

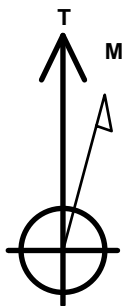
PETROLEUM DEVELOPMENT CORP DJ Basin

Well Name: **Elbert 1N**

Surface Location: Elbert 1-12 Pad Sec.21-T5N-R65W
 North American Datum 1983 , US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4638.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1383603.36 3229751.36 40.383460 -104.675260
 Original Well Elev WELL @ 4661.0ft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 2209' FSL, 710'FWL, SEC.21	1.0	0.0	0.0	Point
BHL 1471'FNL, 0'FEL, SEC.21	6910.0	1607.0	4563.0	Point
LPL 1463'FNL, 819'FWL, SEC.21	6940.0	1595.7	105.9	Point



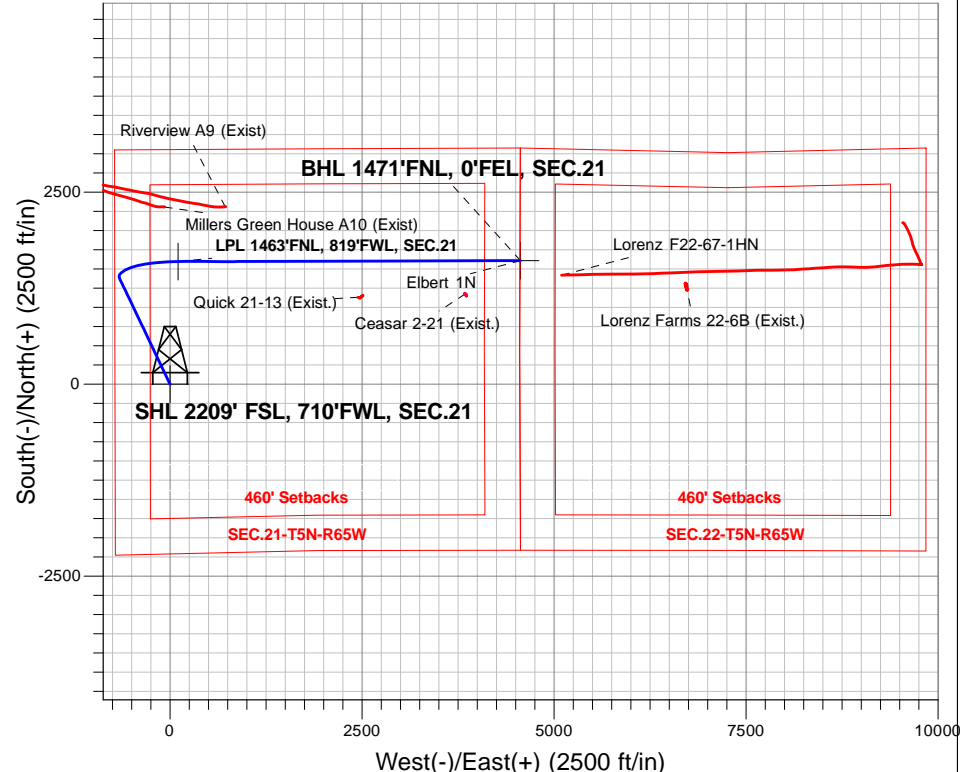
Azimuths to True North
 Magnetic North: 8.07°

Magnetic Field
 Strength: 52556.5snT
 Dip Angle: 66.86°
 Date: 12/6/2016
 Model: IGRF2010

Elbert 1-12 Pad Sec.21-T5N-R65W
 Elbert 1N
 Plan #3 (1-12-17)
 11:58, January 16 2017

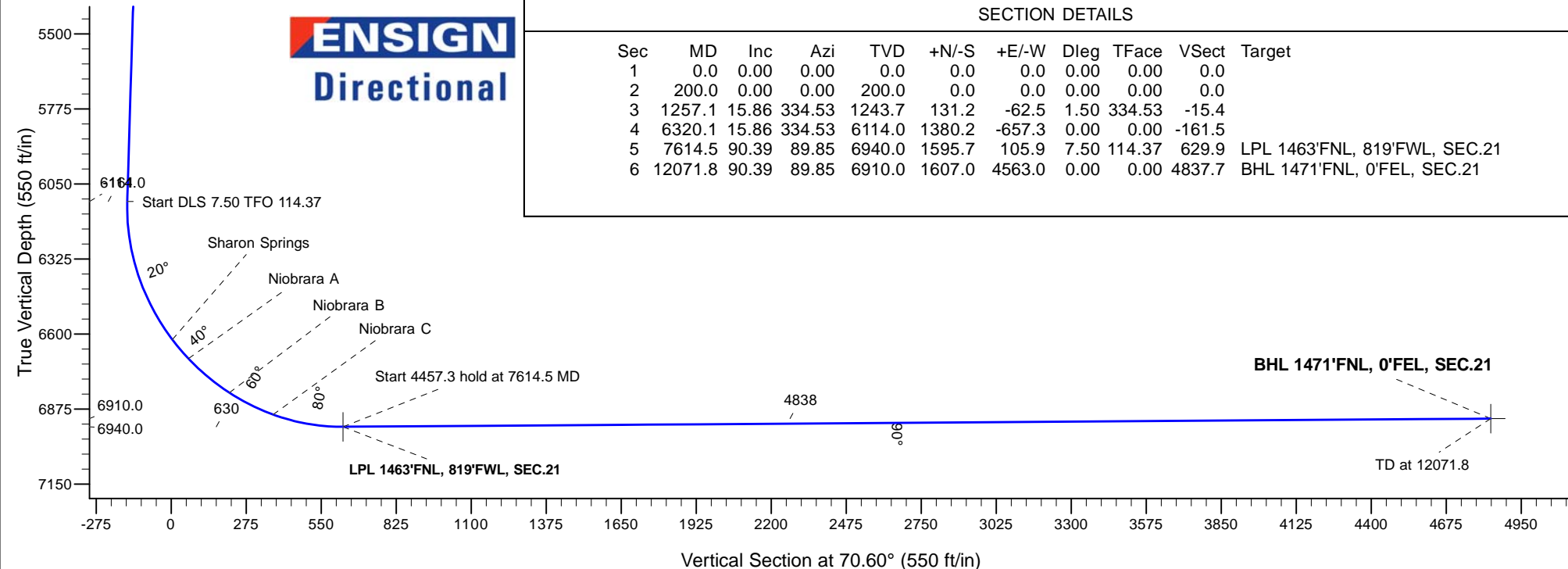
ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP - Start Build 1.50
1243.7	1257.1	Start 5063.0 hold at 1257.1 MD
6114.0	6320.1	Start DLS 7.50 TFO 114.37
6940.0	7614.5	Start 4457.3 hold at 7614.5 MD
6910.0	12071.8	TD at 12071.8



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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1257.1	15.86	334.53	1243.7	131.2	-62.5	1.50	334.53	-15.4	
4	6320.1	15.86	334.53	6114.0	1380.2	-657.3	0.00	0.00	-161.5	
5	7614.5	90.39	89.85	6940.0	1595.7	105.9	7.50	114.37	629.9	LPL 1463'FNL, 819'FWL, SEC.21
6	12071.8	90.39	89.85	6910.0	1607.0	4563.0	0.00	0.00	4837.7	BHL 1471'FNL, 0'FEL, SEC.21





PETROLEUM DEVELOPMENT CORP DJ Basin

**SEC.21-T5N-R65W
Elbert 1-12 Pad Sec.21-T5N-R65W
Elbert 1N**

**Wellbore #1
Plan #3 (1-12-17)**

Anticollision Report

16 January, 2017



Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Elbert 1N
Project:	SEC.21-T5N-R65W	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Reference Site:	Elbert 1-12 Pad Sec.21-T5N-R65W	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Elbert 1N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.45 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #3 (1-12-17)	Offset TVD Reference:	Offset Datum

Reference	Plan #3 (1-12-17)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,200.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.45 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	1/16/2017		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	12,071.8	Plan #3 (1-12-17) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Elbert 1-12 Pad Sec.21-T5N-R65W						
Elbert 10N - Wellbore #1 - Plan #5 (1-12-17)	200.0	200.0	134.8	134.0	163.217	CC, ES
Elbert 10N - Wellbore #1 - Plan #5 (1-12-17)	1,100.0	1,091.7	235.1	229.1	39.106	SF
Elbert 11N - Wellbore #1 - Plan #4 (1-12-17)	200.0	200.0	149.4	148.6	180.856	CC, ES
Elbert 11N - Wellbore #1 - Plan #4 (1-12-17)	3,600.0	3,396.5	1,181.0	1,155.4	46.248	SF
Elbert 12N - Wellbore #1 - Plan #6 (1-13-17)	200.0	200.0	164.0	163.1	198.495	CC, ES
Elbert 12N - Wellbore #1 - Plan #6 (1-13-17)	3,300.0	3,080.7	1,176.2	1,152.9	50.364	SF
Elbert 2N - Wellbore #1 - Plan #3 (1-12-17)	200.0	200.0	14.6	13.8	17.647	CC
Elbert 2N - Wellbore #1 - Plan #3 (1-12-17)	12,071.8	11,964.6	236.0	-96.0	0.711	Level 1, ES, SF
Elbert 3N - Wellbore #1 - Plan #4 (1-12-17)	200.0	200.0	29.1	28.3	35.284	CC, ES
Elbert 3N - Wellbore #1 - Plan #4 (1-12-17)	12,071.8	12,000.4	440.0	97.4	1.284	Level 3, SF
Elbert 4N - Wellbore #1 - Plan #3 (1-12-17)	200.0	200.0	43.7	42.9	52.921	CC, ES
Elbert 4N - Wellbore #1 - Plan #3 (1-12-17)	12,071.8	11,883.8	717.6	377.5	2.110	SF
Elbert 5N - Wellbore #1 - Plan #3 (1-12-17)	200.0	200.0	58.3	57.5	70.562	CC, ES
Elbert 5N - Wellbore #1 - Plan #3 (1-12-17)	12,071.8	11,932.8	959.1	616.6	2.800	SF
Elbert 6N - Wellbore #1 - Plan #3 (1-12-17)	200.0	200.0	76.5	75.7	92.620	CC, ES
Elbert 6N - Wellbore #1 - Plan #3 (1-12-17)	6,100.0	6,045.3	1,038.0	990.1	21.664	SF
Elbert 7N - Wellbore #1 - Plan #4 (1-12-17)	200.0	200.0	91.1	90.3	110.318	CC, ES
Elbert 7N - Wellbore #1 - Plan #4 (1-12-17)	5,900.0	5,807.7	1,199.4	1,154.3	26.586	SF
Elbert 8N - Wellbore #1 - Plan #4 (1-12-17)	200.0	200.0	105.7	104.9	127.958	CC, ES
Elbert 8N - Wellbore #1 - Plan #4 (1-12-17)	5,100.0	4,981.4	1,199.4	1,162.3	32.335	SF
Elbert 9N - Wellbore #1 - Plan #4 (1-12-17)	200.0	200.0	120.3	119.4	145.589	CC, ES
Elbert 9N - Wellbore #1 - Plan #4 (1-12-17)	1,000.0	994.2	199.4	194.0	36.764	SF
Existing Wells Sec.25-T5N-R65W						
Cesar 2-21 (Exist.) - Wellbore #1 - Wellbore #1	11,348.5	6,883.0	430.8	268.7	2.658	CC, ES
Cesar 2-21 (Exist.) - Wellbore #1 - Wellbore #1	11,400.0	6,882.6	433.9	270.0	2.648	SF
Millers Green House A10 (Exist) - Wellbore #1 - Wellbore	7,471.3	7,150.4	714.9	649.8	10.969	CC, ES
Millers Green House A10 (Exist) - Wellbore #1 - Wellbore	7,600.0	7,162.9	729.0	661.4	10.776	SF
Riverview A9 (Exist) - Wellbore #1 - Wellbore #1	8,233.7	7,442.9	711.5	608.3	6.891	CC, ES
Riverview A9 (Exist) - Wellbore #1 - Wellbore #1	8,400.0	7,441.9	730.7	622.7	6.765	SF
Lorenz F22-67-1HN Pad Sec.22-T5N-R65W						
Lorenz F22-67-1HN - Wellbore #1 - Wellbore #1	12,071.8	11,183.0	572.4	265.6	1.866	CC, ES, SF
Lorenz Farms 22-6B (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Quick 21-13 (Exist.) - Wellbore #1 - Wellbore #1	9,963.8	6,900.3	473.8	354.6	3.977	CC, ES
Quick 21-13 (Exist.) - Wellbore #1 - Wellbore #1	10,000.0	6,900.0	475.1	354.8	3.949	SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation