

PDC ENERGY

**WELD COUNTY, COLORADO
NE SE SEC. 24 T4N R67W 6th P.M.
BERNHARDT FARMS 13S-203
JOB # 2015-022-135**

11 May, 2015

Survey: FINAL SURVEYS





Project: WELD COUNTY, COLORADO
Site: NE SE SEC. 24 T4N R67W 6th P.M.
Well: BERNHARDT FARMS 13S-203
Wellbore: JOB # 2015-022-135
Design: FINAL SURVEYS

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation	
921.9	922.0	1.06	233.46	-8.1	-10.5	8.8	13.4	SURFACE CASING	
6504.5	6525.0	5.95	222.09	65.0	-456.1	-35.3	475.4	KOP	
7144.2	7397.0	84.34	175.81	-408.9	-483.5	439.4	957.5	ICP	
7037.6	14272.0	90.10	176.40	-7277.7	-461.6	7292.3	7829.7	LAST SURVEY - MAY 11, 2015	
7037.5	14324.0	90.10	176.40	-7329.6	-458.4	7343.9	7881.7	EXTRAPOLATION TO TD	

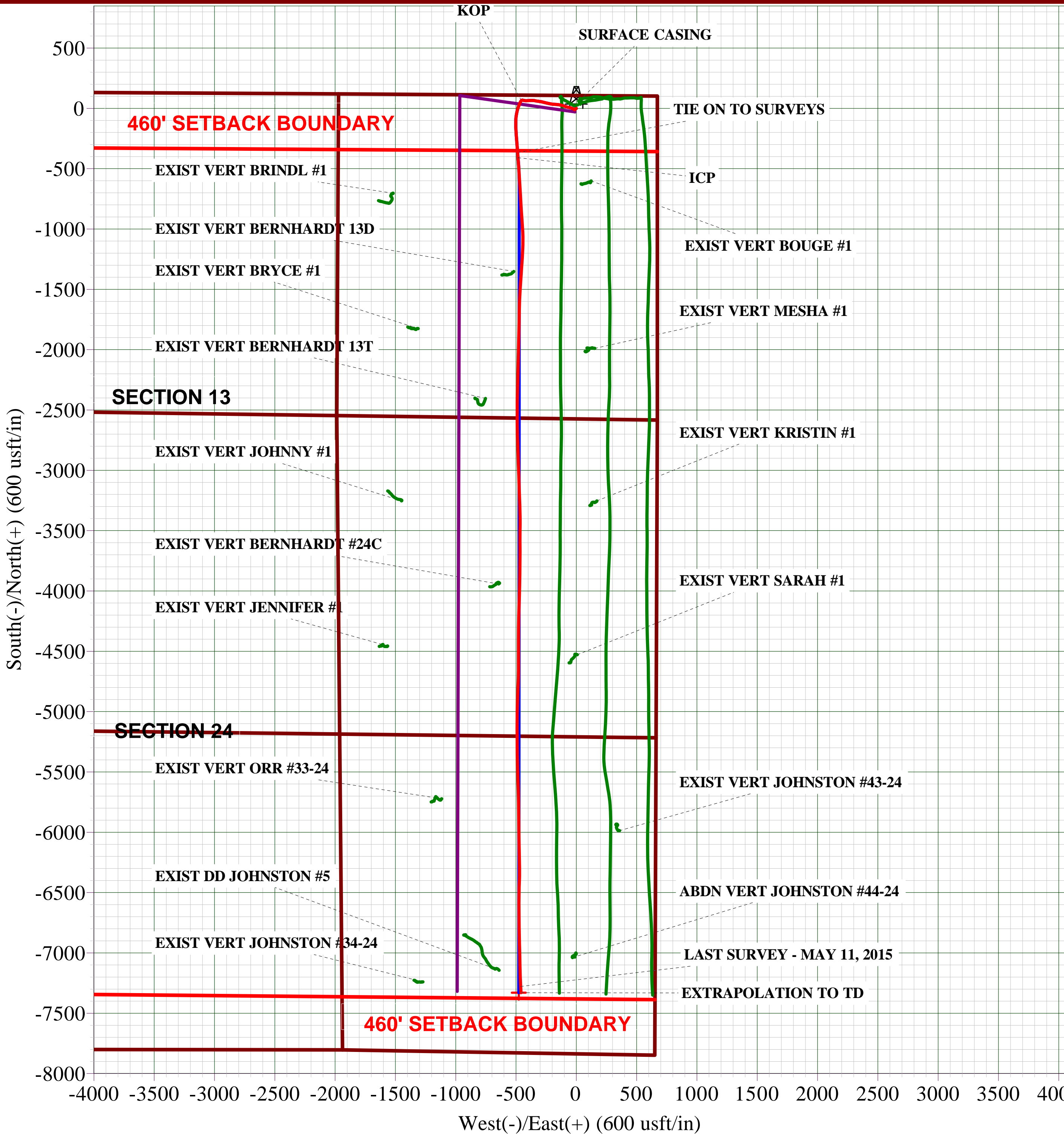
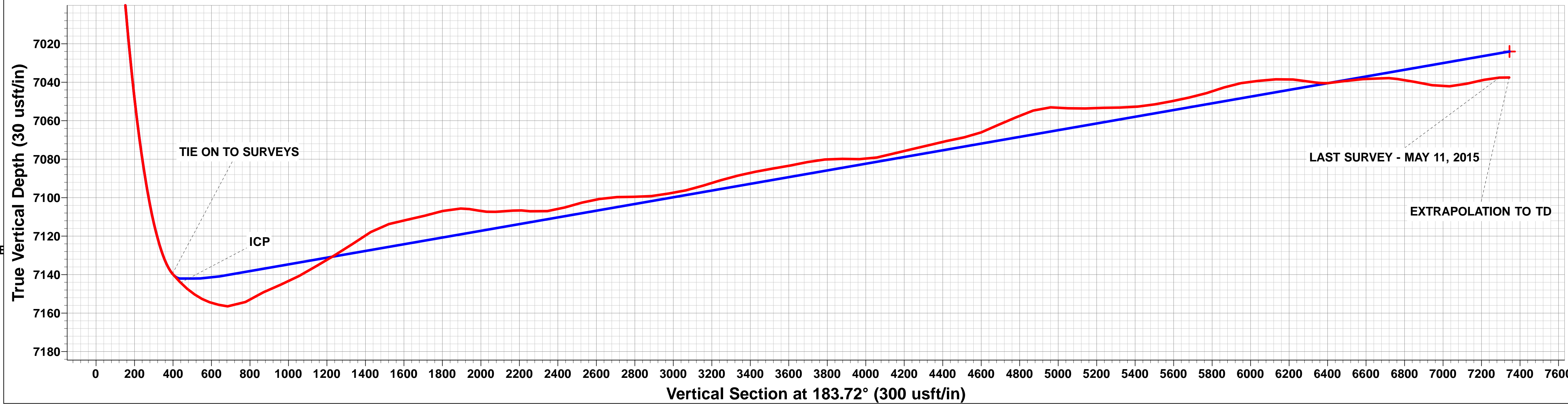
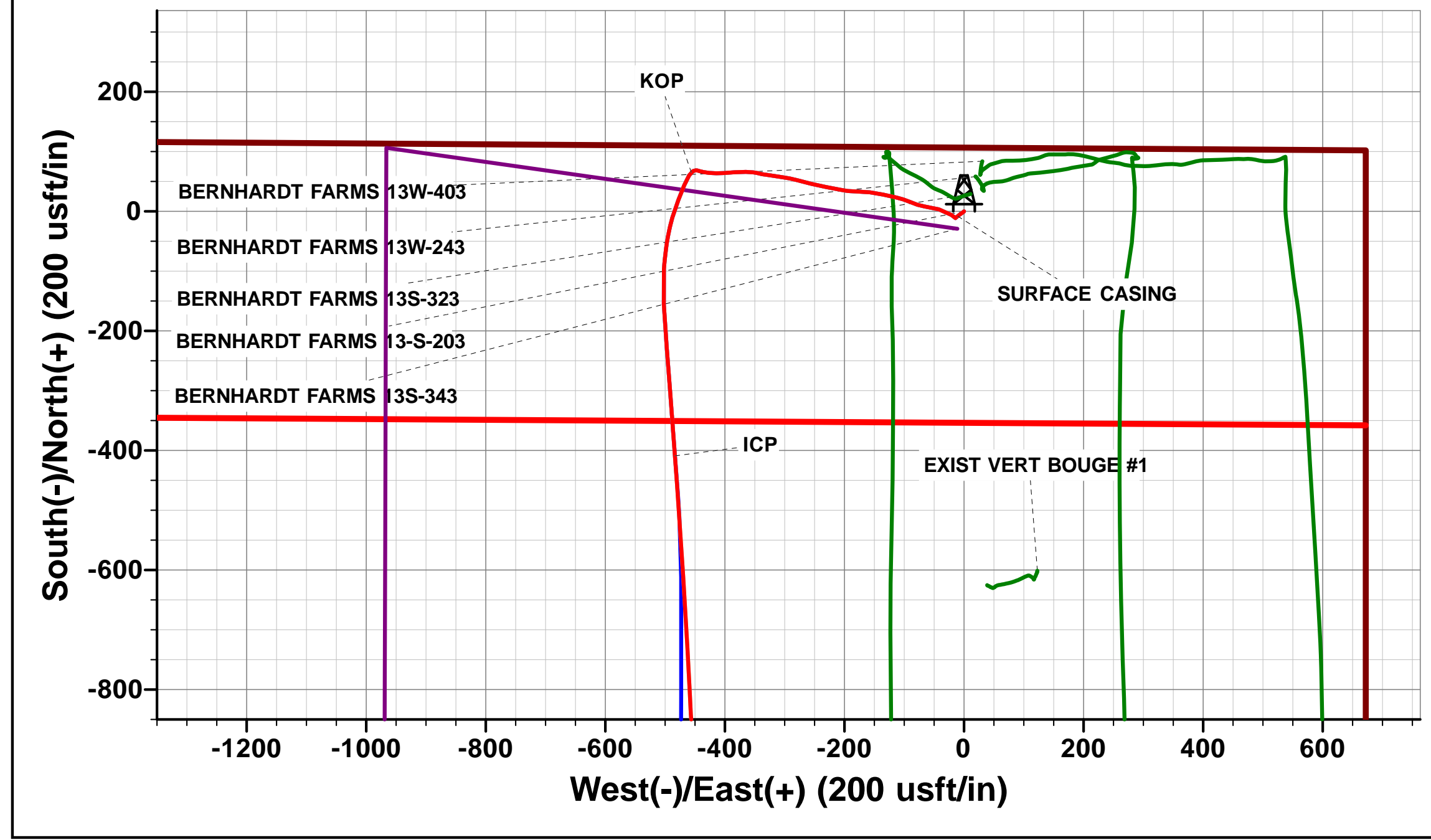
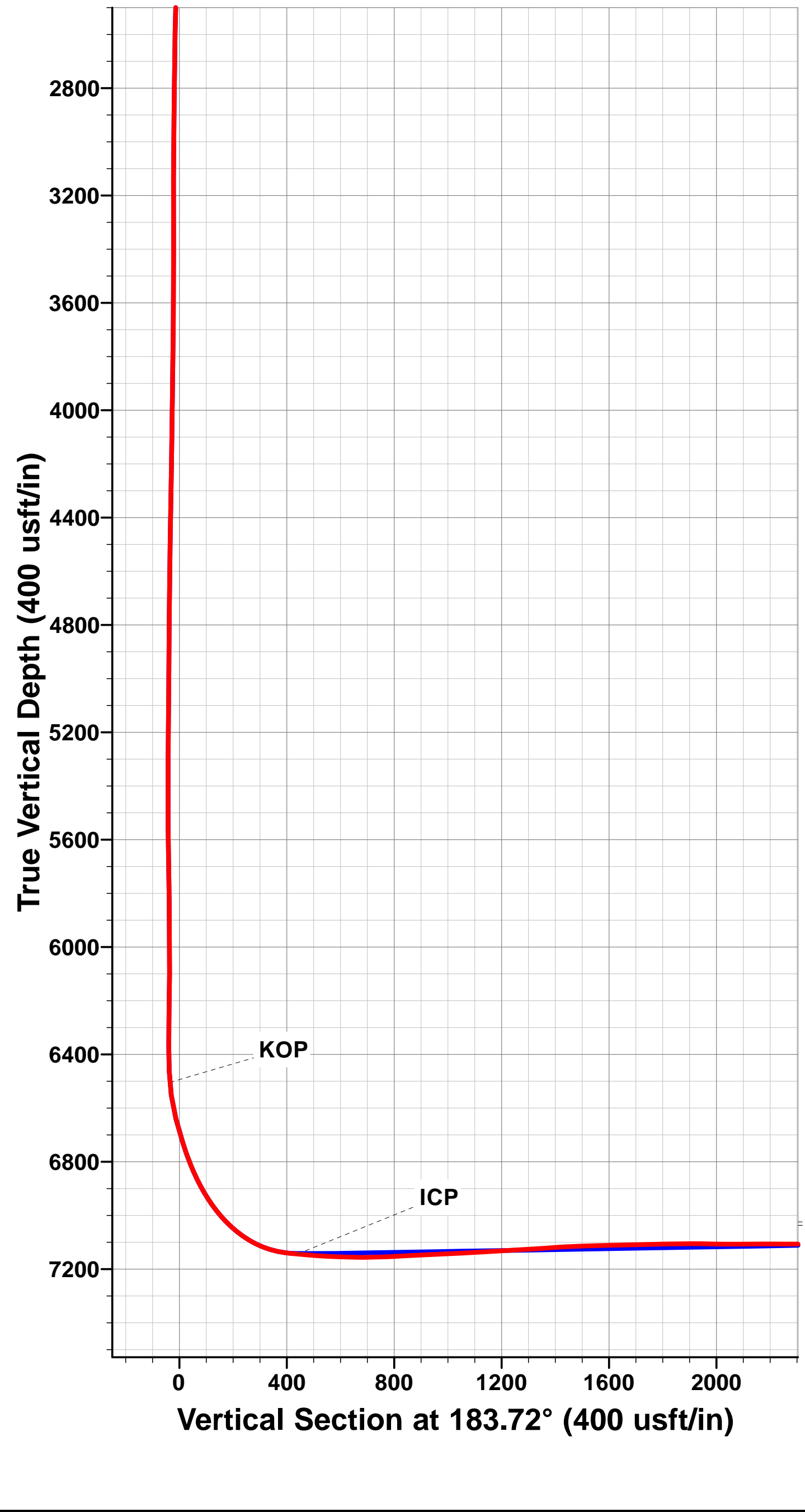
AS DRILLED LOCAL COORDINATES:

SHL: 2578ft FSL & 671ft FEL Sec 13

7" ICP :2162.9ft FSL & 1153.2ft FEL Sec 13

BHL: 500.2ft FSL & 1111.4ft FEL Sec 24

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
BHL - BERNHARDT FARMS 13S-203 (P3)	7024.0	-7329.8	-477.0	40.291420	-104.833820



Survey Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well BERNHARDT FARMS 13S-203
Project:	WELD COUNTY, COLORADO	TVD Reference:	13' KB @ 4750.0usft (ENS 135)
Site:	NE SE SEC. 24 T4N R67W 6th P.M.	MD Reference:	13' KB @ 4750.0usft (ENS 135)
Well:	BERNHARDT FARMS 13S-203	North Reference:	True
Wellbore:	JOB # 2015-022-135	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Project	WELD COUNTY, COLORADO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	NE SE SEC. 24 T4N R67W 6th P.M.				
Site Position:		Northing:	1,357,007.19 usft	Latitude:	40.311460
From:	Lat/Long	Easting:	3,186,244.30 usft	Longitude:	-104.832150
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft	Grid Convergence:	0.43 °

Well	BERNHARDT FARMS 13S-203					
Well Position	+N-S	0.0 usft	Northing:	1,357,036.40 usft	Latitude:	40.311540
	+E-W	0.0 usft	Easting:	3,186,255.24 usft	Longitude:	-104.832110
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,737.0 usft

Wellbore	JOB # 2015-022-135				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	25/03/2015	8.48	66.83	52,594

Design	FINAL SURVEYS				
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	183.72	

Survey Program	Date	11/05/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
79.0	14,324.0	FINAL SURVEYS (JOB # 2015-022-135)	MWD	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	4,750.0	0.0	0.0	0.0	0.00	0.00	0.00
79.0	1.00	223.20	79.0	4,671.0	-0.5	-0.5	0.5	1.27	1.27	0.00
172.0	1.00	239.50	172.0	4,578.0	-1.5	-1.7	1.6	0.30	0.00	17.53
266.0	0.80	230.90	266.0	4,484.0	-2.3	-2.9	2.5	0.26	-0.21	-9.15
359.0	0.20	236.40	359.0	4,391.0	-2.8	-3.6	3.1	0.65	-0.65	5.91
453.0	0.90	239.40	453.0	4,297.0	-3.3	-4.4	3.6	0.75	0.74	3.19
547.0	1.00	231.60	546.9	4,203.1	-4.2	-5.6	4.5	0.17	0.11	-8.30
640.0	0.90	234.70	639.9	4,110.1	-5.1	-6.9	5.5	0.12	-0.11	3.33
734.0	0.90	227.30	733.9	4,016.1	-6.0	-8.0	6.5	0.12	0.00	-7.87
827.0	1.00	227.80	826.9	3,923.1	-7.1	-9.1	7.7	0.11	0.11	0.54
879.0	1.00	233.60	878.9	3,871.1	-7.7	-9.8	8.3	0.19	0.00	11.15
SURFACE CASING										
922.0	1.06	233.46	921.9	3,828.1	-8.1	-10.5	8.8	0.15	0.15	-0.33

Survey Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well BERNHARDT FARMS 13S-203
Project:	WELD COUNTY, COLORADO	TVD Reference:	13' KB @ 4750.0usft (ENS 135)
Site:	NE SE SEC. 24 T4N R67W 6th P.M.	MD Reference:	13' KB @ 4750.0usft (ENS 135)
Well:	BERNHARDT FARMS 13S-203	North Reference:	True
Wellbore:	JOB # 2015-022-135	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,015.0	1.20	233.20	1,014.9	3,735.1	-9.2	-11.9	10.0	0.15	0.15	-0.28
1,296.0	0.10	156.80	1,295.9	3,454.1	-11.2	-14.2	12.1	0.42	-0.39	-27.19
1,389.0	3.10	310.80	1,388.8	3,361.2	-9.6	-16.1	10.7	3.43	3.23	165.59
1,483.0	4.50	305.00	1,482.6	3,267.4	-5.9	-21.0	7.2	1.54	1.49	-6.17
1,763.0	5.10	283.80	1,761.6	2,988.4	3.4	-42.1	-0.7	0.66	0.21	-7.57
2,044.0	4.90	279.50	2,041.6	2,708.4	8.4	-66.1	-4.1	0.15	-0.07	-1.53
2,325.0	5.40	293.70	2,321.5	2,428.5	15.7	-90.0	-9.8	0.49	0.18	5.05
2,596.0	5.00	282.30	2,591.3	2,158.7	23.3	-113.2	-15.9	0.41	-0.15	-4.21
2,867.0	4.60	282.10	2,861.4	1,888.6	28.1	-135.4	-19.3	0.15	-0.15	-0.07
3,138.0	4.90	277.70	3,131.5	1,618.5	31.9	-157.5	-21.6	0.17	0.11	-1.62
3,410.0	5.40	269.90	3,402.4	1,347.6	33.5	-181.8	-21.6	0.32	0.18	-2.87
3,681.0	5.10	282.80	3,672.2	1,077.8	36.1	-206.3	-22.6	0.45	-0.11	4.76
3,952.0	5.40	278.70	3,942.1	807.9	40.7	-230.7	-25.6	0.18	0.11	-1.51
4,223.0	5.40	285.50	4,211.9	538.1	46.0	-255.5	-29.4	0.24	0.00	2.51
4,495.0	5.00	284.00	4,482.8	267.2	52.3	-279.4	-34.1	0.16	-0.15	-0.55
4,766.0	5.90	279.10	4,752.6	-2.6	57.4	-304.6	-37.5	0.37	0.33	-1.81
5,037.0	4.30	277.00	5,022.5	-272.5	60.8	-328.4	-39.4	0.59	-0.59	-0.77
5,308.0	3.40	285.50	5,292.9	-542.9	64.2	-346.3	-41.6	0.39	-0.33	3.14
5,579.0	6.70	268.60	5,562.8	-812.8	66.0	-369.8	-41.8	1.32	1.22	-6.24
5,850.0	6.80	265.00	5,831.9	-1,081.9	64.2	-401.6	-38.0	0.16	0.04	-1.33
6,121.0	4.80	279.40	6,101.5	-1,351.5	64.7	-428.8	-36.7	0.91	-0.74	5.31
6,212.0	4.80	283.10	6,192.2	-1,442.2	66.1	-436.2	-37.7	0.34	0.00	4.07
6,302.0	4.00	284.30	6,281.9	-1,531.9	67.8	-442.9	-38.9	0.89	-0.89	1.33
6,392.0	3.10	275.70	6,371.8	-1,621.8	68.8	-448.4	-39.5	1.16	-1.00	-9.56
6,482.0	3.80	238.00	6,461.6	-1,711.6	67.4	-453.4	-37.9	2.58	0.78	-41.89
KOP										
6,525.0	5.95	222.09	6,504.5	-1,754.5	65.0	-456.1	-35.3	5.87	5.01	-36.99
6,573.0	8.60	214.30	6,552.1	-1,802.1	60.2	-459.8	-30.2	5.87	5.51	-16.23
6,663.0	15.30	201.90	6,640.1	-1,890.1	43.6	-468.0	-13.1	7.93	7.44	-13.78
6,754.0	18.50	201.40	6,727.1	-1,977.1	19.0	-477.7	12.0	3.52	3.52	-0.55
6,844.0	22.10	196.70	6,811.5	-2,061.5	-10.5	-487.8	42.1	4.39	4.00	-5.22
6,935.0	28.30	189.40	6,893.9	-2,143.9	-48.2	-496.3	80.3	7.61	6.81	-8.02
7,025.0	36.50	184.60	6,969.8	-2,219.8	-96.0	-501.9	128.4	9.54	9.11	-5.33
7,115.0	46.40	176.60	7,037.2	-2,287.2	-155.4	-502.1	187.7	12.46	11.00	-8.89
7,206.0	59.20	175.70	7,092.1	-2,342.1	-227.6	-497.2	259.4	14.09	14.07	-0.99
7,296.0	73.70	175.60	7,128.0	-2,378.0	-309.6	-491.0	340.9	16.11	16.11	-0.11
7,354.0	83.30	175.70	7,139.5	-2,389.5	-366.2	-486.7	397.1	16.55	16.55	0.17
ICP										
7,397.0	84.34	175.81	7,144.2	-2,394.2	-408.9	-483.5	439.4	2.42	2.41	0.26
7,549.0	88.00	176.20	7,154.3	-2,404.3	-560.1	-472.9	589.7	2.42	2.41	0.26
7,644.0	89.40	176.50	7,156.5	-2,406.5	-654.9	-466.9	683.9	1.51	1.47	0.32
7,737.0	93.40	177.40	7,154.2	-2,404.2	-747.7	-462.0	776.2	4.41	4.30	0.97
7,831.0	92.70	176.50	7,149.2	-2,399.2	-841.5	-457.0	869.4	1.21	-0.74	-0.96
7,924.0	92.30	175.20	7,145.1	-2,395.1	-934.1	-450.2	961.4	1.46	-0.43	-1.40
8,018.0	93.10	177.60	7,140.7	-2,390.7	-1,027.8	-444.3	1,054.5	2.69	0.85	2.55
8,112.0	93.40	180.80	7,135.4	-2,385.4	-1,121.7	-443.0	1,148.1	3.41	0.32	3.40
8,205.0	93.40	184.00	7,129.9	-2,379.9	-1,214.4	-446.9	1,240.9	3.43	0.00	3.44
8,298.0	93.80	183.60	7,124.0	-2,374.0	-1,307.0	-453.1	1,333.7	0.61	0.43	-0.43
8,392.0	93.70	184.10	7,117.9	-2,367.9	-1,400.6	-459.4	1,427.5	0.54	-0.11	0.53
8,486.0	91.40	183.50	7,113.7	-2,363.7	-1,494.3	-465.6	1,521.4	2.53	-2.45	-0.64
8,579.0	91.30	182.20	7,111.5	-2,361.5	-1,587.2	-470.2	1,614.4	1.40	-0.11	-1.40
8,673.0	91.30	181.40	7,109.4	-2,359.4	-1,681.1	-473.2	1,708.3	0.85	0.00	-0.85
8,766.0	91.70	180.70	7,106.9	-2,356.9	-1,774.0	-474.9	1,801.1	0.87	0.43	-0.75

Survey Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well BERNHARDT FARMS 13S-203
Project:	WELD COUNTY, COLORADO	TVD Reference:	13' KB @ 4750.0usft (ENS 135)
Site:	NE SE SEC. 24 T4N R67W 6th P.M.	MD Reference:	13' KB @ 4750.0usft (ENS 135)
Well:	BERNHARDT FARMS 13S-203	North Reference:	True
Wellbore:	JOB # 2015-022-135	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,860.0	89.90	181.30	7,105.6	-2,355.6	-1,868.0	-476.5	1,895.0	2.02	-1.91	0.64
8,950.0	88.80	181.30	7,106.7	-2,356.7	-1,958.0	-478.5	1,984.9	1.22	-1.22	0.00
9,041.0	90.30	181.60	7,107.4	-2,357.4	-2,049.0	-480.9	2,075.9	1.68	1.65	0.33
9,131.0	90.50	181.60	7,106.7	-2,356.7	-2,138.9	-483.4	2,165.8	0.22	0.22	0.00
9,221.0	89.10	180.70	7,107.1	-2,357.1	-2,228.9	-485.2	2,255.7	1.85	-1.56	-1.00
9,311.0	91.00	182.30	7,107.0	-2,357.0	-2,318.9	-487.5	2,345.6	2.76	2.11	1.78
9,402.0	91.40	179.90	7,105.1	-2,355.1	-2,409.8	-489.3	2,436.5	2.67	0.44	-2.64
9,492.0	91.80	180.00	7,102.6	-2,352.6	-2,499.8	-489.2	2,526.3	0.46	0.44	0.11
9,582.0	90.60	179.70	7,100.7	-2,350.7	-2,589.8	-489.0	2,616.0	1.37	-1.33	-0.33
9,673.0	90.60	179.40	7,099.7	-2,349.7	-2,680.7	-488.2	2,706.8	0.33	0.00	-0.33
9,763.0	89.60	177.90	7,099.6	-2,349.6	-2,770.7	-486.1	2,796.4	2.00	-1.11	-1.67
9,853.0	90.90	178.50	7,099.2	-2,349.2	-2,860.7	-483.3	2,886.0	1.59	1.44	0.67
9,943.0	90.80	178.00	7,097.8	-2,347.8	-2,950.6	-480.5	2,975.6	0.57	-0.11	-0.56
10,034.0	91.30	177.80	7,096.2	-2,346.2	-3,041.5	-477.2	3,066.1	0.59	0.55	-0.22
10,124.0	91.80	178.50	7,093.7	-2,343.7	-3,131.5	-474.3	3,155.7	0.96	0.56	0.78
10,215.0	91.70	177.90	7,091.0	-2,341.0	-3,222.4	-471.5	3,246.2	0.67	-0.11	-0.66
10,305.0	91.40	178.10	7,088.5	-2,338.5	-3,312.3	-468.3	3,335.7	0.40	-0.33	0.22
10,396.0	91.10	179.50	7,086.5	-2,336.5	-3,403.2	-466.4	3,426.3	1.57	-0.33	1.54
10,486.0	91.00	180.80	7,084.9	-2,334.9	-3,493.2	-466.6	3,516.2	1.45	-0.11	1.44
10,576.0	91.00	180.20	7,083.3	-2,333.3	-3,583.2	-467.4	3,606.0	0.67	0.00	-0.67
10,667.0	91.30	179.30	7,081.5	-2,331.5	-3,674.2	-467.0	3,696.8	1.04	0.33	-0.99
10,758.0	90.40	181.30	7,080.1	-2,330.1	-3,765.2	-467.5	3,787.6	2.41	-0.99	2.20
10,848.0	90.00	180.40	7,079.8	-2,329.8	-3,855.2	-468.8	3,877.5	1.09	-0.44	-1.00
10,938.0	89.80	181.20	7,080.0	-2,330.0	-3,945.1	-470.1	3,967.4	0.92	-0.22	0.89
11,028.0	91.30	181.70	7,079.1	-2,329.1	-4,035.1	-472.4	4,057.3	1.76	1.67	0.56
11,119.0	91.40	181.70	7,077.0	-2,327.0	-4,126.0	-475.1	4,148.2	0.11	0.11	0.00
11,209.0	91.30	181.40	7,074.8	-2,324.8	-4,216.0	-477.5	4,238.1	0.35	-0.11	-0.33
11,299.0	91.40	180.60	7,072.7	-2,322.7	-4,306.0	-479.1	4,328.0	0.90	0.11	-0.89
11,390.0	91.30	180.00	7,070.6	-2,320.6	-4,396.9	-479.6	4,418.8	0.67	-0.11	-0.66
11,480.0	91.10	180.00	7,068.7	-2,318.7	-4,486.9	-479.6	4,508.6	0.22	-0.22	0.00
11,571.0	92.20	179.70	7,066.1	-2,316.1	-4,577.9	-479.3	4,599.3	1.25	1.21	-0.33
11,661.0	92.80	180.70	7,062.2	-2,312.2	-4,667.8	-479.6	4,689.1	1.29	0.67	1.11
11,752.0	92.10	182.20	7,058.3	-2,308.3	-4,758.7	-481.9	4,779.9	1.82	-0.77	1.65
11,842.0	92.40	182.00	7,054.7	-2,304.7	-4,848.5	-485.2	4,869.8	0.40	0.33	-0.22
11,933.0	89.70	181.60	7,053.1	-2,303.1	-4,939.5	-488.1	4,960.7	3.00	-2.97	-0.44
12,023.0	89.70	180.60	7,053.5	-2,303.5	-5,029.4	-489.8	5,050.6	1.11	0.00	-1.11
12,113.0	90.20	180.90	7,053.6	-2,303.6	-5,119.4	-491.0	5,140.5	0.65	0.56	0.33
12,204.0	90.20	179.40	7,053.3	-2,303.3	-5,210.4	-491.2	5,231.3	1.65	0.00	-1.65
12,294.0	90.00	178.60	7,053.1	-2,303.1	-5,300.4	-489.7	5,321.0	0.92	-0.22	-0.89
12,385.0	90.60	179.30	7,052.7	-2,302.7	-5,391.4	-488.0	5,411.7	1.01	0.66	0.77
12,475.0	90.90	178.80	7,051.5	-2,301.5	-5,481.4	-486.5	5,501.4	0.65	0.33	-0.56
12,565.0	91.20	178.30	7,049.8	-2,299.8	-5,571.3	-484.2	5,591.0	0.65	0.33	-0.56
12,655.0	91.20	177.70	7,047.9	-2,297.9	-5,661.3	-481.1	5,680.6	0.67	0.00	-0.67
12,746.0	91.70	179.70	7,045.6	-2,295.6	-5,752.2	-479.0	5,771.2	2.26	0.55	2.20
12,836.0	92.00	179.10	7,042.7	-2,292.7	-5,842.1	-478.1	5,860.9	0.75	0.33	-0.67
12,926.0	90.90	179.10	7,040.5	-2,290.5	-5,932.1	-476.7	5,950.5	1.22	-1.22	0.00
13,017.0	90.60	179.70	7,039.3	-2,289.3	-6,023.1	-475.7	6,041.3	0.74	-0.33	0.66
13,107.0	90.40	178.40	7,038.5	-2,288.5	-6,113.1	-474.2	6,131.0	1.46	-0.22	-1.44
13,197.0	89.50	179.60	7,038.6	-2,288.6	-6,203.1	-472.6	6,220.7	1.67	-1.00	1.33
13,288.0	89.00	178.60	7,039.8	-2,289.8	-6,294.0	-471.2	6,311.4	1.23	-0.55	-1.10
13,378.0	90.10	181.80	7,040.5	-2,290.5	-6,384.0	-471.5	6,401.2	3.76	1.22	3.56
13,469.0	91.30	181.30	7,039.4	-2,289.4	-6,475.0	-474.0	6,492.1	1.43	1.32	-0.55
13,560.0	89.90	181.10	7,038.4	-2,288.4	-6,566.0	-475.9	6,583.0	1.55	-1.54	-0.22

Survey Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well BERNHARDT FARMS 13S-203
Project:	WELD COUNTY, COLORADO	TVD Reference:	13' KB @ 4750.0usft (ENS 135)
Site:	NE SE SEC. 24 T4N R67W 6th P.M.	MD Reference:	13' KB @ 4750.0usft (ENS 135)
Well:	BERNHARDT FARMS 13S-203	North Reference:	True
Wellbore:	JOB # 2015-022-135	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,650.0	90.60	178.60	7,038.0	-2,288.0	-6,655.9	-475.7	6,672.8	2.88	0.78	-2.78
13,741.0	89.00	179.60	7,038.3	-2,288.3	-6,746.9	-474.2	6,763.5	2.07	-1.76	1.10
13,831.0	89.10	179.20	7,039.8	-2,289.8	-6,836.9	-473.3	6,853.2	0.46	0.11	-0.44
13,921.0	88.70	178.60	7,041.5	-2,291.5	-6,926.9	-471.6	6,942.9	0.80	-0.44	-0.67
14,012.0	90.60	178.90	7,042.1	-2,292.1	-7,017.9	-469.6	7,033.5	2.11	2.09	0.33
14,102.0	91.10	178.30	7,040.8	-2,290.8	-7,107.8	-467.4	7,123.2	0.87	0.56	-0.67
14,193.0	91.50	178.70	7,038.7	-2,288.7	-7,198.8	-465.0	7,213.8	0.62	0.44	0.44
LAST SURVEY - MAY 11, 2015										
14,272.0	90.10	176.40	7,037.6	-2,287.6	-7,277.7	-461.6	7,292.3	3.41	-1.77	-2.91
EXTRAPOLATION TO TD										
14,324.0	90.10	176.40	7,037.5	-2,287.5	-7,329.6	-458.4	7,343.9	0.00	0.00	0.00

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
BHL - BERNHARDT F	0.00	0.00	7,024.0	-7,329.8	-477.0	1,349,703.53	3,185,833.44	40.291420	-104.833820	
- survey misses target center by 23.0usft at 14323.1usft MD (7037.5 TVD, -7328.6 N, -458.4 E)										
- Point										
7" ICP *NEW* - BERN	0.00	0.00	7,039.4	-664.3	-460.9	1,356,368.69	3,185,799.38	40.309716	-104.833763	
- survey misses target center by 117.3usft at 7656.5usft MD (7156.5 TVD, -667.4 N, -466.1 E)										
- Point										
7" ICP *NEW* - BERN	0.00	0.00	7,070.0	-428.6	-460.3	1,356,604.37	3,185,798.20	40.310363	-104.833760	
- survey misses target center by 78.9usft at 7413.3usft MD (7145.7 TVD, -425.0 N, -482.3 E)										
- Point										
KOP - BERNHARDT I	0.00	0.00	6,513.4	100.7	-459.0	1,357,133.65	3,185,795.51	40.311816	-104.833756	
- survey misses target center by 36.4usft at 6530.5usft MD (6509.9 TVD, 64.6 N, -456.5 E)										
- Point										
BHL - BERNHARDT F	0.00	0.00	7,030.0	-7,329.8	-477.0	1,349,703.53	3,185,833.44	40.291420	-104.833820	
- survey misses target center by 20.1usft at 14323.1usft MD (7037.5 TVD, -7328.6 N, -458.4 E)										
- Point										
BHL - BERNHARDT F	0.00	0.00	7,032.0	-7,329.8	-477.0	1,349,703.53	3,185,833.44	40.291420	-104.833820	
- survey misses target center by 19.5usft at 14323.1usft MD (7037.5 TVD, -7328.6 N, -458.4 E)										
- Point										
KOP - BERNHARDT I	0.00	0.00	6,275.5	100.7	-459.0	1,357,133.65	3,185,795.51	40.311816	-104.833756	
- survey misses target center by 36.9usft at 6297.4usft MD (6277.3 TVD, 67.7 N, -442.6 E)										
- Point										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
922.0	921.9	-8.1	-10.5	SURFACE CASING	
6,525.0	6,504.5	65.0	-456.1	KOP	
7,397.0	7,144.2	-408.9	-483.5	ICP	
14,272.0	7,037.6	-7,277.7	-461.6	LAST SURVEY - MAY 11, 2015	
14,324.0	7,037.5	-7,329.6	-458.4	EXTRAPOLATION TO TD	

Checked By: _____ Approved By: _____ Date: _____