

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#02 LARSON AA19-624(1110°FSL&275°FEL,SEC.24)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: LARSON AA19-624 OWB
Facility: SEC.24-T06N-R64W Wellbore: LARSON AA19-624 PWB

Plot reference wellpath is LARSON AA19-624 (REV-A.0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (30°KB) (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to RIG (30°KB) (RKB)	North Reference: Grid north
RIG (30°KB) (RKB) to Mean Sea Level: 4676 feet	Scale: True distance
Mean Sea Level to Ground level (At Slot: SLOT#02 LARSON AA19-624(1110°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

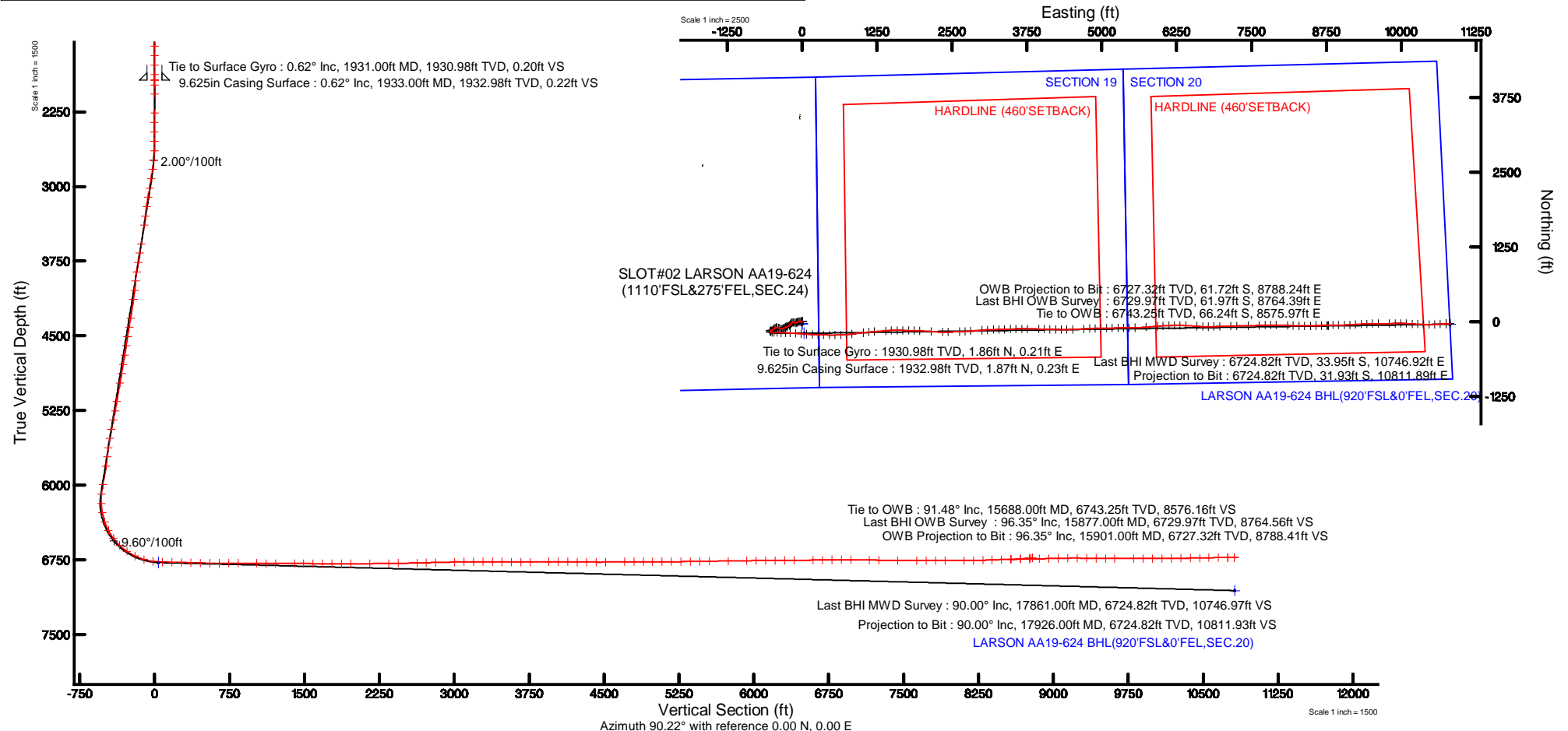
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17931.31	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		LARSON AA19-624 PWB

Comments

SURFACE LOCATION: SESE
40.46781N
104.48976W
API: 05-123-45548

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#02 LARSON AA19-624(1110°FSL&275°FEL,SEC.24)	36.43	-0.42	3281074.788	1414864.660	40°28'04.116"N	104°29'23.136"W
RIG (30°KB) (RKB) to Ground level (At Slot: SLOT#02 LARSON AA19-624(1110°FSL&275°FEL,SEC.24))					4676ft	
Mean Sea Level to Ground level (At Slot: SLOT#02 LARSON AA19-624(1110°FSL&275°FEL,SEC.24))					0ft	
RIG (30°KB) (RKB) to Mean Sea Level					4676ft	



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 LARSON AA19-624(1110'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-624 OWB
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-624 OWB 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 1:52:51 PM
Convergence at slot	0.66° East	Database/Source file	WA_DEN_Denver_Defn/LARSON_AA19-624_OWb_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	36.43	-0.42	3281074.79	1414864.66	40°28'04.116"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#02 LARSON AA19-624 (1110'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	90.22°



Actual Wellpath Report

LARSON AA19-624 OWB AWP



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Area	COLORADO	Well	LARSON AA19-624 OWB
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-624 OWB AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (151 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	9.280	0.00	0.00	0.00	0.00	40°28'04.116"N	104°29'23.136"W	0.00	
79.00	0.760	9.280	79.00	0.08	0.52	0.08	40°28'04.121"N	104°29'23.135"W	0.96	
174.00	0.470	30.220	173.99	0.38	1.48	0.38	40°28'04.131"N	104°29'23.131"W	0.38	
269.00	0.190	326.960	268.99	0.48	1.94	0.49	40°28'04.135"N	104°29'23.129"W	0.44	
363.00	0.100	254.500	362.99	0.32	2.05	0.33	40°28'04.136"N	104°29'23.131"W	0.20	
458.00	0.280	155.370	457.99	0.34	1.82	0.35	40°28'04.134"N	104°29'23.131"W	0.33	
552.00	0.090	134.920	551.99	0.49	1.56	0.49	40°28'04.131"N	104°29'23.129"W	0.21	
647.00	0.430	253.590	646.99	0.20	1.41	0.20	40°28'04.130"N	104°29'23.133"W	0.50	
741.00	0.110	39.540	740.99	-0.08	1.38	-0.08	40°28'04.130"N	104°29'23.137"W	0.56	
836.00	0.300	138.680	835.99	0.14	1.26	0.15	40°28'04.128"N	104°29'23.134"W	0.35	
930.00	0.320	257.300	929.99	0.05	1.02	0.05	40°28'04.126"N	104°29'23.135"W	0.57	
1025.00	0.150	43.750	1024.99	-0.12	1.05	-0.12	40°28'04.126"N	104°29'23.137"W	0.48	
1119.00	0.030	160.230	1118.99	-0.03	1.11	-0.03	40°28'04.127"N	104°29'23.136"W	0.18	
1214.00	0.140	74.030	1213.99	0.09	1.12	0.09	40°28'04.127"N	104°29'23.135"W	0.15	
1308.00	0.050	308.100	1307.99	0.17	1.18	0.17	40°28'04.128"N	104°29'23.134"W	0.19	
1403.00	0.140	65.620	1402.99	0.24	1.25	0.24	40°28'04.128"N	104°29'23.133"W	0.18	
1497.00	0.210	353.670	1496.99	0.32	1.47	0.33	40°28'04.131"N	104°29'23.132"W	0.23	
1592.00	0.160	208.530	1591.99	0.24	1.53	0.25	40°28'04.131"N	104°29'23.133"W	0.37	
1687.00	0.250	276.520	1686.99	-0.03	1.43	-0.02	40°28'04.130"N	104°29'23.136"W	0.25	
1781.00	0.190	192.490	1780.98	-0.27	1.31	-0.26	40°28'04.129"N	104°29'23.139"W	0.32	
1876.00	0.440	30.400	1875.98	-0.12	1.47	-0.11	40°28'04.131"N	104°29'23.137"W	0.66	
1931.00	0.620	45.430	1930.98	0.20	1.86	0.21	40°28'04.134"N	104°29'23.133"W	0.41	Tie to Surface Gyro
1980.00	0.750	75.430	1979.98	0.70	2.12	0.71	40°28'04.137"N	104°29'23.127"W	0.77	
2074.00	1.110	22.310	2073.97	1.64	3.12	1.65	40°28'04.147"N	104°29'23.114"W	0.95	
2263.00	1.720	311.390	2262.92	0.19	6.69	0.22	40°28'04.182"N	104°29'23.132"W	0.91	
2358.00	1.720	239.450	2357.89	-2.11	6.91	-2.08	40°28'04.184"N	104°29'23.162"W	2.13	
2452.00	2.190	168.810	2451.85	-2.96	4.43	-2.95	40°28'04.160"N	104°29'23.173"W	2.44	
2547.00	1.930	132.420	2546.79	-1.42	1.57	-1.41	40°28'04.132"N	104°29'23.154"W	1.38	
2642.00	2.410	226.310	2641.74	-1.67	-0.89	-1.68	40°28'04.107"N	104°29'23.158"W	3.36	
2736.00	5.590	264.830	2735.52	-7.66	-2.67	-7.67	40°28'04.090"N	104°29'23.236"W	4.25	



Actual Wellpath Report
LARSON AA19-624 OWB AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 LARSON AA19-624(1110'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-624 OWB
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-624 OWB AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (151 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2831.00	9.180	289.110	2829.73	-19.44	-0.60	-19.44	40°28'04.112"N	104°29'23.388"W	4.93	
2925.00	9.870	278.770	2922.44	-34.50	3.08	-34.49	40°28'04.150"N	104°29'23.582"W	1.96	
3020.00	9.940	263.800	3016.04	-50.71	3.44	-50.69	40°28'04.156"N	104°29'23.791"W	2.70	
3114.00	10.030	241.540	3108.65	-65.96	-1.34	-65.96	40°28'04.110"N	104°29'23.990"W	4.08	
3209.00	9.510	237.600	3202.28	-79.82	-9.49	-79.86	40°28'04.031"N	104°29'24.171"W	0.89	
3303.00	8.040	249.350	3295.18	-92.51	-15.97	-92.57	40°28'03.969"N	104°29'24.336"W	2.46	
3398.00	8.010	266.110	3389.27	-105.32	-18.76	-105.39	40°28'03.942"N	104°29'24.502"W	2.45	
3587.00	9.520	289.450	3576.11	-133.22	-14.45	-133.28	40°28'03.988"N	104°29'24.862"W	2.03	
3682.00	9.900	271.240	3669.77	-148.81	-11.66	-148.85	40°28'04.018"N	104°29'25.064"W	3.24	
3776.00	10.870	244.210	3762.29	-164.86	-15.34	-164.92	40°28'03.983"N	104°29'25.272"W	5.23	
3871.00	12.240	227.680	3855.38	-180.34	-26.02	-180.44	40°28'03.879"N	104°29'25.474"W	3.76	
3965.00	9.860	205.270	3947.68	-191.09	-40.02	-191.25	40°28'03.742"N	104°29'25.616"W	5.18	
4060.00	9.780	219.100	4041.30	-199.60	-53.64	-199.81	40°28'03.609"N	104°29'25.729"W	2.48	
4154.00	9.790	236.260	4133.95	-211.24	-64.27	-211.49	40°28'03.505"N	104°29'25.882"W	3.09	
4344.00	10.030	251.780	4321.15	-240.34	-78.42	-240.65	40°28'03.368"N	104°29'26.261"W	1.41	
4438.00	10.130	250.070	4413.70	-255.87	-83.80	-256.20	40°28'03.317"N	104°29'26.463"W	0.34	
4533.00	10.190	242.070	4507.21	-271.12	-90.58	-271.48	40°28'03.252"N	104°29'26.662"W	1.49	
4627.00	10.010	240.590	4599.76	-285.55	-98.49	-285.94	40°28'03.175"N	104°29'26.850"W	0.34	
4722.00	10.110	245.920	4693.30	-300.33	-105.94	-300.74	40°28'03.103"N	104°29'27.042"W	0.99	
4816.00	9.990	242.470	4785.86	-315.06	-113.08	-315.51	40°28'03.034"N	104°29'27.235"W	0.65	
4911.00	10.080	262.320	4879.43	-330.60	-118.00	-331.06	40°28'02.987"N	104°29'27.436"W	3.62	
5005.00	10.260	274.010	4971.96	-347.10	-118.51	-347.56	40°28'02.984"N	104°29'27.650"W	2.20	
5194.00	10.240	298.050	5158.03	-378.77	-109.43	-379.19	40°28'03.077"N	104°29'28.058"W	2.25	
5289.00	11.140	285.680	5251.40	-395.08	-102.98	-395.48	40°28'03.143"N	104°29'28.268"W	2.59	
5383.00	11.380	277.560	5343.59	-413.03	-99.31	-413.42	40°28'03.181"N	104°29'28.499"W	1.70	
5478.00	11.620	264.930	5436.70	-431.86	-98.92	-432.25	40°28'03.187"N	104°29'28.743"W	2.66	
5573.00	12.300	241.060	5529.69	-450.23	-104.66	-450.64	40°28'03.133"N	104°29'28.982"W	5.22	
5667.00	11.560	214.890	5621.73	-464.34	-117.24	-464.80	40°28'03.010"N	104°29'29.167"W	5.76	
5762.00	8.630	230.200	5715.27	-475.22	-129.62	-475.73	40°28'02.889"N	104°29'29.310"W	4.16	
5856.00	8.130	264.440	5808.32	-487.24	-134.78	-487.77	40°28'02.839"N	104°29'29.466"W	5.26	



Actual Wellpath Report

LARSON AA19-624 OWB AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 LARSON AA19-624(1110'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-624 OWB
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-624 OWB AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (151 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
6045.00	11.560	249.070	5994.54	-518.21	-142.84	-518.77	40°28'02.763"N	104°29'29.869"W	2.27	
6140.00	11.710	214.130	6087.70	-532.49	-154.24	-533.09	40°28'02.652"N	104°29'30.056"W	7.31	
6235.00	6.090	144.820	6181.74	-534.95	-166.38	-535.60	40°28'02.532"N	104°29'30.090"W	11.69	
6329.00	10.700	108.390	6274.77	-523.76	-173.21	-524.44	40°28'02.463"N	104°29'29.946"W	7.26	
6424.00	19.270	95.830	6366.47	-499.73	-177.60	-500.42	40°28'02.417"N	104°29'29.636"W	9.60	
6518.00	26.460	93.440	6453.03	-463.33	-180.43	-464.04	40°28'02.385"N	104°29'29.166"W	7.71	
6613.00	37.770	92.250	6533.37	-412.96	-182.85	-413.68	40°28'02.356"N	104°29'28.515"W	11.92	
6707.00	46.830	91.880	6602.82	-349.80	-185.11	-350.52	40°28'02.326"N	104°29'27.698"W	9.64	
6801.00	54.430	91.040	6662.40	-277.20	-186.93	-277.93	40°28'02.300"N	104°29'26.759"W	8.11	
6896.00	63.900	93.080	6711.05	-195.77	-189.93	-196.51	40°28'02.261"N	104°29'25.706"W	10.14	
6991.00	73.520	94.000	6745.50	-107.51	-195.42	-108.27	40°28'02.197"N	104°29'24.566"W	10.17	
7085.00	83.890	94.460	6763.88	-15.68	-202.21	-16.47	40°28'02.120"N	104°29'23.379"W	11.04	
7180.00	88.710	93.810	6770.01	78.87	-209.04	78.06	40°28'02.042"N	104°29'22.157"W	5.12	
7274.00	88.490	92.710	6772.31	172.71	-214.39	171.88	40°28'01.978"N	104°29'20.944"W	1.19	
7369.00	88.460	92.450	6774.84	267.59	-218.66	266.75	40°28'01.925"N	104°29'19.717"W	0.28	
7463.00	88.370	90.490	6777.44	361.53	-221.07	360.68	40°28'01.891"N	104°29'18.502"W	2.09	
7558.00	88.460	90.260	6780.07	456.50	-221.70	455.64	40°28'01.874"N	104°29'17.274"W	0.26	
7653.00	88.400	89.830	6782.67	551.46	-221.77	550.60	40°28'01.863"N	104°29'16.045"W	0.46	
7748.00	90.180	88.240	6783.85	646.42	-220.17	645.57	40°28'01.868"N	104°29'14.816"W	2.51	
7842.00	90.650	85.410	6783.17	740.25	-214.96	739.42	40°28'01.909"N	104°29'13.602"W	3.05	
7937.00	89.940	83.150	6782.68	834.73	-205.50	833.94	40°28'01.991"N	104°29'12.377"W	2.49	
8126.00	89.450	83.600	6783.68	1022.38	-183.69	1021.67	40°28'02.186"N	104°29'09.945"W	0.35	
8220.00	89.350	84.570	6784.67	1115.83	-174.01	1115.16	40°28'02.271"N	104°29'08.734"W	1.04	
8315.00	89.480	85.770	6785.64	1210.46	-166.01	1209.82	40°28'02.339"N	104°29'07.509"W	1.27	
8504.00	90.000	85.480	6786.49	1398.84	-151.59	1398.27	40°28'02.460"N	104°29'05.068"W	0.32	
8598.00	90.000	87.450	6786.49	1492.64	-145.79	1492.08	40°28'02.507"N	104°29'03.854"W	2.10	
8693.00	89.910	90.130	6786.57	1587.60	-143.79	1587.05	40°28'02.516"N	104°29'02.625"W	2.82	
8787.00	89.910	92.140	6786.72	1681.58	-145.65	1681.03	40°28'02.487"N	104°29'01.409"W	2.14	
8882.00	89.970	90.570	6786.82	1776.56	-147.90	1776.00	40°28'02.454"N	104°29'00.181"W	1.65	
8977.00	90.030	90.560	6786.82	1871.56	-148.83	1870.99	40°28'02.434"N	104°28'58.952"W	0.06	

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-624 OWB AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (151 stations)										
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9071.00	89.880	92.860	6786.89	1965.52	-151.64	1964.95	40°28'02.396"N	104°28'57.737"W	2.45	
9260.00	90.250	94.730	6786.68	2154.15	-164.15	2153.52	40°28'02.251"N	104°28'55.299"W	1.01	
9449.00	90.860	91.240	6784.84	2342.89	-173.99	2342.23	40°28'02.132"N	104°28'52.859"W	1.87	
9544.00	90.800	88.610	6783.47	2437.87	-173.86	2437.21	40°28'02.123"N	104°28'51.630"W	2.77	
9733.00	91.480	87.230	6779.71	2626.67	-167.00	2626.04	40°28'02.169"N	104°28'49.186"W	0.81	
9827.00	91.350	86.620	6777.39	2720.49	-161.96	2719.88	40°28'02.208"N	104°28'47.972"W	0.66	
9922.00	91.450	86.330	6775.07	2815.25	-156.12	2814.67	40°28'02.255"N	104°28'46.744"W	0.32	
10110.00	91.420	85.580	6770.36	3002.67	-142.87	3002.14	40°28'02.365"N	104°28'44.317"W	0.40	
10206.00	91.420	86.640	6767.98	3098.40	-136.36	3097.89	40°28'02.418"N	104°28'43.077"W	1.10	
10300.00	89.750	87.870	6767.02	3192.26	-131.86	3191.77	40°28'02.452"N	104°28'41.862"W	2.21	
10395.00	89.450	88.830	6767.68	3287.21	-129.12	3286.73	40°28'02.468"N	104°28'40.633"W	1.06	
10489.00	89.660	89.060	6768.41	3381.18	-127.39	3380.71	40°28'02.474"N	104°28'39.417"W	0.33	
10584.00	89.660	88.080	6768.98	3476.14	-125.02	3475.68	40°28'02.487"N	104°28'38.188"W	1.03	
10679.00	89.660	87.590	6769.54	3571.05	-121.43	3570.61	40°28'02.512"N	104°28'36.959"W	0.52	
10773.00	89.780	89.490	6770.00	3665.01	-119.04	3664.57	40°28'02.525"N	104°28'35.743"W	2.03	
10868.00	90.340	90.750	6769.90	3760.00	-119.23	3759.57	40°28'02.512"N	104°28'34.514"W	1.45	
11057.00	90.520	91.020	6768.48	3948.99	-122.15	3948.54	40°28'02.461"N	104°28'32.070"W	0.17	
11152.00	90.400	91.090	6767.72	4043.97	-123.90	4043.52	40°28'02.433"N	104°28'30.841"W	0.15	
11246.00	89.350	92.020	6767.92	4137.94	-126.45	4137.48	40°28'02.397"N	104°28'29.626"W	1.49	
11340.00	88.770	91.940	6769.47	4231.89	-129.70	4231.41	40°28'02.355"N	104°28'28.411"W	0.62	
11435.00	89.570	90.120	6770.84	4326.86	-131.41	4326.38	40°28'02.327"N	104°28'27.183"W	2.09	
11529.00	89.630	88.970	6771.50	4420.85	-130.66	4420.38	40°28'02.323"N	104°28'25.967"W	1.23	
11624.00	90.830	88.350	6771.12	4515.81	-128.44	4515.35	40°28'02.335"N	104°28'24.738"W	1.42	
11813.00	90.950	86.980	6768.18	4704.60	-120.74	4704.16	40°28'02.389"N	104°28'22.294"W	0.73	
11907.00	90.340	86.920	6767.12	4798.44	-115.74	4798.03	40°28'02.428"N	104°28'21.079"W	0.65	
12002.00	89.940	88.310	6766.89	4893.34	-111.79	4892.94	40°28'02.456"N	104°28'19.850"W	1.52	
12096.00	89.820	89.010	6767.09	4987.30	-109.59	4986.91	40°28'02.467"N	104°28'18.634"W	0.76	
12191.00	89.910	88.700	6767.31	5082.27	-107.69	5081.89	40°28'02.475"N	104°28'17.405"W	0.34	
12286.00	90.340	88.870	6767.10	5177.24	-105.68	5176.87	40°28'02.484"N	104°28'16.176"W	0.49	
12380.00	90.280	89.980	6766.60	5271.23	-104.73	5270.86	40°28'02.482"N	104°28'14.960"W	1.18	



Actual Wellpath Report

LARSON AA19-624 OWB AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 LARSON AA19-624(1110'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-624 OWB
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-624 OWB AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (151 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12475.00	90.710	89.830	6765.77	5366.23	-104.57	5365.86	40°28'02.473"N	104°28'13.731"W	0.48	
12569.00	90.860	88.410	6764.49	5460.20	-103.13	5459.84	40°28'02.476"N	104°28'12.515"W	1.52	
12663.00	90.890	88.770	6763.05	5554.15	-100.82	5553.80	40°28'02.488"N	104°28'11.299"W	0.38	
12852.00	91.050	85.110	6759.85	5742.78	-90.73	5742.47	40°28'02.566"N	104°28'08.857"W	1.94	
13041.00	90.620	85.930	6757.10	5931.12	-75.97	5930.87	40°28'02.691"N	104°28'06.417"W	0.49	
13136.00	90.580	86.650	6756.10	6025.89	-69.82	6025.67	40°28'02.740"N	104°28'05.190"W	0.76	
13230.00	90.580	87.800	6755.15	6119.76	-65.27	6119.55	40°28'02.775"N	104°28'03.974"W	1.22	
13325.00	90.310	88.530	6754.41	6214.69	-62.23	6214.50	40°28'02.794"N	104°28'02.745"W	0.82	
13419.00	90.310	90.840	6753.90	6308.68	-61.72	6308.49	40°28'02.788"N	104°28'01.529"W	2.46	
13514.00	90.650	92.730	6753.11	6403.64	-64.67	6403.43	40°28'02.748"N	104°28'00.301"W	2.02	
13703.00	90.400	94.210	6751.38	6592.32	-76.11	6592.07	40°28'02.613"N	104°27'57.863"W	0.79	
13797.00	90.580	93.060	6750.57	6686.15	-82.07	6685.88	40°28'02.543"N	104°27'56.650"W	1.24	
13892.00	90.950	89.630	6749.30	6781.11	-84.30	6780.83	40°28'02.510"N	104°27'55.422"W	3.63	
13986.00	90.430	88.380	6748.17	6875.08	-82.67	6874.81	40°28'02.516"N	104°27'54.206"W	1.44	
14081.00	89.820	87.550	6747.96	6970.00	-79.30	6969.75	40°28'02.538"N	104°27'52.977"W	1.08	
14270.00	88.890	88.870	6750.09	7158.87	-73.39	7158.64	40°28'02.575"N	104°27'50.532"W	0.85	
14364.00	88.890	88.780	6751.91	7252.82	-71.47	7252.60	40°28'02.583"N	104°27'49.316"W	0.10	
14554.00	89.320	88.820	6754.88	7442.74	-67.49	7442.53	40°28'02.600"N	104°27'46.859"W	0.23	
14743.00	90.120	87.360	6755.80	7631.60	-61.19	7631.42	40°28'02.641"N	104°27'44.414"W	0.88	
14837.00	90.000	88.600	6755.71	7725.53	-57.87	7725.36	40°28'02.663"N	104°27'43.198"W	1.33	
14932.00	89.910	89.940	6755.78	7820.51	-56.66	7820.35	40°28'02.663"N	104°27'41.969"W	1.41	
15026.00	90.000	91.280	6755.85	7914.51	-57.67	7914.34	40°28'02.643"N	104°27'40.753"W	1.43	
15216.00	90.030	91.690	6755.80	8104.46	-62.59	8104.28	40°28'02.572"N	104°27'38.297"W	0.22	
15310.00	90.890	91.480	6755.05	8198.43	-65.19	8198.24	40°28'02.536"N	104°27'37.081"W	0.94	
15405.00	92.090	91.380	6752.58	8293.37	-67.56	8293.17	40°28'02.501"N	104°27'35.854"W	1.27	
15499.00	92.000	90.540	6749.22	8387.31	-69.13	8387.10	40°28'02.475"N	104°27'34.639"W	0.90	
15594.00	91.880	89.050	6746.01	8482.25	-68.79	8482.04	40°28'02.467"N	104°27'33.410"W	1.57	
15688.00	91.480	87.840	6743.25	8576.16	-66.24	8575.97	40°28'02.481"N	104°27'32.195"W	1.36	
15783.00	94.160	88.800	6738.58	8670.98	-63.46	8670.80	40°28'02.498"N	104°27'30.967"W	3.00	
15877.00	96.350	89.380	6729.97	8764.56	-61.97	8764.39	40°28'02.502"N	104°27'29.756"W	2.41	Last BHI OWB Survey



Actual Wellpath Report

LARSON AA19-624 OWB AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 LARSON AA19-624(1110'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-624 OWB
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-624 OWB AWB
Facility	SEC.24-T06N-R64W		

WELLPATH DATA (151 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
15901.00	96.350	89.380	6727.32	8788.41	-61.72	8788.24	40°28'02.501"N	104°27'29.448"W	0.00	OWB Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: LARSON AA19-624 OWB AWB Ref Wellpath: LARSON AA19-624 OWB 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	1933.00	1903.00	30.00	1932.98	0.07	0.01	1.87	0.23
9.625in Casing Surface	30.00	1933.00	1903.00	30.00	1932.98	0.07	0.01	1.87	0.23
8.5in Open Hole	1933.00	17926.00	15993.00	1932.98	N/A	1.87	0.23	N/A	N/A



Actual Wellpath Report

LARSON AA19-624 OWB AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 LARSON AA19-624(1110'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-624 OWB
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-624 OWB 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	193.08	-2.20	3281072.59	1415057.73	40°28'06.024"N	104°29'23.136"W	polygon
LARSON AA19-618 SECTION 19	0.00	-36.43	0.42	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	-36.43	0.42	3281075.20	1414828.23	40°28'03.756"N	104°29'23.136"W	polygon
LARSON AA19-618 SECTION 20	0.00	-36.43	0.42	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	-36.43	0.42	3281075.20	1414828.23	40°28'03.756"N	104°29'23.136"W	polygon
LARSON AA19-624 Landing Point	6775.00	-195.00	35.00	3281109.79	1414669.67	40°28'02.185"N	104°29'22.712"W	point
LARSON AA19-624 BHL(920'FSL&0'FEL,SEC.20)	7057.28	-42.02	10813.75	3291888.13	1414822.64	40°28'02.460"N	104°27'03.240"W	point

WELLPATH COMPOSITION - Ref Wellbore: LARSON AA19-624 OWB AWB Ref Wellpath: LARSON AA19-624 OWB 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 <779'-1931'>	LARSON AA19-624 OWB AWB
1931.00	15877.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC 8.5 Hole OWSG MWD+IFR1+MSA <1980'-15877'>	LARSON AA19-624 OWB AWB
15877.00	15901.00	Blind Drilling (std)	Projection to bit	LARSON AA19-624 OWB AWB



Actual Wellpath Report

LARSON AA19-624 OWB AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 LARSON AA19-624(1110'FSL&275'FEL,SEC.24)
Area	COLORADO	Well	LARSON AA19-624 OWB
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	LARSON AA19-624 OWB AWB
Facility	SEC.24-T06N-R64W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1931.00	0.620	45.430	1930.98	Tie to Surface Gyro
15877.00	96.350	89.380	6729.97	Last BHI OWB Survey
15901.00	96.350	89.380	6727.32	OWB Projection to Bit

COMMENTS	
<div>Wellpath general comments</div> <div>SURFACE LOCATION: SESE</div> <div>40.46781N</div> <div>104.48976W</div> <div>API: 05-123-45548</div>	