

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: KONA A19-636
Facility: SEC.21-T06N-R64W Wellbore: KONA A19-636 PWB

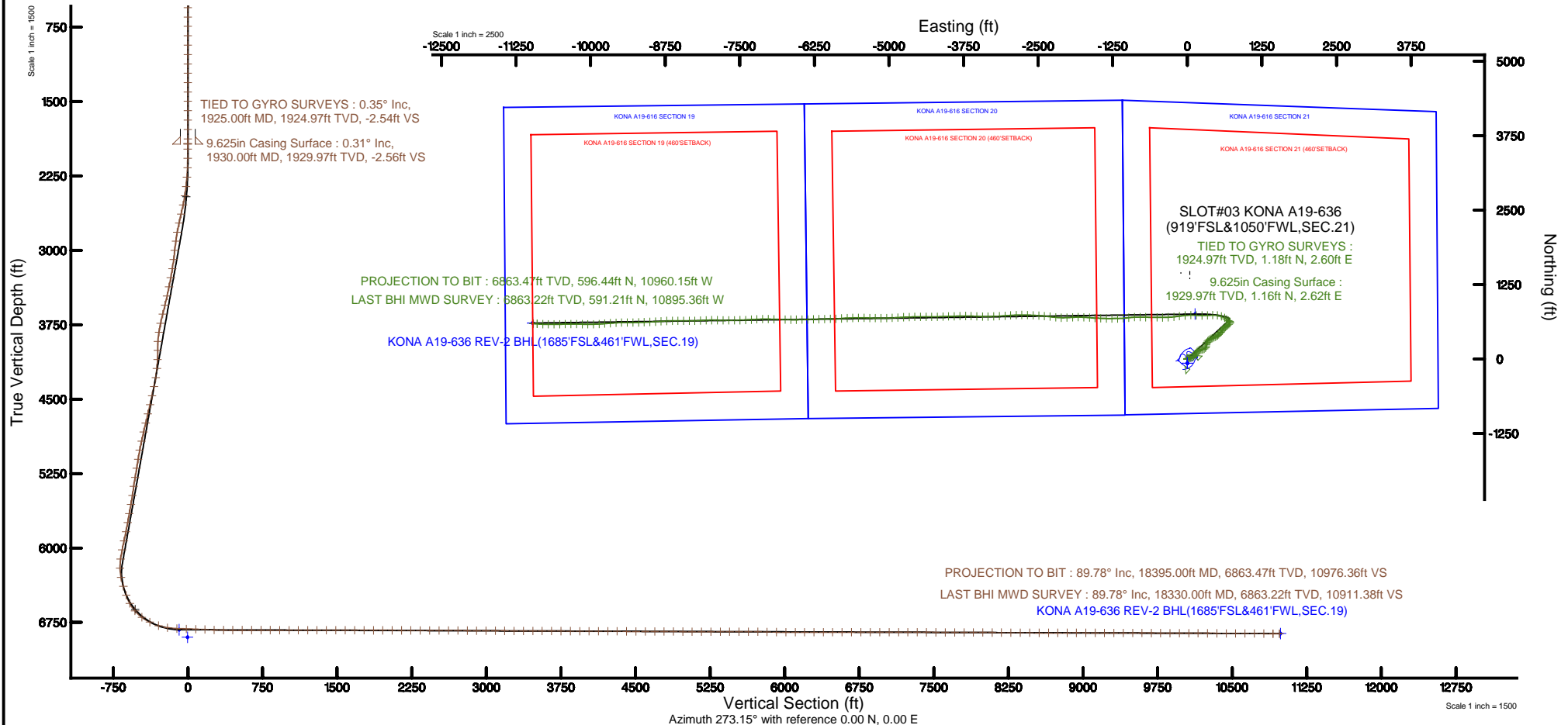
Plot reference wellpath is KONA A19-636 (REV-B.0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (30KB) (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to RIG (30KB) (RKB)	North Reference: Grid north
RIG (30KB) (RKB) to Mean Sea Level: 4753 feet	Scale: True distance
Mean Sea Level to Ground level (At Slot: SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: ingmjmr on 2017-06-06
	Database: WA_DEN_Denver_Defn

Comments

SURFACE LOCATION: SWSW
40.46678N
104.560883W
API #: 05-123-44577

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.21-T06N-R64W			3261306.758	1414202.887	40°27'59.724"N	104°33'38.988"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21)	69.22	-0.73	3261306.024	1414272.100	40°28'00.408"N	104°33'38.988"W
RIG (30KB) (RKB) to Ground level (At Slot: SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21))					4753ft	
Mean Sea Level to Ground level (At Slot: SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21))					0ft	
RIG (30KB) (RKB) to Mean Sea Level					4753ft	



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21)
Area	COLORADO	Well	KONA A19-636
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	KONA A19-636 AWB
Facility	SEC.21-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	Ingmjmr
Scale	0.999964	Report Generated	6/6/2017 at 8:15:47 AM
Convergence at slot	0.61° East	Database/Source file	WA_DEN_Denver_Defn/KONA_A19-636_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	69.22	-0.73	3261306.02	1414272.10	40°28'00.408"N	104°33'38.988"W
Facility Reference Pt			3261306.76	1414202.89	40°27'59.724"N	104°33'38.988"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	4753.00ft
Horizontal Reference Pt	Slot	RIG (30'KB) (RKB) to Mean Sea Level	4753.00ft
Vertical Reference Pt	RIG (30'KB) (RKB)	RIG (30'KB) (RKB) to Ground Level at Slot (SLOT#03 KONA A19-636 (919'FSL&1050'FWL,SEC.21))	4753.00ft
MD Reference Pt	RIG (30'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	273.15°

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	KONA A19-636 AWB
Facility	SEC.21-T06N-R64W		

WELLPATH DATA (176 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
1925.00	0.350	137.260	1924.97	-2.54	1.18	2.60	40°28'00.419"N	104°33'38.954"W	0.27	TIED TO GYRO SURVEYS
1979.00	0.150	16.720	1978.97	-2.67	1.12	2.74	40°28'00.419"N	104°33'38.952"W	0.82	
2073.00	0.250	356.950	2072.97	-2.68	1.45	2.76	40°28'00.422"N	104°33'38.952"W	0.13	
2167.00	3.050	46.240	2166.92	-4.36	3.38	4.56	40°28'00.441"N	104°33'38.929"W	3.08	
2262.00	5.590	62.640	2261.64	-10.08	7.26	10.49	40°28'00.479"N	104°33'38.851"W	2.95	
2357.00	7.440	68.690	2356.03	-19.66	11.62	20.33	40°28'00.521"N	104°33'38.723"W	2.07	
2451.00	8.990	74.040	2449.06	-32.14	15.85	33.06	40°28'00.561"N	104°33'38.558"W	1.84	
2545.00	12.290	76.360	2541.43	-48.67	20.23	49.85	40°28'00.603"N	104°33'38.340"W	3.54	
2640.00	13.920	72.050	2633.96	-69.01	26.14	70.55	40°28'00.659"N	104°33'38.072"W	2.00	
2734.00	13.950	62.930	2725.20	-89.35	34.78	91.40	40°28'00.742"N	104°33'37.801"W	2.33	
2829.00	14.040	49.880	2817.41	-107.64	47.42	110.41	40°28'00.865"N	104°33'37.553"W	3.32	
2923.00	15.440	33.040	2908.35	-122.18	65.26	125.96	40°28'01.040"N	104°33'37.349"W	4.78	
3018.00	12.800	28.870	3000.48	-133.05	85.09	137.94	40°28'01.234"N	104°33'37.192"W	2.98	
3112.00	13.930	36.010	3091.93	-143.71	103.36	149.62	40°28'01.414"N	104°33'37.038"W	2.13	
3207.00	13.800	41.850	3184.17	-157.00	121.05	163.90	40°28'01.587"N	104°33'36.851"W	1.48	
3301.00	13.540	52.280	3275.52	-172.33	136.13	180.09	40°28'01.734"N	104°33'36.639"W	2.63	
3396.00	13.460	61.860	3367.91	-190.19	148.15	198.64	40°28'01.851"N	104°33'36.398"W	2.35	
3490.00	13.300	73.750	3459.38	-209.74	156.34	218.67	40°28'01.930"N	104°33'36.138"W	2.93	
3585.00	13.880	83.260	3551.73	-231.28	160.74	240.48	40°28'01.971"N	104°33'35.855"W	2.43	
3679.00	14.010	81.780	3642.96	-253.54	163.69	262.94	40°28'01.998"N	104°33'35.564"W	0.40	
3774.00	14.330	61.010	3735.13	-274.78	171.03	284.62	40°28'02.068"N	104°33'35.282"W	5.33	
3868.00	15.250	38.740	3826.08	-291.84	186.33	302.54	40°28'02.217"N	104°33'35.048"W	6.09	
3963.00	17.110	14.940	3917.42	-301.98	209.60	313.98	40°28'02.446"N	104°33'34.897"W	7.20	
4057.00	15.720	0.690	4007.62	-304.26	235.71	317.70	40°28'02.704"N	104°33'34.845"W	4.52	
4152.00	13.740	13.970	4099.52	-305.83	259.53	320.58	40°28'02.939"N	104°33'34.805"W	4.11	
4246.00	13.920	26.440	4190.82	-312.39	280.50	328.31	40°28'03.145"N	104°33'34.702"W	3.17	
4341.00	14.510	42.200	4282.94	-324.41	299.55	341.40	40°28'03.332"N	104°33'34.530"W	4.11	
4435.00	14.830	55.020	4373.90	-341.30	315.18	359.17	40°28'03.485"N	104°33'34.298"W	3.46	
4530.00	14.920	59.470	4465.72	-361.04	328.36	379.66	40°28'03.613"N	104°33'34.031"W	1.21	
4624.00	15.040	61.070	4556.53	-381.44	340.41	400.76	40°28'03.730"N	104°33'33.756"W	0.46	

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	KONA A19-636 AWB
Facility	SEC.21-T06N-R64W		

WELLPATH DATA (176 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4719.00	14.810	65.120	4648.32	-402.60	351.48	422.57	40°28'03.837"N	104°33'33.473"W	1.12	
4814.00	14.790	68.480	4740.17	-424.34	361.03	444.86	40°28'03.929"N	104°33'33.183"W	0.90	
4908.00	14.820	62.140	4831.06	-445.55	371.05	466.65	40°28'04.025"N	104°33'32.900"W	1.72	
5003.00	14.940	59.020	4922.88	-466.10	383.03	487.89	40°28'04.142"N	104°33'32.623"W	0.85	
5097.00	14.900	50.990	5013.72	-485.09	396.88	507.67	40°28'04.276"N	104°33'32.365"W	2.20	
5192.00	14.940	37.400	5105.54	-501.04	414.30	524.61	40°28'04.447"N	104°33'32.144"W	3.68	
5286.00	14.740	42.080	5196.41	-515.37	432.80	539.98	40°28'04.628"N	104°33'31.943"W	1.29	
5381.00	14.840	43.080	5288.26	-530.77	450.66	556.39	40°28'04.803"N	104°33'31.728"W	0.29	
5475.00	14.840	36.990	5379.13	-545.20	469.07	571.86	40°28'04.983"N	104°33'31.525"W	1.66	
5570.00	14.820	37.440	5470.97	-558.82	488.43	586.56	40°28'05.173"N	104°33'31.332"W	0.12	
5664.00	14.840	45.980	5561.85	-573.78	506.34	602.53	40°28'05.348"N	104°33'31.123"W	2.32	
5759.00	14.760	44.720	5653.70	-590.08	523.40	619.79	40°28'05.515"N	104°33'30.898"W	0.35	
5853.00	14.780	46.400	5744.59	-606.24	540.17	636.90	40°28'05.679"N	104°33'30.674"W	0.46	
5948.00	14.550	53.990	5836.50	-623.80	555.55	655.33	40°28'05.829"N	104°33'30.433"W	2.04	
6043.00	14.830	57.530	5928.40	-642.93	569.09	675.24	40°28'05.960"N	104°33'30.174"W	0.99	
6137.00	14.830	50.940	6019.28	-661.62	583.13	694.73	40°28'06.097"N	104°33'29.920"W	1.79	
6232.00	14.790	34.700	6111.16	-676.98	600.77	711.08	40°28'06.270"N	104°33'29.706"W	4.36	
6327.00	9.820	356.580	6204.09	-682.41	618.86	717.52	40°28'06.448"N	104°33'29.620"W	9.75	
6421.00	12.520	297.910	6296.58	-672.21	631.68	708.01	40°28'06.575"N	104°33'29.741"W	11.86	
6515.00	18.860	302.060	6387.03	-649.63	644.52	686.10	40°28'06.705"N	104°33'30.023"W	6.85	
6610.00	23.410	310.940	6475.64	-621.25	665.06	658.81	40°28'06.910"N	104°33'30.373"W	5.84	
6705.00	32.390	304.340	6559.53	-584.49	691.84	623.47	40°28'07.179"N	104°33'30.827"W	9.98	
6799.00	43.070	291.250	6633.89	-532.21	717.79	572.54	40°28'07.440"N	104°33'31.482"W	14.15	
6894.00	52.500	276.700	6697.84	-463.41	734.03	504.52	40°28'07.608"N	104°33'32.360"W	15.03	
6988.00	63.690	268.360	6747.50	-383.85	737.18	425.02	40°28'07.648"N	104°33'33.388"W	14.07	
7083.00	72.550	267.100	6782.87	-296.18	733.67	337.03	40°28'07.622"N	104°33'34.527"W	9.41	
7177.00	81.220	269.960	6804.18	-205.03	731.36	245.61	40°28'07.609"N	104°33'35.710"W	9.69	
7272.00	88.120	273.630	6813.01	-110.54	734.34	151.14	40°28'07.648"N	104°33'36.932"W	8.22	
7366.00	88.430	269.880	6815.84	-16.62	737.21	57.24	40°28'07.686"N	104°33'38.146"W	4.00	
7461.00	87.880	263.700	6818.90	77.70	731.90	-37.51	40°28'07.644"N	104°33'39.373"W	6.53	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21)
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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	KONA A19-636 AWB
Facility	SEC.21-T06N-R64W		

WELLPATH DATA (176 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7555.00	87.970	262.380	6822.30	170.17	720.52	-130.76	40°28'07.541"N	104°33'40.581"W	1.41	
7650.00	88.000	263.910	6825.64	263.67	709.19	-225.02	40°28'07.439"N	104°33'41.802"W	1.61	
7744.00	89.480	266.890	6827.71	356.77	701.65	-318.68	40°28'07.374"N	104°33'43.015"W	3.54	
7839.00	90.180	269.220	6827.99	451.39	698.43	-413.62	40°28'07.352"N	104°33'44.244"W	2.56	
7933.00	89.780	271.340	6828.02	545.27	698.89	-507.61	40°28'07.367"N	104°33'45.460"W	2.30	
8027.00	90.220	271.300	6828.02	639.22	701.05	-601.59	40°28'07.398"N	104°33'46.675"W	0.47	
8122.00	89.880	270.650	6827.94	734.15	702.67	-696.57	40°28'07.424"N	104°33'47.904"W	0.77	
8216.00	90.120	271.490	6827.94	828.09	704.42	-790.55	40°28'07.451"N	104°33'49.120"W	0.93	
8311.00	89.540	267.370	6828.22	922.86	703.48	-885.53	40°28'07.452"N	104°33'50.348"W	4.38	
8406.00	89.820	261.510	6828.75	1016.73	694.28	-980.04	40°28'07.371"N	104°33'51.572"W	6.18	
8500.00	89.940	266.080	6828.95	1109.45	684.12	-1073.46	40°28'07.280"N	104°33'52.782"W	4.86	
8595.00	89.970	270.730	6829.03	1204.10	681.48	-1168.40	40°28'07.264"N	104°33'54.011"W	4.89	
8689.00	90.060	268.440	6829.00	1297.91	680.80	-1262.39	40°28'07.267"N	104°33'55.227"W	2.44	
8784.00	89.940	272.250	6829.00	1392.78	681.37	-1357.37	40°28'07.282"N	104°33'56.456"W	4.01	
8878.00	89.660	271.840	6829.33	1486.76	684.72	-1451.31	40°28'07.325"N	104°33'57.671"W	0.53	
8973.00	90.090	272.440	6829.54	1581.74	688.27	-1546.24	40°28'07.370"N	104°33'58.899"W	0.78	
9067.00	90.060	275.420	6829.41	1675.73	694.71	-1640.01	40°28'07.444"N	104°34'00.111"W	3.17	
9162.00	89.630	272.570	6829.67	1770.70	701.33	-1734.77	40°28'07.519"N	104°34'01.336"W	3.03	
9256.00	90.030	269.660	6829.95	1864.63	703.16	-1828.74	40°28'07.547"N	104°34'02.552"W	3.12	
9351.00	89.970	267.110	6829.95	1959.30	700.48	-1923.70	40°28'07.530"N	104°34'03.780"W	2.68	
9445.00	89.750	266.850	6830.18	2052.75	695.53	-2017.57	40°28'07.491"N	104°34'04.996"W	0.36	
9540.00	90.060	271.600	6830.34	2147.50	694.25	-2112.53	40°28'07.488"N	104°34'06.224"W	5.01	
9634.00	89.750	276.460	6830.49	2241.46	700.85	-2206.27	40°28'07.563"N	104°34'07.436"W	5.18	
9729.00	89.850	276.200	6830.82	2336.32	711.32	-2300.69	40°28'07.676"N	104°34'08.656"W	0.29	
9823.00	89.850	275.330	6831.07	2430.22	720.77	-2394.21	40°28'07.779"N	104°34'09.865"W	0.93	
9918.00	89.820	273.750	6831.34	2525.19	728.29	-2488.91	40°28'07.863"N	104°34'11.089"W	1.66	
10013.00	89.750	272.880	6831.70	2620.18	733.78	-2583.75	40°28'07.928"N	104°34'12.316"W	0.92	
10107.00	89.630	272.040	6832.21	2714.17	737.81	-2677.66	40°28'07.977"N	104°34'13.530"W	0.90	
10202.00	89.630	269.950	6832.82	2809.10	739.46	-2772.64	40°28'08.003"N	104°34'14.759"W	2.20	
10296.00	89.570	267.730	6833.48	2902.83	737.56	-2866.61	40°28'07.994"N	104°34'15.975"W	2.36	

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	KONA A19-636 AWB
Facility	SEC.21-T06N-R64W		

WELLPATH DATA (176 stations)

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10391.00	89.750	265.730	6834.04	2997.22	732.14	-2961.45	40°28'07.950"N	104°34'17.202"W	2.11	
10485.00	89.630	266.300	6834.55	3090.49	725.61	-3055.22	40°28'07.896"N	104°34'18.417"W	0.62	
10580.00	89.510	266.580	6835.26	3184.84	719.71	-3150.04	40°28'07.847"N	104°34'19.644"W	0.32	
10675.00	89.690	268.420	6835.93	3279.37	715.57	-3244.94	40°28'07.816"N	104°34'20.872"W	1.95	
10769.00	89.720	269.620	6836.41	3373.12	713.96	-3338.92	40°28'07.810"N	104°34'22.089"W	1.28	
10864.00	89.940	270.360	6836.69	3467.98	713.94	-3433.92	40°28'07.819"N	104°34'23.318"W	0.81	
10958.00	89.780	272.880	6836.92	3561.94	716.60	-3527.88	40°28'07.855"N	104°34'24.533"W	2.69	
11053.00	89.720	272.410	6837.34	3656.93	720.98	-3622.77	40°28'07.909"N	104°34'25.760"W	0.50	
11147.00	89.850	269.890	6837.69	3750.87	722.87	-3716.75	40°28'07.937"N	104°34'26.976"W	2.68	
11241.00	89.720	268.160	6838.04	3844.62	721.27	-3810.73	40°28'07.931"N	104°34'28.192"W	1.85	
11336.00	89.850	268.220	6838.40	3939.26	718.27	-3905.68	40°28'07.911"N	104°34'29.421"W	0.15	
11431.00	89.690	268.340	6838.78	4033.92	715.42	-4000.64	40°28'07.893"N	104°34'30.650"W	0.21	
11525.00	89.820	267.980	6839.18	4127.56	712.40	-4094.59	40°28'07.872"N	104°34'31.865"W	0.41	
11620.00	89.750	268.820	6839.54	4222.23	709.75	-4189.55	40°28'07.856"N	104°34'33.094"W	0.89	
11714.00	89.880	269.500	6839.84	4316.00	708.37	-4283.54	40°28'07.852"N	104°34'34.311"W	0.74	
11809.00	89.570	269.660	6840.30	4410.82	707.67	-4378.53	40°28'07.855"N	104°34'35.540"W	0.37	
11903.00	89.970	270.440	6840.68	4504.68	707.76	-4472.53	40°28'07.865"N	104°34'36.756"W	0.93	
11998.00	89.750	269.060	6840.91	4599.51	707.34	-4567.53	40°28'07.871"N	104°34'37.985"W	1.47	
12092.00	89.630	268.530	6841.42	4693.23	705.36	-4661.51	40°28'07.861"N	104°34'39.201"W	0.58	
12187.00	89.780	267.110	6841.91	4787.82	701.75	-4756.43	40°28'07.835"N	104°34'40.430"W	1.50	
12281.00	89.750	266.630	6842.29	4881.25	696.62	-4850.29	40°28'07.794"N	104°34'41.645"W	0.51	
12376.00	89.570	267.560	6842.86	4975.72	691.80	-4945.17	40°28'07.756"N	104°34'42.873"W	1.00	
12470.00	89.720	268.020	6843.44	5069.31	688.18	-5039.10	40°28'07.730"N	104°34'44.089"W	0.51	
12565.00	89.750	269.290	6843.88	5164.01	685.95	-5134.07	40°28'07.718"N	104°34'45.318"W	1.34	
12659.00	89.750	271.310	6844.29	5257.89	686.44	-5228.06	40°28'07.732"N	104°34'46.534"W	2.15	
12754.00	90.000	271.880	6844.49	5352.86	689.09	-5323.02	40°28'07.768"N	104°34'47.762"W	0.66	
12848.00	89.880	270.160	6844.59	5446.79	690.76	-5417.00	40°28'07.794"N	104°34'48.978"W	1.83	
12943.00	89.910	269.980	6844.77	5541.65	690.87	-5512.00	40°28'07.805"N	104°34'50.207"W	0.19	
13038.00	90.180	268.960	6844.69	5636.45	690.00	-5607.00	40°28'07.806"N	104°34'51.436"W	1.11	
13132.00	90.060	268.270	6844.50	5730.16	687.72	-5700.97	40°28'07.794"N	104°34'52.652"W	0.75	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21)
Area	COLORADO	Well	KONA A19-636
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	KONA A19-636 AWB
Facility	SEC.21-T06N-R64W		

WELLPATH DATA (176 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13226.00	88.030	263.630	6846.06	5823.37	681.09	-5794.69	40°28'07.738"N	104°34'53.865"W	5.39	
13321.00	89.820	269.060	6847.85	5917.65	675.04	-5889.44	40°28'07.687"N	104°34'55.092"W	6.02	
13416.00	89.690	269.870	6848.25	6012.45	674.15	-5984.44	40°28'07.688"N	104°34'56.321"W	0.86	
13510.00	89.910	267.980	6848.58	6106.19	672.39	-6078.41	40°28'07.681"N	104°34'57.537"W	2.02	
13605.00	89.940	267.980	6848.71	6200.80	669.04	-6173.36	40°28'07.657"N	104°34'58.766"W	0.03	
13699.00	89.910	268.220	6848.83	6294.44	665.92	-6267.30	40°28'07.636"N	104°34'59.982"W	0.26	
13794.00	90.030	268.830	6848.88	6389.13	663.48	-6362.27	40°28'07.622"N	104°35'01.211"W	0.65	
13888.00	90.090	268.900	6848.78	6482.86	661.62	-6456.25	40°28'07.613"N	104°35'02.427"W	0.10	
13983.00	90.090	269.550	6848.63	6577.64	660.33	-6551.24	40°28'07.610"N	104°35'03.656"W	0.68	
14077.00	89.910	270.800	6848.63	6671.51	660.62	-6645.24	40°28'07.622"N	104°35'04.872"W	1.34	
14172.00	89.940	271.270	6848.76	6766.45	662.33	-6740.23	40°28'07.649"N	104°35'06.101"W	0.50	
14267.00	90.060	271.880	6848.76	6861.41	664.94	-6835.19	40°28'07.684"N	104°35'07.329"W	0.65	
14361.00	90.150	271.370	6848.58	6955.37	667.61	-6929.15	40°28'07.720"N	104°35'08.545"W	0.55	
14456.00	90.090	270.990	6848.38	7050.32	669.57	-7024.13	40°28'07.749"N	104°35'09.773"W	0.40	
14551.00	89.750	269.310	6848.52	7145.18	669.82	-7119.13	40°28'07.761"N	104°35'11.002"W	1.80	
14645.00	89.720	266.750	6848.95	7238.80	666.58	-7213.06	40°28'07.739"N	104°35'12.218"W	2.72	
14740.00	89.690	266.190	6849.44	7333.15	660.73	-7307.88	40°28'07.691"N	104°35'13.446"W	0.59	
14834.00	89.720	267.370	6849.92	7426.57	655.46	-7401.73	40°28'07.648"N	104°35'14.660"W	1.26	
14929.00	89.720	268.770	6850.39	7521.19	652.26	-7496.67	40°28'07.626"N	104°35'15.889"W	1.47	
15023.00	89.690	269.570	6850.87	7614.96	650.89	-7590.66	40°28'07.622"N	104°35'17.105"W	0.85	
15118.00	89.820	270.020	6851.28	7709.80	650.55	-7685.66	40°28'07.629"N	104°35'18.335"W	0.49	
15213.00	89.780	270.590	6851.61	7804.68	651.06	-7780.66	40°28'07.643"N	104°35'19.564"W	0.60	
15307.00	89.850	270.660	6851.91	7898.59	652.09	-7874.65	40°28'07.663"N	104°35'20.779"W	0.11	
15402.00	89.720	269.890	6852.27	7993.47	652.54	-7969.65	40°28'07.677"N	104°35'22.008"W	0.82	
15496.00	89.780	268.430	6852.68	8087.24	651.16	-8063.63	40°28'07.673"N	104°35'23.225"W	1.55	
15590.00	89.750	266.330	6853.07	8180.75	646.87	-8157.53	40°28'07.640"N	104°35'24.440"W	2.23	
15685.00	89.630	268.790	6853.58	8275.29	642.82	-8252.43	40°28'07.610"N	104°35'25.668"W	2.59	
15779.00	89.720	269.490	6854.11	8369.06	641.41	-8346.42	40°28'07.605"N	104°35'26.885"W	0.75	
15874.00	89.320	270.080	6854.91	8463.89	641.06	-8441.42	40°28'07.611"N	104°35'28.114"W	0.75	
15968.00	90.030	271.180	6855.44	8557.80	642.09	-8535.41	40°28'07.631"N	104°35'29.330"W	1.39	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21)
Area	COLORADO	Well	KONA A19-636
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	KONA A19-636 AWB
Facility	SEC.21-T06N-R64W		

WELLPATH DATA (176 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16063.00	90.000	269.280	6855.42	8652.67	642.47	-8630.40	40°28'07.645"N	104°35'30.559"W	2.00	
16157.00	90.060	266.760	6855.37	8746.29	639.22	-8724.34	40°28'07.622"N	104°35'31.774"W	2.68	
16252.00	90.030	266.380	6855.29	8840.66	633.54	-8819.17	40°28'07.575"N	104°35'33.002"W	0.40	
16346.00	90.060	266.460	6855.22	8934.01	627.67	-8912.99	40°28'07.527"N	104°35'34.217"W	0.09	
16441.00	89.850	267.390	6855.29	9028.45	622.57	-9007.85	40°28'07.486"N	104°35'35.445"W	1.00	
16535.00	89.910	267.690	6855.49	9122.00	618.54	-9101.76	40°28'07.456"N	104°35'36.660"W	0.33	
16630.00	89.750	267.820	6855.77	9216.58	614.82	-9196.69	40°28'07.429"N	104°35'37.889"W	0.22	
16725.00	89.690	270.010	6856.24	9311.31	613.02	-9291.66	40°28'07.420"N	104°35'39.118"W	2.31	
16819.00	89.820	270.210	6856.64	9405.18	613.20	-9385.66	40°28'07.432"N	104°35'40.334"W	0.25	
16914.00	89.820	269.070	6856.94	9500.00	612.60	-9480.66	40°28'07.435"N	104°35'41.563"W	1.20	
17008.00	89.690	266.390	6857.34	9593.57	608.88	-9574.57	40°28'07.408"N	104°35'42.779"W	2.85	
17103.00	89.850	265.450	6857.72	9687.81	602.12	-9669.33	40°28'07.351"N	104°35'44.005"W	1.00	
17197.00	89.820	265.810	6857.99	9781.00	594.96	-9763.06	40°28'07.289"N	104°35'45.219"W	0.38	
17292.00	89.940	266.810	6858.19	9875.32	588.84	-9857.86	40°28'07.239"N	104°35'46.446"W	1.06	
17386.00	89.630	268.180	6858.54	9968.86	584.74	-9951.77	40°28'07.207"N	104°35'47.662"W	1.49	
17481.00	89.750	270.630	6859.06	10063.65	583.75	-10046.75	40°28'07.207"N	104°35'48.891"W	2.58	
17575.00	89.660	271.780	6859.54	10157.59	585.73	-10140.73	40°28'07.236"N	104°35'50.106"W	1.23	
17670.00	89.820	270.690	6859.97	10252.54	587.77	-10235.71	40°28'07.266"N	104°35'51.335"W	1.16	
17764.00	89.750	269.590	6860.33	10346.41	588.00	-10329.70	40°28'07.278"N	104°35'52.551"W	1.17	
17859.00	89.660	268.820	6860.82	10441.18	586.68	-10424.69	40°28'07.274"N	104°35'53.780"W	0.82	
17953.00	89.780	268.050	6861.27	10534.86	584.12	-10518.65	40°28'07.258"N	104°35'54.996"W	0.83	
18047.00	89.540	269.320	6861.83	10628.57	581.96	-10612.63	40°28'07.246"N	104°35'56.212"W	1.37	
18142.00	89.750	270.720	6862.42	10723.42	581.99	-10707.62	40°28'07.256"N	104°35'57.441"W	1.49	
18236.00	89.750	272.950	6862.83	10817.39	585.00	-10801.57	40°28'07.296"N	104°35'58.656"W	2.37	
18330.00	89.780	274.620	6863.22	10911.38	591.21	-10895.36	40°28'07.366"N	104°35'59.869"W	1.78	LAST BHI MWD SURVEY
18395.00	89.780	274.620	6863.47	10976.36	596.44	-10960.15	40°28'07.424"N	104°36'00.707"W	0.00	PROJECTION TO BIT

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21)
Area	COLORADO	Well	KONA A19-636
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	KONA A19-636 AWB
Facility	SEC.21-T06N-R64W		

HOLE & CASING SECTIONS - Ref Wellbore: KONA A19-636 AWB Ref Wellpath: KONA A19-636 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]
9.625in Casing Surface	30.00	1930.00	1900.00	30.00	1929.97	0.06	0.01	1.16	2.62
8.5in Open Hole	1930.00	18395.00	16465.00	1929.97	6863.47	1.16	2.62	596.44	-10960.15

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
KONA A19-616 SECTION 19	0.00	-69.22	0.73	3261306.76	1414202.89	40°27'59.724"N	104°33'38.988"W	polygon
KONA A19-616 SECTION 20	0.00	-69.22	0.73	3261306.76	1414202.89	40°27'59.724"N	104°33'38.988"W	polygon
KONA A19-616 SECTION 21	0.00	-69.22	0.73	3261306.76	1414202.89	40°27'59.724"N	104°33'38.988"W	polygon
KONA A19-636 Landing Point (1685'FSL&1195'FWL,SEC.21)	6824.00	755.00	130.00	3261436.02	1415027.07	40°28'07.855"N	104°33'37.203"W	point
KONA A19-636 REV-2 BHL (1685'FSL&461'FWL,SEC.19)	6862.75	603.99	-10969.61	3250336.83	1414876.07	40°28'07.500"N	104°36'00.828"W	point
KONA A19-616 SECTION 19 (460'SETBACK)	6900.00	-69.22	0.73	3261306.76	1414202.89	40°27'59.724"N	104°33'38.988"W	polygon
KONA A19-616 SECTION 20 (460'SETBACK)	6900.00	-69.22	0.73	3261306.76	1414202.89	40°27'59.724"N	104°33'38.988"W	polygon
KONA A19-616 SECTION 21 (460'SETBACK)	6900.00	-69.22	0.73	3261306.76	1414202.89	40°27'59.724"N	104°33'38.988"W	polygon
KONA A19-636 REV-1 BHL (1685'FSL&461'FWL,SEC.19)	7211.64	603.99	-10969.61	3250336.83	1414876.07	40°28'07.500"N	104°36'00.828"W	point

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21)
Area	COLORADO	Well	KONA A19-636
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	KONA A19-636 AWB
Facility	SEC.21-T06N-R64W		

WELLPATH COMPOSITION - Ref Wellbore: KONA A19-636 AWB Ref Wellpath: KONA A19-636 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1925.00	Gyrodata relative depth - Drop gyro or Multi-shot	GYRODATA SURVEYS <82-1925>	KONA A19-636 AWB
1925.00	18330.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BHI SURVEYS OWSG+IFR1+MSA 8.5" HOLE <1979-18330>	KONA A19-636 AWB
18330.00	18395.00	Blind Drilling (std)	Projection to bit	KONA A19-636 AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#03 KONA A19-636(919'FSL&1050'FWL,SEC.21)
Area	COLORADO	Well	KONA A19-636
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	KONA A19-636 AWB
Facility	SEC.21-T06N-R64W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1925.00	0.350	137.260	1924.97	TIED TO GYRO SURVEYS	
18330.00	89.780	274.620	6863.22	LAST BHI MWD SURVEY	
18395.00	89.780	274.620	6863.47	PROJECTION TO BIT	

COMMENTS	
Wellpath general comments SURFACE LOCATION: SWSW 40.46678N 104.560883W API #: 05-123-44577	