

# PIONEER

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## NATURAL RESOURCES

### Meteorite Energy Services Survey Report

30 November, 2020

### PIONEER NATURAL RESOURCES

Midland Permian South

Reagan County

UNIVERSITY W2-34D #4H

API: 42-383-40906 TRRC: 864665

Survey: FINAL SURFACE SURVEYS (20MJ-669)



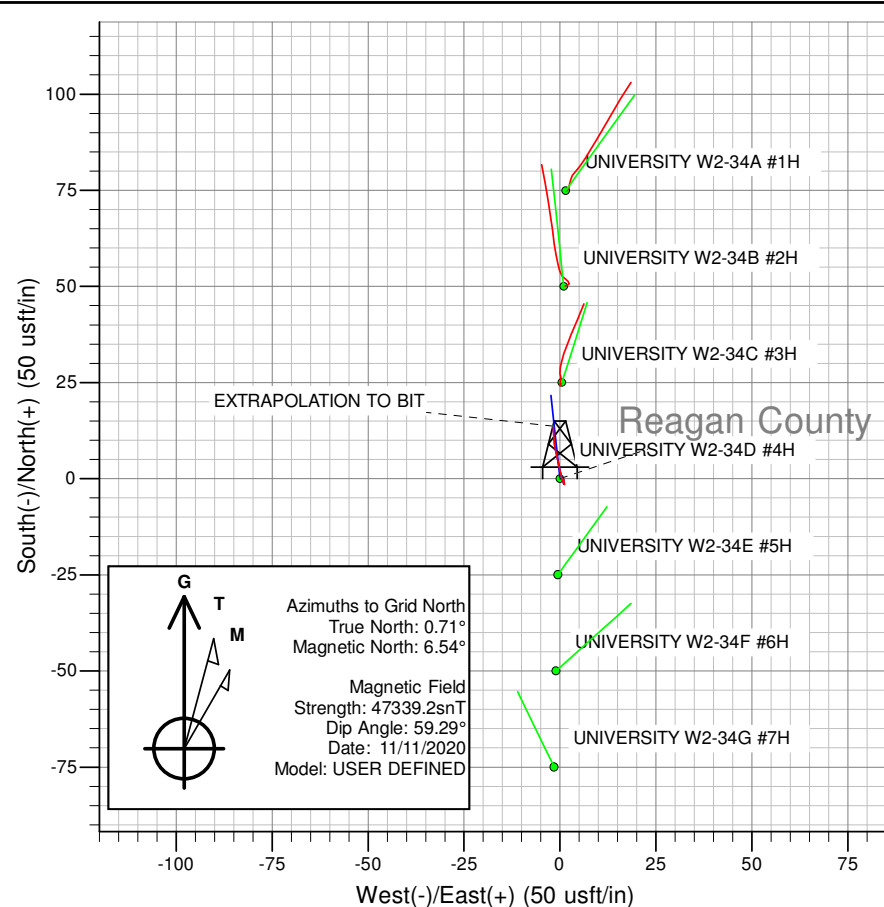
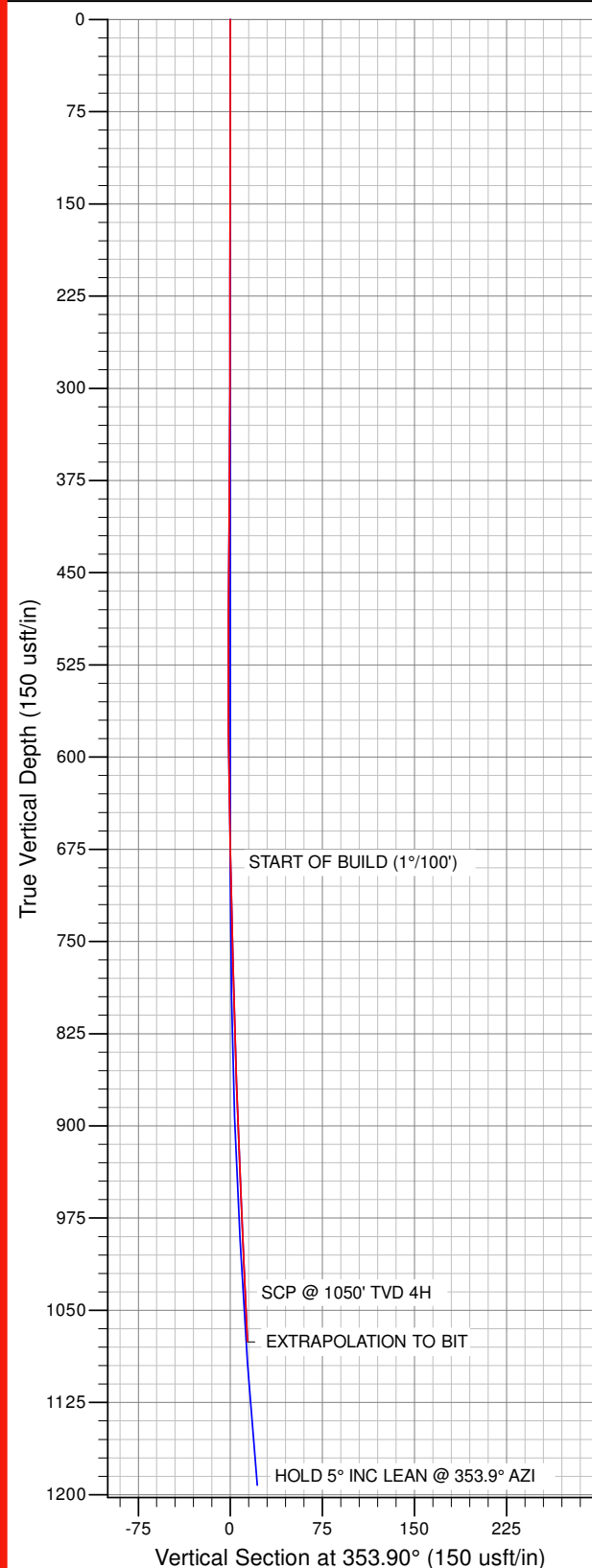
**METEORITE**  
*energy services*





### ANNOTATIONS

TVD 1075.72 MD 1076.00 Inc 2.60 Azi 356.50 +N/-S 13.71 +E/-W -1.74 VSect 13.82  
 EXTRAPOLATION TO BIT



### PROJECT DETAILS: Midland Permian South

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

### REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well UNIVERSITY W2-34D #4H, Grid North  
 Vertical (TVD) Reference: KB @ GL @ 2642.00usft (PINNERY 4)  
 Section (VS) Reference: Slot - (0.00N, 0.00E)  
 Measured Depth Reference: KB @ GL @ 2642.00usft (PINNERY 4)  
 Calculation Method: Minimum Curvature

Survey: FINAL SURFACE SURVEYS (20MJ-669) (UNIVERSITY W2-34D #4H/API: 42-383-40906 TRRC: 864665)

Created By: Meteorite Energy Services

Date: 12:38, November 30 2020

Checked: \_\_\_\_\_

Date: \_\_\_\_\_

Reviewed: \_\_\_\_\_

Date: \_\_\_\_\_

Approved: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Company:</b>	PIONEER NATURAL RESOURCES	<b>Local Co-ordinate Reference:</b>	Well UNIVERSITY W2-34D #4H
<b>Project:</b>	Midland Permian South	<b>TVD Reference:</b>	KB @ GL @ 2642.00usft (PINNERY 4)
<b>Site:</b>	Reagan County	<b>MD Reference:</b>	KB @ GL @ 2642.00usft (PINNERY 4)
<b>Well:</b>	UNIVERSITY W2-34D #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	API: 42-383-40906 TRRC: 864665	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURFACE SURVEYS (20MJ-669)	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Midland Permian South		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Texas Central 4203		

<b>Site</b>	Reagan County		
<b>Site Position:</b>		<b>Northing:</b>	614,939.50 usft
<b>From:</b>	Map	<b>Easting:</b>	1,589,898.70 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16"
		<b>Latitude:</b>	31° 21' 3.075988 N
		<b>Longitude:</b>	101° 38' 49.684681 W
		<b>Grid Convergence:</b>	-0.68 °

<b>Well</b>	UNIVERSITY W2-34D #4H		
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b> 594,410.50 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b> 1,567,598.80 usft
<b>Position Uncertainty</b>	0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft
		<b>Latitude:</b>	31° 17' 37.219764 N
		<b>Longitude:</b>	101° 43' 3.896433 W
		<b>Ground Level:</b>	2,642.00 usft

<b>Wellbore</b>	API: 42-383-40906 TRRC: 864665				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	User Defined	11/11/2020	5.83	59.29	47,339

<b>Design</b>	FINAL SURFACE SURVEYS (20MJ-669)			
<b>Audit Notes:</b>				
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b> 0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	353.90

<b>Survey Program</b>	<b>Date</b>	11/30/2020			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
120.27	1,076.00	FINAL SURFACE SURVEYS (20MJ-669) (	CLEAR MWD	MWD	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>Subsea Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>
0.00	0.00	0.00	0.00	2,642.00	0.00	0.00	0.00	0.00	0.00	0.00
120.27	0.40	107.10	120.27	2,521.73	-0.12	0.40	-0.17	0.33	0.33	0.00
211.12	0.10	65.20	211.12	2,430.88	-0.18	0.78	-0.26	0.37	-0.33	-46.12
298.55	0.20	135.90	298.55	2,343.45	-0.26	0.95	-0.36	0.22	0.11	80.86
390.79	0.40	176.30	390.79	2,251.21	-0.70	1.08	-0.81	0.30	0.22	43.80
485.13	0.50	179.50	485.12	2,156.88	-1.44	1.11	-1.55	0.11	0.11	3.39
579.94	0.60	348.60	579.93	2,062.07	-1.37	1.01	-1.47	1.16	0.11	178.36
674.24	1.10	336.30	674.22	1,967.78	-0.05	0.55	-0.11	0.56	0.53	-13.04
768.56	1.70	351.80	768.51	1,873.49	2.16	-0.01	2.15	0.75	0.64	16.43
863.20	1.70	343.70	863.11	1,778.89	4.90	-0.60	4.93	0.25	0.00	-8.56
957.56	2.60	351.80	957.40	1,684.60	8.36	-1.30	8.45	1.00	0.95	8.58
1,016.00	2.60	356.50	1,015.78	1,626.22	11.00	-1.57	11.10	0.36	0.00	8.04

<b>Company:</b>	PIONEER NATURAL RESOURCES	<b>Local Co-ordinate Reference:</b>	Well UNIVERSITY W2-34D #4H
<b>Project:</b>	Midland Permian South	<b>TVD Reference:</b>	KB @ GL @ 2642.00usft (PINNERGY 4)
<b>Site:</b>	Reagan County	<b>MD Reference:</b>	KB @ GL @ 2642.00usft (PINNERGY 4)
<b>Well:</b>	UNIVERSITY W2-34D #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	API: 42-383-40906 TRRC: 864665	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL SURFACE SURVEYS (20MJ-669)	<b>Database:</b>	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)
EXTRAPOLATION TO BIT										
1,076.00	2.60	356.50	1,075.72	1,566.28	13.71	-1.74	13.82	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	
W2-34A #1H FTP	0.00	360.00	5,535.00	1,156.79	782.77	595,567.29	1,568,381.57	31° 17' 48.765061 N	101° 42' 55.040677 W	
- survey misses target center by 4669.82usft at 1076.00usft MD (1075.72 TVD, 13.71 N, -1.74 E)										
- Point										
W2-34B #2H FTP	0.00	360.00	5,535.00	1,174.35	-117.62	595,584.85	1,567,481.18	31° 17' 48.828073 N	101° 43' 5.420444 W	
- survey misses target center by 4609.30usft at 1076.00usft MD (1075.72 TVD, 13.71 N, -1.74 E)										
- Point										
Interp @ 1050.00 (UNIV	0.00	0.00	1,025.00	10.64	-1.14	594,421.14	1,567,597.66	31° 17' 37.324926 N	101° 43' 3.911063 W	
- survey misses target center by 9.23usft at 1016.00usft MD (1015.78 TVD, 11.00 N, -1.57 E)										
- Point										
W2-34C #3H FTP	0.00	360.00	5,535.00	1,076.37	333.93	595,486.87	1,567,932.73	31° 17' 47.913934 N	101° 43' 0.202212 W	
- survey misses target center by 4596.42usft at 1076.00usft MD (1075.72 TVD, 13.71 N, -1.74 E)										
- Point										
W2-34D #4H FTP	0.00	360.00	5,535.00	1,085.56	-115.98	595,496.06	1,567,482.82	31° 17' 47.949497 N	101° 43' 5.388816 W	
- survey misses target center by 4587.71usft at 1076.00usft MD (1075.72 TVD, 13.71 N, -1.74 E)										
- Point										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,076.00	1,075.72	13.71	-1.74	EXTRAPOLATION TO BIT	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



## Survey Certification

I, Bryson Kriz, an authorized employee of Meteorite Energy Services Inc., have verified the MWD surveys performed on **11/19/2020** to **11/20/2020**, from **120'** to **1076'**. The data are true, correct, complete and within the limitations of the tool. This survey was conducted at the request of Pioneer Natural Resources for # **864665 (42-383-40906)** drilled in Reagan County, Texas.

Sincerely

Meteorite Energy Services Inc.

A handwritten signature in black ink, appearing to read "Bryson A. Kriz", with a stylized flourish at the end.

**Bryson A. Kriz** B.a.GIS | Technical Operations Coordinator

**METEORITE** Energy Services

6310 S County Road 1273 Midland, Texas 79706 USA

Tel: (403)-667-1848

[www.meteoriteenergyservices.com](http://www.meteoriteenergyservices.com)



Railroad Commission of Texas  
Oil and Gas Division  
PO Box 12967  
Capitol Station  
Austin, TX 78711

Attention: Pam Johns

Pioneer Natural Resources  
University W2-34D #4H  
Reagan County, Texas  
API # 42-383-40906

Enclosed, please find the original and one copy of the survey performed on the referenced well by INTREPID MWD TECH., a division of INTREPID DIRECTIONAL DRILLING SPECIALIST. Other information required by your office is as follows:

<u>Name &amp; Title of Surveyor</u>	<u>Start Depth</u>	<u>End Depth</u>	<u>Start Date</u>	<u>End Date</u>	<u>Type of Survey</u>
Tim Spann	1160	18782	4/27/2021	5/8/2021	MWD/ D&I & Gamma
PTB:		18814			

The bottom hole orientation/coordinates related to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Sincerely,

*Nephi Smith*

Nephi Smith  
Well Planner

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WELL DETAILS: University W2-34D #4H

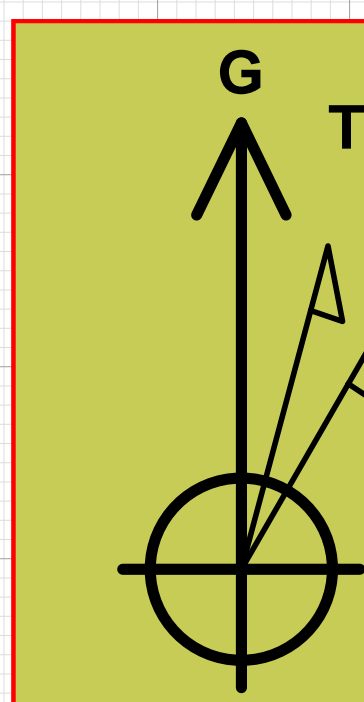
	Ground Level:	2642.0
0.0	+N/-S	0.0
	+E/-W	0.0
594410.49	Northing	1567598.80
	Easting	31° 17' 37.220 N
	Latitude	101° 43' 3.896 W
	Longitude	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1044.0	2.60	356.50	1043.8	11.0	-1.6	0.00	0.00	11.0	
1104.0	2.60	356.50	1103.7	13.7	-1.7	0.00	0.00	13.7	
1345.0	5.00	353.00	1344.2	29.6	-3.4	1.00	-7.27	29.5	
1422.1	5.00	353.00	1421.0	36.3	-4.2	0.00	0.00	36.2	
1584.1	9.84	349.76	1581.6	56.9	-7.5	3.00	-6.54	56.7	
5293.6	9.84	349.76	5236.5	681.0	-120.2	0.00	0.00	677.9	
5621.8	0.00	0.00	5563.0	708.7	-125.2	3.00	180.00	705.4	
8265.8	0.00	0.00	8207.0	708.7	-125.2	0.00	0.00	705.4	
8951.9	69.30	1.41	8737.7	1075.4	-116.2	10.10	1.41	1072.2	
8968.3	69.30	1.41	8743.5	1090.7	-115.8	0.00	0.00	1087.5	
9163.6	89.03	1.40	8780.0	1281.5	-111.1	10.10	-0.04	1278.4	
12997.3	89.03	1.40	8845.0	5113.5	-17.8	0.00	0.00	5111.5	
13052.4	89.86	1.42	8845.5	5168.7	-16.4	1.50	1.58	5166.7	
18795.1	89.86	1.42	8860.0	10909.5	125.7	0.00	0.00	10909.3	

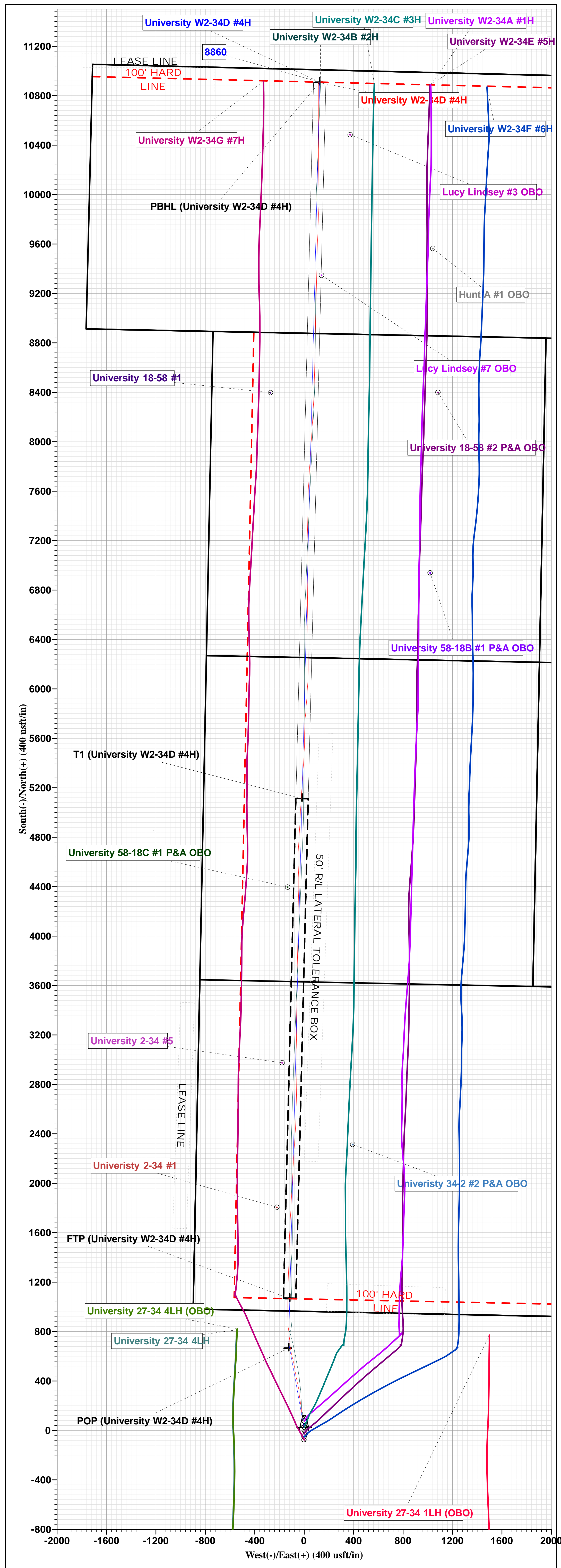
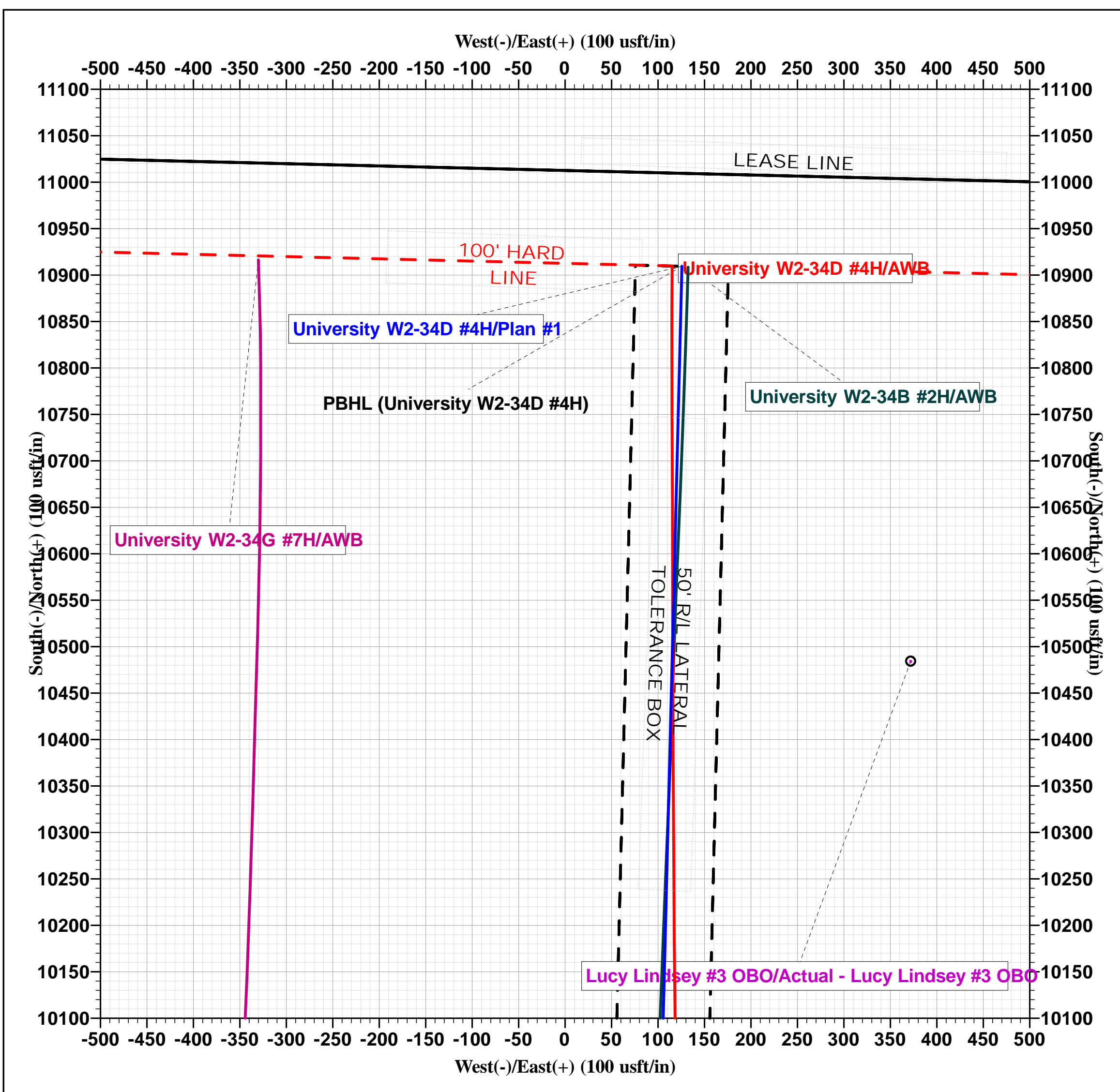
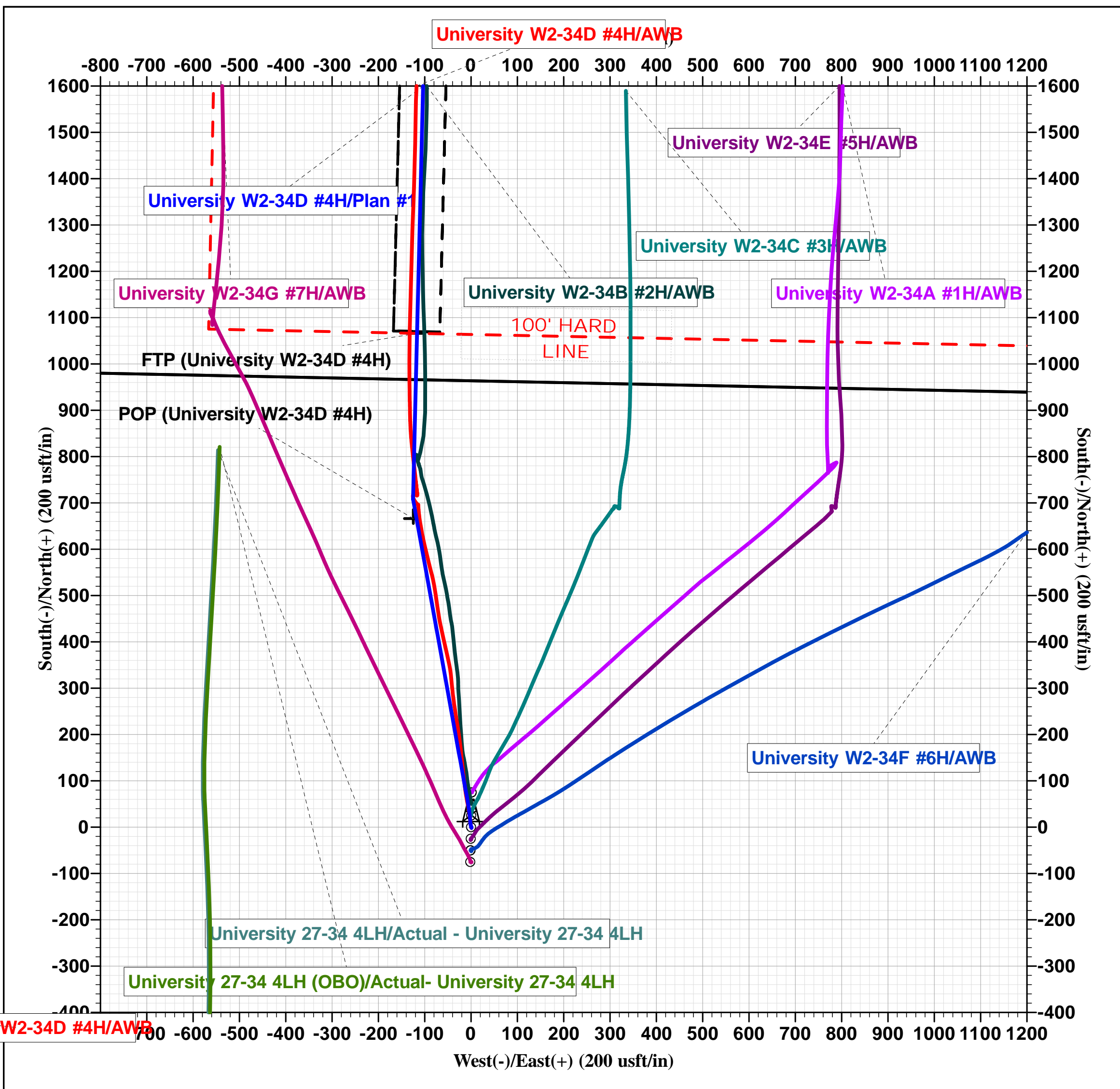
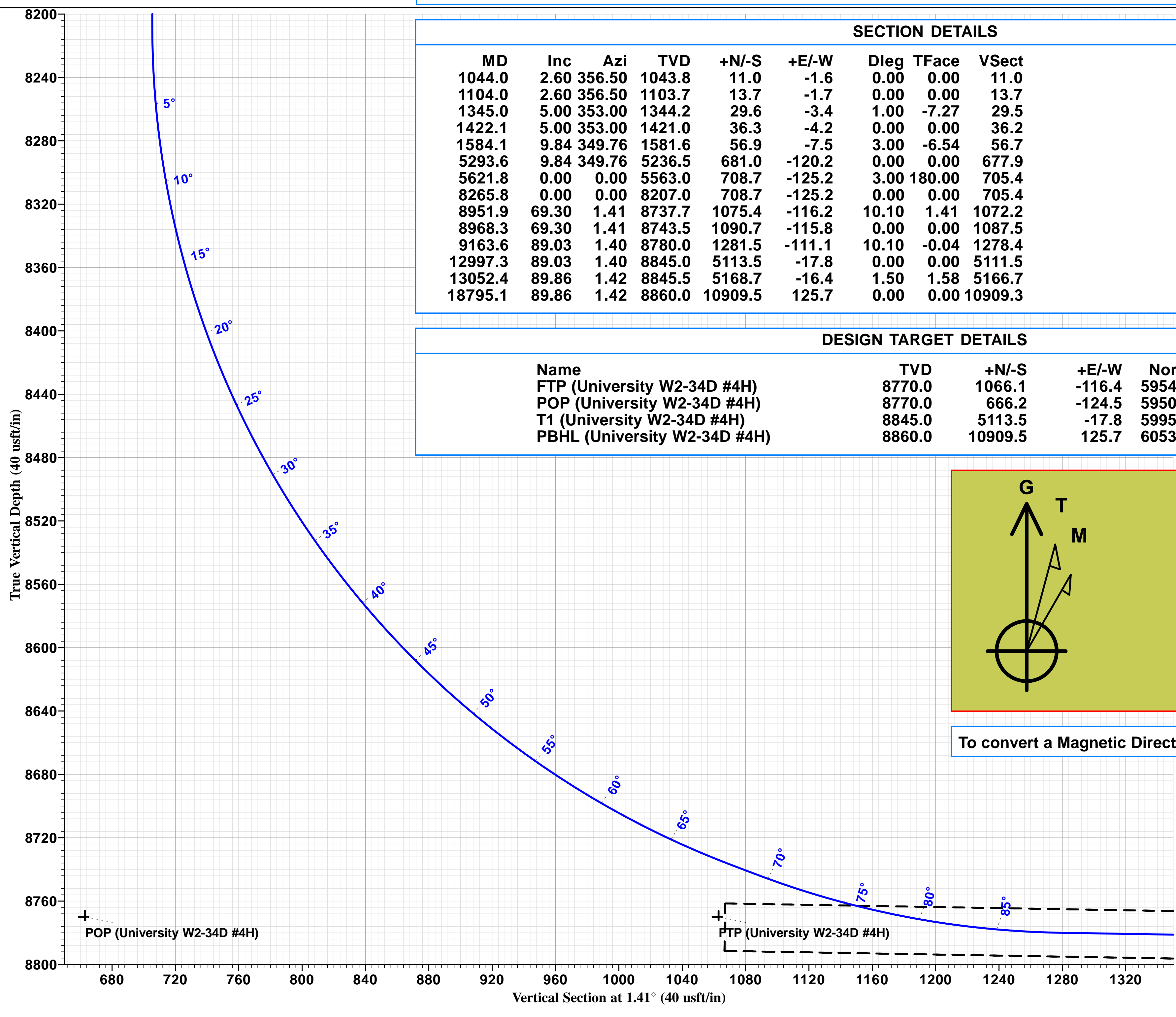
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
FTP (University W2-34D #4H)	8770.0	1066.1	-116.4	595476.60	1567482.40
POP (University W2-34D #4H)	8770.0	666.2	-124.5	595076.70	1567474.30
T1 (University W2-34D #4H)	8845.0	5113.5	-17.8	599524.00	1567581.00
PBHL (University W2-34D #4H)	8860.0	10909.5	125.7	605320.00	1567724.46

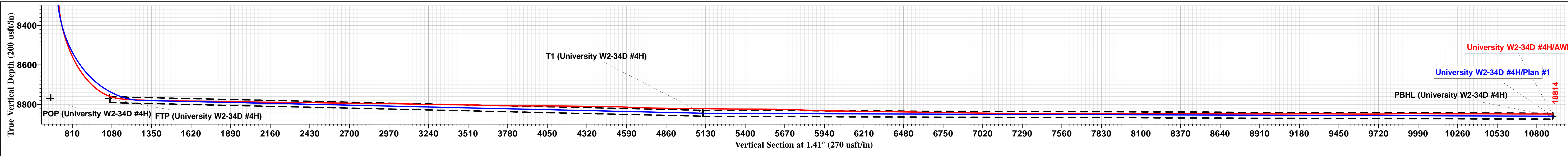


Azimuths to Grid North  
True North: 0.71°  
Magnetic North: 6.53°  
  
Magnetic Field  
Strength: 47259.0nT  
Dip Angle: 59.42°  
Date: 4/26/2021  
Model: USER DEFINED

To convert a Magnetic Direction to a Grid Direction, Add 6.53°



Hardlines are not to be crossed. Contain well path within 50' left/right tolerance window throughout lateral. Do not risk exiting this 50' L/R window even for existing vertical well avoidance unless otherwise instructed. Contact PXD representative or engineer immediately if hardlines are anticipated to be encroached upon.





## **Pioneer Natural Resources**

**Reagan County, TX (NAD 27 TC)  
(University W2-34) Sec-24\_Blk-2\_ULS  
University W2-34D #4H  
API# 42-383-40906  
OWB**

**Design: AWB**

## **Standard Survey Report**

**08 May, 2021**





<b>Company:</b>	Pioneer Natural Resources	<b>Local Co-ordinate Reference:</b>	Well University W2-34D #4H
<b>Project:</b>	Reagan County, TX (NAD 27 TC)	<b>TVD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Site:</b>	(University W2-34) Sec-24_Bl-2_ULS	<b>MD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Well:</b>	University W2-34D #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	AWB	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Reagan County, TX (NAD 27 TC)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Texas Central 4203		

<b>Site</b>	(University W2-34) Sec-24_Bl-2_ULS		
<b>Site Position:</b>		<b>Northing:</b>	594,485.40 usft
<b>From:</b>	Map	<b>Easting:</b>	1,567,600.30 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	31° 17' 37.961 N
		<b>Longitude:</b>	101° 43' 3.890 W
		<b>Grid Convergence:</b>	-0.71 °

<b>Well</b>	University W2-34D #4H		
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	0.0 usft
		<b>Latitude:</b>	31° 17' 37.220 N
		<b>Longitude:</b>	101° 43' 3.896 W
		<b>Ground Level:</b>	2,642.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	4/26/2021	5.81	59.42	47,259.00000000

Design	AWB				
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	1.41	

<b>Survey Program</b>	<b>Date</b>	5/8/2021		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
28.0	1,044.0	Meteorite MWD (OWB)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction
1,160.0	18,814.0	Survey #2 (OWB)	MWD+IFR1+SAG+MS	OWSG MWD + IFR1 + Sag + Multi-Station Corre

<b>Survey</b>									
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
28.0	0.00	0.00	28.0	0.0	0.0	0.0	0.00	0.00	0.00
148.3	0.40	107.10	148.3	-0.1	0.4	-0.1	0.33	0.33	0.00
239.1	0.10	65.20	239.1	-0.2	0.8	-0.2	0.37	-0.33	-46.12
326.5	0.20	135.90	326.5	-0.3	1.0	-0.2	0.22	0.11	80.86
418.8	0.40	176.30	418.8	-0.7	1.1	-0.7	0.30	0.22	43.80
513.1	0.50	179.50	513.1	-1.4	1.1	-1.4	0.11	0.11	3.39
607.9	0.60	348.60	607.9	-1.4	1.0	-1.3	1.16	0.11	178.36
702.2	1.10	336.30	702.2	-0.1	0.6	0.0	0.56	0.53	-13.04
796.6	1.70	351.80	796.5	2.2	0.0	2.2	0.75	0.64	16.43

<b>Company:</b>	Pioneer Natural Resources	<b>Local Co-ordinate Reference:</b>	Well University W2-34D #4H
<b>Project:</b>	Reagan County, TX (NAD 27 TC)	<b>TVD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Site:</b>	(University W2-34) Sec-24_Blk-2_ULS	<b>MD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Well:</b>	University W2-34D #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	AWB	<b>Database:</b>	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
891.2	1.70	343.70	891.1	4.9	-0.6	4.9	0.25	0.00	-8.56
985.6	2.60	351.80	985.4	8.4	-1.3	8.3	1.00	0.95	8.58
1,044.0	2.60	356.50	1,043.8	11.0	-1.6	11.0	0.36	0.00	8.04
1,160.0	2.10	356.00	1,159.7	15.7	-1.9	15.7	0.43	-0.43	-0.43
1,254.0	3.36	354.27	1,253.6	20.2	-2.3	20.1	1.34	1.34	-1.84
1,348.0	6.22	350.87	1,347.2	28.0	-3.4	27.9	3.06	3.04	-3.62
1,441.0	8.01	349.51	1,439.5	39.3	-5.3	39.2	1.93	1.92	-1.46
1,535.0	8.41	349.58	1,532.6	52.5	-7.8	52.3	0.43	0.43	0.07
1,629.0	10.12	350.14	1,625.3	67.4	-10.4	67.1	1.82	1.82	0.60
1,723.0	10.56	353.20	1,717.8	84.1	-12.9	83.8	0.75	0.47	3.26
1,816.0	10.58	352.86	1,809.2	101.0	-14.9	100.6	0.07	0.02	-0.37
1,910.0	10.71	354.24	1,901.6	118.3	-16.9	117.8	0.30	0.14	1.47
2,004.0	10.75	353.69	1,994.0	135.7	-18.7	135.2	0.12	0.04	-0.59
2,098.0	11.00	353.76	2,086.3	153.3	-20.7	152.8	0.27	0.27	0.07
2,192.0	10.89	353.75	2,178.6	171.1	-22.6	170.5	0.12	-0.12	-0.01
2,285.0	10.66	353.05	2,269.9	188.3	-24.6	187.7	0.28	-0.25	-0.75
2,379.0	9.53	350.33	2,362.5	204.6	-27.0	203.9	1.30	-1.20	-2.89
2,473.0	9.49	351.69	2,455.2	220.0	-29.4	219.2	0.24	-0.04	1.45
2,568.0	9.55	350.87	2,548.9	235.5	-31.8	234.7	0.16	0.06	-0.86
2,663.0	9.33	351.00	2,642.6	250.9	-34.2	250.0	0.23	-0.23	0.14
2,756.0	9.44	352.39	2,734.3	265.9	-36.4	264.9	0.27	0.12	1.49
2,849.0	9.20	352.91	2,826.1	280.8	-38.3	279.8	0.27	-0.26	0.56
2,943.0	9.08	353.31	2,918.9	295.7	-40.1	294.6	0.14	-0.13	0.43
3,036.0	9.31	354.92	3,010.7	310.4	-41.7	309.3	0.37	0.25	1.73
3,130.0	9.30	354.48	3,103.5	325.6	-43.1	324.4	0.08	-0.01	-0.47
3,224.0	9.70	350.40	3,196.2	340.9	-45.1	339.7	0.83	0.43	-4.34
3,317.0	10.06	347.61	3,287.8	356.6	-48.2	355.3	0.64	0.39	-3.00
3,411.0	10.08	346.97	3,380.4	372.6	-51.8	371.2	0.12	0.02	-0.68
3,504.0	9.98	347.44	3,471.9	388.4	-55.4	387.0	0.14	-0.11	0.51
3,598.0	10.15	347.88	3,564.5	404.5	-58.9	402.9	0.20	0.18	0.47
3,691.0	10.54	347.45	3,656.0	420.8	-62.4	419.1	0.43	0.42	-0.46
3,785.0	11.19	348.27	3,748.3	438.1	-66.2	436.4	0.71	0.69	0.87
3,878.0	11.40	350.74	3,839.5	456.0	-69.5	454.2	0.57	0.23	2.66
3,972.0	11.11	351.76	3,931.7	474.2	-72.3	472.2	0.37	-0.31	1.09
4,066.0	11.17	351.20	4,023.9	492.1	-75.0	490.1	0.13	0.06	-0.60
4,160.0	10.88	351.22	4,116.2	509.9	-77.7	507.8	0.31	-0.31	0.02
4,253.0	10.64	350.58	4,207.6	527.0	-80.5	524.9	0.29	-0.26	-0.69
4,347.0	9.27	344.70	4,300.1	542.9	-83.9	540.7	1.81	-1.46	-6.26
4,440.0	9.67	345.87	4,391.9	557.7	-87.8	555.4	0.48	0.43	1.26
4,534.0	8.94	345.07	4,484.6	572.4	-91.6	570.0	0.79	-0.78	-0.85
4,628.0	8.52	347.23	4,577.5	586.3	-95.0	583.7	0.57	-0.45	2.30
4,721.0	8.36	346.34	4,669.5	599.5	-98.1	596.9	0.22	-0.17	-0.96
4,815.0	8.24	347.66	4,762.6	612.8	-101.2	610.1	0.24	-0.13	1.40

<b>Company:</b>	Pioneer Natural Resources	<b>Local Co-ordinate Reference:</b>	Well University W2-34D #4H
<b>Project:</b>	Reagan County, TX (NAD 27 TC)	<b>TVD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Site:</b>	(University W2-34) Sec-24_Blk-2_ULS	<b>MD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Well:</b>	University W2-34D #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	AWB	<b>Database:</b>	EDM 5000.1 Single User Db

## Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,909.0	7.57	347.39	4,855.7	625.4	-104.0	622.6	0.71	-0.71	-0.29
5,003.0	7.19	351.13	4,948.9	637.2	-106.2	634.4	0.65	-0.40	3.98
5,096.0	6.92	349.50	5,041.2	648.5	-108.1	645.6	0.36	-0.29	-1.75
5,190.0	6.66	350.26	5,134.5	659.4	-110.1	656.5	0.29	-0.28	0.81
5,284.0	6.47	353.41	5,227.9	670.1	-111.6	667.1	0.43	-0.20	3.35
5,377.0	5.79	354.06	5,320.4	679.9	-112.7	677.0	0.73	-0.73	0.70
5,472.0	3.41	358.13	5,415.1	687.5	-113.3	684.5	2.53	-2.51	4.28
5,565.0	3.42	354.99	5,507.9	693.1	-113.6	690.1	0.20	0.01	-3.38
5,659.0	1.28	310.32	5,601.8	696.5	-114.7	693.5	2.84	-2.28	-47.52
5,753.0	1.18	309.75	5,695.8	697.8	-116.2	694.8	0.11	-0.11	-0.61
5,846.0	1.21	319.09	5,788.8	699.2	-117.6	696.1	0.21	0.03	10.04
5,940.0	1.77	322.85	5,882.7	701.1	-119.1	697.9	0.60	0.60	4.00
6,033.0	1.86	321.94	5,975.7	703.4	-120.9	700.2	0.10	0.10	-0.98
6,127.0	1.46	336.12	6,069.7	705.7	-122.3	702.5	0.61	-0.43	15.09
6,221.0	1.33	327.01	6,163.6	707.7	-123.4	704.5	0.27	-0.14	-9.69
6,314.0	1.14	345.54	6,256.6	709.5	-124.2	706.3	0.47	-0.20	19.92
6,408.0	1.06	333.25	6,350.6	711.2	-124.9	707.9	0.26	-0.09	-13.07
6,501.0	0.72	1.70	6,443.6	712.6	-125.2	709.3	0.59	-0.37	30.59
6,595.0	0.82	344.11	6,537.6	713.8	-125.4	710.5	0.27	0.11	-18.71
6,688.0	0.70	12.69	6,630.6	715.0	-125.5	711.7	0.42	-0.13	30.73
6,782.0	0.64	10.65	6,724.6	716.1	-125.2	712.8	0.07	-0.06	-2.17
6,876.0	0.49	47.41	6,818.5	716.9	-124.8	713.6	0.41	-0.16	39.11
6,970.0	0.50	29.59	6,912.5	717.5	-124.3	714.2	0.16	0.01	-18.96
7,064.0	0.19	26.72	7,006.5	718.0	-124.1	714.7	0.33	-0.33	-3.05
7,158.0	0.43	43.01	7,100.5	718.4	-123.8	715.1	0.27	0.26	17.33
7,251.0	0.44	61.59	7,193.5	718.8	-123.2	715.6	0.15	0.01	19.98
7,345.0	0.23	55.32	7,287.5	719.1	-122.7	715.9	0.23	-0.22	-6.67
7,439.0	0.30	128.19	7,381.5	719.0	-122.4	715.8	0.34	0.07	77.52
7,533.0	0.42	77.33	7,475.5	719.0	-121.9	715.8	0.35	0.13	-54.11
7,626.0	0.45	90.59	7,568.5	719.0	-121.2	715.8	0.11	0.03	14.26
7,720.0	0.62	108.71	7,662.5	718.9	-120.3	715.7	0.25	0.18	19.28
7,813.0	0.46	149.90	7,755.5	718.4	-119.6	715.2	0.44	-0.17	44.29
7,907.0	0.66	133.61	7,849.5	717.7	-119.1	714.5	0.27	0.21	-17.33
8,001.0	0.72	131.50	7,943.5	716.9	-118.2	713.8	0.07	0.06	-2.24
8,092.0	0.44	134.99	8,034.5	716.3	-117.6	713.2	0.31	-0.31	3.84
8,191.0	0.74	129.15	8,133.5	715.6	-116.8	712.5	0.31	0.30	-5.90
8,285.0	1.35	18.91	8,227.5	716.3	-116.0	713.2	1.86	0.65	-117.28
8,378.0	8.60	352.55	8,320.1	724.2	-116.5	721.1	7.97	7.80	-28.34
8,472.0	17.95	353.60	8,411.5	745.6	-119.0	742.5	9.95	9.95	1.12
8,566.0	26.26	353.61	8,498.5	780.8	-123.0	777.5	8.84	8.84	0.01
8,659.0	34.58	354.10	8,578.6	827.5	-128.0	824.1	8.95	8.95	0.53
8,753.0	45.27	358.61	8,650.6	887.6	-131.5	884.1	11.78	11.37	4.80
8,847.0	56.19	359.34	8,710.0	960.3	-132.8	956.7	11.63	11.62	0.78

<b>Company:</b>	Pioneer Natural Resources	<b>Local Co-ordinate Reference:</b>	Well University W2-34D #4H
<b>Project:</b>	Reagan County, TX (NAD 27 TC)	<b>TVD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Site:</b>	(University W2-34) Sec-24_Blk-2_ULS	<b>MD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Well:</b>	University W2-34D #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	AWB	<b>Database:</b>	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,941.0	70.89	0.47	8,751.8	1,044.2	-132.9	1,040.6	15.67	15.64	1.20
9,035.0	84.98	2.15	8,771.4	1,135.9	-130.8	1,132.3	15.09	14.99	1.79
9,128.0	88.38	1.17	8,776.8	1,228.7	-128.1	1,225.1	3.80	3.66	-1.05
9,187.0	88.23	2.01	8,778.5	1,287.6	-126.4	1,284.1	1.45	-0.25	1.42
9,281.0	89.08	2.10	8,780.7	1,381.5	-123.1	1,378.1	0.91	0.90	0.10
9,374.0	89.29	1.02	8,782.1	1,474.5	-120.5	1,471.1	1.18	0.23	-1.16
9,468.0	89.71	0.96	8,782.9	1,568.5	-118.9	1,565.1	0.45	0.45	-0.06
9,562.0	89.68	3.85	8,783.4	1,662.4	-115.0	1,659.0	3.07	-0.03	3.07
9,656.0	89.27	2.97	8,784.2	1,756.2	-109.4	1,753.0	1.03	-0.44	-0.94
9,749.0	89.46	2.99	8,785.3	1,849.1	-104.5	1,845.9	0.21	0.20	0.02
9,843.0	89.01	3.12	8,786.5	1,942.9	-99.5	1,939.9	0.50	-0.48	0.14
9,937.0	89.36	3.21	8,787.9	2,036.8	-94.3	2,033.8	0.38	0.37	0.10
10,030.0	89.66	2.96	8,788.7	2,129.6	-89.3	2,126.8	0.42	0.32	-0.27
10,124.0	89.46	3.35	8,789.4	2,223.5	-84.2	2,220.7	0.47	-0.21	0.41
10,217.0	89.24	3.37	8,790.4	2,316.3	-78.7	2,313.7	0.24	-0.24	0.02
10,310.0	89.32	3.47	8,791.6	2,409.2	-73.2	2,406.6	0.14	0.09	0.11
10,404.0	89.72	3.14	8,792.4	2,503.0	-67.8	2,500.6	0.55	0.43	-0.35
10,498.0	89.40	1.07	8,793.1	2,596.9	-64.3	2,594.6	2.23	-0.34	-2.20
10,592.0	89.73	0.68	8,793.8	2,690.9	-62.9	2,688.5	0.54	0.35	-0.41
10,685.0	89.41	0.87	8,794.5	2,783.9	-61.6	2,781.5	0.40	-0.34	0.20
10,778.0	89.36	1.03	8,795.5	2,876.9	-60.1	2,874.5	0.18	-0.05	0.17
10,872.0	89.54	0.69	8,796.4	2,970.9	-58.7	2,968.5	0.41	0.19	-0.36
10,966.0	89.04	358.04	8,797.6	3,064.8	-59.7	3,062.4	2.87	-0.53	-2.82
11,060.0	89.24	358.61	8,799.0	3,158.8	-62.4	3,156.3	0.64	0.21	0.61
11,153.0	89.29	0.81	8,800.2	3,251.8	-62.9	3,249.2	2.37	0.05	2.37
11,247.0	89.36	0.56	8,801.3	3,345.8	-61.8	3,343.2	0.28	0.07	-0.27
11,341.0	89.29	0.85	8,802.4	3,439.8	-60.6	3,437.2	0.32	-0.07	0.31
11,435.0	89.76	2.23	8,803.2	3,533.7	-58.1	3,531.2	1.55	0.50	1.47
11,528.0	88.33	359.81	8,804.7	3,626.7	-56.5	3,624.2	3.02	-1.54	-2.60
11,623.0	89.17	0.64	8,806.8	3,721.6	-56.1	3,719.1	1.24	0.88	0.87
11,716.0	89.69	1.68	8,807.7	3,814.6	-54.2	3,812.1	1.25	0.56	1.12
11,810.0	90.20	0.37	8,807.8	3,908.6	-52.5	3,906.1	1.50	0.54	-1.39
11,904.0	89.97	0.95	8,807.7	4,002.6	-51.4	4,000.1	0.66	-0.24	0.62
11,998.0	89.73	0.52	8,807.9	4,096.6	-50.2	4,094.1	0.52	-0.26	-0.46
12,091.0	89.38	1.44	8,808.6	4,189.6	-48.6	4,187.1	1.06	-0.38	0.99
12,185.0	89.54	1.15	8,809.5	4,283.5	-46.5	4,281.1	0.35	0.17	-0.31
12,278.0	89.38	1.87	8,810.4	4,376.5	-44.1	4,374.1	0.79	-0.17	0.77
12,374.0	89.45	358.10	8,811.4	4,472.5	-44.1	4,470.0	3.93	0.07	-3.93
12,468.0	88.40	357.19	8,813.2	4,566.4	-47.9	4,563.8	1.48	-1.12	-0.97
12,561.0	88.01	1.60	8,816.1	4,659.3	-48.9	4,656.7	4.76	-0.42	4.74
12,656.0	89.22	4.07	8,818.4	4,754.2	-44.2	4,751.6	2.89	1.27	2.60
12,750.0	89.39	3.42	8,819.5	4,848.0	-38.1	4,845.5	0.71	0.18	-0.69
12,844.0	89.23	2.48	8,820.6	4,941.8	-33.3	4,939.5	1.01	-0.17	-1.00
12,937.0	89.71	3.30	8,821.5	5,034.7	-28.6	5,032.5	1.02	0.52	0.88



<b>Company:</b>	Pioneer Natural Resources	<b>Local Co-ordinate Reference:</b>	Well University W2-34D #4H
<b>Project:</b>	Reagan County, TX (NAD 27 TC)	<b>TVD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Site:</b>	(University W2-34) Sec-24_Blk-2_ULS	<b>MD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Well:</b>	University W2-34D #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	AWB	<b>Database:</b>	EDM 5000.1 Single User Db

## Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,032.0	89.47	3.69	8,822.2	5,129.5	-22.8	5,127.4	0.48	-0.25	0.41
13,125.0	89.51	3.65	8,823.0	5,222.3	-16.8	5,220.3	0.06	0.04	-0.04
13,219.0	89.60	3.43	8,823.7	5,316.1	-11.0	5,314.3	0.25	0.10	-0.23
13,313.0	90.15	4.71	8,823.9	5,409.9	-4.3	5,408.2	1.48	0.59	1.36
13,407.0	89.71	2.15	8,824.1	5,503.7	1.3	5,502.1	2.76	-0.47	-2.72
13,500.0	89.60	359.71	8,824.6	5,596.7	2.8	5,595.1	2.63	-0.12	-2.62
13,594.0	88.82	1.99	8,825.9	5,690.7	4.2	5,689.1	2.56	-0.83	2.43
13,688.0	88.07	5.32	8,828.5	5,784.4	10.2	5,782.9	3.63	-0.80	3.54
13,781.0	88.10	3.99	8,831.6	5,877.1	17.7	5,875.7	1.43	0.03	-1.43
13,875.0	89.76	3.79	8,833.3	5,970.8	24.1	5,969.6	1.78	1.77	-0.21
13,969.0	89.57	3.29	8,833.9	6,064.7	29.9	6,063.6	0.57	-0.20	-0.53
14,008.0	89.54	1.91	8,834.2	6,103.6	31.7	6,102.5	3.54	-0.08	-3.54
14,062.0	89.43	1.06	8,834.7	6,157.6	33.1	6,156.5	1.59	-0.20	-1.57
14,156.0	89.08	358.32	8,835.9	6,251.6	32.6	6,250.5	2.94	-0.37	-2.91
14,250.0	89.51	359.06	8,837.0	6,345.5	30.4	6,344.4	0.91	0.46	0.79
14,344.0	89.55	0.02	8,837.8	6,439.5	29.6	6,438.3	1.02	0.04	1.02
14,438.0	89.38	358.99	8,838.7	6,533.5	28.8	6,532.3	1.11	-0.18	-1.10
14,531.0	89.23	359.56	8,839.8	6,626.5	27.7	6,625.2	0.63	-0.16	0.61
14,625.0	89.66	359.93	8,840.7	6,720.5	27.2	6,719.1	0.60	0.46	0.39
14,718.0	88.84	358.91	8,842.0	6,813.5	26.3	6,812.1	1.41	-0.88	-1.10
14,812.0	89.50	359.51	8,843.3	6,907.5	25.0	6,906.0	0.95	0.70	0.64
14,906.0	89.29	359.61	8,844.3	7,001.5	24.3	6,999.9	0.25	-0.22	0.11
15,000.0	89.66	359.59	8,845.2	7,095.5	23.6	7,093.9	0.39	0.39	-0.02
15,093.0	90.03	1.50	8,845.4	7,188.5	24.5	7,186.9	2.09	0.40	2.05
15,187.0	89.15	1.45	8,846.1	7,282.4	26.9	7,280.9	0.94	-0.94	-0.05
15,280.0	90.11	0.83	8,846.7	7,375.4	28.8	7,373.9	1.23	1.03	-0.67
15,374.0	89.99	0.89	8,846.6	7,469.4	30.2	7,467.9	0.14	-0.13	0.06
15,468.0	89.66	1.51	8,846.9	7,563.4	32.2	7,561.9	0.75	-0.35	0.66
15,563.0	90.20	3.31	8,847.0	7,658.3	36.2	7,656.8	1.98	0.57	1.89
15,657.0	90.18	3.31	8,846.7	7,752.1	41.6	7,750.8	0.02	-0.02	0.00
15,750.0	89.57	3.29	8,846.9	7,845.0	46.9	7,843.7	0.66	-0.66	-0.02
15,845.0	90.22	3.79	8,847.1	7,939.8	52.8	7,938.7	0.86	0.68	0.53
15,939.0	89.80	4.14	8,847.1	8,033.6	59.3	8,032.6	0.58	-0.45	0.37
16,033.0	90.18	2.80	8,847.1	8,127.4	65.0	8,126.5	1.48	0.40	-1.43
16,127.0	90.01	3.45	8,846.9	8,221.2	70.1	8,220.5	0.71	-0.18	0.69
16,220.0	89.85	3.56	8,847.0	8,314.1	75.8	8,313.4	0.21	-0.17	0.12
16,314.0	89.88	1.61	8,847.3	8,408.0	80.0	8,407.4	2.07	0.03	-2.07
16,409.0	89.76	1.27	8,847.6	8,502.9	82.4	8,502.4	0.38	-0.13	-0.36
16,502.0	89.87	1.28	8,847.9	8,595.9	84.5	8,595.4	0.12	0.12	0.01
16,596.0	89.99	0.94	8,848.0	8,689.9	86.3	8,689.4	0.38	0.13	-0.36
16,689.0	90.00	1.04	8,848.0	8,782.9	87.9	8,782.4	0.11	0.01	0.11
16,783.0	89.81	1.63	8,848.1	8,876.9	90.1	8,876.4	0.66	-0.20	0.63
16,877.0	89.72	0.89	8,848.5	8,970.8	92.2	8,970.4	0.79	-0.10	-0.79

<b>Company:</b>	Pioneer Natural Resources	<b>Local Co-ordinate Reference:</b>	Well University W2-34D #4H
<b>Project:</b>	Reagan County, TX (NAD 27 TC)	<b>TVD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Site:</b>	(University W2-34) Sec-24_Blk-2_ULS	<b>MD Reference:</b>	KB @ 2670.0usft (Patterson 804)
<b>Well:</b>	University W2-34D #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	AWB	<b>Database:</b>	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,970.0	90.05	1.69	8,848.7	9,063.8	94.3	9,063.4	0.93	0.35	0.86
17,064.0	90.40	1.65	8,848.3	9,157.8	97.0	9,157.4	0.37	0.37	-0.04
17,158.0	89.95	1.07	8,848.0	9,251.7	99.2	9,251.4	0.78	-0.48	-0.62
17,252.0	90.08	1.19	8,848.0	9,345.7	101.1	9,345.4	0.19	0.14	0.13
17,345.0	89.40	1.21	8,848.4	9,438.7	103.0	9,438.4	0.73	-0.73	0.02
17,439.0	89.98	1.40	8,849.0	9,532.7	105.2	9,532.4	0.65	0.62	0.20
17,532.0	89.89	2.29	8,849.1	9,625.6	108.2	9,625.4	0.96	-0.10	0.96
17,626.0	90.12	1.87	8,849.1	9,719.6	111.6	9,719.4	0.51	0.24	-0.45
17,719.0	91.11	2.95	8,848.1	9,812.5	115.5	9,812.3	1.58	1.06	1.16
17,813.0	89.86	0.87	8,847.3	9,906.4	118.6	9,906.3	2.58	-1.33	-2.21
17,907.0	89.82	359.66	8,847.5	10,000.4	119.1	10,000.3	1.29	-0.04	-1.29
18,000.0	89.85	359.43	8,847.8	10,093.4	118.3	10,093.3	0.25	0.03	-0.25
18,094.0	89.74	359.45	8,848.1	10,187.4	117.4	10,187.2	0.12	-0.12	0.02
18,188.0	90.32	359.86	8,848.1	10,281.4	116.8	10,281.2	0.76	0.62	0.44
18,282.0	89.82	359.45	8,848.0	10,375.4	116.3	10,375.1	0.69	-0.53	-0.44
18,376.0	89.71	359.99	8,848.3	10,469.4	115.8	10,469.1	0.59	-0.12	0.57
18,469.0	89.99	359.84	8,848.6	10,562.4	115.7	10,562.0	0.34	0.30	-0.16
18,564.0	89.76	359.94	8,848.8	10,657.4	115.5	10,657.0	0.26	-0.24	0.11
18,658.0	90.15	359.46	8,848.9	10,751.4	115.0	10,751.0	0.66	0.41	-0.51
18,752.0	89.80	0.30	8,848.9	10,845.4	114.8	10,844.9	0.97	-0.37	0.89
18,782.0	89.83	0.32	8,849.0	10,875.4	115.0	10,874.9	0.12	0.10	0.07
18,814.0	89.83	0.32	8,849.1	10,907.4	115.2	10,906.9	0.00	0.00	0.00

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



State of Texas  
County of  
Reagan

I, Tim Spann certify that; I am employed by INTREPID DIRECTIONAL DRILLING SPECIALISTS, Ltd.; that I did conduct or supervise the taking of MWD surveys on the dates and depths below ; that the data is true, correct, complete and within the limitations of the tool as set forth by INTREPID MWD, a division of INTREPID DIRECTIONAL DRILLING, Ltd.; that I am authorized and qualified to make this report;that this survey was conducted at the request of Pioneer Natural Resources API# 42-383-40906 Reagan County, Texas; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by INTREPID MWD. A division of INTREPID DIRECTIONAL DRILLING SPECIALISTS, Ltd.

<u>Start Depth</u>	<u>End Depth</u>	<u>Start Date</u>	<u>End Date</u>	<u>Type of Survey</u>
1160	18782	4/27/2021	5/8/2021	MWD/ D&I & Gamma

*Tim Spann*

Tim Spann  
MWD Engineer

