

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#03 LARSON AA19-630(1147°FSL&275°FEL,SEC.24)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: LARSON AA19-630
Facility: SEC.24-T06N-R64W Wellbore: LARSON AA19-630 PWB

Plot reference wellpath is LARSON AA19-630 (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#03 LARSON AA19-630(1147°FSL&275°FEL,SEC.24)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: guenaler on 2018-06-11
	Database: WA_DEN_Denver_Delhi

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17841.67	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		LARSON AA19-630 PWB

Comments

SURFACE LOCATION: SESE

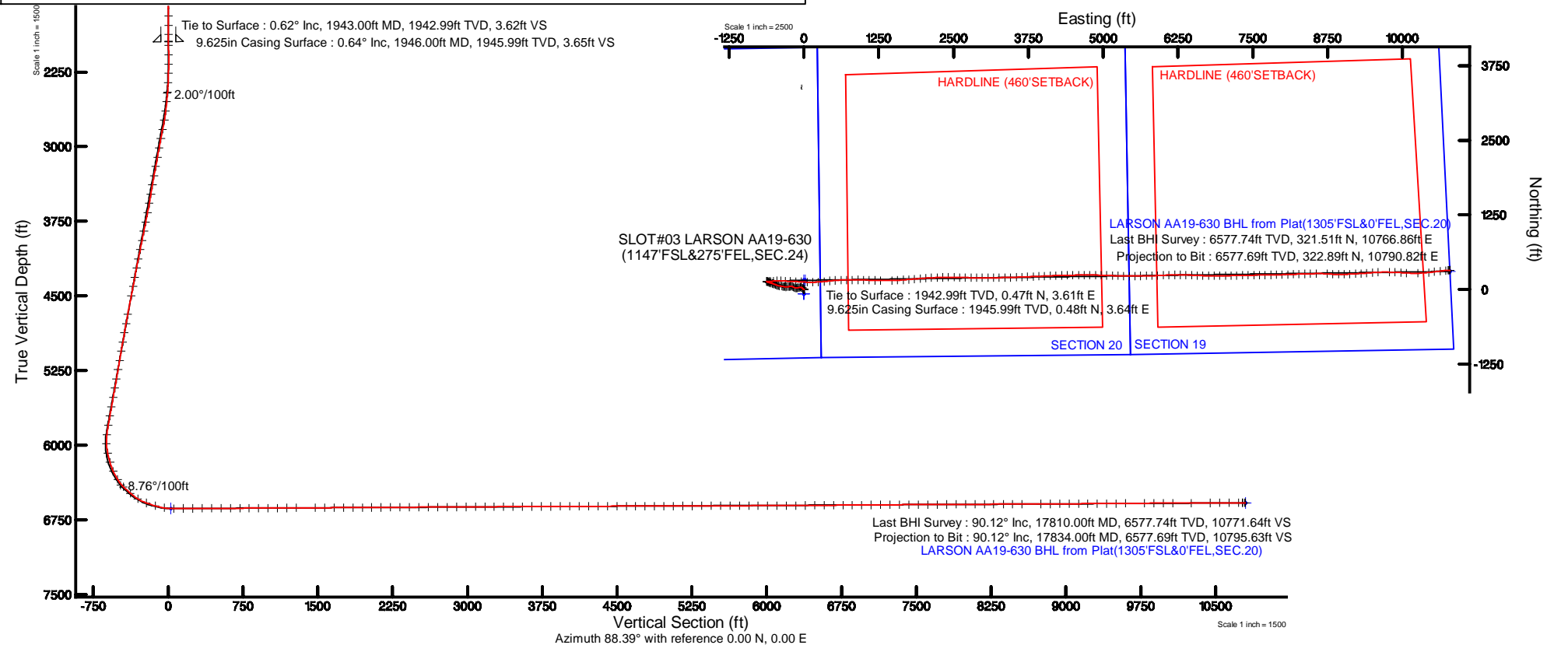
40.46791N

104.48976W

API: 05-123-45553

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#03 LARSON AA19-630(1147°FSL&275°FEL,SEC.24)	72.86	-0.83	3281074.373	1414901.087	40°28'04.476"N	104°29'23.136"W
RIG (30KB) (RKB) to Ground level (At Slot: SLOT#03 LARSON AA19-630(1147°FSL&275°FEL,SEC.24))					4676ft	
Mean Sea Level to Ground level (At Slot: SLOT#03 LARSON AA19-630(1147°FSL&275°FEL,SEC.24))					0ft	
RIG (30KB) (RKB) to Mean Sea Level					4676ft	





Actual Wellpath Report

LARSON AA19-630 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#03 LARSON AA19-630(1147'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-630
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-630 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 2:09:22 PM
Convergence at slot	0.66° East	Database/Source file	WA_DEN_Denver_Defn/LARSON_AA19-630_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	72.86	-0.83	3281074.37	1414901.09	40°28'04.476"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#03 LARSON AA19-630 (1147'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	88.29°



Actual Wellpath Report

LARSON AA19-630 AWP



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Area	COLORADO	Well	LARSON AA19-630
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-630 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (186 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	36.000	0.00	0.00	0.00	0.00	40°28'04.476"N	104°29'23.136"W	0.00	
78.00	0.220	36.000	78.00	0.09	0.12	0.09	40°28'04.477"N	104°29'23.135"W	0.28	
176.00	0.260	104.430	176.00	0.42	0.22	0.41	40°28'04.478"N	104°29'23.131"W	0.28	
267.00	0.330	346.870	267.00	0.57	0.42	0.55	40°28'04.480"N	104°29'23.129"W	0.56	
362.00	0.150	250.500	362.00	0.39	0.65	0.38	40°28'04.482"N	104°29'23.131"W	0.40	
457.00	0.170	103.840	457.00	0.41	0.57	0.39	40°28'04.482"N	104°29'23.131"W	0.32	
551.00	0.260	47.710	551.00	0.71	0.68	0.69	40°28'04.483"N	104°29'23.127"W	0.23	
646.00	0.250	121.750	646.00	1.04	0.72	1.02	40°28'04.483"N	104°29'23.123"W	0.32	
740.00	0.180	55.150	740.00	1.34	0.69	1.32	40°28'04.483"N	104°29'23.119"W	0.26	
835.00	0.260	127.970	835.00	1.63	0.65	1.61	40°28'04.482"N	104°29'23.115"W	0.28	
929.00	0.220	222.300	928.99	1.67	0.38	1.66	40°28'04.480"N	104°29'23.114"W	0.38	
1023.00	0.240	66.630	1022.99	1.73	0.33	1.72	40°28'04.479"N	104°29'23.114"W	0.48	
1118.00	0.030	148.940	1117.99	1.92	0.38	1.91	40°28'04.480"N	104°29'23.111"W	0.25	
1213.00	0.320	107.300	1212.99	2.19	0.28	2.18	40°28'04.479"N	104°29'23.108"W	0.31	
1307.00	0.130	74.510	1306.99	2.54	0.23	2.53	40°28'04.478"N	104°29'23.103"W	0.24	
1402.00	0.150	44.990	1401.99	2.73	0.35	2.72	40°28'04.479"N	104°29'23.101"W	0.08	
1496.00	0.140	328.110	1495.99	2.77	0.54	2.75	40°28'04.481"N	104°29'23.100"W	0.19	
1591.00	0.080	298.360	1590.99	2.65	0.67	2.63	40°28'04.482"N	104°29'23.102"W	0.09	
1685.00	0.280	176.230	1684.99	2.60	0.47	2.59	40°28'04.480"N	104°29'23.102"W	0.35	
1780.00	0.170	144.050	1779.99	2.69	0.12	2.69	40°28'04.477"N	104°29'23.101"W	0.17	
1874.00	0.410	61.250	1873.99	3.07	0.17	3.06	40°28'04.477"N	104°29'23.096"W	0.45	
1943.00	0.620	61.910	1942.99	3.62	0.47	3.61	40°28'04.480"N	104°29'23.089"W	0.30	Tie to Surface
1981.00	0.900	57.160	1980.98	4.06	0.72	4.04	40°28'04.483"N	104°29'23.084"W	0.75	
2076.00	0.070	96.060	2075.98	4.76	1.12	4.73	40°28'04.487"N	104°29'23.075"W	0.89	
2170.00	0.030	14.860	2169.98	4.82	1.14	4.79	40°28'04.487"N	104°29'23.074"W	0.08	
2264.00	1.090	283.310	2263.97	3.96	1.37	3.93	40°28'04.489"N	104°29'23.085"W	1.16	
2359.00	3.120	289.950	2358.91	0.69	2.46	0.62	40°28'04.500"N	104°29'23.128"W	2.15	
2453.00	5.550	305.480	2452.63	-5.31	5.97	-5.49	40°28'04.536"N	104°29'23.206"W	2.85	
2548.00	8.220	315.740	2546.94	-13.56	13.50	-13.97	40°28'04.611"N	104°29'23.315"W	3.08	
2643.00	10.540	314.680	2640.67	-24.15	24.48	-24.89	40°28'04.721"N	104°29'23.454"W	2.45	



Actual Wellpath Report

LARSON AA19-630 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#03 LARSON AA19-630(1147'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-630
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-630 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (186 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2737.00	10.640	296.800	2733.09	-37.71	34.44	-38.76	40°28'04.821"N	104°29'23.632"W	3.48	
2832.00	11.720	270.450	2826.35	-55.07	38.47	-56.25	40°28'04.862"N	104°29'23.858"W	5.45	
2926.00	10.390	253.770	2918.62	-72.82	36.18	-73.94	40°28'04.842"N	104°29'24.087"W	3.67	
3021.00	10.530	257.100	3012.05	-89.63	31.84	-90.62	40°28'04.801"N	104°29'24.304"W	0.65	
3116.00	10.550	260.730	3105.44	-106.77	28.51	-107.67	40°28'04.770"N	104°29'24.525"W	0.70	
3210.00	10.530	269.340	3197.86	-123.89	27.02	-124.75	40°28'04.757"N	104°29'24.746"W	1.67	
3305.00	10.730	283.610	3291.25	-141.10	29.00	-142.03	40°28'04.779"N	104°29'24.969"W	2.77	
3399.00	10.650	294.640	3383.63	-157.32	34.68	-158.43	40°28'04.837"N	104°29'25.181"W	2.18	
3494.00	10.650	297.970	3476.99	-172.81	42.46	-174.16	40°28'04.915"N	104°29'25.383"W	0.65	
3588.00	10.940	291.770	3569.33	-188.54	49.84	-190.12	40°28'04.990"N	104°29'25.588"W	1.27	
3683.00	11.050	276.650	3662.61	-205.82	54.24	-207.54	40°28'05.035"N	104°29'25.813"W	3.03	
3778.00	11.390	262.260	3755.81	-224.16	54.03	-225.88	40°28'05.035"N	104°29'26.050"W	2.96	
3872.00	11.320	257.830	3847.97	-242.46	50.84	-244.09	40°28'05.006"N	104°29'26.286"W	0.93	
3967.00	11.320	263.100	3941.13	-260.92	47.75	-262.46	40°28'04.977"N	104°29'26.525"W	1.09	
4061.00	11.220	266.890	4033.32	-279.25	46.15	-280.76	40°28'04.964"N	104°29'26.761"W	0.79	
4156.00	11.260	269.850	4126.49	-297.76	45.62	-299.26	40°28'04.960"N	104°29'27.001"W	0.61	
4250.00	11.440	275.390	4218.66	-316.19	46.47	-317.72	40°28'04.971"N	104°29'27.240"W	1.18	
4345.00	11.060	281.070	4311.84	-334.42	49.11	-336.04	40°28'04.999"N	104°29'27.476"W	1.23	
4439.00	10.830	280.380	4404.13	-351.85	52.43	-353.58	40°28'05.034"N	104°29'27.703"W	0.28	
4534.00	10.740	279.120	4497.45	-369.27	55.44	-371.09	40°28'05.066"N	104°29'27.929"W	0.27	
4723.00	10.810	279.570	4683.12	-403.95	61.18	-405.96	40°28'05.126"N	104°29'28.379"W	0.06	
4818.00	10.720	281.860	4776.44	-421.27	64.48	-423.39	40°28'05.161"N	104°29'28.604"W	0.46	
4912.00	10.680	290.120	4868.82	-437.86	69.27	-440.13	40°28'05.210"N	104°29'28.820"W	1.63	
5007.00	10.650	290.810	4962.17	-454.14	75.42	-456.60	40°28'05.273"N	104°29'29.032"W	0.14	
5101.00	10.660	291.430	5054.55	-470.16	81.68	-472.81	40°28'05.336"N	104°29'29.241"W	0.12	
5196.00	10.720	292.030	5147.90	-486.32	88.20	-489.18	40°28'05.403"N	104°29'29.452"W	0.13	
5290.00	10.530	292.660	5240.29	-502.15	94.79	-505.21	40°28'05.469"N	104°29'29.658"W	0.24	
5385.00	10.620	291.470	5333.68	-518.10	101.34	-521.37	40°28'05.536"N	104°29'29.866"W	0.25	
5479.00	10.540	286.850	5426.08	-534.22	107.00	-537.66	40°28'05.594"N	104°29'30.076"W	0.91	
5574.00	10.460	281.760	5519.49	-550.84	111.28	-554.42	40°28'05.638"N	104°29'30.292"W	0.98	



Actual Wellpath Report

LARSON AA19-630 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#03 LARSON AA19-630(1147'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-630
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-630 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (186 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5668.00	10.400	285.900	5611.94	-567.22	115.34	-570.93	40°28'05.680"N	104°29'30.505"W	0.80	
5763.00	10.450	289.030	5705.38	-583.45	120.50	-587.32	40°28'05.733"N	104°29'30.717"W	0.60	
5857.00	10.570	288.970	5797.80	-599.49	126.08	-603.53	40°28'05.790"N	104°29'30.926"W	0.13	
5952.00	8.510	295.340	5891.48	-613.91	131.92	-618.13	40°28'05.849"N	104°29'31.114"W	2.43	
6047.00	4.190	55.280	5986.13	-617.27	136.92	-621.64	40°28'05.899"N	104°29'31.158"W	11.79	
6141.00	12.160	85.740	6079.14	-604.47	139.62	-608.92	40°28'05.924"N	104°29'30.993"W	9.37	
6236.00	15.720	98.320	6171.35	-581.79	138.50	-586.19	40°28'05.910"N	104°29'30.700"W	4.90	
6330.00	22.940	87.060	6260.02	-550.88	137.60	-555.25	40°28'05.898"N	104°29'30.299"W	8.61	
6425.00	34.270	81.400	6343.30	-505.66	142.56	-510.16	40°28'05.942"N	104°29'29.715"W	12.25	
6519.00	42.760	87.150	6416.81	-447.36	148.12	-451.99	40°28'05.990"N	104°29'28.962"W	9.79	
6614.00	50.020	93.720	6482.33	-378.75	147.36	-383.33	40°28'05.975"N	104°29'28.074"W	9.13	
6708.00	58.740	93.660	6537.02	-302.75	142.45	-307.15	40°28'05.918"N	104°29'27.089"W	9.28	
6803.00	69.030	90.880	6578.79	-217.78	139.17	-222.04	40°28'05.876"N	104°29'25.988"W	11.14	
6897.00	73.970	94.490	6608.61	-128.95	134.95	-133.04	40°28'05.824"N	104°29'24.837"W	6.39	
6992.00	81.910	93.670	6628.45	-36.59	128.36	-40.45	40°28'05.749"N	104°29'23.640"W	8.40	
7086.00	90.400	91.530	6634.75	56.84	124.12	53.15	40°28'05.696"N	104°29'22.430"W	9.31	
7181.00	90.310	89.550	6634.16	151.76	123.22	148.14	40°28'05.677"N	104°29'21.201"W	2.09	
7275.00	90.090	85.900	6633.83	245.74	126.95	242.05	40°28'05.703"N	104°29'19.986"W	3.89	
7370.00	90.150	84.450	6633.63	340.60	134.94	336.71	40°28'05.771"N	104°29'18.760"W	1.53	
7465.00	90.180	83.610	6633.36	435.33	144.82	431.20	40°28'05.858"N	104°29'17.536"W	0.88	
7559.00	90.280	85.960	6632.98	529.15	153.37	524.80	40°28'05.932"N	104°29'16.324"W	2.50	
7654.00	90.280	88.150	6632.51	624.12	158.25	619.67	40°28'05.970"N	104°29'15.096"W	2.31	
7749.00	90.490	89.430	6631.88	719.11	160.25	714.64	40°28'05.979"N	104°29'13.867"W	1.37	
7843.00	90.490	89.610	6631.07	813.09	161.04	808.63	40°28'05.976"N	104°29'12.650"W	0.19	
7938.00	90.280	89.710	6630.43	908.06	161.60	903.63	40°28'05.971"N	104°29'11.421"W	0.24	
8032.00	90.220	91.780	6630.02	1001.97	160.38	997.62	40°28'05.948"N	104°29'10.206"W	2.20	
8127.00	90.340	92.400	6629.56	1096.76	156.92	1092.55	40°28'05.903"N	104°29'08.978"W	0.66	
8222.00	90.120	91.030	6629.18	1191.58	154.07	1187.51	40°28'05.864"N	104°29'07.750"W	1.46	
8316.00	90.460	91.680	6628.70	1285.45	151.85	1281.48	40°28'05.832"N	104°29'06.534"W	0.78	
8505.00	90.310	88.720	6627.43	1474.32	151.19	1470.45	40°28'05.804"N	104°29'04.090"W	1.57	



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Area	COLORADO	Well	LARSON AA19-630
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-630 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (186 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8599.00	90.280	86.840	6626.95	1568.31	154.83	1564.38	40°28'05.829"N	104°29'02.874"W	2.00	
8694.00	90.430	85.390	6626.36	1663.23	161.27	1659.15	40°28'05.882"N	104°29'01.647"W	1.53	
8789.00	90.030	84.880	6625.98	1758.09	169.33	1753.81	40°28'05.951"N	104°29'00.421"W	0.68	
8883.00	90.400	84.970	6625.63	1851.93	177.64	1847.44	40°28'06.023"N	104°28'59.208"W	0.41	
8978.00	90.370	85.850	6624.99	1946.80	185.24	1942.13	40°28'06.087"N	104°28'57.982"W	0.93	
9072.00	90.460	86.550	6624.31	2040.74	191.47	2035.92	40°28'06.138"N	104°28'56.768"W	0.75	
9167.00	90.120	87.120	6623.83	2135.71	196.72	2130.78	40°28'06.179"N	104°28'55.540"W	0.70	
9262.00	90.460	87.930	6623.34	2230.70	200.82	2225.68	40°28'06.209"N	104°28'54.311"W	0.92	
9356.00	90.430	88.650	6622.61	2324.69	203.62	2319.64	40°28'06.226"N	104°28'53.095"W	0.77	
9451.00	90.280	89.760	6622.03	2419.68	204.94	2414.63	40°28'06.228"N	104°28'51.866"W	1.18	
9545.00	90.400	91.170	6621.47	2513.60	204.18	2508.62	40°28'06.210"N	104°28'50.650"W	1.51	
9640.00	90.310	91.060	6620.88	2608.49	202.33	2603.60	40°28'06.181"N	104°28'49.422"W	0.15	
9734.00	90.430	91.020	6620.27	2702.38	200.63	2697.58	40°28'06.153"N	104°28'48.206"W	0.13	
9829.00	90.220	91.430	6619.73	2797.25	198.59	2792.56	40°28'06.122"N	104°28'46.978"W	0.48	
9923.00	90.220	90.460	6619.37	2891.15	197.04	2886.54	40°28'06.096"N	104°28'45.762"W	1.03	
10018.00	90.400	89.300	6618.86	2986.11	197.24	2981.54	40°28'06.088"N	104°28'44.533"W	1.24	
10112.00	90.490	89.390	6618.13	3080.09	198.32	3075.53	40°28'06.087"N	104°28'43.317"W	0.14	
10207.00	90.430	89.940	6617.37	3175.06	198.87	3170.53	40°28'06.082"N	104°28'42.088"W	0.58	
10301.00	90.310	89.660	6616.76	3269.02	199.20	3264.52	40°28'06.075"N	104°28'40.871"W	0.32	
10396.00	90.370	88.630	6616.19	3364.01	200.62	3359.51	40°28'06.078"N	104°28'39.642"W	1.09	
10491.00	90.520	88.580	6615.46	3459.00	202.93	3454.48	40°28'06.090"N	104°28'38.413"W	0.17	
10585.00	90.310	87.220	6614.78	3553.00	206.38	3548.41	40°28'06.113"N	104°28'37.198"W	1.46	
10680.00	90.150	87.510	6614.39	3647.98	210.74	3643.31	40°28'06.146"N	104°28'35.969"W	0.35	
10774.00	90.150	87.990	6614.15	3741.98	214.43	3737.24	40°28'06.171"N	104°28'34.753"W	0.51	
10869.00	90.180	88.070	6613.87	3836.98	217.70	3832.18	40°28'06.193"N	104°28'33.525"W	0.09	
10963.00	90.180	87.500	6613.58	3930.97	221.33	3926.11	40°28'06.218"N	104°28'32.309"W	0.61	
11058.00	90.310	87.130	6613.17	4025.96	225.78	4021.00	40°28'06.251"N	104°28'31.080"W	0.41	
11153.00	90.310	87.280	6612.66	4120.94	230.41	4115.89	40°28'06.286"N	104°28'29.852"W	0.16	
11247.00	90.150	88.130	6612.28	4214.93	234.18	4209.81	40°28'06.312"N	104°28'28.636"W	0.92	
11342.00	90.280	89.070	6611.93	4309.93	236.50	4304.78	40°28'06.325"N	104°28'27.407"W	1.00	



Actual Wellpath Report
LARSON AA19-630 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#03 LARSON AA19-630(1147'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-630
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-630 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (186 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11436.00	90.090	89.020	6611.62	4403.92	238.07	4398.77	40°28'06.329"N	104°28'26.191"W	0.21	
11531.00	90.030	88.640	6611.52	4498.92	240.01	4493.75	40°28'06.338"N	104°28'24.962"W	0.40	
11625.00	90.310	89.040	6611.24	4592.91	241.91	4587.73	40°28'06.346"N	104°28'23.746"W	0.52	
11719.00	90.280	89.760	6610.76	4686.89	242.89	4681.72	40°28'06.345"N	104°28'22.530"W	0.77	
11814.00	90.250	90.400	6610.32	4781.84	242.76	4776.72	40°28'06.332"N	104°28'21.301"W	0.67	
11909.00	90.060	90.840	6610.06	4876.77	241.73	4871.71	40°28'06.311"N	104°28'20.072"W	0.50	
12003.00	90.220	91.120	6609.83	4970.66	240.13	4965.70	40°28'06.285"N	104°28'18.856"W	0.34	
12098.00	90.180	92.570	6609.50	5065.47	237.07	5060.65	40°28'06.244"N	104°28'17.628"W	1.53	
12192.00	90.220	92.340	6609.17	5159.23	233.04	5154.56	40°28'06.193"N	104°28'16.414"W	0.25	
12287.00	90.150	92.230	6608.87	5253.99	229.25	5249.49	40°28'06.145"N	104°28'15.186"W	0.14	
12382.00	90.220	90.720	6608.56	5348.84	226.81	5344.45	40°28'06.110"N	104°28'13.958"W	1.59	
12476.00	90.250	90.310	6608.17	5442.77	225.96	5438.45	40°28'06.091"N	104°28'12.742"W	0.44	
12570.00	90.340	88.950	6607.69	5536.74	226.57	5532.44	40°28'06.086"N	104°28'11.526"W	1.45	
12665.00	90.180	88.350	6607.26	5631.74	228.81	5627.41	40°28'06.097"N	104°28'10.297"W	0.65	
12759.00	90.280	89.020	6606.88	5725.73	230.96	5721.39	40°28'06.107"N	104°28'09.081"W	0.72	
12854.00	90.060	89.700	6606.60	5820.72	232.03	5816.38	40°28'06.107"N	104°28'07.852"W	0.75	
12948.00	90.000	87.820	6606.55	5914.71	234.06	5910.35	40°28'06.116"N	104°28'06.636"W	2.00	
13042.00	90.220	86.810	6606.37	6008.69	238.46	6004.25	40°28'06.149"N	104°28'05.420"W	1.10	
13137.00	90.250	88.360	6605.98	6103.68	242.47	6099.16	40°28'06.178"N	104°28'04.192"W	1.63	
13232.00	90.460	88.650	6605.39	6198.68	244.94	6194.13	40°28'06.191"N	104°28'02.963"W	0.38	
13326.00	90.280	90.310	6604.79	6292.66	245.80	6288.12	40°28'06.189"N	104°28'01.746"W	1.78	
13421.00	90.250	91.360	6604.35	6387.56	244.41	6383.10	40°28'06.164"N	104°28'00.518"W	1.11	
13515.00	90.550	92.890	6603.69	6481.34	240.93	6477.03	40°28'06.119"N	104°27'59.303"W	1.66	
13609.00	90.430	92.770	6602.89	6575.04	236.29	6570.92	40°28'06.062"N	104°27'58.089"W	0.18	
13704.00	90.740	91.640	6601.92	6669.82	232.63	6665.84	40°28'06.015"N	104°27'56.862"W	1.23	
13799.00	90.370	90.650	6601.00	6764.69	230.73	6760.82	40°28'05.986"N	104°27'55.633"W	1.11	
13893.00	90.370	90.090	6600.39	6858.63	230.13	6854.81	40°28'05.969"N	104°27'54.417"W	0.60	
13987.00	90.400	90.010	6599.76	6952.58	230.05	6948.81	40°28'05.957"N	104°27'53.201"W	0.09	
14082.00	90.520	89.480	6598.99	7047.55	230.47	7043.80	40°28'05.950"N	104°27'51.972"W	0.57	
14176.00	90.620	87.710	6598.06	7141.54	232.77	7137.77	40°28'05.962"N	104°27'50.756"W	1.89	



Actual Wellpath Report

LARSON AA19-630 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#03 LARSON AA19-630(1147'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-630
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-630 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (186 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14271.00	90.430	88.070	6597.19	7236.53	236.27	7232.70	40°28'05.986"N	104°27'49.527"W	0.43	
14366.00	90.220	89.570	6596.65	7331.52	238.23	7327.67	40°28'05.994"N	104°27'48.298"W	1.59	
14460.00	90.340	89.190	6596.19	7425.50	239.24	7421.67	40°28'05.993"N	104°27'47.082"W	0.42	
14555.00	90.490	88.970	6595.50	7520.49	240.77	7516.65	40°28'05.998"N	104°27'45.853"W	0.28	
14649.00	90.120	89.030	6595.00	7614.48	242.41	7610.64	40°28'06.003"N	104°27'44.637"W	0.40	
14744.00	90.370	89.340	6594.60	7709.47	243.76	7705.63	40°28'06.005"N	104°27'43.408"W	0.42	
14838.00	90.340	89.350	6594.01	7803.45	244.84	7799.62	40°28'06.005"N	104°27'42.191"W	0.03	
14933.00	90.370	88.380	6593.42	7898.44	246.72	7894.60	40°28'06.013"N	104°27'40.962"W	1.02	
15028.00	90.220	88.580	6592.94	7993.44	249.24	7989.56	40°28'06.026"N	104°27'39.733"W	0.26	
15122.00	90.370	87.630	6592.45	8087.44	252.35	8083.51	40°28'06.046"N	104°27'38.517"W	1.02	
15217.00	90.280	87.860	6591.91	8182.43	256.08	8178.43	40°28'06.072"N	104°27'37.289"W	0.26	
15311.00	90.310	88.510	6591.43	8276.43	259.06	8272.38	40°28'06.091"N	104°27'36.073"W	0.69	
15406.00	90.180	88.650	6591.02	8371.43	261.41	8367.35	40°28'06.103"N	104°27'34.844"W	0.20	
15500.00	90.430	88.390	6590.52	8465.43	263.84	8461.32	40°28'06.116"N	104°27'33.628"W	0.38	
15595.00	90.280	88.350	6589.93	8560.43	266.54	8556.28	40°28'06.132"N	104°27'32.399"W	0.16	
15783.00	90.150	93.980	6589.23	8748.11	262.72	8744.17	40°28'06.072"N	104°27'29.969"W	3.00	
15877.00	90.150	92.930	6588.98	8841.73	257.06	8837.99	40°28'06.005"N	104°27'28.755"W	1.12	
15972.00	90.400	90.080	6588.53	8936.57	254.56	8932.95	40°28'05.970"N	104°27'27.527"W	3.01	
16066.00	90.520	88.600	6587.77	9030.54	255.65	9026.94	40°28'05.969"N	104°27'26.311"W	1.58	
16161.00	90.550	87.160	6586.88	9125.54	259.16	9121.87	40°28'05.993"N	104°27'25.083"W	1.52	
16255.00	90.310	87.160	6586.18	9219.51	263.82	9215.75	40°28'06.028"N	104°27'23.867"W	0.26	
16350.00	90.150	86.560	6585.80	9314.48	269.02	9310.60	40°28'06.069"N	104°27'22.639"W	0.65	
16444.00	90.370	84.940	6585.37	9408.39	275.99	9404.34	40°28'06.127"N	104°27'21.425"W	1.74	
16539.00	90.430	85.210	6584.71	9503.24	284.14	9498.99	40°28'06.196"N	104°27'20.200"W	0.29	
16634.00	90.800	88.150	6583.69	9598.18	289.64	9593.81	40°28'06.239"N	104°27'18.972"W	3.12	
16823.00	90.340	91.220	6581.81	9787.09	290.68	9782.78	40°28'06.228"N	104°27'16.527"W	1.64	
16917.00	90.340	92.280	6581.25	9880.92	287.81	9876.73	40°28'06.188"N	104°27'15.312"W	1.13	
17012.00	90.310	93.720	6580.71	9975.59	282.84	9971.60	40°28'06.128"N	104°27'14.086"W	1.52	
17106.00	90.280	93.150	6580.23	10069.21	277.21	10065.43	40°28'06.062"N	104°27'12.872"W	0.61	
17295.00	90.150	88.930	6579.52	10257.95	273.78	10254.35	40°28'06.006"N	104°27'10.429"W	2.23	



Actual Wellpath Report

LARSON AA19-630 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#03 LARSON AA19-630(1147'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-630
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-630 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (186 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17484.00	90.120	83.710	6579.07	10446.77	285.91	10442.89	40°28'06.104"N	104°27'07.988"W	2.76	
17578.00	90.370	82.540	6578.67	10540.39	297.16	10536.22	40°28'06.204"N	104°27'06.779"W	1.27	
17672.00	90.310	82.770	6578.11	10633.93	309.17	10629.44	40°28'06.312"N	104°27'05.571"W	0.25	
17767.00	90.060	85.740	6577.80	10728.69	318.68	10723.95	40°28'06.395"N	104°27'04.346"W	3.14	
17810.00	90.120	86.710	6577.74	10771.66	321.51	10766.86	40°28'06.418"N	104°27'03.791"W	2.26	Last BHI Survey
17834.00	90.120	86.710	6577.69	10795.65	322.89	10790.82	40°28'06.428"N	104°27'03.481"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: LARSON AA19-630 AWB Ref Wellpath: LARSON AA19-630 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	1946.00	1916.00	30.00	1945.99	0.02	0.01	0.48	3.64	
9.625in Casing Surface	30.00	1946.00	1916.00	30.00	1945.99	0.02	0.01	0.48	3.64	
8.5in Open Hole	1946.00	17834.00	15888.00	1945.99	6577.69	0.48	3.64	322.89	10790.82	

WELLPATH COMPOSITION - Ref Wellbore: LARSON AA19-630 AWB Ref Wellpath: LARSON AA19-630 AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1943.00	Gyrodata relative depth - Drop gyro or Multi-shot	3rd Party Surface Gyros <78'-1943'>	LARSON AA19-630 AWB
1943.00	17810.00	OWSG MWD rev2 + IFR2 + Sag + Multi-Station Correction	BH/ATCurve 8.5" Hole OWSG MWD rev2+IFR1+MSA <1981'-17810'>	LARSON AA19-630 AWB
17810.00	17834.00	Blind Drilling (std)	Projection to bit	LARSON AA19-630 AWB



Actual Wellpath Report

LARSON AA19-630 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#03 LARSON AA19-630(1147'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-630
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-630 AWB
Facility	SEC.24-T06N-R64W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1943.00	0.620	61.910	1942.99	Tie to Surface
17810.00	90.120	86.710	6577.74	Last BHI Survey
17834.00	90.120	86.710	6577.69	Projection to Bit

COMMENTS
Wellpath general comments SURFACE LOCATION: SESE 40.46791N 104.48976W API: 05-123-45553