



Project: WELD COUNTY, COLORADO
Site: SW NW SEC. 10 T5N R64W 6th P.M.
Well: WACKER 10G-312
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

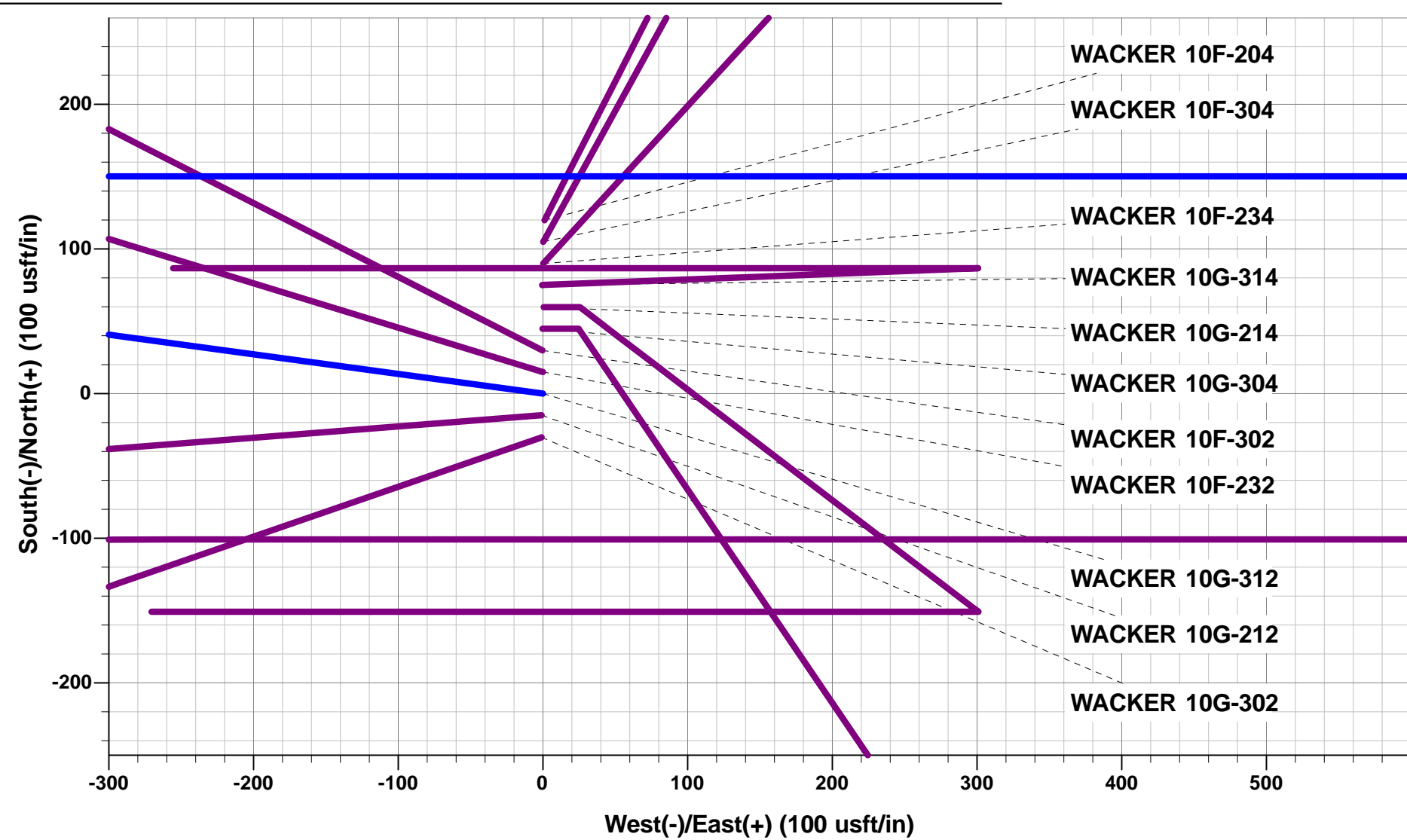


ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 2137ft FNL & 396ft FWL of Sec 10
700.0	700.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1374.3	1380.7	13.61	277.73	10.8	-79.8	-79.3	80.5	EOB TO 13.61° INC
5314.9	5435.2	13.61	277.73	139.3	-1025.4	-1019.9	1034.9	END OF TANGENT
5989.2	6115.9	0.00	0.00	150.1	-1105.2	-1099.3	1115.3	EOD TO VERTICAL
6019.2	6145.9	0.00	0.00	150.1	-1105.2	-1099.3	1115.3	KOP (8°/100ft BUR)
6735.0	7282.7	90.98	90.00	150.1	-377.0	-371.5	1843.5	LANDING PNT: 1985ft FNL & 20ft FWL of Sec 10
6655.0	11947.5	90.98	90.00	150.1	4287.1	4289.7	6507.6	BHL: 2010ft FNL & 500ft FEL of Sec 10

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - WACKER 10G-312 (P2)	6019.2	150.1	-1105.2	40.415551	-104.548210
LANDING PNT - WACKER 10G-312 (P2)	6735.0	150.1	-377.0	40.415551	-104.545595
BHL - WACKER 10G-312 (P2)	6655.0	150.1	4287.1	40.415550	-104.528845

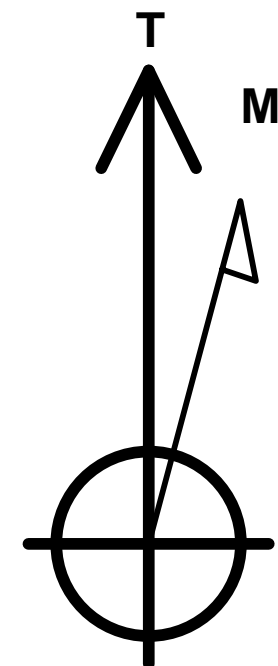


PROPOSED LOCAL COORDINATES:

SHL: 2137ft FNL & 396ft FWL of Sec 10

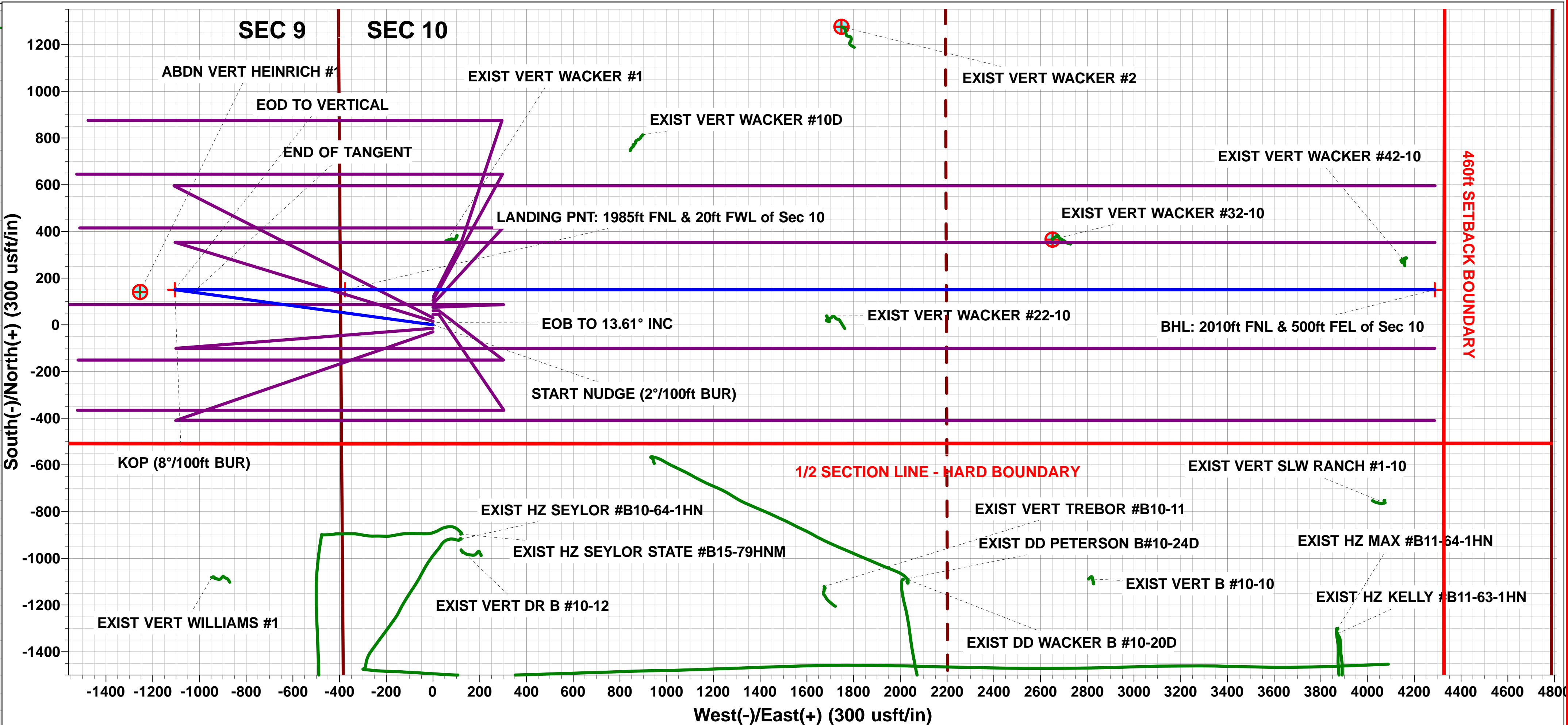
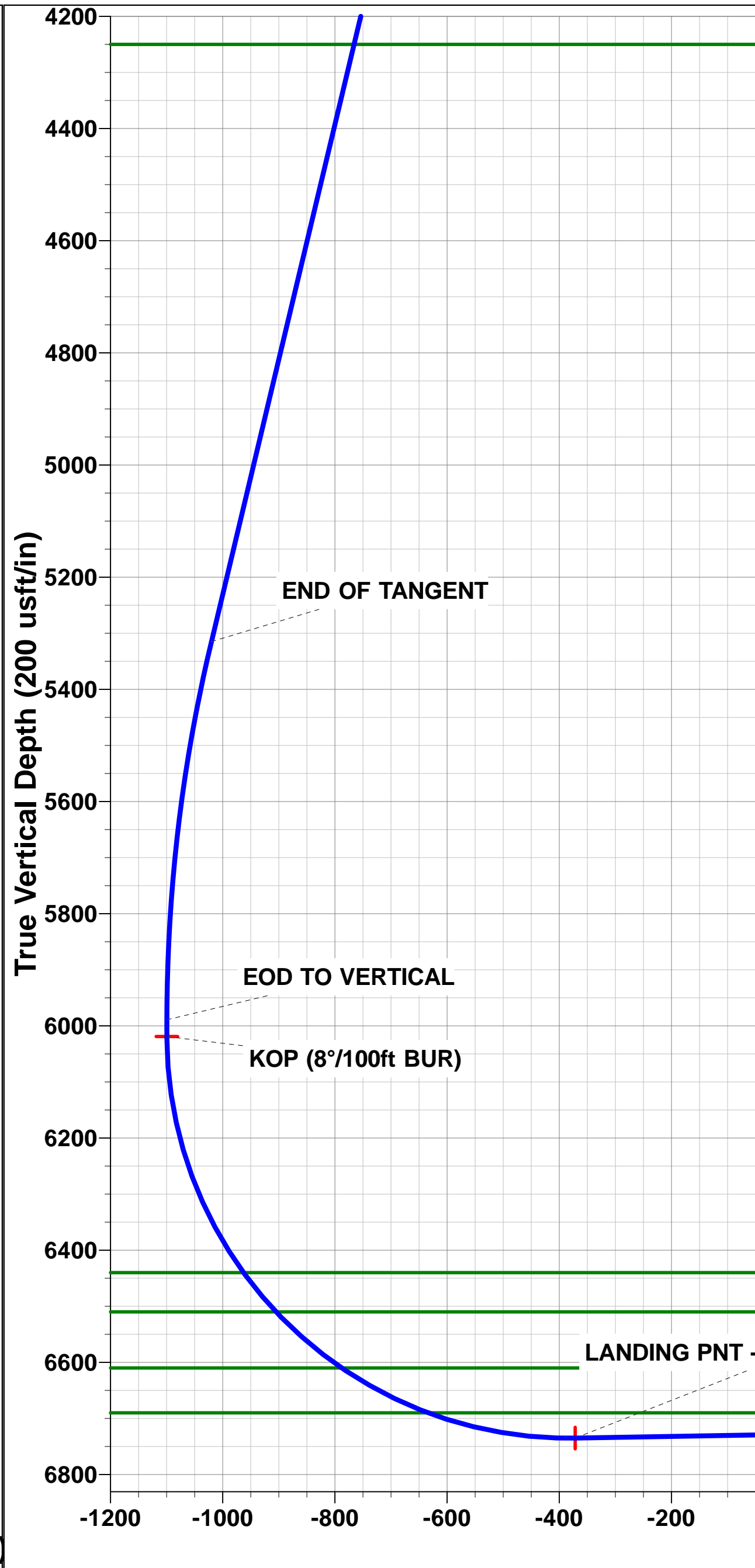
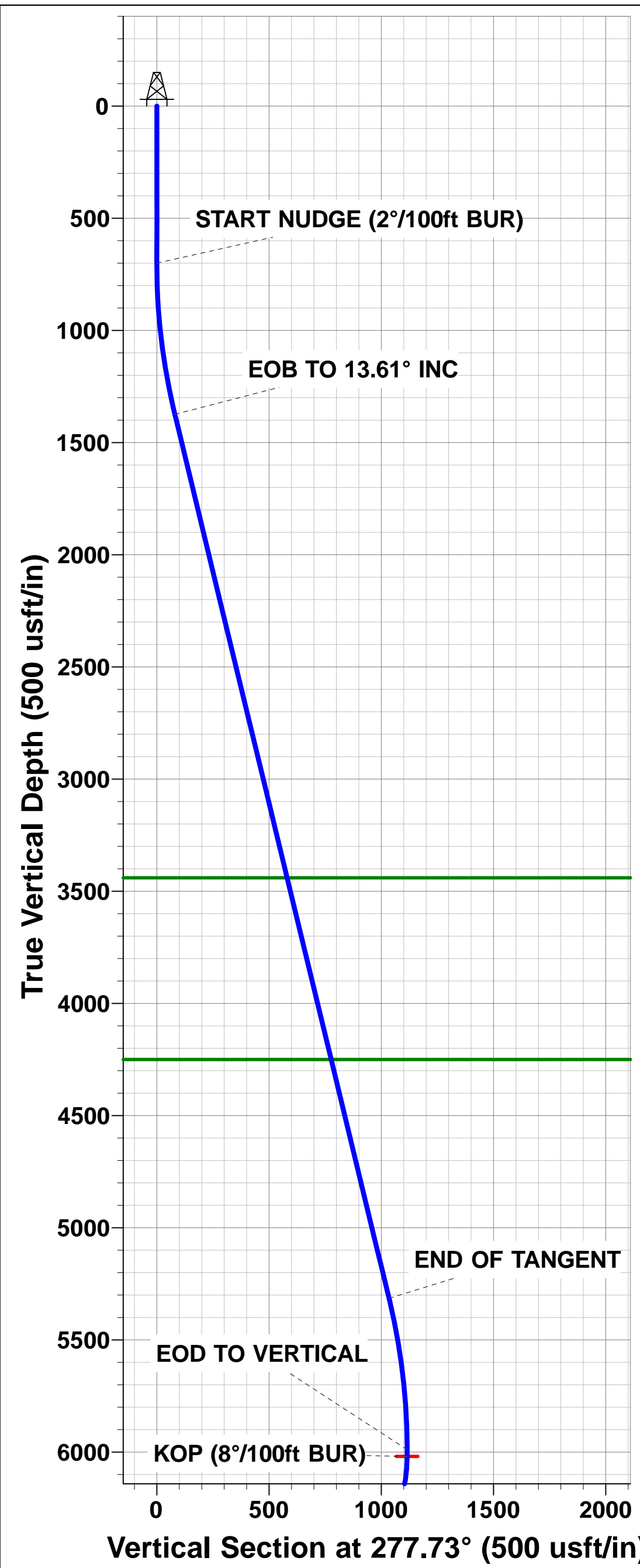
HZ LP: 1985ft FNL & 20ft FWL of Sec 10

BHL: 2010ft FNL & 500ft FEL of Sec 10



Azimuths to True North
Magnetic North: 8.12°

Magnetic Field
Strength: 52451.5snT
Dip Angle: 66.91°
Date: 24/03/2017
Model: IGRF2015



BHL - WACKER 10G-312 (P2)

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well WACKER 10G-312
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4634.0usft
Reference Site:	SW NW SEC. 10 T5N R64W 6th P.M.	MD Reference:	KB-EST @ 4634.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	WACKER 10G-312	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Reference	PROPOSAL #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 us	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	24/03/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,947.4	PROPOSAL #2 (ORIGINAL WELLBORE)	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						
SW NW SEC. 10 T5N R64W 6th P.M.						
ABDN VERT BLOSKAS #13-9 - Wellbore #1 - Design #1	6,145.9	5,976.2	4,036.1	3,893.5	28.294	CC, ES, SF
ABDN VERT HEINRICH #1 - Wellbore #1 - Design #1	6,145.9	5,988.2	149.3	6.2	1.043	Level 2, CC, ES, SF
ABDN VERT OGRADY #3 - Wellbore #1 - Design #1	6,145.9	6,014.2	1,825.5	1,685.3	13.020	CC, ES, SF
ABDN VERT PLUMB #2 - Wellbore #1 - Design #1	6,145.9	5,984.2	8,016.6	7,872.3	55.542	CC, ES
ABDN VERT PLUMB #2 - Wellbore #1 - Design #1	8,500.0	6,679.1	9,943.7	9,761.8	54.660	SF
EXIST DD JURGENS PC #B8-22D - Wellbore #1 - Wellb	6,145.9	6,163.2	5,802.2	5,761.3	141.796	ES
EXIST DD JURGENS PC #B8-22D - Wellbore #1 - Wellb	6,148.3	6,165.1	5,802.2	5,762.5	145.959	CC
EXIST DD JURGENS PC #B8-22D - Wellbore #1 - Wellb	10,700.0	6,795.0	9,924.5	9,802.8	81.604	SF
EXIST DD JURGENS PC #B8-24D - Wellbore #1 - Wellb	3,151.9	1,531.0	7,139.5	7,128.1	626.566	CC
EXIST DD JURGENS PC #B8-24D - Wellbore #1 - Wellb	3,200.0	1,563.0	7,139.6	7,128.0	613.829	ES
EXIST DD JURGENS PC #B8-24D - Wellbore #1 - Wellb	9,300.0	6,819.6	9,985.1	9,890.4	105.456	SF
EXIST DD JURGENS STATE #B16-30D - Wellbore #1 -	6,159.7	6,422.0	5,619.0	5,563.7	101.596	CC, ES
EXIST DD JURGENS STATE #B16-30D - Wellbore #1 -	11,400.0	7,132.1	9,979.6	9,820.9	62.904	SF
EXIST DD PETERSON B #10-24D - Wellbore #1 - Wellb	9,786.2	6,736.5	1,997.9	1,899.7	20.343	CC
EXIST DD PETERSON B #10-24D - Wellbore #1 - Wellb	9,800.0	6,736.5	1,998.0	1,899.4	20.267	ES
EXIST DD PETERSON B #10-24D - Wellbore #1 - Wellb	10,900.0	6,735.0	2,287.4	2,158.9	17.797	SF
EXIST DD PJ #8I - Wellbore #1 - Wellbore #1	6,145.9	6,190.8	8,599.6	8,557.8	205.575	ES
EXIST DD PJ #8I - Wellbore #1 - Wellbore #1	6,156.3	6,198.8	8,599.6	8,567.7	270.193	CC
EXIST DD PJ #8I - Wellbore #1 - Wellbore #1	7,900.0	6,812.3	9,937.4	9,883.5	184.197	SF
EXIST DD WACKER B #10-20D - Wellbore #1 - Wellbore	8,602.8	6,840.0	731.3	653.6	9.409	CC, ES
EXIST DD WACKER B #10-20D - Wellbore #1 - Wellbore	8,800.0	6,837.5	757.5	674.8	9.161	SF
EXIST HZ KELLY #B11-63-1HN - Wellbore #1 - Wellbore	11,910.0	6,662.8	2,264.2	2,106.1	14.320	CC
EXIST HZ KELLY #B11-63-1HN - Wellbore #1 - Wellbore	11,947.5	6,698.0	2,264.6	2,105.0	14.183	ES, SF
EXIST HZ MAX #B11-64-1HN - Wellbore #1 - Wellbore #	11,947.5	6,724.9	1,701.8	1,542.4	10.675	CC, ES, SF
EXIST HZ SEYLLOR #B10-64-1HN - Wellbore #1 - Wellbc	548.9	524.9	923.0	921.3	517.483	CC
EXIST HZ SEYLLOR #B10-64-1HN - Wellbore #1 - Wellbc	600.0	574.9	923.1	921.1	460.827	ES
EXIST HZ SEYLLOR #B10-64-1HN - Wellbore #1 - Wellbc	11,947.5	10,758.0	1,618.2	1,358.0	6.220	SF
EXIST HZ SEYLLOR STATE #B15-79HNM - Wellbore #1	1,410.8	1,453.8	899.3	893.5	155.098	CC, ES
EXIST HZ SEYLLOR STATE #B15-79HNM - Wellbore #1	8,100.0	6,236.0	1,528.1	1,475.9	29.277	SF
EXIST VERT BAUER #9-1 - Wellbore #1 - Wellbore #1	6,005.2	5,781.4	2,081.2	2,057.1	86.317	CC, ES
EXIST VERT BAUER #9-1 - Wellbore #1 - Wellbore #1	11,947.5	6,554.5	6,994.1	6,849.5	48.364	SF
EXIST VERT BLOSKAS #1 - Wellbore #1 - Design #1	6,145.9	5,987.2	4,095.0	3,951.9	28.624	CC, ES, SF
EXIST VERT BLOSKAS #12-9 - Wellbore #1 - Wellbore ;	6,145.9	6,130.5	3,862.7	3,835.7	143.042	ES
EXIST VERT BLOSKAS #12-9 - Wellbore #1 - Wellbore ;	6,175.4	6,163.8	3,862.1	3,845.3	229.579	CC
EXIST VERT BLOSKAS #12-9 - Wellbore #1 - Wellbore ;	11,947.5	6,700.0	9,225.2	9,101.1	74.329	SF
EXIST VERT BLOSKAS #9-23 - Wellbore #1 - Wellbore ;	6,145.9	6,081.0	2,991.7	2,967.0	120.720	ES
EXIST VERT BLOSKAS #9-23 - Wellbore #1 - Wellbore ;	6,176.9	6,120.1	2,991.1	2,971.4	151.592	CC

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well WACKER 10G-312
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4634.0usft
Reference Site:	SW NW SEC. 10 T5N R64W 6th P.M.	MD Reference:	KB-EST @ 4634.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	WACKER 10G-312	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

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
SW NW SEC. 10 T5N R64W 6th P.M.						
EXIST VERT BLOSKAS #9-23 - Wellbore #1 - Wellbore #1	11,947.5	6,600.0	8,200.7	8,056.6	56.925	SF
EXIST VERT BLOSKAS BOND #9D - Wellbore #1 - Wellbore #1	6,145.9	6,095.2	3,364.0	3,337.2	125.230	ES
EXIST VERT BLOSKAS BOND #9D - Wellbore #1 - Wellbore #1	6,172.3	6,123.9	3,363.5	3,346.8	201.111	CC
EXIST VERT BLOSKAS BOND #9D - Wellbore #1 - Wellbore #1	11,947.5	6,790.0	8,685.3	8,540.5	59.979	SF
EXIST VERT BOND #1 - Wellbore #1 - Wellbore #1	6,145.9	6,002.7	2,681.1	2,654.4	100.351	ES
EXIST VERT BOND #1 - Wellbore #1 - Wellbore #1	6,154.1	6,011.4	2,681.0	2,664.2	158.980	CC
EXIST VERT BOND #1 - Wellbore #1 - Wellbore #1	11,947.5	6,700.0	8,049.1	7,952.0	82.881	SF
EXIST VERT BOND #21-9 - Wellbore #1 - Design #1	6,145.9	5,995.2	2,884.1	2,741.6	20.238	CC, ES, SF
EXIST VERT BOND #32-9 - Wellbore #1 - Wellbore #1	6,145.9	5,979.9	1,272.3	1,245.8	48.126	ES, SF
EXIST VERT BOND #32-9 - Wellbore #1 - Wellbore #1	6,150.6	5,985.0	1,272.3	1,255.5	75.950	CC
EXIST VERT DR B #10-12 - Wellbore #1 - Wellbore #1	100.0	60.1	971.4	971.4	10,000.000	CC
EXIST VERT DR B #10-12 - Wellbore #1 - Wellbore #1	600.0	560.1	972.0	970.5	625.246	ES
EXIST VERT DR B #10-12 - Wellbore #1 - Wellbore #1	8,800.0	6,643.1	1,471.3	1,411.6	24.624	SF
EXIST VERT HECKENDORF #1 - Wellbore #1 - Design #1	6,145.9	5,988.2	5,466.1	5,322.9	38.175	CC, ES, SF
EXIST VERT HEINRICH #41-9 - Wellbore #1 - Design #1	6,560.0	6,404.6	1,323.2	1,172.4	8.777	CC
EXIST VERT HEINRICH #41-9 - Wellbore #1 - Design #1	6,600.0	6,437.5	1,323.4	1,172.1	8.749	ES
EXIST VERT HEINRICH #41-9 - Wellbore #1 - Design #1	6,750.0	6,548.1	1,329.0	1,176.1	8.691	SF
EXIST VERT JURGENS #8-1 - Wellbore #1 - Wellbore #1	6,145.9	6,005.6	5,356.1	5,330.4	208.650	ES
EXIST VERT JURGENS #8-1 - Wellbore #1 - Wellbore #1	6,150.1	6,009.7	5,356.0	5,337.7	291.913	CC
EXIST VERT JURGENS #8-1 - Wellbore #1 - Wellbore #1	11,200.0	6,700.0	9,908.1	9,784.2	79.952	SF
EXIST VERT JURGENS #8-13 - Wellbore #1 - Wellbore #1	6,076.0	5,817.5	6,494.8	6,478.0	388.261	CC
EXIST VERT JURGENS #8-13 - Wellbore #1 - Wellbore #1	6,115.9	5,853.8	6,495.0	6,468.3	242.923	ES
EXIST VERT JURGENS #8-13 - Wellbore #1 - Wellbore #1	6,145.9	5,881.1	6,495.5	6,468.7	242.639	SF
EXIST VERT JURGENS #8-14 - Wellbore #1 - Wellbore #1	6,050.4	5,756.2	5,446.5	5,429.2	314.467	CC
EXIST VERT JURGENS #8-14 - Wellbore #1 - Wellbore #1	6,115.9	5,800.0	5,447.4	5,420.2	200.507	ES
EXIST VERT JURGENS #8-14 - Wellbore #1 - Wellbore #1	11,000.0	6,450.0	9,904.1	9,829.0	131.759	SF
EXIST VERT JURGENS PC #B8-23 - Wellbore #1 - Wellbore #1	6,066.5	5,800.0	6,336.9	6,317.8	331.362	CC
EXIST VERT JURGENS PC #B8-23 - Wellbore #1 - Wellbore #1	6,115.9	5,839.0	6,337.3	6,312.0	249.758	ES
EXIST VERT JURGENS PC #B8-23 - Wellbore #1 - Wellbore #1	10,300.0	6,388.8	9,970.2	9,872.0	101.506	SF
EXIST VERT JURGENS PM B #B8-10 - Wellbore #1 - Design #1	6,145.9	5,998.2	6,465.7	6,323.0	45.311	CC, ES
EXIST VERT JURGENS PM B #B8-10 - Wellbore #1 - Design #1	10,100.0	6,665.7	9,966.9	9,744.8	44.884	SF
EXIST VERT LOWER LATHAM #8-15 - Wellbore #1 - Wellbore #1	6,080.6	5,839.4	5,894.3	5,877.7	354.030	CC
EXIST VERT LOWER LATHAM #8-15 - Wellbore #1 - Wellbore #1	6,115.9	5,877.7	5,894.5	5,867.5	217.581	ES
EXIST VERT LOWER LATHAM #8-15 - Wellbore #1 - Wellbore #1	10,600.0	6,508.6	9,945.0	9,861.3	118.797	SF
EXIST VERT MILLAGE #11-10 - Wellbore #1 - Design #1	7,828.0	6,710.7	1,658.3	1,488.6	9.769	CC, ES
EXIST VERT MILLAGE #11-10 - Wellbore #1 - Design #1	8,200.0	6,704.3	1,699.5	1,521.8	9.561	SF
EXIST VERT OGRADY #31-9 - Wellbore #1 - Design #1	6,145.9	6,005.2	1,857.3	1,718.7	13.400	CC
EXIST VERT OGRADY #31-9 - Wellbore #1 - Design #1	6,150.0	6,009.3	1,857.3	1,717.7	13.301	ES
EXIST VERT OGRADY #31-9 - Wellbore #1 - Design #1	6,300.0	6,158.1	1,867.0	1,725.4	13.188	SF
EXIST VERT PAULINE #5 - Wellbore #1 - Wellbore #1	6,104.7	5,906.1	8,065.9	8,048.9	473.601	CC
EXIST VERT PAULINE #5 - Wellbore #1 - Wellbore #1	6,115.9	5,918.8	8,065.9	8,039.2	301.830	ES
EXIST VERT PAULINE #5 - Wellbore #1 - Wellbore #1	8,400.0	6,695.3	9,910.6	9,866.1	222.620	SF
EXIST VERT PJ #2 - Wellbore #1 - Wellbore #1	6,107.6	5,917.3	7,778.4	7,761.1	448.888	CC
EXIST VERT PJ #2 - Wellbore #1 - Wellbore #1	6,115.9	5,925.2	7,778.5	7,752.2	296.445	ES
EXIST VERT PJ #2 - Wellbore #1 - Wellbore #1	8,700.0	6,400.0	9,914.9	9,860.2	181.305	SF
EXIST VERT PJ #3 - Wellbore #1 - Wellbore #1	6,145.9	6,000.0	9,251.3	9,224.4	344.431	ES, SF
EXIST VERT PJ #3 - Wellbore #1 - Wellbore #1	6,147.3	6,000.0	9,251.3	9,234.0	537.017	CC
EXIST VERT PJ #5 - Wellbore #1 - Design #1	6,145.9	5,992.2	8,585.5	8,442.2	59.875	CC, ES, SF
EXIST VERT SLW RANCH #1-10 - Wellbore #1 - Wellbore #1	11,681.6	6,639.0	903.4	765.9	6.573	CC
EXIST VERT SLW RANCH #1-10 - Wellbore #1 - Wellbore #1	11,700.0	6,638.6	903.6	765.6	6.550	ES
EXIST VERT SLW RANCH #1-10 - Wellbore #1 - Wellbore #1	11,800.0	6,636.5	911.1	770.4	6.475	SF
EXIST VERT TREBOR #B10-11 - Wellbore #1 - Wellbore #1	9,375.3	6,623.7	1,351.9	1,276.6	17.962	CC
EXIST VERT TREBOR #B10-11 - Wellbore #1 - Wellbore #1	9,400.0	6,624.6	1,352.1	1,276.2	17.809	ES

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

Anticollision Report



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Site Error:	0.0 usft	North Reference:	True
Reference Well:	WACKER 10G-312	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

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
SW NW SEC. 10 T5N R64W 6th P.M.						
EXIST VERT TREBOR #B10-11 - Wellbore #1 - Wellbore	10,000.0	6,646.9	1,489.1	1,397.0	16.177	SF
EXIST VERT TREBOR B #10-10 - Wellbore #1 - Wellbore	10,488.0	6,630.0	1,258.4	1,153.7	12.025	CC
EXIST VERT TREBOR B #10-10 - Wellbore #1 - Wellbore	10,500.0	6,629.8	1,258.4	1,153.5	11.988	ES
EXIST VERT TREBOR B #10-10 - Wellbore #1 - Wellbore	10,900.0	6,623.5	1,324.1	1,208.2	11.423	SF
EXIST VERT WACKER #1 - Wellbore #1 - Wellbore #1	7,763.0	6,700.0	232.0	196.4	6.526	CC, ES
EXIST VERT WACKER #1 - Wellbore #1 - Wellbore #1	7,800.0	6,700.0	234.9	198.7	6.478	SF
EXIST VERT WACKER #10D - Wellbore #1 - Wellbore #	8,503.5	6,707.1	596.8	544.0	11.295	CC, ES
EXIST VERT WACKER #10D - Wellbore #1 - Wellbore #	8,700.0	6,702.3	628.3	570.6	10.880	SF
EXIST VERT WACKER #2 - Wellbore #1 - Wellbore #1	9,462.4	6,700.0	1,038.3	960.7	13.379	CC
EXIST VERT WACKER #2 - Wellbore #1 - Wellbore #1	9,500.0	6,700.0	1,039.0	960.4	13.218	ES
EXIST VERT WACKER #2 - Wellbore #1 - Wellbore #1	9,800.0	6,700.0	1,091.8	1,005.2	12.602	SF
EXIST VERT WACKER #22-10 - Wellbore #1 - Wellbore	9,419.8	6,665.4	163.1	87.5	2.157	CC, ES, SF
EXIST VERT WACKER #31-10 - Wellbore #1 - Wellbore	10,327.6	6,700.0	1,397.0	1,296.8	13.947	CC
EXIST VERT WACKER #31-10 - Wellbore #1 - Wellbore	10,400.0	6,700.0	1,398.8	1,296.7	13.697	ES
EXIST VERT WACKER #31-10 - Wellbore #1 - Wellbore	10,900.0	6,700.0	1,509.7	1,393.9	13.037	SF
EXIST VERT WACKER #32-10 - Wellbore #1 - Wellbore	10,384.9	6,672.3	197.4	95.6	1.939	CC, ES
EXIST VERT WACKER #32-10 - Wellbore #1 - Wellbore	10,400.0	6,672.7	198.0	95.8	1.937	SF
EXIST VERT WACKER #41-10 - Wellbore #1 - Wellbore	11,941.2	6,568.2	1,419.7	1,275.0	9.811	CC
EXIST VERT WACKER #41-10 - Wellbore #1 - Wellbore	11,947.5	6,567.7	1,419.7	1,274.8	9.800	ES, SF
EXIST VERT WACKER #42-10 - Wellbore #1 - Wellbore	11,821.3	6,500.0	165.9	67.7	1.689	CC, ES, SF
EXIST VERT WILLIAMS #1 - Wellbore #1 - Wellbore #1	4,606.0	4,480.9	1,198.4	1,177.7	57.959	CC
EXIST VERT WILLIAMS #1 - Wellbore #1 - Wellbore #1	4,700.0	4,571.1	1,198.7	1,177.5	56.654	ES
EXIST VERT WILLIAMS #1 - Wellbore #1 - Wellbore #1	11,947.5	6,635.2	5,307.9	5,163.2	36.677	SF
WACKER 10F-204 - ORIGINAL WELLBORE - PROPOS	300.0	300.0	119.9	118.8	111.796	CC, ES
WACKER 10F-204 - ORIGINAL WELLBORE - PROPOS	6,650.0	7,658.7	745.1	689.3	13.364	SF
WACKER 10F-232 - ORIGINAL WELLBORE - PROPOS	600.0	600.0	14.9	12.5	6.170	CC
WACKER 10F-232 - ORIGINAL WELLBORE - PROPOS	11,947.5	11,864.1	215.0	-57.5	0.789	Level 1, ES, SF
WACKER 10F-234 - ORIGINAL WELLBORE - PROPOS	500.0	500.0	90.0	88.0	45.650	CC, ES
WACKER 10F-234 - ORIGINAL WELLBORE - PROPOS	6,900.0	7,431.3	265.2	212.9	5.068	SF
WACKER 10F-302 - ORIGINAL WELLBORE - PROPOS	500.0	500.0	29.9	27.9	15.154	CC, ES
WACKER 10F-302 - ORIGINAL WELLBORE - PROPOS	11,947.5	11,976.2	445.1	158.6	1.554	SF
WACKER 10F-304 - ORIGINAL WELLBORE - PROPOS	400.0	400.0	104.9	103.4	68.952	CC, ES
WACKER 10F-304 - ORIGINAL WELLBORE - PROPOS	6,900.0	7,518.6	501.6	450.2	9.745	SF
WACKER 10G-212 - ORIGINAL WELLBORE - PROPOS	400.0	400.0	15.0	13.4	9.831	CC
WACKER 10G-212 - ORIGINAL WELLBORE - PROPOS	11,947.5	11,843.2	260.6	-15.7	0.943	Level 1, ES, SF
WACKER 10G-214 - ORIGINAL WELLBORE - PROPOS	300.0	300.0	59.7	58.7	55.730	CC
WACKER 10G-214 - ORIGINAL WELLBORE - PROPOS	500.0	499.6	60.2	58.3	30.833	ES
WACKER 10G-214 - ORIGINAL WELLBORE - PROPOS	6,850.0	7,466.6	303.4	250.1	5.692	SF
WACKER 10G-302 - ORIGINAL WELLBORE - PROPOS	300.0	300.0	30.3	29.2	28.218	CC, ES
WACKER 10G-302 - ORIGINAL WELLBORE - PROPOS	11,947.5	11,943.0	559.9	274.3	1.960	SF
WACKER 10G-304 - ORIGINAL WELLBORE - PROPOS	339.9	339.9	44.8	43.6	35.921	CC
WACKER 10G-304 - ORIGINAL WELLBORE - PROPOS	400.0	400.0	44.8	43.3	29.671	ES
WACKER 10G-304 - ORIGINAL WELLBORE - PROPOS	6,850.0	7,564.4	529.7	477.1	10.077	SF
WACKER 10G-314 - ORIGINAL WELLBORE - PROPOS	7,149.0	7,256.0	63.5	14.7	1.301	Level 3, CC, ES, SF

Offset Design												SW NW SEC. 10 T5N R64W 6th P.M. - ABDN VERT BLOSKAS #13-9 - Wellbore #1 - Design #1		Offset Site Error:		0.0 usft	
Survey Program: 0-INC														Offset Well Error:		0.0 usft	
Reference		Offset		Semi Major Axis			Distance										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning				

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

Header Information	measured depth (ft)	inclination (°)	azimuth (°)	true vertical depth (ft)
Operator Name	0	0	0	0
PDC ENERGY	100	0	0	100
Operator Number	200	0	0	200
69175	300	0	0	300
Well Name and Number	400	0	0	400
WACKER 10G-312	500	0	0	500
API Number (if available)	600	0	0	600
	700	0	0	700
Location: QQ SEC TWP RGE	800	2	277.73	799.98
SW NW SEC. 10 T5N R64W	900	4	277.73	899.84
Citing Type: Planned or Actual	1000	6	277.73	999.45
Planned	1100	8	277.73	1098.7
Deviation Indicator	1200	10	277.73	1197.47
Horizontal	1300	12	277.73	1295.62
North Reference	1380.72	13.61	277.73	1374.33
True	1400	13.61	277.73	1393.07
Grid Type	1500	13.61	277.73	1490.26
	1600	13.61	277.73	1587.45
	1700	13.61	277.73	1684.64
	1800	13.61	277.73	1781.83
	1900	13.61	277.73	1879.02
	2000	13.61	277.73	1976.21
	2100	13.61	277.73	2073.4
	2200	13.61	277.73	2170.59
	2300	13.61	277.73	2267.78
	2400	13.61	277.73	2364.97
	2500	13.61	277.73	2462.16
	2600	13.61	277.73	2559.35
	2700	13.61	277.73	2656.54
	2800	13.61	277.73	2753.73
	2900	13.61	277.73	2850.92
	3000	13.61	277.73	2948.11
	3100	13.61	277.73	3045.3
	3200	13.61	277.73	3142.49
	3300	13.61	277.73	3239.68
	3400	13.61	277.73	3336.88
	3500	13.61	277.73	3434.07
	3600	13.61	277.73	3531.26
	3700	13.61	277.73	3628.45
	3800	13.61	277.73	3725.64
	3900	13.61	277.73	3822.83
	4000	13.61	277.73	3920.02

4100	13.61	277.73	4017.21
4200	13.61	277.73	4114.4
4300	13.61	277.73	4211.59
4400	13.61	277.73	4308.78
4500	13.61	277.73	4405.97
4600	13.61	277.73	4503.16
4700	13.61	277.73	4600.35
4800	13.61	277.73	4697.54
4900	13.61	277.73	4794.73
5000	13.61	277.73	4891.92
5100	13.61	277.73	4989.11
5200	13.61	277.73	5086.3
5300	13.61	277.73	5183.49
5400	13.61	277.73	5280.68
5435.18	13.61	277.73	5314.87
5500	12.32	277.73	5378.04
5600	10.32	277.73	5476.09
5700	8.32	277.73	5574.76
5800	6.32	277.73	5673.94
5900	4.32	277.73	5773.51
6000	2.32	277.73	5873.34
6100	0.32	277.73	5973.3
6115.9	0	0	5989.2
6145.9	0	0	6019.2
6200	4.33	90	6073.25
6300	12.33	90	6172.12
6400	20.34	90	6268
6500	28.34	90	6359.04
6600	36.34	90	6443.46
6700	44.35	90	6519.61
6800	52.35	90	6586.02
6900	60.35	90	6641.39
7000	68.36	90	6684.63
7100	76.36	90	6714.91
7200	84.36	90	6731.64
7282.7	90.98	90	6735
7300	90.98	90	6734.7
7400	90.98	90	6732.99
7500	90.98	90	6731.28
7600	90.98	90	6729.56
7700	90.98	90	6727.85
7800	90.98	90	6726.14
7900	90.98	90	6724.42
8000	90.98	90	6722.71
8100	90.98	90	6721
8200	90.98	90	6719.28
8300	90.98	90	6717.57

8400	90.98	90	6715.86
8500	90.98	90	6714.14
8600	90.98	90	6712.43
8700	90.98	90	6710.71
8800	90.98	90	6709
8900	90.98	90	6707.28
9000	90.98	90	6705.57
9100	90.98	90	6703.86
9200	90.98	90	6702.14
9300	90.98	90	6700.43
9400	90.98	90	6698.71
9500	90.98	90	6697
9600	90.98	90	6695.28
9700	90.98	90	6693.57
9800	90.98	90	6691.85
9900	90.98	90	6690.14
10000	90.98	90	6688.42
10100	90.98	90	6686.71
10200	90.98	90	6684.99
10300	90.98	90	6683.28
10400	90.98	90	6681.56
10500	90.98	90	6679.84
10600	90.98	90	6678.13
10700	90.98	90	6676.41
10800	90.98	90	6674.7
10900	90.98	90	6672.98
11000	90.98	90	6671.26
11100	90.98	90	6669.55
11200	90.98	90	6667.83
11300	90.98	90	6666.12
11400	90.98	90	6664.4
11500	90.98	90	6662.68
11600	90.98	90	6660.97
11700	90.98	90	6659.25
11800	90.98	90	6657.53
11900	90.98	90	6655.82
11947.55	90.98	90	6655