

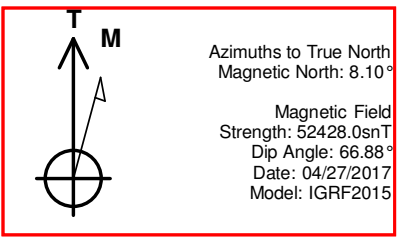


Well Name: Ferguson 23F-302  
Surface Location: Ferguson 5N64W23F Pad  
North American Datum 1983  
US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4575.0  
WELL @ 4598.0usft (Original Well Elev)

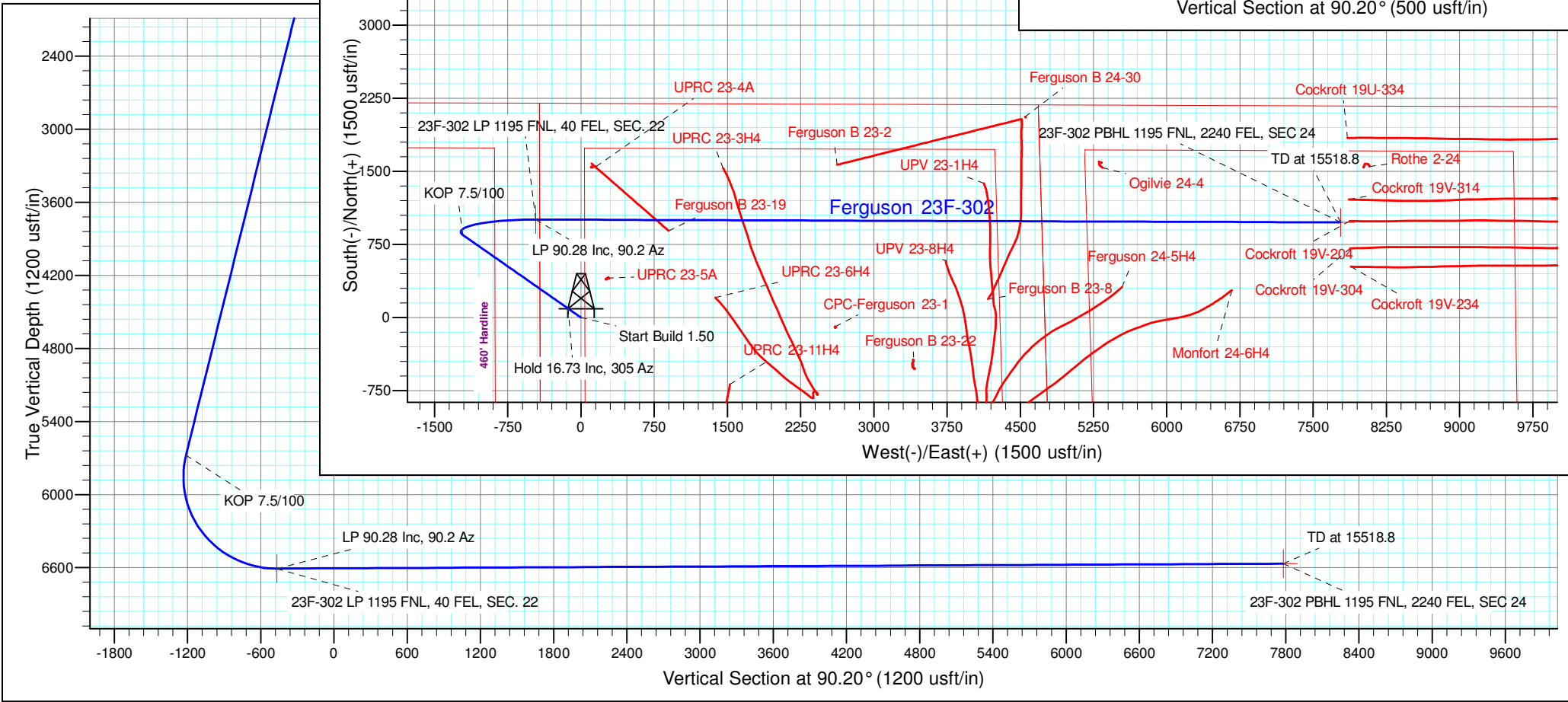
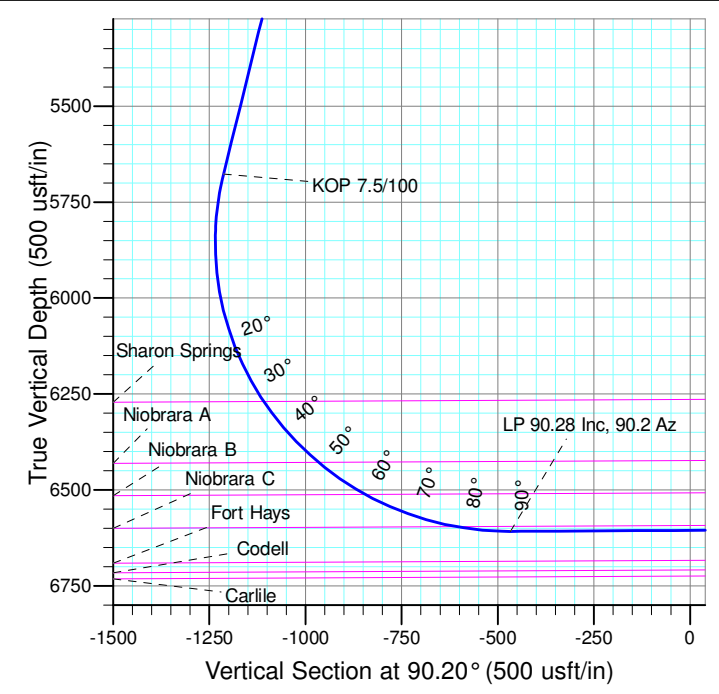
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1384965.92 3271629.52 40° 23' 9.720 N 104° 31' 29.594 W

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	1315.1	16.73	305.00	1299.3	92.7	-132.4	1.50	305.00	-132.7	
4	5886.4	16.73	305.00	5677.3	847.3	-1210.0	0.00	0.00	-1213.0	
5	7272.3	90.28	90.20	6608.0	1005.2	-463.5	7.50	143.98	-467.0	23F-302 LP 1195 FNL, 40 FEL, SEC. 22
6	15518.8	90.28	90.20	6568.0	976.7	7782.8	0.00	0.00	7779.4	23F-302 PBHL 1195 FNL, 2240 FEL, SEC 24



Project: SEC. 23-T5N-R64W  
Site: Ferguson 5N64W23F Pad  
Well: Ferguson 23F-302  
Wellbore: Wellbore #1  
Design: Design #1 27Apr17 jps



<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Ferguson 23F-302
<b>Project:</b>	SEC. 23-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4598.0usft (Original Well Elev)
<b>Reference Site:</b>	Ferguson 5N64W23F Pad	<b>MD Reference:</b>	WELL @ 4598.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Ferguson 23F-302	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1 27Apr17 jps	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Design #1 27Apr17 jps		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0usft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,682.5 usft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.45 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	05/02/17		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	15,518.8	Design #1 27Apr17 jps (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells Sec. 23-T5N-R64W						
CPC-Ferguson 23-1 - Wellbore #1 - Wellbore #1 01May1	10,345.0	6,550.0	1,088.1	950.8	7.925	CC
CPC-Ferguson 23-1 - Wellbore #1 - Wellbore #1 01May1	10,400.0	6,550.0	1,089.5	950.4	7.831	ES
CPC-Ferguson 23-1 - Wellbore #1 - Wellbore #1 01May1	10,600.0	6,550.0	1,117.6	971.8	7.667	SF
Ferguson 24-5H4 - Wellbore #1 - Wellbore #1 01May17 j	13,248.7	7,511.5	734.4	481.7	2.906	CC, ES, SF
Ferguson B 23-19 - Wellbore #1 - Wellbore #1 01May17	8,634.6	6,708.9	110.7	16.3	1.172	Level 2, CC, ES, SF
Ferguson B 23-2 - Wellbore #1 - Wellbore #1 01May17 jp	10,359.3	6,963.2	573.9	400.4	3.308	CC, ES
Ferguson B 23-2 - Wellbore #1 - Wellbore #1 01May17 jp	10,400.0	6,962.6	575.3	400.5	3.290	SF
Ferguson B 23-22 - Wellbore #1 - Wellbore #1 01May17	11,153.4	6,585.2	1,520.4	1,353.9	9.133	CC
Ferguson B 23-22 - Wellbore #1 - Wellbore #1 01May17	11,200.0	6,583.5	1,521.1	1,353.1	9.052	ES
Ferguson B 23-22 - Wellbore #1 - Wellbore #1 01May17	11,600.0	6,569.5	1,584.6	1,403.1	8.732	SF
Ferguson B 23-8 - Wellbore #1 - Wellbore #1 01May17 jp	11,920.7	6,924.6	781.8	582.9	3.931	CC, ES
Ferguson B 23-8 - Wellbore #1 - Wellbore #1 01May17 jp	12,000.0	6,920.8	785.8	584.3	3.900	SF
Ferguson B 24-30 - Wellbore #1 - Wellbore #1 28Apr17 j						Out of range
Monfort 24-6H4 - Wellbore #1 - Wellbore #1 01May17 jps	14,380.6	7,603.8	722.2	396.0	2.214	CC
Monfort 24-6H4 - Wellbore #1 - Wellbore #1 01May17 jps	14,400.0	7,606.1	722.5	395.6	2.210	ES, SF
UPRC 23-11H4 - Wellbore #1 - Wellbore #1 01May17 jps						Out of range
UPRC 23-3H4 - Wellbore #1 - Wellbore #1 01May17 jps	9,238.0	7,236.9	455.2	337.4	3.863	CC, ES
UPRC 23-3H4 - Wellbore #1 - Wellbore #1 01May17 jps	9,300.0	7,229.6	459.4	339.9	3.844	SF
UPRC 23-4A - Wellbore #1 - Wellbore #1 28Apr17 jps	7,889.8	6,575.5	547.7	483.1	8.480	CC
UPRC 23-4A - Wellbore #1 - Wellbore #1 28Apr17 jps	7,900.0	6,575.4	547.8	482.9	8.449	ES
UPRC 23-4A - Wellbore #1 - Wellbore #1 28Apr17 jps	8,000.0	6,574.7	558.7	491.3	8.296	SF
UPRC 23-5A - Wellbore #1 - Wellbore #1 28Apr17 jps	417.2	395.7	494.5	492.7	264.331	CC
UPRC 23-5A - Wellbore #1 - Wellbore #1 28Apr17 jps	600.0	575.8	495.2	492.3	171.136	ES
UPRC 23-5A - Wellbore #1 - Wellbore #1 28Apr17 jps	8,200.0	6,588.9	628.6	555.9	8.648	SF
UPRC 23-6H4 - Wellbore #1 - Wellbore #1 01May17 jps	9,139.4	7,148.2	831.4	717.4	7.297	CC, ES
UPRC 23-6H4 - Wellbore #1 - Wellbore #1 01May17 jps	9,300.0	7,126.9	846.4	727.3	7.105	SF
UPV 23-1H4 - Wellbore #1 - Wellbore #1 01May17 jps	11,873.7	7,238.0	360.7	159.7	1.795	CC, ES
UPV 23-1H4 - Wellbore #1 - Wellbore #1 01May17 jps	11,900.0	7,236.3	361.6	159.8	1.792	SF
UPV 23-8H4 - Wellbore #1 - Wellbore #1 01May17 jps	11,479.2	7,133.2	439.7	254.8	2.378	CC
UPV 23-8H4 - Wellbore #1 - Wellbore #1 01May17 jps	11,500.0	7,132.6	440.2	254.6	2.372	ES, SF

## Anticollision Summary Report

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Ferguson 23F-302
<b>Project:</b>	SEC. 23-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4598.0usft (Original Well Elev)
<b>Reference Site:</b>	Ferguson 5N64W23F Pad	<b>MD Reference:</b>	WELL @ 4598.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Ferguson 23F-302	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1 27Apr17 jps	<b>Offset TVD Reference:</b>	Offset Datum

### Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
Existing Wells Sec. 24-T5N-R64W						
Cockroft 19U-334 - Wellbore #1 - Wellbore #1 28Apr17 jp	15,518.8	13,742.0	871.7	332.2	1.616	CC, ES, SF
Cockroft 19V-204 - Wellbore #1 - Wellbore #1 28Apr17 jp	15,518.8	13,816.0	136.3	-31.9	0.810	Level 1, CC, ES, SF
Cockroft 19V-234 - Wellbore #1 - Wellbore #1 28Apr17 jp	15,518.8	13,759.0	477.3	-51.6	0.902	Level 1, CC, ES, SF
Cockroft 19V-304 - Wellbore #1 - Wellbore #1 28Apr17 jp	15,518.8	13,797.0	285.5	-252.5	0.531	Level 1, CC, ES, SF
Cockroft 19V-314 - Wellbore #1 - Wellbore #1 28Apr17 jp	15,518.8	13,756.0	257.7	-271.0	0.487	Level 1, CC, ES, SF
Ogilvie 24-4 - Wellbore #1 - Wellbore #1 28Apr17 jps	13,076.5	6,566.9	552.4	322.6	2.404	CC
Ogilvie 24-4 - Wellbore #1 - Wellbore #1 28Apr17 jps	13,100.0	6,567.3	552.9	322.3	2.398	ES, SF
Rothe 2-24 - Wellbore #1 - Wellbore #1 28Apr17 jps	15,518.8	6,200.0	727.2	450.1	2.624	CC, ES, SF
Ferguson 5N64W23F Pad						
Ferguson 23E-232 - Wellbore #1 - Design #1 27Apr17 jp	200.0	200.0	45.1	44.4	59.170	CC
Ferguson 23E-232 - Wellbore #1 - Design #1 27Apr17 jp	300.0	299.1	45.4	44.1	34.802	ES
Ferguson 23E-232 - Wellbore #1 - Design #1 27Apr17 jp	15,518.8	15,660.7	948.5	352.3	1.591	SF
Ferguson 23E-332 - Wellbore #1 - Design #1 27Apr17 jp	200.0	200.0	30.1	29.3	39.473	CC
Ferguson 23E-332 - Wellbore #1 - Design #1 27Apr17 jp	300.0	299.4	30.3	29.0	23.237	ES
Ferguson 23E-332 - Wellbore #1 - Design #1 27Apr17 jp	15,518.8	15,644.6	645.1	47.8	1.080	Level 2, SF
Ferguson 23F-202 - Wellbore #1 - Design #1 27Apr17 jp	200.0	200.0	14.9	14.1	19.520	CC
Ferguson 23F-202 - Wellbore #1 - Design #1 27Apr17 jp	15,518.8	15,418.6	312.9	-268.9	0.538	Level 1, ES, SF
Ferguson 23F-212 - Wellbore #1 - Design #1 27Apr17 jp	200.0	200.0	15.1	14.3	19.798	CC
Ferguson 23F-212 - Wellbore #1 - Design #1 27Apr17 jp	15,518.8	15,498.6	283.6	-293.4	0.491	Level 1, ES, SF
Ferguson 23F-332 - Wellbore #1 - Design #1 27Apr17 jp	200.0	200.0	29.9	29.1	39.206	CC
Ferguson 23F-332 - Wellbore #1 - Design #1 27Apr17 jp	15,518.8	15,456.9	603.1	7.7	1.013	Level 2, ES, SF
Ferguson 23G-202 - Wellbore #1 - Design #1 27Apr17 jp	200.0	200.0	74.9	74.1	98.188	CC, ES
Ferguson 23G-202 - Wellbore #1 - Design #1 27Apr17 jp	15,300.0	14,990.8	1,434.5	858.8	2.492	SF
Ferguson 23G-212 - Wellbore #1 - Design #1 27Apr17 jp	200.0	200.0	44.9	44.1	58.881	CC, ES
Ferguson 23G-212 - Wellbore #1 - Design #1 27Apr17 jp	15,518.8	15,360.2	924.4	328.7	1.552	SF
Ferguson 23G-312 - Wellbore #1 - Design #1 27Apr17 jp	200.0	200.0	59.9	59.2	78.561	CC, ES
Ferguson 23G-312 - Wellbore #1 - Design #1 27Apr17 jp	15,518.8	15,429.7	1,187.0	590.5	1.990	SF
Ferguson 23G-332 - Wellbore #1 - Design #1 27Apr17 jp	200.0	200.0	89.9	89.1	117.874	CC, ES
Ferguson 23G-332 - Wellbore #1 - Design #1 27Apr17 jp	12,300.0	12,226.5	1,682.5	1,305.9	4.468	SF

<b>Company:</b>	PDC Energy Inc. DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Ferguson 23F-302
<b>Project:</b>	SEC. 23-T5N-R64W	<b>TVD Reference:</b>	WELL @ 4598.0usft (Original Well Elev)
<b>Reference Site:</b>	Ferguson 5N64W23F Pad	<b>MD Reference:</b>	WELL @ 4598.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Ferguson 23F-302	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	Design #1 27Apr17 jps	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4598.0usft (Original Well Ele  
Offset Depths are relative to Offset Datum  
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Ferguson 23F-302  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.63°

