

# NOBLE ENERGY, INC

BAKER  
HUGHES  
a GE company



**ne** noble  
energy

Location: COLORADO Slot: SLOT#04 EMMY STATE H25-731(285°FSL&1760°FEL,SEC.25)  
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: EMMY STATE H25-731  
Facility: SEC.25-T03N-R65W Wellbore: EMMY STATE H25-731 PWB

## Plot reference wellpath is EMMY STATE H25-731 (REV-B.0) PWP

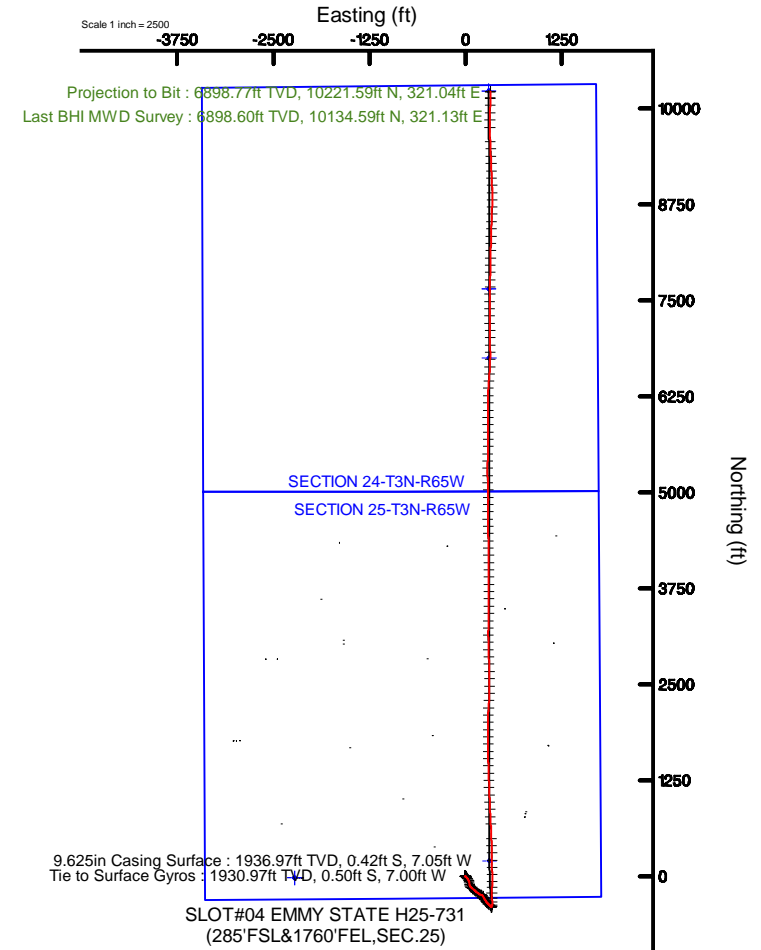
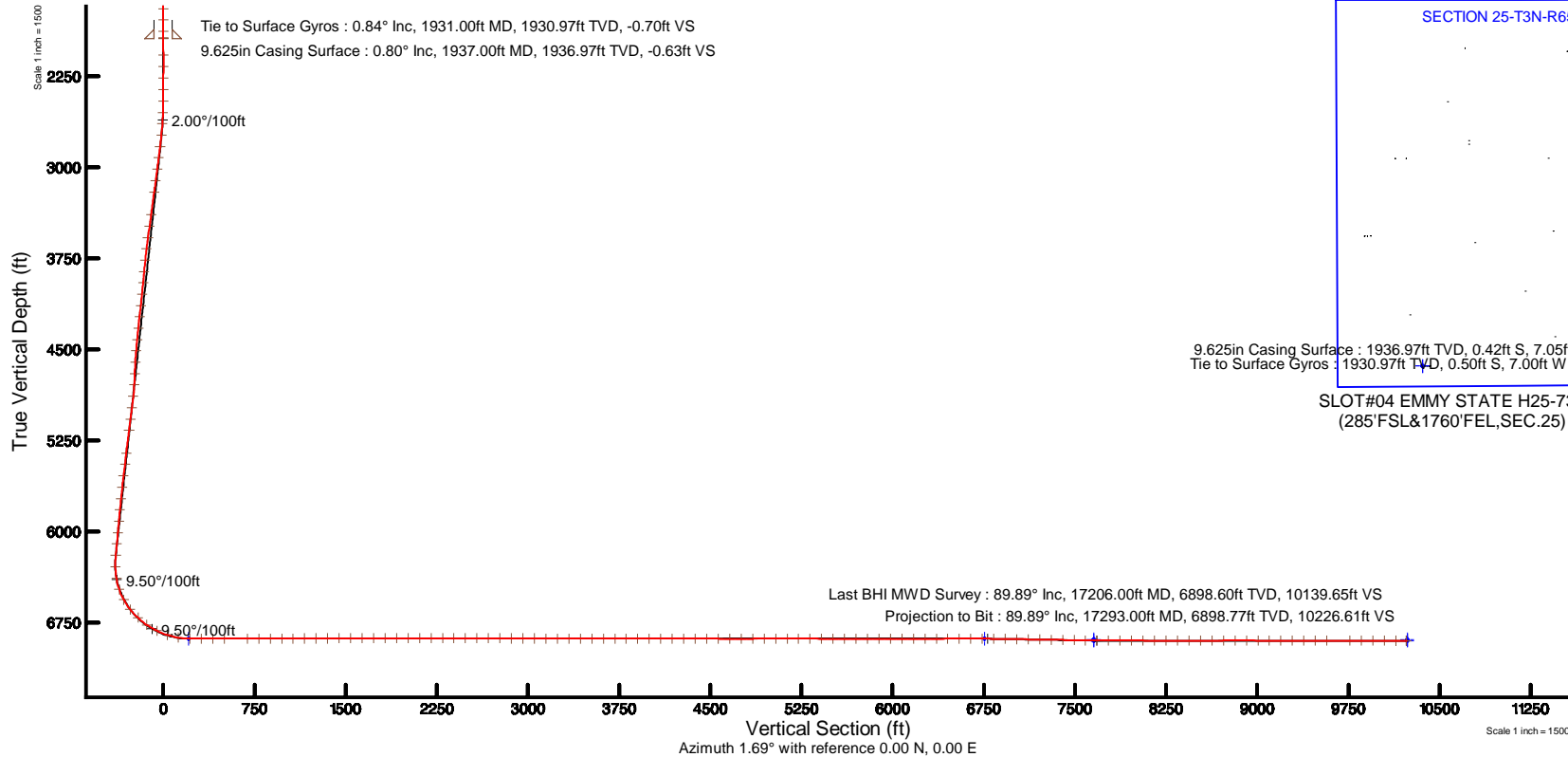
Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to Rig (30KB) (RKB)
* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Rig (30KB) (RKB)
North Reference: Grid north
Rig (30KB) (RKB) to Mean Sea Level: 4835 feet
Scale: True distance
Mean Sea Level to Ground level (At Slot: SLOT#04 EMMY STATE H25-731(285°FSL&1760°FEL,SEC.25)): 0 feet
Depths are in feet
Coordinates are in feet referenced to Slot
Created by: guenaler on 2018-10-03
Database: WA_DEN_Denver_Defn

## Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.25-T03N-R65W			3248954.739	1313190.352	40°11'22.812"N	104°36'31.932"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#04 EMMY STATE H25-731(285°FSL&1760°FEL,SEC.25)	-0.67	-67.05	3248887.692	1313189.679	40°11'22.812"N	104°36'32.796"W
Rig (30KB) (RKB) to Ground level (At Slot: SLOT#04 EMMY STATE H25-731(285°FSL&1760°FEL,SEC.25))					4835ft	
Mean Sea Level to Ground level (At Slot: SLOT#04 EMMY STATE H25-731(285°FSL&1760°FEL,SEC.25))					0ft	
Rig (30KB) (RKB) to Mean Sea Level					4835ft	

## Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17385.62	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		EMMY STATE H25-731 PWB



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 EMMY STATE H25-731(285'FSL&1760'FEL,SEC.25)
Area	COLORADO	Well	EMMY STATE H25-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	EMMY STATE H25-731 AWB
Facility	SEC.25-T03N-R65W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Guenaler
Scale	0.999957	Report Generated	10/3/2018 at 12:56:20 PM
Convergence at slot	0.58° East	Database/Source file	WA_DEN_Denver_Defn/EMMY_STATE_H25-731_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-0.67	-67.05	3248887.69	1313189.68	40°11'22.812"N	104°36'32.796"W
Facility Reference Pt			3248954.74	1313190.35	40°11'22.812"N	104°36'31.932"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.315"N	105°30'00.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig (30'KB) (RKB) to Facility Vertical Datum	4835.00ft
Horizontal Reference Pt	Slot	Rig (30'KB) (RKB) to Mean Sea Level	4835.00ft
Vertical Reference Pt	Rig (30'KB) (RKB)	Rig (30'KB) (RKB) to Ground Level at Slot (SLOT#04 EMMY STATE H25-731 (285'FSL&1760'FEL,SEC.25))	4835.00ft
MD Reference Pt	Rig (30'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	1.69°



Actual Wellpath Report  
EMMY STATE H25-731 AWP  
Page 2 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 EMMY STATE H25-731(285'FSL&1760'FEL,SEC.25)
Area	COLORADO	Well	EMMY STATE H25-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	EMMY STATE H25-731 AWB
Facility	SEC.25-T03N-R65W		

WELLPATH DATA (180 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	289.880	0.00	0.00	0.00	0.00	40°11'22.812"N	104°36'32.796"W	0.00	
84.00	0.320	289.880	84.00	0.07	0.08	-0.22	40°11'22.813"N	104°36'32.799"W	0.38	
179.00	0.340	188.020	179.00	-0.12	-0.11	-0.51	40°11'22.811"N	104°36'32.803"W	0.54	
274.00	0.370	241.300	274.00	-0.56	-0.54	-0.82	40°11'22.807"N	104°36'32.807"W	0.34	
368.00	0.510	277.750	367.99	-0.67	-0.62	-1.50	40°11'22.806"N	104°36'32.815"W	0.33	
463.00	0.340	255.300	462.99	-0.70	-0.64	-2.19	40°11'22.806"N	104°36'32.824"W	0.25	
557.00	0.320	207.320	556.99	-1.02	-0.94	-2.58	40°11'22.803"N	104°36'32.829"W	0.29	
652.00	0.240	238.420	651.99	-1.37	-1.28	-2.87	40°11'22.800"N	104°36'32.833"W	0.18	
746.00	0.340	298.650	745.99	-1.35	-1.25	-3.28	40°11'22.800"N	104°36'32.838"W	0.32	
841.00	0.300	278.570	840.99	-1.19	-1.08	-3.78	40°11'22.802"N	104°36'32.845"W	0.12	
935.00	0.290	255.920	934.99	-1.23	-1.10	-4.25	40°11'22.802"N	104°36'32.851"W	0.12	
1029.00	0.400	290.290	1028.98	-1.19	-1.05	-4.79	40°11'22.802"N	104°36'32.858"W	0.24	
1124.00	0.270	234.010	1123.98	-1.22	-1.06	-5.28	40°11'22.802"N	104°36'32.864"W	0.35	
1218.00	0.050	331.500	1217.98	-1.32	-1.16	-5.48	40°11'22.801"N	104°36'32.867"W	0.30	
1313.00	0.210	238.530	1312.98	-1.38	-1.21	-5.65	40°11'22.801"N	104°36'32.869"W	0.23	
1407.00	0.030	228.870	1406.98	-1.49	-1.32	-5.81	40°11'22.800"N	104°36'32.871"W	0.19	
1502.00	0.050	34.740	1501.98	-1.47	-1.30	-5.81	40°11'22.800"N	104°36'32.871"W	0.08	
1596.00	0.090	305.420	1595.98	-1.39	-1.22	-5.85	40°11'22.800"N	104°36'32.871"W	0.11	
1691.00	0.100	152.340	1690.98	-1.43	-1.25	-5.87	40°11'22.800"N	104°36'32.872"W	0.19	
1785.00	0.260	264.820	1784.98	-1.52	-1.34	-6.04	40°11'22.799"N	104°36'32.874"W	0.33	
1880.00	0.610	314.380	1879.98	-1.21	-1.01	-6.62	40°11'22.803"N	104°36'32.881"W	0.51	
1931.00	0.840	329.630	1930.97	-0.70	-0.50	-7.00	40°11'22.808"N	104°36'32.886"W	0.58	Tie to Surface Gyros
2073.00	0.030	75.490	2072.97	0.19	0.41	-7.49	40°11'22.817"N	104°36'32.892"W	0.60	
2167.00	0.030	234.490	2166.97	0.18	0.40	-7.49	40°11'22.817"N	104°36'32.892"W	0.06	
2262.00	0.100	223.700	2261.97	0.10	0.33	-7.57	40°11'22.816"N	104°36'32.893"W	0.07	
2357.00	0.210	292.750	2356.97	0.10	0.33	-7.78	40°11'22.816"N	104°36'32.896"W	0.21	
2451.00	1.480	123.870	2450.96	-0.48	-0.28	-6.94	40°11'22.810"N	104°36'32.885"W	1.79	
2546.00	4.720	122.470	2545.81	-3.13	-3.06	-2.62	40°11'22.782"N	104°36'32.830"W	3.41	
2641.00	6.080	129.670	2640.39	-8.23	-8.37	4.55	40°11'22.729"N	104°36'32.738"W	1.60	
2735.00	8.600	138.740	2733.61	-16.44	-16.83	13.02	40°11'22.644"N	104°36'32.630"W	2.94	



Actual Wellpath Report  
EMMY STATE H25-731 AWP  
Page 3 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 EMMY STATE H25-731(285'FSL&1760'FEL,SEC.25)
Area	COLORADO	Well	EMMY STATE H25-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	EMMY STATE H25-731 AWB
Facility	SEC.25-T03N-R65W		

WELLPATH DATA (180 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2830.00	8.420	145.670	2827.57	-27.26	-27.92	21.63	40°11'22.534"N	104°36'32.521"W	1.10	
2924.00	8.590	148.730	2920.53	-38.72	-39.60	29.15	40°11'22.418"N	104°36'32.425"W	0.51	
3019.00	8.590	151.200	3014.47	-50.79	-51.88	36.25	40°11'22.296"N	104°36'32.336"W	0.39	
3113.00	8.390	155.430	3107.44	-62.99	-64.27	42.49	40°11'22.173"N	104°36'32.257"W	0.70	
3208.00	8.450	158.610	3201.42	-75.62	-77.07	47.92	40°11'22.046"N	104°36'32.189"W	0.49	
3398.00	6.940	182.330	3389.75	-99.95	-101.55	52.54	40°11'21.803"N	104°36'32.132"W	1.83	
3492.00	8.570	176.420	3482.89	-112.60	-114.21	52.75	40°11'21.678"N	104°36'32.131"W	1.93	
3587.00	9.360	159.430	3576.74	-126.81	-128.51	55.90	40°11'21.537"N	104°36'32.092"W	2.90	
3681.00	9.420	135.320	3669.52	-139.19	-141.14	64.00	40°11'21.411"N	104°36'31.990"W	4.16	
3776.00	9.430	124.670	3763.24	-148.79	-151.10	75.87	40°11'21.311"N	104°36'31.838"W	1.83	
3871.00	9.520	127.350	3856.95	-157.61	-160.29	88.52	40°11'21.219"N	104°36'31.676"W	0.47	
3965.00	9.460	127.360	3949.66	-166.64	-169.70	100.84	40°11'21.125"N	104°36'31.519"W	0.06	
4060.00	9.400	129.250	4043.38	-175.93	-179.34	113.05	40°11'21.029"N	104°36'31.363"W	0.33	
4155.00	9.420	135.420	4137.10	-186.03	-189.79	124.51	40°11'20.924"N	104°36'31.216"W	1.06	
4249.00	9.290	133.000	4229.85	-196.35	-200.44	135.46	40°11'20.818"N	104°36'31.077"W	0.44	
4344.00	9.400	131.580	4323.59	-206.39	-210.82	146.87	40°11'20.714"N	104°36'30.931"W	0.27	
4439.00	9.460	127.910	4417.31	-215.98	-220.77	158.84	40°11'20.615"N	104°36'30.778"W	0.64	
4533.00	9.530	122.160	4510.02	-224.49	-229.65	171.52	40°11'20.526"N	104°36'30.616"W	1.01	
4628.00	9.450	114.710	4603.72	-231.53	-237.10	185.26	40°11'20.451"N	104°36'30.440"W	1.29	
4722.00	8.020	103.080	4696.64	-235.84	-241.81	198.66	40°11'20.403"N	104°36'30.268"W	2.41	
4817.00	7.830	116.050	4790.74	-239.82	-246.15	210.93	40°11'20.359"N	104°36'30.110"W	1.89	
4911.00	7.940	141.740	4883.88	-247.44	-254.07	220.71	40°11'20.280"N	104°36'29.985"W	3.72	
5006.00	8.400	152.600	4977.92	-258.53	-265.38	227.96	40°11'20.167"N	104°36'29.893"W	1.69	
5101.00	8.390	150.520	5071.90	-270.53	-277.57	234.57	40°11'20.046"N	104°36'29.810"W	0.32	
5195.00	8.380	150.370	5164.90	-282.24	-289.50	241.33	40°11'19.927"N	104°36'29.724"W	0.03	
5385.00	8.430	145.920	5352.86	-305.37	-313.07	255.98	40°11'19.693"N	104°36'29.538"W	0.34	
5479.00	8.390	145.050	5445.85	-316.46	-324.39	263.77	40°11'19.580"N	104°36'29.439"W	0.14	
5574.00	8.510	142.130	5539.82	-327.44	-335.62	272.05	40°11'19.469"N	104°36'29.334"W	0.47	
5668.00	8.440	139.150	5632.79	-337.89	-346.33	280.83	40°11'19.362"N	104°36'29.222"W	0.47	
5763.00	8.510	136.800	5726.76	-348.01	-356.73	290.21	40°11'19.258"N	104°36'29.103"W	0.37	



Actual Wellpath Report

EMMY STATE H25-731 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 EMMY STATE H25-731(285'FSL&1760'FEL,SEC.25)
Area	COLORADO	Well	EMMY STATE H25-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	EMMY STATE H25-731 AWB
Facility	SEC.25-T03N-R65W		

WELLPATH DATA (180 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5858.00	8.440	132.230	5820.72	-357.52	-366.54	300.18	40°11'19.160"N	104°36'28.976"W	0.71	
5952.00	8.470	128.950	5913.70	-366.19	-375.53	310.67	40°11'19.070"N	104°36'28.842"W	0.51	
6047.00	6.930	134.270	6007.84	-374.31	-383.93	320.22	40°11'18.986"N	104°36'28.720"W	1.78	
6141.00	7.040	143.220	6101.14	-382.65	-392.50	327.73	40°11'18.901"N	104°36'28.624"W	1.16	
6236.00	6.910	149.260	6195.44	-392.03	-402.08	334.14	40°11'18.806"N	104°36'28.543"W	0.78	
6330.00	1.960	19.500	6289.24	-395.28	-405.43	337.57	40°11'18.772"N	104°36'28.499"W	8.83	
6425.00	9.410	14.140	6383.70	-386.14	-396.35	340.01	40°11'18.862"N	104°36'28.466"W	7.85	
6520.00	18.930	14.280	6475.71	-363.46	-373.83	345.72	40°11'19.084"N	104°36'28.390"W	10.02	
6614.00	29.140	352.720	6561.60	-325.81	-336.19	346.59	40°11'19.456"N	104°36'28.374"W	14.17	
6709.00	38.680	356.540	6640.36	-273.27	-283.48	341.85	40°11'19.977"N	104°36'28.428"W	10.29	
6803.00	47.470	0.410	6708.97	-209.25	-219.39	340.32	40°11'20.610"N	104°36'28.439"W	9.76	
6898.00	54.290	5.030	6768.90	-135.64	-145.86	343.96	40°11'21.337"N	104°36'28.383"W	8.11	
6992.00	65.160	0.260	6816.24	-54.62	-64.91	347.51	40°11'22.136"N	104°36'28.327"W	12.36	
7087.00	71.600	357.400	6851.23	33.52	23.33	345.66	40°11'23.008"N	104°36'28.339"W	7.33	
7181.00	80.960	359.170	6873.50	124.58	114.50	342.96	40°11'23.909"N	104°36'28.362"W	10.12	
7276.00	90.220	0.050	6880.80	219.13	209.11	342.32	40°11'24.844"N	104°36'28.358"W	9.79	
7370.00	90.120	358.770	6880.52	313.05	303.10	341.35	40°11'25.773"N	104°36'28.358"W	1.37	
7465.00	89.970	357.890	6880.44	407.89	398.06	338.59	40°11'26.712"N	104°36'28.382"W	0.94	
7560.00	89.970	357.800	6880.49	502.67	493.00	335.01	40°11'27.650"N	104°36'28.416"W	0.09	
7749.00	89.780	357.050	6880.90	691.15	681.80	326.52	40°11'29.517"N	104°36'28.500"W	0.41	
7843.00	90.120	357.360	6880.99	784.86	775.69	321.94	40°11'30.445"N	104°36'28.547"W	0.49	
7938.00	90.120	357.350	6880.79	879.59	870.59	317.55	40°11'31.383"N	104°36'28.592"W	0.01	
8033.00	90.170	357.340	6880.55	974.31	965.49	313.15	40°11'32.321"N	104°36'28.636"W	0.05	
8127.00	90.200	357.850	6880.24	1068.07	1059.40	309.21	40°11'33.250"N	104°36'28.675"W	0.54	
8222.00	90.230	358.280	6879.89	1162.88	1154.35	306.00	40°11'34.188"N	104°36'28.704"W	0.45	
8316.00	90.050	357.070	6879.66	1256.65	1248.27	302.19	40°11'35.117"N	104°36'28.741"W	1.30	
8411.00	90.260	358.090	6879.40	1351.40	1343.18	298.18	40°11'36.055"N	104°36'28.780"W	1.10	
8505.00	90.230	358.540	6879.00	1445.24	1437.14	295.41	40°11'36.984"N	104°36'28.803"W	0.48	
8600.00	90.260	359.430	6878.59	1540.13	1532.12	293.73	40°11'37.922"N	104°36'28.813"W	0.94	
8695.00	90.080	359.270	6878.31	1635.05	1627.12	292.65	40°11'38.861"N	104°36'28.814"W	0.25	



Actual Wellpath Report  
EMMY STATE H25-731 AWP  
Page 5 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 EMMY STATE H25-731(285'FSL&1760'FEL,SEC.25)
Area	COLORADO	Well	EMMY STATE H25-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	EMMY STATE H25-731 AWB
Facility	SEC.25-T03N-R65W		

WELLPATH DATA (180 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8789.00	90.170	359.390	6878.10	1728.97	1721.11	291.55	40°11'39.790"N	104°36'28.816"W	0.16	
8884.00	89.890	359.930	6878.05	1823.91	1816.11	290.99	40°11'40.729"N	104°36'28.811"W	0.64	
8978.00	89.930	0.290	6878.20	1917.87	1910.11	291.17	40°11'41.658"N	104°36'28.797"W	0.39	
9073.00	89.930	359.720	6878.32	2012.83	2005.11	291.18	40°11'42.597"N	104°36'28.784"W	0.60	
9168.00	90.050	2.280	6878.33	2107.82	2100.08	292.84	40°11'43.535"N	104°36'28.751"W	2.70	
9262.00	89.920	3.950	6878.36	2201.78	2193.94	297.94	40°11'44.462"N	104°36'28.673"W	1.78	
9357.00	90.140	3.320	6878.31	2296.73	2288.75	303.97	40°11'45.398"N	104°36'28.583"W	0.70	
9451.00	89.890	1.560	6878.29	2390.72	2382.66	307.97	40°11'46.326"N	104°36'28.519"W	1.89	
9546.00	89.830	0.550	6878.52	2485.71	2477.64	309.72	40°11'47.264"N	104°36'28.484"W	1.07	
9640.00	89.890	359.300	6878.75	2579.66	2571.64	309.59	40°11'48.193"N	104°36'28.474"W	1.33	
9735.00	89.860	358.960	6878.95	2674.57	2666.63	308.15	40°11'49.132"N	104°36'28.480"W	0.36	
9830.00	89.890	357.590	6879.16	2769.40	2761.59	305.29	40°11'50.070"N	104°36'28.504"W	1.44	
9924.00	89.590	357.360	6879.59	2863.14	2855.49	301.15	40°11'50.999"N	104°36'28.546"W	0.40	
10019.00	89.890	358.230	6880.02	2957.92	2950.42	297.50	40°11'51.937"N	104°36'28.580"W	0.97	
10114.00	90.050	359.070	6880.07	3052.78	3045.39	295.26	40°11'52.876"N	104°36'28.597"W	0.90	
10208.00	89.890	359.680	6880.12	3146.71	3139.39	294.23	40°11'53.805"N	104°36'28.598"W	0.67	
10303.00	89.930	0.990	6880.27	3241.68	3234.38	294.79	40°11'54.743"N	104°36'28.578"W	1.38	
10397.00	89.920	1.400	6880.39	3335.67	3328.36	296.75	40°11'55.672"N	104°36'28.541"W	0.44	
10492.00	89.890	1.700	6880.55	3430.67	3423.33	299.32	40°11'56.610"N	104°36'28.496"W	0.32	
10586.00	89.890	0.550	6880.73	3524.67	3517.31	301.16	40°11'57.538"N	104°36'28.460"W	1.22	
10681.00	90.020	0.110	6880.80	3619.64	3612.31	301.71	40°11'58.477"N	104°36'28.440"W	0.48	
10776.00	89.930	0.120	6880.84	3714.60	3707.31	301.90	40°11'59.416"N	104°36'28.426"W	0.10	
10870.00	89.960	0.070	6880.93	3808.57	3801.31	302.06	40°12'00.345"N	104°36'28.411"W	0.06	
10965.00	89.990	359.620	6880.98	3903.52	3896.30	301.80	40°12'01.283"N	104°36'28.402"W	0.47	
11060.00	89.830	359.640	6881.13	3998.46	3991.30	301.19	40°12'02.222"N	104°36'28.398"W	0.17	
11154.00	89.930	359.140	6881.32	4092.38	4085.30	300.19	40°12'03.151"N	104°36'28.399"W	0.54	
11249.00	89.800	358.720	6881.55	4187.27	4180.28	298.41	40°12'04.090"N	104°36'28.409"W	0.46	
11343.00	89.990	359.380	6881.72	4281.17	4274.27	296.85	40°12'05.019"N	104°36'28.417"W	0.73	
11438.00	89.890	359.030	6881.82	4376.08	4369.26	295.54	40°12'05.957"N	104°36'28.422"W	0.38	
11533.00	89.890	358.650	6882.00	4470.96	4464.24	293.61	40°12'06.896"N	104°36'28.434"W	0.40	





Actual Wellpath Report  
EMMY STATE H25-731 AWP  
Page 6 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 EMMY STATE H25-731(285'FSL&1760'FEL,SEC.25)
Area	COLORADO	Well	EMMY STATE H25-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	EMMY STATE H25-731 AWB
Facility	SEC.25-T03N-R65W		

WELLPATH DATA (180 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11627.00	89.860	358.210	6882.21	4564.81	4558.20	291.04	40°12'07.825"N	104°36'28.455"W	0.47	
11722.00	89.930	359.250	6882.38	4659.68	4653.18	288.93	40°12'08.764"N	104°36'28.470"W	1.10	
11816.00	89.960	2.150	6882.47	4753.65	4747.16	290.08	40°12'09.692"N	104°36'28.443"W	3.09	
11911.00	90.290	1.740	6882.26	4848.65	4842.10	293.30	40°12'10.630"N	104°36'28.389"W	0.55	
12005.00	90.200	359.430	6881.86	4942.63	4936.09	294.26	40°12'11.559"N	104°36'28.365"W	2.46	
12100.00	89.860	358.740	6881.81	5037.53	5031.08	292.75	40°12'12.497"N	104°36'28.372"W	0.81	
12195.00	89.860	356.810	6882.04	5132.30	5126.00	289.06	40°12'13.436"N	104°36'28.407"W	2.03	
12289.00	90.080	358.840	6882.09	5226.08	5219.93	285.49	40°12'14.364"N	104°36'28.441"W	2.17	
12384.00	89.890	0.370	6882.12	5321.02	5314.92	284.84	40°12'15.303"N	104°36'28.437"W	1.62	
12478.00	89.930	1.570	6882.26	5415.01	5408.91	286.43	40°12'16.232"N	104°36'28.404"W	1.28	
12573.00	89.960	1.670	6882.36	5510.01	5503.87	289.11	40°12'17.170"N	104°36'28.357"W	0.11	
12667.00	89.740	0.600	6882.60	5604.00	5597.85	290.98	40°12'18.098"N	104°36'28.321"W	1.16	
12762.00	90.020	0.170	6882.80	5698.98	5692.85	291.61	40°12'19.037"N	104°36'28.301"W	0.54	
12856.00	89.990	359.090	6882.79	5792.91	5786.85	291.01	40°12'19.966"N	104°36'28.296"W	1.15	
12951.00	90.080	359.650	6882.73	5887.84	5881.84	289.96	40°12'20.905"N	104°36'28.297"W	0.60	
13046.00	89.930	0.560	6882.73	5982.80	5976.84	290.14	40°12'21.843"N	104°36'28.283"W	0.97	
13140.00	90.080	0.400	6882.72	6076.78	6070.83	290.92	40°12'22.772"N	104°36'28.261"W	0.23	
13235.00	90.020	0.530	6882.64	6171.76	6165.83	291.69	40°12'23.711"N	104°36'28.238"W	0.15	
13330.00	90.170	0.450	6882.48	6266.74	6260.83	292.51	40°12'24.649"N	104°36'28.215"W	0.18	
13424.00	90.080	2.230	6882.27	6360.73	6354.80	294.71	40°12'25.578"N	104°36'28.175"W	1.90	
13518.00	89.990	5.190	6882.22	6454.66	6448.59	300.79	40°12'26.504"N	104°36'28.084"W	3.15	
13613.00	90.080	4.850	6882.16	6549.50	6543.23	309.10	40°12'27.438"N	104°36'27.965"W	0.37	
13707.00	90.230	3.230	6881.90	6643.42	6636.99	315.72	40°12'28.364"N	104°36'27.868"W	1.73	
13802.00	89.960	0.920	6881.75	6738.41	6731.92	319.16	40°12'29.302"N	104°36'27.811"W	2.45	
13896.00	89.030	359.340	6882.57	6832.37	6825.91	319.37	40°12'30.230"N	104°36'27.796"W	1.95	
13991.00	89.130	359.500	6884.10	6927.28	6920.90	318.41	40°12'31.169"N	104°36'27.796"W	0.20	
14085.00	89.030	359.360	6885.61	7021.19	7014.88	317.48	40°12'32.098"N	104°36'27.796"W	0.18	
14180.00	88.970	358.560	6887.27	7116.07	7109.85	315.75	40°12'33.036"N	104°36'27.806"W	0.84	
14275.00	88.970	358.900	6888.97	7210.93	7204.81	313.65	40°12'33.975"N	104°36'27.821"W	0.36	
14369.00	88.940	359.820	6890.69	7304.83	7298.79	312.60	40°12'34.904"N	104°36'27.822"W	0.98	



Actual Wellpath Report

EMMY STATE H25-731 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 EMMY STATE H25-731(285'FSL&1760'FEL,SEC.25)
Area	COLORADO	Well	EMMY STATE H25-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	EMMY STATE H25-731 AWB
Facility	SEC.25-T03N-R65W		

WELLPATH DATA (180 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14464.00	89.220	0.290	6892.21	7399.78	7393.77	312.69	40°12'35.842"N	104°36'27.808"W	0.58	
14558.00	89.060	0.900	6893.62	7493.75	7487.76	313.67	40°12'36.771"N	104°36'27.784"W	0.67	
14652.00	89.130	0.770	6895.11	7587.73	7581.74	315.04	40°12'37.699"N	104°36'27.754"W	0.16	
14747.00	89.960	1.090	6895.86	7682.72	7676.72	316.58	40°12'38.638"N	104°36'27.722"W	0.94	
14842.00	89.830	1.060	6896.04	7777.71	7771.70	318.36	40°12'39.576"N	104°36'27.686"W	0.14	
14936.00	89.770	1.120	6896.37	7871.71	7865.68	320.15	40°12'40.505"N	104°36'27.651"W	0.09	
15031.00	89.680	0.660	6896.82	7966.70	7960.67	321.62	40°12'41.443"N	104°36'27.620"W	0.49	
15125.00	89.860	1.680	6897.20	8060.69	8054.65	323.54	40°12'42.372"N	104°36'27.583"W	1.10	
15220.00	89.960	1.580	6897.35	8155.69	8149.61	326.25	40°12'43.310"N	104°36'27.536"W	0.15	
15315.00	89.890	1.460	6897.47	8250.69	8244.58	328.77	40°12'44.248"N	104°36'27.491"W	0.15	
15409.00	89.960	1.810	6897.60	8344.69	8338.54	331.45	40°12'45.176"N	104°36'27.444"W	0.38	
15504.00	89.960	1.650	6897.66	8439.69	8433.50	334.32	40°12'46.114"N	104°36'27.395"W	0.17	
15599.00	90.020	2.260	6897.68	8534.69	8528.44	337.56	40°12'47.052"N	104°36'27.341"W	0.65	
15693.00	90.170	2.040	6897.52	8628.69	8622.37	341.08	40°12'47.980"N	104°36'27.283"W	0.28	
15788.00	90.200	2.110	6897.22	8723.68	8717.31	344.52	40°12'48.918"N	104°36'27.226"W	0.08	
15882.00	89.960	0.650	6897.09	8817.68	8811.28	346.79	40°12'49.846"N	104°36'27.185"W	1.57	
15976.00	89.960	358.820	6897.15	8911.62	8905.28	346.35	40°12'50.775"N	104°36'27.179"W	1.95	
16071.00	89.890	357.590	6897.28	9006.44	9000.23	343.38	40°12'51.713"N	104°36'27.205"W	1.30	
16165.00	90.050	357.360	6897.32	9100.19	9094.14	339.23	40°12'52.642"N	104°36'27.246"W	0.30	
16260.00	90.020	357.720	6897.27	9194.94	9189.05	335.16	40°12'53.580"N	104°36'27.286"W	0.38	
16355.00	89.890	357.940	6897.34	9289.72	9283.98	331.56	40°12'54.519"N	104°36'27.320"W	0.27	
16449.00	89.960	357.720	6897.46	9383.51	9377.91	328.00	40°12'55.447"N	104°36'27.354"W	0.25	
16544.00	89.960	358.020	6897.53	9478.30	9472.85	324.47	40°12'56.385"N	104°36'27.387"W	0.32	
16638.00	89.860	357.200	6897.68	9572.06	9566.76	320.55	40°12'57.314"N	104°36'27.425"W	0.88	
16827.00	89.970	359.400	6897.96	9760.72	9755.67	314.94	40°12'59.181"N	104°36'27.473"W	1.17	
16922.00	89.860	0.690	6898.10	9855.67	9850.67	315.02	40°13'00.120"N	104°36'27.460"W	1.36	
17017.00	89.930	1.880	6898.27	9950.67	9945.64	317.15	40°13'01.058"N	104°36'27.420"W	1.25	
17112.00	89.890	1.500	6898.42	10045.67	10040.60	319.95	40°13'01.996"N	104°36'27.372"W	0.40	
17206.00	89.890	359.940	6898.60	10139.65	10134.59	321.13	40°13'02.925"N	104°36'27.344"W	1.66	Last BHI MWD Survey
17293.00	89.890	359.940	6898.77	10226.61	10221.59	321.04	40°13'03.784"N	104°36'27.334"W	0.00	Projection to Bit

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
EMMY STATE H25-785 SECTION 24-T3N-R65W	-12.00	-22.27	-2226.60	3246661.19	1313167.41	40°11'22.812"N	104°37'01.488"W	polygon
EMMY STATE H25-785 SECTION 25-T3N-R65W	-12.00	-22.27	-2226.60	3246661.19	1313167.41	40°11'22.812"N	104°37'01.488"W	polygon
EMMY STATE H25-731 LANDING POINT	6882.00	200.00	310.00	3249197.68	1313389.67	40°11'24.758"N	104°36'28.776"W	point
EMMY STATE H25-731 Target 1	6882.00	6750.00	304.86	3249192.54	1319939.38	40°12'29.482"N	104°36'27.993"W	point
EMMY STATE H25-731 Target 2	6888.98	7650.00	304.15	3249191.83	1320839.34	40°12'38.375"N	104°36'27.885"W	point
EMMY STATE H25-731 REV-1 BHL(75'FNL&1395'FEL,SEC.24)	6889.07	10229.45	302.19	3249189.87	1323418.67	40°13'03.864"N	104°36'27.576"W	point
EMMY STATE H25-731 REV-2 Target 2	6897.27	7650.00	304.15	3249191.83	1320839.34	40°12'38.375"N	104°36'27.885"W	point
EMMY STATE H25-731 REV-2 BHL(75'FNL&1395'FEL,SEC.24)	6897.71	10229.45	302.19	3249189.87	1323418.67	40°13'03.864"N	104°36'27.576"W	point



TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape

WELLPATH COMPOSITION - Ref Wellbore: EMMY STATE H25-731 AWB    Ref Wellpath: EMMY STATE H25-731 AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1931.00	Gyrodata standard - Drop gyro or Multi-shot	3rd Party Surface Gyros <84'-1931'>	EMMY STATE H25-731 AWB
1931.00	17206.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC 8.5" Hole OWSG MWD rev2+FR1+MSA <2073'-17206'>	EMMY STATE H25-731 AWB
17206.00	17293.00	Blind Drilling (std)	Projection to bit	EMMY STATE H25-731 AWB



Actual Wellpath Report

EMMY STATE H25-731 AWP

Page 8 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 EMMY STATE H25-731(285'FSL&1760'FEL,SEC.25)
Area	COLORADO	Well	EMMY STATE H25-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	EMMY STATE H25-731 AWB
Facility	SEC.25-T03N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1931.00	0.840	329.630	1930.97	Tie to Surface Gyros
17206.00	89.890	359.940	6898.60	Last BHI MWD Survey
17293.00	89.890	359.940	6898.77	Projection to Bit