



EP Energy E&P Company, L.P.

Crockett Co, TX
University East 4128
CH

OH

Design: Surveys

Standard Survey Report

17 September, 2017





WELL DETAILS: CH

Ground Elevation: 2630.00
RKB Elevation: KB=30' (Nabors F34) @ 2660.00ft (Nabors F34)
Rig Name: Nabors F34

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	477695.600	1737150.700	30° 58' 38.76232 N 101° 10' 19.58047 W	

SECTION DETAILS

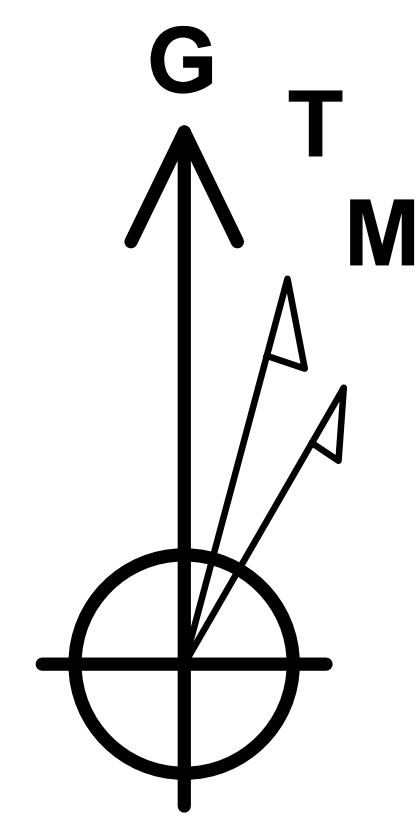
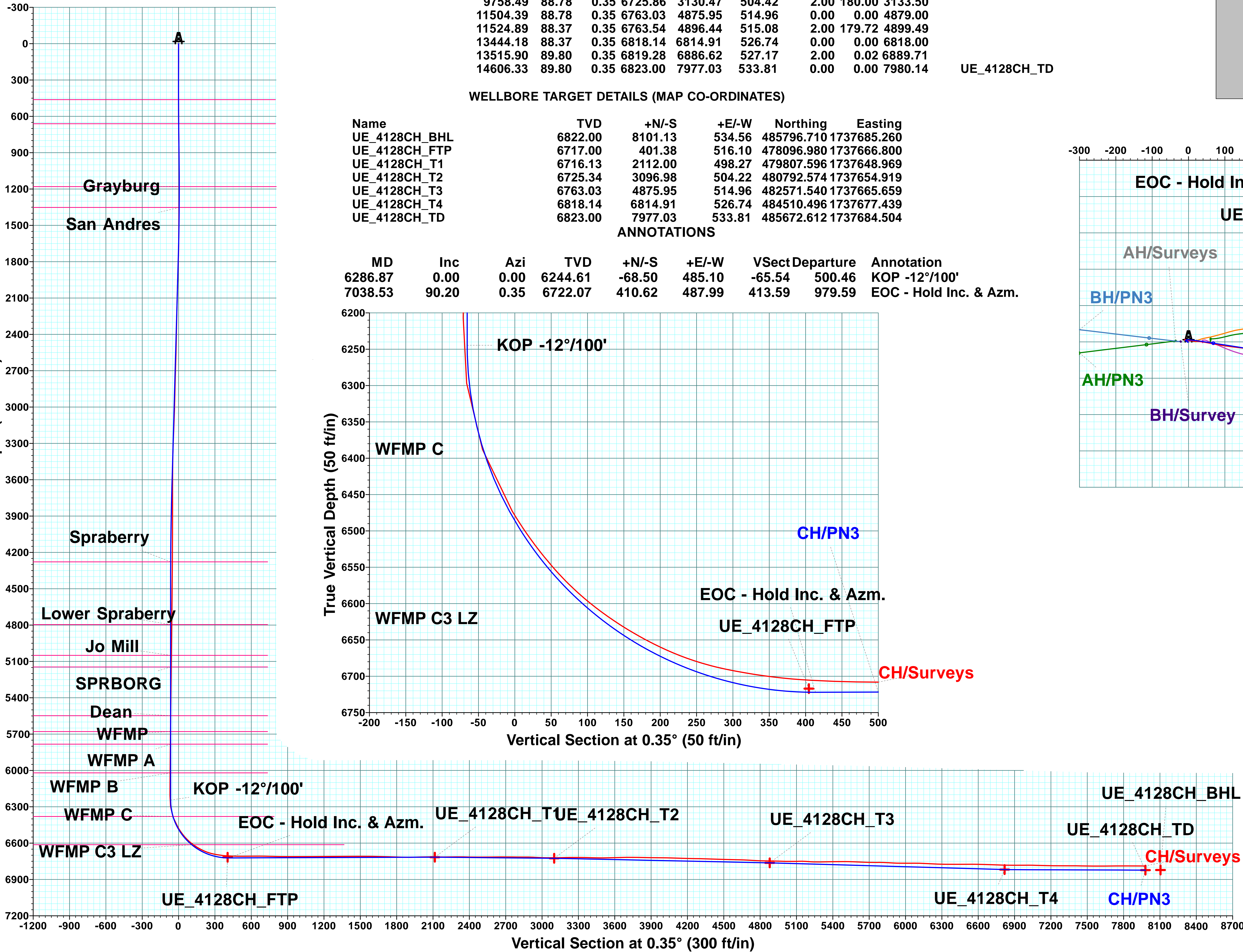
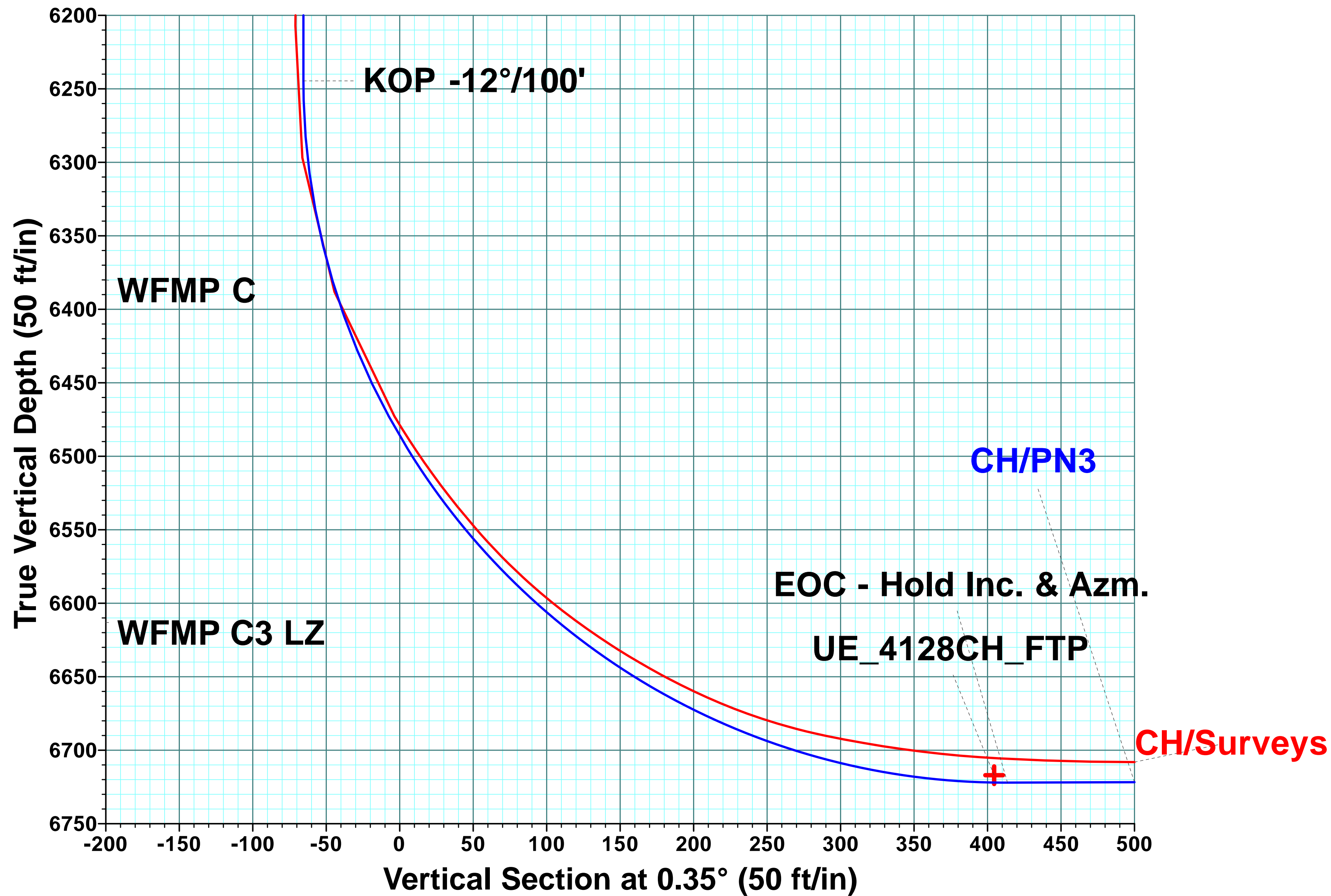
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
892.00	0.78	326.00	891.96	3.23	-6.25	0.00	0.00	3.19
1000.05	0.78	326.00	1000.00	4.45	-7.07	0.00	0.00	4.41
1744.46	10.62	98.86	1740.34	-1.93	58.09	1.50	135.76	-1.58
3734.19	10.62	98.86	3695.98	-58.42	420.44	0.00	0.00	-55.85
4442.26	0.00	0.00	4400.00	-68.50	485.10	1.50	180.00	-65.54
6286.87	0.00	0.00	6244.61	-68.50	485.10	0.00	0.00	-65.54
7038.53	90.20	0.35	6722.07	410.62	487.99	12.00	0.35	413.60
8739.95	90.20	0.35	6716.13	2112.00	498.27	0.00	0.00	2115.00
8777.45	89.45	0.35	6716.25	2149.49	498.49	2.00	180.00	2152.50
9724.99	89.45	0.35	6725.34	3096.98	504.22	0.00	0.00	3100.00
9758.49	88.78	0.35	6725.86	3130.47	504.42	2.00	180.00	3133.50
11504.39	88.78	0.35	6763.03	4875.95	514.96	0.00	0.00	4879.00
11524.89	88.37	0.35	6763.54	4896.44	515.08	2.00	179.72	4899.49
13444.18	88.37	0.35	6818.14	6814.91	526.74	0.00	0.00	6818.00
13515.90	89.80	0.35	6819.28	6886.62	527.17	2.00	0.02	6889.71
14606.33	89.80	0.35	6823.00	7977.03	533.81	0.00	0.00	7980.14

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
UE_4128CH_BHL	6822.00	8101.13	534.56	485796.710	1737685.260
UE_4128CH_FTP	6717.00	401.38	516.10	478096.980	1737666.800
UE_4128CH_T1	6716.13	2112.00	498.27	479807.596	1737648.969
UE_4128CH_T2	6725.34	3096.98	504.22	480792.574	1737654.919
UE_4128CH_T3	6763.03	4875.95	514.96	482571.540	1737665.659
UE_4128CH_T4	6818.14	6814.91	526.74	484510.496	1737677.439
UE_4128CH_TD	6823.00	7977.03	533.81	485672.612	1737684.504

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
6286.87	0.00	0.00	6244.61	-68.50	485.10	-65.54	500.46	KOP -12°/100'
7038.53	90.20	0.35	6722.07	410.62	487.99	413.59	979.59	EOC - Hold Inc. & Azm.

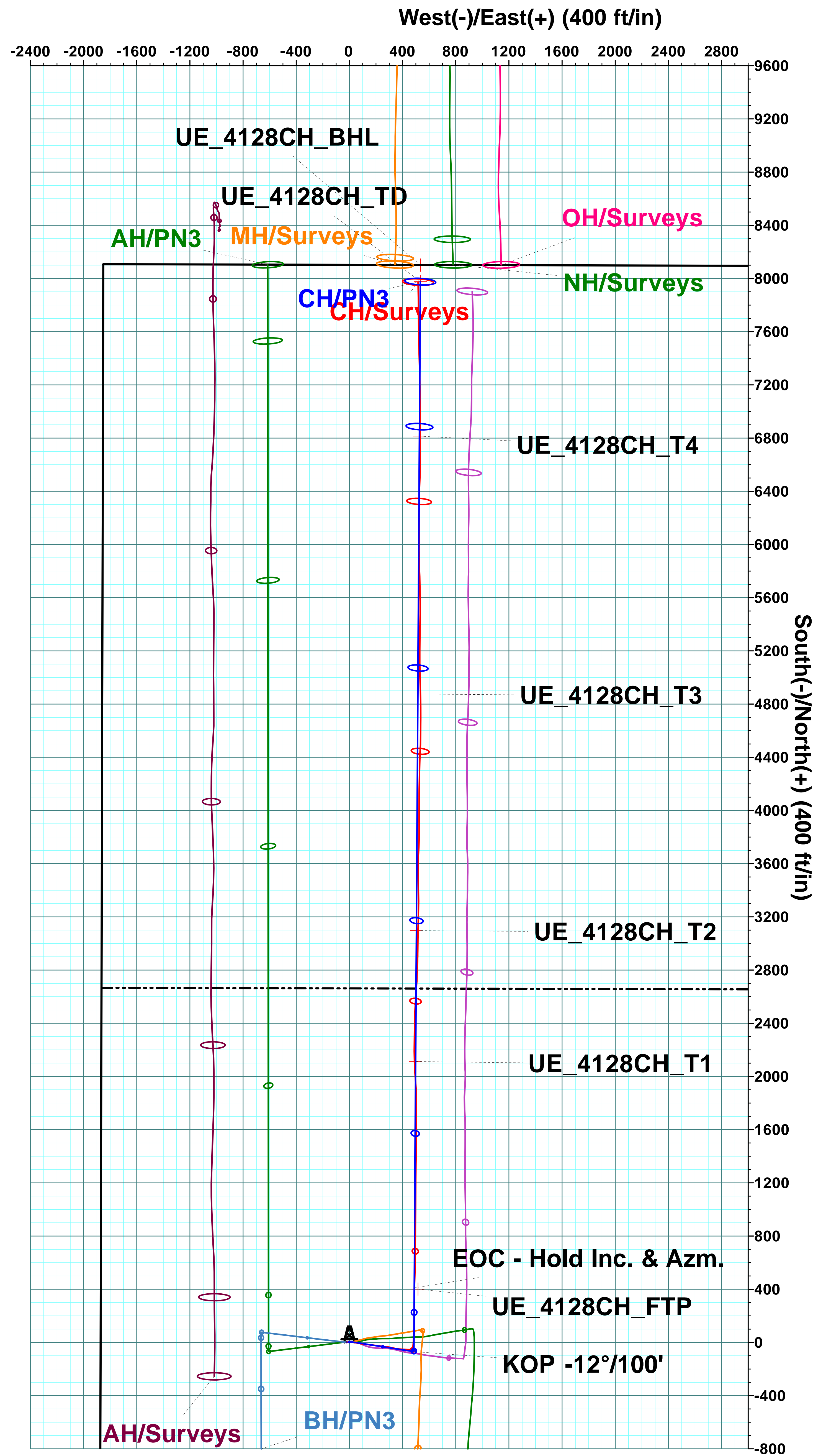
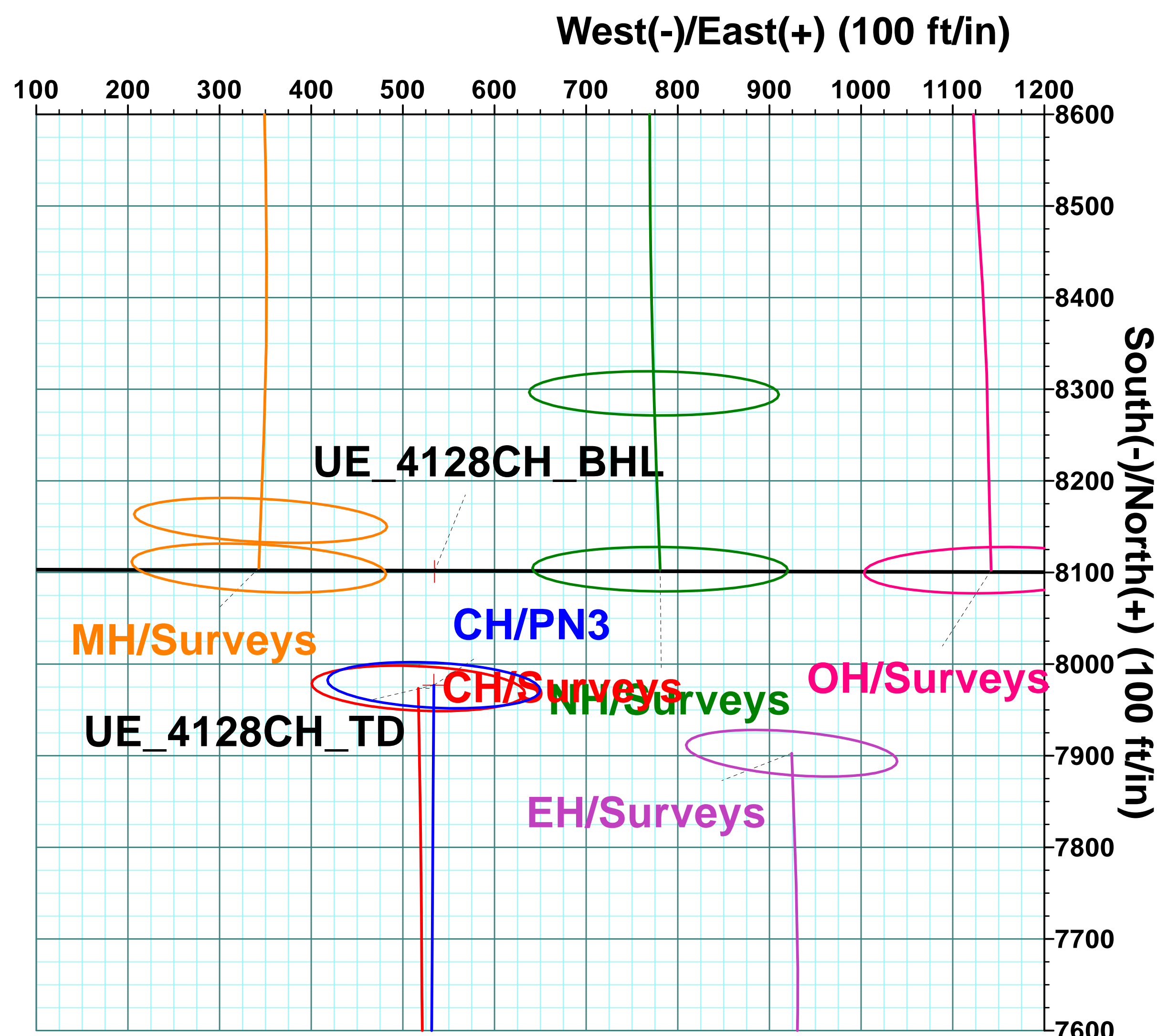
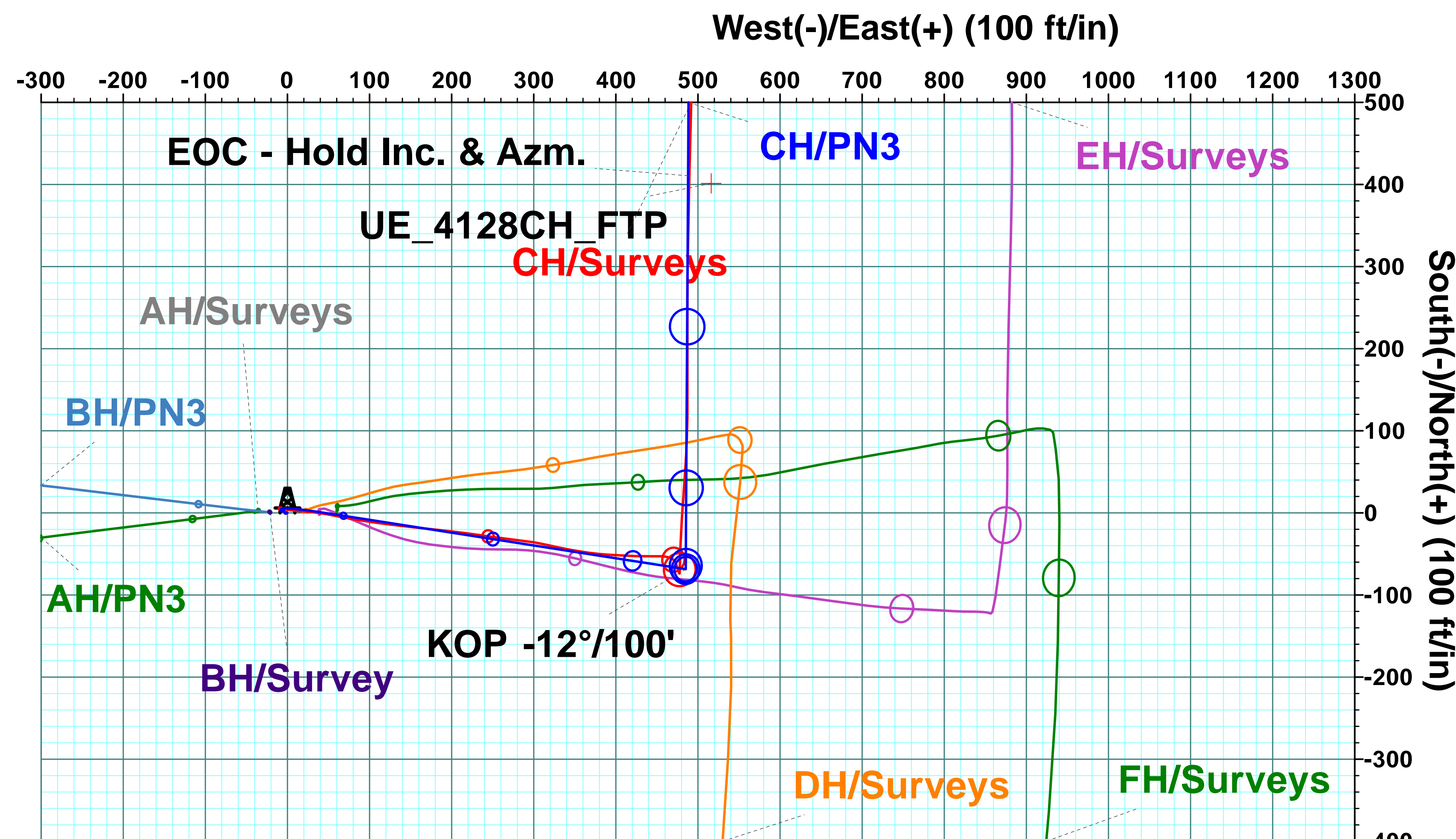


Azimuths to Grid North
True North: 0.43°
Magnetic North: 5.95°

Magnetic Field
Strength: 47572.9snT
Dip Angle: 59.60°
Date: 6/12/2017
Model: HDGM

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
462.00	462.01	Base Cretaceous
661.00	661.01	Yates
1180.00	1180.10	Grayburg
1352.00	1352.43	San Andres
4278.00	4320.24	Spraberry
4796.00	4838.26	Lower Spraberry
5050.00	5092.26	Jo Mill
5146.00	5188.26	SPRBORG
5548.00	5590.26	Dean
5679.00	5721.26	WFMP
5783.00	5825.26	WFMP A
6020.00	6062.26	WFMP B
6380.00	6424.14	WFMP C
6613.00	6707.65	WFMP C3 LZ



Project: Crockett Co, TX
Site: University East 4128
Well: CH
Wellbore: OH
Plan: PN3 (CH/OH)

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Crockett Co, TX	TVD Reference:	KB=30' (Nabors F34) @ 2660.00ft (Nabors F34)
Site:	University East 4128	MD Reference:	KB=30' (Nabors F34) @ 2660.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Project	Crockett Co, TX, Crockett Co, TX		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Texas Central 4203		

Site	University East 4128		
Site Position:		Northing:	477,695.600 usft
From:	Map	Easting:	1,737,110.700 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	30° 58' 38.75934 N
		Longitude:	101° 10' 20.03997 W
		Grid Convergence:	-0.43 °

Well	CH		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	6/12/2017	5.52
			Dip Angle
			(°)
			59.60
			Field Strength
			(nT)
			47,572.90000000

Design	Surveys		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			0.35

Survey Program	Date	9/17/2017		
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
30.00	892.00	Survey #1 - MS Survey (OH)	GYRO-GMS-ISGYRO-WL	MSE ISGYRO multishot memory rate gyro running in w
1,082.00	14,596.00	Survey #2 - NDS MWD (OH)	MWD+HRGM	OWSG MWD + HRGM

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00
80.00	0.29	268.58	80.00	0.00	-0.13	0.00	0.58	0.58	0.00
130.00	0.35	276.35	130.00	0.01	-0.40	0.01	0.15	0.12	15.54
180.00	0.33	251.56	180.00	-0.02	-0.69	-0.02	0.29	-0.04	-49.58
230.00	0.42	239.61	230.00	-0.16	-0.99	-0.16	0.24	0.18	-23.90
280.00	0.27	226.24	280.00	-0.33	-1.23	-0.34	0.34	-0.30	-26.74
330.00	0.26	266.68	330.00	-0.42	-1.43	-0.43	0.37	-0.02	80.88
380.00	0.22	273.96	380.00	-0.42	-1.64	-0.43	0.10	-0.08	14.56
430.00	0.36	303.17	429.99	-0.33	-1.87	-0.34	0.40	0.28	58.42

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Crockett Co, TX	TVD Reference:	KB=30' (Nabors F34) @ 2660.00ft (Nabors F34)
Site:	University East 4128	MD Reference:	KB=30' (Nabors F34) @ 2660.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
480.00	0.48	303.07	479.99	-0.13	-2.17	-0.14	0.24	0.24	-0.20
530.00	0.55	293.97	529.99	0.09	-2.57	0.07	0.21	0.14	-18.20
580.00	0.45	309.01	579.99	0.31	-2.94	0.29	0.33	-0.20	30.08
630.00	0.57	316.88	629.99	0.61	-3.26	0.59	0.28	0.24	15.74
680.00	0.60	315.45	679.98	0.98	-3.62	0.96	0.07	0.06	-2.86
730.00	0.81	306.27	729.98	1.38	-4.08	1.35	0.48	0.42	-18.36
780.00	1.13	305.75	779.97	1.87	-4.77	1.84	0.64	0.64	-1.04
830.00	1.09	309.37	829.96	2.46	-5.54	2.43	0.16	-0.08	7.24
880.00	0.92	323.34	879.96	3.09	-6.14	3.05	0.59	-0.34	27.94
892.00	0.78	326.00	891.96	3.23	-6.25	3.19	1.21	-1.17	22.17
1,082.00	0.88	296.16	1,081.94	4.95	-8.28	4.90	0.23	0.05	-15.71
1,176.00	1.19	97.71	1,175.93	5.13	-7.96	5.09	2.17	0.33	171.86
1,270.00	2.69	105.27	1,269.87	4.42	-4.87	4.39	1.62	1.60	8.04
1,458.00	5.50	94.19	1,457.38	2.60	8.38	2.65	1.55	1.49	-5.89
1,646.00	7.63	94.72	1,644.13	0.92	29.81	1.10	1.13	1.13	0.28
1,834.00	10.00	102.10	1,829.91	-3.53	58.21	-3.18	1.39	1.26	3.93
2,022.00	11.38	98.24	2,014.64	-9.61	92.53	-9.05	0.83	0.73	-2.05
2,210.00	11.75	97.53	2,198.82	-14.78	129.86	-13.99	0.21	0.20	-0.38
2,398.00	10.94	95.42	2,383.15	-18.97	166.60	-17.96	0.48	-0.43	-1.12
2,585.00	12.56	97.00	2,566.23	-23.13	204.45	-21.88	0.88	0.87	0.84
2,773.00	12.13	98.59	2,749.88	-28.57	244.27	-27.08	0.29	-0.23	0.85
2,960.00	11.56	95.95	2,932.90	-33.45	282.33	-31.72	0.42	-0.30	-1.41
3,148.00	10.19	103.33	3,117.53	-39.23	317.25	-37.29	1.04	-0.73	3.93
3,336.00	12.94	99.64	3,301.69	-46.59	354.19	-44.43	1.51	1.46	-1.96
3,524.00	11.31	92.96	3,485.50	-51.07	393.36	-48.67	1.14	-0.87	-3.55
3,712.00	7.50	92.79	3,670.94	-52.62	424.04	-50.03	2.03	-2.03	-0.09
3,900.00	4.88	87.34	3,857.83	-52.85	444.28	-50.13	1.43	-1.39	-2.90
4,088.00	2.69	95.07	4,045.41	-52.87	456.67	-50.08	1.19	-1.16	4.11
4,277.00	1.19	107.73	4,234.30	-53.86	462.96	-51.03	0.82	-0.79	6.70
4,465.00	1.31	112.30	4,422.25	-55.27	466.80	-52.41	0.08	0.06	2.43
4,652.00	1.00	126.89	4,609.22	-57.06	470.09	-54.18	0.23	-0.17	7.80
4,840.00	0.94	145.52	4,797.19	-59.31	472.27	-56.43	0.17	-0.03	9.91
5,028.00	0.50	168.90	4,985.17	-61.39	473.30	-58.50	0.28	-0.23	12.44
5,216.00	0.88	167.14	5,173.16	-63.60	473.78	-60.71	0.20	0.20	-0.94
5,404.00	0.56	159.93	5,361.15	-65.87	474.42	-62.97	0.18	-0.17	-3.84
5,592.00	0.81	164.33	5,549.13	-68.01	475.09	-65.11	0.14	0.13	2.34
5,780.00	0.56	144.64	5,737.12	-70.04	475.98	-67.13	0.18	-0.13	-10.47
5,968.00	0.56	160.64	5,925.11	-71.66	476.82	-68.74	0.08	0.00	8.51
6,156.00	0.50	154.31	6,113.10	-73.26	477.48	-70.35	0.04	-0.03	-3.37
6,250.00	0.31	171.18	6,207.10	-73.89	477.70	-70.97	0.24	-0.20	17.95
6,340.00	6.38	1.03	6,296.92	-69.12	477.82	-66.20	7.43	6.74	-189.06
6,434.00	20.50	1.38	6,388.12	-47.33	478.32	-44.41	15.02	15.02	0.37
6,528.00	31.00	4.02	6,472.67	-6.62	480.42	-3.68	11.23	11.17	2.81

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Site:	University East 4128	MD Reference:	KB=30' (Nabors F34) @ 2660.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,622.00	40.88	4.02	6,548.68	48.35	484.28	51.31	10.51	10.51	0.00	
6,716.00	53.81	1.03	6,612.24	117.26	487.13	120.24	13.95	13.76	-3.18	
6,810.00	64.63	359.09	6,660.28	197.90	487.14	200.87	11.65	11.51	-2.06	
6,904.00	78.19	0.85	6,690.18	286.78	487.14	289.75	14.53	14.43	1.87	
7,021.76	86.85	1.37	6,705.49	403.41	489.41	406.39	7.37	7.35	0.45	
UE_4128CH_FTP										
7,023.00	86.94	1.38	6,705.56	404.64	489.44	407.62	7.37	7.35	0.44	
7,117.00	89.94	1.38	6,708.12	498.57	491.71	501.56	3.19	3.19	0.00	
7,211.00	90.44	1.20	6,707.81	592.54	493.82	595.55	0.57	0.53	-0.19	
7,305.00	89.50	0.85	6,707.86	686.53	495.50	689.54	1.07	-1.00	-0.37	
7,398.00	88.25	0.32	6,709.68	779.50	496.45	782.52	1.46	-1.34	-0.57	
7,492.00	89.44	0.50	6,711.58	873.48	497.13	876.50	1.28	1.27	0.19	
7,587.00	90.19	0.15	6,711.89	968.48	497.66	971.50	0.87	0.79	-0.37	
7,681.00	90.94	0.32	6,710.96	1,062.47	498.05	1,065.49	0.82	0.80	0.18	
7,775.00	89.88	0.15	6,710.29	1,156.47	498.44	1,159.49	1.14	-1.13	-0.18	
7,869.00	90.06	0.50	6,710.33	1,250.47	498.97	1,253.49	0.42	0.19	0.37	
7,963.00	90.81	1.03	6,709.62	1,344.45	500.22	1,347.48	0.98	0.80	0.56	
8,057.00	89.75	0.68	6,709.16	1,438.44	501.63	1,441.48	1.19	-1.13	-0.37	
8,152.00	90.44	1.20	6,709.00	1,533.43	503.19	1,536.47	0.91	0.73	0.55	
8,246.00	88.38	359.97	6,709.97	1,627.41	504.14	1,630.46	2.55	-2.19	-1.31	
8,340.00	88.63	0.15	6,712.42	1,721.38	504.24	1,724.43	0.33	0.27	0.19	
8,434.00	87.81	358.74	6,715.34	1,815.32	503.33	1,818.37	1.73	-0.87	-1.50	
8,528.00	90.00	357.69	6,717.14	1,909.25	500.41	1,912.28	2.58	2.33	-1.12	
8,622.00	93.38	356.11	6,714.37	2,003.06	495.33	2,006.05	3.97	3.60	-1.68	
8,716.00	87.88	357.34	6,713.34	2,096.86	489.96	2,099.82	6.00	-5.85	1.31	
8,731.01	88.28	357.82	6,713.84	2,111.85	489.33	2,114.80	4.14	2.66	3.17	
UE_4128CH_T1										
8,810.00	90.38	0.32	6,714.76	2,190.81	488.04	2,193.75	4.14	2.66	3.17	
8,904.00	90.94	1.03	6,713.68	2,284.80	489.15	2,287.75	0.96	0.60	0.76	
8,998.00	87.94	0.15	6,714.60	2,378.78	490.12	2,381.73	3.33	-3.19	-0.94	
9,092.00	90.94	3.14	6,715.52	2,472.71	492.82	2,475.68	4.51	3.19	3.18	
9,186.00	89.50	2.43	6,715.16	2,566.60	497.38	2,569.59	1.71	-1.53	-0.76	
9,280.00	91.56	4.72	6,714.29	2,660.40	503.24	2,663.43	3.28	2.19	2.44	
9,374.00	88.31	1.38	6,714.39	2,754.24	508.24	2,757.30	4.96	-3.46	-3.55	
9,469.00	90.56	2.79	6,715.33	2,849.17	511.70	2,852.24	2.79	2.37	1.48	
9,563.00	86.63	0.15	6,717.64	2,943.08	514.11	2,946.17	5.04	-4.18	-2.81	
9,657.00	89.31	1.03	6,720.97	3,037.01	515.08	3,040.10	3.00	2.85	0.94	
9,716.68	90.47	1.47	6,721.08	3,096.67	516.38	3,099.77	2.07	1.94	0.74	
UE_4128CH_T2										
9,751.00	91.13	1.73	6,720.60	3,130.97	517.34	3,134.08	2.07	1.94	0.74	
9,844.00	91.13	1.03	6,718.77	3,223.93	519.58	3,227.04	0.75	0.00	-0.75	
9,938.00	89.19	0.15	6,718.51	3,317.92	520.55	3,321.04	2.27	-2.06	-0.94	
10,032.00	88.13	358.57	6,720.71	3,411.88	519.50	3,414.99	2.02	-1.13	-1.68	
10,127.00	90.19	358.92	6,722.10	3,506.84	517.42	3,509.94	2.20	2.17	0.37	

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
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Design:	Surveys	Database:	RyanUSA_Compass

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,221.00	92.44	1.20	6,719.94	3,600.81	517.52	3,603.90	3.41	2.39	2.43
10,315.00	90.50	2.79	6,717.53	3,694.71	520.79	3,697.82	2.67	-2.06	1.69
10,409.00	88.69	0.68	6,718.19	3,788.66	523.63	3,791.79	2.96	-1.93	-2.24
10,503.00	88.94	359.80	6,720.14	3,882.64	524.03	3,885.76	0.97	0.27	-0.94
10,597.00	89.88	0.32	6,721.11	3,976.63	524.13	3,979.76	1.14	1.00	0.55
10,691.00	88.06	0.32	6,722.80	4,070.61	524.65	4,073.74	1.94	-1.94	0.00
10,785.00	88.13	0.50	6,725.92	4,164.55	525.32	4,167.69	0.21	0.07	0.19
10,878.00	89.50	1.38	6,727.84	4,257.52	526.85	4,260.66	1.75	1.47	0.95
10,972.00	87.88	0.85	6,729.99	4,351.47	528.68	4,354.62	1.81	-1.72	-0.56
11,066.00	88.38	3.49	6,733.06	4,445.35	532.24	4,448.51	2.86	0.53	2.81
11,160.00	88.38	0.32	6,735.72	4,539.24	535.36	4,542.43	3.37	0.00	-3.37
11,254.00	88.69	0.32	6,738.12	4,633.21	535.88	4,636.40	0.33	0.33	0.00
11,348.00	86.06	0.32	6,742.43	4,727.10	536.41	4,730.29	2.80	-2.80	0.00
11,441.00	88.81	358.92	6,746.59	4,820.00	535.79	4,823.18	3.32	2.96	-1.51
11,497.61	89.07	358.92	6,747.63	4,876.58	534.72	4,879.76	0.47	0.47	0.00
UE_4128CH_T3									
11,535.00	89.25	358.92	6,748.18	4,913.97	534.02	4,917.14	0.47	0.47	0.00
11,629.00	87.56	357.86	6,750.80	5,007.89	531.38	5,011.04	2.12	-1.80	-1.13
11,723.00	92.63	359.45	6,750.64	5,101.83	529.17	5,104.97	5.65	5.39	1.69
11,817.00	85.19	0.15	6,752.43	5,195.75	528.85	5,198.88	7.95	-7.91	0.74
11,912.00	91.44	1.03	6,755.22	5,290.65	529.82	5,293.79	6.64	6.58	0.93
12,006.00	90.75	1.03	6,753.42	5,384.62	531.51	5,387.76	0.73	-0.73	0.00
12,100.00	90.38	0.68	6,752.50	5,478.60	532.92	5,481.76	0.54	-0.39	-0.37
12,194.00	87.44	359.09	6,754.28	5,572.57	532.73	5,575.72	3.56	-3.13	-1.69
12,288.00	87.94	358.04	6,758.07	5,666.46	530.38	5,669.60	1.24	0.53	-1.12
12,383.00	90.56	359.80	6,759.32	5,761.43	528.59	5,764.55	3.32	2.76	1.85
12,477.00	86.19	357.51	6,761.98	5,855.34	526.38	5,858.44	5.25	-4.65	-2.44
12,571.00	89.06	358.92	6,765.88	5,949.20	523.46	5,952.28	3.40	3.05	1.50
12,665.00	90.88	1.03	6,765.93	6,043.19	523.42	6,046.27	2.96	1.94	2.24
12,758.00	87.44	0.15	6,767.29	6,136.16	524.38	6,139.25	3.82	-3.70	-0.95
12,852.00	87.06	359.80	6,771.80	6,230.05	524.33	6,233.14	0.55	-0.40	-0.37
12,946.00	89.31	1.03	6,774.78	6,323.99	525.02	6,327.08	2.73	2.39	1.31
13,040.00	90.19	1.73	6,775.19	6,417.96	527.28	6,421.06	1.20	0.94	0.74
13,133.00	90.44	1.73	6,774.68	6,510.92	530.09	6,514.03	0.27	0.27	0.00
13,227.00	88.81	0.32	6,775.29	6,604.90	531.77	6,608.02	2.29	-1.73	-1.50
13,321.00	87.75	359.27	6,778.11	6,698.85	531.43	6,701.97	1.59	-1.13	-1.12
13,415.00	88.38	359.80	6,781.29	6,792.79	530.67	6,795.91	0.88	0.67	0.56
13,437.67	88.74	359.97	6,781.86	6,815.45	530.62	6,818.56	1.76	1.60	0.74
UE_4128CH_T4									
13,509.00	89.88	0.50	6,782.71	6,886.78	530.92	6,889.89	1.76	1.60	0.74
13,603.00	90.44	0.32	6,782.45	6,980.77	531.59	6,983.89	0.63	0.60	-0.19
13,697.00	88.44	359.27	6,783.37	7,074.76	531.25	7,077.88	2.40	-2.13	-1.12
13,791.00	88.56	359.09	6,785.83	7,168.72	529.91	7,171.82	0.23	0.13	-0.19

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well CH
Project:	Crockett Co, TX	TVD Reference:	KB=30' (Nabors F34) @ 2660.00ft (Nabors F34)
Site:	University East 4128	MD Reference:	KB=30' (Nabors F34) @ 2660.00ft (Nabors F34)
Well:	CH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	RyanUSA_Compass

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,885.00	89.81	359.09	6,787.17	7,262.70	528.42	7,265.79	1.33	1.33	0.00
13,979.00	90.13	359.09	6,787.22	7,356.69	526.92	7,359.77	0.34	0.34	0.00
14,073.00	88.75	357.86	6,788.14	7,450.64	524.42	7,453.71	1.97	-1.47	-1.31
14,166.00	89.56	358.92	6,789.51	7,543.60	521.81	7,546.64	1.43	0.87	1.14
14,260.00	90.38	359.80	6,789.56	7,637.59	520.76	7,640.63	1.28	0.87	0.94
14,354.00	90.75	359.62	6,788.63	7,731.58	520.28	7,734.62	0.44	0.39	-0.19
14,447.00	89.75	359.09	6,788.22	7,824.57	519.24	7,827.60	1.22	-1.08	-0.57
14,596.00	89.75	359.09	6,788.87	7,973.55	516.87	7,976.56	0.00	0.00	0.00
PTB - UE_4128CH_TD - UE_4128CH_BHL									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
14,596.00	6,788.87	7,973.55	516.87	PTB

Checked By: _____ Approved By: _____ Date: _____