

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#04 LARSON AA19-635(1185°FSL&275°FEL,SEC.24)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: LARSON AA19-635
Facility: SEC.24-T06N-R64W Wellbore: LARSON AA19-635 PWB

Plot reference wellpath is LARSON AA19-635 (REV-A.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: 4676 feet	Scale: True distance
Mean Sea Level to Ground level (At Slot: SLOT#04 LARSON AA19-635(1185°FSL&275°FEL,SEC.24)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: guenaler on 2019-06-11
	Database: WA_DEN_Denver_Defn

Survey Program

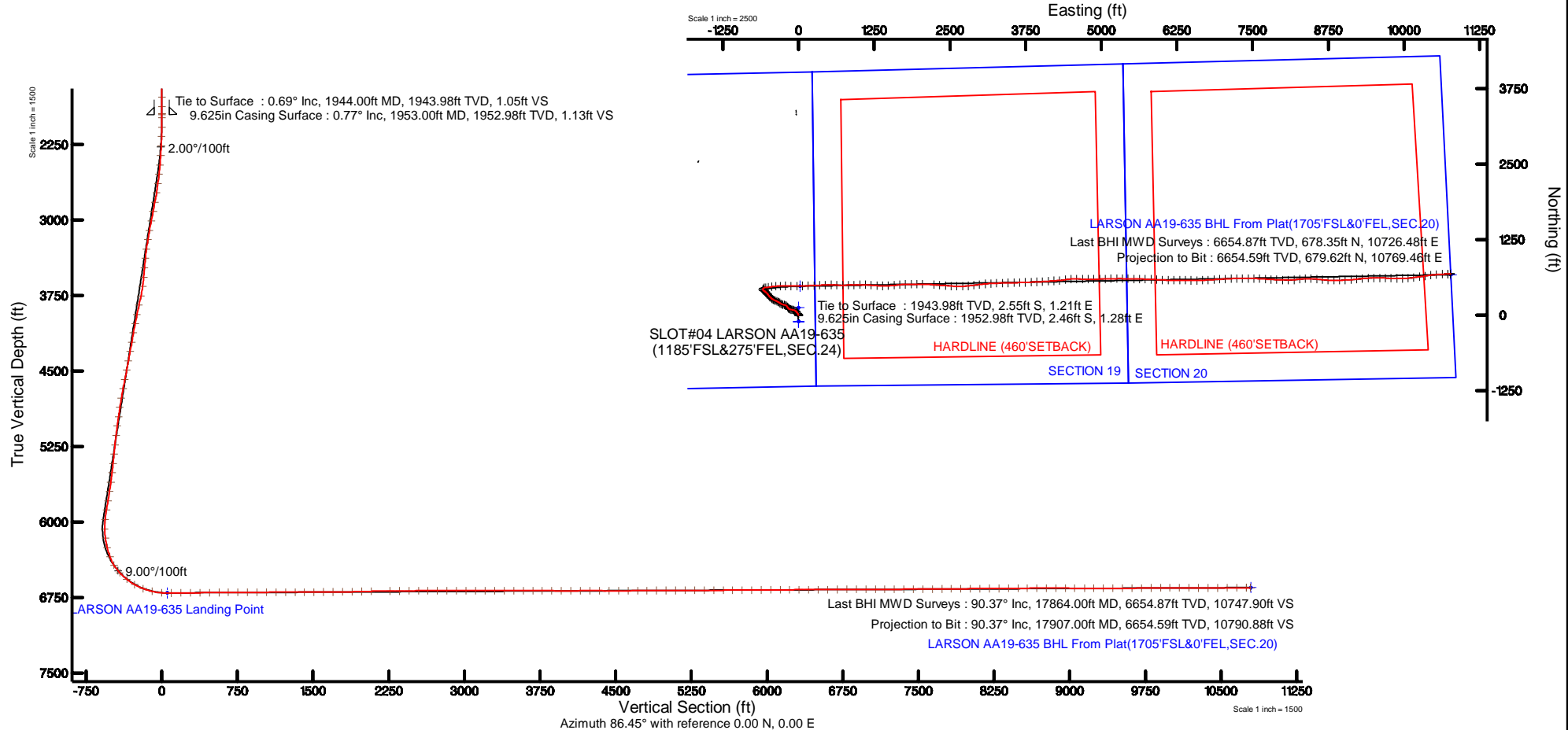
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17894.95	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		LARSON AA19-635 PWB

Comments

SURFACE LOCATION: SESE
40.46801N
104.48976W
API: 05-123-45550

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.24-T06N-R64W			3281075.203	1414828.232	40°28'03.756"N	104°29'23.136"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#04 LARSON AA19-635(1185°FSL&275°FEL,SEC.24)	109.29	-1.25	3281073.957	1414937.515	40°28'04.836"N	104°29'23.136"W
RIG (30KB) (RKB) to Ground level (At Slot: SLOT#04 LARSON AA19-635(1185°FSL&275°FEL,SEC.24))					4676ft	
Mean Sea Level to Ground level (At Slot: SLOT#04 LARSON AA19-635(1185°FSL&275°FEL,SEC.24))					0ft	
RIG (30KB) (RKB) to Mean Sea Level					4676ft	





Actual Wellpath Report

LARSON AA19-635 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 LARSON AA19-635(1185'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-635 AWB
Facility	SEC.24-T06N-R64W		

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	0.999964	Report Generated	6/11/2018 at 2:10:54 PM
Convergence at slot	0.66° East	Database/Source file	WA_DEN_Denver_Defn/LARSON_AA19-635_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	109.29	-1.25	3281073.96	1414937.52	40°28'04.836"N	104°29'23.136"W
Facility Reference Pt			3281075.20	1414828.23	40°28'03.756"N	104°29'23.136"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	4676.00ft
Horizontal Reference Pt	Slot	RIG (30'KB) (RKB) to Mean Sea Level	4676.00ft
Vertical Reference Pt	RIG (30'KB) (RKB)	RIG (30'KB) (RKB) to Ground Level at Slot (SLOT#04 LARSON AA19-635 (1185'FSL&275'FEL,SEC.24))	4676.00ft
MD Reference Pt	RIG (30'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	86.45°



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Area	COLORADO	Well	LARSON AA19-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-635 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (191 stations)											
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments	
0.00	0.000	158.950	0.00	0.00	0.00	0.00	40°28'04.836"N	104°29'23.136"W	0.00		
73.00	0.110	158.950	73.00	0.02	-0.07	0.03	40°28'04.835"N	104°29'23.136"W	0.15		
171.00	0.150	117.880	171.00	0.16	-0.21	0.17	40°28'04.834"N	104°29'23.134"W	0.10		
266.00	0.170	277.380	266.00	0.13	-0.25	0.14	40°28'04.833"N	104°29'23.134"W	0.33		
360.00	0.190	263.350	360.00	-0.17	-0.25	-0.15	40°28'04.834"N	104°29'23.138"W	0.05		
455.00	0.200	321.550	455.00	-0.42	-0.14	-0.41	40°28'04.835"N	104°29'23.141"W	0.20		
549.00	0.240	137.090	549.00	-0.39	-0.16	-0.38	40°28'04.834"N	104°29'23.141"W	0.47		
644.00	0.340	117.050	644.00	-0.02	-0.43	0.01	40°28'04.832"N	104°29'23.136"W	0.15		
738.00	0.280	145.760	738.00	0.34	-0.75	0.39	40°28'04.829"N	104°29'23.131"W	0.17		
834.00	0.230	179.510	833.99	0.45	-1.13	0.52	40°28'04.825"N	104°29'23.129"W	0.16		
927.00	0.270	185.080	926.99	0.41	-1.54	0.50	40°28'04.821"N	104°29'23.130"W	0.05		
1022.00	0.150	104.950	1021.99	0.49	-1.79	0.60	40°28'04.818"N	104°29'23.128"W	0.30		
1116.00	0.270	189.870	1115.99	0.56	-2.04	0.68	40°28'04.816"N	104°29'23.127"W	0.32		
1211.00	0.120	212.370	1210.99	0.44	-2.35	0.59	40°28'04.813"N	104°29'23.129"W	0.17		
1305.00	0.260	250.620	1304.99	0.18	-2.50	0.34	40°28'04.811"N	104°29'23.132"W	0.19		
1400.00	0.240	38.820	1399.99	0.11	-2.42	0.26	40°28'04.812"N	104°29'23.133"W	0.51		
1494.00	0.190	63.730	1493.99	0.39	-2.20	0.52	40°28'04.814"N	104°29'23.130"W	0.11		
1589.00	0.070	250.720	1588.99	0.47	-2.15	0.61	40°28'04.815"N	104°29'23.128"W	0.27		
1684.00	0.460	220.660	1683.99	0.15	-2.46	0.31	40°28'04.812"N	104°29'23.132"W	0.42		
1778.00	0.360	148.360	1777.99	0.03	-2.99	0.21	40°28'04.806"N	104°29'23.134"W	0.52		
1873.00	0.460	54.190	1872.99	0.49	-3.02	0.68	40°28'04.806"N	104°29'23.128"W	0.64		
1944.00	0.690	44.130	1943.98	1.05	-2.55	1.21	40°28'04.811"N	104°29'23.121"W	0.35	Tie to Surface	
1982.00	1.040	29.240	1981.98	1.40	-2.08	1.54	40°28'04.815"N	104°29'23.116"W	1.09		
2077.00	2.180	336.250	2076.94	1.25	0.32	1.23	40°28'04.839"N	104°29'23.120"W	1.85		
2171.00	4.300	328.230	2170.79	-1.04	4.95	-1.35	40°28'04.885"N	104°29'23.153"W	2.30		
2266.00	5.910	325.710	2265.41	-5.22	12.02	-5.98	40°28'04.955"N	104°29'23.212"W	1.71		
2360.00	7.350	325.640	2358.78	-10.78	20.99	-12.10	40°28'05.045"N	104°29'23.289"W	1.53		
2455.00	9.770	327.370	2452.71	-17.81	32.79	-19.87	40°28'05.162"N	104°29'23.388"W	2.56		
2549.00	11.130	321.460	2545.15	-26.89	46.61	-29.83	40°28'05.300"N	104°29'23.515"W	1.84		
2644.00	11.130	311.870	2638.38	-38.58	59.90	-42.37	40°28'05.433"N	104°29'23.675"W	1.95		



Actual Wellpath Report

LARSON AA19-635 AWP



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Operator	NOBLE ENERGY, INC	Slot	SLOT#04 LARSON AA19-635(1185'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-635 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (191 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2739.00	11.170	303.030	2731.59	-52.41	71.04	-56.91	40°28'05.544"N	104°29'23.862"W	1.80	
2833.00	11.240	289.180	2823.81	-68.17	79.01	-73.20	40°28'05.625"N	104°29'24.071"W	2.86	
2928.00	11.060	276.800	2917.03	-85.68	83.13	-91.00	40°28'05.668"N	104°29'24.301"W	2.52	
3022.00	11.030	277.770	3009.29	-103.37	85.41	-108.86	40°28'05.692"N	104°29'24.532"W	0.20	
3117.00	11.030	281.250	3102.54	-121.06	88.42	-126.78	40°28'05.724"N	104°29'24.763"W	0.70	
3211.00	10.420	290.590	3194.90	-137.52	93.16	-143.56	40°28'05.773"N	104°29'24.980"W	1.96	
3306.00	9.100	301.290	3288.53	-151.53	100.08	-158.02	40°28'05.843"N	104°29'25.166"W	2.36	
3400.00	9.800	318.030	3381.28	-162.60	109.89	-169.73	40°28'05.941"N	104°29'25.316"W	3.01	
3495.00	9.790	329.040	3474.90	-171.34	122.83	-179.29	40°28'06.070"N	104°29'25.437"W	1.97	
3590.00	11.200	329.530	3568.31	-179.24	137.71	-188.12	40°28'06.218"N	104°29'25.550"W	1.49	
3684.00	11.780	313.520	3660.45	-189.91	152.19	-199.71	40°28'06.362"N	104°29'25.697"W	3.44	
3779.00	12.760	287.830	3753.35	-206.30	162.09	-216.74	40°28'06.462"N	104°29'25.916"W	5.79	
3873.00	12.430	278.060	3845.09	-225.88	166.69	-236.65	40°28'06.510"N	104°29'26.173"W	2.29	
3968.00	12.310	285.260	3937.89	-245.48	170.79	-256.54	40°28'06.552"N	104°29'26.430"W	1.63	
4062.00	12.220	295.320	4029.76	-263.68	177.68	-275.20	40°28'06.623"N	104°29'26.670"W	2.27	
4157.00	12.390	301.150	4122.58	-280.86	187.25	-293.01	40°28'06.719"N	104°29'26.899"W	1.32	
4251.00	12.330	301.490	4214.40	-297.37	197.71	-310.20	40°28'06.824"N	104°29'27.120"W	0.10	
4346.00	12.330	302.150	4307.21	-313.92	208.41	-327.44	40°28'06.932"N	104°29'27.342"W	0.15	
4441.00	12.250	298.950	4400.03	-330.65	218.68	-344.85	40°28'07.036"N	104°29'27.565"W	0.72	
4535.00	12.220	295.280	4491.90	-347.78	227.76	-362.57	40°28'07.127"N	104°29'27.793"W	0.83	
4630.00	12.290	293.490	4584.74	-365.59	236.08	-380.93	40°28'07.212"N	104°29'28.030"W	0.41	
4724.00	12.200	293.020	4676.60	-383.39	243.95	-399.25	40°28'07.291"N	104°29'28.265"W	0.14	
4819.00	11.270	295.720	4769.61	-400.47	251.91	-416.85	40°28'07.372"N	104°29'28.492"W	1.14	
4913.00	10.910	306.560	4861.87	-415.28	261.19	-432.27	40°28'07.465"N	104°29'28.690"W	2.25	
5008.00	10.710	312.070	4955.18	-428.33	272.46	-446.05	40°28'07.578"N	104°29'28.867"W	1.11	
5102.00	10.770	308.160	5047.54	-441.00	283.74	-459.44	40°28'07.691"N	104°29'29.038"W	0.78	
5197.00	10.710	313.850	5140.88	-453.60	295.34	-472.78	40°28'07.807"N	104°29'29.209"W	1.12	
5291.00	10.520	324.910	5233.28	-464.01	308.42	-484.02	40°28'07.938"N	104°29'29.353"W	2.17	
5386.00	10.770	322.930	5326.64	-473.44	322.59	-494.35	40°28'08.079"N	104°29'29.484"W	0.47	
5480.00	10.860	324.960	5418.97	-482.92	336.85	-504.73	40°28'08.221"N	104°29'29.616"W	0.42	



Actual Wellpath Report
LARSON AA19-635 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 LARSON AA19-635(1185'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-635 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (191 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5575.00	11.690	320.740	5512.14	-493.21	351.63	-515.96	40°28'08.368"N	104°29'29.760"W	1.23	
5669.00	11.860	317.290	5604.16	-504.87	366.10	-528.54	40°28'08.513"N	104°29'29.920"W	0.77	
5764.00	11.800	310.750	5697.15	-517.99	379.62	-542.52	40°28'08.648"N	104°29'30.099"W	1.41	
5858.00	11.820	302.960	5789.17	-532.61	391.13	-557.88	40°28'08.763"N	104°29'30.296"W	1.70	
5953.00	11.760	294.740	5882.17	-548.96	400.48	-574.84	40°28'08.858"N	104°29'30.514"W	1.77	
6048.00	7.710	311.220	5975.80	-562.01	408.73	-588.43	40°28'08.941"N	104°29'30.689"W	5.13	
6142.00	9.170	3.390	6068.91	-565.59	420.38	-592.74	40°28'09.056"N	104°29'30.743"W	8.00	
6237.00	12.420	33.650	6162.29	-558.49	436.46	-586.62	40°28'09.215"N	104°29'30.661"W	6.76	
6332.00	14.850	67.870	6254.75	-540.75	449.57	-569.66	40°28'09.342"N	104°29'30.440"W	8.72	
6426.00	19.540	87.870	6344.60	-513.57	454.70	-542.75	40°28'09.390"N	104°29'30.091"W	7.96	
6521.00	31.590	80.990	6430.16	-472.76	459.21	-502.14	40°28'09.430"N	104°29'29.565"W	13.04	
6615.00	42.620	81.510	6505.01	-416.37	467.79	-446.17	40°28'09.508"N	104°29'28.840"W	11.74	
6710.00	51.530	85.160	6569.66	-347.00	475.69	-377.15	40°28'09.579"N	104°29'27.945"W	9.79	
6804.00	60.800	88.490	6621.95	-269.02	479.89	-299.29	40°28'09.611"N	104°29'26.937"W	10.29	
6898.00	68.440	91.110	6662.22	-184.32	480.12	-214.44	40°28'09.604"N	104°29'25.840"W	8.51	
6993.00	77.110	91.110	6690.32	-93.96	478.36	-123.80	40°28'09.577"N	104°29'24.667"W	9.13	
7088.00	86.300	89.610	6704.01	-0.28	477.79	-29.90	40°28'09.560"N	104°29'23.452"W	9.80	
7182.00	90.620	87.620	6706.54	93.59	480.06	64.01	40°28'09.572"N	104°29'22.237"W	5.06	
7277.00	90.550	87.670	6705.57	188.57	483.96	158.93	40°28'09.600"N	104°29'21.008"W	0.09	
7371.00	90.580	87.780	6704.64	282.54	487.70	252.85	40°28'09.626"N	104°29'19.793"W	0.12	
7466.00	90.550	87.270	6703.70	377.52	491.80	347.76	40°28'09.656"N	104°29'18.564"W	0.54	
7560.00	90.710	87.390	6702.67	471.50	496.18	441.65	40°28'09.689"N	104°29'17.349"W	0.21	
7655.00	91.200	91.650	6701.09	566.33	496.97	536.61	40°28'09.686"N	104°29'16.120"W	4.51	
7750.00	90.030	92.010	6700.07	660.91	493.94	631.55	40°28'09.645"N	104°29'14.892"W	1.29	
7845.00	90.250	89.960	6699.84	755.60	492.31	726.53	40°28'09.619"N	104°29'13.664"W	2.17	
7939.00	90.120	88.370	6699.53	849.49	493.68	820.52	40°28'09.621"N	104°29'12.447"W	1.70	
8033.00	90.090	88.530	6699.36	943.44	496.22	914.49	40°28'09.636"N	104°29'11.231"W	0.17	
8128.00	90.460	88.530	6698.90	1038.37	498.66	1009.45	40°28'09.649"N	104°29'10.002"W	0.39	
8223.00	90.400	92.100	6698.19	1133.14	498.13	1104.43	40°28'09.633"N	104°29'08.774"W	3.76	
8317.00	90.400	94.760	6697.53	1226.43	492.51	1198.25	40°28'09.567"N	104°29'07.561"W	2.83	



Actual Wellpath Report

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Area	COLORADO	Well	LARSON AA19-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-635 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (191 stations)										
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8412.00	90.220	94.560	6697.02	1320.46	484.79	1292.94	40°28'09.480"N	104°29'06.337"W	0.28	
8506.00	90.090	90.560	6696.77	1413.91	480.59	1386.83	40°28'09.428"N	104°29'05.123"W	4.26	
8601.00	90.060	86.310	6696.64	1508.83	483.19	1481.77	40°28'09.443"N	104°29'03.894"W	4.47	
8695.00	90.180	84.780	6696.44	1602.81	490.49	1575.48	40°28'09.505"N	104°29'02.680"W	1.63	
8790.00	90.520	84.540	6695.86	1697.76	499.33	1670.07	40°28'09.581"N	104°29'01.455"W	0.44	
8884.00	90.250	87.430	6695.23	1791.75	505.91	1763.82	40°28'09.636"N	104°29'00.241"W	3.09	
8979.00	91.510	89.370	6693.77	1886.68	508.56	1858.77	40°28'09.651"N	104°28'59.013"W	2.43	
9074.00	91.450	89.430	6691.32	1981.52	509.56	1953.73	40°28'09.650"N	104°28'57.784"W	0.09	
9168.00	91.600	91.410	6688.82	2075.26	508.87	2047.69	40°28'09.633"N	104°28'56.568"W	2.11	
9357.00	90.060	94.430	6686.08	2263.01	499.24	2236.40	40°28'09.516"N	104°28'54.128"W	1.79	
9452.00	90.000	93.680	6686.03	2357.17	492.53	2331.16	40°28'09.439"N	104°28'52.903"W	0.79	
9546.00	91.140	94.360	6685.09	2450.34	485.94	2424.92	40°28'09.363"N	104°28'51.691"W	1.41	
9641.00	91.380	94.260	6683.01	2544.43	478.80	2519.63	40°28'09.282"N	104°28'50.467"W	0.27	
9735.00	89.880	92.110	6681.97	2637.77	473.58	2613.47	40°28'09.220"N	104°28'49.254"W	2.79	
9830.00	90.060	87.770	6682.02	2732.57	473.68	2708.45	40°28'09.210"N	104°28'48.025"W	4.57	
9924.00	90.090	83.300	6681.90	2826.53	480.99	2802.14	40°28'09.272"N	104°28'46.812"W	4.76	
10019.00	89.720	82.880	6682.06	2921.37	492.42	2896.45	40°28'09.374"N	104°28'45.590"W	0.59	
10113.00	89.970	82.950	6682.31	3015.19	504.02	2989.73	40°28'09.478"N	104°28'44.381"W	0.28	
10208.00	89.850	84.560	6682.46	3110.08	514.35	3084.16	40°28'09.569"N	104°28'43.158"W	1.70	
10302.00	89.970	86.830	6682.61	3204.07	521.41	3177.89	40°28'09.628"N	104°28'41.944"W	2.42	
10397.00	89.910	88.370	6682.71	3299.04	525.38	3272.81	40°28'09.657"N	104°28'40.716"W	1.62	
10492.00	89.910	88.350	6682.86	3393.99	528.10	3367.77	40°28'09.673"N	104°28'39.487"W	0.02	
10586.00	90.000	88.470	6682.93	3487.94	530.71	3461.73	40°28'09.688"N	104°28'38.271"W	0.16	
10681.00	89.970	88.630	6682.95	3582.87	533.11	3556.70	40°28'09.701"N	104°28'37.041"W	0.17	
10776.00	89.780	88.260	6683.16	3677.82	535.69	3651.67	40°28'09.715"N	104°28'35.812"W	0.44	
10870.00	89.910	87.800	6683.42	3771.78	538.92	3745.61	40°28'09.737"N	104°28'34.597"W	0.51	
10965.00	89.850	87.620	6683.61	3866.76	542.72	3840.53	40°28'09.763"N	104°28'33.368"W	0.20	
11059.00	89.940	87.300	6683.79	3960.74	546.89	3934.44	40°28'09.794"N	104°28'32.152"W	0.35	
11154.00	90.000	86.110	6683.84	4055.74	552.35	4029.28	40°28'09.837"N	104°28'30.924"W	1.25	
11248.00	90.280	86.300	6683.61	4149.74	558.57	4123.08	40°28'09.888"N	104°28'29.710"W	0.36	



Actual Wellpath Report

LARSON AA19-635 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 LARSON AA19-635(1185'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-635 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (191 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11343.00	90.120	86.780	6683.28	4244.74	564.30	4217.90	40°28'09.933"N	104°28'28.482"W	0.53	
11437.00	89.630	84.350	6683.48	4338.72	571.57	4311.61	40°28'09.994"N	104°28'27.269"W	2.64	
11532.00	89.970	80.680	6683.81	4433.48	583.94	4405.79	40°28'10.106"N	104°28'26.049"W	3.88	
11626.00	89.940	87.360	6683.89	4527.34	593.73	4499.22	40°28'10.192"N	104°28'24.838"W	7.11	
11721.00	90.180	91.410	6683.79	4622.19	594.75	4594.20	40°28'10.191"N	104°28'23.609"W	4.27	
11815.00	90.740	91.390	6683.03	4715.84	592.45	4688.16	40°28'10.158"N	104°28'22.394"W	0.60	
11910.00	90.740	90.250	6681.81	4810.55	591.09	4783.15	40°28'10.133"N	104°28'21.165"W	1.20	
12004.00	90.060	89.530	6681.15	4904.38	591.27	4877.14	40°28'10.124"N	104°28'19.949"W	1.05	
12099.00	89.910	88.420	6681.17	4999.29	592.97	4972.13	40°28'10.130"N	104°28'18.720"W	1.18	
12194.00	90.280	88.260	6681.02	5094.24	595.72	5067.09	40°28'10.147"N	104°28'17.491"W	0.42	
12288.00	90.310	87.710	6680.53	5188.20	599.03	5161.03	40°28'10.169"N	104°28'16.275"W	0.59	
12383.00	90.250	89.480	6680.07	5283.13	601.36	5255.99	40°28'10.181"N	104°28'15.046"W	1.86	
12477.00	90.180	90.440	6679.72	5376.95	601.42	5349.99	40°28'10.171"N	104°28'13.830"W	1.02	
12571.00	90.310	91.690	6679.31	5470.65	599.68	5443.97	40°28'10.143"N	104°28'12.614"W	1.34	
12666.00	90.430	92.280	6678.70	5565.20	596.39	5538.91	40°28'10.099"N	104°28'11.387"W	0.63	
12760.00	90.400	90.650	6678.02	5658.84	593.98	5632.88	40°28'10.065"N	104°28'10.171"W	1.73	
12855.00	90.280	91.130	6677.46	5753.55	592.51	5727.86	40°28'10.039"N	104°28'08.943"W	0.52	
12949.00	90.340	92.830	6676.95	5847.11	589.26	5821.80	40°28'09.996"N	104°28'07.728"W	1.81	
13044.00	90.580	93.610	6676.18	5941.44	583.92	5916.65	40°28'09.933"N	104°28'06.501"W	0.86	
13138.00	90.220	92.550	6675.53	6034.81	578.87	6010.51	40°28'09.872"N	104°28'05.288"W	1.19	
13233.00	90.520	91.810	6674.91	6129.33	575.26	6105.44	40°28'09.825"N	104°28'04.060"W	0.84	
13327.00	90.520	90.010	6674.06	6223.04	573.77	6199.42	40°28'09.800"N	104°28'02.844"W	1.91	
13422.00	90.340	89.080	6673.35	6317.90	574.52	6294.41	40°28'09.796"N	104°28'01.615"W	1.00	
13516.00	90.490	90.980	6672.67	6411.71	574.47	6388.40	40°28'09.785"N	104°28'00.399"W	2.03	
13611.00	90.250	91.580	6672.05	6506.37	572.35	6483.38	40°28'09.753"N	104°27'59.171"W	0.68	
13705.00	90.220	89.380	6671.67	6600.13	571.56	6577.37	40°28'09.734"N	104°27'57.955"W	2.34	
13800.00	90.280	87.270	6671.25	6695.07	574.34	6672.32	40°28'09.751"N	104°27'56.726"W	2.22	
13894.00	90.370	86.860	6670.72	6789.07	579.15	6766.19	40°28'09.788"N	104°27'55.511"W	0.45	
13989.00	90.120	86.650	6670.31	6884.06	584.53	6861.04	40°28'09.830"N	104°27'54.283"W	0.34	
14083.00	90.220	86.510	6670.04	6978.06	590.14	6954.87	40°28'09.874"N	104°27'53.068"W	0.18	



Actual Wellpath Report
LARSON AA19-635 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 LARSON AA19-635(1185'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-635 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (191 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14178.00	90.250	86.580	6669.65	7073.06	595.86	7049.70	40°28'09.920"N	104°27'51.840"W	0.08	
14272.00	90.090	87.540	6669.37	7167.05	600.68	7143.57	40°28'09.957"N	104°27'50.625"W	1.04	
14367.00	90.250	89.300	6669.08	7261.99	603.30	7238.53	40°28'09.972"N	104°27'49.396"W	1.86	
14461.00	90.280	89.550	6668.65	7355.87	604.25	7332.53	40°28'09.970"N	104°27'48.180"W	0.27	
14556.00	90.250	90.090	6668.21	7450.70	604.55	7427.53	40°28'09.962"N	104°27'46.951"W	0.57	
14650.00	90.280	91.410	6667.78	7544.43	603.32	7521.52	40°28'09.939"N	104°27'45.735"W	1.40	
14745.00	90.550	93.010	6667.09	7638.95	599.65	7616.44	40°28'09.892"N	104°27'44.507"W	1.71	
14840.00	90.400	93.790	6666.30	7733.25	594.02	7711.27	40°28'09.825"N	104°27'43.281"W	0.84	
14934.00	90.280	93.830	6665.74	7826.47	587.77	7805.06	40°28'09.753"N	104°27'42.069"W	0.13	
15029.00	90.860	92.360	6664.80	7920.83	582.64	7899.91	40°28'09.691"N	104°27'40.842"W	1.66	
15123.00	90.580	92.540	6663.62	8014.30	578.63	7993.82	40°28'09.641"N	104°27'39.628"W	0.35	
15218.00	90.710	90.140	6662.55	8108.95	576.40	8088.78	40°28'09.608"N	104°27'38.400"W	2.53	
15313.00	90.550	84.440	6661.50	8203.89	580.89	8183.63	40°28'09.641"N	104°27'37.172"W	6.00	
15407.00	89.970	82.850	6661.07	8297.77	591.30	8277.05	40°28'09.733"N	104°27'35.962"W	1.80	
15501.00	90.460	86.870	6660.72	8391.72	599.72	8370.65	40°28'09.805"N	104°27'34.750"W	4.31	
15596.00	90.520	93.160	6659.91	8486.48	599.69	8465.60	40°28'09.794"N	104°27'33.521"W	6.62	
15691.00	90.680	95.450	6658.91	8580.58	592.56	8560.32	40°28'09.713"N	104°27'32.297"W	2.42	
15785.00	90.650	95.610	6657.82	8673.40	583.50	8653.87	40°28'09.612"N	104°27'31.088"W	0.17	
15880.00	90.000	93.750	6657.28	8767.41	575.75	8748.55	40°28'09.525"N	104°27'29.864"W	2.07	
15974.00	89.570	88.280	6657.64	8861.08	574.09	8842.50	40°28'09.497"N	104°27'28.649"W	5.84	
16069.00	89.510	89.560	6658.40	8955.99	575.88	8937.48	40°28'09.504"N	104°27'27.420"W	1.35	
16163.00	89.600	88.780	6659.13	9049.88	577.24	9031.46	40°28'09.507"N	104°27'26.204"W	0.84	
16258.00	89.910	85.160	6659.54	9144.86	582.26	9126.32	40°28'09.545"N	104°27'24.976"W	3.82	
16352.00	89.880	83.190	6659.71	9238.78	591.80	9219.83	40°28'09.629"N	104°27'23.764"W	2.10	
16447.00	89.880	84.430	6659.91	9333.67	602.05	9314.27	40°28'09.719"N	104°27'22.541"W	1.31	
16542.00	90.120	86.200	6659.91	9428.65	609.80	9408.95	40°28'09.784"N	104°27'21.315"W	1.88	
16636.00	90.250	89.430	6659.60	9522.61	613.39	9502.87	40°28'09.809"N	104°27'20.099"W	3.44	
16731.00	90.370	91.820	6659.09	9617.35	612.35	9597.85	40°28'09.788"N	104°27'18.870"W	2.52	
16825.00	91.200	91.040	6657.80	9710.99	610.01	9691.81	40°28'09.754"N	104°27'17.655"W	1.21	
16920.00	90.770	91.260	6656.17	9805.65	608.10	9786.78	40°28'09.724"N	104°27'16.427"W	0.51	



Actual Wellpath Report

LARSON AA19-635 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 LARSON AA19-635(1185'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-635 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (191 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17014.00	90.280	91.630	6655.31	9899.29	605.73	9880.75	40°28'09.689"N	104°27'15.211"W	0.65	
17108.00	89.880	89.120	6655.18	9993.06	605.11	9974.74	40°28'09.672"N	104°27'13.996"W	2.70	
17203.00	90.060	85.690	6655.23	10088.04	609.41	10069.62	40°28'09.704"N	104°27'12.767"W	3.62	
17297.00	89.720	81.960	6655.41	10181.92	619.52	10163.06	40°28'09.793"N	104°27'11.557"W	3.98	
17391.00	89.600	81.810	6655.96	10275.62	632.79	10256.12	40°28'09.913"N	104°27'10.351"W	0.20	
17486.00	90.280	82.100	6656.06	10370.33	646.09	10350.18	40°28'10.033"N	104°27'09.132"W	0.78	
17580.00	89.940	82.920	6655.88	10464.10	658.34	10443.38	40°28'10.143"N	104°27'07.924"W	0.94	
17675.00	90.150	84.060	6655.81	10558.98	669.11	10537.77	40°28'10.239"N	104°27'06.701"W	1.22	
17769.00	90.310	88.200	6655.43	10652.95	675.45	10631.53	40°28'10.291"N	104°27'05.487"W	4.41	
17864.00	90.370	88.310	6654.87	10747.90	678.35	10726.48	40°28'10.308"N	104°27'04.258"W	0.13	Last BHI MWD Surveys
17907.00	90.370	88.310	6654.59	10790.88	679.62	10769.46	40°28'10.316"N	104°27'03.702"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: LARSON AA19-635 AWB Ref Wellpath: LARSON AA19-635 AWP									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.5in Open Hole	30.00	1953.00	1923.00	30.00	1952.98	-0.01	0.00	-2.46	1.28
9.625in Casing Surface	30.00	1953.00	1923.00	30.00	1952.98	-0.01	0.00	-2.46	1.28
8.5in Open Hole	1953.00	17907.00	15954.00	1952.98	6654.59	-2.46	1.28	679.62	10769.46



Actual Wellpath Report

LARSON AA19-635 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 LARSON AA19-635(1185'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-635 AWB
Facility	SEC.24-T06N-R64W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
LARSON A23-639 Section 24	0.00	120.22	-1.37	3281072.59	1415057.73	40°28'06.024"N	104°29'23.136"W	polygon
LARSON AA19-618 SECTION 19	0.00	-109.29	1.25	3281075.20	1414828.23	40°28'03.756"N	104°29'23.136"W	polygon
LARSON AA19-618 SECTION 19 HARDLINE (460'SETBACK)	0.00	-109.29	1.25	3281075.20	1414828.23	40°28'03.756"N	104°29'23.136"W	polygon
LARSON AA19-618 SECTION 20	0.00	-109.29	1.25	3281075.20	1414828.23	40°28'03.756"N	104°29'23.136"W	polygon
LARSON AA19-618 SECTION 20 HARDLINE (460'SETBACK)	0.00	-109.29	1.25	3281075.20	1414828.23	40°28'03.756"N	104°29'23.136"W	polygon
LARSON AA19-635 BHL From Plat(1705'FSL&0'FEL,SEC.20)	6652.46	667.98	10774.71	3291848.26	1415605.47	40°28'10.200"N	104°27'03.636"W	point
LARSON AA19-635 Landing Point	6705.00	475.00	25.00	3281098.96	1415412.50	40°28'09.527"N	104°29'22.743"W	point

WELLPATH COMPOSITION - Ref Wellbore: LARSON AA19-635 AWB Ref Wellpath: LARSON AA19-635 AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1944.00	Gyrodata standard - Drop gyro or Multi-shot	3rd Party Surface Gyros <73'-1944'>	LARSON AA19-635 AWB
1944.00	17864.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC 8.5" Hole OWSG, MWD+IFR+MSA <1982'-17864'>	LARSON AA19-635 AWB
17864.00	17907.00	Blind Drilling (std)	Projection to bit	LARSON AA19-635 AWB



Actual Wellpath Report

LARSON AA19-635 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 LARSON AA19-635(1185'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-635
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-635 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1944.00	0.690	44.130	1943.98	Tie to Surface
17864.00	90.370	88.310	6654.87	Last BHI MWD Surveys
17907.00	90.370	88.310	6654.59	Projection to Bit

COMMENTS
<div>Wellpath general comments</div> <div>SURFACE LOCATION: SESE</div> <div>40.46801N</div> <div>104.48976W</div> <div>API: 05-123-45550</div>