

EQT (Chevron Data) 02-13-21

Marshall County, WV Chevron

Hines Pad EQT

Hines M13H

OH

Design: Hines M13H As Drilled

Standard Survey Report

30 June, 2021

05/27/2022

EQT

Survey Report

Database: DM_Definitive Company: EQT (Chevron Data) 02-13-21	Local Co-ordinate Reference: Well Hines M13H TVD Reference: GL @ 1125.00 & 25' KB @ 1149.998usft (PD572) MD Reference: GL @ 1125.00 & 25' KB @ 1149.998usft (PD572) North Reference: True Survey Calculation Method: Minimum Curvature	
Project: Marshall County, WV Chevron		
Site: Hines Pad EQT Well: Hines M13H Wellbore: OH Design: Hines M13H As Drilled		

Project Marshall County, WV Chevron			
Map System: US State Plane 1983	System Datum: Mean Sea Level		
Geo Datum: North American Datum 1983			
Map Zone: West Virginia Northern Zone			

Site Hines Pad EQT			
Site Position:		Northing: 514,501.050 usft	Latitude: 39.91
From: Map		Easting: 1,631,895.930 usft	Longitude: -80.70
Position Uncertainty: 1.500 usft		Slot Radius: 13-3/16 "	Grid Convergence: -0.7653 °

Well Hines M13H			
Well Position	+N/-S 0.000 usft	Northing: 514,480.850 usft	Latitude: 39.9063385
	+E/-W 0.000 usft	Easting: 1,632,086.310 usft	Longitude: 80.6992340°W
Position Uncertainty	0.000 usft	Wellhead Elevation: 0.000 usft	Ground Level: 1,124.998 usft

Wellbore OH					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/25/2019	-7.9500	66.9667	52,392.30000000

Design Hines M13H As Drilled					
Audit Notes:					
Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.000			
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.000	0.000	0.000	321.660	

Survey Program		Date 6/28/2021			
From (')	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	433.789	Gyro Keeper (OH)	SDI Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
0.00	6,390.000	Survey #2 (OH)	MWD c	MWD - Standard c	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.000	0.000	0.000	0.000	-1,149.998	0.000	0.000	0.000	0.00000	0.00000	0.00000
101.000	0.220	205.330	101.000	-1,048.998	-0.175	-0.083	-0.086	0.21782	0.21782	0.00000
126.000	0.260	212.140	125.999	-1,023.998	-0.267	-0.134	-0.126	0.19625	0.16000	27.24006
151.000	0.180	136.880	150.999	-998.999	-0.343	-0.137	-0.184	1.10407	-0.32000	-301.0406
										0
176.000	0.160	82.730	175.999	-973.999	-0.368	-0.076	-0.241	0.62310	-0.08000	-216.6004
										3

EQT Survey Report

Database:	EDM_Definitive	Local Co-ordinate Reference:	Well Hines M13H
Company:	EQT (Chevron Data) 02-13-21	TVD Reference:	GL @ 1125.00 & 25' KB @ 1149.998usft (PD572)
Project:	Marshall County, WV Chevron	MD Reference:	GL @ 1125.00 & 25' KB @ 1149.998usft (PD572)
Site:	Hines Pad EQT	North Reference:	True
Well:	Hines M13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Hines M13H As Drilled		

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
201.000	0.240	65.590	200.999	-948.999	-0.342	0.007	-0.272	0.39620	0.32000	-68.56014
226.000	0.020	142.110	225.999	-923.999	-0.323	0.057	-0.289	0.94456	-0.88000	306.08061
250.999	0.120	169.520	250.999	-898.999	-0.353	0.065	-0.317	0.41064	0.40000	109.64022
275.999	0.300	149.580	275.998	-873.999	-0.435	0.102	-0.405	0.76646	0.72000	-79.76016
300.999	0.420	142.520	300.998	-849.000	-0.564	0.191	-0.561	0.51085	0.48000	-28.24006
325.999	0.330	119.400	325.997	-824.000	-0.672	0.310	-0.719	0.69700	-0.36000	-92.48019
350.999	0.330	132.170	350.997	-799.001	-0.756	0.426	-0.857	0.29359	0.00000	51.08010
375.999	0.320	128.340	375.996	-774.001	-0.847	0.534	-0.996	0.09564	-0.04000	-15.32003
400.999	0.440	98.830	400.996	-749.002	-0.905	0.684	-1.134	0.90272	0.48000	-118.04024
425.999	0.390	89.980	425.995	-724.003	-0.920	0.864	-1.257	0.32461	-0.20000	-35.40007
433.789	0.380	86.790	433.785	-716.213	-0.919	0.916	-1.289	0.30358	-0.12837	-40.95002
Gyro Tie In=434' MD/ TVD										
433.800	0.380	86.790	433.796	-716.202	-0.919	0.916	-1.289	0.00786	0.00000	0.00000
543.999	0.100	38.660	543.994	-606.004	-0.823	1.341	-1.477	0.29219	-0.25409	-43.67557
606.999	0.240	105.890	606.993	-543.004	-0.816	1.502	-1.572	0.35145	0.22222	106.71450
637.999	0.150	43.870	637.993	-512.005	-0.805	1.593	-1.619	0.69426	-0.29032	-200.06491
668.999	0.120	125.020	668.993	-481.005	-0.794	1.647	-1.645	0.57126	-0.09677	261.77471
730.999	0.130	93.180	730.993	-419.005	-0.835	1.771	-1.754	0.11169	0.01613	-51.35494
762.998	0.300	322.470	762.992	-387.005	-0.771	1.756	-1.694	1.24128	0.53125	-408.46957
793.998	0.190	285.610	793.992	-356.006	-0.693	1.657	-1.571	0.60253	-0.35484	-118.90347
824.998	0.200	289.370	824.992	-325.006	-0.661	1.557	-1.484	0.05237	0.03226	12.12906
886.998	0.380	306.860	886.991	-263.007	-0.502	1.290	-1.194	0.32026	0.29032	28.20973
918.998	0.400	289.000	918.990	-231.008	-0.402	1.099	-0.997	0.38337	0.06250	-55.81261
949.998	0.310	259.030	949.989	-200.008	-0.382	0.915	-0.867	0.65525	-0.29032	-96.67762
1,043.998	0.270	317.020	1,043.988	-106.009	-0.269	0.514	-0.530	0.30140	-0.04255	61.69161
1,074.998	0.030	65.550	1,074.988	-75.010	-0.212	0.472	-0.459	0.90638	-0.77420	350.09747
1,105.998	0.000	351.870	1,105.988	-44.010	-0.209	0.479	-0.461	0.09677	-0.09677	0.00000
1,136.998	0.070	251.520	1,136.988	-13.010	-0.215	0.461	-0.454	0.22581	0.22581	0.00000
1,167.998	0.240	259.200	1,167.988	17.990	-0.233	0.379	-0.418	0.55124	0.54839	24.77424
1,199.998	0.170	216.370	1,199.987	49.990	-0.283	0.285	-0.399	0.51022	-0.21875	-133.84402
1,230.997	0.090	213.340	1,230.987	80.990	-0.341	0.245	-0.419	0.25893	-0.25807	-9.77421
1,261.997	0.140	194.560	1,261.987	111.990	-0.398	0.222	-0.450	0.19994	0.16129	-60.58077
1,292.997	0.260	151.980	1,292.987	142.989	-0.497	0.245	-0.542	0.59126	0.38710	-137.35512
1,323.997	0.410	132.050	1,323.986	173.989	-0.633	0.361	-0.720	0.60580	0.48387	-64.29045
1,355.997	0.370	119.030	1,355.986	205.988	-0.760	0.536	-0.929	0.30298	-0.12500	-40.68758
1,448.997	0.600	133.080	1,448.982	298.984	-1.238	1.154	-1.687	0.27662	0.24731	15.10756
1,542.997	0.640	132.220	1,542.976	392.979	-1.927	1.903	-2.692	0.04369	0.04255	-0.91490
1,635.997	0.990	103.830	1,635.967	485.969	-2.468	3.067	-3.839	0.56377	0.37634	-30.52694

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Site:	Hines Pad EQT	North Reference:	True
Well:	Hines M13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Hines M13H As Drilled		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,729.996	0.720	72.950	1,729.957	579.959	-2.489	4.421	-4.695	0.55785	-0.28723	-32.85113
1,823.996	0.450	37.340	1,823.952	673.954	-2.022	5.209	-4.818	0.46866	-0.28723	-37.88306
1,916.996	0.410	55.570	1,916.949	766.951	-1.544	5.705	-4.750	0.15252	-0.04301	19.60219
2,010.996	0.470	37.610	2,010.946	860.948	-1.048	6.218	-4.679	0.15915	0.06383	-19.10642
2,041.996	0.720	34.020	2,041.944	891.947	-0.786	6.404	-4.589	0.81498	0.80645	-11.58067
2,133.996	0.690	36.200	2,133.937	983.940	0.140	7.055	-4.267	0.04374	-0.03261	2.36957
2,227.995	0.660	8.580	2,227.931	1,077.933	1.132	7.470	-3.746	0.34421	-0.03191	-29.38304
Nudge KOP=2228' MD/ TVD										
2,228.000	0.660	8.580	2,227.935	1,077.938	1.132	7.470	-3.746	0.00000	0.00000	0.00000
2,320.995	3.680	39.420	2,320.855	1,170.857	3.968	9.446	-2.747	3.36751	3.24747	33.16295
2,351.995	5.090	47.120	2,351.763	1,201.766	5.672	11.085	-2.427	4.91897	4.54840	24.83876
2,383.995	6.140	50.650	2,383.609	1,233.612	7.723	13.449	-2.285	3.45269	3.28126	11.03127
2,414.995	8.250	48.220	2,414.364	1,264.366	10.257	16.390	-2.122	6.87540	6.80647	-7.83873
2,445.995	9.440	49.170	2,444.994	1,294.997	13.401	19.972	-1.878	3.86740	3.83872	3.06452
2,476.995	10.420	51.780	2,475.530	1,325.532	16.797	24.098	-1.774	3.47798	3.16130	8.41937
2,507.995	11.490	53.370	2,505.964	1,355.967	20.374	28.778	-1.872	3.58629	3.45162	5.12904
2,538.995	13.070	54.800	2,536.254	1,386.256	24.237	34.121	-2.156	5.18997	5.09678	4.61291
2,570.995	13.940	54.710	2,567.369	1,417.371	28.550	40.224	-2.559	2.71955	2.71876	-0.28125
2,601.995	15.750	52.430	2,597.333	1,447.335	33.273	46.607	-2.814	6.13417	5.83872	-7.35485
2,694.994	19.280	56.460	2,686.011	1,536.013	49.457	69.416	-4.269	4.01133	3.79571	4.33334
2,791.994	22.310	58.420	2,776.682	1,626.684	67.952	98.456	-7.777	3.20462	3.12372	2.02062
2,884.994	24.430	61.930	2,862.052	1,712.054	86.248	130.469	-13.285	2.72632	2.27957	3.77420
2,978.994	26.030	66.120	2,947.088	1,797.091	103.747	166.486	-21.902	2.55001	1.70213	4.45746
3,071.994	27.020	64.610	3,030.299	1,880.301	121.067	204.231	-31.732	1.28794	1.06452	-1.62366
3,165.994	29.970	63.090	3,112.903	1,962.906	140.853	244.466	-41.172	3.23150	3.13830	-1.61702
3,259.993	33.810	60.680	3,192.704	2,042.706	164.295	288.223	-49.928	4.30308	4.08511	-2.56383
3,352.993	38.210	59.810	3,267.915	2,117.917	191.443	335.668	-58.067	4.76295	4.73119	-0.93549
3,446.993	41.420	60.210	3,340.108	2,190.110	221.518	387.795	-66.813	3.42574	3.41490	0.42553
3,539.993	42.460	59.080	3,409.285	2,259.288	252.933	441.425	-75.441	1.38201	1.11828	-1.21506
3,633.993	42.970	56.750	3,478.355	2,328.357	286.804	495.439	-82.381	1.76673	0.54255	-2.47873
3,727.992	42.230	57.570	3,547.548	2,397.550	321.310	548.894	-88.476	0.98406	-0.78724	0.87234
3,820.992	39.340	60.830	3,617.965	2,467.967	352.448	601.029	-96.394	3.85921	-3.10753	3.50538
3,914.992	38.210	59.160	3,691.249	2,541.251	381.875	652.009	-104.938	1.63791	-1.20213	-1.77660
4,011.992	39.200	60.520	3,766.946	2,616.948	412.340	704.453	-113.575	1.34543	1.02062	1.40206
4,105.992	40.000	61.220	3,839.373	2,689.376	441.504	756.792	-123.168	0.97448	0.85107	0.74468
4,198.991	41.430	59.960	3,909.863	2,759.866	471.300	809.630	-132.574	1.77345	1.53764	-1.35484
4,292.991	40.680	60.470	3,980.746	2,830.749	501.969	863.210	-141.756	0.87383	-0.79787	0.54255
Hines A NE1 AZI										
4,376.325	41.889	59.634	4,043.366	2,893.368	529.420	910.848	-149.776	1.59488	1.45120	-1.00275
4,385.991	42.030	59.540	4,050.554	2,900.556	532.692	916.421	-150.667	1.59488	1.45517	-0.97631
Hines A NE1 BHL										
4,401.993	41.943	59.695	4,062.448	2,912.451	538.106	925.656	-152.149	0.84823	-0.54578	0.97065

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Site:	Hines Pad EQT	North Reference:	True
Well:	Hines M13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Hines M13H As Drilled		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,479.991	41.520	60.460	4,120.656	2,970.659	564.005	970.652	-159.748	0.84823	-0.54189	0.98038
4,572.991	42.260	61.820	4,189.889	3,039.891	593.971	1,025.035	-169.980	1.25955	0.79570	1.46237
4,666.990	42.550	62.880	4,259.299	3,109.301	623.386	1,081.186	-181.740	0.82065	0.30851	1.12766
4,760.990	42.980	61.340	4,328.310	3,178.312	653.243	1,137.592	-193.312	1.20275	0.45745	-1.63830
4,853.990	43.480	59.110	4,396.074	3,246.077	684.876	1,192.871	-202.792	1.72805	0.53764	-2.39785
4,949.990	40.160	59.910	4,467.608	3,317.611	717.362	1,248.015	-211.519	3.50264	-3.45834	0.83334
5,042.990	39.200	60.610	4,539.182	3,389.185	746.821	1,299.571	-220.394	1.13864	-1.03226	0.75269
MOSH 70°										
5,049.002	39.280	60.590	4,543.839	3,393.842	748.688	1,302.884	-220.985	1.34646	1.32937	-0.33798
5,136.989	40.450	60.300	4,611.373	3,461.376	776.508	1,351.942	-229.597	1.34646	1.32982	-0.32923
5,230.989	41.220	61.260	4,682.493	3,532.496	806.509	1,405.586	-239.343	1.05684	0.81915	1.02128
5,323.989	41.120	59.920	4,752.501	3,602.504	836.570	1,458.915	-248.846	0.95458	-0.10753	-1.44086
Hines A NE1 LP										
5,369.370	41.329	60.832	4,786.634	3,636.636	851.352	1,484.912	-253.378	1.40148	0.45967	2.00903
5,417.989	41.560	61.800	4,823.079	3,673.082	866.797	1,513.143	-258.777	1.40148	0.47594	1.99158
MOSH 70°										
5,511.989	41.660	60.800	4,893.362	3,743.364	896.773	1,567.894	-269.229	0.71440	0.10638	-1.06383
5,604.989	41.810	58.270	4,962.766	3,812.769	928.158	1,621.245	-277.707	1.81804	0.16129	-2.72044
5,698.988	40.190	59.270	5,033.707	3,883.710	960.137	1,673.971	-285.331	1.85932	-1.72341	1.06383
5,791.988	40.030	61.000	5,104.837	3,954.839	989.972	1,725.925	-294.159	1.21072	-0.17204	1.86022
5,885.988	40.950	61.860	5,176.325	4,026.327	1,019.156	1,779.528	-304.521	1.14489	0.97873	0.91490
MOSH 70°										
5,961.691	42.049	61.435	5,233.023	4,083.025	1,042.979	1,823.671	-313.218	1.49837	1.45138	-0.56187
5,978.988	42.300	61.340	5,245.842	4,095.844	1,048.540	1,833.866	-315.180	1.49837	1.45263	-0.54720
6,072.988	42.620	61.980	5,315.190	4,165.193	1,078.662	1,889.717	-326.200	0.57196	0.34043	0.68085
6,165.987	43.390	61.220	5,383.200	4,233.203	1,108.834	1,945.512	-337.146	0.99808	0.82796	-0.81721
6,259.987	41.260	61.670	5,452.694	4,302.697	1,139.091	2,001.100	-347.898	2.28876	-2.26596	0.47872
Final MWD Survey=6323° MD/ 5500' TVD										
6,322.987	40.830	60.890	5,500.209	4,350.211	1,158.968	2,037.380	-354.812	1.06151	-0.68254	-1.23810
Projection to TD=6390° MD/ 5551' TVD										
6,390.000	40.830	60.890	5,550.914	4,400.916	1,180.283	2,075.659	-361.840	0.00000	0.00000	0.00000

EQT

Survey Report

Database:	DM_Definitive	Local Co-ordinate Reference:	Well Hines M13H
Company:	EQT (Chevron Data) 02-13-21	TVD Reference:	GL @ 1125.00 & 25' KB @ 1149.998usft (PD572)
Project:	Marshall County, WV Chevron	MD Reference:	GL @ 1125.00 & 25' KB @ 1149.998usft (PD572)
Site:	Hines Pad EQT	North Reference:	True
Well:	Hines M13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Hines M13H As Drilled		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(8,974.891)	(-3,538.647)	(usft)	(usft)		
- Shape									
(2) Hines M13H BHL - R	0.000	0.000	6,269.98	8,974.891	-3,538.647	523,502.178	1,628,667.780	39.9309763	80.7118525°W
			7						
- actual wellpath misses target center by 9629.611usft at 6076.247usft MD (5317.588 TVD, 1079.700 N, 1891.665 E)									
- Point									
Hines M01H BHL - Rev-	0.000	0.000	6,269.98	7,456.487	-5,118.404	522,004.997	1,627,067.895	39.9268071	80.7174847°W
			7						
- actual wellpath misses target center by 9442.517usft at 4586.679usft MD (4200.016 TVD, 598.309 N, 1033.159 E)									
- Point									
Hines M01H LP - Rev-2	0.000	0.000	6,269.98	1,081.777	85.427	515,561.390	1,632,186.170	39.9093083	80.6989294°W
			7						
- actual wellpath misses target center by 2014.258usft at 5791.988usft MD (5104.837 TVD, 989.972 N, 1725.925 E)									
- Point									
(1) Hines M13H LP - Re	0.000	0.000	6,269.98	2,119.619	1,883.486	516,575.139	1,633,997.922	39.9121573	80.6925194°W
			7						
- actual wellpath misses target center by 1198.478usft at 6390.000usft MD (5550.914 TVD, 1180.283 N, 2075.659 E)									
- Point									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
433.800	433.796	-0.919	0.916	Gyro Tie in=434' MD/ TVD
2,228.000	2,227.935	1.132	7.470	Nudge KOP=2228' MD/ TVD
6,322.987	5,500.209	1,158.968	2,037.380	Final MWD Survey=6323' MD/ 5500' TVD
6,390.000	5,550.914	1,180.283	2,075.659	Projection to TD=6390' MD/ 5551' TVD

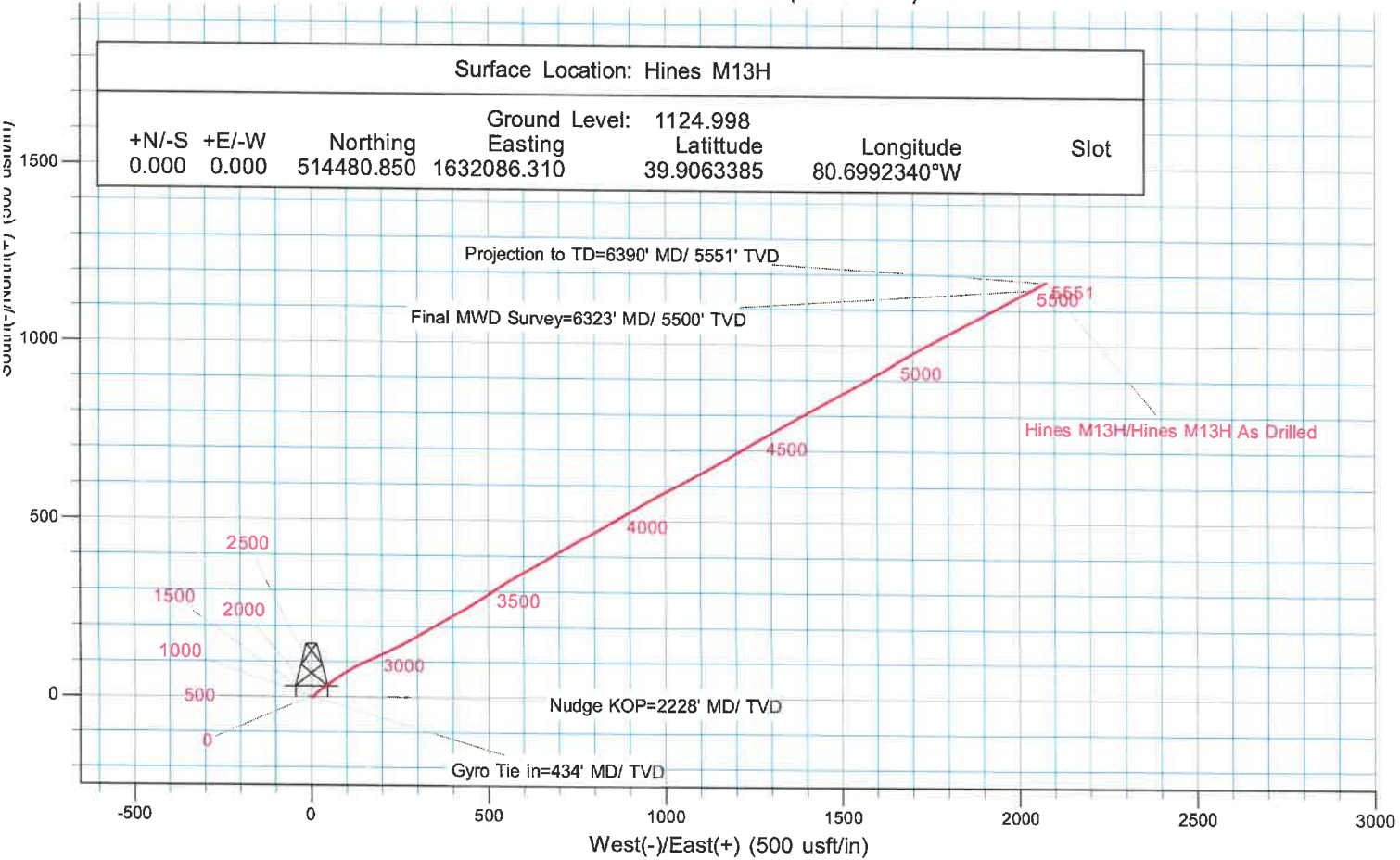
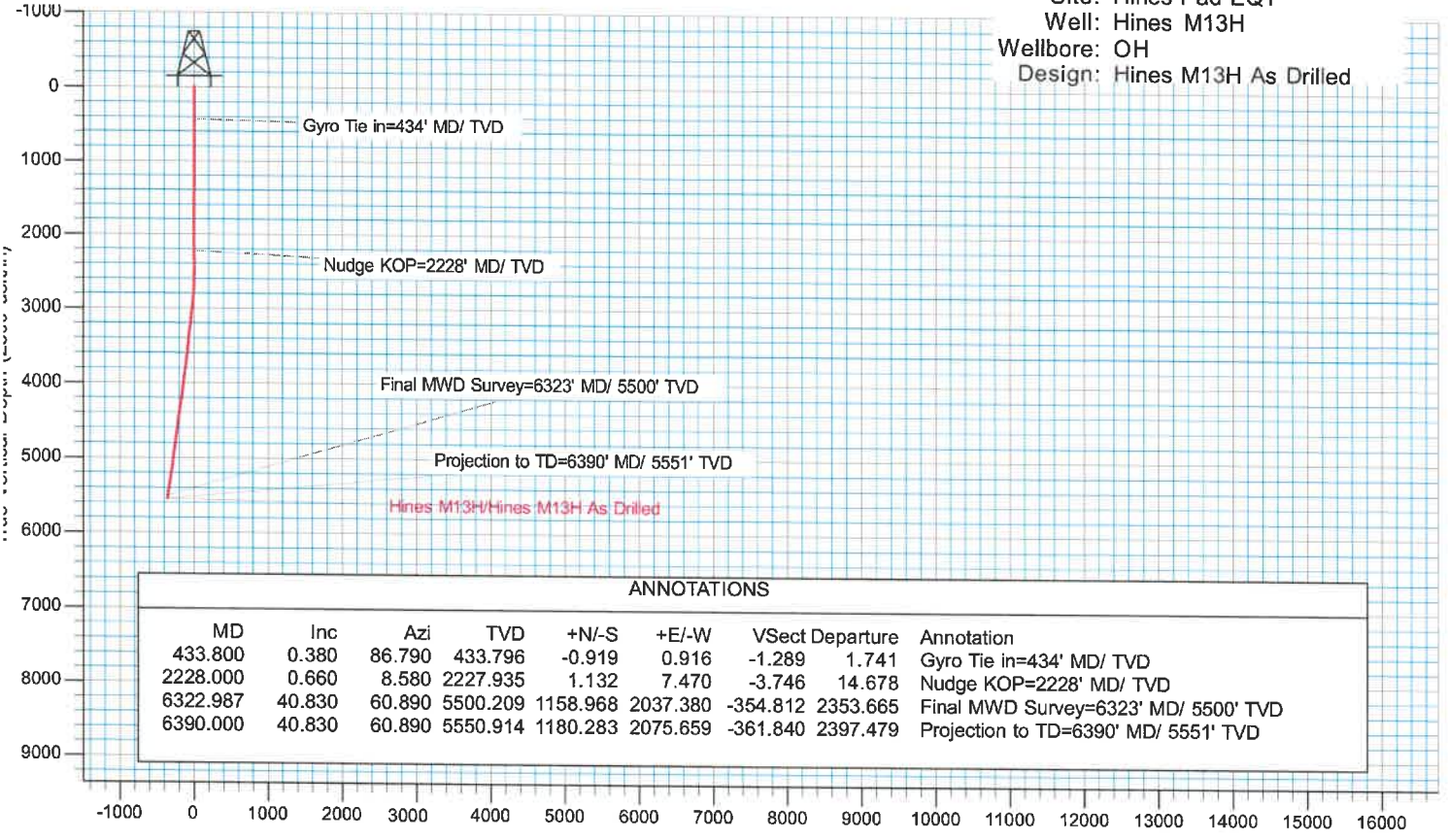
Checked By: _____ Approved By: _____ Date: _____



EQT (Chevron Data) 02-13-21

KB Elevation= GL @ 1125.00 & 25' KB @ 1149.998usft (PD572)
 Ground Elevation= 1124.998
 All measurements were taken from KB Elevation

Project: Marshall County, WV Chevron
 Site: Hines Pad EQT
 Well: Hines M13H
 Wellbore: OH
 Design: Hines M13H As Drilled



05/27/2022