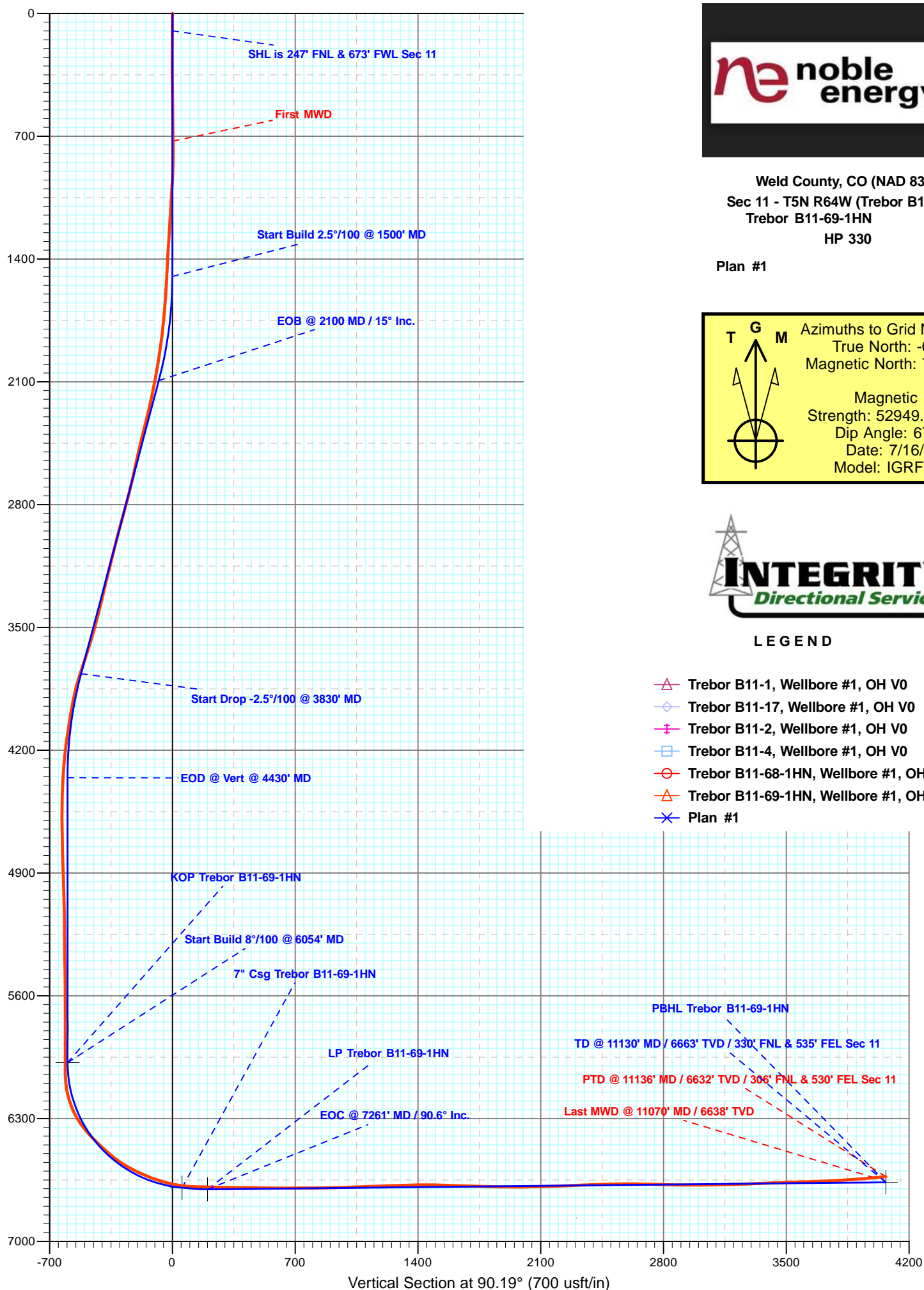
Weld County, CO (NAD 83)
 Sec 11 - T5N R64W (Trebor B11 Pad)
 Trebor B11-69-1HN
 HP 330

Plan #1



LEGEND

- △ Trebor B11-1, Wellbore #1, OH V0
- ◇ Trebor B11-17, Wellbore #1, OH V0
- ✦ Trebor B11-2, Wellbore #1, OH V0
- Trebor B11-4, Wellbore #1, OH V0
- Trebor B11-68-1HN, Wellbore #1, OH V0
- △ Trebor B11-69-1HN, Wellbore #1, OH V0
- ✕ Plan #1





Job Number: CO13398NB
Company: Noble Energy
Lease/Well: Trebor B11-68-1HN
Location: Weld county rd. 58 1/2
Rig Name: H&P 330
RKB:
G.L. or M.S.L.:

State/Country: Colorado
Declination:
Grid:
File name: C:\WINSERVE\CO13399N.SVY
Date/Time: 12-Aug-13 / 12:12
Curve Name: Trebor B11-69-1HN

Integrity Directional Services

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 90.19
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

<i>Measured Depth FT</i>	<i>Incl Angle Deg</i>	<i>Drift Direction Deg</i>	<i>True Vertical Depth</i>	<i>N-S FT</i>	<i>E-W FT</i>	<i>Vertical Section FT</i>	<i>C L O S U R E Distance FT</i>	<i>Direction Deg</i>	<i>Dogleg Severity Deg/100</i>
Tied Into MSS Surveys									
675.00	1.20	147.23	674.94	-6.32	3.14	3.16	7.06	153.61	.00
First MWD Survey									
728.00	1.60	171.80	727.92	-7.52	3.54	3.57	8.31	154.78	1.34
821.00	1.60	172.40	820.88	-10.09	3.90	3.93	10.82	158.88	.02
915.00	2.60	234.60	914.83	-12.63	2.33	2.38	12.84	169.53	2.48
1009.00	3.90	256.00	1008.68	-14.64	-2.51	-2.46	14.85	189.71	1.87
1103.00	3.70	255.00	1102.47	-16.20	-8.54	-8.48	18.31	207.80	.22
1196.00	3.70	251.60	1195.28	-17.92	-14.28	-14.22	22.91	218.56	.24
1291.00	3.70	250.20	1290.08	-19.92	-20.08	-20.01	28.28	225.22	.10
1386.00	3.90	249.40	1384.87	-22.10	-25.98	-25.91	34.11	229.62	.22
1481.00	3.30	246.00	1479.69	-24.35	-31.51	-31.43	39.82	232.30	.67
1576.00	3.20	242.10	1574.53	-26.70	-36.35	-36.26	45.10	233.70	.26
1670.00	4.60	255.50	1668.32	-28.87	-42.32	-42.22	51.23	235.69	1.77
1765.00	6.00	263.10	1762.91	-30.42	-50.93	-50.83	59.33	239.15	1.65
1860.00	7.40	262.20	1857.26	-31.85	-61.92	-61.82	69.64	242.78	1.48
1954.00	8.80	263.80	1950.32	-33.45	-75.07	-74.96	82.19	245.98	1.51
2049.00	10.00	273.10	2044.04	-33.79	-90.53	-90.42	96.63	249.53	2.03
2143.00	11.30	277.30	2136.43	-32.18	-107.82	-107.71	112.52	253.38	1.61
2238.00	12.50	274.10	2229.38	-30.26	-127.31	-127.20	130.85	256.63	1.44
2333.00	14.30	273.10	2321.79	-28.89	-149.28	-149.18	152.05	259.05	1.91
2428.00	13.90	266.80	2413.94	-28.89	-172.39	-172.29	174.79	260.49	1.67
2522.00	13.00	259.20	2505.36	-31.50	-194.05	-193.94	196.59	260.78	2.11

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
				FT	FT	FT	Distance FT	Direction Deg	
2617.00	12.30	256.90	2598.06	-35.80	-214.40	-214.28	217.37	260.52	.91
2712.00	14.40	259.20	2690.49	-40.31	-235.86	-235.73	239.28	260.30	2.28
2807.00	14.60	263.90	2782.46	-43.79	-259.37	-259.22	263.04	260.42	1.26
2902.00	15.70	264.10	2874.16	-46.39	-284.06	-283.91	287.83	260.73	1.16
2997.00	14.80	263.80	2965.81	-49.02	-308.91	-308.75	312.78	260.98	.95
3091.00	13.90	267.60	3056.88	-50.79	-332.13	-331.96	335.99	261.31	1.39
3186.00	14.40	265.70	3149.00	-52.15	-355.31	-355.13	359.12	261.65	.72
3281.00	13.70	266.10	3241.16	-53.80	-378.31	-378.13	382.12	261.91	.74
3376.00	13.40	261.70	3333.52	-56.16	-400.43	-400.24	404.35	262.02	1.13
3471.00	14.40	262.00	3425.73	-59.39	-423.02	-422.82	427.17	262.01	1.06
3566.00	16.00	263.80	3517.41	-62.45	-447.74	-447.53	452.07	262.06	1.76
3660.00	17.40	263.40	3607.44	-65.46	-474.58	-474.36	479.07	262.15	1.49
3755.00	18.70	263.90	3697.76	-68.71	-503.83	-503.60	508.50	262.23	1.38
3850.00	17.60	262.90	3788.04	-72.11	-533.23	-532.99	538.08	262.30	1.20
3945.00	12.50	262.00	3879.75	-75.31	-557.68	-557.43	562.74	262.31	5.37
4040.00	10.40	261.10	3972.85	-78.07	-576.33	-576.07	581.60	262.29	2.22
4135.00	8.60	257.30	4066.54	-80.96	-591.74	-591.46	597.25	262.21	2.01
4229.00	7.40	254.10	4159.63	-84.16	-604.41	-604.13	610.25	262.07	1.36
4324.00	6.20	249.70	4253.96	-87.62	-615.11	-614.82	621.32	261.89	1.38
4419.00	4.00	243.60	4348.58	-90.87	-622.89	-622.59	629.48	261.70	2.38
4514.00	2.80	241.40	4443.41	-93.46	-627.90	-627.58	634.81	261.53	1.27
4609.00	.90	167.80	4538.36	-95.30	-629.78	-629.46	636.94	261.40	2.83
4704.00	1.40	166.70	4633.34	-97.16	-629.35	-629.03	636.81	261.22	.53
4799.00	1.60	97.70	4728.32	-98.46	-627.77	-627.44	635.44	261.09	1.80
4894.00	2.30	58.50	4823.27	-97.65	-624.83	-624.50	632.41	261.12	1.54
4989.00	2.50	53.90	4918.18	-95.43	-621.53	-621.21	628.81	261.27	.29
5084.00	1.20	80.60	5013.13	-94.05	-618.87	-618.56	625.98	261.36	1.61
5179.00	1.10	75.50	5108.12	-93.65	-617.01	-616.70	624.08	261.37	.15
5274.00	.90	66.50	5203.10	-93.13	-615.44	-615.13	622.45	261.40	.27
5369.00	.40	124.50	5298.10	-93.02	-614.49	-614.17	621.49	261.39	.81
5463.00	1.10	58.80	5392.09	-92.74	-613.44	-613.13	620.41	261.40	1.07
5558.00	1.10	46.90	5487.07	-91.64	-612.00	-611.69	618.82	261.48	.24
5653.00	.90	31.90	5582.06	-90.39	-610.94	-610.63	617.59	261.58	.35
5748.00	1.80	7.30	5677.03	-88.27	-610.35	-610.06	616.70	261.77	1.11
5843.00	1.80	1.00	5771.98	-85.30	-610.14	-609.85	616.07	262.04	.21
5937.00	1.40	342.50	5865.95	-82.73	-610.46	-610.18	616.04	262.28	.69
6032.00	1.00	346.80	5960.93	-80.82	-611.00	-610.72	616.32	262.47	.43
6080.00	2.90	356.20	6008.90	-79.20	-611.17	-610.91	616.28	262.62	4.00
6127.00	4.80	28.90	6055.79	-76.29	-610.30	-610.04	615.05	262.88	6.02
6175.00	7.70	55.10	6103.51	-72.69	-606.69	-606.45	611.03	263.17	8.33
6222.00	13.20	58.80	6149.71	-68.10	-599.51	-599.28	603.37	263.52	11.78
6270.00	18.70	61.00	6195.85	-61.53	-588.09	-587.88	591.30	264.03	11.53
6317.00	23.80	67.80	6239.65	-54.29	-572.70	-572.52	575.27	264.59	12.03
6364.00	28.80	75.70	6281.78	-47.90	-552.93	-552.77	555.01	265.05	12.97
6412.00	34.30	84.30	6322.69	-43.70	-528.24	-528.09	530.05	265.27	14.78

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
Distance FT	Direction Deg								
6459.00	39.30	93.20	6360.34	-43.21	-500.16	-500.02	502.03	265.06	15.53
6507.00	43.10	98.40	6396.46	-46.46	-468.74	-468.59	471.04	264.34	10.65
6554.00	45.50	98.40	6430.09	-51.25	-436.27	-436.10	439.27	263.30	5.11
6601.00	47.40	99.70	6462.48	-56.62	-402.64	-402.45	406.60	262.00	4.51
6649.00	49.20	101.00	6494.41	-63.06	-367.38	-367.17	372.76	260.26	4.26
6696.00	52.80	100.50	6523.98	-69.87	-331.51	-331.27	338.79	258.10	7.70
6744.00	56.60	96.10	6551.72	-75.48	-292.76	-292.51	302.33	255.54	10.89
6791.00	60.80	90.70	6576.15	-77.82	-252.70	-252.44	264.41	252.88	13.27
6838.00	63.80	87.30	6598.00	-77.08	-211.11	-210.85	224.74	249.94	9.04
6886.00	66.00	87.10	6618.36	-74.96	-167.69	-167.44	183.68	245.92	4.60
6933.00	68.90	88.70	6636.38	-73.37	-124.32	-124.08	144.36	239.45	6.92
6981.00	71.80	89.10	6652.52	-72.51	-79.13	-78.89	107.32	227.50	6.09
7028.00	75.20	89.80	6665.87	-72.08	-34.07	-33.84	79.72	205.30	7.37
7076.00	79.50	90.60	6676.38	-72.24	12.75	12.99	73.36	169.99	9.10
7200.00	89.00	88.50	6688.79	-71.25	135.97	136.21	153.51	117.66	7.84
7231.00	89.00	88.20	6689.33	-70.36	166.95	167.19	181.18	112.85	.97
7326.00	88.30	88.30	6691.57	-67.46	261.88	262.11	270.43	104.45	.74
7421.00	89.20	88.70	6693.64	-64.98	356.83	357.04	362.69	100.32	1.04
7516.00	89.60	88.90	6694.63	-62.99	451.80	452.01	456.17	97.94	.47
7611.00	88.90	87.30	6695.88	-59.84	546.74	546.93	550.00	96.25	1.84
7705.00	90.60	86.20	6696.29	-54.51	640.58	640.76	642.89	94.86	2.15
7800.00	89.60	87.10	6696.12	-48.96	735.41	735.57	737.04	93.81	1.42
7895.00	91.10	87.30	6695.54	-44.32	830.30	830.44	831.48	93.06	1.59
7990.00	91.30	88.90	6693.55	-41.17	925.22	925.35	926.14	92.55	1.70
8084.00	92.20	89.00	6690.68	-39.45	1019.16	1019.29	1019.92	92.22	.96
8179.00	90.80	91.00	6688.19	-39.45	1114.12	1114.25	1114.82	92.03	2.57
8274.00	93.30	90.80	6684.80	-40.94	1209.04	1209.17	1209.73	91.94	2.64
8369.00	92.00	90.80	6680.40	-42.26	1303.93	1304.06	1304.61	91.86	1.37
8464.00	90.60	90.80	6678.25	-43.59	1398.89	1399.03	1399.57	91.78	1.47
8559.00	88.90	91.30	6678.66	-45.33	1493.87	1494.01	1494.56	91.74	1.87
8654.00	88.00	91.20	6681.23	-47.40	1588.81	1588.96	1589.52	91.71	.95
8749.00	88.20	89.00	6684.38	-47.57	1683.75	1683.90	1684.43	91.62	2.32
8843.00	87.80	88.50	6687.66	-45.52	1777.67	1777.82	1778.26	91.47	.68
8938.00	89.40	89.00	6689.98	-43.45	1872.62	1872.75	1873.12	91.33	1.76
9033.00	90.60	88.90	6689.98	-41.70	1967.60	1967.73	1968.04	91.21	1.27
9127.00	90.60	88.00	6689.00	-39.16	2061.56	2061.68	2061.93	91.09	.96
9222.00	91.70	87.80	6687.09	-35.68	2156.48	2156.58	2156.77	90.95	1.18
9317.00	92.60	87.10	6683.53	-31.46	2251.31	2251.41	2251.53	90.80	1.20
9412.00	92.90	87.60	6678.97	-27.07	2346.10	2346.18	2346.26	90.66	.61
9507.00	91.50	88.20	6675.32	-23.59	2440.97	2441.03	2441.08	90.55	1.60
9601.00	91.10	88.70	6673.19	-21.05	2534.91	2534.96	2535.00	90.48	.68
9696.00	89.60	89.00	6672.61	-19.14	2629.88	2629.93	2629.95	90.42	1.61
9791.00	88.20	90.80	6674.43	-18.98	2724.86	2724.91	2724.93	90.40	2.40
9885.00	88.20	91.70	6677.39	-21.03	2818.79	2818.84	2818.87	90.43	.96
9980.00	89.60	91.00	6679.21	-23.27	2913.74	2913.80	2913.84	90.46	1.65

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E Distance FT	Direction Deg	Dogleg Severity Deg/100
10075.00	90.30	89.90	6679.29	-24.01	3008.74	3008.80	3008.83	90.46	1.37
10170.00	91.00	89.60	6678.22	-23.60	3103.73	3103.79	3103.82	90.44	.80
10265.00	92.20	90.30	6675.56	-23.51	3198.69	3198.75	3198.78	90.42	1.46
10359.00	91.80	89.60	6672.28	-23.43	3292.63	3292.69	3292.72	90.41	.86
10454.00	92.60	90.10	6668.64	-23.18	3387.56	3387.62	3387.64	90.39	.99
10549.00	91.80	88.20	6664.99	-21.77	3482.48	3482.53	3482.54	90.36	2.17
10643.00	92.00	87.60	6661.87	-18.33	3576.36	3576.40	3576.41	90.29	.67
10738.00	92.00	87.80	6658.56	-14.52	3671.23	3671.25	3671.26	90.23	.21
10833.00	93.10	88.30	6654.33	-11.29	3766.08	3766.09	3766.09	90.17	1.27
10928.00	93.60	87.30	6648.78	-7.65	3860.84	3860.85	3860.85	90.11	1.18
11023.00	94.70	86.40	6641.90	-2.45	3955.45	3955.43	3955.45	90.04	1.49
Last MWD Survey									
11070.00	95.40	86.20	6637.77	.57	4002.17	4002.14	4002.17	89.99	1.55
Straight Line Projection to TD									
11136.00	95.40	86.20	6631.56	4.93	4067.73	4067.69	4067.73	89.93	.00