PDC ENERGY

Well Name: Erwin 4N
Surface Location: Erwin 5N64W27 PAD
North American Datum 1983
US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4684.0
WELL @ 4707.0usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1377057.15	3268974.51	40° 21' 51.857 N	104° 32' 5.015 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	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	1645.7	21.69	166.51	1611.5	-262.9	63.1	1.50	166.51	-252.8	
4	5986.1	21.69	166.51	5644.6	-1822.5	437.2	0.00	0.00	-1752.5	
5	7466.9	90.09	0.87	6677.0	-1109.7	550.0	7.50	-164.59	-1031.2	
6	13621.9	90.09	0.87	6667.8	5044.6	643.2	0.00	0.00	5085.5	

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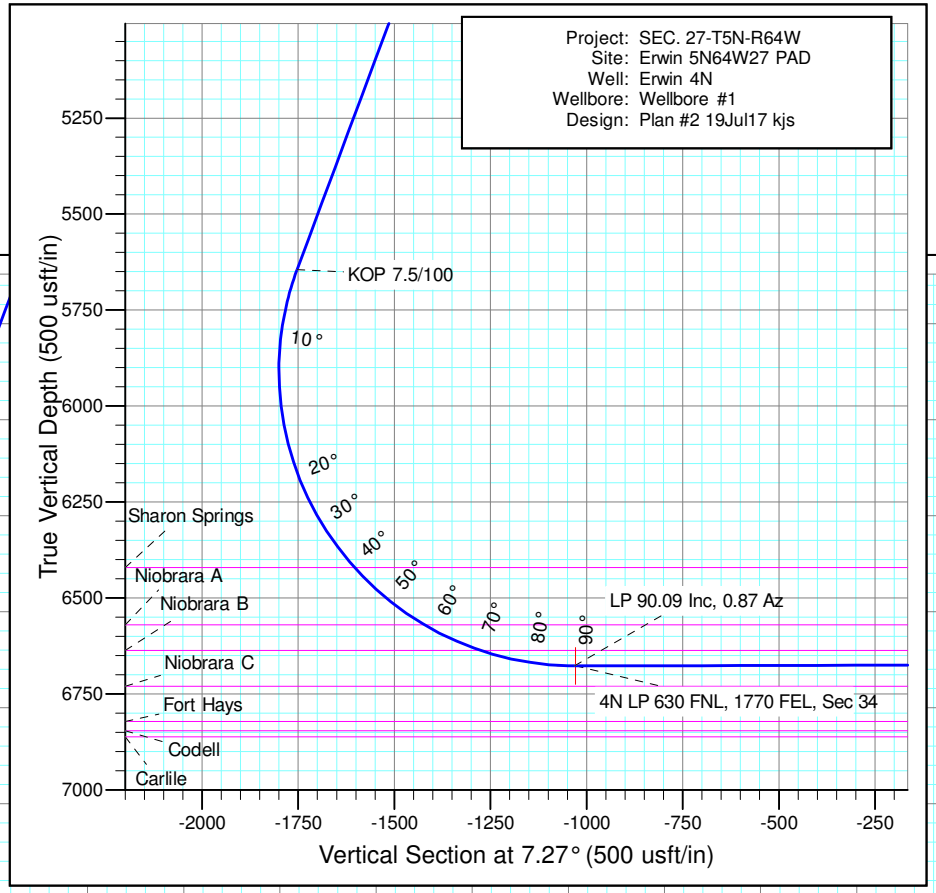
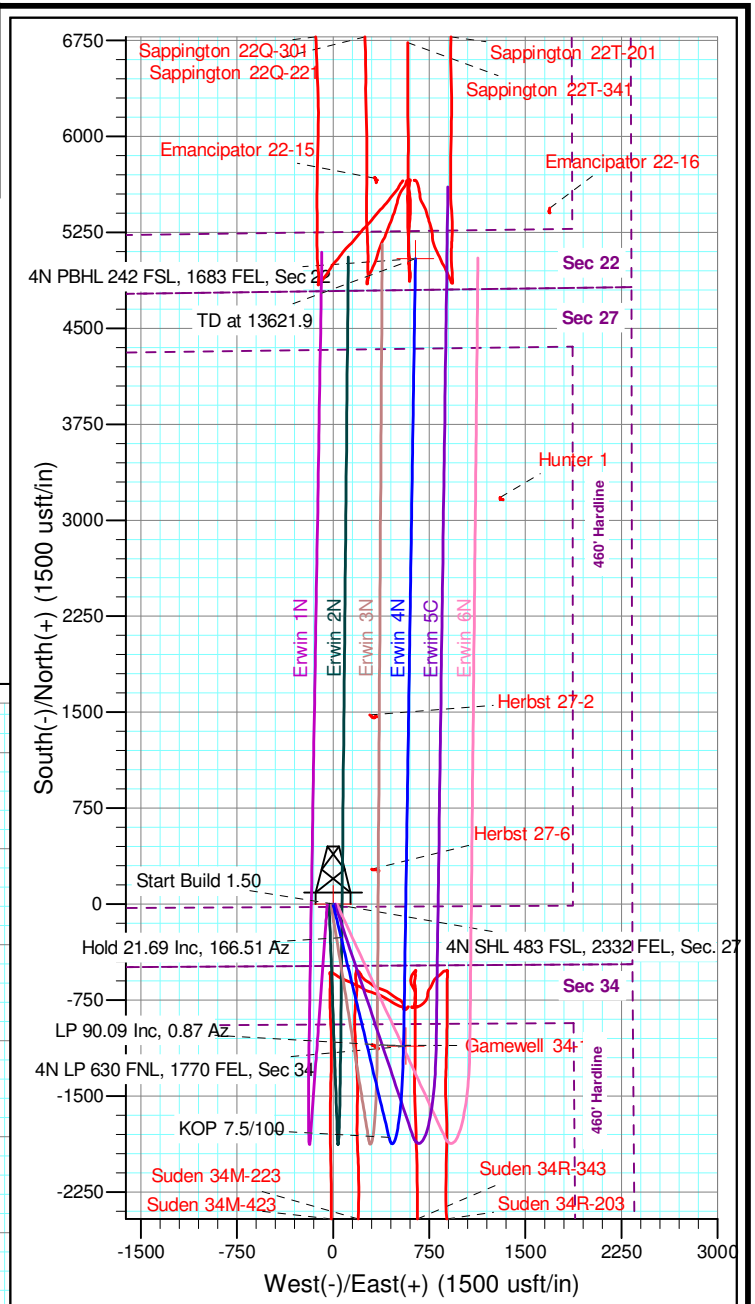
Azimuths to True North
Magnetic North: 8.09°

Magnetic Field
Strength: 52398.6snT
Dip Angle: 66.86°
Date: 06/18/2017
Model: IGRF2015





PDC Energy Inc. DJ Basin

SEC. 27-T5N-R64W
Erwin 5N64W27 PAD
Erwin 4N

Wellbore #1
Plan #2 19Jul17 kjs

Anticollision Report

19 July, 2017

Company:	PDC Energy Inc. DJ Basin	**Local Co-ordinate Reference:**	Well Erwin 4N
Project:	SEC. 27-T5N-R64W	**TVD Reference:**	WELL @ 4707.0usft (Original Well Elev)
Reference Site:	Erwin 5N64W27 PAD	**MD Reference:**	WELL @ 4707.0usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	True
Reference Well:	Erwin 4N	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.45 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #2 19Jul17 kjs	**Offset TVD Reference:**	Offset Datum

Reference	Plan #2 19Jul17 kjs		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,682.5 usft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.45 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 07/19/17

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	13,621.9	Plan #2 19Jul17 kjs (Wellbore #1)	MWD	MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Erwin 5N64W27 PAD						
Erwin 1N - Wellbore #1 - Plan #2 19Jul17 kjs	200.0	200.0	44.9	44.2	58.897	CC
Erwin 1N - Wellbore #1 - Plan #2 19Jul17 kjs	300.0	299.9	45.3	44.1	36.098	ES
Erwin 1N - Wellbore #1 - Plan #2 19Jul17 kjs	13,621.9	13,693.1	735.4	463.2	2.702	SF
Erwin 2N - Wellbore #1 - Plan #2 19Jul17 kjs	200.0	200.0	30.0	29.2	39.314	CC
Erwin 2N - Wellbore #1 - Plan #2 19Jul17 kjs	300.0	300.0	30.2	29.0	24.086	ES
Erwin 2N - Wellbore #1 - Plan #2 19Jul17 kjs	13,621.9	13,607.8	523.7	250.2	1.915	SF
Erwin 3N - Wellbore #1 - Plan #2 19Jul17 kjs	200.0	200.0	14.9	14.1	19.547	CC
Erwin 3N - Wellbore #1 - Plan #2 19Jul17 kjs	13,621.9	13,688.1	269.4	1.7	1.006	Level 2, ES, SF
Erwin 5C - Wellbore #1 - Design #1 18Jun17 jps	363.6	363.6	14.6	13.0	9.022	CC
Erwin 5C - Wellbore #1 - Design #1 18Jun17 jps	400.0	399.9	14.7	12.9	8.125	ES
Erwin 5C - Wellbore #1 - Design #1 18Jun17 jps	13,621.9	13,875.6	304.1	72.5	1.313	Level 3, SF
Erwin 6N - Wellbore #1 - Design #1 18Jun17 jps	200.0	200.0	30.0	29.2	39.313	CC
Erwin 6N - Wellbore #1 - Design #1 18Jun17 jps	300.0	299.7	30.2	29.0	24.062	ES
Erwin 6N - Wellbore #1 - Design #1 18Jun17 jps	13,621.9	13,676.5	487.6	213.5	1.779	SF
Existing Wells Sec 34 T5N R64W						
Gamewell 34-1 - Wellbore #1 - Wellbore #1	4,028.8	3,803.6	57.1	18.1	1.465	Level 3, CC, ES, SF
Suden 34M-223 - Wellbore #1 - Wellbore #1	3,127.3	2,990.7	252.0	222.8	8.631	CC, ES
Suden 34M-223 - Wellbore #1 - Wellbore #1	7,100.0	7,289.6	361.9	298.1	5.672	SF
Suden 34M-423 - Wellbore #1 - Wellbore #1	2,855.1	2,728.0	80.5	53.1	2.936	CC, ES, SF
Suden 34R-203 - Wellbore #1 - Wellbore #1	7,300.0	7,108.9	339.0	279.0	5.650	SF
Suden 34R-203 - Wellbore #1 - Wellbore #1	7,400.0	7,005.5	336.9	278.2	5.737	ES
Suden 34R-203 - Wellbore #1 - Wellbore #1	7,435.1	6,970.7	336.7	278.5	5.780	CC
Suden 34R-343 - Wellbore #1 - Wellbore #1	7,633.8	6,802.5	87.3	32.0	1.578	CC, ES, SF
Existing Wells Sec. 22-T5N-R64W						
Emancipator 22-15 - Wellbore #1 - Wellbore #1	13,621.9	6,572.5	703.9	550.4	4.586	CC, ES, SF
Emancipator 22-16 - Wellbore #1 - Wellbore #1	13,621.9	6,542.0	1,119.8	966.4	7.299	CC, ES, SF
Sappington 22Q-221 - Wellbore #1 - Wellbore #1	13,621.9	6,599.9	398.4	247.6	2.641	CC, ES, SF
Sappington 22Q-301 - Wellbore #1 - Wellbore #1	13,621.9	6,660.2	774.7	617.3	4.921	CC, ES, SF
Sappington 22T-201 - Wellbore #1 - Wellbore #1	13,621.9	6,594.1	329.4	182.7	2.245	CC, ES, SF
Sappington 22T-341 - Wellbore #1 - Wellbore #1	13,621.9	6,615.0	149.5	50.3	1.507	CC, ES, SF
Existing Wells Sec. 27 T5N R64W						
Hunter 1 - Wellbore #1 - Wellbore #1						Out of range
Herbst 27-2 - Wellbore #1 - Wellbore #1	10,046.4	6,567.0	296.0	219.2	3.856	CC, ES, SF
Herbst 27-6 - Wellbore #1 - Wellbore #1	8,843.4	6,595.7	266.2	207.9	4.572	CC, ES, SF