

# Montrose Operating LLC

Location: Andrews County, TX  
 Field: Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)  
 Facility: Andrews University

Slot: Andrews University 33-28 2H  
 Well: Andrews University 33-28 2H  
 Wellbore: Andrews University 33-28 2H



Scale 1 inch = 1250

Easting (ft)

Plot reference wellpath is Andrews University 33-28 2H Rev-E.0	Grid System: NAD27 / Lambert Texas SP, North Central Zone (4202), US feet
True vertical depths are referenced to Rig on Anderson University 28-33 2H (RKB)	* = Wellpath was transformed from a different geoidic datum
Reference wellpath measured depths are referenced to Rig on Anderson University 28-33 2H (RKB)	North Reference: Grid north
Rig on Anderson University 28-33 2H (RKB) to Mean Sea Level: 3041.8 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Andrews University 33-28 2H): -3015.8 feet	Coordinates are in feet referenced to Slot
Offset wellpath MDs are referenced to each path's default MD datum	Depths are in feet
	Created by: deergal on 2022-08-06; Database: WA_HOU_Midland_Defn

Location Information						
Facility Name	Andrews University	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
		503296.700	320328.100	32°27'59.90"N	102°21'13.5236"W	
Slot	Andrews University 33-28 2H	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
		-10933.92	851.36	504148.000	309395.000	32°25'19.9010"N
Comment	7/27/22 - well names changed per Bruce M (copy of email in well planning file)					
Rig on Anderson University 28-33 2H (RKB) to Mud line (At Slot: Andrews University 33-28 2H)	26ft					
Mean Sea Level to Mud line (At Slot: Andrews University 33-28 2H)	-3015.8ft					
Rig on Anderson University 28-33 2H (RKB) to Mean Sea Level	3041.8ft					

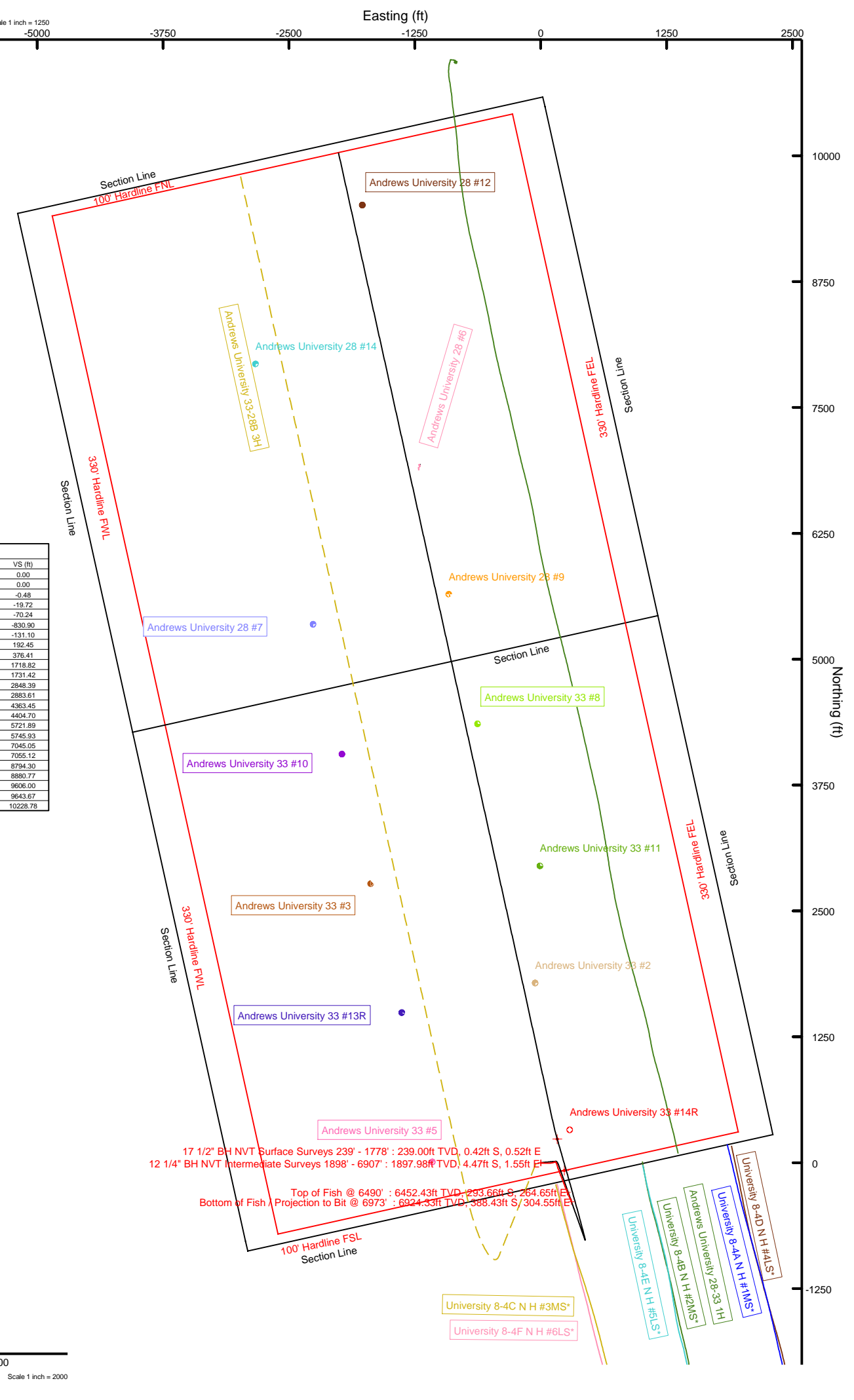
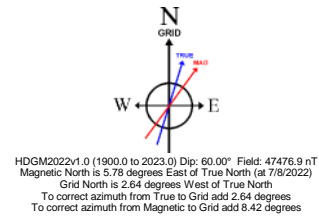
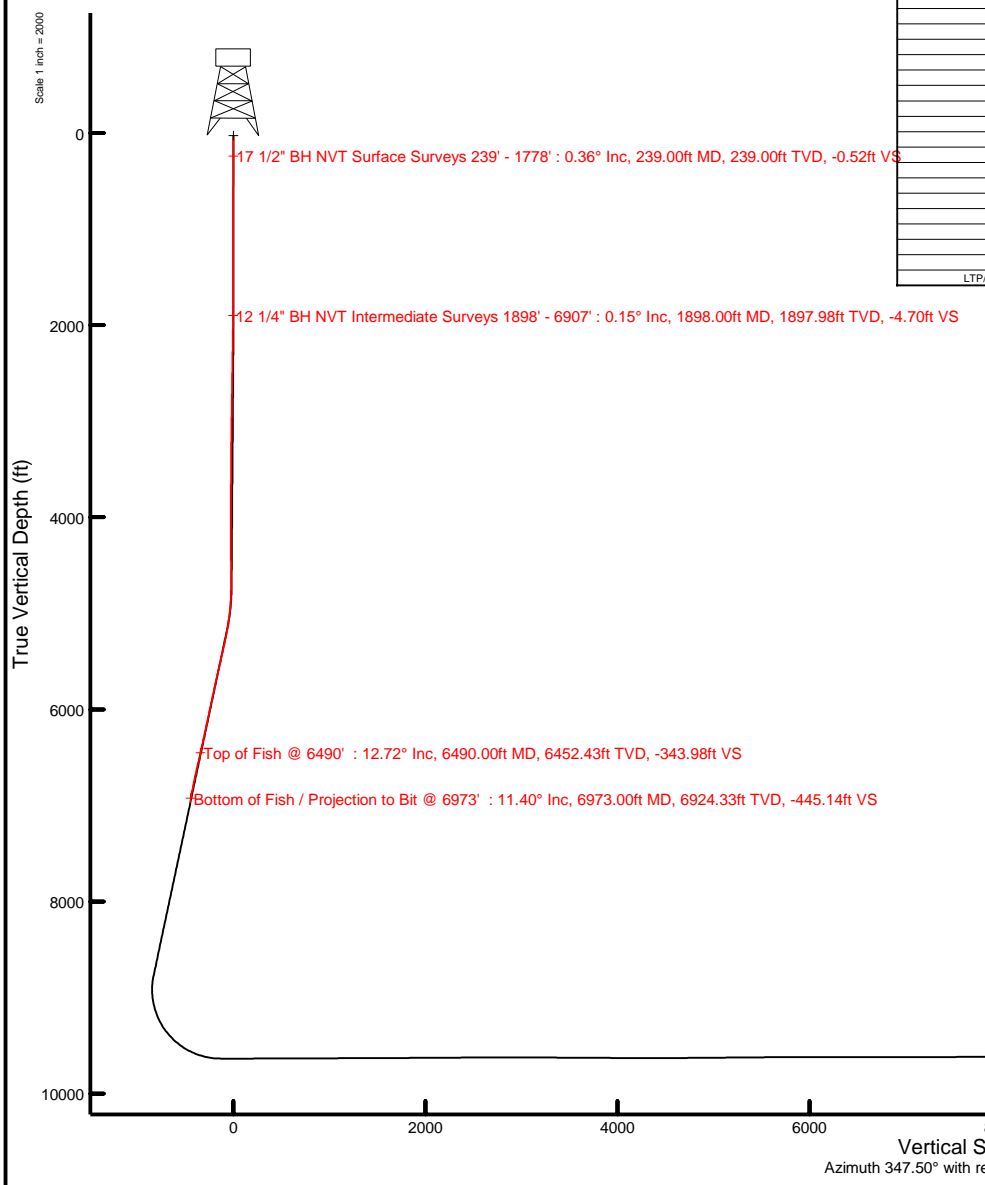
Survey Program					
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
26.00	8858.53	BH NaviTrak (2019)	BH NaviTrak (2019) (Standard)		Andrews University 33-28 2H
8858.53	20495.56	BH AutoTrak CurveXpress (2019)	BH AutoTrak CurveXpress (2019) (Standard)		Andrews University 33-28 2H

Targets								
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Andrews University 33-28 2H LTP/BHL Rev-E.0	20495.56	9575.00	10031.86	-2008.51	502139.63	319426.16	32°26'58.1440"N	102°21'26.5261"W
Andrews University 33-28 2H TGT 9 Rev-E.0	19872.64	9588.00	9423.85	-1873.65	502274.48	318818.20	32°26'52.1958"N	102°21'24.6262"W
Andrews University 33-28 2H TGT 8 Rev-E.0	19060.52	9614.00	8631.41	-1697.91	502450.21	318025.81	32°26'44.4432"N	102°21'22.1502"W
Andrews University 33-28 2H TGT 6 Rev-E.0	15988.10	9620.00	8631.88	-1032.69	503115.38	315026.49	32°26'16.0982"N	102°21'12.7798"W
Andrews University 33-28 2H TGT 7 Rev-E.0	17311.25	9620.00	6923.65	-1319.17	502828.92	316318.17	32°26'27.7369"N	102°21'16.8150"W
Andrews University 33-28 2H TGT 4 Rev-E.0	13114.52	9622.00	2826.54	-410.54	503737.49	312221.34	32°25'47.6528"N	102°21'04.0174"W
Andrews University 33-28 2H TGT 3 Rev-E.0	11984.93	9629.00	1723.77	-165.95	503982.06	311118.65	32°25'36.8640"N	102°21'01.6371"W
Andrews University 33-28 2H TGT 5 Rev-E.0	14629.91	9631.00	4305.66	-738.56	503409.49	313700.36	32°26'2.1234"N	102°21'08.6371"W
Andrews University 33-28 2H PP/FTP Rev-E.0	N/A	9635.00	-78.05	233.65	504381.63	309316.96	32°25'19.2362"N	102°20'54.9463"W
Andrews University 33-28 2H TGT 2 Rev-E.0	10458.43	9635.00	233.60	164.54	504312.53	309628.58	32°25'22.2852"N	102°20'55.9194"W

Bottom Hole Location									
MD (ft)	Inc (")	Az (")	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
20495.56	91.173	347.494	9575.00	10031.86	-2008.51	502139.63	319426.16	32°26'58.1440"N	102°21'26.5261"W

**Montrose Operating, LLC**  
**Well: Andrews University 33-28-2H OH**  
**Field: Spraberry (Trend Area)**  
**Rig: Precision 600**  
**Location: Andrews County, TX**  
**API: 42-003-48658-00**  
**Latitude: 32° 25' 19.901" N**  
**Longitude: 102° 20' 57.7112" W**  
**DF Elevation: 3041.80 ft**  
**Elev. GL: 3015.80 ft**  
**DF: 26.00 ft**  
**Proposed Direction: 347.50°**  
**PBHL: 6974 feet**  
**Duration: 08/08/2022 thru 08/22/2022**  
**FSE's: Remote ops**  
**SO#: 111470810**

Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (")	TVD (ft)	Local N (ft)	Local E (ft)	DLS (/100ft)	VS (ft)
Tie On	26.00	0.000	85.000	26.00	0.00	0.00	0.00	0.00
Begin Nudge	2000.00	0.000	85.000	2000.00	0.00	0.00	0.00	0.00
End Nudge	2130.00	3.250	85.000	2129.93	0.32	3.67	2.50	-0.48
End Hold	4730.00	3.250	85.000	4725.75	13.17	150.51	0.00	-19.72
End Build/Turn	5197.88	12.083	160.548	5189.68	-32.01	180.14	2.50	-70.24
Curve KOP	8858.53	12.083	160.548	8769.23	-754.56	435.33	0.00	-830.90
PP/FTP	10134.29	90.000	344.043	9635.00	-78.05	253.65	8.00	-131.10
TGT 2	10458.43	90.000	344.043	9635.00	233.60	164.54	0.00	192.45
End Build	10642.50	90.240	347.717	9634.61	412.08	119.64	2.00	376.41
TGT 3	11984.93	90.240	347.717	9629.00	1723.77	-165.95	0.00	1718.82
End Build	11997.53	90.356	347.493	9628.93	1736.07	-168.65	2.00	1731.42
TGT 4	13114.52	90.356	347.493	9622.00	2826.54	-410.54	0.00	2848.39
End Drop	13149.74	89.651	347.496	9622.00	2860.92	-418.16	2.00	2883.61
TGT 5	14629.91	89.651	347.496	9631.00	4305.66	-738.56	0.00	4363.45
End Build	14670.86	90.476	347.495	9630.95	4345.93	-747.49	2.00	4404.70
TGT 6	15988.10	90.476	347.495	9620.00	5631.88	-1032.69	0.00	5721.89
End Drop	16012.14	89.996	347.496	9619.90	5655.35	-1037.90	2.00	5745.93
TGT 7	17311.25	89.996	347.496	9620.00	6923.65	-1319.17	0.00	7045.05
End Build	17321.33	90.197	347.496	9619.98	6933.48	-1321.35	2.00	7055.12
TGT 8	19060.52	90.197	347.496	9614.00	8631.41	-1697.91	0.00	8794.30
End Build	19147.00	91.927	347.496	9612.40	8715.82	-1716.63	2.00	8860.77
TGT 9	19872.64	91.927	347.496	9588.00	9423.65	-1873.65	0.00	9606.00
End Drop	19910.33	91.173	347.494	9586.98	9460.63	-1881.81	2.00	9643.67
LTP/PBHL (100' FNL/2100' FEL)	20495.56	91.173	347.494	9575.00	10031.86	-2008.51	0.00	10228.78





# Actual Wellpath Report

Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H
Slot	Andrews University 33-28 2H		

## REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert Texas SP, North Central Zone (4202), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Deergai
Scale	0.999933	Report Generated	8/23/2022 at 10:08:16 AM
Convergence at slot	2.64° West	Database	WA_HOU_Midland_Defn

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-10933.92	851.36	504148.00	309395.00	32°25'19.9010"N	102°20'57.7112"W
Facility Reference Pt			503296.70	320328.10	32°27'7.5890"N	102°21'13.5235"W
Field Reference Pt			503296.70	320328.10	32°27'7.5890"N	102°21'13.5235"W

## WELLPATH DATUM

Calculation method	Minimum curvature	Rig on Anderson University 28-33 2H (RKB) to Facility Vertical Datum	3041.80ft
Horizontal Reference Pt	Slot	Rig on Anderson University 28-33 2H (RKB) to Mean Sea Level	3041.80ft
Vertical Reference Pt	Rig on Anderson University 28-33 2H (RKB)	Rig on Anderson University 28-33 2H (RKB) to Mud Line at Slot (Andrews University 33-28 2H)	26.00ft
MD Reference Pt	Rig on Anderson University 28-33 2H (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	347.50°



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Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973'  
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Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H
Slot	Andrews University 33-28 2H		

## WELLPATH DATA (75 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
0.00	0.00	129.020	0.00	-3041.80	0.00	0.00	0.00	504148.00	309395.00	32°25'19.9010"N	102°20'57.7112"W	0.00	0.000	0.00	0.00	0.00	
26.00	0.00	129.020	26.00	-3015.80	0.00	0.00	0.00	504148.00	309395.00	32°25'19.9010"N	102°20'57.7112"W	0.00	0.000	0.00	0.00	0.00	
239.00	0.360	129.020	239.00	-2802.80	-0.52	-0.42	0.52	504148.52	309394.58	32°25'19.8971"N	102°20'57.7049"W	0.67	129.020	0.17	0.17	0.00	17 1/2" BH NVT Surface Surveys 239' - 1778'
330.00	0.410	110.400	330.00	-2711.80	-0.92	-0.71	1.05	504149.05	309394.29	32°25'19.8944"N	102°20'57.6986"W	1.27	124.317	0.15	0.05	-20.46	
420.00	0.260	140.820	420.00	-2621.80	-1.28	-0.99	1.48	504149.48	309394.01	32°25'19.8920"N	102°20'57.6934"W	1.78	123.690	0.25	-0.17	33.80	
511.00	0.340	121.690	510.99	-2530.81	-1.65	-1.29	1.84	504149.84	309393.71	32°25'19.8891"N	102°20'57.6890"W	2.24	125.002	0.14	0.09	-21.02	
602.00	0.280	151.510	601.99	-2439.81	-2.06	-1.62	2.17	504150.17	309393.38	32°25'19.8860"N	102°20'57.6849"W	2.71	126.768	0.19	-0.07	32.77	
694.00	0.180	145.530	693.99	-2347.81	-2.41	-1.94	2.36	504150.36	309393.06	32°25'19.8829"N	102°20'57.6826"W	3.06	129.403	0.11	-0.11	-6.50	
784.00	0.210	252.710	783.99	-2257.81	-2.55	-2.11	2.29	504150.29	309392.89	32°25'19.8812"N	102°20'57.6834"W	3.11	132.669	0.35	0.03	119.09	
875.00	0.220	287.950	874.99	-2166.81	-2.48	-2.10	1.96	504149.96	309392.90	32°25'19.8811"N	102°20'57.6872"W	2.87	137.007	0.14	0.01	38.73	
966.00	0.210	264.360	965.99	-2075.81	-2.37	-2.07	1.63	504149.63	309392.94	32°25'19.8813"N	102°20'57.6911"W	2.63	141.750	0.10	-0.01	-25.92	
1057.00	0.190	268.040	1056.99	-1984.81	-2.32	-2.09	1.31	504149.31	309392.91	32°25'19.8810"N	102°20'57.6948"W	2.46	147.855	0.03	-0.02	4.04	
1238.00	0.070	206.990	1237.99	-1803.81	-2.35	-2.20	0.96	504148.96	309392.80	32°25'19.8798"N	102°20'57.6988"W	2.40	156.357	0.09	-0.07	-33.73	
1330.00	0.030	215.780	1329.99	-1711.81	-2.41	-2.26	0.92	504148.92	309392.74	32°25'19.8790"N	102°20'57.6992"W	2.45	157.862	0.04	-0.04	9.55	
1420.00	0.220	158.170	1419.99	-1621.81	-2.60	-2.44	0.97	504148.97	309392.56	32°25'19.8773"N	102°20'57.6985"W	2.63	158.317	0.23	0.21	-64.01	
1510.00	0.220	144.180	1509.99	-1531.81	-2.93	-2.74	1.14	504149.14	309392.26	32°25'19.8744"N	102°20'57.6964"W	2.97	157.494	0.06	0.00	-15.54	
1599.00	0.340	161.370	1598.99	-1442.81	-3.35	-3.13	1.32	504149.32	309391.87	32°25'19.8706"N	102°20'57.6941"W	3.40	157.132	0.16	0.13	19.31	
1778.00	0.280	184.420	1777.98	-1263.82	-4.29	-4.07	1.46	504149.46	309390.93	32°25'19.8614"N	102°20'57.6920"W	4.33	160.309	0.08	-0.03	12.88	
1898.00	0.150	132.560	1897.98	-1143.82	-4.70	-4.47	1.55	504149.55	309390.53	32°25'19.8575"N	102°20'57.6907"W	4.73	160.874	0.18	-0.11	-43.22	12 1/4" BH NVT Intermediate Surveys 1898' - 6907'
1988.00	0.190	131.020	1987.98	-1053.82	-4.92	-4.65	1.75	504149.75	309390.35	32°25'19.8559"N	102°20'57.6883"W	4.97	159.373	0.04	0.04	-1.71	
2077.00	1.830	94.480	2076.97	-964.83	-5.45	-4.86	3.28	504151.28	309390.14	32°25'19.8545"N	102°20'57.6703"W	5.86	145.983	1.89	1.84	-41.06	
2166.00	3.960	92.870	2165.85	-875.95	-6.68	-5.12	7.76	504155.76	309389.88	32°25'19.8539"N	102°20'57.6179"W	9.30	123.411	2.39	2.39	-1.81	
2256.00	4.700	88.930	2255.59	-786.21	-8.24	-5.21	14.56	504162.55	309389.79	32°25'19.8562"N	102°20'57.5387"W	15.46	109.691	0.89	0.82	-4.38	
2346.00	4.440	88.950	2345.30	-696.50	-9.66	-5.08	21.73	504169.72	309389.92	32°25'19.8608"N	102°20'57.4553"W	22.31	103.151	0.29	-0.29	0.02	
2435.00	4.350	89.120	2434.04	-607.76	-11.02	-4.96	28.54	504176.54	309390.04	32°25'19.8650"N	102°20'57.3758"W	28.97	99.860	0.10	-0.10	0.19	
2524.00	4.170	89.500	2522.80	-519.00	-12.37	-4.88	35.15	504183.15	309390.12	32°25'19.8688"N	102°20'57.2989"W	35.49	97.905	0.20	-0.20	0.43	
2613.00	4.010	90.280	2611.57	-430.23	-13.74	-4.87	41.50	504189.50	309390.13	32°25'19.8718"N	102°20'57.2249"W	41.79	96.690	0.19	-0.18	0.88	
2703.00	3.780	90.350	2701.36	-340.44	-15.09	-4.90	47.62	504195.61	309390.10	32°25'19.8743"N	102°20'57.1536"W	47.87	95.877	0.26	-0.26	0.08	
2792.00	3.540	91.910	2790.18	-251.62	-16.43	-5.01	53.30	504201.29	309389.99	32°25'19.8758"N	102°20'57.0874"W	53.53	95.371	0.29	-0.27	1.75	
2882.00	3.440	89.630	2880.01	-161.79	-17.69	-5.09	58.77	504206.77	309389.91	32°25'19.8776"N	102°20'57.0235"W	58.99	94.946	0.19	-0.11	-2.53	



# Actual Wellpath Report

Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973'  
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Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H
Slot	Andrews University 33-28 2H		

## WELLPATH DATA (75 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
2972.00	3.160	90.420	2969.86	-71.94	-18.81	-5.09	63.95	504211.95	309389.91	32°25'19.8799"N	102°20'56.9631"W	64.16	94.548	0.32	-0.31	0.88	
3061.00	2.940	92.260	3058.74	16.94	-19.94	-5.19	68.69	504216.68	309389.81	32°25'19.8810"N	102°20'56.9079"W	68.88	94.325	0.27	-0.25	2.07	
3151.00	2.500	92.680	3148.64	106.84	-21.04	-5.38	72.95	504220.95	309389.62	32°25'19.8812"N	102°20'56.8581"W	73.15	94.216	0.49	-0.49	0.47	
3240.00	2.460	91.920	3237.55	195.75	-22.03	-5.53	76.80	504224.80	309389.47	32°25'19.8814"N	102°20'56.8132"W	77.00	94.120	0.06	-0.04	-0.85	
3329.00	2.720	87.600	3326.46	284.66	-22.87	-5.51	80.82	504228.82	309389.49	32°25'19.8835"N	102°20'56.7664"W	81.01	93.899	0.37	0.29	-4.85	
3419.00	2.830	86.520	3416.36	374.56	-23.59	-5.28	85.17	504233.17	309389.72	32°25'19.8877"N	102°20'56.7158"W	85.34	93.550	0.14	0.12	-1.20	
3508.00	2.700	85.930	3505.25	463.45	-24.25	-5.00	89.46	504237.45	309390.00	32°25'19.8924"N	102°20'56.6660"W	89.60	93.200	0.15	-0.15	-0.66	
3597.00	2.470	84.570	3594.16	552.36	-24.79	-4.67	93.46	504241.45	309390.33	32°25'19.8975"N	102°20'56.6196"W	93.57	92.862	0.27	-0.26	-1.53	
3687.00	2.300	86.000	3684.09	642.29	-25.30	-4.36	97.19	504245.18	309390.64	32°25'19.9023"N	102°20'56.5762"W	97.29	92.570	0.20	-0.19	1.59	
3776.00	3.150	82.080	3772.98	731.18	-25.75	-3.90	101.39	504249.38	309391.10	32°25'19.9088"N	102°20'56.5275"W	101.47	92.203	0.98	0.96	-4.40	
3956.00	3.330	78.860	3952.70	810.90	-26.27	-2.21	111.42	504259.41	309392.79	32°25'19.9301"N	102°20'56.4116"W	111.44	91.136	0.14	0.10	-1.79	
4045.00	3.090	77.330	4041.56	999.76	-26.33	-1.18	116.30	504264.29	309393.82	32°25'19.9424"N	102°20'56.3553"W	116.30	90.583	0.29	-0.27	-1.72	
4134.00	3.080	74.230	4130.43	1088.63	-26.18	-0.01	120.94	504268.93	309394.99	32°25'19.9562"N	102°20'56.3018"W	120.94	90.004	0.19	-0.01	-3.48	
4224.00	2.780	75.010	4220.31	1178.51	-25.95	1.21	125.37	504273.36	309396.21	32°25'19.9703"N	102°20'56.2508"W	125.38	89.445	0.34	-0.33	0.87	
4313.00	2.700	73.160	4309.21	1267.41	-25.70	2.38	129.46	504277.45	309397.38	32°25'19.9837"N	102°20'56.2037"W	129.49	88.947	0.13	-0.09	-2.08	
4492.00	2.330	72.640	4488.04	1446.24	-25.07	4.69	136.97	504284.96	309399.69	32°25'20.0099"N	102°20'56.1175"W	137.05	88.040	0.21	-0.21	-0.29	
4582.00	2.170	74.150	4577.97	1536.17	-24.82	5.70	140.36	504288.35	309400.70	32°25'20.0214"N	102°20'56.0786"W	140.47	87.675	0.19	-0.18	1.68	
4671.00	2.000	77.400	4666.91	1625.11	-24.72	6.50	143.49	504291.48	309401.50	32°25'20.0308"N	102°20'56.0425"W	143.64	87.408	0.23	-0.19	3.65	
4760.00	1.700	95.690	4755.86	1714.06	-25.13	6.70	146.32	504294.31	309401.70	32°25'20.0341"N	102°20'56.0096"W	146.48	87.376	0.74	-0.34	20.55	
4850.00	2.770	136.010	4845.80	1804.00	-27.40	5.01	149.16	504297.15	309400.01	32°25'20.0186"N	102°20'55.9756"W	149.25	88.077	2.04	1.19	44.80	
4939.00	4.660	149.390	4934.61	1892.81	-32.67	0.35	152.50	504300.49	309395.35	32°25'19.9741"N	102°20'55.9342"W	152.50	89.869	2.32	2.12	15.03	
5029.00	6.810	156.310	5024.15	1982.35	-41.38	-7.69	156.50	504304.49	309387.32	32°25'19.8965"N	102°20'55.8832"W	156.69	92.811	2.51	2.39	7.69	
5118.00	9.260	162.850	5112.27	2070.47	-53.69	-19.36	160.74	504308.72	309375.64	32°25'19.7830"N	102°20'55.8276"W	161.90	96.869	2.93	2.75	7.35	
5207.00	11.300	163.390	5199.84	2158.04	-69.53	-34.56	165.34	504313.33	309360.44	32°25'19.6349"N	102°20'55.7658"W	168.91	101.807	2.29	2.29	0.61	
5297.00	12.110	162.210	5287.97	2246.17	-87.73	-52.00	170.74	504318.73	309343.00	32°25'19.4650"N	102°20'55.6934"W	178.49	106.938	0.94	0.90	-1.31	
5386.00	12.770	160.560	5374.88	2333.08	-106.79	-70.17	176.87	504324.86	309324.84	32°25'19.2882"N	102°20'55.6122"W	190.28	111.638	0.84	0.74	-1.85	
5475.00	13.090	158.840	5461.62	2419.82	-126.51	-88.84	183.78	504331.77	309306.17	32°25'19.1068"N	102°20'55.5216"W	204.13	115.799	0.56	0.36	-1.93	
5565.00	13.100	158.880	5549.28	2507.48	-146.67	-107.86	191.14	504339.12	309287.15	32°25'18.9221"N	102°20'55.4257"W	219.47	119.436	0.01	0.01	0.04	
5655.00	12.940	158.390	5636.97	2595.17	-166.71	-126.74	198.52	504346.51	309268.27	32°25'18.7389"N	102°20'55.3295"W	235.53	122.555	0.22	-0.18	-0.54	
5744.00	12.520	158.210	5723.78	2681.98	-186.07	-144.96	205.77	504353.76	309250.05	32°25'18.5621"N	102°20'55.2352"W	251.71	125.164	0.47	-0.47	-0.20	



# Actual Wellpath Report

Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973'  
Page 4 of 6



## REFERENCE WELLPATH IDENTIFICATION

Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H
Slot	Andrews University 33-28 2H		

## WELLPATH DATA (75 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
5834.00	12.200	158.770	5811.69	2769.89	-205.09	-162.89	212.84	504360.82	309232.13	32°25'18.3881"N	102°20'55.1432"W	268.01	127.427	0.38	-0.36	0.62	
5923.00	11.980	159.030	5898.72	2856.92	-223.53	-180.28	219.55	504367.53	309214.74	32°25'18.2193"N	102°20'55.0556"W	284.08	129.390	0.25	-0.25	0.29	
6012.00	12.210	159.090	5985.74	2943.94	-241.97	-197.69	226.21	504374.20	309197.32	32°25'18.0502"N	102°20'54.9686"W	300.43	131.151	0.26	0.26	0.07	
6102.00	12.320	158.320	6073.69	3031.89	-260.87	-215.51	233.16	504381.14	309179.51	32°25'17.8773"N	102°20'54.8781"W	317.50	132.747	0.22	0.12	-0.86	
6191.00	12.160	159.280	6160.67	3118.87	-279.52	-233.10	239.98	504387.97	309161.92	32°25'17.7065"N	102°20'54.7891"W	334.55	134.166	0.29	-0.18	1.08	
6281.00	12.500	158.090	6248.59	3206.79	-298.51	-251.00	246.97	504394.95	309144.02	32°25'17.5327"N	102°20'54.6980"W	352.13	135.464	0.47	0.38	-1.32	
6370.00	12.920	157.240	6335.41	3293.61	-317.80	-269.11	254.41	504402.40	309125.91	32°25'17.3571"N	102°20'54.6015"W	370.33	136.608	0.52	0.47	-0.96	
6460.00	12.740	157.410	6423.16	3381.36	-337.47	-287.55	262.12	504410.10	309107.47	32°25'17.1784"N	102°20'54.5018"W	389.09	137.649	0.20	-0.20	0.19	
6490.00†	12.723	157.541	6452.43	3410.63	-343.98	-293.66	264.65	504412.63	309101.36	32°25'17.1192"N	102°20'54.4690"W	395.32	137.974	0.11	-0.06	0.44	Top of Fish @ 6490'
6549.00	12.690	157.800	6509.98	3468.18	-356.77	-305.66	269.58	504417.56	309089.36	32°25'17.0027"N	102°20'54.4051"W	407.56	138.589	0.11	-0.06	0.44	
6639.00	12.580	157.790	6597.80	3556.00	-376.17	-323.89	277.02	504425.00	309071.13	32°25'16.8260"N	102°20'54.3086"W	426.20	139.460	0.12	-0.12	-0.01	
6728.00	12.620	157.700	6684.66	3642.86	-395.31	-341.86	284.37	504432.35	309053.17	32°25'16.6517"N	102°20'54.2132"W	444.67	140.245	0.05	0.04	-0.10	
6818.00	12.310	156.830	6772.54	3730.74	-414.42	-359.77	291.88	504439.86	309035.25	32°25'16.4781"N	102°20'54.1161"W	463.28	140.948	0.40	-0.34	-0.97	
6907.00	11.400	155.860	6859.64	3817.84	-432.36	-376.52	299.21	504447.19	309018.50	32°25'16.3158"N	102°20'54.0217"W	480.93	141.527	1.05	-1.02	-1.09	
6973.00‡	11.400	155.860	6924.33	3882.53	-445.14	-388.43	304.55	504452.52	309006.60	32°25'16.2006"N	102°20'53.9531"W	493.58	141.902	0.00	0.00	0.00	Bottom of Fish / Projection to Bit @ 6973'

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Andrews University 33-28 2H LTP/BHL Rev-E.0	9575.00	10031.86	-2008.51	502139.63	319426.16	32°26'58.1440"N	102°21'26.5261"W	point
Andrews University 33-28 2H TGT 9 Rev-E.0	9588.00	9423.85	-1873.65	502274.48	318818.20	32°26'52.1958"N	102°21'24.6262"W	point
Andrews University 33-28 2H TGT 8 Rev-E.0	9614.00	8631.41	-1697.91	502450.21	318025.81	32°26'44.4432"N	102°21'22.1503"W	point
Andrews University 33-28 2H TGT 6 Rev-E.0	9620.00	5631.88	-1032.69	503115.38	315026.49	32°26'15.0982"N	102°21'12.7798"W	point
Andrews University 33-28 2H TGT 7 Rev-E.0	9620.00	6923.65	-1319.17	502828.92	316318.17	32°26'27.7359"N	102°21'16.8150"W	point
Andrews University 33-28 2H TGT 4 Rev-E.0	9622.00	2826.54	-410.54	503737.49	312221.34	32°25'47.6528"N	102°21'4.0174"W	point
Andrews University 33-28 2H TGT 3 Rev-E.0	9629.00	1723.77	-165.95	503982.06	311118.65	32°25'36.8640"N	102°21'0.5731"W	point
Andrews University 33-28 2H TGT 5 Rev-E.0	9631.00	4305.66	-738.56	503409.49	313700.36	32°26'2.1234"N	102°21'8.6371"W	point

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Andrews University 33-28 2H PP/FTP Rev-E.0	9635.00	-78.05	233.65	504381.63	309316.96	32°25'19.2362"N	102°20'54.9463"W	point
Andrews University 33-28 2H TGT 2 Rev-E.0	9635.00	233.60	164.54	504312.53	309628.58	32°25'22.2852"N	102°20'55.9194"W	point



**Actual Wellpath Report**  
 Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973'  
 Page 5 of 6



**REFERENCE WELLPATH IDENTIFICATION**

Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H
Slot	Andrews University 33-28 2H		

**WELLPATH COMPOSITION - Ref Wellbore: Andrews University 33-28 2H Ref Wellpath: Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973'**

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	1778.00	BH NaviTrak (2019) (Standard)	17 1/2" BH NVT Surface Surveys 239' - 1778'	Andrews University 33-28 2H	8/6/2022
1778.00	6973.00	BH NaviTrak (2019) (Standard)	12 1/4" BH NVT Intermediate Surveys 1898' - 6907'	Andrews University 33-28 2H	8/6/2022



**REFERENCE WELLPATH IDENTIFICATION**

Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H
Slot	Andrews University 33-28 2H		

**COMMENTS**

**Wellpath general comments**  
 Montrose Operating, LLC

Well: Andrews University 33-28-2H OH  
 Field: Spraberry (Trend Area)  
 Rig: Precision 600  
 Location: Andrews County, TX  
 API: 42-003-48658-00  
 Latitude: 32° 25' 19.901" N  
 Longitude: 102° 20' 57.7112" W  
 DF Elevation: 3041.80 ft  
 Elev. GL: 3015.80 ft  
 DF: 26.00 ft  
 Proposed Direction: 347.50°  
 PBHL: 6974 feet  
 Duration: 08/08/2022 thru 08/22/2022  
 FSE's: Remote ops  
 SO#: 111470810

17 1/2" BH NVT Surface Surveys 239' - 1778'  
 12 1/4" BH NVT Intermediate Surveys 1898' - 6907'  
 Top of Fish @ 6490'  
 Bottom of Fish / Projection to Bit @ 6973'

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Railroad Commission of Texas  
Oil & Gas Division  
P. O. Box 12967  
Capitol Station  
Austin, TX 78711

Attention: Tina Klein

Montrose Operating, LLC  
Andrews University 33-28-2H OH  
Spraberry (Trend Area)  
Andrews County, TX  
API# 42-003-4865800-00

I, Gail Deering, Applications Engineer III, certify that I am employed by Baker Hughes; did conduct or supervise on the day(s) of 08/08/2022 through 08/22/2022 conduct or supervise the taking of a MWD survey from a depth of 239 feet to a depth of 6907 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Baker Hughes; that I am authorized and qualified to make this report; that this survey was conducted at the request of Montrose Operating, LLC for the Andrews University 33-28-2H OH Well, API No. 42-003-4865800-00 in Andrews County, Texas; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Baker Hughes.

*Gail Deering*

Applications Engineering III

SO#: 111470810

# Montrose Operating LLC

Location: Andrews County, TX  
 Field: Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)  
 Facility: Andrews University

Slot: Andrews University 33-28 2H  
 Well: Andrews University 33-28 2H  
 Wellbore: Andrews University 33-28 2H ST01



Scale 1 inch = 1250  
 Easting (ft) -5000 -3750 -2500 -1250 0 1250 2500

## Montrose Operating, LLC

Well: Andrews University 33-28-2H ST01  
 Field: Spraberry (Trend Area)  
 Rig: Precision 600  
 Location: Andrews County, TX  
 API: 42-003-48658-01  
 Latitude: 32° 25' 19.901" N  
 Longitude: 102° 20' 57.7112" W  
 DF Elevation: 3041.80 ft  
 Elev. GL: 3015.80 ft  
 DF: 26.00 ft  
 Proposed Direction: 347.50°  
 PBHL: 20450 feet  
 Duration: 08/08/2022 thru 09/24/2022  
 FSE's: Remote ops  
 SO#: 111470810

Plot reference wellpath is Andrews University 33-28 2H ST01 Rev-A.0	Grid System: NAD27 / Lambert Texas SP, North Central Zone (4202), US feet
True vertical depths are referenced to Rig on Andrews University 28-33 2H (RKB)	* = Wellpath was transformed from a different geoidic datum
Reference wellpath measured depths are referenced to Rig on Andrews University 28-33 2H (RKB)	North Reference: Grid north
Rig on Andrews University 28-33 2H (RKB) to Mean Sea Level: 3041.8 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Andrews University 33-28 2H): -3015.8 feet	Coordinates are in feet referenced to Slot
Offset wellpath MDs are referenced to each path's default MD datum	Depths are in feet
	Created by: deegan on 2022-08-18; Database: WA, HOU, Midland, Dfn

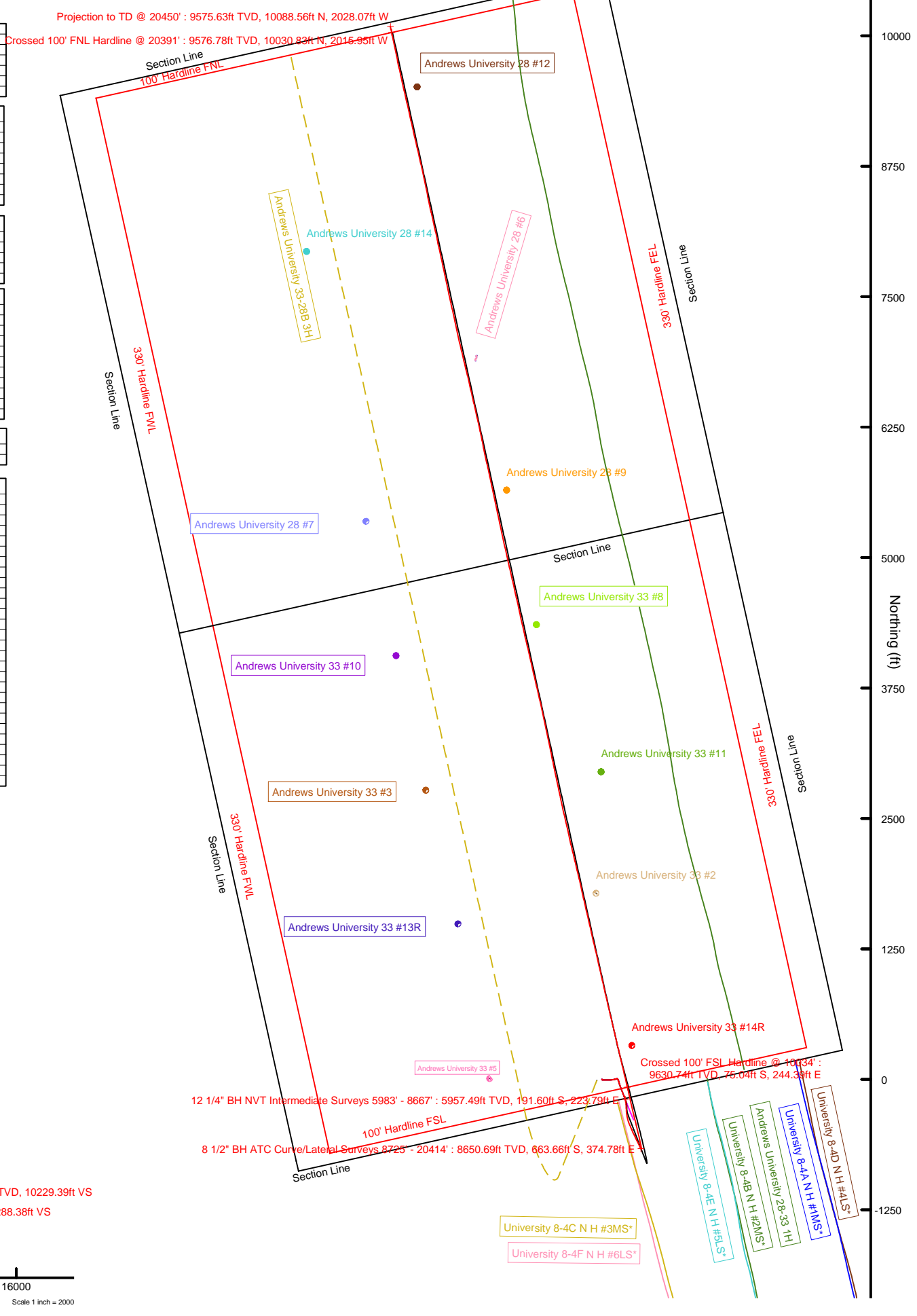
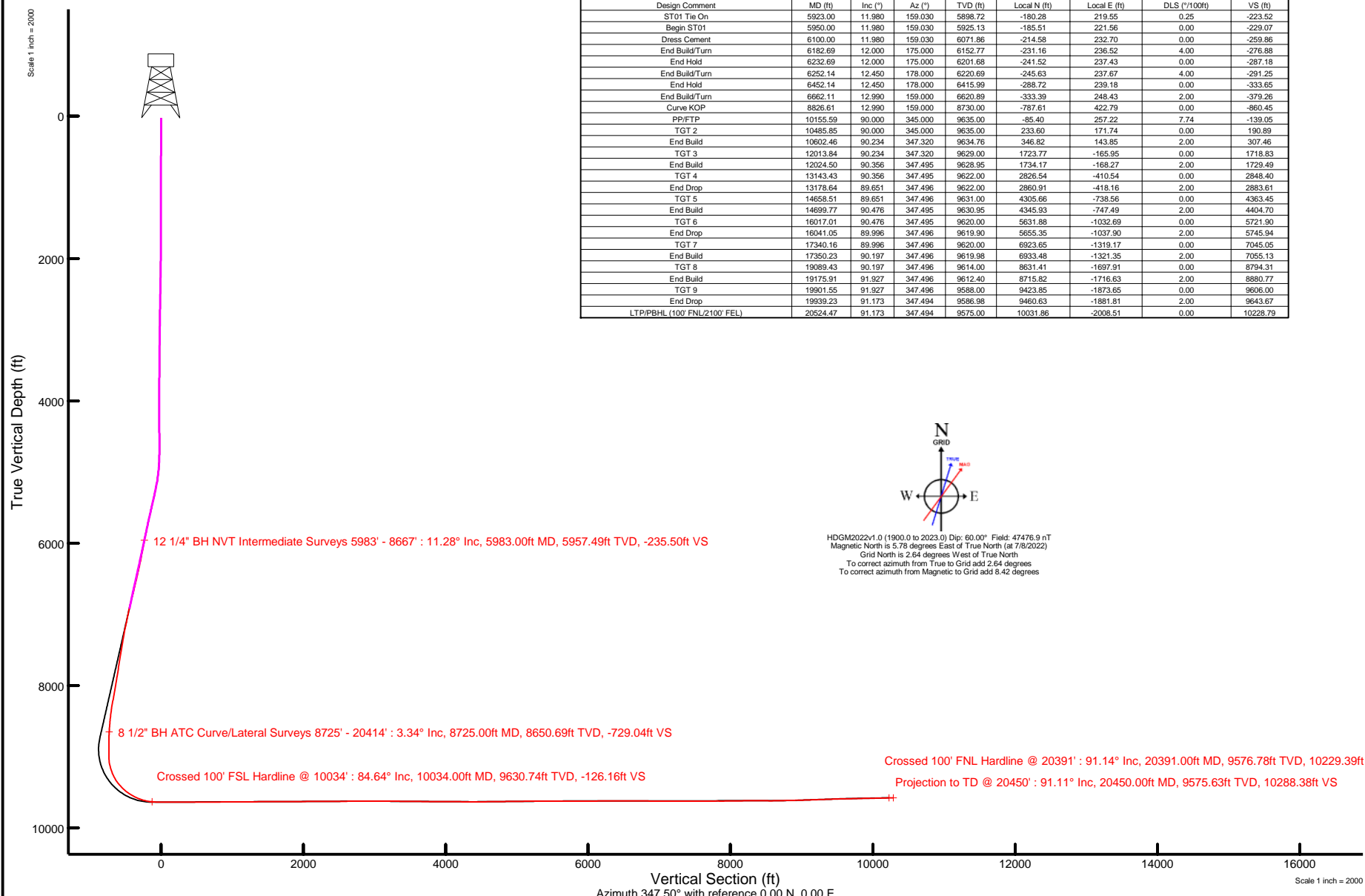
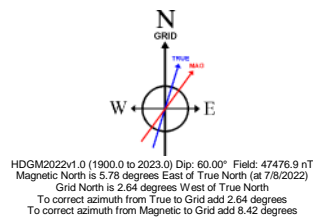
Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Andrews University	503296.700	320328.100	32°27'58.90"N	102°21'13.5235"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Andrews University 33-28 2H	-10933.92	851.36	504148.000	309395.000	32°25'19.9010"N
Comment					
7/27/22 - well names changed per Bruce M (copy of email in well planning file)					
Rig on Andrews University 28-33 2H (RKB) to Mud line (At Slot: Andrews University 33-28 2H)					
26ft					
Mean Sea Level to Mud line (At Slot: Andrews University 33-28 2H)					
-3015.8ft					
Rig on Andrews University 28-33 2H (RKB) to Mean Sea Level					
3041.8ft					

Survey Program					
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
26.00	1778.00	BH NewTrak (2019)	BH NewTrak (2019) (Standard)	17 1/2" BH NVT Surface Surveys 239 - 1778	Andrews University 33-28 2H
1778.00	5923.00	BH NewTrak (2019)	BH NewTrak (2019) (Standard)	12 1/4" BH NVT Intermediate Surveys 1896 - 6907	Andrews University 33-28 2H
5923.00	8626.61	BH NewTrak (2019)	BH NewTrak (2019) (Standard)		Andrews University 33-28 2H ST01
8626.61	20524.47	BH AutoTrak Curve/Press (2019)	BH AutoTrak Curve/Press (2019) (Standard)		Andrews University 33-28 2H ST01

Targets							
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Andrews University 33-28 2H ST01 LTP/BHL	20524.47	9575.00	10031.86	-2008.51	502139.63	319426.16	32°26'58.1440"N
Andrews University 33-28 2H ST01 TGT 9	19901.55	9588.00	9423.85	-1873.65	502274.48	318818.20	32°26'52.1956"N
Andrews University 33-28 2H ST01 TGT 8	19089.43	9614.00	8631.41	-1697.91	502450.21	318025.81	32°26'44.4432"N
Andrews University 33-28 2H ST01 TGT 6	16017.01	9620.00	5631.88	-1032.69	503115.38	315026.49	32°26'15.0982"N
Andrews University 33-28 2H ST01 TGT 7	17340.16	9620.00	6923.65	-1319.17	502828.92	316318.17	32°26'27.7359"N
Andrews University 33-28 2H ST01 TGT 4	13143.43	9622.00	2826.54	-410.54	503737.49	312221.34	32°25'47.6528"N
Andrews University 33-28 2H ST01 TGT 3	12013.84	9629.00	1723.77	-165.95	503982.95	311118.65	32°25'36.8640"N
Andrews University 33-28 2H ST01 TGT 5	14658.51	9631.00	4305.66	-738.56	503409.49	313780.36	32°26'2.1234"N
Andrews University 33-28 2H ST01 PP/FTP	10155.59	9635.00	-85.40	257.22	504025.20	309399.61	32°25'18.1743"N
Andrews University 33-28 2H ST01 TGT 2	N/A	9635.00	233.60	171.74	504319.73	309628.58	32°25'22.2885"N

Bottom Hole Location							
MD (ft)	Inc. (")	Az. (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Latitude
20524.47	91.173	347.494	9575.00	10031.86	-2008.51	502139.63	32°26'58.1440"N

Well Profile Data								
Design Comment	MD (ft)	Inc. (")	Az. (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (*/100ft)	VS (ft)
ST01 Tie On	5923.00	11.980	159.030	5898.72	-180.28	219.55	0.25	-223.52
Begin ST01	5950.00	11.980	159.030	5925.13	-185.51	221.56	0.00	-229.07
Dress Cement	6100.00	11.980	159.030	6071.86	-214.58	232.70	0.00	-259.86
End Build/Turn	6182.69	12.000	175.000	6152.77	-231.16	236.52	4.00	-276.88
End Hold	6232.69	12.000	175.000	6201.68	-241.52	237.43	0.00	-287.16
End Build/Turn	6252.14	12.450	178.000	6220.69	-245.63	237.67	4.00	-291.25
End Hold	6452.14	12.450	178.000	6415.99	-288.72	239.18	0.00	-333.65
End Build/Turn	6662.11	12.990	159.000	6620.89	-333.39	248.43	2.00	-379.26
Curve KOP	8626.61	12.990	159.000	8730.00	-787.61	422.79	0.00	-860.45
PP/FTP	10155.59	90.000	345.000	9635.00	-85.40	257.22	7.74	-139.05
TGT 2	10485.85	90.000	345.000	9635.00	233.60	171.74	0.00	190.89
End Build	10602.46	90.234	347.320	9634.76	346.82	143.85	2.00	307.46
TGT 3	12013.84	90.234	347.320	9629.00	1723.77	-165.95	0.00	1718.83
End Build	12024.50	90.356	347.495	9628.95	1734.17	-168.27	2.00	1729.49
TGT 4	13143.43	90.356	347.495	9622.00	2826.54	-410.54	0.00	2848.40
End Drop	13178.64	89.651	347.496	9622.00	2860.91	-418.16	2.00	2883.61
TGT 5	14658.51	89.651	347.496	9631.00	4305.66	-738.56	0.00	4363.45
End Build	14699.77	90.476	347.495	9630.95	4345.93	-747.49	2.00	4404.70
TGT 6	16017.01	90.476	347.495	9620.00	5631.88	-1032.69	0.00	5721.90
End Drop	16041.05	89.996	347.496	9619.90	5655.35	-1037.90	2.00	5745.94
TGT 7	17340.16	89.996	347.496	9620.00	6923.65	-1319.17	0.00	7045.05
End Build	17350.23	90.197	347.496	9619.98	6933.48	-1321.35	2.00	7055.13
TGT 8	19089.43	90.197	347.496	9614.00	8631.41	-1697.91	0.00	8794.31
End Build	19175.91	91.927	347.496	9612.40	8715.82	-1716.63	2.00	8890.77
TGT 9	19901.55	91.927	347.496	9588.00	9423.85	-1873.65	0.00	9606.00
End Drop	19939.23	91.173	347.494	9586.98	9460.63	-1881.81	2.00	9643.67
LTP/PBHL (100' FNL/2100' FEL)	20524.47	91.173	347.494	9575.00	10031.86	-2008.51	0.00	10228.79





# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
Page 1 of 18



REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

REPORT SETUP INFORMATION			
Projection System	NAD27 / Lambert Texas SP, North Central Zone (4202), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Deergai
Scale	0.999933	Report Generated	10/5/2022 at 3:34:52 PM
Convergence at slot	2.64° West	Database	WA_HOU_Midland_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-10933.92	851.36	504148.00	309395.00	32°25'19.9010"N	102°20'57.7112"W
Facility Reference Pt			503296.70	320328.10	32°27'7.5890"N	102°21'13.5235"W
Field Reference Pt			503296.70	320328.10	32°27'7.5890"N	102°21'13.5235"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on Anderson University 28-33 2H (RKB) to Facility Vertical Datum	3041.80ft
Horizontal Reference Pt	Slot	Rig on Anderson University 28-33 2H (RKB) to Mean Sea Level	3041.80ft
Vertical Reference Pt	Rig on Anderson University 28-33 2H (RKB)	Rig on Anderson University 28-33 2H (RKB) to Mud Line at Slot (Andrews University 33-28 2H)	26.00ft
MD Reference Pt	Rig on Anderson University 28-33 2H (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	347.50°



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
Page 2 of 18



REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	TVDSS (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
0.00†	0.000	129.020	0.00	-3041.80	0.00	0.00	0.00	504148.00	309395.00	32°25'19.9010"N	102°20'57.7112"W	0.00	0.000	0.00	0.00	0.00	
26.00	0.000	129.020	26.00	-3015.80	0.00	0.00	0.00	504148.00	309395.00	32°25'19.9010"N	102°20'57.7112"W	0.00	0.000	0.00	0.00	0.00	
33.00†	0.012	129.020	33.00	-3008.80	0.00	0.00	0.00	504148.00	309395.00	32°25'19.9010"N	102°20'57.7111"W	0.00	129.020	0.17	0.17	0.00	
133.00†	0.181	129.020	133.00	-2908.80	-0.13	-0.11	0.13	504148.13	309394.89	32°25'19.9000"N	102°20'57.7096"W	0.17	129.020	0.17	0.17	0.00	
233.00†	0.350	129.020	233.00	-2808.80	-0.49	-0.40	0.49	504148.49	309394.60	32°25'19.8973"N	102°20'57.7052"W	0.63	129.020	0.17	0.17	0.00	
239.00	0.360	129.020	239.00	-2802.80	-0.52	-0.42	0.52	504148.52	309394.58	32°25'19.8971"N	102°20'57.7049"W	0.67	129.020	0.17	0.17	0.00	17 1/2" BH NVT Surface Surveys 239' - 1778'
330.00	0.410	110.400	330.00	-2711.80	-0.92	-0.71	1.05	504149.05	309394.29	32°25'19.8944"N	102°20'57.6986"W	1.27	124.317	0.15	0.05	-20.46	
333.00†	0.404	111.023	333.00	-2708.80	-0.94	-0.72	1.07	504149.07	309394.28	32°25'19.8944"N	102°20'57.6983"W	1.29	124.094	0.25	-0.21	20.75	
420.00	0.260	140.820	420.00	-2621.80	-1.28	-0.99	1.48	504149.48	309394.01	32°25'19.8920"N	102°20'57.6934"W	1.78	123.690	0.25	-0.17	34.25	
433.00†	0.269	137.430	432.99	-2608.81	-1.33	-1.03	1.52	504149.52	309393.97	32°25'19.8915"N	102°20'57.6929"W	1.83	124.188	0.14	0.07	-26.07	
511.00	0.340	121.690	510.99	-2530.81	-1.65	-1.29	1.84	504149.84	309393.71	32°25'19.8891"N	102°20'57.6890"W	2.24	125.002	0.14	0.09	-20.18	
533.00†	0.318	127.760	532.99	-2508.81	-1.75	-1.36	1.94	504149.94	309393.64	32°25'19.8885"N	102°20'57.6878"W	2.37	124.982	0.19	-0.10	27.59	
602.00	0.280	151.510	601.99	-2439.81	-2.06	-1.62	2.17	504150.17	309393.38	32°25'19.8860"N	102°20'57.6849"W	2.71	126.768	0.19	-0.06	34.42	
633.00†	0.246	150.038	632.99	-2408.81	-2.19	-1.75	2.24	504150.24	309393.25	32°25'19.8848"N	102°20'57.6841"W	2.84	127.937	0.11	-0.11	-4.75	
694.00	0.180	145.530	693.99	-2347.81	-2.41	-1.94	2.36	504150.36	309393.06	32°25'19.8829"N	102°20'57.6826"W	3.06	129.403	0.11	-0.11	-7.39	
733.00†	0.115	194.701	732.99	-2308.81	-2.50	-2.03	2.39	504150.39	309392.97	32°25'19.8820"N	102°20'57.6822"W	3.13	130.363	0.35	-0.17	126.08	
784.00	0.210	252.710	783.99	-2257.81	-2.55	-2.11	2.29	504150.29	309392.89	32°25'19.8812"N	102°20'57.6834"W	3.11	132.669	0.35	0.19	113.74	
833.00†	0.205	272.149	832.99	-2208.81	-2.54	-2.13	2.11	504150.11	309392.87	32°25'19.8809"N	102°20'57.6854"W	3.00	135.245	0.14	-0.01	39.67	
875.00	0.220	287.950	874.99	-2166.81	-2.48	-2.10	1.96	504149.96	309392.90	32°25'19.8811"N	102°20'57.6872"W	2.87	137.007	0.14	0.03	37.62	
933.00†	0.209	273.130	932.99	-2108.81	-2.39	-2.06	1.75	504149.75	309392.94	32°25'19.8814"N	102°20'57.6897"W	2.70	139.711	0.10	-0.02	-25.55	
966.00	0.210	264.360	965.99	-2075.81	-2.37	-2.07	1.63	504149.63	309392.94	32°25'19.8813"N	102°20'57.6911"W	2.63	141.750	0.10	0.00	-26.58	
1033.00†	0.195	266.996	1032.99	-2008.81	-2.33	-2.08	1.39	504149.39	309392.92	32°25'19.8811"N	102°20'57.6938"W	2.51	146.252	0.03	-0.02	3.94	
1057.00	0.190	268.040	1056.99	-1984.81	-2.32	-2.09	1.31	504149.31	309392.91	32°25'19.8810"N	102°20'57.6948"W	2.46	147.855	0.03	-0.02	4.35	
1133.00†	0.127	256.363	1132.99	-1908.81	-2.30	-2.11	1.10	504149.10	309392.89	32°25'19.8807"N	102°20'57.6972"W	2.38	152.403	0.09	-0.08	-15.36	
1233.00†	0.071	210.712	1232.99	-1808.81	-2.35	-2.19	0.96	504148.96	309392.81	32°25'19.8798"N	102°20'57.6987"W	2.39	156.241	0.09	-0.06	-45.65	
1238.00	0.070	206.990	1237.99	-1803.81	-2.35	-2.20	0.96	504148.96	309392.80	32°25'19.8798"N	102°20'57.6988"W	2.40	156.357	0.09	-0.02	-74.43	
1330.00	0.030	215.780	1329.99	-1711.81	-2.41	-2.26	0.92	504148.92	309392.74	32°25'19.8790"N	102°20'57.6992"W	2.45	157.862	0.04	-0.04	9.55	
1333.00†	0.034	205.129	1332.99	-1708.81	-2.41	-2.27	0.92	504148.92	309392.73	32°25'19.8790"N	102°20'57.6992"W	2.45	157.892	0.23	0.12	-355.02	
1420.00	0.220	158.170	1419.99	-1621.81	-2.60	-2.44	0.97	504148.97	309392.56	32°25'19.8773"N	102°20'57.6985"W	2.63	158.317	0.23	0.21	-53.98	
1433.00†	0.219	156.161	1432.99	-1608.81	-2.65	-2.49	0.99	504148.99	309392.51	32°25'19.8769"N	102°20'57.6983"W	2.68	158.295	0.06	-0.01	-15.45	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
1510.00	0.220	144.180	1509.99	-1531.81	-2.93	-2.74	1.14	504149.14	309392.26	32°25'19.8744"N	102°20'57.6964"W	2.97	157.494	0.06	0.00	-15.56	
1533.00†	0.248	150.180	1532.99	-1508.81	-3.01	-2.82	1.19	504149.19	309392.18	32°25'19.8736"N	102°20'57.6958"W	3.06	157.185	0.16	0.12	26.08	
1599.00	0.340	161.370	1598.99	-1442.81	-3.35	-3.13	1.32	504149.32	309391.87	32°25'19.8706"N	102°20'57.6941"W	3.40	157.132	0.16	0.14	16.96	
1633.00†	0.325	165.043	1632.99	-1408.81	-3.54	-3.32	1.38	504149.38	309391.68	32°25'19.8688"N	102°20'57.6933"W	3.60	157.462	0.08	-0.04	10.80	
1733.00†	0.290	177.798	1732.99	-1308.81	-4.07	-3.85	1.46	504149.46	309391.15	32°25'19.8636"N	102°20'57.6920"W	4.12	159.208	0.08	-0.03	12.75	
1778.00	0.280	184.420	1777.98	-1263.82	-4.29	-4.07	1.46	504149.46	309390.93	32°25'19.8614"N	102°20'57.6920"W	4.33	160.309	0.08	-0.02	14.72	
1833.00†	0.202	168.855	1832.98	-1208.82	-4.52	-4.30	1.47	504149.47	309390.70	32°25'19.8592"N	102°20'57.6918"W	4.54	161.183	0.18	-0.14	-28.30	
1898.00	0.150	132.560	1897.98	-1143.82	-4.70	-4.47	1.55	504149.55	309390.53	32°25'19.8575"N	102°20'57.6907"W	4.73	160.874	0.18	-0.08	-55.84	12 1/4" BH NVT Intermediate Surveys 1898' - 6907'
1933.00†	0.166	131.873	1932.98	-1108.82	-4.78	-4.54	1.62	504149.62	309390.46	32°25'19.8569"N	102°20'57.6898"W	4.82	160.324	0.04	0.04	-1.96	
1988.00	0.190	131.020	1987.98	-1053.82	-4.92	-4.65	1.75	504149.75	309390.35	32°25'19.8559"N	102°20'57.6883"W	4.97	159.373	0.04	0.04	-1.55	
2033.00†	1.002	97.679	2032.98	-1008.82	-5.11	-4.75	2.20	504150.20	309390.25	32°25'19.8551"N	102°20'57.6830"W	5.23	155.188	1.89	1.81	-74.09	
2077.00	1.830	94.480	2076.97	-964.83	-5.45	-4.86	3.28	504151.28	309390.14	32°25'19.8545"N	102°20'57.6703"W	5.86	145.983	1.89	1.88	-7.27	
2133.00†	3.170	93.215	2132.91	-908.89	-6.13	-5.01	5.72	504153.72	309389.99	32°25'19.8541"N	102°20'57.6418"W	7.60	131.257	2.39	2.39	-2.26	
2166.00	3.960	92.870	2165.85	-875.95	-6.68	-5.12	7.76	504155.76	309389.88	32°25'19.8539"N	102°20'57.6179"W	9.30	123.411	2.39	2.39	-1.04	
2233.00†	4.509	89.814	2232.67	-809.13	-7.86	-5.23	12.71	504160.71	309389.77	32°25'19.8551"N	102°20'57.5602"W	13.74	112.366	0.89	0.82	-4.56	
2256.00	4.700	88.930	2255.59	-786.21	-8.24	-5.21	14.56	504162.55	309389.79	32°25'19.8562"N	102°20'57.5387"W	15.46	109.691	0.89	0.83	-3.84	
2333.00†	4.478	88.947	2332.34	-709.46	-9.46	-5.09	20.71	504168.71	309389.91	32°25'19.8601"N	102°20'57.4670"W	21.33	103.818	0.29	-0.29	0.02	
2346.00	4.440	88.950	2345.30	-696.50	-9.66	-5.08	21.73	504169.72	309389.92	32°25'19.8608"N	102°20'57.4553"W	22.31	103.151	0.29	-0.29	0.02	
2433.00†	4.352	89.116	2432.05	-609.75	-10.99	-4.96	28.39	504176.39	309390.04	32°25'19.8649"N	102°20'57.3776"W	28.82	99.916	0.10	-0.10	0.19	
2435.00	4.350	89.120	2434.04	-607.76	-11.02	-4.96	28.54	504176.54	309390.04	32°25'19.8650"N	102°20'57.3758"W	28.97	99.860	0.10	-0.10	0.19	
2524.00	4.170	89.500	2522.80	-519.00	-12.37	-4.88	35.15	504183.15	309390.12	32°25'19.8688"N	102°20'57.2989"W	35.49	97.905	0.20	-0.20	0.43	
2533.00†	4.154	89.576	2531.77	-510.03	-12.51	-4.88	35.81	504183.81	309390.12	32°25'19.8692"N	102°20'57.2912"W	36.14	97.754	0.19	-0.18	0.85	
2613.00	4.010	90.280	2611.57	-430.23	-13.74	-4.87	41.50	504189.50	309390.13	32°25'19.8718"N	102°20'57.2249"W	41.79	96.690	0.19	-0.18	0.88	
2633.00†	3.959	90.295	2631.52	-410.28	-14.04	-4.88	42.89	504190.89	309390.13	32°25'19.8724"N	102°20'57.2087"W	43.17	96.484	0.26	-0.26	0.07	
2703.00	3.780	90.350	2701.36	-340.44	-15.09	-4.90	47.62	504195.61	309390.10	32°25'19.8743"N	102°20'57.1536"W	47.87	95.877	0.26	-0.26	0.08	
2733.00†	3.699	90.853	2731.30	-310.50	-15.53	-4.92	49.57	504197.57	309390.08	32°25'19.8750"N	102°20'57.1308"W	49.82	95.670	0.29	-0.27	1.68	
2792.00	3.540	91.910	2790.18	-251.62	-16.43	-5.01	53.30	504201.29	309389.99	32°25'19.8758"N	102°20'57.0874"W	53.53	95.371	0.29	-0.27	1.79	
2833.00†	3.494	90.888	2831.10	-210.70	-17.03	-5.07	55.81	504203.81	309389.93	32°25'19.8764"N	102°20'57.0581"W	56.04	95.193	0.19	-0.11	-2.49	
2882.00	3.440	89.630	2880.01	-161.79	-17.69	-5.09	58.77	504206.77	309389.91	32°25'19.8776"N	102°20'57.0235"W	58.99	94.946	0.19	-0.11	-2.57	
2933.00†	3.281	90.061	2930.93	-110.87	-18.33	-5.08	61.76	504209.76	309389.92	32°25'19.8790"N	102°20'56.9887"W	61.97	94.700	0.32	-0.31	0.85	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	TVDSS (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
2972.00	3.160	90.420	2969.86	-71.94	-18.81	-5.09	63.95	504211.95	309389.91	32°25'19.8799"N	102°20'56.9631"W	64.16	94.548	0.32	-0.31	0.92	
3033.00†	3.009	91.652	3030.78	-11.02	-19.58	-5.15	67.24	504215.23	309389.85	32°25'19.8809"N	102°20'56.9249"W	67.43	94.376	0.27	-0.25	2.02	
3061.00	2.940	92.260	3058.74	16.94	-19.94	-5.19	68.69	504216.68	309389.81	32°25'19.8810"N	102°20'56.9079"W	68.88	94.325	0.27	-0.25	2.17	
3133.00†	2.588	92.585	3130.65	88.85	-20.83	-5.34	72.16	504220.15	309389.66	32°25'19.8812"N	102°20'56.8674"W	72.35	94.233	0.49	-0.49	0.45	
3151.00	2.500	92.680	3148.64	106.84	-21.04	-5.38	72.95	504220.95	309389.62	32°25'19.8812"N	102°20'56.8581"W	73.15	94.216	0.49	-0.49	0.53	
3233.00†	2.463	91.981	3230.56	188.76	-21.95	-5.52	76.50	504224.50	309389.48	32°25'19.8814"N	102°20'56.8167"W	76.70	94.129	0.06	-0.04	-0.85	
3240.00	2.460	91.920	3237.55	195.75	-22.02	-5.53	76.80	504224.80	309389.47	32°25'19.8814"N	102°20'56.8132"W	77.00	94.120	0.06	-0.04	-0.87	
3329.00	2.720	87.600	3326.46	284.66	-22.87	-5.51	80.82	504228.82	309389.49	32°25'19.8835"N	102°20'56.7664"W	81.01	93.899	0.37	0.29	-4.85	
3333.00†	2.725	87.550	3330.46	288.66	-22.90	-5.50	81.01	504229.01	309389.50	32°25'19.8836"N	102°20'56.7641"W	81.20	93.884	0.14	0.12	-1.25	
3419.00	2.830	86.520	3416.36	374.56	-23.59	-5.28	85.17	504233.17	309389.72	32°25'19.8877"N	102°20'56.7158"W	85.34	93.550	0.14	0.12	-1.20	
3433.00†	2.810	86.431	3430.34	388.54	-23.70	-5.24	85.86	504233.85	309389.76	32°25'19.8884"N	102°20'56.7078"W	86.02	93.493	0.15	-0.15	-0.64	
3508.00	2.700	85.930	3505.25	463.45	-24.24	-5.00	89.46	504237.45	309390.00	32°25'19.8924"N	102°20'56.6660"W	89.60	93.200	0.15	-0.15	-0.67	
3533.00†	2.635	85.572	3530.23	488.43	-24.41	-4.92	90.62	504238.61	309390.08	32°25'19.8938"N	102°20'56.6525"W	90.75	93.105	0.27	-0.26	-1.43	
3597.00	2.470	84.570	3594.16	552.36	-24.79	-4.67	93.46	504241.45	309390.33	32°25'19.8975"N	102°20'56.6196"W	93.57	92.862	0.27	-0.26	-1.57	
3633.00†	2.402	85.118	3630.13	588.33	-24.98	-4.53	94.98	504242.97	309390.47	32°25'19.8996"N	102°20'56.6019"W	95.09	92.733	0.20	-0.19	1.52	
3687.00	2.300	86.000	3684.09	642.29	-25.29	-4.36	97.19	504245.18	309390.64	32°25'19.9023"N	102°20'56.5762"W	97.29	92.570	0.20	-0.19	1.63	
3733.00†	2.738	83.670	3730.04	688.24	-25.55	-4.18	99.20	504247.19	309390.82	32°25'19.9050"N	102°20'56.5529"W	99.29	92.411	0.98	0.95	-5.06	
3776.00	3.150	82.080	3772.98	731.18	-25.75	-3.90	101.39	504249.38	309391.10	32°25'19.9088"N	102°20'56.5275"W	101.47	92.203	0.98	0.96	-3.70	
3833.00†	3.206	81.021	3829.90	788.10	-25.98	-3.44	104.52	504252.51	309391.56	32°25'19.9148"N	102°20'56.4913"W	104.57	91.883	0.14	0.10	-1.86	
3933.00†	3.306	79.252	3929.73	887.93	-26.24	-2.46	110.11	504258.10	309392.54	32°25'19.9270"N	102°20'56.4266"W	110.14	91.281	0.14	0.10	-1.77	
3956.00	3.330	78.860	3952.70	910.90	-26.27	-2.21	111.42	504259.41	309392.79	32°25'19.9301"N	102°20'56.4116"W	111.44	91.136	0.14	0.10	-1.70	
4033.00†	3.122	77.550	4029.57	987.77	-26.33	-1.32	115.66	504263.65	309393.68	32°25'19.9407"N	102°20'56.3626"W	115.67	90.656	0.29	-0.27	-1.70	
4045.00	3.090	77.330	4041.56	999.76	-26.33	-1.18	116.30	504264.29	309393.82	32°25'19.9424"N	102°20'56.3553"W	116.30	90.583	0.29	-0.27	-1.83	
4133.00†	3.080	74.265	4129.43	1087.63	-26.19	-0.02	120.89	504268.88	309394.98	32°25'19.9560"N	102°20'56.3024"W	120.89	90.010	0.19	-0.01	-3.48	
4134.00	3.080	74.230	4130.43	1088.63	-26.18	-0.01	120.94	504268.93	309394.99	32°25'19.9562"N	102°20'56.3018"W	120.94	90.004	0.19	-0.01	-3.49	
4224.00	2.780	75.010	4220.31	1178.51	-25.95	1.21	125.37	504273.36	309396.21	32°25'19.9703"N	102°20'56.2508"W	125.38	89.445	0.34	-0.33	0.87	
4233.00†	2.772	74.828	4229.30	1187.50	-25.93	1.33	125.79	504273.78	309396.33	32°25'19.9716"N	102°20'56.2460"W	125.80	89.395	0.13	-0.09	-2.02	
4313.00	2.700	73.160	4309.21	1267.41	-25.70	2.38	129.46	504277.45	309397.38	32°25'19.9837"N	102°20'56.2037"W	129.49	88.947	0.13	-0.09	-2.08	
4333.00†	2.659	73.109	4329.19	1287.39	-25.63	2.65	130.36	504278.35	309397.65	32°25'19.9867"N	102°20'56.1935"W	130.39	88.835	0.21	-0.21	-0.25	
4433.00†	2.452	72.829	4429.09	1387.29	-25.27	3.96	134.62	504282.61	309398.96	32°25'20.0016"N	102°20'56.1445"W	134.68	88.317	0.21	-0.21	-0.28	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	TVDSS (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
4492.00	2.330	72.640	4488.04	1446.24	-25.07	4.69	136.97	504284.96	309399.69	32°25'20.0099"N	102°20'56.1175"W	137.05	88.040	0.21	-0.21	-0.32	
4533.00†	2.257	73.301	4529.00	1487.20	-24.94	5.17	138.54	504286.53	309400.17	32°25'20.0153"N	102°20'56.0995"W	138.64	87.864	0.19	-0.18	1.61	
4582.00	2.170	74.150	4577.97	1536.17	-24.82	5.70	140.36	504288.35	309400.70	32°25'20.0214"N	102°20'56.0786"W	140.47	87.675	0.19	-0.18	1.73	
4633.00†	2.072	75.947	4628.93	1587.13	-24.73	6.19	142.18	504290.17	309401.19	32°25'20.0271"N	102°20'56.0576"W	142.31	87.509	0.23	-0.19	3.52	
4671.00	2.000	77.400	4666.91	1625.11	-24.71	6.50	143.49	504291.48	309401.50	32°25'20.0308"N	102°20'56.0425"W	143.64	87.408	0.23	-0.19	3.82	
4733.00†	1.771	89.517	4728.87	1687.07	-24.91	6.74	145.51	504293.50	309401.74	32°25'20.0341"N	102°20'56.0191"W	145.66	87.347	0.74	-0.37	19.54	
4760.00	1.700	95.690	4755.86	1714.06	-25.12	6.70	146.32	504294.31	309401.70	32°25'20.0341"N	102°20'56.0096"W	146.48	87.376	0.74	-0.26	22.86	
4833.00†	2.500	131.242	4828.81	1787.01	-26.75	5.55	148.60	504296.59	309400.55	32°25'20.0237"N	102°20'55.9825"W	148.70	87.862	2.04	1.10	48.70	
4850.00	2.770	136.010	4845.80	1804.00	-27.40	5.01	149.16	504297.15	309400.01	32°25'20.0186"N	102°20'55.9756"W	149.25	88.077	2.04	1.59	28.05	
4933.00†	4.528	148.843	4928.63	1886.83	-32.21	0.76	152.25	504300.24	309395.76	32°25'19.9781"N	102°20'55.9373"W	152.25	89.714	2.32	2.12	15.46	
4939.00	4.660	149.390	4934.61	1892.81	-32.67	0.35	152.50	504300.49	309395.35	32°25'19.9741"N	102°20'55.9342"W	152.50	89.869	2.32	2.20	9.12	
5029.00	6.810	156.310	5024.15	1982.35	-41.38	-7.69	156.50	504304.49	309387.32	32°25'19.8965"N	102°20'55.8832"W	156.69	92.811	2.51	2.39	7.69	
5033.00†	6.918	156.702	5028.12	1986.32	-41.85	-8.12	156.69	504304.68	309386.88	32°25'19.8923"N	102°20'55.8808"W	156.90	92.968	2.93	2.69	9.80	
5118.00	9.260	162.850	5112.27	2070.47	-53.69	-19.36	160.74	504308.72	309375.64	32°25'19.7830"N	102°20'55.8276"W	161.90	96.869	2.93	2.76	7.23	
5133.00†	9.604	162.957	5127.07	2085.27	-56.14	-21.71	161.46	504309.45	309373.29	32°25'19.7601"N	102°20'55.8179"W	162.91	97.659	2.29	2.29	0.71	
5207.00	11.300	163.390	5199.84	2158.04	-69.53	-34.56	165.34	504313.33	309360.44	32°25'19.6349"N	102°20'55.7658"W	168.91	101.807	2.29	2.29	0.59	
5233.00†	11.533	163.032	5225.33	2183.53	-74.66	-39.49	166.83	504314.82	309355.51	32°25'19.5869"N	102°20'55.7458"W	171.44	103.317	0.94	0.90	-1.38	
5297.00	12.110	162.210	5287.97	2246.17	-87.72	-52.00	170.74	504318.73	309343.00	32°25'19.4650"N	102°20'55.6934"W	178.49	106.938	0.94	0.90	-1.28	
5333.00†	12.376	161.522	5323.15	2281.35	-95.32	-59.25	173.12	504321.11	309335.75	32°25'19.3943"N	102°20'55.6618"W	182.98	108.895	0.84	0.74	-1.91	
5386.00	12.770	160.560	5374.88	2333.08	-106.78	-70.17	176.87	504324.86	309324.84	32°25'19.2882"N	102°20'55.6122"W	190.28	111.638	0.84	0.74	-1.81	
5433.00†	12.938	159.641	5420.70	2378.90	-117.15	-80.00	180.43	504328.42	309315.01	32°25'19.1927"N	102°20'55.5655"W	197.37	113.911	0.56	0.36	-1.95	
5475.00	13.090	158.840	5461.62	2419.82	-126.51	-88.84	183.78	504331.77	309306.17	32°25'19.1068"N	102°20'55.5216"W	204.13	115.799	0.56	0.36	-1.91	
5533.00†	13.096	158.866	5518.11	2476.31	-139.50	-101.09	188.52	504336.51	309293.91	32°25'18.9878"N	102°20'55.4598"W	213.92	118.202	0.01	0.01	0.04	
5565.00	13.100	158.880	5549.28	2507.48	-146.67	-107.86	191.14	504339.12	309287.15	32°25'18.9221"N	102°20'55.4257"W	219.47	119.436	0.01	0.01	0.04	
5633.00†	12.979	158.511	5615.53	2573.73	-161.83	-122.15	196.71	504344.70	309272.86	32°25'18.7834"N	102°20'55.3531"W	231.55	121.839	0.22	-0.18	-0.54	
5655.00	12.940	158.390	5636.97	2595.17	-166.71	-126.74	198.52	504346.51	309268.27	32°25'18.7389"N	102°20'55.3295"W	235.53	122.555	0.22	-0.18	-0.55	
5733.00†	12.572	158.233	5713.04	2671.24	-183.71	-142.74	204.89	504352.87	309252.27	32°25'18.5836"N	102°20'55.2467"W	249.71	124.865	0.47	-0.47	-0.20	
5744.00	12.520	158.210	5723.78	2681.98	-186.06	-144.96	205.77	504353.76	309250.05	32°25'18.5621"N	102°20'55.2352"W	251.71	125.164	0.47	-0.47	-0.21	
5833.00†	12.204	158.764	5810.72	2768.92	-204.88	-162.69	212.76	504360.75	309232.32	32°25'18.3900"N	102°20'55.1442"W	267.83	127.403	0.38	-0.36	0.62	
5834.00	12.200	158.770	5811.69	2769.89	-205.09	-162.89	212.84	504360.82	309232.13	32°25'18.3881"N	102°20'55.1432"W	268.01	127.427	0.38	-0.35	0.64	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
5923.00	11.980	159.030	5898.72	2856.92	-223.52	-180.28	219.55	504367.53	309214.74	32°25'18.2193"N	102°20'55.0556"W	284.08	129.390	0.25	-0.25	0.29	
5933.00†	11.863	159.173	5908.50	2866.70	-225.57	-182.21	220.29	504368.27	309212.81	32°25'18.2006"N	102°20'55.0460"W	285.88	129.595	1.21	-1.17	1.43	
5983.00	11.280	159.930	5957.49	2915.69	-235.50	-191.60	223.79	504371.78	309203.41	32°25'18.1093"N	102°20'55.0001"W	294.61	130.569	1.21	-1.17	1.51	2 1/4" BH NVT Intermediate Surveys 5983' - 8667'
6027.00	10.220	164.380	6000.72	2958.92	-243.66	-199.40	226.32	504374.30	309195.61	32°25'18.0333"N	102°20'54.9664"W	301.63	131.382	3.06	-2.41	10.11	
6033.00†	10.168	165.121	6006.62	2964.82	-244.72	-200.43	226.60	504374.58	309194.58	32°25'18.0233"N	102°20'54.9626"W	302.52	131.493	2.35	-0.87	12.34	
6072.00	9.870	170.110	6045.03	3003.23	-251.50	-207.05	228.06	504376.04	309187.97	32°25'17.9585"N	102°20'54.9421"W	308.03	132.236	2.35	-0.76	12.79	
6117.00	10.440	173.410	6089.32	3047.52	-259.41	-214.90	229.19	504377.17	309180.12	32°25'17.8815"N	102°20'54.9247"W	314.18	133.157	1.81	1.27	7.33	
6133.00†	10.648	174.176	6105.05	3063.25	-262.32	-217.81	229.50	504377.49	309177.21	32°25'17.8528"N	102°20'54.9194"W	316.41	133.502	1.57	1.30	4.79	
6162.00	11.030	175.490	6133.53	3091.73	-267.73	-223.24	229.99	504377.98	309171.77	32°25'17.7994"N	102°20'54.9108"W	320.52	134.146	1.57	1.32	4.53	
6206.00	11.280	176.130	6176.70	3134.90	-276.15	-231.73	230.62	504378.60	309163.29	32°25'17.7157"N	102°20'54.8990"W	326.93	135.138	0.63	0.57	1.45	
6233.00†	11.298	176.046	6203.18	3161.38	-281.38	-237.00	230.98	504378.96	309158.01	32°25'17.6638"N	102°20'54.8919"W	330.94	135.738	0.09	0.07	-0.31	
6251.00	11.310	175.990	6220.83	3179.03	-284.87	-240.52	231.22	504379.20	309154.49	32°25'17.6291"N	102°20'54.8872"W	333.64	136.130	0.09	0.07	-0.31	
6296.00	11.840	176.990	6264.92	3223.12	-293.78	-249.54	231.77	504379.76	309145.48	32°25'17.5403"N	102°20'54.8759"W	340.57	137.114	1.26	1.18	2.22	
6333.00†	11.949	176.687	6301.12	3259.32	-301.31	-257.15	232.19	504380.18	309137.87	32°25'17.4652"N	102°20'54.8669"W	346.47	137.920	0.34	0.30	-0.82	
6340.00	11.970	176.630	6307.97	3266.17	-302.74	-258.60	232.28	504380.26	309136.42	32°25'17.4509"N	102°20'54.8652"W	347.60	138.069	0.34	0.30	-0.81	
6385.00	12.370	176.550	6351.96	3310.16	-312.11	-268.07	232.84	504380.83	309126.95	32°25'17.3576"N	102°20'54.8535"W	355.07	139.023	0.89	0.89	-0.18	
6430.00	12.820	175.760	6395.88	3354.08	-321.81	-277.86	233.50	504381.48	309117.16	32°25'17.2611"N	102°20'54.8405"W	362.94	139.958	1.07	1.00	-1.76	
6433.00†	12.843	175.809	6398.80	3357.00	-322.47	-278.52	233.55	504381.53	309116.50	32°25'17.2546"N	102°20'54.8396"W	363.48	140.019	0.85	0.77	1.63	
6519.00	13.510	177.140	6482.54	3440.74	-341.83	-298.09	234.75	504382.73	309096.93	32°25'17.0617"N	102°20'54.8151"W	379.43	141.779	0.85	0.78	1.55	
6533.00†	13.483	176.592	6496.15	3454.35	-345.06	-301.35	234.93	504382.91	309093.67	32°25'17.0295"N	102°20'54.8113"W	382.10	142.061	0.93	-0.19	-3.92	
6609.00	13.360	173.580	6570.07	3528.27	-362.54	-318.92	236.44	504384.42	309076.10	32°25'16.8566"N	102°20'54.7842"W	397.00	143.448	0.93	-0.16	-3.96	
6633.00†	13.437	173.175	6593.42	3551.62	-368.07	-324.45	237.08	504385.06	309070.58	32°25'16.8022"N	102°20'54.7738"W	401.83	143.844	0.51	0.32	-1.69	
6698.00	13.650	172.100	6656.61	3614.81	-383.23	-339.54	239.03	504387.01	309055.48	32°25'16.6539"N	102°20'54.7429"W	415.24	144.855	0.51	0.33	-1.65	
6733.00†	13.777	170.798	6690.62	3648.82	-391.51	-347.75	240.26	504388.25	309047.28	32°25'16.5734"N	102°20'54.7241"W	422.67	145.359	0.95	0.36	-3.72	
6788.00	13.990	168.800	6744.01	3702.21	-404.69	-360.73	242.60	504390.59	309034.29	32°25'16.4461"N	102°20'54.6899"W	434.72	146.078	0.95	0.39	-3.63	
6833.00†	14.249	167.467	6787.65	3745.85	-415.67	-371.47	244.86	504392.84	309023.55	32°25'16.3409"N	102°20'54.6578"W	444.92	146.609	0.92	0.58	-2.96	
6877.00	14.510	166.210	6830.27	3788.47	-426.59	-382.11	247.35	504395.33	309012.91	32°25'16.2369"N	102°20'54.6230"W	455.18	147.084	0.92	0.59	-2.86	
6933.00†	13.584	163.313	6884.60	3842.80	-440.16	-395.23	250.91	504398.89	308999.80	32°25'16.1089"N	102°20'54.5745"W	468.15	147.590	2.08	-1.65	-5.17	
6967.00	13.040	161.360	6917.68	3875.88	-447.96	-402.69	253.28	504401.27	308992.34	32°25'16.0363"N	102°20'54.5428"W	475.72	147.831	2.08	-1.60	-5.74	
7033.00†	11.679	159.131	6982.15	3940.35	-461.97	-415.98	258.04	504406.03	308979.05	32°25'15.9070"N	102°20'54.4802"W	489.52	148.188	2.18	-2.06	-3.38	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	TVDSS (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
7056.00	11.210	158.230	7004.70	3962.90	-466.48	-420.24	259.70	504407.68	308974.79	32°25'15.8657"N	102°20'54.4586"W	494.01	148.284	2.18	-2.04	-3.92	
7133.00†	11.594	156.699	7080.18	4038.38	-481.47	-434.29	265.54	504413.52	308960.74	32°25'15.7294"N	102°20'54.3830"W	509.04	148.557	0.64	0.50	-1.99	
7146.00	11.660	156.450	7092.91	4051.11	-484.04	-436.70	266.58	504414.56	308958.33	32°25'15.7061"N	102°20'54.3696"W	511.63	148.598	0.64	0.51	-1.91	
7233.00†	12.628	156.597	7177.96	4136.16	-502.01	-453.48	273.87	504421.85	308941.55	32°25'15.5435"N	102°20'54.2756"W	529.77	148.871	1.11	1.11	0.17	
7235.00	12.650	156.600	7179.91	4138.11	-502.44	-453.89	274.04	504422.02	308941.15	32°25'15.5396"N	102°20'54.2733"W	530.20	148.878	1.11	1.11	0.16	
7325.00	10.990	156.490	7268.00	4226.20	-520.54	-470.80	281.38	504429.36	308924.23	32°25'15.3758"N	102°20'54.1787"W	548.48	149.135	1.84	-1.84	-0.12	
7333.00†	10.871	156.503	7275.86	4234.06	-522.03	-472.19	281.99	504429.97	308922.84	32°25'15.3624"N	102°20'54.1709"W	549.98	149.155	1.49	-1.49	0.17	
7415.00	9.650	156.660	7356.54	4314.74	-536.37	-485.59	287.79	504435.77	308909.44	32°25'15.2325"N	102°20'54.0961"W	564.47	149.346	1.49	-1.49	0.19	
7433.00†	9.662	156.717	7374.29	4332.49	-539.34	-488.36	288.99	504436.97	308906.67	32°25'15.2057"N	102°20'54.0807"W	567.46	149.385	0.09	0.07	0.32	
7504.00	9.710	156.940	7444.28	4402.48	-551.07	-499.35	293.69	504441.67	308895.69	32°25'15.0993"N	102°20'54.0200"W	579.31	149.538	0.09	0.07	0.31	
7533.00†	9.754	156.472	7472.86	4431.06	-555.89	-503.85	295.63	504443.60	308891.19	32°25'15.0556"N	102°20'53.9950"W	584.17	149.598	0.31	0.15	-1.62	
7594.00	9.850	155.500	7532.97	4491.17	-566.07	-513.33	299.85	504447.83	308881.70	32°25'14.9638"N	102°20'53.9406"W	594.49	149.710	0.31	0.16	-1.59	
7633.00†	9.444	154.389	7571.42	4529.62	-572.45	-519.26	302.62	504450.60	308875.78	32°25'14.9065"N	102°20'53.9052"W	601.00	149.767	1.14	-1.04	-2.85	
7683.00	8.930	152.820	7620.78	4578.98	-580.19	-526.41	306.16	504454.14	308868.63	32°25'14.8375"N	102°20'53.8600"W	608.97	149.817	1.14	-1.03	-3.14	
7733.00†	8.841	152.627	7670.18	4628.38	-587.66	-533.27	309.70	504457.68	308861.77	32°25'14.7712"N	102°20'53.8151"W	616.68	149.854	0.19	-0.18	-0.39	
7773.00	8.770	152.470	7709.70	4667.90	-593.58	-538.70	312.53	504460.50	308856.33	32°25'14.7188"N	102°20'53.7792"W	622.80	149.880	0.19	-0.18	-0.39	
7833.00†	9.213	154.716	7768.97	4727.17	-602.68	-547.10	316.69	504464.67	308847.93	32°25'14.6377"N	102°20'53.7262"W	632.15	149.936	0.94	0.74	3.74	
7863.00	9.440	155.760	7798.57	4756.77	-607.43	-551.52	318.73	504466.71	308843.52	32°25'14.5950"N	102°20'53.7001"W	636.99	149.976	0.94	0.76	3.48	
7933.00†	9.519	156.178	7867.61	4825.81	-618.73	-562.05	323.42	504471.40	308832.99	32°25'14.4930"N	102°20'53.6397"W	648.46	150.082	0.15	0.11	0.60	
7952.00	9.540	156.290	7886.35	4844.55	-621.81	-564.93	324.69	504472.67	308830.11	32°25'14.4652"N	102°20'53.6234"W	651.59	150.112	0.15	0.11	0.59	
8033.00†	9.658	153.994	7966.22	4924.42	-635.00	-577.18	330.37	504478.35	308817.86	32°25'14.3467"N	102°20'53.5506"W	665.04	150.214	0.49	0.15	-2.83	
8041.00	9.670	153.770	7974.11	4932.31	-636.31	-578.38	330.96	504478.94	308816.66	32°25'14.3350"N	102°20'53.5431"W	666.38	150.221	0.49	0.16	-2.80	
8131.00	10.690	152.660	8062.69	5020.89	-651.72	-592.58	338.13	504486.11	308802.46	32°25'14.1980"N	102°20'53.4518"W	682.27	150.290	1.15	1.13	-1.23	
8133.00†	10.675	152.638	8064.65	5022.85	-652.08	-592.91	338.30	504486.28	308802.13	32°25'14.1948"N	102°20'53.4497"W	682.64	150.292	0.76	-0.73	-1.10	
8220.00	10.040	151.620	8150.23	5108.43	-667.16	-606.74	345.61	504493.59	308788.30	32°25'14.0614"N	102°20'53.3571"W	698.27	150.333	0.76	-0.73	-1.17	
8233.00†	10.111	152.167	8163.03	5121.23	-669.35	-608.74	346.68	504494.66	308786.30	32°25'14.0421"N	102°20'53.3435"W	700.54	150.338	0.92	0.55	4.20	
8310.00	10.550	155.250	8238.79	5196.99	-682.76	-621.12	352.79	504500.77	308773.92	32°25'13.9225"N	102°20'53.2657"W	714.32	150.404	0.92	0.57	4.00	
8333.00†	10.144	155.465	8261.41	5219.61	-686.80	-624.88	354.51	504502.49	308770.17	32°25'13.8862"N	102°20'53.2436"W	718.44	150.432	1.77	-1.77	0.94	
8399.00	8.980	156.190	8326.49	5284.69	-697.53	-634.88	359.01	504506.98	308760.17	32°25'13.7894"N	102°20'53.1858"W	729.35	150.513	1.77	-1.76	1.10	
8433.00†	8.241	155.245	8360.11	5318.31	-702.52	-639.52	361.10	504509.07	308755.53	32°25'13.7445"N	102°20'53.1590"W	734.42	150.549	2.21	-2.17	-2.78	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS †/100ft	Build Rate †/100ft	Turn Rate †/100ft	Comments
8489.00	7.030	153.260	8415.61	5373.81	-709.76	646.22	364.32	504512.30	308748.82	32°25'13.6797°N	102°20'53.1178°W	741.85	150.587	2.21	-2.16	-3.54	
8533.00†	6.232	151.944	8459.32	5417.52	-714.67	650.74	366.66	504514.63	308744.31	32°25'13.6361°N	102°20'53.0882°W	746.92	150.601	1.85	-1.81	-2.99	
8578.00	5.420	150.200	8504.09	5462.29	-719.05	654.74	368.86	504516.83	308740.31	32°25'13.5976°N	102°20'53.0603°W	751.49	150.604	1.85	-1.80	-3.88	
8633.00†	4.396	147.398	8558.88	5517.08	-723.51	658.77	371.29	504519.26	308736.28	32°25'13.5589°N	102°20'53.0299°W	756.19	150.594	1.91	-1.86	-5.09	
8667.00	3.770	144.910	8592.80	5551.00	-725.77	660.78	372.63	504520.61	308734.27	32°25'13.5396°N	102°20'53.0131°W	758.61	150.580	1.91	-1.84	-7.32	
8725.00	3.340	141.290	8650.69	5608.89	-729.04	663.66	374.78	504522.76	308731.39	32°25'13.5121°N	102°20'52.9865°W	762.17	150.545	0.84	-0.74	-6.24	8 1/2" BH ATC Curve/Lateral Surveys 8725' - 20414'
8733.00†	3.390	141.235	8658.67	5616.87	-729.47	664.02	375.08	504523.05	308731.02	32°25'13.5086°N	102°20'52.9829°W	762.63	150.540	0.62	0.62	-0.69	
8775.00	3.650	140.970	8700.59	5658.79	-731.77	666.03	376.70	504524.67	308729.02	32°25'13.4895°N	102°20'52.9629°W	765.18	150.508	0.62	0.62	-0.63	
8833.00†	1.316	140.165	8758.53	5716.73	-734.02	667.98	378.29	504526.26	308727.07	32°25'13.4710°N	102°20'52.9434°W	767.65	150.476	4.02	-4.02	-1.39	
8865.00	0.040	95.170	8790.53	5748.73	-734.35	668.26	378.53	504526.51	308726.79	32°25'13.4684°N	102°20'52.9403°W	768.02	150.471	4.02	-3.99	-140.61	
8933.00†	0.038	126.563	8858.53	5816.73	-734.37	668.27	378.58	504526.55	308726.77	32°25'13.4682°N	102°20'52.9398°W	768.06	150.469	0.03	0.00	46.17	
8954.00	0.040	135.820	8879.53	5837.73	-734.38	668.28	378.59	504526.56	308726.76	32°25'13.4681°N	102°20'52.9397°W	768.07	150.468	0.03	0.01	44.08	
9033.00†	0.065	180.550	8958.53	5916.73	-734.45	668.35	378.60	504526.58	308726.70	32°25'13.4675°N	102°20'52.9394°W	768.13	150.469	0.06	0.03	56.62	
9044.00	0.070	183.760	8969.53	5927.73	-734.46	668.36	378.60	504526.58	308726.69	32°25'13.4674°N	102°20'52.9394°W	768.15	150.470	0.06	0.05	29.18	
9133.00	5.650	0.550	9058.39	6016.59	-730.24	664.03	378.64	504526.62	308731.02	32°25'13.5102°N	102°20'52.9413°W	764.40	150.307	6.43	6.27	198.64	
9223.00	15.350	350.450	9146.78	6104.98	-713.99	647.81	376.70	504524.68	308747.23	32°25'13.6696°N	102°20'52.9726°W	749.38	149.822	10.93	10.78	-11.22	
9233.00†	16.160	350.250	9156.41	6114.61	-711.28	645.14	376.25	504524.22	308749.91	32°25'13.6959°N	102°20'52.9794°W	746.84	149.749	8.11	8.10	-2.00	
9312.00	22.560	349.160	9230.90	6189.10	-685.12	619.39	371.53	504519.51	308775.65	32°25'13.9482°N	102°20'53.0482°W	722.28	149.043	8.11	8.10	-1.38	
9333.00†	24.537	348.285	9250.15	6208.35	-676.74	611.17	369.89	504517.86	308783.88	32°25'14.0288°N	102°20'53.0718°W	714.38	148.817	9.56	9.42	-4.17	
9402.00	31.060	346.150	9311.16	6269.36	-644.58	579.82	362.71	504510.69	308815.22	32°25'14.3353°N	102°20'53.1723°W	683.92	147.972	9.56	9.45	-3.09	
9433.00†	33.860	346.514	9337.31	6295.51	-627.95	563.65	358.78	504506.76	308831.39	32°25'14.4933°N	102°20'53.2268°W	668.15	147.522	9.05	9.03	1.18	
9492.00	39.190	347.080	9384.71	6342.91	-592.85	529.48	350.78	504498.75	308865.56	32°25'14.8275°N	102°20'53.3385°W	635.13	146.476	9.05	9.03	0.96	
9533.00†	42.645	346.936	9415.68	6373.88	-566.00	503.31	344.74	504492.71	308891.72	32°25'15.0833°N	102°20'53.4229°W	610.06	145.591	8.43	8.43	-0.35	
9581.00	46.690	346.790	9449.81	6408.01	-532.26	470.46	337.07	504485.05	308924.57	32°25'15.4046°N	102°20'53.5300°W	578.75	144.380	8.43	8.43	-0.30	
9633.00†	51.150	346.639	9483.97	6442.17	-493.08	432.32	328.06	504476.04	308962.71	32°25'15.7774°N	102°20'53.6555°W	542.70	142.808	8.58	8.58	-0.29	
9671.00	54.410	346.540	9506.96	6465.16	-462.83	402.89	321.04	504469.02	308992.14	32°25'16.0652°N	102°20'53.7531°W	515.16	141.450	8.58	8.58	-0.26	
9733.00†	59.718	346.412	9540.65	6498.85	-410.82	352.32	308.88	504456.86	309042.71	32°25'16.5595°N	102°20'53.9221°W	468.54	138.759	8.56	8.56	-0.21	
9760.00	62.030	346.360	9553.79	6511.99	-387.24	329.40	303.33	504451.31	309065.63	32°25'16.7835°N	102°20'53.9991°W	447.78	137.359	8.56	8.56	-0.19	
9833.00†	68.267	347.106	9584.46	6542.66	-321.04	264.95	288.14	504436.12	309130.06	32°25'17.4136°N	102°20'54.2107°W	391.44	132.599	8.59	8.54	1.02	
9850.00	69.720	347.270	9590.55	6548.75	-305.17	249.48	284.62	504432.60	309145.54	32°25'17.5650°N	102°20'54.2600°W	378.49	131.235	8.59	8.55	0.96	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	TVDSS (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (*/100ft)	Build Rate (*/100ft)	Turn Rate (*/100ft)	Comments
9933.00†	76.733	346.971	9614.49	6572.69	-225.75	-172.06	266.92	504414.90	309222.95	32°25'18.3221"N	102°20'54.5081"W	317.57	122.806	8.46	8.45	-0.36	
9939.00	77.240	346.950	9615.84	6574.04	-219.91	-166.36	265.60	504413.58	309228.65	32°25'18.3778"N	102°20'54.5265"W	313.40	122.062	8.46	8.45	-0.35	
10028.00	84.230	346.910	9630.16	6588.36	-132.13	-80.85	245.75	504393.73	309314.15	32°25'19.2140"N	102°20'54.8039"W	258.71	108.212	7.85	7.85	-0.04	
10033.00†	84.568	346.898	9630.65	6588.85	-127.15	-76.01	244.62	504392.60	309319.00	32°25'19.2614"N	102°20'54.8196"W	256.16	107.261	6.76	6.76	-0.23	
10034.00†	84.635	346.896	9630.74	6588.94	-126.16	-75.04	244.39	504392.38	309319.97	32°25'19.2709"N	102°20'54.8228"W	255.65	107.068	6.76	6.76	-0.23	Crossed 100' FSL Hardline @ 10034'
10118.00	90.310	346.700	9634.45	6592.65	-42.28	6.63	225.24	504373.22	309401.63	32°25'20.0694"N	102°20'55.0900"W	225.33	88.314	6.76	6.76	-0.23	
10133.00†	90.185	346.712	9634.38	6592.58	-27.28	21.23	221.79	504369.77	309416.23	32°25'20.2121"N	102°20'55.1380"W	222.80	84.533	0.84	-0.83	0.08	
10207.00	89.570	346.770	9634.54	6592.74	46.71	93.25	204.81	504352.80	309488.25	32°25'20.9163"N	102°20'55.3746"W	225.04	65.520	0.84	-0.83	0.08	
10233.00†	89.694	346.686	9634.71	6592.91	72.71	118.56	198.85	504346.83	309513.55	32°25'21.1637"N	102°20'55.4577"W	231.51	59.195	0.58	0.48	-0.32	
10297.00	90.000	346.480	9634.88	6593.08	136.70	180.81	184.00	504331.98	309575.80	32°25'21.7723"N	102°20'55.6643"W	257.97	45.500	0.58	0.48	-0.32	
10333.00†	89.814	346.561	9634.94	6593.14	172.70	215.82	175.60	504323.59	309610.80	32°25'22.1145"N	102°20'55.7809"W	278.24	39.134	0.56	-0.52	0.22	
10386.00	89.540	346.680	9635.24	6593.44	225.69	267.38	163.34	504311.33	309662.36	32°25'22.6185"N	102°20'55.9516"W	313.32	31.420	0.56	-0.52	0.22	
10433.00†	89.796	346.774	9635.51	6593.71	272.68	313.12	152.55	504300.54	309708.10	32°25'23.0658"N	102°20'56.1020"W	348.31	25.975	0.58	0.54	0.20	
10476.00	90.030	346.860	9635.57	6593.77	315.68	354.99	142.74	504290.73	309749.97	32°25'23.4751"N	102°20'56.2388"W	382.61	21.905	0.58	0.54	0.20	
10533.00†	90.466	347.046	9635.33	6593.53	372.68	410.52	129.87	504277.87	309805.49	32°25'24.0181"N	102°20'56.4186"W	430.57	17.556	0.83	0.76	0.33	
10565.00	90.710	347.150	9635.00	6593.20	404.68	441.71	122.73	504270.72	309836.68	32°25'24.3232"N	102°20'56.5187"W	458.44	15.528	0.83	0.76	0.33	
10633.00†	89.803	346.561	9634.69	6592.89	472.67	507.93	107.27	504255.26	309902.89	32°25'24.9706"N	102°20'56.7345"W	519.13	11.925	1.59	-1.33	-0.87	
10655.00	89.510	346.370	9634.83	6593.03	494.67	529.31	102.12	504250.11	309924.28	32°25'25.1797"N	102°20'56.8061"W	539.08	10.920	1.59	-1.33	-0.87	
10733.00†	89.747	346.528	9635.33	6593.53	572.65	605.14	83.84	504231.84	310000.10	32°25'25.9209"N	102°20'57.0599"W	610.92	7.888	0.36	0.30	0.20	
10744.00	89.780	346.550	9635.38	6593.58	583.65	615.84	81.28	504229.28	310010.80	32°25'26.0255"N	102°20'57.0955"W	621.18	7.519	0.36	0.30	0.20	
10833.00†	90.334	346.639	9635.29	6593.49	672.64	702.41	60.65	504208.64	310097.37	32°25'26.8718"N	102°20'57.3825"W	705.03	4.935	0.63	0.62	0.10	
10834.00	90.340	346.640	9635.28	6593.48	673.64	703.39	60.42	504208.41	310098.34	32°25'26.8813"N	102°20'57.3857"W	705.98	4.909	0.63	0.62	0.10	
10923.00	90.590	347.480	9634.56	6592.76	762.63	790.12	40.49	504188.48	310185.07	32°25'27.7296"N	102°20'57.6647"W	791.16	2.933	0.98	0.28	0.94	
10933.00†	90.541	347.429	9634.46	6592.66	772.63	799.88	38.32	504186.31	310194.83	32°25'27.8250"N	102°20'57.6952"W	800.80	2.742	0.71	-0.49	-0.51	
11013.00	90.150	347.020	9633.98	6592.18	852.63	877.90	20.63	504168.62	310272.84	32°25'28.5881"N	102°20'57.9434"W	878.14	1.346	0.71	-0.49	-0.51	
11033.00†	90.220	346.953	9633.91	6592.11	872.63	897.39	16.12	504164.12	310292.33	32°25'28.7787"N	102°20'58.0064"W	897.53	1.029	0.48	0.35	-0.34	
11102.00	90.460	346.720	9633.51	6591.71	941.62	964.57	0.41	504148.41	310359.51	32°25'29.4356"N	102°20'58.2257"W	964.57	0.024	0.48	0.35	-0.34	
11133.00†	90.397	347.037	9633.27	6591.47	972.62	994.76	-6.63	504141.37	310389.69	32°25'29.7308"N	102°20'58.3239"W	994.79	359.618	1.04	-0.20	1.02	
11191.00	90.280	347.630	9632.93	6591.13	1030.62	1051.35	-19.35	504128.65	310446.28	32°25'30.2844"N	102°20'58.5026"W	1051.53	358.946	1.04	-0.20	1.02	
11233.00†	90.266	347.378	9632.73	6590.93	1072.62	1092.35	-28.43	504119.57	310487.28	32°25'30.6855"N	102°20'58.6306"W	1092.72	358.509	0.60	-0.03	-0.60	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
11281.00	90.250	347.090	9632.51	6590.71	1120.61	1139.17	-39.04	504108.96	310534.09	32°25'31.1434"N	102°20'58.7794"W	1139.84	358.037	0.60	-0.03	-0.60	
11333.00†	90.519	347.195	9632.17	6590.37	1172.61	1189.86	-50.61	504097.39	310584.78	32°25'31.6392"N	102°20'58.9415"W	1190.94	357.564	0.56	0.52	0.20	
11370.00	90.710	347.270	9631.77	6589.97	1209.61	1225.95	-58.79	504089.22	310620.86	32°25'31.9922"N	102°20'59.0562"W	1227.35	357.255	0.56	0.52	0.20	
11433.00†	90.367	346.346	9631.18	6589.38	1272.60	1287.28	-73.16	504074.84	310682.19	32°25'32.5919"N	102°20'59.2568"W	1289.36	356.747	1.56	-0.54	-1.47	
11460.00	90.220	346.950	9631.04	6589.24	1299.59	1313.49	-79.63	504068.38	310708.40	32°25'32.8480"N	102°20'59.3462"W	1315.91	356.531	1.56	-0.54	-1.47	
11533.00†	90.622	347.410	9630.50	6588.70	1372.58	1384.53	-96.45	504051.56	310779.43	32°25'33.5425"N	102°20'59.5805"W	1387.88	356.015	2.07	0.55	2.00	
11549.00	90.710	347.730	9630.32	6588.52	1388.58	1400.15	-99.89	504048.12	310795.05	32°25'33.6953"N	102°20'59.6290"W	1403.71	355.919	2.07	0.55	2.00	
11633.00†	90.477	347.067	9629.45	6587.65	1472.58	1482.12	-118.22	504029.79	310877.02	32°25'34.4972"N	102°20'59.8867"W	1486.83	355.440	0.84	-0.28	-0.79	
11639.00	90.460	347.020	9629.40	6587.60	1478.58	1487.97	-119.56	504028.45	310882.87	32°25'34.5544"N	102°20'59.9055"W	1492.76	355.406	0.84	-0.28	-0.79	
11728.00	90.280	347.230	9628.82	6587.02	1567.57	1574.73	-139.39	504008.62	310969.62	32°25'35.4029"N	102°21'0.1833"W	1580.89	354.942	0.31	-0.20	0.24	
11733.00†	90.287	347.215	9628.80	6587.00	1572.57	1579.61	-140.50	504007.51	310974.50	32°25'35.4506"N	102°21'0.1989"W	1585.84	354.917	0.33	0.13	-0.30	
11818.00	90.400	346.960	9628.29	6586.49	1657.57	1662.45	-159.49	503988.52	311057.34	32°25'36.2609"N	102°21'0.4648"W	1670.09	354.520	0.33	0.13	-0.30	
11833.00†	90.338	346.985	9628.19	6586.39	1672.57	1677.07	-162.87	503985.14	311071.95	32°25'36.4038"N	102°21'0.5121"W	1684.96	354.453	0.45	-0.42	0.17	
11907.00	90.030	347.110	9627.95	6586.15	1746.56	1749.18	-179.46	503968.55	311144.06	32°25'37.1091"N	102°21'0.7442"W	1758.37	354.142	0.45	-0.42	0.17	
11933.00†	90.047	347.335	9627.94	6586.14	1772.56	1774.54	-185.21	503962.80	311169.42	32°25'37.3571"N	102°21'0.8249"W	1784.18	354.042	0.87	0.07	0.87	
11997.00	90.090	347.890	9627.86	6586.06	1836.56	1837.05	-198.94	503949.08	311231.92	32°25'37.9687"N	102°21'1.0185"W	1847.79	353.819	0.87	0.07	0.87	
12033.00†	90.090	347.219	9627.80	6586.00	1872.56	1872.20	-206.70	503941.32	311267.07	32°25'38.3126"N	102°21'1.1279"W	1883.58	353.700	1.87	0.00	-1.87	
12086.00	90.090	346.230	9627.72	6585.92	1925.56	1923.79	-218.87	503929.15	311318.65	32°25'38.8170"N	102°21'1.2975"W	1936.20	353.509	1.87	0.00	-1.87	
12133.00†	90.174	346.522	9627.61	6585.81	1972.55	1969.46	-229.94	503918.08	311364.33	32°25'39.2634"N	102°21'1.4511"W	1982.84	353.341	0.65	0.18	0.62	
12176.00	90.250	346.790	9627.45	6585.65	2015.54	2011.30	-239.86	503908.16	311406.16	32°25'39.6724"N	102°21'1.5893"W	2025.56	353.199	0.65	0.18	0.62	
12233.00†	90.231	346.707	9627.21	6585.41	2072.54	2066.79	-252.93	503895.09	311461.64	32°25'40.2149"N	102°21'1.7714"W	2082.20	353.023	0.15	-0.03	-0.15	
12265.00	90.220	346.660	9627.09	6585.29	2104.53	2097.92	-260.30	503887.72	311492.78	32°25'40.5193"N	102°21'1.8741"W	2114.01	352.927	0.15	-0.03	-0.15	
12333.00†	90.190	346.335	9626.85	6585.05	2172.52	2164.04	-276.18	503871.84	311558.89	32°25'41.1656"N	102°21'2.0947"W	2181.60	352.727	0.48	-0.04	-0.48	
12355.00	90.180	346.230	9626.77	6584.97	2194.52	2185.42	-281.39	503866.63	311580.27	32°25'41.3745"N	102°21'2.1671"W	2203.46	352.663	0.48	-0.04	-0.48	
12433.00†	90.154	347.089	9626.55	6584.75	2272.51	2261.31	-299.39	503848.63	311656.15	32°25'42.1165"N	102°21'2.4177"W	2281.04	352.458	1.10	-0.03	1.10	
12444.00	90.150	347.210	9626.52	6584.72	2283.51	2272.04	-301.84	503846.19	311666.88	32°25'42.2214"N	102°21'2.4519"W	2292.00	352.433	1.10	-0.03	1.10	
12533.00†	90.338	347.408	9626.14	6584.34	2372.51	2358.86	-321.39	503826.63	311753.70	32°25'43.0707"N	102°21'2.7266"W	2380.65	352.241	0.31	0.21	0.22	
12534.00	90.340	347.410	9626.13	6584.33	2373.51	2359.84	-321.61	503826.42	311754.67	32°25'43.0802"N	102°21'2.7296"W	2381.65	352.239	0.31	0.21	0.22	
12623.00	90.650	347.130	9625.36	6583.56	2462.50	2446.65	-341.22	503806.81	311841.48	32°25'43.9293"N	102°21'3.0049"W	2470.32	352.061	0.47	0.35	-0.31	
12633.00†	90.622	347.104	9625.25	6583.45	2472.50	2456.39	-343.45	503804.58	311851.22	32°25'44.0247"N	102°21'3.0362"W	2480.29	352.041	0.38	-0.28	-0.26	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
12713.00	90.400	346.900	9624.54	6582.74	2552.50	2534.34	-361.44	503786.59	311929.16	32°25'44.7869"N	102°21'3.2878"W	2559.98	351.883	0.38	-0.28	-0.26	
12733.00†	90.456	347.203	9624.39	6582.59	2572.49	2553.83	-365.92	503782.10	311948.65	32°25'44.9775"N	102°21'3.3506"W	2579.91	351.846	1.54	0.28	1.52	
12802.00	90.650	348.250	9623.72	6581.92	2641.49	2621.25	-380.59	503767.44	312016.07	32°25'45.6372"N	102°21'3.5578"W	2648.74	351.739	1.54	0.28	1.52	
12833.00†	90.650	348.030	9623.37	6581.57	2672.49	2651.59	-386.96	503761.07	312046.40	32°25'45.9342"N	102°21'3.6484"W	2679.67	351.697	0.71	0.00	-0.71	
12892.00	90.650	347.610	9622.70	6580.90	2731.48	2709.25	-399.41	503748.62	312104.07	32°25'46.4985"N	102°21'3.8245"W	2738.54	351.614	0.71	0.00	-0.71	
12933.00†	90.549	347.647	9622.27	6580.47	2772.48	2749.30	-408.19	503739.84	312144.11	32°25'46.8903"N	102°21'3.9484"W	2779.44	351.555	0.26	-0.25	0.09	
12981.00	90.430	347.690	9621.86	6580.06	2820.48	2796.19	-418.44	503729.59	312191.00	32°25'47.3492"N	102°21'4.0932"W	2827.33	351.489	0.26	-0.25	0.09	
13033.00†	90.448	348.041	9621.47	6579.67	2872.47	2847.03	-429.37	503718.66	312241.83	32°25'47.8467"N	102°21'4.2479"W	2879.22	351.424	0.67	0.03	0.67	
13070.00	90.460	348.290	9621.17	6579.37	2909.47	2883.24	-436.96	503711.07	312278.04	32°25'48.2011"N	102°21'4.3559"W	2916.16	351.382	0.67	0.03	0.67	
13133.00†	90.012	348.479	9620.91	6579.11	2972.46	2944.95	-449.64	503698.39	312339.74	32°25'48.8053"N	102°21'4.5369"W	2979.08	351.319	0.77	-0.71	0.30	
13160.00	89.820	348.560	9620.95	6579.15	2999.46	2971.41	-455.02	503693.01	312366.20	32°25'49.0644"N	102°21'4.6138"W	3006.05	351.294	0.77	-0.71	0.30	
13233.00†	89.566	347.896	9621.34	6579.54	3072.45	3042.87	-469.91	503678.12	312437.66	32°25'49.7640"N	102°21'4.8259"W	3078.94	351.221	0.97	-0.35	-0.91	
13249.00	89.510	347.750	9621.47	6579.67	3088.45	3058.51	-473.29	503674.75	312453.30	32°25'49.9170"N	102°21'4.8736"W	3094.91	351.204	0.97	-0.35	-0.91	
13333.00†	89.359	348.741	9622.30	6580.50	3172.44	3140.74	-490.40	503657.64	312535.53	32°25'50.7221"N	102°21'5.1173"W	3178.80	351.125	1.19	-0.18	1.18	
13338.00	89.350	348.800	9622.36	6580.56	3177.44	3145.65	-491.37	503656.66	312540.43	32°25'50.7701"N	102°21'5.1313"W	3183.79	351.122	1.19	-0.18	1.18	
13428.00	89.420	347.870	9623.32	6581.52	3267.42	3233.78	-509.57	503638.47	312628.56	32°25'51.6330"N	102°21'5.3909"W	3273.69	351.045	1.04	0.08	-1.03	
13433.00†	89.432	347.898	9623.37	6581.57	3272.42	3238.67	-510.62	503637.42	312633.45	32°25'51.6808"N	102°21'5.4057"W	3278.68	351.040	0.60	0.24	0.55	
13517.00	89.630	348.360	9624.06	6582.26	3356.41	3320.87	-527.89	503620.14	312715.64	32°25'52.4854"N	102°21'5.6514"W	3362.57	350.968	0.60	0.24	0.55	
13533.00†	89.603	348.259	9624.17	6582.37	3372.41	3336.54	-531.14	503616.90	312731.31	32°25'52.6388"N	102°21'5.6976"W	3378.55	350.955	0.65	-0.17	-0.63	
13607.00	89.480	347.790	9624.76	6582.96	3446.40	3408.93	-546.49	503601.55	312803.69	32°25'53.3473"N	102°21'5.9155"W	3452.45	350.892	0.65	-0.17	-0.63	
13633.00†	89.480	347.948	9625.00	6583.20	3472.40	3434.35	-551.95	503596.08	312829.11	32°25'53.5961"N	102°21'5.9929"W	3478.42	350.870	0.61	0.00	0.61	
13696.00	89.480	348.330	9625.57	6583.77	3535.40	3496.00	-564.90	503583.14	312890.75	32°25'54.1996"N	102°21'6.1770"W	3541.34	350.821	0.61	0.00	0.61	
13733.00†	89.250	347.705	9625.98	6584.18	3572.39	3532.19	-572.58	503575.46	312926.94	32°25'54.5538"N	102°21'6.2860"W	3578.30	350.792	1.80	-0.62	-1.69	
13786.00	88.920	346.810	9626.83	6585.03	3625.38	3583.88	-584.27	503563.77	312978.63	32°25'55.0594"N	102°21'6.4501"W	3631.19	350.741	1.80	-0.62	-1.69	
13833.00†	89.406	346.988	9627.51	6585.71	3672.38	3629.65	-594.93	503553.12	313024.40	32°25'55.5069"N	102°21'6.5989"W	3678.08	350.692	1.10	1.03	0.38	
13876.00	89.850	347.150	9627.79	6585.99	3715.37	3671.56	-604.55	503543.49	313066.30	32°25'55.9168"N	102°21'6.7336"W	3721.00	350.650	1.10	1.03	0.38	
13933.00†	89.511	346.951	9628.11	6586.31	3772.37	3727.11	-617.32	503530.72	313121.85	32°25'56.4600"N	102°21'6.9124"W	3777.88	350.595	0.69	-0.60	-0.35	
13965.00	89.320	346.840	9628.44	6586.64	3804.37	3758.27	-624.58	503523.47	313153.01	32°25'56.7648"N	102°21'7.0137"W	3809.82	350.564	0.69	-0.60	-0.35	
14033.00†	89.511	346.947	9629.13	6587.33	3872.36	3824.50	-639.99	503508.05	313219.23	32°25'57.4123"N	102°21'7.2291"W	3877.68	350.500	0.32	0.28	0.16	
14054.00	89.570	346.980	9629.30	6587.50	3893.36	3844.95	-644.73	503503.31	313239.69	32°25'57.6124"N	102°21'7.2953"W	3898.63	350.481	0.32	0.28	0.16	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	TVDSS (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
14133.00†	89.728	346.919	9629.78	6587.98	3972.35	3921.91	-662.57	503485.48	313316.64	32°25'58.3649"N	102°21'7.5447"W	3977.49	350.411	0.21	0.20	-0.08	
14144.00	89.750	346.910	9629.83	6588.03	3983.35	3932.63	-665.06	503482.99	313327.35	32°25'58.4697"N	102°21'7.5795"W	3988.47	350.401	0.21	0.20	-0.08	
14233.00	90.030	347.720	9630.00	6588.20	4072.35	4019.45	-684.60	503463.44	313414.17	32°25'59.3190"N	102°21'7.8541"W	4077.34	350.334	0.96	0.31	0.91	
14323.00	89.540	346.660	9630.34	6588.54	4162.35	4107.21	-704.56	503443.49	313501.93	32°26'0.1774"N	102°21'8.1339"W	4167.20	350.266	1.30	-0.54	-1.18	
14333.00†	89.550	346.643	9630.42	6588.62	4172.35	4116.94	-706.87	503441.18	313511.65	32°26'0.2725"N	102°21'8.1660"W	4177.18	350.257	0.20	0.10	-0.17	
14412.00	89.630	346.510	9630.99	6589.19	4251.33	4193.78	-725.21	503422.84	313588.49	32°26'1.0236"N	102°21'8.4212"W	4256.02	350.189	0.20	0.10	-0.17	
14433.00†	89.710	346.663	9631.11	6589.31	4272.33	4214.21	-730.08	503417.97	313608.91	32°26'1.2233"N	102°21'8.4889"W	4276.98	350.172	0.82	0.38	0.73	
14501.00	89.970	347.160	9631.30	6589.50	4340.33	4280.44	-745.48	503402.58	313675.14	32°26'1.8710"N	102°21'8.7041"W	4344.87	350.121	0.82	0.38	0.73	
14533.00†	89.806	347.220	9631.36	6589.56	4372.33	4311.64	-752.57	503395.48	313706.34	32°26'2.1762"N	102°21'8.8036"W	4376.83	350.099	0.54	-0.51	0.19	
14591.00	89.510	347.330	9631.71	6589.91	4430.33	4368.22	-765.35	503382.71	313762.91	32°26'2.7295"N	102°21'8.9830"W	4434.76	350.062	0.54	-0.51	0.19	
14633.00†	90.147	347.660	9631.83	6590.03	4472.32	4409.22	-774.44	503373.61	313803.92	32°26'3.1307"N	102°21'9.1111"W	4476.72	350.038	1.71	1.52	0.79	
14680.00	90.860	348.030	9631.42	6589.62	4519.32	4455.17	-784.34	503363.72	313849.86	32°26'3.5803"N	102°21'9.2511"W	4523.68	350.015	1.71	1.52	0.79	
14733.00†	90.860	347.582	9630.62	6588.82	4572.31	4506.96	-795.53	503352.53	313901.65	32°26'4.0872"N	102°21'9.4095"W	4576.64	349.990	0.84	0.00	-0.84	
14770.00	90.860	347.270	9630.07	6588.27	4609.31	4543.07	-803.58	503344.47	313937.76	32°26'4.4404"N	102°21'9.5228"W	4613.59	349.969	0.84	0.00	-0.84	
14833.00†	90.641	347.043	9629.24	6587.44	4672.30	4604.49	-817.59	503330.47	313999.17	32°26'5.0411"N	102°21'9.7191"W	4676.51	349.931	0.50	-0.35	-0.36	
14859.00	90.550	346.950	9628.97	6587.17	4698.30	4629.82	-823.43	503324.62	314024.50	32°26'5.2889"N	102°21'9.8009"W	4702.48	349.915	0.50	-0.35	-0.36	
14933.00†	90.657	347.550	9628.19	6586.39	4772.30	4701.99	-839.77	503308.29	314096.67	32°26'5.9948"N	102°21'10.0302"W	4776.40	349.874	0.82	0.14	0.81	
14949.00	90.680	347.680	9628.01	6586.21	4788.30	4717.62	-843.20	503304.86	314112.29	32°26'6.1477"N	102°21'10.0786"W	4792.38	349.866	0.82	0.14	0.81	
15033.00†	90.997	346.765	9626.78	6584.98	4872.28	4799.53	-861.77	503286.29	314194.20	32°26'6.9488"N	102°21'10.3392"W	4876.28	349.821	1.15	0.38	-1.09	
15039.00	91.020	346.700	9626.67	6584.87	4878.28	4805.37	-863.15	503284.91	314200.04	32°26'7.0059"N	102°21'10.3584"W	4882.27	349.817	1.15	0.38	-1.09	
15128.00	90.550	347.090	9625.45	6583.65	4967.27	4892.04	-883.33	503264.73	314286.70	32°26'7.8534"N	102°21'10.6403"W	4971.15	349.765	0.69	-0.53	0.44	
15133.00†	90.564	347.114	9625.40	6583.60	4972.27	4896.92	-884.44	503263.62	314291.58	32°26'7.9011"N	102°21'10.6559"W	4976.15	349.762	0.56	0.28	0.49	
15218.00	90.800	347.530	9624.39	6582.59	5057.26	4979.84	-903.10	503244.97	314374.49	32°26'8.7122"N	102°21'10.9180"W	5061.06	349.721	0.56	0.28	0.49	
15233.00†	90.707	347.505	9624.19	6582.39	5072.26	4994.48	-906.34	503241.73	314389.14	32°26'8.8555"N	102°21'10.9636"W	5076.05	349.715	0.64	-0.62	-0.17	
15307.00	90.250	347.380	9623.58	6581.78	5146.26	5066.71	-922.43	503225.64	314461.36	32°26'9.5621"N	102°21'11.1901"W	5149.99	349.682	0.64	-0.62	-0.17	
15333.00†	90.203	347.167	9623.47	6581.67	5172.26	5092.07	-928.15	503219.91	314486.72	32°26'9.8101"N	102°21'11.2705"W	5175.97	349.670	0.84	-0.18	-0.82	
15396.00	90.090	346.650	9623.31	6581.51	5235.25	5153.43	-942.42	503205.64	314548.07	32°26'10.4102"N	102°21'11.4699"W	5238.90	349.637	0.84	-0.18	-0.82	
15433.00†	90.143	347.390	9623.24	6581.44	5272.25	5189.49	-950.73	503197.33	314584.13	32°26'10.7627"N	102°21'11.5862"W	5275.86	349.618	2.01	0.14	2.00	
15486.00	90.220	348.450	9623.07	6581.27	5325.25	5241.31	-961.83	503186.24	314635.95	32°26'11.2700"N	102°21'11.7434"W	5328.83	349.601	2.01	0.14	2.00	
15533.00†	90.096	348.277	9622.94	6581.14	5372.24	5287.35	-971.31	503176.76	314681.98	32°26'11.7206"N	102°21'11.8787"W	5375.82	349.591	0.45	-0.26	-0.37	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
15581.00	89.970	348.100	9622.91	6581.11	5420.24	5334.33	-981.13	503166.94	314728.96	32°26'12.1806"N	102°21'12.0185"W	5423.81	349.578	0.45	-0.26	-0.37	
15633.00†	90.398	348.036	9622.74	6580.94	5472.24	5385.21	-991.88	503156.19	314779.83	32°26'12.6785"N	102°21'12.1712"W	5475.79	349.564	0.83	0.82	-0.12	
15671.00	90.710	347.990	9622.38	6580.58	5510.23	5422.38	-999.77	503148.30	314817.00	32°26'13.0423"N	102°21'12.2832"W	5513.77	349.553	0.83	0.82	-0.12	
15733.00†	90.174	348.025	9621.90	6580.10	5572.23	5483.02	-1012.66	503135.41	314877.64	32°26'13.6359"N	102°21'12.4660"W	5575.75	349.536	0.87	-0.87	0.06	
15760.00	89.940	348.040	9621.87	6580.07	5599.23	5509.43	-1018.25	503129.82	314904.05	32°26'13.8944"N	102°21'12.5455"W	5602.74	349.529	0.87	-0.87	0.06	
15833.00†	89.891	347.737	9621.98	6580.18	5672.23	5580.81	-1033.57	503114.50	314975.42	32°26'14.5929"N	102°21'12.7625"W	5675.71	349.508	0.42	-0.07	-0.42	
15849.00	89.880	347.670	9622.01	6580.21	5688.23	5596.44	-1036.98	503111.09	314991.05	32°26'14.7459"N	102°21'12.8107"W	5691.70	349.503	0.42	-0.07	-0.42	
15933.00†	89.852	347.698	9622.21	6580.41	5772.23	5678.51	-1054.90	503093.18	315073.11	32°26'15.5489"N	102°21'13.0637"W	5775.66	349.476	0.05	-0.03	0.03	
15939.00	89.850	347.700	9622.22	6580.42	5778.23	5684.37	-1056.17	503091.90	315078.98	32°26'15.6063"N	102°21'13.0818"W	5781.66	349.474	0.05	-0.03	0.03	
16029.00	90.430	348.320	9622.00	6580.20	5868.22	5772.41	-1074.87	503073.20	315167.00	32°26'16.4679"N	102°21'13.3471"W	5871.63	349.452	0.94	0.64	0.69	
16033.00†	90.415	348.282	9621.97	6580.17	5872.22	5776.32	-1075.68	503072.39	315170.92	32°26'16.5063"N	102°21'13.3587"W	5875.63	349.451	1.03	-0.38	-0.96	
16118.00	90.090	347.470	9621.60	6579.80	5957.22	5859.42	-1093.53	503054.54	315254.02	32°26'17.3196"N	102°21'13.6116"W	5960.59	349.429	1.03	-0.38	-0.96	
16133.00†	90.122	347.533	9621.57	6579.77	5972.22	5874.07	-1096.78	503051.30	315268.66	32°26'17.4628"N	102°21'13.6573"W	5975.59	349.424	0.47	0.21	0.42	
16208.00	90.280	347.850	9621.31	6579.51	6047.22	5947.34	-1112.77	503035.31	315341.93	32°26'18.1798"N	102°21'13.8831"W	6050.55	349.402	0.47	0.21	0.42	
16233.00†	90.355	347.931	9621.17	6579.37	6072.22	5971.79	-1118.01	503030.06	315366.37	32°26'18.4190"N	102°21'13.9574"W	6075.54	349.396	0.44	0.30	0.32	
16298.00	90.550	348.140	9620.66	6578.86	6137.21	6035.37	-1131.49	503016.59	315429.95	32°26'19.0414"N	102°21'14.1487"W	6140.52	349.382	0.44	0.30	0.32	
16333.00†	90.480	348.307	9620.34	6578.54	6172.21	6069.64	-1138.63	503009.45	315464.21	32°26'19.3768"N	102°21'14.2505"W	6175.51	349.375	0.52	-0.20	0.48	
16388.00	90.370	348.570	9619.93	6578.13	6227.20	6123.52	-1149.65	502998.43	315518.09	32°26'19.9044"N	102°21'14.4080"W	6230.50	349.367	0.52	-0.20	0.48	
16433.00†	90.157	348.120	9619.73	6577.93	6272.19	6167.59	-1158.74	502989.34	315562.16	32°26'20.3358"N	102°21'14.5377"W	6275.50	349.360	1.11	-0.47	-1.00	
16479.00	89.940	347.660	9619.69	6577.89	6318.19	6212.57	-1168.39	502979.69	315607.13	32°26'20.7760"N	102°21'14.6744"W	6321.48	349.349	1.11	-0.47	-1.00	
16533.00†	90.013	347.672	9619.71	6577.91	6372.19	6265.32	-1179.93	502968.15	315659.88	32°26'21.2922"N	102°21'14.8373"W	6375.46	349.335	1.14	0.13	0.02	
16568.00	90.060	347.680	9619.69	6577.89	6407.19	6299.51	-1187.40	502960.68	315694.08	32°26'21.6267"N	102°21'14.9428"W	6410.44	349.326	1.14	0.13	0.02	
16633.00†	89.996	347.580	9619.66	6577.86	6472.19	6363.00	-1201.32	502946.76	315757.56	32°26'22.2480"N	102°21'15.1393"W	6475.42	349.309	1.18	-0.10	-0.15	
16659.00	89.970	347.540	9619.66	6577.86	6498.19	6388.39	-1206.92	502941.16	315782.95	32°26'22.4964"N	102°21'15.2182"W	6501.40	349.302	1.18	-0.10	-0.15	
16733.00†	89.737	346.792	9619.85	6578.05	6572.19	6460.54	-1223.36	502924.72	315855.10	32°26'23.2020"N	102°21'15.4487"W	6575.35	349.277	1.06	-0.31	-1.01	
16748.00	89.690	346.640	9619.93	6578.13	6587.19	6475.14	-1226.81	502921.28	315869.69	32°26'23.3448"N	102°21'15.4968"W	6590.34	349.272	1.06	-0.31	-1.01	
16833.00†	90.011	346.829	9620.15	6578.35	6672.18	6557.87	-1246.31	502901.77	315952.42	32°26'24.1536"N	102°21'15.7687"W	6675.25	349.239	0.44	0.38	0.22	
16838.00	90.030	346.840	9620.15	6578.35	6677.18	6562.74	-1247.45	502900.63	315957.29	32°26'24.2012"N	102°21'15.7846"W	6680.25	349.238	0.44	0.38	0.22	
16927.00	89.850	348.310	9620.24	6578.44	6766.18	6649.66	-1266.60	502881.49	316044.19	32°26'25.0516"N	102°21'16.0546"W	6769.21	349.216	1.66	-0.20	1.65	
16933.00†	89.827	348.117	9620.26	6578.46	6772.17	6655.53	-1267.83	502880.26	316050.07	32°26'25.1091"N	102°21'16.0721"W	6775.21	349.215	3.24	-0.38	-3.22	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
17017.00	89.510	345.410	9620.74	6578.94	6856.16	6737.29	-1287.06	502861.03	316131.82	32°26'25.9084"N	102°21'16.3403"W	6859.12	349.185	3.24	-0.38	-3.22	
17033.00†	89.577	345.575	9620.87	6579.07	6872.15	6752.78	-1291.07	502857.02	316147.31	32°26'26.0597"N	102°21'16.3954"W	6875.09	349.176	1.11	0.42	1.03	
17106.00	89.880	346.330	9621.22	6579.42	6945.12	6823.59	-1308.78	502839.31	316218.12	32°26'26.7516"N	102°21'16.6401"W	6947.97	349.142	1.11	0.42	1.03	
17133.00†	90.036	346.585	9621.24	6579.44	6972.12	6849.84	-1315.11	502832.98	316244.37	32°26'27.0082"N	102°21'16.7279"W	6974.94	349.132	1.11	0.58	0.94	
17196.00	90.400	347.180	9621.00	6579.20	7035.11	6911.20	-1329.40	502818.69	316305.72	32°26'27.6081"N	102°21'16.9276"W	7037.90	349.112	1.11	0.58	0.94	
17233.00†	90.005	346.669	9620.87	6579.07	7072.11	6947.24	-1337.78	502810.32	316341.76	32°26'27.9605"N	102°21'17.0446"W	7074.87	349.100	1.75	-1.07	-1.38	
17285.00	89.450	345.950	9621.11	6579.31	7124.10	6997.76	-1350.08	502798.01	316392.27	32°26'28.4543"N	102°21'17.2153"W	7126.81	349.080	1.75	-1.07	-1.38	
17333.00†	89.941	346.670	9621.37	6579.57	7172.08	7044.39	-1361.44	502786.65	316438.91	32°26'28.9100"N	102°21'17.3728"W	7174.75	349.062	1.82	1.02	1.50	
17375.00	90.370	347.300	9621.26	6579.46	7214.08	7085.32	-1370.90	502777.19	316479.82	32°26'29.3102"N	102°21'17.5051"W	7216.72	349.049	1.82	1.02	1.50	
17433.00†	90.129	347.502	9621.00	6579.20	7272.08	7141.92	-1383.55	502764.54	316536.42	32°26'29.8639"N	102°21'17.6831"W	7274.70	349.036	0.54	-0.42	0.35	
17464.00	90.000	347.610	9620.97	6579.17	7303.08	7172.19	-1390.23	502757.86	316566.69	32°26'30.1601"N	102°21'17.7773"W	7305.69	349.030	0.54	-0.42	0.35	
17533.00†	89.977	347.874	9620.98	6579.18	7372.08	7239.62	-1404.88	502743.22	316634.11	32°26'30.8199"N	102°21'17.9844"W	7374.67	349.018	0.38	-0.03	0.38	
17553.00	89.970	347.950	9620.99	6579.19	7392.08	7259.17	-1409.07	502739.03	316653.67	32°26'31.0113"N	102°21'18.0438"W	7394.67	349.015	0.38	-0.03	0.38	
17633.00†	89.970	347.852	9621.03	6579.23	7472.08	7337.40	-1425.84	502722.26	316731.89	32°26'31.7768"N	102°21'18.2814"W	7474.65	349.003	0.12	0.00	-0.12	
17643.00	89.970	347.840	9621.04	6579.24	7482.08	7347.17	-1427.94	502720.16	316741.66	32°26'31.8725"N	102°21'18.3112"W	7484.65	349.002	0.12	0.00	-0.12	
17733.00	89.970	347.470	9621.09	6579.29	7572.08	7435.09	-1447.19	502700.92	316829.57	32°26'32.7327"N	102°21'18.5829"W	7574.62	348.986	0.41	0.00	-0.41	
17822.00	89.940	347.770	9621.16	6579.36	7661.08	7522.02	-1466.27	502681.84	316916.50	32°26'33.5833"N	102°21'18.8521"W	7663.60	348.970	0.34	-0.03	0.34	
17833.00†	89.996	347.842	9621.16	6579.36	7672.08	7532.77	-1468.59	502679.51	316927.25	32°26'33.6885"N	102°21'18.8850"W	7674.60	348.968	0.83	0.51	0.66	
17912.00	90.400	348.360	9620.89	6579.09	7751.07	7610.07	-1484.88	502663.22	317004.55	32°26'34.4451"N	102°21'19.1165"W	7753.59	348.959	0.83	0.51	0.66	
17933.00†	90.263	348.174	9620.77	6578.97	7772.07	7630.64	-1489.15	502658.95	317025.11	32°26'34.6464"N	102°21'19.1774"W	7774.58	348.957	1.10	-0.65	-0.89	
18001.00	89.820	347.570	9620.72	6578.92	7840.07	7697.12	-1503.44	502644.67	317091.58	32°26'35.2970"N	102°21'19.3798"W	7842.57	348.948	1.10	-0.65	-0.89	
18033.00†	90.007	347.620	9620.77	6578.97	7872.07	7728.37	-1510.31	502637.80	317122.83	32°26'35.6028"N	102°21'19.4767"W	7874.56	348.942	0.61	0.58	0.16	
18090.00	90.340	347.710	9620.59	6578.79	7929.07	7784.05	-1522.49	502625.62	317178.51	32°26'36.1477"N	102°21'19.6487"W	7931.55	348.933	0.61	0.58	0.16	
18133.00†	90.383	347.739	9620.32	6578.52	7972.07	7826.07	-1531.63	502616.48	317220.53	32°26'36.5588"N	102°21'19.7779"W	7974.54	348.927	0.12	0.10	0.07	
18180.00	90.430	347.770	9619.99	6578.19	8019.06	7872.00	-1541.60	502606.51	317266.45	32°26'37.0082"N	102°21'19.9189"W	8021.53	348.920	0.12	0.10	0.07	
18233.00†	91.037	347.740	9619.31	6577.51	8072.06	7923.79	-1552.84	502595.27	317318.24	32°26'37.5150"N	102°21'20.0778"W	8074.51	348.912	1.15	1.15	-0.06	
18269.00	91.450	347.720	9618.53	6576.73	8108.05	7958.96	-1560.49	502587.62	317353.41	32°26'37.8591"N	102°21'20.1859"W	8110.50	348.907	1.15	1.15	-0.06	
18333.00†	90.575	348.068	9617.40	6575.60	8172.04	8021.53	-1573.91	502574.20	317415.97	32°26'38.4714"N	102°21'20.3761"W	8174.48	348.899	1.47	-1.37	0.54	
18359.00	90.220	348.210	9617.22	6575.42	8198.04	8046.97	-1579.25	502568.86	317444.41	32°26'38.7205"N	102°21'20.4521"W	8200.47	348.897	1.47	-1.37	0.54	
18433.00†	90.138	347.700	9616.99	6575.19	8272.03	8119.34	-1594.69	502553.42	317513.78	32°26'39.4288"N	102°21'20.6711"W	8274.46	348.888	0.70	-0.11	-0.69	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
18449.00	90.120	347.590	9616.95	6575.15	8288.03	8134.97	-1598.11	502550.00	317529.40	32°26'39.5817"N	102°21'20.7194"W	8290.46	348.886	0.70	-0.11	-0.69	
18533.00†	89.922	347.448	9616.92	6575.12	8372.03	8216.98	-1616.27	502531.84	317611.41	32°26'40.3841"N	102°21'20.9752"W	8374.43	348.872	0.29	-0.24	-0.17	
18538.00	89.910	347.440	9616.93	6575.13	8377.03	8221.86	-1617.35	502530.76	317616.29	32°26'40.4319"N	102°21'20.9905"W	8379.43	348.871	0.29	-0.24	-0.17	
18627.00	89.820	346.770	9617.14	6575.34	8466.03	8308.62	-1637.22	502510.90	317703.04	32°26'41.2803"N	102°21'21.2688"W	8468.39	348.853	0.76	-0.10	-0.75	
18633.00†	89.820	346.870	9617.16	6575.36	8472.03	8314.46	-1638.58	502509.53	317708.88	32°26'41.3374"N	102°21'21.2879"W	8474.39	348.851	1.67	0.00	1.67	
18716.00	89.820	348.260	9617.42	6575.62	8555.03	8395.51	-1656.46	502491.66	317789.93	32°26'42.1304"N	102°21'21.5399"W	8557.36	348.839	1.67	0.00	1.67	
18733.00†	90.028	348.337	9617.44	6575.64	8572.03	8412.16	-1659.90	502488.21	317806.57	32°26'42.2934"N	102°21'21.5891"W	8574.36	348.838	1.30	1.22	0.46	
18806.00	90.920	348.670	9616.84	6575.04	8645.01	8483.69	-1674.45	502473.66	317878.10	32°26'42.9938"N	102°21'21.7973"W	8647.36	348.835	1.30	1.22	0.46	
18833.00†	91.154	348.591	9616.35	6574.55	8672.00	8510.16	-1679.77	502468.34	317904.57	32°26'43.2530"N	102°21'21.8736"W	8674.35	348.834	0.91	0.87	-0.29	
18895.00	91.690	348.410	9614.81	6573.01	8733.97	8570.89	-1692.13	502455.99	317965.30	32°26'43.8477"N	102°21'22.0503"W	8736.33	348.832	0.91	0.87	-0.29	
18933.00†	91.378	348.209	9613.79	6571.99	8771.95	8608.09	-1699.83	502448.29	318002.49	32°26'44.2118"N	102°21'22.1601"W	8774.32	348.830	0.98	-0.82	-0.53	
18984.00	90.960	347.940	9612.75	6570.95	8822.94	8657.98	-1710.36	502437.76	318052.38	32°26'44.7001"N	102°21'22.3098"W	8825.30	348.825	0.98	-0.82	-0.53	
19033.00†	91.516	347.395	9611.69	6569.89	8871.93	8705.84	-1720.83	502427.29	318100.23	32°26'45.1684"N	102°21'22.4576"W	8874.28	348.819	1.59	1.13	-1.11	
19073.00	91.970	346.950	9610.48	6568.68	8911.91	8744.82	-1729.70	502418.42	318139.21	32°26'45.5497"N	102°21'22.5821"W	8914.25	348.811	1.59	1.13	-1.11	
19133.00†	91.417	347.010	9608.70	6566.90	8971.88	8803.25	-1743.21	502404.91	318197.64	32°26'46.1211"N	102°21'22.7711"W	8974.19	348.799	0.93	-0.92	0.10	
19163.00	91.140	347.040	9608.03	6566.23	9001.87	8832.48	-1749.95	502398.17	318226.87	32°26'46.4069"N	102°21'22.8654"W	9004.17	348.793	0.93	-0.92	0.10	
19233.00†	91.942	347.024	9606.15	6564.35	9071.84	8900.67	-1765.65	502382.47	318295.05	32°26'47.0737"N	102°21'23.0852"W	9074.11	348.780	1.15	1.15	-0.02	
19252.00	92.160	347.020	9605.47	6563.67	9090.83	8919.17	-1769.92	502378.21	318313.55	32°26'47.2547"N	102°21'23.1448"W	9093.09	348.776	1.15	1.15	-0.02	
19333.00†	91.769	347.120	9602.69	6560.89	9171.78	8998.07	-1788.03	502360.09	318392.45	32°26'48.0263"N	102°21'23.3985"W	9174.00	348.761	0.50	-0.48	0.12	
19341.00	91.730	347.130	9602.45	6560.65	9179.78	9005.87	-1789.81	502358.31	318400.24	32°26'48.1025"N	102°21'23.4235"W	9182.00	348.760	0.50	-0.48	0.12	
19431.00	91.910	347.090	9599.59	6557.79	9269.73	9093.55	-1809.88	502338.25	318487.92	32°26'48.9601"N	102°21'23.7047"W	9271.91	348.744	0.20	0.20	-0.04	
19433.00†	91.911	347.093	9599.52	6557.72	9271.73	9095.50	-1810.32	502337.80	318489.87	32°26'48.9792"N	102°21'23.7110"W	9273.91	348.743	0.15	0.03	0.15	
19520.00	91.940	347.220	9596.60	6554.80	9358.68	9180.28	-1829.65	502318.47	318574.64	32°26'49.8083"N	102°21'23.9820"W	9360.83	348.728	0.15	0.03	0.15	
19533.00†	91.963	347.260	9596.16	6554.36	9371.67	9192.95	-1832.52	502315.60	318587.31	32°26'49.9322"N	102°21'24.0223"W	9373.82	348.726	0.36	0.18	0.31	
19610.00	92.100	347.500	9593.43	6551.63	9448.62	9268.04	-1849.33	502298.79	318662.40	32°26'50.6668"N	102°21'24.2587"W	9450.75	348.715	0.36	0.18	0.31	
19633.00†	91.940	347.384	9592.62	6550.82	9471.61	9290.48	-1854.33	502293.80	318684.83	32°26'50.8863"N	102°21'24.3291"W	9473.73	348.712	0.86	-0.70	-0.51	
19699.00	91.480	347.050	9590.65	6548.85	9537.58	9354.81	-1868.93	502279.20	318749.16	32°26'51.5155"N	102°21'24.5339"W	9539.68	348.702	0.86	-0.70	-0.51	
19733.00†	91.281	346.958	9589.83	6548.03	9571.57	9387.93	-1876.57	502271.56	318782.28	32°26'51.8394"N	102°21'24.6409"W	9573.65	348.696	0.64	-0.58	-0.27	
19788.00	90.960	346.810	9588.75	6546.95	9626.55	9441.49	-1889.05	502259.08	318835.83	32°26'52.3631"N	102°21'24.8152"W	9628.61	348.686	0.64	-0.58	-0.27	
19833.00†	90.975	346.840	9587.99	6546.19	9671.54	9485.30	-1899.31	502248.83	318879.64	32°26'52.7914"N	102°21'24.9584"W	9673.58	348.677	0.07	0.03	0.07	



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH DATA (435 stations) † = interpolated, ‡ = extrapolated station																	
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
19878.00	90.990	346.870	9587.22	6545.42	9716.53	9529.11	-1909.54	502238.59	318923.45	32°26'53.2198"N	102°21'25.1013"W	9718.55	348.669	0.07	0.03	0.07	
19933.00†	91.367	347.605	9586.09	6544.29	9771.52	9582.74	-1921.69	502226.45	318977.08	32°26'53.7444"N	102°21'25.2718"W	9773.53	348.661	1.50	0.69	1.34	
19967.00	91.600	348.060	9585.21	6543.41	9805.51	9615.97	-1928.85	502219.28	319010.30	32°26'54.0695"N	102°21'25.3732"W	9807.51	348.658	1.50	0.69	1.34	
20033.00†	91.373	347.862	9583.50	6541.70	9871.48	9680.49	-1942.61	502205.52	319074.82	32°26'54.7011"N	102°21'25.5685"W	9873.48	348.653	0.46	-0.34	-0.30	
20057.00	91.290	347.790	9582.94	6541.14	9895.48	9703.95	-1947.67	502200.46	319098.27	32°26'54.9306"N	102°21'25.6401"W	9897.47	348.651	0.46	-0.34	-0.30	
20133.00†	90.820	348.465	9581.54	6539.74	9971.46	9778.31	-1963.30	502184.83	319172.63	32°26'55.6584"N	102°21'25.8624"W	9973.46	348.647	1.08	-0.62	0.89	
20146.00	90.740	348.580	9581.37	6539.57	9984.46	9791.05	-1965.89	502182.25	319185.37	32°26'55.7832"N	102°21'25.8995"W	9986.46	348.647	1.08	-0.62	0.89	
20233.00†	91.069	347.971	9579.99	6538.19	10071.44	9876.22	-1983.57	502164.57	319270.53	32°26'56.6170"N	102°21'26.1514"W	10073.44	348.644	0.80	0.38	-0.70	
20236.00	91.080	347.950	9579.94	6538.14	10074.44	9879.15	-1984.19	502163.94	319273.47	32°26'56.6457"N	102°21'26.1603"W	10076.44	348.643	0.80	0.38	-0.70	
20325.00	91.230	348.300	9578.14	6536.34	10163.41	9966.23	-2002.50	502145.64	319360.54	32°26'57.4981"N	102°21'26.4207"W	10165.42	348.639	0.43	0.17	0.39	
20333.00†	91.219	348.286	9577.97	6536.17	10171.41	9974.06	-2004.13	502144.01	319368.37	32°26'57.5747"N	102°21'26.4439"W	10173.42	348.639	0.22	-0.13	-0.18	
20391.00†	91.141	348.181	9576.78	6534.98	10229.39	10030.83	-2015.95	502132.19	319425.13	32°26'58.1305"N	102°21'26.6123"W	10231.40	348.636	0.22	-0.13	-0.18	Crossed 100' FNL Hardline @ 20391'
20414.00	91.110	348.140	9576.32	6534.52	10252.39	10053.34	-2020.67	502127.47	319447.64	32°26'58.3508"N	102°21'26.6795"W	10254.40	348.635	0.22	-0.13	-0.18	
20433.00†	91.110	348.140	9575.96	6534.16	10271.38	10071.93	-2024.57	502123.57	319466.23	32°26'58.5328"N	102°21'26.7350"W	10273.40	348.634	0.00	0.00	0.00	
20450.00†	91.110	348.140	9575.63	6533.83	10288.38	10088.56	-2028.07	502120.07	319482.86	32°26'58.6956"N	102°21'26.7847"W	10290.39	348.634	0.00	0.00	0.00	Projection to TD @ 20450'

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Andrews University 33-28 2H ST01 LTP/BHL	9575.00	10031.86	-2008.51	502139.63	319426.16	32°26'58.1440"N	102°21'26.5261"W	point
Andrews University 33-28 2H ST01 TGT 9	9588.00	9423.85	-1873.65	502274.48	318818.20	32°26'52.1958"N	102°21'24.6262"W	point
Andrews University 33-28 2H ST01 TGT 8	9614.00	8631.41	-1697.91	502450.21	318025.81	32°26'44.4432"N	102°21'22.1503"W	point
Andrews University 33-28 2H ST01 TGT 6	9620.00	5631.88	-1032.69	503115.38	315026.49	32°26'15.0982"N	102°21'12.7798"W	point
Andrews University 33-28 2H ST01 TGT 7	9620.00	6923.65	-1319.17	502828.92	316318.17	32°26'27.7359"N	102°21'16.8150"W	point
Andrews University 33-28 2H ST01 TGT 4	9622.00	2826.54	-410.54	503737.49	312221.34	32°25'47.6528"N	102°21'4.0174"W	point
Andrews University 33-28 2H ST01 TGT 3	9629.00	1723.77	-165.95	503982.06	311118.65	32°25'36.8640"N	102°21'0.5731"W	point
Andrews University 33-28 2H ST01 TGT 5	9631.00	4305.66	-738.56	503409.49	313700.36	32°26'2.1234"N	102°21'8.6371"W	point

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Andrews University 33-28 2H ST01 PP/FTP	9635.00	-85.40	257.22	504405.20	309309.61	32°25'19.1743"N	102°20'54.6677"W	point
Andrews University 33-28 2H ST01 TGT 2	9635.00	233.60	171.74	504319.73	309628.58	32°25'22.2885"N	102°20'55.8355"W	point



# Actual Wellpath Report

Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

WELLPATH COMPOSITION - Ref Wellbore: Andrews University 33-28 2H ST01 Ref Wellpath: Andrews University 33-28 2H ST01 FINAL 5983' - 20414' Proj: 20450'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	1778.00	BH NaviTrak (2019) (Standard)	17 1/2" BH NVT Surface Surveys 239' - 1778'	Andrews University 33-28 2H	8/6/2022
1778.00	5923.00	BH NaviTrak (2019) (Standard)	12 1/4" BH NVT Intermediate Surveys 1898' - 6907'	Andrews University 33-28 2H	8/6/2022
5923.00	8667.00	BH NaviTrak (2019) (Standard)	12 1/4" BH NVT Intermediate Surveys 5983' - 8667'	Andrews University 33-28 2H ST01	8/18/2022
8667.00	20450.00	BH AutoTrak Curve/eXpress (2019) (Standard)	8 1/2" BH ATC Curve/Lateral Surveys 8725' - 20414'	Andrews University 33-28 2H ST01	8/18/2022



REFERENCE WELLPATH IDENTIFICATION			
Operator	Montrose Operating, LLC	Well	Andrews University 33-28 2H
Field	Spraberry (Trend Area), Andrews Co., TX (NAD27/Grid North)	API	42-003-48658
Facility	Andrews University	Wellbore	Andrews University 33-28 2H ST01
Slot	Andrews University 33-28 2H	Sidetrack from	Andrews University 33-28 2H OH FINAL 239' - 6907' Proj: 6973' at 5923.00 MD

COMMENTS
<p><b>Wellpath general comments</b>            Montrose Operating, LLC</p> <p>Well: Andrews University 33-28-2H ST01            Field: Spraberry (Trend Area)            Rig: Precision 600            Location: Andrews County, TX            API: 42-003-48658-01            Latitude: 32° 25' 19.901" N            Longitude: 102° 20' 57.7112" W            DF Elevation: 3041.80 ft            Elev. GL: 3015.80 ft            DF: 26.00 ft            Proposed Direction: 347.50°            PBHL: 20450 feet            Duration: 08/08/2022 thru 09/24/2022            FSE's: Remote ops            SO#: 111470810</p> <p>12 1/4" BH NVT Intermediate Surveys 5983' - 8667'            8 1/2" BH ATC Curve/Lateral Surveys 8725' - 20414'            Crossed 100' FSL Hardline @ 10034'            Crossed 100' FNL Hardline @ 20391'            Projection to TD @ 20450'</p>

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Railroad Commission of Texas  
Oil & Gas Division  
P. O. Box 12967  
Capitol Station  
Austin, TX 78711

Attention: Tina Klein

Montrose Operating, LLC  
Andrews University 33-28 2H ST01  
Spraberry (Trend Area)  
Andrews County, TX  
API# 42-003-4865800-01

I, Gail Deering, Applications Engineer III, certify that I am employed by Baker Hughes; did conduct or supervise on the day(s) of 08/08/2022 through 09/24/2022 conduct or supervise the taking of a MWD survey from a depth of 5983 feet to a depth of 20414 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Baker Hughes; that I am authorized and qualified to make this report; that this survey was conducted at the request of Montrose Operating, LLC for the Andrews University 33-28 2H ST01 Well, API No. 42-003-4865800-01 in Andrews County, Texas; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Baker Hughes.

*Gail Deering*

Applications Engineering III

SO#: 111470810