

PDC ENERGY

WELD COUNTY, COLORADO

NE SW SEC. 7 T4N R64W 6th P.M.

HONEBEIN 7G-323

JOB # 2015-66-123

14 September, 2015

Survey: FINAL SURVEYS





Project: WELD COUNTY, COLORADO
 Site: NE SW SEC. 7 T4N R64W 6th P.M.
 Well: HONEBEIN 7G-323
 Wellbore: JOB # 2015-66-123
 Design: FINAL SURVEYS

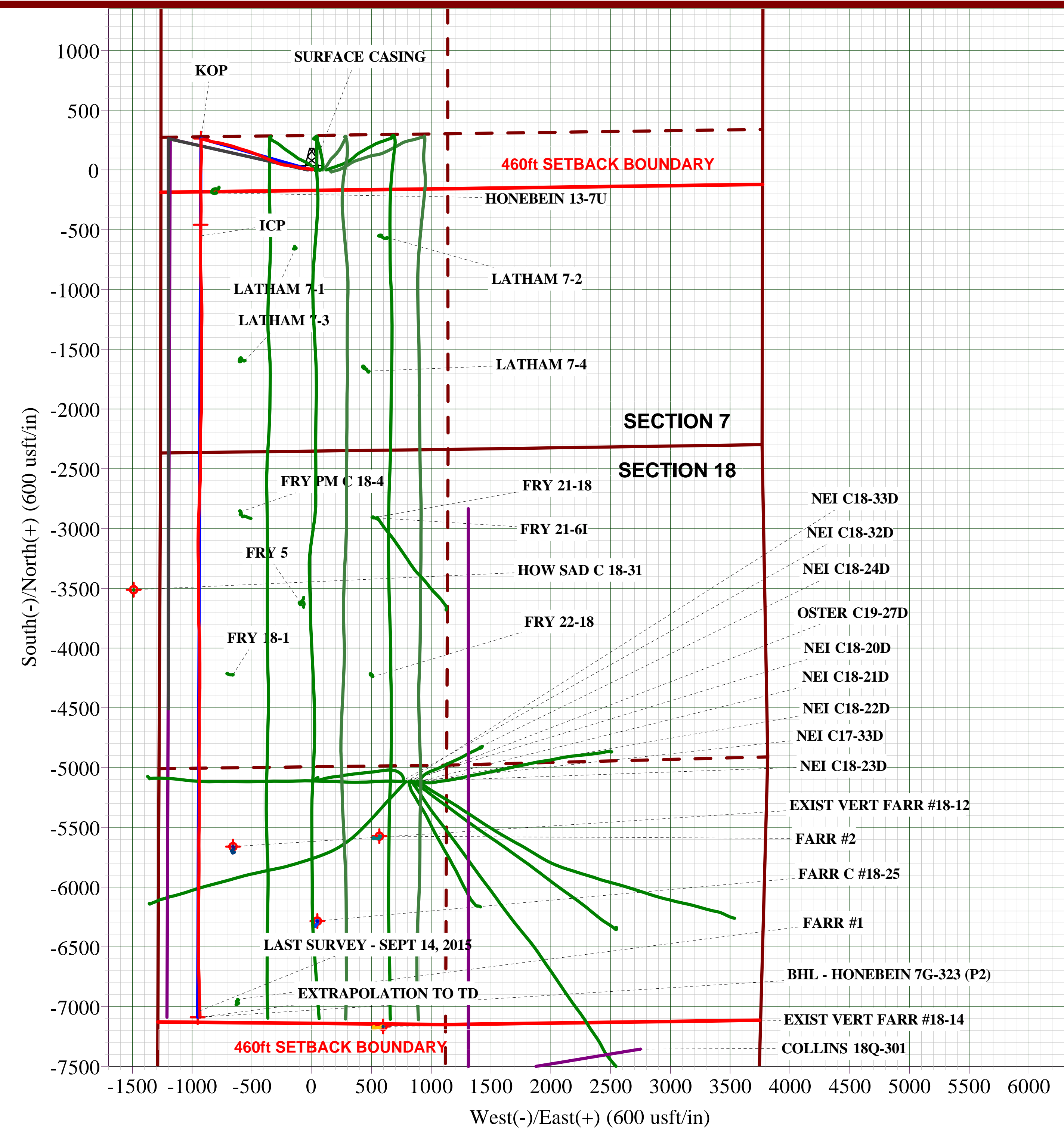
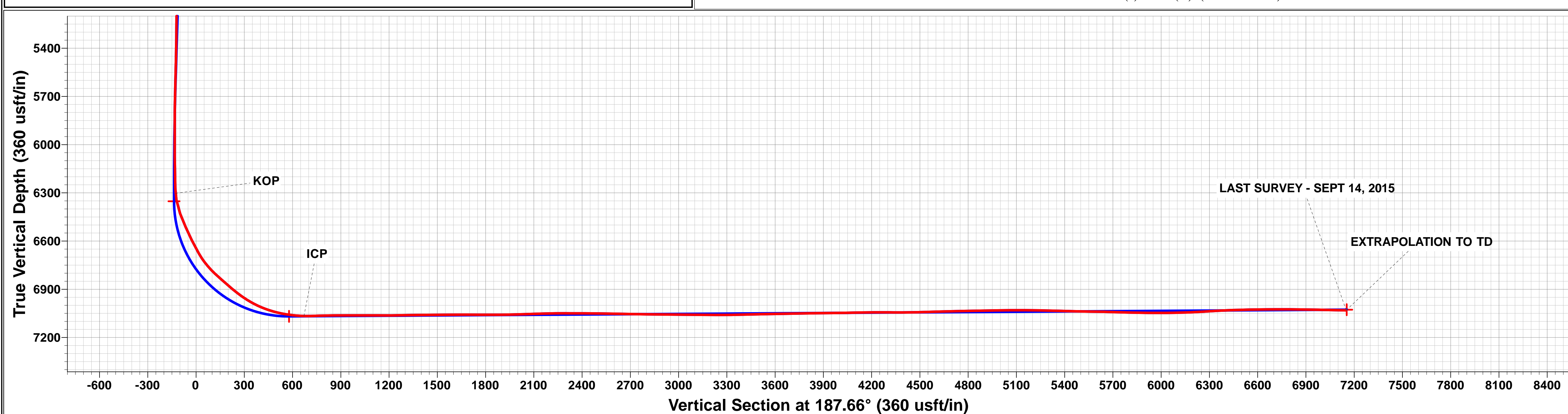
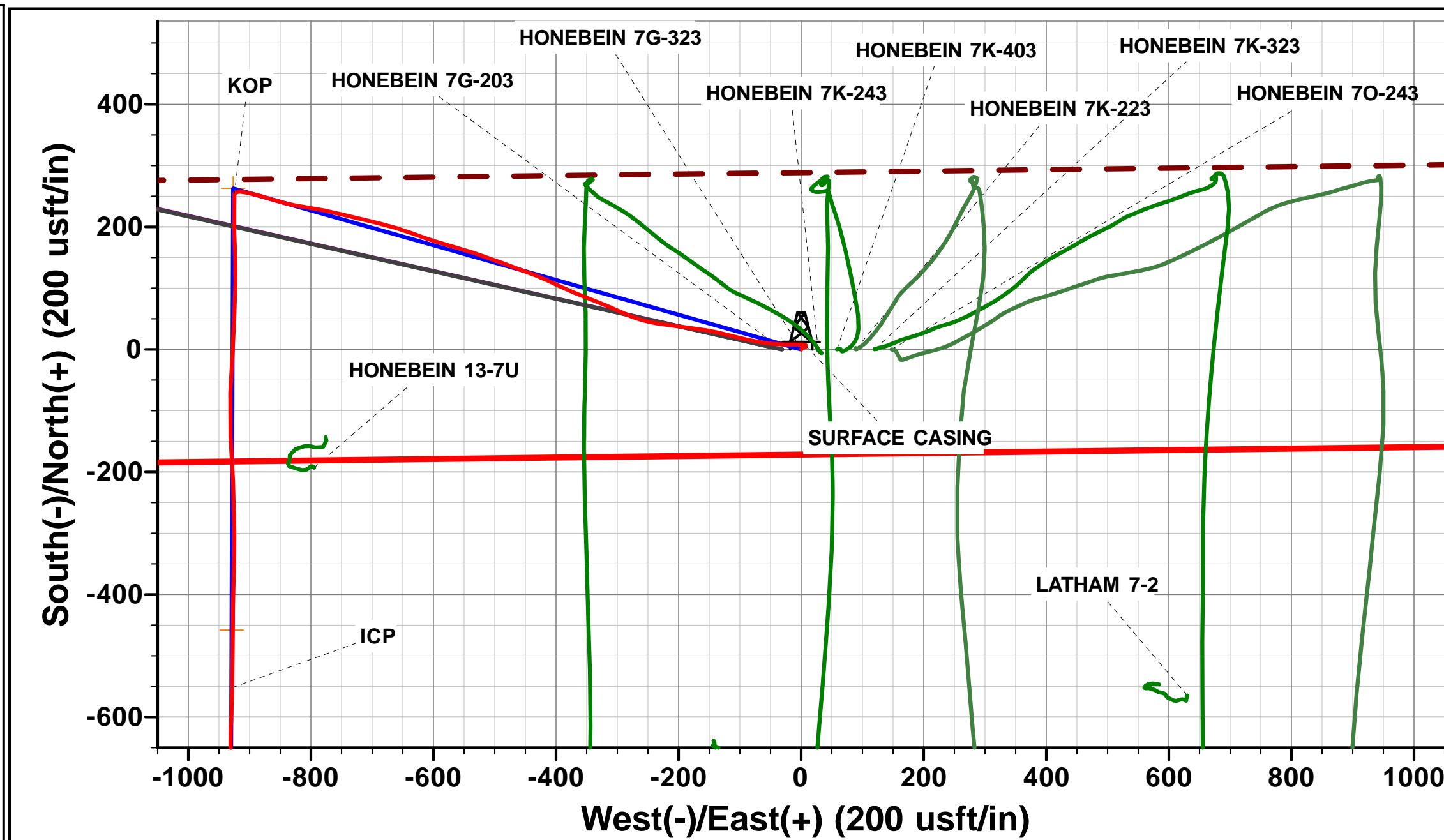
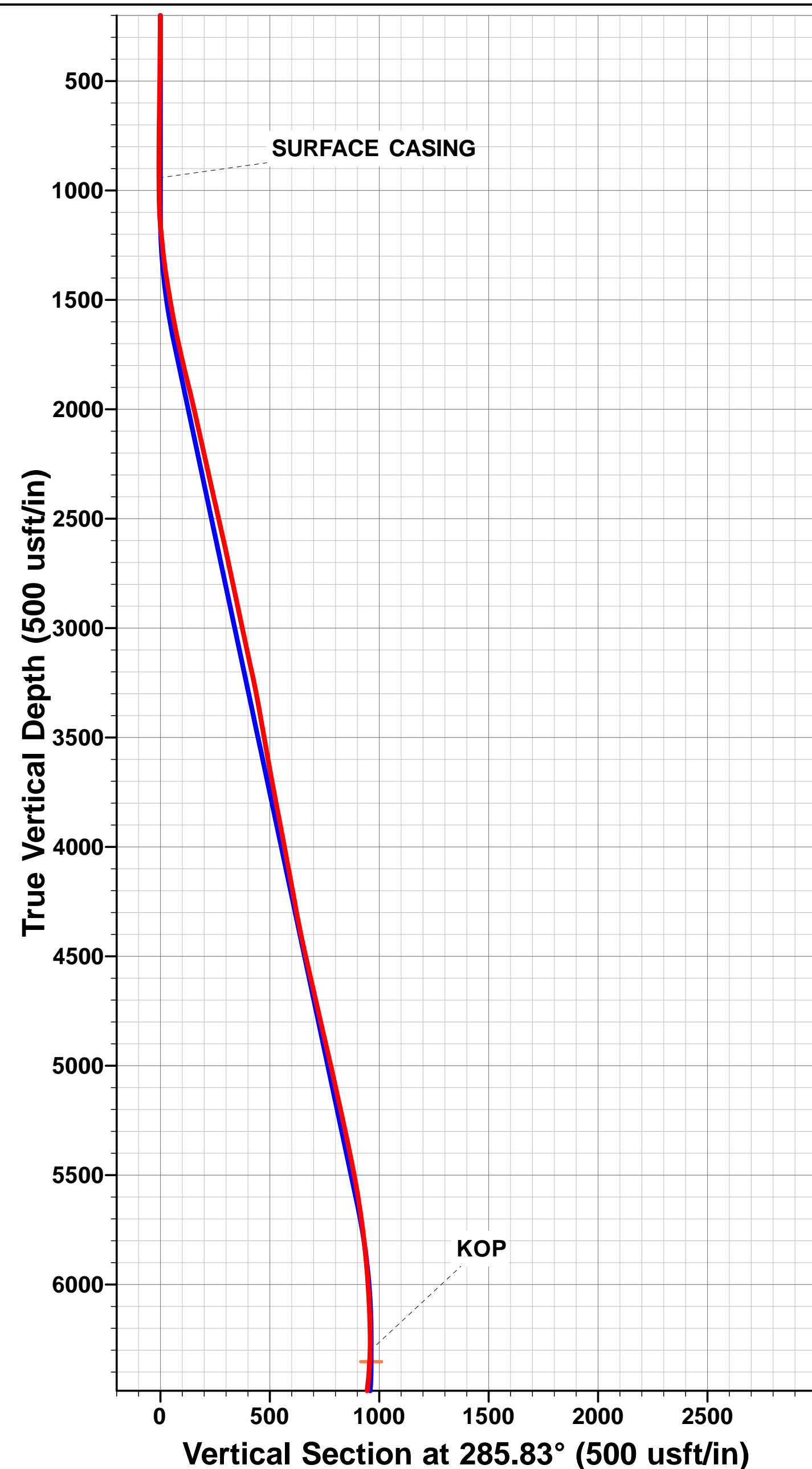
ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation
942.9	943.0	0.54	338.25	5.4	8.2	-6.5	10.9	SURFACE CASING
6302.9	6400.0	4.82	181.13	252.7	-924.9	-127.1	990.8	KOP
7066.3	7601.0	88.41	181.37	-551.8	-928.4	670.7	1794.9	ICP
7030.0	14088.0	88.70	178.10	-7036.1	-936.0	7098.1	8280.6	LAST SURVEY - SEPT 14, 2015
7031.2	14141.0	88.70	178.10	-7089.0	-934.2	7150.3	8333.6	EXTRAPOLATION TO TD

AS DRILLED LOCAL COORDINATES:
 SHL: 2352ft FSL & 1260t FWL Sec 7
 7" ICP: 1800.2ft FSL & 331.6ft FWL Sec 7
 PROPOSED LOCAL COORDINATES:
 BHL: 500.4ft FSL & 351.7ft FWL of Sec 18

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
7" ICP *NEW* - HONEBEIN 7G-323 (P2)	7068.7	-457.9	-929.3	40.324673	-104.600853
BHL - HONEBEIN 7G-323 (P2)	7027.0	-7089.4	-953.9	40.306470	-104.600940
KOP - HONEBEIN 7G-323 (P2)	6352.5	262.8	-926.7	40.326651	-104.600844



Survey Report



Company: PDC ENERGY	Local Co-ordinate Reference: Well HONEBEIN 7G-323
Project: WELD COUNTY, COLORADO	TVD Reference: KB @ 4860.5usft (ENS 123)
Site: NE SW SEC. 7 T4N R64W 6th P.M.	MD Reference: KB @ 4860.5usft (ENS 123)
Well: HONEBEIN 7G-323	North Reference: True
Wellbore: JOB # 2015-66-123	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 SW SEC. 7 T4N R64W 6th P.M.					
Site Position:		Northing:	1,362,859.07 usft	Latitude:	40.325930
From:	Lat/Long	Easting:	3,251,768.07 usft	Longitude:	-104.596990
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft	Grid Convergence:	0.58 °

Well HONEBEIN 7G-323						
Well Position	+N/-S	0.0 usft	Northing:	1,362,857.55 usft	Latitude:	40.325930
	+E/-W	0.0 usft	Easting:	3,251,620.30 usft	Longitude:	-104.597520
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,847.0 usft

Wellbore JOB # 2015-66-123					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	30/06/2015	8.32	66.87	52,595

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	187.66

Survey Program		Date	14/09/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
170.0	14,141.0	FINAL SURVEYS (JOB # 2015-66-123)	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	-4,860.5	0.0	0.0	0.0	0.00	0.00	0.00
170.0	1.00	36.80	170.0	-4,690.5	1.2	0.9	-1.3	0.59	0.59	0.00
268.0	0.60	33.10	268.0	-4,592.5	2.3	1.7	-2.5	0.41	-0.41	-3.78
361.0	0.60	76.30	361.0	-4,499.5	2.8	2.4	-3.1	0.47	0.00	46.45
454.0	0.60	83.70	454.0	-4,406.5	3.0	3.4	-3.4	0.08	0.00	7.96
547.0	0.90	63.20	547.0	-4,313.5	3.4	4.5	-3.9	0.43	0.32	-22.04
640.0	0.80	75.90	640.0	-4,220.5	3.9	5.8	-4.6	0.23	-0.11	13.66
733.0	0.80	64.40	732.9	-4,127.6	4.3	7.0	-5.2	0.17	0.00	-12.37
826.0	0.60	61.20	825.9	-4,034.6	4.8	8.0	-5.8	0.22	-0.22	-3.44
904.0	0.30	328.80	903.9	-3,956.6	5.2	8.3	-6.2	0.87	-0.38	-118.46
SURFACE CASING										
943.0	0.54	338.25	942.9	-3,917.6	5.4	8.2	-6.5	0.65	0.63	24.24
1,014.0	1.00	343.40	1,013.9	-3,846.6	6.4	7.9	-7.3	0.65	0.64	7.25

Survey Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well HONEBEIN 7G-323
Project:	WELD COUNTY, COLORADO	TDV Reference:	KB @ 4860.5usft (ENS 123)
Site:	NE SW SEC. 7 T4N R64W 6th P.M.	MD Reference:	KB @ 4860.5usft (ENS 123)
Well:	HONEBEIN 7G-323	North Reference:	True
Wellbore:	JOB # 2015-66-123	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)
1,293.0	7.60	268.10	1,292.1	-3,568.4	8.1	-11.3	-6.5	2.66	2.37	-26.99
1,573.0	10.70	276.60	1,568.5	-3,292.0	10.5	-55.7	-2.9	1.20	1.11	3.04
1,853.0	14.00	285.30	1,842.0	-3,018.5	22.4	-114.2	-7.0	1.35	1.18	3.11
2,126.0	12.50	276.10	2,107.7	-2,752.8	34.2	-175.4	-10.5	0.95	-0.55	-3.37
2,396.0	13.10	279.60	2,371.0	-2,489.5	42.4	-234.6	-10.8	0.36	0.22	1.30
2,666.0	12.50	294.90	2,634.4	-2,226.1	59.9	-291.3	-20.5	1.27	-0.22	5.67
2,936.0	11.70	290.70	2,898.4	-1,962.1	81.8	-343.4	-35.3	0.44	-0.30	-1.56
3,206.0	12.80	295.50	3,162.3	-1,698.2	104.4	-396.0	-50.6	0.55	0.41	1.78
3,475.0	9.60	289.90	3,426.1	-1,434.4	124.9	-444.0	-64.5	1.26	-1.19	-2.08
3,745.0	10.60	291.20	3,691.9	-1,168.6	141.5	-488.4	-75.1	0.38	0.37	0.48
4,014.0	11.00	287.50	3,956.2	-904.3	158.2	-535.9	-85.3	0.30	0.15	-1.38
4,284.0	10.10	285.60	4,221.6	-638.9	172.3	-583.3	-93.0	0.36	-0.33	-0.70
4,553.0	12.40	290.70	4,485.4	-375.1	188.8	-633.0	-102.7	0.93	0.86	1.90
4,823.0	13.40	283.30	4,748.6	-111.9	206.3	-690.6	-112.4	0.71	0.37	-2.74
5,093.0	12.70	283.70	5,011.6	151.1	220.5	-749.9	-118.5	0.26	-0.26	0.15
5,362.0	12.40	278.60	5,274.2	413.7	231.8	-807.2	-122.1	0.43	-0.11	-1.90
5,632.0	10.40	287.40	5,538.9	678.4	243.5	-859.1	-126.7	0.98	-0.74	3.26
5,901.0	6.10	283.30	5,805.1	944.6	254.0	-896.2	-132.2	1.61	-1.60	-1.52
6,171.0	3.30	272.20	6,074.1	1,213.6	257.6	-917.9	-132.9	1.09	-1.04	-4.11
6,368.0	2.00	198.40	6,271.0	1,410.5	254.6	-924.7	-129.0	1.70	-0.66	-37.46
KOP										
6,400.0	4.82	181.13	6,302.9	1,442.4	252.7	-924.9	-127.1	9.30	8.83	-53.98
6,440.0	8.50	176.10	6,342.6	1,482.1	248.1	-924.7	-122.5	9.30	9.19	-12.57
6,530.0	21.70	182.00	6,429.3	1,568.8	224.7	-924.8	-99.4	14.75	14.67	6.56
6,620.0	23.60	178.10	6,512.4	1,651.9	190.0	-924.8	-65.0	2.69	2.11	-4.33
6,710.0	26.90	177.30	6,593.8	1,733.3	151.7	-923.3	-27.2	3.69	3.67	-0.89
6,800.0	29.60	182.20	6,673.1	1,812.6	109.1	-923.1	14.9	3.95	3.00	5.44
6,890.0	39.30	181.50	6,747.2	1,886.7	58.3	-924.8	65.5	10.79	10.78	-0.78
6,980.0	48.40	183.50	6,812.0	1,951.5	-3.9	-927.6	127.6	10.23	10.11	2.22
7,070.0	48.30	183.00	6,871.8	2,011.3	-71.0	-931.4	194.6	0.43	-0.11	-0.56
7,160.0	53.50	176.70	6,928.6	2,068.1	-140.8	-931.0	263.7	7.93	5.78	-7.00
7,250.0	60.00	176.90	6,977.9	2,117.4	-215.9	-926.9	337.6	7.22	7.22	0.22
7,340.0	68.70	180.10	7,016.9	2,156.4	-296.9	-924.8	417.6	10.18	9.67	3.56
7,430.0	76.00	181.60	7,044.1	2,183.6	-382.6	-926.1	502.7	8.26	8.11	1.67
7,519.0	83.30	180.10	7,060.1	2,199.6	-470.1	-927.4	589.6	8.37	8.20	-1.69
7,572.0	86.20	180.80	7,065.0	2,204.5	-522.9	-927.8	641.9	5.63	5.47	1.32
ICP										
7,601.0	88.41	181.37	7,066.3	2,205.8	-551.8	-928.4	670.7	7.88	7.63	1.98
7,648.0	92.00	182.30	7,066.2	2,205.7	-598.8	-929.9	717.4	7.88	7.63	1.97
7,693.0	92.20	180.90	7,064.5	2,204.0	-643.7	-931.1	762.2	3.14	0.44	-3.11
7,783.0	90.10	178.80	7,062.7	2,202.2	-733.7	-930.9	851.3	3.30	-2.33	-2.33
7,873.0	90.00	178.30	7,062.6	2,202.1	-823.7	-928.6	940.2	0.57	-0.11	-0.56
7,963.0	90.20	178.60	7,062.5	2,202.0	-913.7	-926.2	1,029.0	0.40	0.22	0.33
8,057.0	89.60	177.20	7,062.6	2,202.1	-1,007.6	-922.7	1,121.6	1.62	-0.64	-1.49
8,150.0	90.30	179.50	7,062.7	2,202.2	-1,100.5	-920.0	1,213.4	2.59	0.75	2.47
8,243.0	91.50	179.50	7,061.3	2,200.8	-1,193.5	-919.2	1,305.4	1.29	1.29	0.00
8,337.0	90.10	181.00	7,059.9	2,199.4	-1,287.5	-919.6	1,398.6	2.18	-1.49	1.60
8,430.0	90.60	181.00	7,059.4	2,198.9	-1,380.5	-921.3	1,491.0	0.54	0.54	0.00
8,524.0	90.50	180.50	7,058.5	2,198.0	-1,474.5	-922.5	1,584.3	0.54	-0.11	-0.53
8,617.0	89.80	178.50	7,058.2	2,197.7	-1,567.5	-921.7	1,676.4	2.28	-0.75	-2.15
8,711.0	90.00	181.00	7,058.4	2,197.9	-1,661.5	-921.3	1,769.5	2.67	0.21	2.66
8,804.0	89.80	179.50	7,058.6	2,198.1	-1,754.5	-921.7	1,861.7	1.63	-0.22	-1.61
8,897.0	91.50	179.90	7,057.5	2,197.0	-1,847.5	-921.2	1,953.8	1.88	1.83	0.43

Survey Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well HONEBEIN 7G-323
Project:	WELD COUNTY, COLORADO	TDV Reference:	KB @ 4860.5usft (ENS 123)
Site:	NE SW SEC. 7 T4N R64W 6th P.M.	MD Reference:	KB @ 4860.5usft (ENS 123)
Well:	HONEBEIN 7G-323	North Reference:	True
Wellbore:	JOB # 2015-66-123	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)
8,990.0	91.20	180.60	7,055.3	2,194.8	-1,940.4	-921.6	2,046.0	0.82	-0.32	0.75
9,083.0	92.90	182.60	7,052.0	2,191.5	-2,033.3	-924.2	2,138.4	2.82	1.83	2.15
9,176.0	89.80	182.40	7,049.8	2,189.3	-2,126.2	-928.3	2,231.0	3.34	-3.33	-0.22
9,270.0	90.10	180.60	7,049.9	2,189.4	-2,220.2	-930.7	2,324.4	1.94	0.32	-1.91
9,363.0	89.80	179.30	7,050.0	2,189.5	-2,313.2	-930.6	2,416.6	1.43	-0.32	-1.40
9,456.0	89.20	181.00	7,050.8	2,190.3	-2,406.2	-930.9	2,508.8	1.94	-0.65	1.83
9,550.0	88.70	180.10	7,052.5	2,192.0	-2,500.1	-931.8	2,602.1	1.10	-0.53	-0.96
9,643.0	89.30	181.60	7,054.1	2,193.6	-2,593.1	-933.2	2,694.4	1.74	0.65	1.61
9,736.0	89.20	182.80	7,055.3	2,194.8	-2,686.0	-936.7	2,786.9	1.29	-0.11	1.29
9,829.0	89.30	181.50	7,056.5	2,196.0	-2,778.9	-940.2	2,879.5	1.40	0.11	-1.40
9,919.0	89.60	182.80	7,057.4	2,196.9	-2,868.9	-943.6	2,969.1	1.48	0.33	1.44
10,009.0	89.40	181.70	7,058.2	2,197.7	-2,958.8	-947.1	3,058.7	1.24	-0.22	-1.22
10,099.0	89.80	181.70	7,058.8	2,198.3	-3,048.8	-949.8	3,148.2	0.44	0.44	0.00
10,189.0	89.20	178.90	7,059.6	2,199.1	-3,138.7	-950.3	3,237.4	3.18	-0.67	-3.11
10,279.0	91.40	179.30	7,059.1	2,198.6	-3,228.7	-948.9	3,326.4	2.48	2.44	0.44
10,369.0	91.20	177.90	7,057.1	2,196.6	-3,318.7	-946.7	3,415.3	1.57	-0.22	-1.56
10,459.0	91.30	181.30	7,055.1	2,194.6	-3,408.6	-946.0	3,504.3	3.78	0.11	3.78
10,549.0	90.80	179.70	7,053.5	2,193.0	-3,498.6	-946.8	3,593.6	1.86	-0.56	-1.78
10,639.0	91.10	179.80	7,052.0	2,191.5	-3,588.6	-946.4	3,682.8	0.35	0.33	0.11
10,729.0	91.20	180.60	7,050.2	2,189.7	-3,678.6	-946.7	3,772.0	0.90	0.11	0.89
10,819.0	90.70	177.80	7,048.7	2,188.2	-3,768.6	-945.5	3,861.0	3.16	-0.56	-3.11
10,909.0	90.60	175.80	7,047.7	2,187.2	-3,858.4	-940.5	3,949.4	2.22	-0.11	-2.22
10,999.0	90.70	180.00	7,046.7	2,186.2	-3,948.3	-937.2	4,038.0	4.67	0.11	4.67
11,089.0	91.70	179.00	7,044.8	2,184.3	-4,038.3	-936.4	4,127.1	1.57	1.11	-1.11
11,179.0	89.80	180.20	7,043.6	2,183.1	-4,128.3	-935.7	4,216.2	2.50	-2.11	1.33
11,269.0	89.80	179.70	7,043.9	2,183.4	-4,218.3	-935.7	4,305.4	0.56	0.00	-0.56
11,359.0	90.00	180.40	7,044.1	2,183.6	-4,308.3	-935.7	4,394.6	0.81	0.22	0.78
11,449.0	91.50	182.40	7,042.9	2,182.4	-4,398.2	-937.9	4,484.0	2.78	1.67	2.22
11,538.0	91.60	180.90	7,040.5	2,180.0	-4,487.2	-940.5	4,572.5	1.69	0.11	-1.69
11,628.0	91.50	179.80	7,038.0	2,177.5	-4,577.1	-941.1	4,661.7	1.23	-0.11	-1.22
11,719.0	91.30	178.70	7,035.8	2,175.3	-4,668.1	-939.9	4,751.7	1.23	-0.22	-1.21
11,809.0	91.00	181.40	7,034.0	2,173.5	-4,758.1	-939.9	4,840.9	3.02	-0.33	3.00
11,899.0	90.90	181.10	7,032.5	2,172.0	-4,848.0	-941.9	4,930.3	0.35	-0.11	-0.33
11,989.0	90.90	179.30	7,031.1	2,170.6	-4,938.0	-942.2	5,019.6	2.00	0.00	-2.00
12,078.0	89.90	179.70	7,030.5	2,170.0	-5,027.0	-941.4	5,107.7	1.21	-1.12	0.45
12,168.0	89.60	179.40	7,030.9	2,170.4	-5,117.0	-940.7	5,196.7	0.47	-0.33	-0.33
12,258.0	88.40	180.10	7,032.4	2,171.9	-5,207.0	-940.3	5,285.9	1.54	-1.33	0.78
12,348.0	88.60	180.20	7,034.8	2,174.3	-5,297.0	-940.6	5,375.1	0.25	0.22	0.11
12,437.0	88.60	180.00	7,037.0	2,176.5	-5,385.9	-940.7	5,463.3	0.22	0.00	-0.22
12,527.0	89.30	180.90	7,038.6	2,178.1	-5,475.9	-941.4	5,552.5	1.27	0.78	1.00
12,617.0	88.70	180.90	7,040.2	2,179.7	-5,565.9	-942.9	5,641.9	0.67	-0.67	0.00
12,707.0	88.20	180.10	7,042.6	2,182.1	-5,655.8	-943.6	5,731.2	1.05	-0.56	-0.89
12,796.0	88.70	180.10	7,045.0	2,184.5	-5,744.8	-943.8	5,819.4	0.56	0.56	0.00
12,886.0	89.40	179.30	7,046.5	2,186.0	-5,834.8	-943.3	5,908.5	1.18	0.78	-0.89
12,976.0	90.00	180.50	7,047.0	2,186.5	-5,924.8	-943.2	5,997.7	1.49	0.67	1.33
13,066.0	91.30	181.00	7,046.0	2,185.5	-6,014.8	-944.3	6,087.0	1.55	1.44	0.56
13,156.0	91.70	180.60	7,043.6	2,183.1	-6,104.7	-945.6	6,176.3	0.63	0.44	-0.44
13,246.0	93.90	180.40	7,039.2	2,178.7	-6,194.6	-946.4	6,265.5	2.45	2.44	-0.22
13,336.0	92.90	180.90	7,033.9	2,173.4	-6,284.5	-947.4	6,354.7	1.24	-1.11	0.56
13,426.0	93.00	180.30	7,029.3	2,168.8	-6,374.3	-948.3	6,443.9	0.67	0.11	-0.67
13,516.0	90.30	179.70	7,026.7	2,166.2	-6,464.3	-948.3	6,533.0	3.07	-3.00	-0.67
13,606.0	90.60	179.00	7,026.0	2,165.5	-6,554.3	-947.3	6,622.1	0.85	0.33	-0.78
13,696.0	90.50	179.30	7,025.1	2,164.6	-6,644.3	-946.0	6,711.1	0.35	-0.11	0.33

Survey Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well HONEBEIN 7G-323
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB @ 4860.5usft (ENS 123)
Site:	NE SW SEC. 7 T4N R64W 6th P.M.	MD Reference:	KB @ 4860.5usft (ENS 123)
Well:	HONEBEIN 7G-323	North Reference:	True
Wellbore:	JOB # 2015-66-123	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)
13,786.0	89.80	177.90	7,024.9	2,164.4	-6,734.2	-943.8	6,799.9	1.74	-0.78	-1.56
13,875.0	88.80	178.90	7,025.9	2,165.4	-6,823.2	-941.3	6,887.8	1.59	-1.12	1.12
13,965.0	89.10	178.70	7,027.6	2,167.1	-6,913.2	-939.4	6,976.7	0.40	0.33	-0.22
LAST SURVEY - SEPT 14, 2015										
14,088.0	88.70	178.10	7,030.0	2,169.5	-7,036.1	-936.0	7,098.1	0.59	-0.33	-0.49
EXTRAPOLATION TO TD										
14,141.0	88.70	178.10	7,031.2	2,170.7	-7,089.0	-934.2	7,150.3	0.00	0.00	0.00

Survey Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well HONEBEIN 7G-323
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB @ 4860.5usft (ENS 123)
Site:	NE SW SEC. 7 T4N R64W 6th P.M.	MD Reference:	KB @ 4860.5usft (ENS 123)
Well:	HONEBEIN 7G-323	North Reference:	True
Wellbore:	JOB # 2015-66-123	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEYS	Database:	EDM 5000.1 Single User Db

Targets										
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
- Shape										
7" ICP *NEW* - HONEB - survey misses target center by 10.2usft at 7508.6usft MD (7058.8 TVD, -459.7 N, -927.4 E) - Point	0.00	0.00	7,068.7	-457.9	-929.3	1,362,390.24	3,250,695.75	40.324673	-104.600853	
EXIST VERT FARR #18 - survey misses target center by 370.1usft at 12718.3usft MD (7043.0 TVD, -5667.2 N, -943.7 E) - Circle (radius 30.0)	0.00	0.00	7,278.5	-5,661.3	-658.2	1,357,190.08	3,251,019.80	40.310390	-104.599880	
HOW SAD C 18-31 - survey misses target center by 591.2usft at 10556.0usft MD (7053.4 TVD, -3505.6 N, -946.8 E) - Circle (radius 30.0)	0.00	0.00	7,288.5	-3,511.9	-1,489.1	1,359,330.86	3,250,167.04	40.316290	-104.602860	
KOP - HONEBEIN 7G-3 - survey misses target center by 16.3usft at 6445.7usft MD (6348.3 TVD, 247.2 N, -924.6 E) - Point	0.00	0.00	6,352.5	262.8	-926.7	1,363,110.90	3,250,691.02	40.326651	-104.600844	
BHL - HONEBEIN 7G-3 - survey misses target center by 20.1usft at 14140.6usft MD (7031.2 TVD, -7088.6 N, -934.2 E) - Point	0.00	0.00	7,027.0	-7,089.4	-953.9	1,355,759.15	3,250,738.68	40.306470	-104.600940	
KOP - HONEBEIN 7G-3 - survey misses target center by 25.2usft at 6445.3usft MD (6347.9 TVD, 247.2 N, -924.6 E) - Point	0.00	0.00	6,352.5	264.3	-942.6	1,363,112.24	3,250,675.10	40.326655	-104.600901	
BHL - HONEBEIN 7G-3 - survey misses target center by 4.8usft at 11557.4usft MD (7039.9 TVD, -4506.6 N, -940.8 E) - Point	0.00	0.00	7,035.5	-4,506.4	-942.6	1,358,341.95	3,250,723.65	40.313560	-104.600900	
7" ICP *NEW* - HONEB - survey misses target center by 18.3usft at 7508.7usft MD (7058.8 TVD, -459.8 N, -927.4 E) - Point	0.00	0.00	7,068.7	-457.8	-942.6	1,362,390.21	3,250,682.45	40.324673	-104.600901	
EXIST VERT FARR #2 - survey misses target center by 1524.4usft at 12605.1usft MD (7039.9 TVD, -5554.0 N, -942.7 E) - Circle (radius 30.0)	0.00	0.00	7,256.5	-5,573.9	566.1	1,357,289.96	3,252,243.12	40.310630	-104.595490	
EXIST VERT FARR C # - survey misses target center by 1007.6usft at 13315.0usft MD (7035.0 TVD, -6263.5 N, -947.1 E) - Circle (radius 30.0)	0.00	0.00	7,195.5	-6,284.3	47.4	1,356,574.35	3,251,731.66	40.308680	-104.597350	
EXIST VERT FARR #18 - survey misses target center by 1549.9usft at 14141.0usft MD (7031.2 TVD, -7089.0 N, -934.2 E) - Circle (radius 30.0)	0.00	0.00	7,259.5	-7,165.9	596.9	1,355,698.41	3,252,290.03	40.306260	-104.595380	

Survey Annotations					
Measured	Vertical	Local Coordinates		Comment	
Depth	Depth	+N/-S	+E/-W		
(usft)	(usft)	(usft)	(usft)		
943.0	942.9	5.4	8.2	SURFACE CASING	
6,400.0	6,302.9	252.7	-924.9	KOP	
7,601.0	7,066.3	-551.8	-928.4	ICP	
14,088.0	7,030.0	-7,036.1	-936.0	LAST SURVEY - SEPT 14, 2015	
14,141.0	7,031.2	-7,089.0	-934.2	EXTRAPOLATION TO TD	

Checked By: _____ Approved By: _____ Date: _____