



EP Energy E&P Company, L.P.

**Crockett Co, TX
University East 4110
NH**

OH

Design: Surveys

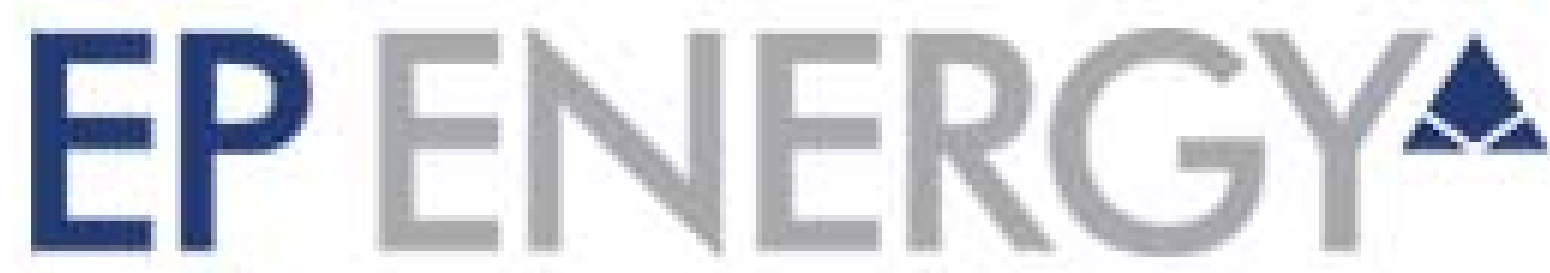
Standard Survey Report

12 December, 2015



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY



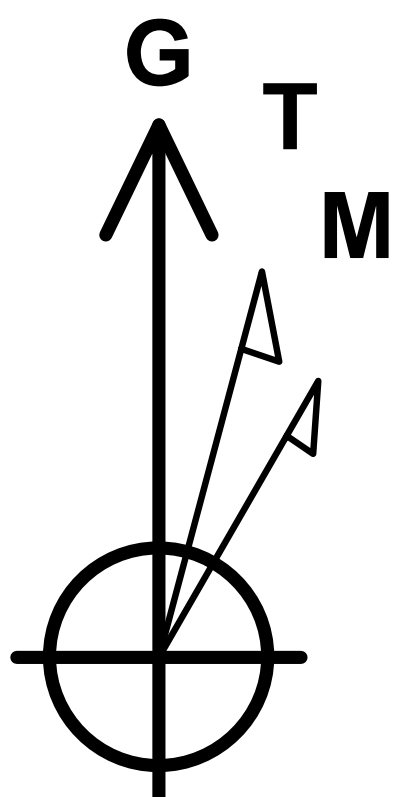
WELL DETAILS: NH

Ground Elevation: 2636.00
RKB Elevation: KB @ 2663.00ft (Nabors 888 (KB = 27'))
Rig Name: Nabors 888 (KB = 27')

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	494990.28	1742295.58	31° 1' 30.3305 N	101° 9' 21.9483 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
966.00	0.14	279.02	965.99	1.71	-0.94	0.00	0.00	-1.71
973.00	0.00	0.00	972.99	1.71	-0.95	2.00	180.00	-1.71
1100.01	0.00	0.00	1100.00	1.71	-0.95	0.00	0.00	-1.71
1514.64	6.22	299.50	1513.82	12.78	-20.52	1.50	299.50	-12.71
2935.36	6.22	299.50	2926.18	88.57	-154.48	0.00	0.00	-88.00
3350.00	0.00	0.00	3340.00	99.64	-174.05	1.50	180.00	-99.00
5844.00	0.00	0.00	5834.00	99.64	-174.05	0.00	0.00	-99.00
6598.08	90.49	180.18	6311.45	-381.90	-175.56	12.00	180.18	382.54
16716.59	90.49	180.18	6225.00	-10500.00	-207.18	0.00	0.0010500	69



Azimuths to Grid North
True North: 0.42°
Magnetic North: 6.11°

Magnetic Field
Strength: 47742.7snT
Dip Angle: 59.67°
Date: 10/28/2015
Model: HDGM

PROJECT DETAILS: Crockett Co, TX
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Texas Central 4203

System Datum: Mean Sea Level
Local North: Grid

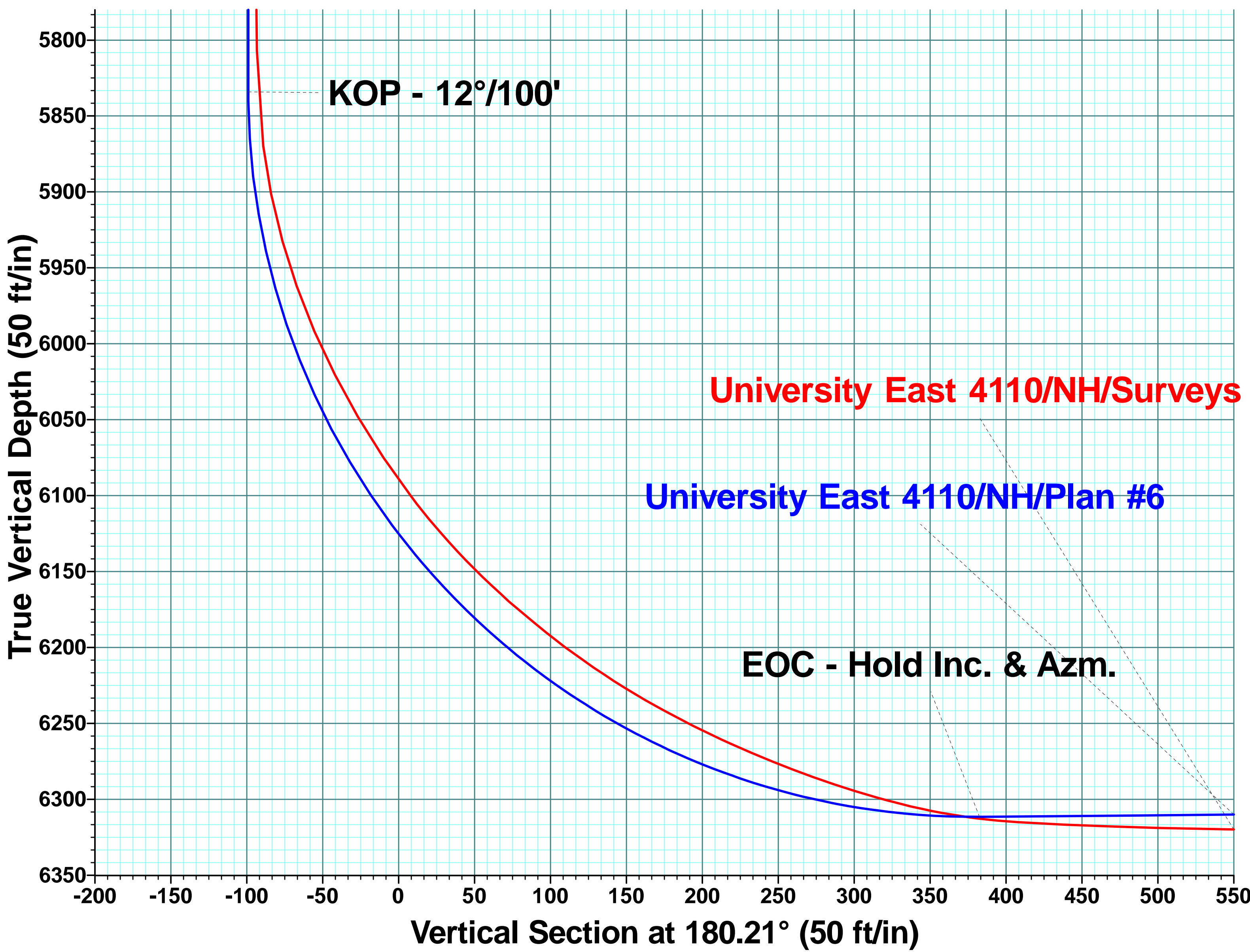
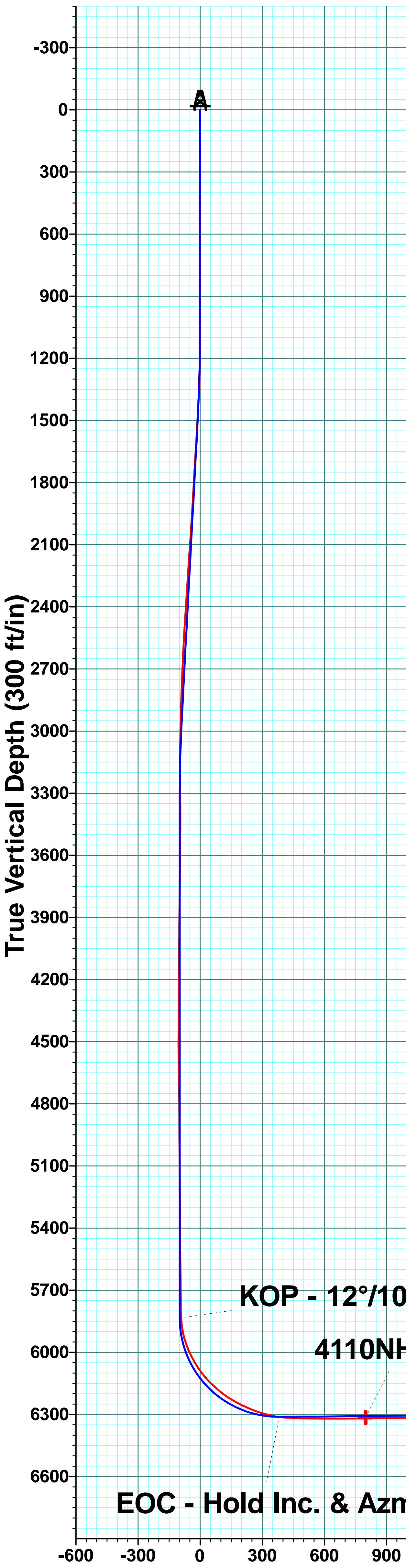
Project: Crockett Co, TX
Site: University East 4110
Well: NH
Wellbore: OH
Plan: Plan #6 (NH/OH)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
4110NH - FTP	6315.00	-798.99	-176.59	494191.29	1742118.99
4110NH - PBHL	6225.00	-10500.00	-207.18	484490.30	1742088.40

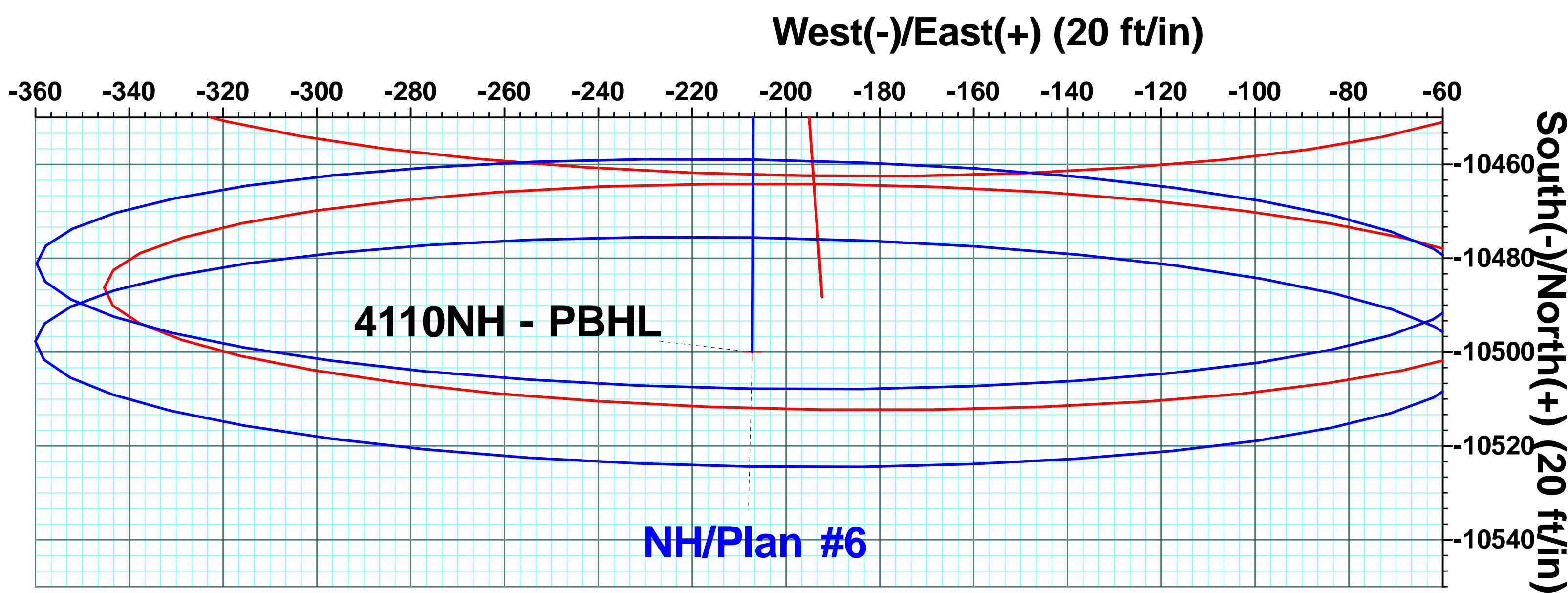
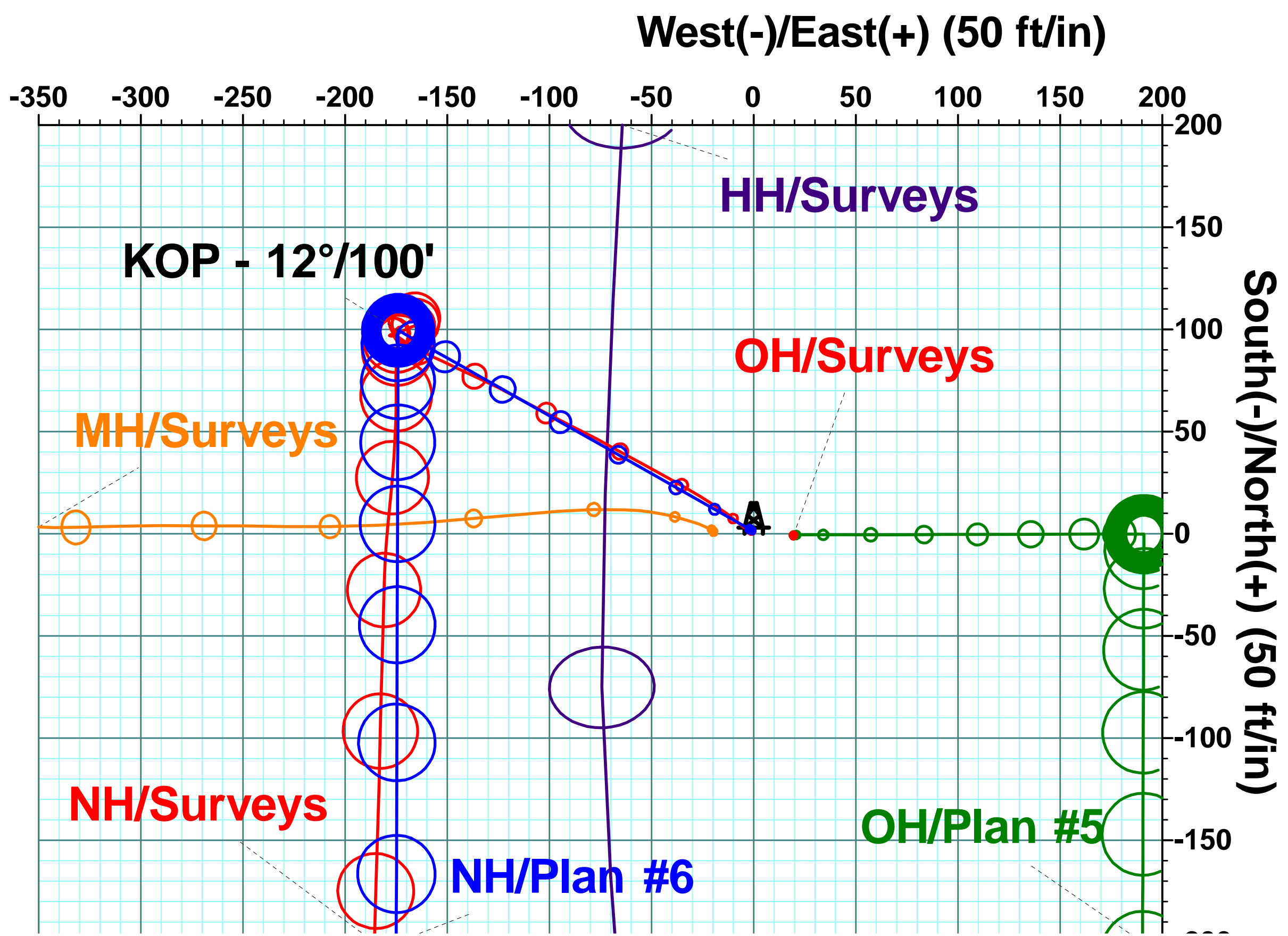
ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
5834.00	5844.00	0.00	0.00	99.64	-174.05	-99.00	198.89	KOP - 12°/100'
6311.45	6598.08	90.49	180.18	-381.91	-175.56	382.55	680.44	EOC - Hold Inc. & Azm.



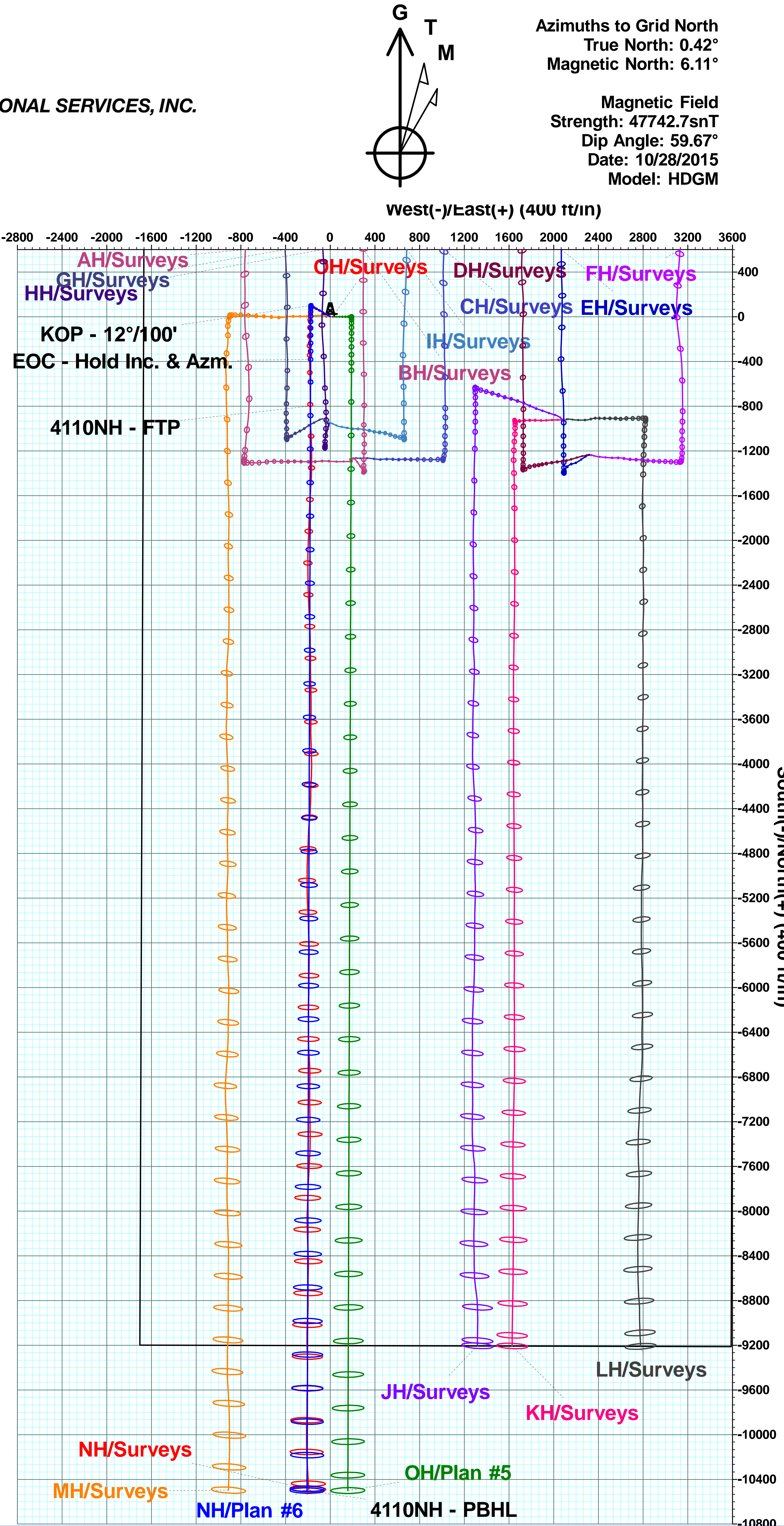
Targetline
6315' TVD @ 0° VS x 90.49° Inc.
6225' TVD @ BHL

4110NH - PBHL



4110/NH/Surveys
4110NH - PBHL

University East 4110/NH/Plan #6



Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well NH
Project:	Crockett Co, TX	TVD Reference:	KB @ 2663.00ft (Nabors 888 (KB = 27"))
Site:	University East 4110	MD Reference:	KB @ 2663.00ft (Nabors 888 (KB = 27"))
Well:	NH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Ryan USA

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 4110		
Site Position:		Northing:	493,716.18 usft
From:	Map	Easting:	1,742,471.02 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	31° 1' 17.7320 N
		Longitude:	101° 9' 19.8238 W
		Grid Convergence:	-0.42 °

Well	NH		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	31° 1' 30.3305 N
		Longitude:	101° 9' 21.9483 W
		Ground Level:	2,636.00 ft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM	10/28/2015	5.68
			Dip Angle (°)
			59.67
			Field Strength (nT)
			47,743

Design	Surveys		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)
	0.00	0.00	0.00
			Direction (°)
			180.21

Survey Program	Date	12/12/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
27.00	966.00	MS Energy (OH)	Gyro NS R5000	Continuous north-seeking gyro on wireline
966.00	16,690.00	Ryan MWD (OH)	Ryan-MWD+HDGM	OWSG MWD + HDGM

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
27.00	0.00	0.00	27.00	0.00	0.00	0.00	0.00	0.00	0.00	
77.00	0.30	294.51	77.00	0.05	-0.12	-0.05	0.60	0.60	0.00	
127.00	0.48	335.47	127.00	0.30	-0.33	-0.30	0.64	0.36	81.92	
177.00	0.36	322.62	177.00	0.61	-0.51	-0.61	0.30	-0.24	-25.70	
227.00	0.17	303.93	227.00	0.78	-0.66	-0.78	0.41	-0.38	-37.38	
277.00	0.26	42.19	277.00	0.91	-0.65	-0.90	0.66	0.18	196.52	
327.00	0.25	53.35	327.00	1.06	-0.49	-1.05	0.10	-0.02	22.32	
377.00	0.26	9.28	377.00	1.23	-0.38	-1.23	0.38	0.02	-88.14	
427.00	0.25	4.99	427.00	1.45	-0.35	-1.45	0.04	-0.02	-8.58	

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Well:	NH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Ryan USA

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)
477.00	0.05	4.21	476.99	1.58	-0.34	-1.58	0.40	-0.40	-1.56
527.00	0.19	333.85	526.99	1.68	-0.38	-1.68	0.30	0.28	-60.72
577.00	0.22	231.51	576.99	1.69	-0.49	-1.69	0.64	0.06	-204.68
627.00	0.21	249.24	626.99	1.60	-0.65	-1.60	0.13	-0.02	35.46
677.00	0.06	241.64	676.99	1.56	-0.76	-1.55	0.30	-0.30	-15.20
727.00	0.18	145.23	726.99	1.48	-0.74	-1.48	0.39	0.24	-192.82
777.00	0.05	204.59	776.99	1.40	-0.70	-1.39	0.32	-0.26	118.72
827.00	0.17	303.02	826.99	1.42	-0.77	-1.41	0.37	0.24	196.86
877.00	0.22	359.57	876.99	1.55	-0.83	-1.55	0.38	0.10	113.10
927.00	0.10	312.42	926.99	1.68	-0.87	-1.68	0.34	-0.24	-94.30
966.00	0.14	279.02	965.99	1.71	-0.94	-1.71	0.20	0.10	-85.64
1,115.00	0.22	170.03	1,114.99	1.46	-1.07	-1.45	0.20	0.05	-73.15
1,210.00	1.27	282.26	1,209.99	1.50	-2.07	-1.49	1.44	1.11	118.14
1,303.00	3.16	308.63	1,302.91	3.32	-5.08	-3.30	2.26	2.03	28.35
1,398.00	4.70	310.47	1,397.69	7.48	-10.08	-7.44	1.63	1.62	1.94
1,492.00	6.02	301.60	1,491.28	12.56	-17.21	-12.50	1.65	1.40	-9.44
1,587.00	6.50	303.62	1,585.71	18.15	-25.93	-18.05	0.56	0.51	2.13
1,682.00	6.68	298.61	1,680.08	23.77	-35.26	-23.64	0.63	0.19	-5.27
1,776.00	6.81	298.26	1,773.43	29.03	-44.97	-28.86	0.15	0.14	-0.37
1,871.00	7.07	298.96	1,867.74	34.53	-55.05	-34.33	0.29	0.27	0.74
1,965.00	7.47	299.05	1,960.98	40.30	-65.45	-40.06	0.43	0.43	0.10
2,060.00	8.00	297.64	2,055.12	46.36	-76.70	-46.08	0.59	0.56	-1.48
2,155.00	8.52	296.59	2,149.13	52.58	-88.85	-52.25	0.57	0.55	-1.11
2,250.00	8.70	297.91	2,243.06	59.09	-101.50	-58.72	0.28	0.19	1.39
2,344.00	8.09	298.43	2,336.05	65.57	-113.59	-65.15	0.65	-0.65	0.55
2,439.00	7.91	296.41	2,430.13	71.66	-125.33	-71.20	0.35	-0.19	-2.13
2,534.00	7.30	295.18	2,524.29	77.13	-136.64	-76.63	0.66	-0.64	-1.29
2,629.00	6.86	294.57	2,618.57	82.06	-147.27	-81.52	0.47	-0.46	-0.64
2,723.00	5.54	296.06	2,712.01	86.39	-156.45	-85.81	1.41	-1.40	1.59
2,819.00	4.26	297.03	2,807.66	90.04	-163.79	-89.44	1.34	-1.33	1.01
2,913.00	3.43	301.51	2,901.45	93.10	-169.30	-92.48	0.94	-0.88	4.77
3,008.00	2.51	307.31	2,996.32	95.85	-173.37	-95.21	1.02	-0.97	6.11
3,103.00	1.36	292.81	3,091.27	97.54	-176.07	-96.90	1.31	-1.21	-15.26
3,197.00	0.92	235.59	3,185.25	97.55	-177.72	-96.90	1.23	-0.47	-60.87
3,292.00	0.09	93.91	3,280.25	97.11	-178.27	-96.46	1.04	-0.87	-149.14
3,387.00	0.48	113.78	3,375.24	96.95	-177.83	-96.30	0.42	0.41	20.92
3,481.00	0.70	97.52	3,469.24	96.72	-176.90	-96.07	0.29	0.23	-17.30
3,576.00	1.32	61.39	3,564.23	97.16	-175.37	-96.52	0.91	0.65	-38.03
3,670.00	1.49	57.61	3,658.20	98.34	-173.39	-97.70	0.21	0.18	-4.02
3,765.00	1.49	63.24	3,753.16	99.55	-171.24	-98.93	0.15	0.00	5.93
3,860.00	1.54	63.85	3,848.13	100.67	-168.99	-100.05	0.06	0.05	0.64
3,955.00	1.45	73.79	3,943.10	101.57	-166.69	-100.96	0.29	-0.09	10.46
4,050.00	0.22	35.11	4,038.09	102.06	-165.43	-101.45	1.35	-1.29	-40.72

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well NH
Project:	Crockett Co, TX	TVD Reference:	KB @ 2663.00ft (Nabors 888 (KB = 27"))
Site:	University East 4110	MD Reference:	KB @ 2663.00ft (Nabors 888 (KB = 27"))
Well:	NH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Ryan USA

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)
4,144.00	0.44	350.55	4,132.09	102.56	-165.39	-101.95	0.34	0.23	-47.40
4,239.00	0.44	357.85	4,227.08	103.28	-165.46	-102.68	0.06	0.00	7.68
4,333.00	0.44	1.28	4,321.08	104.01	-165.47	-103.40	0.03	0.00	3.65
4,428.00	0.57	337.37	4,416.08	104.81	-165.64	-104.20	0.26	0.14	-25.17
4,522.00	0.40	283.93	4,510.07	105.32	-166.14	-104.71	0.49	-0.18	-56.85
4,617.00	2.46	233.92	4,605.04	104.20	-168.11	-103.58	2.34	2.17	-52.64
4,712.00	1.80	233.57	4,699.98	102.11	-170.96	-101.48	0.69	-0.69	-0.37
4,807.00	0.79	263.72	4,794.95	101.15	-172.81	-100.52	1.25	-1.06	31.74
4,902.00	0.44	251.94	4,889.95	100.97	-173.81	-100.33	0.39	-0.37	-12.40
4,996.00	0.35	217.05	4,983.94	100.63	-174.32	-99.99	0.27	-0.10	-37.12
5,091.00	0.44	231.20	5,078.94	100.17	-174.78	-99.52	0.14	0.09	14.89
5,186.00	0.44	198.77	5,173.94	99.59	-175.18	-98.95	0.26	0.00	-34.14
5,281.00	0.48	186.46	5,268.93	98.85	-175.34	-98.21	0.11	0.04	-12.96
5,376.00	0.53	181.19	5,363.93	98.02	-175.40	-97.37	0.07	0.05	-5.55
5,470.00	0.53	158.95	5,457.93	97.18	-175.25	-96.53	0.22	0.00	-23.66
5,565.00	0.53	168.97	5,552.92	96.33	-175.01	-95.69	0.10	0.00	10.55
5,660.00	0.53	154.73	5,647.92	95.51	-174.74	-94.86	0.14	0.00	-14.99
5,755.00	0.66	163.61	5,742.91	94.58	-174.40	-93.94	0.17	0.14	9.35
5,819.00	0.53	163.70	5,806.91	93.95	-174.21	-93.31	0.20	-0.20	0.14
5,882.00	7.03	185.06	5,869.74	89.82	-174.47	-89.18	10.38	10.32	33.90
5,914.00	11.60	183.74	5,901.31	84.66	-174.85	-84.02	14.30	14.28	-4.13
5,946.00	15.65	180.05	5,932.40	77.13	-175.06	-76.49	12.94	12.66	-11.53
5,977.00	19.47	179.26	5,961.95	67.78	-175.00	-67.14	12.35	12.32	-2.55
6,009.00	23.29	181.71	5,991.75	56.12	-175.12	-55.47	12.26	11.94	7.66
6,041.00	27.29	183.47	6,020.67	42.46	-175.75	-41.82	12.72	12.50	5.50
6,072.00	30.59	185.06	6,047.80	27.51	-176.88	-26.86	10.93	10.65	5.13
6,104.00	33.75	185.93	6,074.88	10.55	-178.52	-9.90	9.98	9.88	2.72
6,135.00	37.09	183.91	6,100.14	-7.34	-180.04	8.00	11.42	10.77	-6.52
6,167.00	41.13	181.36	6,124.97	-27.50	-180.95	28.16	13.59	12.63	-7.97
6,198.00	45.00	181.71	6,147.61	-48.66	-181.52	49.32	12.51	12.48	1.13
6,230.00	48.65	181.54	6,169.51	-71.98	-182.18	72.65	11.41	11.41	-0.53
6,262.00	51.46	181.19	6,190.05	-96.50	-182.77	97.17	8.82	8.78	-1.09
6,293.00	54.80	181.54	6,208.65	-121.29	-183.36	121.96	10.81	10.77	1.13
6,325.00	58.27	181.89	6,226.29	-147.97	-184.16	148.65	10.88	10.84	1.09
6,356.00	61.52	181.80	6,241.84	-174.77	-185.02	175.45	10.49	10.48	-0.29
6,387.00	64.29	181.36	6,255.96	-202.36	-185.78	203.04	9.02	8.94	-1.42
6,418.00	66.67	180.84	6,268.82	-230.55	-186.32	231.24	7.83	7.68	-1.68
6,450.00	69.21	179.69	6,280.84	-260.21	-186.46	260.89	8.61	7.94	-3.59
6,474.00	71.32	179.34	6,288.94	-282.80	-186.26	283.48	8.90	8.79	-1.46
6,506.00	74.00	178.90	6,298.48	-313.34	-185.79	314.01	8.48	8.38	-1.38
6,538.00	77.69	178.55	6,306.30	-344.35	-185.10	345.03	11.58	11.53	-1.09
6,569.00	82.09	178.64	6,311.74	-374.85	-184.35	375.53	14.20	14.19	0.29
6,601.00	86.62	179.17	6,314.89	-406.68	-183.75	407.35	14.25	14.16	1.66

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well NH
Project:	Crockett Co, TX	TVD Reference:	KB @ 2663.00ft (Nabors 888 (KB = 27"))
Site:	University East 4110	MD Reference:	KB @ 2663.00ft (Nabors 888 (KB = 27"))
Well:	NH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Ryan USA

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)
6,694.00	88.68	178.64	6,318.70	-499.58	-181.97	500.25	2.29	2.22	-0.57
6,789.00	89.03	177.67	6,320.60	-594.51	-178.91	595.17	1.09	0.37	-1.02
6,884.00	91.58	181.19	6,320.09	-689.48	-177.97	690.13	4.58	2.68	3.71
6,979.00	89.87	179.87	6,318.89	-784.47	-178.85	785.12	2.27	-1.80	-1.39
7,074.00	91.45	179.43	6,317.80	-879.46	-178.27	880.10	1.73	1.66	-0.46
7,168.00	88.55	177.50	6,317.80	-973.41	-175.75	974.05	3.71	-3.09	-2.05
7,263.00	89.08	176.44	6,319.76	-1,068.25	-170.73	1,068.87	1.25	0.56	-1.12
7,357.00	90.48	179.26	6,320.12	-1,162.17	-167.20	1,162.78	3.35	1.49	3.00
7,452.00	92.90	180.13	6,317.32	-1,257.12	-166.70	1,257.73	2.71	2.55	0.92
7,547.00	90.35	180.57	6,314.63	-1,352.08	-167.28	1,352.68	2.72	-2.68	0.46
7,641.00	90.83	182.24	6,313.66	-1,446.04	-169.58	1,446.65	1.85	0.51	1.78
7,736.00	90.83	184.26	6,312.28	-1,540.87	-174.97	1,541.50	2.13	0.00	2.13
7,831.00	91.01	183.56	6,310.76	-1,635.64	-181.44	1,636.29	0.76	0.19	-0.74
7,926.00	90.53	181.89	6,309.48	-1,730.52	-185.96	1,731.19	1.83	-0.51	-1.76
8,020.00	90.35	181.63	6,308.76	-1,824.47	-188.85	1,825.15	0.34	-0.19	-0.28
8,115.00	90.61	181.98	6,307.96	-1,919.42	-191.84	1,920.11	0.46	0.27	0.37
8,210.00	90.75	182.59	6,306.84	-2,014.34	-195.63	2,015.04	0.66	0.15	0.64
8,304.00	90.13	181.89	6,306.12	-2,108.26	-199.30	2,108.98	0.99	-0.66	-0.74
8,399.00	90.00	178.73	6,306.01	-2,203.25	-199.81	2,203.97	3.33	-0.14	-3.33
8,494.00	91.58	181.19	6,304.70	-2,298.23	-199.75	2,298.95	3.08	1.66	2.59
8,588.00	89.82	177.50	6,303.55	-2,392.20	-198.67	2,392.91	4.35	-1.87	-3.93
8,683.00	91.80	178.46	6,302.21	-2,487.12	-195.32	2,487.82	2.32	2.08	1.01
8,778.00	91.10	177.41	6,299.80	-2,582.03	-191.90	2,582.71	1.33	-0.74	-1.11
8,873.00	92.20	177.23	6,297.07	-2,676.88	-187.46	2,677.55	1.17	1.16	-0.19
8,967.00	91.63	177.06	6,293.93	-2,770.71	-182.78	2,771.36	0.63	-0.61	-0.18
9,062.00	90.66	179.96	6,292.03	-2,865.65	-180.31	2,866.29	3.22	-1.02	3.05
9,157.00	91.54	177.41	6,290.20	-2,960.60	-178.13	2,961.23	2.84	0.93	-2.68
9,252.00	90.22	180.57	6,288.74	-3,055.56	-176.46	3,056.19	3.60	-1.39	3.33
9,347.00	90.44	179.52	6,288.20	-3,150.56	-176.53	3,151.18	1.13	0.23	-1.11
9,442.00	90.61	178.46	6,287.33	-3,245.54	-174.86	3,246.16	1.13	0.18	-1.12
9,536.00	90.88	179.43	6,286.10	-3,339.51	-173.13	3,340.12	1.07	0.29	1.03
9,631.00	90.79	178.99	6,284.72	-3,434.49	-171.82	3,435.10	0.47	-0.09	-0.46
9,726.00	88.55	180.92	6,285.27	-3,529.48	-171.75	3,530.09	3.11	-2.36	2.03
9,821.00	89.34	180.57	6,287.02	-3,624.45	-172.98	3,625.06	0.91	0.83	-0.37
9,915.00	90.04	180.31	6,287.52	-3,718.45	-173.70	3,719.06	0.79	0.74	-0.28
10,010.00	91.01	177.67	6,286.65	-3,813.42	-172.03	3,814.03	2.96	1.02	-2.78
10,105.00	92.02	178.20	6,284.14	-3,908.33	-168.61	3,908.92	1.20	1.06	0.56
10,200.00	89.47	179.17	6,282.91	-4,003.28	-166.43	4,003.87	2.87	-2.68	1.02
10,294.00	91.98	183.21	6,281.72	-4,097.23	-168.38	4,097.82	5.06	2.67	4.30
10,389.00	92.29	181.80	6,278.18	-4,192.07	-172.53	4,192.67	1.52	0.33	-1.48
10,484.00	93.56	180.75	6,273.33	-4,286.92	-174.64	4,287.53	1.73	1.34	-1.11
10,579.00	90.70	182.86	6,269.80	-4,381.79	-177.63	4,382.41	3.74	-3.01	2.22
10,674.00	91.01	184.62	6,268.38	-4,476.57	-183.82	4,477.22	1.88	0.33	1.85
10,769.00	88.55	184.44	6,268.75	-4,571.27	-191.33	4,571.94	2.60	-2.59	-0.19

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well NH
Project:	Crockett Co, TX	TVD Reference:	KB @ 2663.00ft (Nabors 888 (KB = 27"))
Site:	University East 4110	MD Reference:	KB @ 2663.00ft (Nabors 888 (KB = 27"))
Well:	NH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Ryan USA

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)
10,864.00	89.74	181.54	6,270.16	-4,666.12	-196.28	4,666.81	3.30	1.25	-3.05
10,958.00	91.41	182.51	6,269.22	-4,760.05	-199.60	4,760.75	2.05	1.78	1.03
11,053.00	91.49	182.77	6,266.82	-4,854.92	-203.98	4,855.63	0.29	0.08	0.27
11,147.00	90.44	180.13	6,265.23	-4,948.87	-206.35	4,949.59	3.02	-1.12	-2.81
11,241.00	92.46	180.40	6,262.85	-5,042.83	-206.79	5,043.55	2.17	2.15	0.29
11,336.00	91.93	179.08	6,259.22	-5,137.76	-206.36	5,138.48	1.50	-0.56	-1.39
11,430.00	90.53	177.94	6,257.20	-5,231.70	-203.91	5,232.41	1.92	-1.49	-1.21
11,525.00	91.58	177.32	6,255.45	-5,326.60	-199.99	5,327.30	1.28	1.11	-0.65
11,619.00	91.49	177.76	6,252.93	-5,420.48	-195.95	5,421.16	0.48	-0.10	0.47
11,714.00	89.82	178.11	6,251.84	-5,515.41	-192.53	5,516.08	1.80	-1.76	0.37
11,809.00	91.98	178.29	6,250.35	-5,610.34	-189.55	5,611.00	2.28	2.27	0.19
11,903.00	90.40	180.22	6,248.40	-5,704.31	-188.33	5,704.96	2.65	-1.68	2.05
11,998.00	91.23	180.66	6,247.05	-5,799.29	-189.05	5,799.95	0.99	0.87	0.46
12,093.00	91.01	180.49	6,245.19	-5,894.27	-190.01	5,894.93	0.29	-0.23	-0.18
12,187.00	89.56	180.13	6,244.72	-5,988.27	-190.52	5,988.92	1.59	-1.54	-0.38
12,282.00	92.07	182.77	6,243.37	-6,083.21	-192.92	6,083.88	3.83	2.64	2.78
12,377.00	91.06	179.87	6,240.78	-6,178.14	-195.11	6,178.81	3.23	-1.06	-3.05
12,471.00	93.08	180.31	6,237.38	-6,272.07	-195.25	6,272.74	2.20	2.15	0.47
12,566.00	92.64	179.78	6,232.64	-6,366.95	-195.33	6,367.63	0.72	-0.46	-0.56
12,660.00	91.49	179.61	6,229.26	-6,460.89	-194.83	6,461.56	1.24	-1.22	-0.18
12,755.00	87.85	176.97	6,229.80	-6,555.82	-191.99	6,556.48	4.73	-3.83	-2.78
12,850.00	89.30	176.35	6,232.17	-6,650.63	-186.46	6,651.27	1.66	1.53	-0.65
12,944.00	91.54	179.17	6,231.48	-6,744.54	-182.79	6,745.16	3.83	2.38	3.00
13,038.00	91.58	180.57	6,228.92	-6,838.50	-182.57	6,839.12	1.49	0.04	1.49
13,133.00	90.66	180.75	6,227.06	-6,933.47	-183.67	6,934.10	0.99	-0.97	0.19
13,228.00	87.89	178.90	6,228.26	-7,028.45	-183.38	7,029.08	3.51	-2.92	-1.95
13,323.00	90.66	179.17	6,229.46	-7,123.42	-181.78	7,124.04	2.93	2.92	0.28
13,418.00	88.86	179.78	6,229.86	-7,218.41	-180.91	7,219.03	2.00	-1.89	0.64
13,512.00	89.78	179.26	6,230.98	-7,312.40	-180.12	7,313.01	1.12	0.98	-0.55
13,607.00	89.87	180.66	6,231.27	-7,407.40	-180.05	7,408.01	1.48	0.09	1.47
13,702.00	90.13	182.77	6,231.27	-7,502.35	-182.90	7,502.97	2.24	0.27	2.22
13,797.00	89.39	182.59	6,231.67	-7,597.25	-187.34	7,597.88	0.80	-0.78	-0.19
13,892.00	90.22	184.00	6,231.99	-7,692.08	-192.80	7,692.74	1.72	0.87	1.48
13,987.00	89.65	182.24	6,232.10	-7,786.94	-197.97	7,787.61	1.95	-0.60	-1.85
14,082.00	90.13	181.45	6,232.28	-7,881.89	-201.03	7,882.57	0.97	0.51	-0.83
14,176.00	88.73	182.51	6,233.21	-7,975.82	-204.28	7,976.52	1.87	-1.49	1.13
14,271.00	89.30	180.49	6,234.85	-8,070.77	-206.76	8,071.48	2.21	0.60	-2.13
14,366.00	90.26	178.20	6,235.21	-8,165.76	-205.68	8,166.46	2.61	1.01	-2.41
14,461.00	89.25	177.50	6,235.62	-8,260.69	-202.11	8,261.37	1.29	-1.06	-0.74
14,555.00	89.08	177.67	6,236.99	-8,354.60	-198.15	8,355.27	0.26	-0.18	0.18
14,650.00	89.25	179.61	6,238.37	-8,449.55	-195.90	8,450.21	2.05	0.18	2.04
14,745.00	91.58	181.36	6,237.68	-8,544.54	-196.70	8,545.20	3.07	2.45	1.84
14,840.00	90.04	180.57	6,236.34	-8,639.51	-198.30	8,640.18	1.82	-1.62	-0.83

Company:	EP Energy E&P Company, L.P.	Local Co-ordinate Reference:	Well NH
Project:	Crockett Co, TX	TVD Reference:	KB @ 2663.00ft (Nabors 888 (KB = 27'))
Site:	University East 4110	MD Reference:	KB @ 2663.00ft (Nabors 888 (KB = 27'))
Well:	NH	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Ryan USA

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)	
14,935.00	88.15	179.69	6,237.84	-8,734.49	-198.52	8,735.16	2.19	-1.99	-0.93	
15,029.00	90.00	180.31	6,239.36	-8,828.48	-198.52	8,829.15	2.08	1.97	0.66	
15,124.00	88.81	181.54	6,240.35	-8,923.46	-200.05	8,924.13	1.80	-1.25	1.29	
15,219.00	91.45	183.82	6,240.13	-9,018.34	-204.49	9,019.03	3.67	2.78	2.40	
15,314.00	89.39	180.31	6,239.43	-9,113.25	-207.91	9,113.95	4.28	-2.17	-3.69	
15,408.00	90.61	178.46	6,239.43	-9,207.24	-206.90	9,207.94	2.36	1.30	-1.97	
15,503.00	89.12	178.38	6,239.66	-9,302.20	-204.28	9,302.89	1.57	-1.57	-0.08	
15,597.00	88.29	179.69	6,241.78	-9,396.16	-202.70	9,396.84	1.65	-0.88	1.39	
15,692.00	90.92	180.57	6,242.44	-9,491.15	-202.92	9,491.83	2.92	2.77	0.93	
15,787.00	89.25	182.24	6,242.30	-9,586.12	-205.25	9,586.80	2.49	-1.76	1.76	
15,882.00	87.58	180.40	6,244.92	-9,681.05	-207.44	9,681.74	2.62	-1.76	-1.94	
15,977.00	88.73	180.13	6,247.98	-9,775.99	-207.87	9,776.69	1.24	1.21	-0.28	
16,072.00	90.88	181.71	6,248.31	-9,870.97	-209.40	9,871.67	2.81	2.26	1.66	
16,166.00	88.29	180.66	6,248.99	-9,964.94	-211.34	9,965.65	2.97	-2.76	-1.12	
16,261.00	89.25	179.78	6,251.03	-10,059.92	-211.71	10,060.62	1.37	1.01	-0.93	
16,356.00	90.57	178.99	6,251.18	-10,154.91	-210.69	10,155.61	1.62	1.39	-0.83	
16,451.00	89.25	175.83	6,251.32	-10,249.80	-206.40	10,250.48	3.60	-1.39	-3.33	
16,545.00	91.45	177.67	6,250.75	-10,343.63	-201.07	10,344.30	3.05	2.34	1.96	
16,640.00	92.68	176.00	6,247.33	-10,438.42	-195.83	10,439.07	2.18	1.29	-1.76	
16,690.00	92.68	176.00	6,244.99	-10,488.25	-192.34	10,488.88	0.00	0.00	0.00	
PTB										

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
16,690.00	6,244.99	-10,488.25	-192.34	PTB

Checked By: _____	Approved By: _____	Date: _____
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