

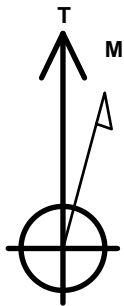
PDC Energy Inc. DJ Basin

Well Name: **J Clark 10N (Nio B)**

Surface Location: Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
 Ground Elevation: 4615.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1391636.25 3242725.93 40.405169 -104.628405
 Original Well Elev WELL @ 4638.0ft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 550'FNL & 2039'FEL, Sec.14	1.0	0.0	0.0	Point
BHL 500'FNL & 2550'FWL, Sec.11	6778.0	5371.1	-654.6	Point
LPL 50'FSL & 2485'FWL, Sec.11	6798.0	630.7	-732.1	Point



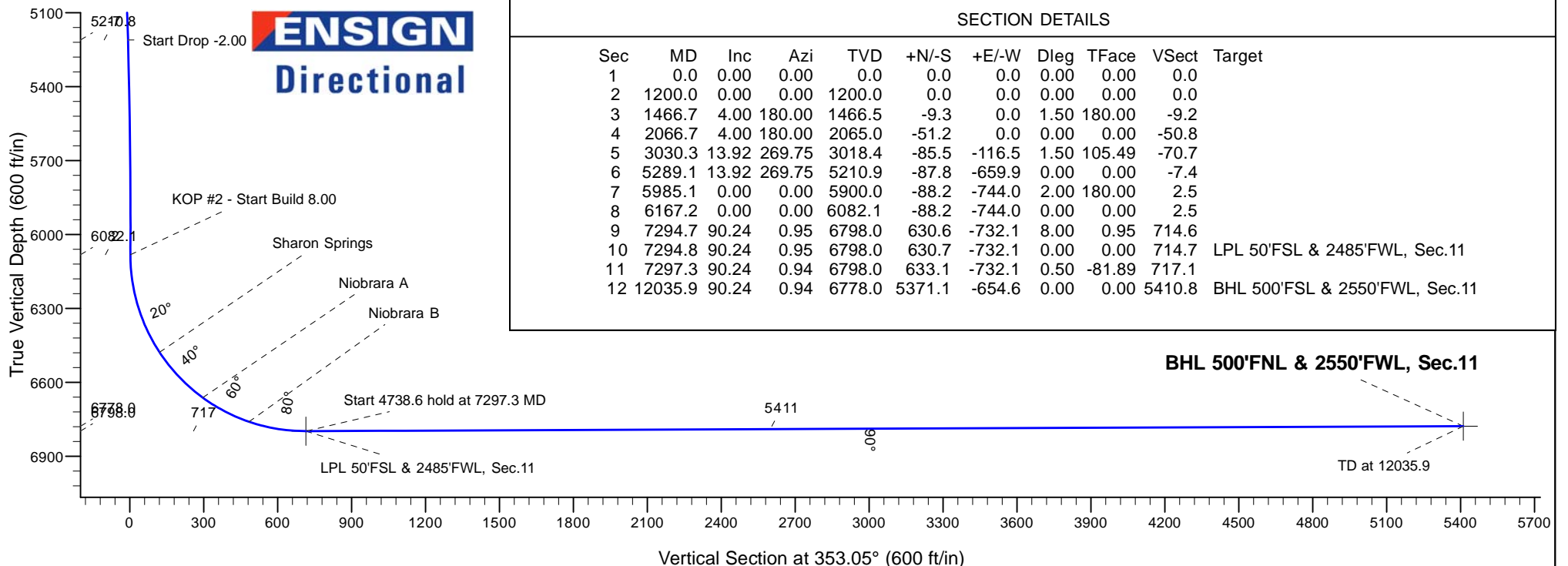
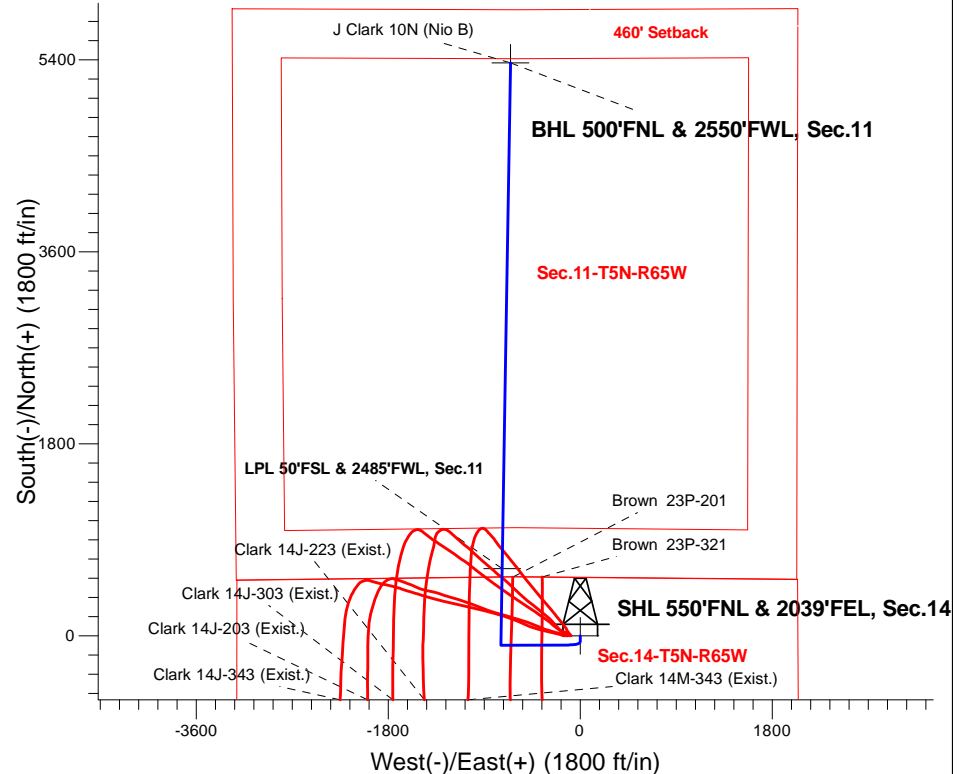
Azimuths to True North
 Magnetic North: 7.91°

Magnetic Field
 Strength: 52463.7snT
 Dip Angle: 66.85°
 Date: 12/19/2017
 Model: IGRF2010

Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W
 J Clark 10N (Nio B)
 Plan #2 (1-16-18)
 12:47, January 16 2018

ANNOTATIONS

TVD	MD	Annotation
1200.0	1200.0	KOP - Start Build 1.50
1466.5	1466.7	Start 600.0 hold at 1466.7 MD
2065.0	2066.7	Start DLS 1.50 TFO 105.49
5210.9	5289.1	Start Drop -2.00
6082.1	6167.2	KOP #2 - Start Build 8.00
6798.0	7297.3	Start 4738.6 hold at 7297.3 MD
6778.0	12035.9	TD at 12035.9



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	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1466.7	4.00	180.00	1466.5	-9.3	0.0	1.50	180.00	-9.2	
4	2066.7	4.00	180.00	2065.0	-51.2	0.0	0.00	0.00	-50.8	
5	3030.3	13.92	269.75	3018.4	-85.5	-116.5	1.50	105.49	-70.7	
6	5289.1	13.92	269.75	5210.9	-87.8	-659.9	0.00	0.00	-7.4	
7	5985.1	0.00	0.00	5900.0	-88.2	-744.0	2.00	180.00	2.5	
8	6167.2	0.00	0.00	6082.1	-88.2	-744.0	0.00	0.00	2.5	
9	7294.7	90.24	0.95	6798.0	630.6	-732.1	8.00	0.95	714.6	
10	7294.8	90.24	0.95	6798.0	630.7	-732.1	0.00	0.00	714.7	LPL 50'FSL & 2485'FWL, Sec.11
11	7297.3	90.24	0.94	6798.0	633.1	-732.1	0.50	-81.89	717.1	
12	12035.9	90.24	0.94	6778.0	5371.1	-654.6	0.00	0.00	5410.8	BHL 500'FNL & 2550'FWL, Sec.11

BHL 500'FNL & 2550'FWL, Sec.11

TD at 12035.9

Vertical Section at 353.05° (600 ft/in)



PDC Energy Inc. DJ Basin

SEC.14-T5N-R65W

Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W

J Clark 10N (Nio B)

Wellbore #1

Plan #2 (1-16-18)

Anticollision Summary Report

16 January, 2018

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well J Clark 10N (Nio B)
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4638.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4638.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	J Clark 10N (Nio B)	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 #2 (1-16-18)	Offset TVD Reference:	Offset Datum

Reference	Plan #2 (1-16-18)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 50.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 800.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.45 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	1/16/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	12,035.9	Plan #2 (1-16-18) (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
Brown 5N65W23 Pad Sec.23-T5N-R65W						
Brown 23P-201 - Wellbore #1 - Wellbore #1	7,102.6	15,213.9	99.9	-131.0	0.433	Level 1, CC, ES, SF
Brown 23P-321 - Wellbore #1 - Wellbore #1	7,224.2	15,837.0	376.2	143.2	1.614	CC, ES, SF
Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W						
J Clark 11N (Nio C) - Wellbore #1 - Plan #1 (12-18-17)	1,233.4	1,233.4	15.0	8.5	2.308	CC
J Clark 11N (Nio C) - Wellbore #1 - Plan #1 (12-18-17)	1,350.0	1,350.0	15.3	8.2	2.153	ES
J Clark 11N (Nio C) - Wellbore #1 - Plan #1 (12-18-17)	12,035.9	12,075.8	306.4	55.9	1.223	Level 2, SF
J Clark 12N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	1,247.2	1,247.2	30.0	23.4	4.566	CC
J Clark 12N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	1,350.0	1,350.0	30.1	23.0	4.250	ES
J Clark 12N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	12,035.9	11,979.0	549.5	294.9	2.158	SF
J Clark 13N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	1,257.5	1,257.5	45.0	38.4	6.789	CC
J Clark 13N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	1,400.0	1,399.9	45.3	37.9	6.171	ES
J Clark 13N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	1,650.0	1,649.3	49.9	41.3	5.806	SF
J Clark 14N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	1,200.0	1,200.0	60.0	53.7	9.478	CC, ES
J Clark 14N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	1,350.0	1,347.7	62.8	55.7	8.911	SF
J Clark 15N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	800.0	800.0	75.0	70.9	18.160	CC, ES
J Clark 15N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	1,100.0	1,093.8	86.2	80.5	15.161	SF
J Clark 16N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	200.0	200.0	90.0	89.2	108.976	CC, ES
J Clark 16N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	950.0	924.1	160.9	155.9	32.531	SF
J Clark 1C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	182.6	184.6	210.1	209.4	285.508	CC
J Clark 1C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	200.0	200.0	210.1	209.3	254.378	ES
J Clark 1C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	1,300.0	1,219.7	357.9	351.1	52.511	SF
J Clark 2N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	382.6	384.6	195.1	193.3	106.190	CC
J Clark 2N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	400.0	400.0	195.1	193.2	101.231	ES
J Clark 2N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	1,300.0	1,244.2	295.0	288.3	43.865	SF
J Clark 3N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	313.8	315.8	180.1	178.7	126.432	CC
J Clark 3N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	500.0	500.0	180.3	177.9	74.494	ES
J Clark 3N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	1,300.0	1,255.2	263.3	256.6	38.904	SF
J Clark 4N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	308.9	310.9	165.1	163.7	118.019	CC
J Clark 4N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	550.0	551.5	165.6	162.9	60.945	ES
J Clark 4N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	1,300.0	1,269.6	222.9	216.1	32.701	SF
J Clark 5N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	274.6	274.6	75.0	73.8	61.745	CC
J Clark 5N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	450.0	449.7	75.4	73.2	35.136	ES
J Clark 5N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	950.0	940.4	101.7	96.8	20.685	SF
J Clark 6N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	464.6	464.6	60.0	57.7	26.527	CC
J Clark 6N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	600.0	599.8	60.2	57.2	20.397	ES
J Clark 6N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	1,050.0	1,046.0	73.1	67.7	13.521	SF

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

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well J Clark 10N (Nio B)
Project:	SEC.14-T5N-R65W	TVD Reference:	WELL @ 4638.0ft (Original Well Elev)
Reference Site:	Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W	MD Reference:	WELL @ 4638.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	J Clark 10N (Nio B)	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 #2 (1-16-18)	Offset TVD Reference:	Offset Datum

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						
Clark 5N65W14 1-21 Pad Sec.14-T5N-R65W						
J Clark 7N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	657.7	657.7	45.0	41.7	13.521	CC
J Clark 7N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	800.0	799.8	45.2	41.2	11.192	ES
J Clark 7N (Nio C) - Wellbore #1 - Plan #1 (1-10-18)	11,900.0	12,116.6	798.9	551.6	3.230	SF
J Clark 8N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	847.2	847.2	30.0	25.6	6.859	CC
J Clark 8N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	950.0	949.9	30.1	25.2	6.156	ES
J Clark 8N (Nio B) - Wellbore #1 - Plan #1 (1-10-18)	12,035.9	12,149.4	550.8	295.7	2.159	SF
J Clark 9C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	1,031.9	1,031.9	15.0	9.6	2.777	CC
J Clark 9C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	1,150.0	1,149.9	15.2	9.3	2.545	ES
J Clark 9C (Codell) - Wellbore #1 - Plan #1 (1-10-18)	12,035.9	12,254.3	340.7	113.4	1.499	Level 3, SF
Clark 5N65W14EJ Pad Sec.14-T5N-R65W						
Clark 14J-203 (Exist.) - Wellbore #1 - Wellbore #1	0.0	1.0	134.9	134.9	10,000.000	CC
Clark 14J-203 (Exist.) - Wellbore #1 - Wellbore #1	150.0	150.5	135.2	134.7	280.142	ES
Clark 14J-203 (Exist.) - Wellbore #1 - Wellbore #1	3,950.0	3,776.3	795.1	770.8	32.744	SF
Clark 14J-223 (Exist.) - Wellbore #1 - Wellbore #1	761.1	762.1	102.5	98.7	27.217	CC
Clark 14J-223 (Exist.) - Wellbore #1 - Wellbore #1	800.0	800.2	102.6	98.7	25.820	ES
Clark 14J-223 (Exist.) - Wellbore #1 - Wellbore #1	7,600.0	6,841.1	710.9	656.0	12.962	SF
Clark 14J-303 (Exist.) - Wellbore #1 - Wellbore #1	583.5	584.5	118.2	115.4	42.625	CC
Clark 14J-303 (Exist.) - Wellbore #1 - Wellbore #1	600.0	600.7	118.2	115.4	41.348	ES
Clark 14J-303 (Exist.) - Wellbore #1 - Wellbore #1	1,200.0	1,178.3	165.4	159.3	27.069	SF
Clark 14J-343 (Exist.) - Wellbore #1 - Wellbore #1	180.4	181.4	149.5	148.8	234.049	CC
Clark 14J-343 (Exist.) - Wellbore #1 - Wellbore #1	200.0	200.4	149.5	148.8	202.116	ES
Clark 14J-343 (Exist.) - Wellbore #1 - Wellbore #1	1,200.0	1,141.3	286.2	280.0	45.757	SF
Clark 14M-343 (Exist.) - Wellbore #1 - Wellbore #1	948.7	948.8	85.7	81.0	18.152	CC
Clark 14M-343 (Exist.) - Wellbore #1 - Wellbore #1	950.0	950.0	85.7	80.9	18.127	ES
Clark 14M-343 (Exist.) - Wellbore #1 - Wellbore #1	7,400.0	7,025.3	301.2	250.7	5.966	SF

Coordinates are relative to: J Clark 10N (Nio B)
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.56°



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Reference Well:	J Clark 10N (Nio B)	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 #2 (1-16-18)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4638.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: J Clark 10N (Nio B)

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.56°

