

EQT (Chevron Data) 02-13-21

Marshall County, WV Chevron

Hines A

Hines A 13H L-015645

OH

Design: Hines M13H As Drilled

Survey Report - Geographic

06 May, 2025

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WV Department of
Environmental Protection



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Survey Report - Geographic

Company:	EQT (Chevron Data) 02-13-21	Local Co-ordinate Reference:	Well Hines A 13H L-015645
Project:	Marshall County, WV Chevron	TVD Reference:	KB@28 @ 1152.0ft
Site:	Hines A	MD Reference:	KB@28 @ 1152.0ft
Well:	Hines A 13H L-015645	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Hines M13H As Drilled	Database:	EQT

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 A				
Site Position:		Northing:	156,820.23 m	Latitude:	39° 54' 22.993 N
From:	Map	Easting:	497,402.88 m	Longitude:	80° 41' 59.689 W
Position Uncertainty:	1.5 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.77 °

Well	Hines A 13H L-015645				
Well Position	+N/-S	0.0 ft	Northing:	156,814.08 m	Latitude: 39° 54' 22.819 N
	+E/-W	0.0 ft	Easting:	497,460.90 m	Longitude: 80° 41' 57.242 W
Position Uncertainty		3.0 ft	Wellhead Elevation:	0.0 ft	Ground Level: 1,124.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HOGM2025	4/20/2025	-8.10	66.47	51,774.00000000

Design	Hines M13H As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	147.88	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	156,814.08	497,460.90	39° 54' 22.819 N	80° 41' 57.242 W
100.0	0.21	206.09	100.0	-0.2	-0.1	156,814.03	497,460.88	39° 54' 22.817 N	80° 41' 57.243 W
200.0	0.23	68.27	200.0	-0.4	0.0	156,813.97	497,460.90	39° 54' 22.815 N	80° 41' 57.243 W
300.0	0.40	144.13	300.0	-0.5	0.2	156,813.91	497,460.95	39° 54' 22.813 N	80° 41' 57.240 W
400.0	0.41	103.08	400.0	-0.9	0.6	156,813.80	497,461.10	39° 54' 22.810 N	80° 41' 57.234 W
436.8	0.38	87.55	436.8	-0.9	0.9	156,813.79	497,461.18	39° 54' 22.809 N	80° 41' 57.231 W
Gyro Tie in=434' MD/ TVD									
500.0	0.20	75.52	500.0	-0.9	1.2	156,813.80	497,461.28	39° 54' 22.810 N	80° 41' 57.227 W
547.0	0.10	39.43	547.0	-0.8	1.3	156,813.82	497,461.31	39° 54' 22.810 N	80° 41' 57.225 W
KOP 1=547' MD/ 547' TVD									
600.0	0.21	102.63	600.0	-0.8	1.5	156,813.82	497,461.35	39° 54' 22.810 N	80° 41' 57.224 W
700.0	0.12	110.80	700.0	-0.8	1.7	156,813.82	497,461.42	39° 54' 22.810 N	80° 41' 57.221 W
800.0	0.19	286.37	800.0	-0.7	1.6	156,813.86	497,461.40	39° 54' 22.812 N	80° 41' 57.221 W
900.0	0.38	301.87	900.0	-0.5	1.2	156,813.93	497,461.28	39° 54' 22.814 N	80° 41' 57.227 W
1,000.0	0.25	286.60	1,000.0	-0.4	0.7	156,813.96	497,461.11	39° 54' 22.815 N	80° 41' 57.234 W
1,100.0	0.01	66.31	1,100.0	-0.2	0.5	156,814.01	497,461.05	39° 54' 22.816 N	80° 41' 57.236 W
1,200.0	0.17	222.26	1,200.0	-0.3	0.3	156,813.99	497,460.99	39° 54' 22.816 N	80° 41' 57.239 W
1,300.0	0.28	149.01	1,300.0	-0.5	0.2	156,813.92	497,460.98	39° 54' 22.813 N	80° 41' 57.239 W
1,400.0	0.47	127.68	1,400.0	-0.9	0.8	156,813.79	497,461.14	39° 54' 22.809 N	80° 41' 57.232 W

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Project: Marshall County, WV Chevron
Site: Hines A
Well: Hines A 13H L-015645
Wellbore: OH
Design: Hines M13H As Drilled

Local Co-ordinate Reference: Well Hines A 13H L-015645
TVD Reference: KB@28 @ 1152.0ft
MD Reference: KB@28 @ 1152.0ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EQT

NOV 6 2025
WV Department of Environmental Protection

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
1,500.0	0.62	133.39	1,500.0	-1.6	1.5	156,813.59	497,461.36	39° 54' 22.803 N	80° 41' 57.223 W
1,600.0	0.82	113.54	1,600.0	-2.3	2.4	156,813.37	497,461.65	39° 54' 22.796 N	80° 41' 57.211 W
1,700.0	0.79	86.83	1,700.0	-2.6	4.0	156,813.28	497,462.11	39° 54' 22.793 N	80° 41' 57.191 W
1,800.0	0.50	51.94	1,800.0	-2.3	5.0	156,813.39	497,462.43	39° 54' 22.797 N	80° 41' 57.178 W
1,900.0	0.41	52.15	1,900.0	-1.7	5.6	156,813.56	497,462.60	39° 54' 22.802 N	80° 41' 57.171 W
2,000.0	0.46	40.73	2,000.0	-1.2	6.1	156,813.70	497,462.77	39° 54' 22.807 N	80° 41' 57.164 W
2,100.0	0.70	36.07	2,099.9	-0.3	6.8	156,813.98	497,462.97	39° 54' 22.816 N	80° 41' 57.155 W
2,200.0	0.65	18.65	2,199.9	0.7	7.4	156,814.29	497,463.16	39° 54' 22.826 N	80° 41' 57.148 W
2,300.0	2.88	38.44	2,299.9	2.8	8.6	156,814.92	497,463.53	39° 54' 22.847 N	80° 41' 57.132 W
2,400.0	7.02	50.22	2,399.5	8.5	14.7	156,816.66	497,465.38	39° 54' 22.904 N	80° 41' 57.055 W
2,500.0	11.11	53.61	2,498.2	18.7	27.3	156,819.78	497,469.23	39° 54' 23.007 N	80° 41' 56.895 W
2,600.0	15.46	53.53	2,595.5	31.8	46.0	156,823.78	497,474.91	39° 54' 23.139 N	80° 41' 56.658 W
2,700.0	19.34	57.27	2,690.9	48.9	70.6	156,828.98	497,482.43	39° 54' 23.311 N	80° 41' 56.345 W
2,800.0	22.42	59.39	2,784.3	67.6	101.0	156,834.68	497,491.68	39° 54' 23.500 N	80° 41' 55.958 W
2,900.0	24.63	63.26	2,876.0	86.8	136.0	156,840.52	497,502.37	39° 54' 23.694 N	80° 41' 55.512 W
3,000.0	26.22	66.58	2,966.3	104.6	175.1	156,845.97	497,514.28	39° 54' 23.876 N	80° 41' 55.013 W
3,100.0	27.80	64.94	3,055.5	123.2	216.3	156,851.62	497,526.82	39° 54' 24.064 N	80° 41' 54.488 W
3,200.0	31.23	63.00	3,142.6	144.6	260.4	156,858.16	497,540.28	39° 54' 24.282 N	80° 41' 53.925 W
3,300.0	35.56	61.08	3,226.1	170.6	308.9	156,866.06	497,555.04	39° 54' 24.545 N	80° 41' 53.309 W
3,400.0	39.71	60.77	3,305.1	200.5	362.3	156,875.19	497,571.34	39° 54' 24.848 N	80° 41' 52.628 W
3,500.0	41.98	60.36	3,380.5	232.6	419.7	156,884.98	497,588.83	39° 54' 25.173 N	80° 41' 51.897 W
3,600.0	42.76	58.43	3,454.2	266.8	477.9	156,895.40	497,606.56	39° 54' 25.518 N	80° 41' 51.156 W
3,700.0	42.47	58.06	3,527.7	302.9	535.4	156,906.42	497,624.09	39° 54' 25.883 N	80° 41' 50.424 W
3,800.0	40.08	60.72	3,602.5	337.0	592.3	156,916.79	497,641.42	39° 54' 26.227 N	80° 41' 49.700 W
3,900.0	38.42	60.25	3,680.1	367.6	647.4	156,926.11	497,658.22	39° 54' 26.536 N	80° 41' 48.998 W
4,000.0	39.05	61.08	3,758.3	398.3	701.6	156,935.49	497,674.75	39° 54' 26.847 N	80° 41' 48.308 W
4,100.0	39.92	61.92	3,835.5	428.6	757.5	156,944.73	497,691.80	39° 54' 27.154 N	80° 41' 47.595 W
4,200.0	41.40	60.75	3,911.4	459.8	814.7	156,954.22	497,709.22	39° 54' 27.470 N	80° 41' 46.867 W
4,300.0	40.74	61.19	3,986.8	491.7	872.1	156,963.93	497,726.73	39° 54' 27.792 N	80° 41' 46.136 W
4,400.0	41.97	60.41	4,061.7	524.1	929.9	156,973.81	497,744.32	39° 54' 28.120 N	80° 41' 45.400 W
4,500.0	41.65	61.48	4,136.4	556.4	988.0	156,983.67	497,762.05	39° 54' 28.447 N	80° 41' 44.660 W
4,600.0	42.33	62.86	4,210.7	587.6	1,047.2	156,993.19	497,780.10	39° 54' 28.764 N	80° 41' 43.905 W
4,700.0	42.69	63.15	4,284.4	618.0	1,107.6	157,002.44	497,798.49	39° 54' 29.071 N	80° 41' 43.136 W
4,800.0	43.17	61.24	4,357.6	649.7	1,167.9	157,012.10	497,816.87	39° 54' 29.392 N	80° 41' 42.368 W
4,900.0	41.99	60.22	4,430.7	683.5	1,227.2	157,022.40	497,834.95	39° 54' 29.734 N	80° 41' 41.612 W
5,000.0	39.67	61.03	4,506.7	715.3	1,283.8	157,032.11	497,852.21	39° 54' 30.056 N	80° 41' 40.891 W
5,100.0	39.92	61.19	4,583.8	745.9	1,339.6	157,041.44	497,869.21	39° 54' 30.366 N	80° 41' 40.181 W
5,200.0	40.94	61.68	4,659.9	777.1	1,396.5	157,050.95	497,886.57	39° 54' 30.682 N	80° 41' 39.455 W
5,300.0	41.15	61.07	4,735.2	808.4	1,454.4	157,060.47	497,904.22	39° 54' 30.998 N	80° 41' 38.717 W
5,400.0	41.46	62.15	4,810.4	840.1	1,512.3	157,070.13	497,921.84	39° 54' 31.319 N	80° 41' 37.981 W
5,500.0	41.64	61.72	4,885.2	871.0	1,571.0	157,079.57	497,939.73	39° 54' 31.633 N	80° 41' 37.233 W
5,600.0	41.79	59.25	4,959.8	903.7	1,628.9	157,089.52	497,957.40	39° 54' 31.963 N	80° 41' 36.495 W
5,700.0	40.22	60.01	5,035.2	937.1	1,685.5	157,099.69	497,974.65	39° 54' 32.300 N	80° 41' 35.774 W
5,800.0	40.08	61.81	5,111.7	968.4	1,741.8	157,109.24	497,991.81	39° 54' 32.617 N	80° 41' 35.057 W
5,900.0	41.11	62.56	5,187.6	998.6	1,799.4	157,118.46	498,009.36	39° 54' 32.924 N	80° 41' 34.323 W
6,000.0	42.36	62.23	5,262.2	1,029.6	1,858.4	157,127.91	498,027.35	39° 54' 33.238 N	80° 41' 33.571 W
6,100.0	42.82	62.55	5,335.8	1,060.8	1,918.4	157,137.42	498,045.64	39° 54' 33.554 N	80° 41' 32.807 W
6,200.0	42.69	62.13	5,408.9	1,092.7	1,978.8	157,147.13	498,064.05	39° 54' 33.877 N	80° 41' 32.037 W
6,300.0	41.01	61.98	5,483.6	1,123.6	2,037.7	157,156.56	498,081.98	39° 54' 34.190 N	80° 41' 31.287 W
6,326.0	40.83	61.65	5,503.2	1,131.7	2,052.7	157,159.01	498,086.56	39° 54' 34.272 N	80° 41' 31.096 W
Final MWD Survey=6323' MD/ 5500' TVD									
6,400.0	39.61	60.17	5,559.5	1,154.9	2,094.8	157,166.10	498,099.39	39° 54' 34.507 N	80° 41' 30.560 W
6,486.0	32.12	54.25	5,629.1	1,182.0	2,137.2	157,174.34	498,112.32	39° 54' 34.780 N	80° 41' 30.020 W
KOP 2 6486' MD/ 5629.1' TVD									
6,500.0	31.18	53.42	5,641.0	1,186.3	2,143.1	157,175.67	498,114.13	39° 54' 34.824 N	80° 41' 29.945 W

Survey Report - Geographic

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Project: Marshall County, WV Chevron
Site: Hines A
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Wellbore: OH
Design: Hines M13H As Drilled

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TVD Reference: KB@28 @ 1152.0ft
MD Reference: KB@28 @ 1152.0ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EQT

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
6,600.0	25.87	51.69	5,729.3	1,216.1	2,179.4	157,184.74	498,125.17	39° 54' 35.122 N	80° 41' 29.485 W
6,700.0	25.14	72.53	5,819.6	1,236.3	2,217.1	157,190.89	498,136.68	39° 54' 35.327 N	80° 41' 29.003 W
6,800.0	26.36	93.79	5,910.1	1,240.7	2,259.0	157,192.25	498,149.45	39° 54' 35.376 N	80° 41' 28.467 W
6,900.0	32.34	108.95	5,997.4	1,231.1	2,306.7	157,189.32	498,163.99	39° 54' 35.288 N	80° 41' 27.853 W
7,000.0	40.19	121.67	6,078.1	1,205.3	2,359.5	157,181.44	498,180.07	39° 54' 35.039 N	80° 41' 27.171 W
7,100.0	48.08	129.77	6,149.5	1,164.2	2,415.9	157,168.92	498,197.28	39° 54' 34.541 N	80° 41' 26.440 W
7,200.0	56.53	136.59	6,211.1	1,110.3	2,473.2	157,152.50	498,214.74	39° 54' 34.116 N	80° 41' 25.698 W
7,300.0	54.97	141.64	6,259.4	1,043.9	2,530.1	157,132.28	498,232.07	39° 54' 33.467 N	80° 41' 24.955 W
7,351.9	68.88	143.90	6,279.8	1,006.0	2,559.0	157,120.89	498,240.89	39° 54' 33.096 N	80° 41' 24.577 W
Marcellus at 7351.9 MD_6279.8 TVD									
7,400.0	72.78	148.47	6,295.8	968.7	2,584.9	157,109.32	498,248.79	39° 54' 32.730 N	80° 41' 24.238 W
7,500.0	83.22	151.42	6,317.0	885.1	2,635.1	157,083.85	498,264.09	39° 54' 31.911 N	80° 41' 23.580 W
7,529.0	86.59	152.79	6,319.0	859.6	2,648.6	157,076.07	498,268.21	39° 54' 31.661 N	80° 41' 23.402 W
LP at 7529.0 MD_6319.6 TVD									
7,600.0	88.57	154.48	6,322.0	796.0	2,680.1	157,056.70	498,277.81	39° 54' 31.037 N	80° 41' 22.987 W
7,700.0	89.83	154.55	6,323.8	705.5	2,722.7	157,029.12	498,290.79	39° 54' 30.148 N	80° 41' 22.425 W
7,800.0	89.77	154.07	6,324.3	615.4	2,766.1	157,001.66	498,304.01	39° 54' 29.254 N	80° 41' 21.853 W
7,900.0	89.59	155.22	6,324.8	525.1	2,809.1	156,974.14	498,317.11	39° 54' 28.377 N	80° 41' 21.286 W
8,000.0	89.38	155.03	6,325.7	434.4	2,851.1	156,946.48	498,329.91	39° 54' 27.488 N	80° 41' 20.732 W
8,100.0	88.78	154.58	6,327.3	343.9	2,893.7	156,918.90	498,342.89	39° 54' 26.597 N	80° 41' 20.171 W
8,200.0	89.52	155.04	6,328.8	253.4	2,936.1	156,891.31	498,355.83	39° 54' 25.708 N	80° 41' 19.611 W
8,300.0	89.85	154.21	6,329.2	163.1	2,979.1	156,863.79	498,368.92	39° 54' 24.821 N	80° 41' 19.044 W
8,400.0	89.49	154.54	6,329.9	73.0	3,022.4	156,836.32	498,382.14	39° 54' 23.937 N	80° 41' 18.472 W
8,500.0	89.51	155.14	6,330.7	-17.6	3,064.7	156,808.70	498,395.02	39° 54' 23.047 N	80° 41' 17.915 W
8,600.0	89.53	154.79	6,331.8	-108.2	3,107.1	156,781.10	498,407.96	39° 54' 22.157 N	80° 41' 17.355 W
8,700.0	89.83	154.83	6,332.2	-198.7	3,149.7	156,753.52	498,420.92	39° 54' 21.269 N	80° 41' 16.794 W
8,800.0	89.08	154.78	6,332.4	-289.2	3,192.2	156,725.94	498,433.90	39° 54' 20.380 N	80° 41' 16.232 W
8,900.0	89.31	154.58	6,333.4	-379.6	3,234.9	156,698.38	498,446.91	39° 54' 19.492 N	80° 41' 15.668 W
9,000.0	89.34	154.69	6,334.6	-469.9	3,277.9	156,670.86	498,460.02	39° 54' 18.606 N	80° 41' 15.101 W
9,100.0	89.52	154.88	6,335.7	-560.4	3,320.4	156,643.27	498,472.97	39° 54' 17.717 N	80° 41' 14.541 W
9,200.0	89.60	154.81	6,336.3	-650.9	3,362.9	156,615.68	498,485.93	39° 54' 16.828 N	80° 41' 13.980 W
9,300.0	89.48	155.68	6,337.0	-741.6	3,405.0	156,588.04	498,498.76	39° 54' 15.937 N	80° 41' 13.425 W
9,400.0	89.48	155.50	6,338.0	-832.8	3,446.1	156,560.25	498,511.27	39° 54' 15.041 N	80° 41' 12.862 W
9,500.0	89.72	154.40	6,338.7	-923.4	3,488.3	156,532.62	498,524.15	39° 54' 14.151 N	80° 41' 12.325 W
9,600.0	89.16	154.00	6,339.0	-1,013.4	3,532.0	156,505.19	498,537.44	39° 54' 13.268 N	80° 41' 11.750 W
9,700.0	88.94	155.30	6,341.3	-1,103.7	3,574.9	156,477.67	498,550.52	39° 54' 12.381 N	80° 41' 11.184 W
9,800.0	88.47	154.94	6,343.6	-1,194.4	3,616.0	156,450.02	498,563.34	39° 54' 11.490 N	80° 41' 10.629 W
9,900.0	88.57	155.33	6,346.2	-1,285.1	3,658.9	156,422.37	498,576.13	39° 54' 10.599 N	80° 41' 10.075 W
10,000.0	89.49	154.77	6,347.8	-1,375.7	3,701.2	156,394.76	498,589.03	39° 54' 9.709 N	80° 41' 9.517 W
10,100.0	89.32	155.38	6,348.8	-1,466.4	3,743.3	156,367.11	498,601.85	39° 54' 8.818 N	80° 41' 8.962 W
10,200.0	89.31	155.72	6,350.2	-1,557.4	3,784.7	156,339.37	498,614.48	39° 54' 7.924 N	80° 41' 8.415 W
10,300.0	89.67	155.68	6,350.8	-1,648.7	3,825.5	156,311.55	498,626.92	39° 54' 7.027 N	80° 41' 7.876 W
10,400.0	89.27	154.72	6,351.9	-1,739.4	3,867.7	156,283.91	498,639.77	39° 54' 6.137 N	80° 41' 7.319 W
10,500.0	89.18	154.90	6,353.1	-1,829.8	3,910.4	156,256.36	498,652.80	39° 54' 5.249 N	80° 41' 6.755 W
10,600.0	89.25	155.40	6,354.6	-1,920.6	3,952.3	156,228.69	498,665.57	39° 54' 4.358 N	80° 41' 6.202 W
10,700.0	89.55	155.22	6,355.6	-2,011.5	3,994.0	156,200.97	498,678.26	39° 54' 3.465 N	80° 41' 5.653 W
10,800.0	89.24	155.04	6,356.5	-2,102.2	4,036.1	156,173.34	498,691.12	39° 54' 2.574 N	80° 41' 5.097 W
10,900.0	89.94	156.09	6,357.7	-2,193.1	4,077.8	156,145.63	498,703.81	39° 54' 1.681 N	80° 41' 4.547 W
11,000.0	89.70	155.61	6,357.5	-2,284.5	4,118.2	156,117.75	498,716.12	39° 54' 0.782 N	80° 41' 4.013 W
11,100.0	89.72	155.95	6,358.1	-2,375.6	4,159.5	156,090.00	498,728.73	39° 53' 59.888 N	80° 41' 3.457 W
11,200.0	89.54	154.44	6,358.7	-2,466.5	4,201.1	156,062.28	498,741.40	39° 53' 58.995 N	80° 41' 2.918 W
11,300.0	89.28	154.62	6,359.7	-2,556.7	4,244.3	156,034.80	498,754.58	39° 53' 58.109 N	80° 41' 2.348 W
11,400.0	89.17	154.24	6,361.1	-2,646.9	4,287.4	156,007.30	498,767.72	39° 53' 57.223 N	80° 41' 1.780 W
11,500.0	89.01	153.91	6,362.7	-2,736.8	4,331.2	155,979.89	498,781.05	39° 53' 56.341 N	80° 41' 1.204 W
11,600.0	89.36	154.43	6,364.0	-2,826.8	4,374.7	155,952.46	498,794.32	39° 53' 55.457 N	80° 41' 0.630 W

Survey Report - Geographic

Company: EQT (Chevron Data) 02-13-21
 Project: Marshall County, WV Chevron
 Site: Hines A
 Well: Hines A 13H L-Q15645
 Wellbore: OH
 Design: Hines M13H As Drilled

Local Co-ordinate Reference: Well Hines A 13H L-Q15645
 TVD Reference: KB@28 @ 1152.0ft
 MD Reference: KB@28 @ 1152.0ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EQT

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
11,700.0	89.27	154.63	6,365.3	-2.917.1	4,417.7	155,924.93	498,807.41	39° 53' 54.570 N	80° 41' 0.063 W
11,800.0	89.48	154.15	6,365.3	-3,007.3	4,460.8	155,897.44	498,820.57	39° 53' 53.684 N	80° 40' 59.494 W
11,900.0	89.30	153.69	6,367.3	-3,097.1	4,505.0	155,870.09	498,834.02	39° 53' 52.803 N	80° 40' 58.913 W
12,000.0	89.11	154.08	6,368.9	-3,186.9	4,549.0	155,842.72	498,847.42	39° 53' 51.922 N	80° 40' 58.334 W
12,100.0	89.42	154.06	6,370.2	-3,276.8	4,592.6	155,815.30	498,860.72	39° 53' 51.038 N	80° 40' 57.759 W
12,200.0	89.59	153.97	6,370.9	-3,366.7	4,636.5	155,787.92	498,874.11	39° 53' 50.156 N	80° 40' 57.180 W
12,300.0	89.29	154.22	6,371.6	-3,456.6	4,680.2	155,760.50	498,887.42	39° 53' 49.273 N	80° 40' 56.604 W
12,400.0	89.29	154.20	6,373.2	-3,546.7	4,723.6	155,733.05	498,900.66	39° 53' 48.389 N	80° 40' 56.032 W
12,500.0	89.39	153.83	6,374.3	-3,636.6	4,767.4	155,705.64	498,914.00	39° 53' 47.506 N	80° 40' 55.455 W
12,600.0	89.22	154.03	6,375.5	-3,726.3	4,811.5	155,678.29	498,927.45	39° 53' 46.625 N	80° 40' 54.874 W
12,700.0	89.26	154.00	6,376.9	-3,816.3	4,855.2	155,650.87	498,940.75	39° 53' 45.741 N	80° 40' 54.299 W
12,800.0	90.41	154.13	6,377.4	-3,906.2	4,899.0	155,623.46	498,954.11	39° 53' 44.859 N	80° 40' 53.721 W
12,900.0	90.46	154.80	6,376.4	-3,996.4	4,942.1	155,595.98	498,967.26	39° 53' 43.973 N	80° 40' 53.153 W
13,000.0	90.08	154.57	6,375.9	-4,086.9	4,984.7	155,568.40	498,980.24	39° 53' 43.084 N	80° 40' 52.581 W
13,100.0	88.95	154.34	6,376.7	-4,177.1	5,027.8	155,540.91	498,993.38	39° 53' 42.199 N	80° 40' 52.023 W
13,200.0	89.16	153.82	6,378.4	-4,267.0	5,071.5	155,513.50	499,006.71	39° 53' 41.316 N	80° 40' 51.446 W
13,300.0	89.35	155.43	6,379.7	-4,357.4	5,114.3	155,485.95	499,019.75	39° 53' 40.428 N	80° 40' 50.882 W
13,400.0	90.20	155.73	6,379.8	-4,448.4	5,155.6	155,458.20	499,032.34	39° 53' 39.534 N	80° 40' 50.337 W
13,500.0	88.90	156.10	6,381.2	-4,539.6	5,196.7	155,430.41	499,044.86	39° 53' 38.636 N	80° 40' 49.795 W
13,600.0	90.69	157.85	6,381.3	-4,631.7	5,235.5	155,402.32	499,056.70	39° 53' 37.732 N	80° 40' 49.281 W
13,700.0	91.40	158.53	6,379.4	-4,724.5	5,272.9	155,374.06	499,068.08	39° 53' 36.821 N	80° 40' 48.786 W
13,800.0	90.84	159.31	6,377.0	-4,817.9	5,308.4	155,345.57	499,078.90	39° 53' 35.902 N	80° 40' 48.315 W
13,900.0	89.47	158.56	6,377.0	-4,911.2	5,344.4	155,317.14	499,089.87	39° 53' 34.985 N	80° 40' 47.837 W
14,000.0	88.93	158.46	6,378.5	-5,004.2	5,381.2	155,288.80	499,101.10	39° 53' 34.071 N	80° 40' 47.349 W
14,100.0	88.84	158.68	6,380.5	-5,097.3	5,417.7	155,260.43	499,112.21	39° 53' 33.156 N	80° 40' 46.865 W
14,200.0	88.47	158.66	6,382.7	-5,190.4	5,454.0	155,232.04	499,123.29	39° 53' 32.240 N	80° 40' 46.384 W
14,300.0	88.30	158.92	6,385.7	-5,283.6	5,490.3	155,203.65	499,134.34	39° 53' 31.324 N	80° 40' 45.903 W
14,400.0	88.57	158.90	6,388.4	-5,376.9	5,526.1	155,175.21	499,145.27	39° 53' 30.407 N	80° 40' 45.427 W
14,500.0	88.43	159.16	6,390.9	-5,470.2	5,562.0	155,146.77	499,156.21	39° 53' 29.489 N	80° 40' 44.951 W
14,600.0	88.47	159.17	6,393.7	-5,563.6	5,597.5	155,118.28	499,167.03	39° 53' 28.570 N	80° 40' 44.480 W
14,700.0	87.62	159.16	6,397.0	-5,657.0	5,633.1	155,089.81	499,177.86	39° 53' 27.652 N	80° 40' 44.008 W
14,800.0	87.71	158.95	6,401.1	-5,750.4	5,668.8	155,061.37	499,188.74	39° 53' 26.734 N	80° 40' 43.535 W
14,900.0	87.80	159.20	6,405.1	-5,843.7	5,704.5	155,032.92	499,199.62	39° 53' 25.817 N	80° 40' 43.061 W
15,000.0	88.52	159.03	6,408.3	-5,937.1	5,740.1	155,004.46	499,210.48	39° 53' 24.899 N	80° 40' 42.588 W
15,100.0	89.13	159.14	6,410.4	-6,030.4	5,775.9	154,976.01	499,221.41	39° 53' 23.981 N	80° 40' 42.113 W
15,200.0	90.07	160.26	6,410.7	-6,124.3	5,810.2	154,947.39	499,231.87	39° 53' 23.057 N	80° 40' 41.657 W
15,300.0	89.02	158.99	6,411.9	-6,218.0	5,845.3	154,918.84	499,242.54	39° 53' 22.136 N	80° 40' 41.192 W
15,400.0	89.35	159.19	6,413.0	-6,311.3	5,881.1	154,890.39	499,253.48	39° 53' 21.218 N	80° 40' 40.716 W
15,500.0	89.27	159.77	6,414.6	-6,405.0	5,916.0	154,861.82	499,264.09	39° 53' 20.297 N	80° 40' 40.253 W
15,600.0	89.69	159.18	6,415.2	-6,498.8	5,950.8	154,833.26	499,274.72	39° 53' 19.375 N	80° 40' 39.790 W
15,700.0	89.30	158.64	6,416.1	-6,591.9	5,987.1	154,804.85	499,285.77	39° 53' 18.459 N	80° 40' 39.309 W
15,800.0	89.30	159.12	6,417.4	-6,685.2	6,023.2	154,776.43	499,296.78	39° 53' 17.542 N	80° 40' 38.830 W
15,900.0	89.43	158.86	6,418.5	-6,778.7	6,058.7	154,747.94	499,307.61	39° 53' 16.623 N	80° 40' 38.359 W
16,000.0	89.48	158.76	6,419.4	-6,871.8	6,095.2	154,719.56	499,318.71	39° 53' 15.707 N	80° 40' 37.878 W
16,100.0	89.64	158.72	6,420.2	-6,965.0	6,131.3	154,691.14	499,329.72	39° 53' 14.791 N	80° 40' 37.397 W
16,200.0	89.52	158.64	6,420.9	-7,058.2	6,167.7	154,662.75	499,340.81	39° 53' 13.875 N	80° 40' 36.914 W
16,300.0	89.54	158.93	6,421.8	-7,151.4	6,203.9	154,634.34	499,351.86	39° 53' 12.959 N	80° 40' 36.434 W
16,400.0	89.82	158.94	6,422.5	-7,244.7	6,239.8	154,605.89	499,362.80	39° 53' 12.041 N	80° 40' 35.958 W
16,500.0	89.86	158.73	6,423.1	-7,338.0	6,275.9	154,577.47	499,373.80	39° 53' 11.124 N	80° 40' 35.479 W
16,600.0	89.04	157.95	6,424.2	-7,430.9	6,312.8	154,549.14	499,385.04	39° 53' 10.210 N	80° 40' 34.991 W
16,700.0	89.09	158.96	6,425.9	-7,523.9	6,349.5	154,520.79	499,396.22	39° 53' 9.298 N	80° 40' 34.504 W
16,800.0	89.09	158.17	6,427.5	-7,616.9	6,386.1	154,492.44	499,407.40	39° 53' 8.382 N	80° 40' 34.016 W
16,900.0	89.61	159.24	6,428.5	-7,710.1	6,422.4	154,464.03	499,418.44	39° 53' 7.465 N	80° 40' 33.536 W
17,000.0	89.55	159.45	6,429.3	-7,803.7	6,457.6	154,435.51	499,429.18	39° 53' 6.545 N	80° 40' 33.070 W
17,100.0	89.74	159.50	6,429.9	-7,897.4	6,492.6	154,406.96	499,439.86	39° 53' 5.624 N	80° 40' 32.605 W

Survey Report - Geographic

Company: EQT (Chevron Data) 02-13-21
 Project: Marshall County, WV Chevron
 Site: Hines A
 Well: Hines A 13H L-015645
 Wellbore: OH
 Design: Hines M13H As Drilled

Local Co-ordinate Reference: Well Hines A 13H L-015645
 TVD Reference: KB@28 @ 1152.0ft
 MD Reference: KB@28 @ 1152.0ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EQT

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
17,200.0	89.67	159.28	6,430.4	-7.981.0	6,527.7	154,378.42	499,450.56	39° 53' 4.703 N	80° 40' 32.139 W
17,300.0	89.51	158.91	6,431.2	-8.084.4	6,563.5	154,349.96	499,461.47	39° 53' 3.785 N	80° 40' 31.654 W
17,400.0	89.33	158.34	6,432.1	-8.177.6	6,599.7	154,321.54	499,472.49	39° 53' 2.868 N	80° 40' 31.186 W
17,500.0	89.01	157.84	6,433.6	-8.270.2	6,637.4	154,293.31	499,483.98	39° 53' 1.958 N	80° 40' 30.686 W
17,600.0	89.34	158.50	6,435.2	-8.363.0	6,674.6	154,265.03	499,495.33	39° 53' 1.048 N	80° 40' 30.192 W
17,700.0	89.75	159.27	6,435.9	-8.456.3	6,710.6	154,235.80	499,506.31	39° 53' 0.129 N	80° 40' 29.715 W
17,800.0	89.51	159.09	6,436.4	-8.548.9	6,745.9	154,208.08	499,517.06	39° 52' 59.209 N	80° 40' 29.246 W
17,900.0	89.42	158.82	6,437.4	-8.643.2	6,781.9	154,179.04	499,528.03	39° 52' 58.291 N	80° 40' 28.769 W
18,000.0	89.87	159.19	6,438.1	-8.736.5	6,817.8	154,151.20	499,538.98	39° 52' 57.374 N	80° 40' 28.293 W
18,100.0	89.41	159.74	6,438.6	-8.830.1	6,852.9	154,122.66	499,549.67	39° 52' 56.453 N	80° 40' 27.827 W
18,200.0	89.64	159.43	6,439.5	-8.923.9	6,887.7	154,094.08	499,560.28	39° 52' 55.531 N	80° 40' 27.365 W
18,300.0	89.26	159.28	6,440.4	-9.017.4	6,923.0	154,065.56	499,571.03	39° 52' 54.611 N	80° 40' 26.897 W
18,400.0	89.48	159.82	6,441.5	-9.111.1	6,957.9	154,037.01	499,581.68	39° 52' 53.689 N	80° 40' 26.433 W
18,500.0	88.82	160.23	6,443.2	-9.205.1	6,992.1	154,008.36	499,592.09	39° 52' 52.765 N	80° 40' 25.979 W
18,600.0	88.84	160.34	6,445.4	-9.299.3	7,025.5	153,979.65	499,602.29	39° 52' 51.839 N	80° 40' 25.534 W
18,700.0	88.82	158.91	6,447.5	-9.392.9	7,060.7	153,951.12	499,613.01	39° 52' 50.918 N	80° 40' 25.067 W
18,800.0	89.07	159.42	6,449.2	-9.486.4	7,096.2	153,922.63	499,623.81	39° 52' 49.999 N	80° 40' 24.597 W
18,900.0	88.95	159.53	6,451.1	-9.580.0	7,131.3	153,894.09	499,634.52	39° 52' 49.078 N	80° 40' 24.131 W
19,000.0	89.09	161.14	6,452.7	-9.673.9	7,165.6	153,865.47	499,644.97	39° 52' 48.155 N	80° 40' 23.675 W
19,100.0	88.86	160.88	6,454.4	-9.769.1	7,196.2	153,836.46	499,654.31	39° 52' 47.218 N	80° 40' 23.266 W
19,200.0	88.50	157.93	6,456.8	-9.862.2	7,232.5	153,808.07	499,665.37	39° 52' 46.303 N	80° 40' 22.785 W
19,300.0	88.83	159.35	6,459.3	-9.955.1	7,269.5	153,779.78	499,676.64	39° 52' 45.389 N	80° 40' 22.295 W
19,400.0	88.64	159.52	6,460.7	-10.049.0	7,303.7	153,751.13	499,687.08	39° 52' 44.468 N	80° 40' 21.840 W
19,500.0	89.44	158.79	6,461.2	-10.142.4	7,339.6	153,722.68	499,698.01	39° 52' 43.548 N	80° 40' 21.365 W
19,600.0	89.35	159.10	6,462.4	-10.235.6	7,375.6	153,694.25	499,709.00	39° 52' 42.631 N	80° 40' 20.887 W
19,700.0	89.53	159.23	6,463.4	-10.329.1	7,411.1	153,665.76	499,719.81	39° 52' 41.711 N	80° 40' 20.416 W
19,800.0	89.28	159.07	6,464.4	-10.422.6	7,446.7	153,637.27	499,730.65	39° 52' 40.792 N	80° 40' 19.944 W
19,900.0	89.62	158.91	6,465.4	-10.515.9	7,482.5	153,608.82	499,741.58	39° 52' 39.875 N	80° 40' 19.469 W
20,000.0	89.27	159.35	6,466.3	-10.609.4	7,518.2	153,580.34	499,752.45	39° 52' 38.956 N	80° 40' 18.995 W
20,100.0	89.65	159.41	6,467.2	-10.703.0	7,553.4	153,551.81	499,763.17	39° 52' 38.036 N	80° 40' 18.529 W
20,200.0	88.33	158.48	6,468.2	-10.796.3	7,589.4	153,523.38	499,774.15	39° 52' 37.118 N	80° 40' 18.051 W
20,300.0	89.47	158.57	6,469.3	-10.889.3	7,626.0	153,495.02	499,785.31	39° 52' 36.203 N	80° 40' 17.566 W
20,400.0	89.82	158.87	6,469.8	-10.982.4	7,662.4	153,466.63	499,796.42	39° 52' 35.288 N	80° 40' 17.083 W
20,500.0	88.91	159.86	6,471.1	-11.076.1	7,697.5	153,438.09	499,807.10	39° 52' 34.367 N	80° 40' 16.618 W
20,600.0	89.36	160.15	6,472.4	-11.170.0	7,731.8	153,409.47	499,817.57	39° 52' 33.443 N	80° 40' 16.162 W
20,700.0	89.01	161.46	6,473.8	-11.264.3	7,764.9	153,380.71	499,827.66	39° 52' 32.515 N	80° 40' 15.721 W
20,800.0	87.97	161.84	6,476.1	-11.359.5	7,795.6	153,351.71	499,837.00	39° 52' 31.579 N	80° 40' 15.312 W
20,900.0	88.92	162.56	6,480.1	-11.454.2	7,827.3	153,322.83	499,846.67	39° 52' 30.647 N	80° 40' 14.890 W
21,000.0	90.44	164.34	6,479.8	-11.550.3	7,855.0	153,293.55	499,855.11	39° 52' 29.701 N	80° 40' 14.518 W
21,100.0	90.32	159.99	6,479.2	-11.645.9	7,884.1	153,264.40	499,863.98	39° 52' 28.760 N	80° 40' 14.129 W
21,200.0	90.10	156.90	6,478.6	-11.738.4	7,922.1	153,236.21	499,875.57	39° 52' 27.851 N	80° 40' 13.626 W
21,300.0	89.66	157.34	6,478.0	-11.830.4	7,961.3	153,208.16	499,887.50	39° 52' 26.948 N	80° 40' 13.108 W
21,400.0	89.82	157.59	6,479.0	-11.922.9	7,999.5	153,179.99	499,899.14	39° 52' 26.038 N	80° 40' 12.603 W
21,500.0	89.70	157.93	6,479.5	-12.015.4	8,037.4	153,151.79	499,910.69	39° 52' 25.128 N	80° 40' 12.102 W
21,600.0	89.55	158.32	6,480.1	-12.108.2	8,074.6	153,123.50	499,922.05	39° 52' 24.216 N	80° 40' 11.608 W
21,700.0	89.64	158.35	6,480.8	-12.201.1	8,111.5	153,095.17	499,933.29	39° 52' 23.302 N	80° 40' 11.120 W
21,800.0	89.53	158.32	6,481.6	-12.294.1	8,148.4	153,066.84	499,944.54	39° 52' 22.389 N	80° 40' 10.631 W
21,900.0	89.38	158.20	6,482.5	-12.386.9	8,185.5	153,038.54	499,955.84	39° 52' 21.476 N	80° 40' 10.140 W
22,000.0	89.15	158.42	6,483.8	-12.479.9	8,222.4	153,010.21	499,967.09	39° 52' 20.562 N	80° 40' 9.651 W
22,100.0	89.21	158.17	6,485.2	-12.572.8	8,259.4	152,981.90	499,978.37	39° 52' 19.649 N	80° 40' 9.161 W
22,200.0	89.27	157.98	6,486.6	-12.665.6	8,296.6	152,953.61	499,989.71	39° 52' 18.736 N	80° 40' 8.668 W
22,300.0	89.40	156.76	6,487.7	-12.758.0	8,334.9	152,925.45	500,001.37	39° 52' 17.828 N	80° 40' 8.162 W
22,400.0	89.31	153.89	6,488.8	-12.849.0	8,376.2	152,897.71	500,013.96	39° 52' 16.934 N	80° 40' 7.616 W
22,500.0	89.29	149.66	6,490.1	-12.937.0	8,423.5	152,870.87	500,028.40	39° 52' 16.070 N	80° 40' 6.995 W
22,600.0	89.34	148.07	6,491.3	-13.022.0	8,476.3	152,844.89	500,044.49	39° 52' 15.238 N	80° 40' 6.304 W

Survey Report - Geographic

Company: EQT (Chevron Data) 02-13-21
 Project: Marshall County, WV Chevron
 Site: Hines A
 Well: Hines A 13H L-015645
 Wellbore: OH
 Design: Hines M13H As Drilled

Local Co-ordinate Reference: Well Hines A 13H L-015645
 TVD Reference: KB@28 @ 1152.0ft
 MD Reference: KB@28 @ 1152.0ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EQT

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
22,700.0	89.41	150.36	6,492.3	-13,107.8	8,527.6	152,818.82	500,060.13	39° 52' 14.396 N	80° 40' 5.631 W
22,800.0	89.33	152.82	6,493.4	-13,195.8	8,575.1	152,792.01	500,074.60	39° 52' 13.533 N	80° 40' 5.008 W
22,900.0	89.15	155.07	6,494.7	-13,285.6	8,619.1	152,764.63	500,087.99	39° 52' 12.651 N	80° 40' 4.429 W
23,000.0	88.99	155.64	6,496.4	-13,376.7	8,660.2	152,736.86	500,100.54	39° 52' 11.756 N	80° 40' 3.886 W
23,100.0	89.09	156.23	6,498.1	-13,467.9	8,701.3	152,709.07	500,113.05	39° 52' 10.860 N	80° 40' 3.344 W
23,200.0	89.32	157.02	6,499.5	-13,559.7	8,740.9	152,681.08	500,125.12	39° 52' 9.958 N	80° 40' 2.821 W
23,300.0	89.23	156.67	6,500.7	-13,651.7	8,780.0	152,653.04	500,137.06	39° 52' 9.053 N	80° 40' 2.304 W
23,400.0	89.35	155.76	6,502.0	-13,743.2	8,820.3	152,625.15	500,149.34	39° 52' 8.154 N	80° 40' 1.772 W
23,500.0	89.37	156.47	6,503.1	-13,834.6	8,860.9	152,597.30	500,161.72	39° 52' 7.256 N	80° 40' 1.236 W
23,600.0	89.07	156.06	6,504.4	-13,926.1	8,901.1	152,569.39	500,173.97	39° 52' 6.357 N	80° 40' 0.705 W
23,700.0	89.27	156.54	6,505.9	-14,017.7	8,941.3	152,541.47	500,186.20	39° 52' 5.457 N	80° 40' 0.175 W
23,800.0	89.26	155.74	6,507.2	-14,109.1	8,981.8	152,513.62	500,198.57	39° 52' 4.559 N	80° 39' 59.640 W
23,900.0	89.24	156.18	6,508.5	-14,200.4	9,022.6	152,485.79	500,211.00	39° 52' 3.662 N	80° 39' 59.101 W
24,000.0	89.39	156.54	6,509.7	-14,292.1	9,062.5	152,457.84	500,223.15	39° 52' 2.761 N	80° 39' 58.575 W
24,100.0	89.57	156.01	6,510.7	-14,383.6	9,102.8	152,429.96	500,235.45	39° 52' 1.862 N	80° 39' 58.042 W
24,200.0	89.84	156.10	6,511.0	-14,475.0	9,143.5	152,402.10	500,247.83	39° 52' 0.964 N	80° 39' 57.506 W
24,300.0	89.64	156.35	6,511.6	-14,566.5	9,183.8	152,374.21	500,260.12	39° 52' 0.065 N	80° 39' 56.974 W
24,400.0	89.80	156.43	6,512.0	-14,658.2	9,223.8	152,346.27	500,272.30	39° 51' 59.164 N	80° 39' 56.446 W

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (m)	Easting (m)	Latitude	Longitude
- hit/miss target									
- Shape									
Hines 13H_(1)_Surface	0.00	0.76	0.0	0.0	0.0	156,814.08	497,460.90	39° 54' 22.819 N	80° 41' 57.242 W
- actual wellpath hits target center									
- Point									
Hines 13H_(2)_Landing	0.00	0.76	6,319.6	859.6	2,648.6	157,076.07	498,268.21	39° 54' 31.661 N	80° 41' 23.402 W
- actual wellpath hits target center									
- Point									
Hines 13H_(3)_Bottom H	0.00	0.74	6,512.4	-14,745.1	9,261.8	152,319.76	500,283.90	39° 51' 58.310 N	80° 39' 55.943 W
- actual wellpath misses target center by 95.0ft at 24400.0ft MD (6512.0 TVD, -14658.2 N, 9223.8 E)									
- Point									

Hines A
Hines M13H As Drilled
KB(a)28 @ 1152.0ft
Marshall County, WV Chevron
OH

PROJECT DETAILS:
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: West Virginia Northern Zone
System Datum: Mean Sea Level



WELL DETAILSHines A 13H L-015645

N/-S	E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	156814.07	497460.90	39° 54' 22.819 N	80° 41' 57.242 W

