

BONANZA CREEK OIL COMPANY

Location: COLORADO Slot: SLOT#19 LATHAM K31-1-12XRLNB (308'FSL & 731'FEL, SEC.36)
Field: WELD COUNTY Well: LATHAM K31-1-12XRLNB
Facility: SEC.36-T5N-R63W Wellbore: LATHAM K31-1-12XRLNB PWB

Plot reference wellpath is LATHAM K31-1-12XRLNB PWP (REV-A.0)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (17) (RKB)	North Reference: True north
Measured depths are referenced to RIG (17) (RKB)	Scale: True distance
RIG (17) (RKB) to Mean Sea Level: 4570 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: SLOT#19 LATHAM K31-1-12XRLNB (308'FSL & 731'FEL, SEC.36)): 0 feet	Created by: robale01 on 2018-10-10
Coordinates are in feet referenced to Slot	Database: WA DENVER

Location Information

Facility Name				Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.36-T5N-R63W				330873.906	1376726.042	40°21'43.992"N	104°23'31.452"W
Slot	Local N (ft)	Local E (ft)		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#19 LATHAM K31-1-12XRLNB (308'FSL & 731'FEL, SEC.36)	-4478.52	3853.70		3312643.086	1372296.213	40°20'59.734"N	104°22'41.678"W
RIG (17) (RKB) to Ground level (At Slot: SLOT#19 LATHAM K31-1-12XRLNB (308'FSL & 731'FEL, SEC.36))						4570ft	
Mean Sea Level to Ground level (At Slot: SLOT#19 LATHAM K31-1-12XRLNB (308'FSL & 731'FEL, SEC.36))						0ft	
RIG (17) (RKB) to Mean Sea Level						4570ft	

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	1550.00	BHI NavTrak	BHI NavTrak (Rotating+Axial Corr)		LATHAM K31-1-12XRLNB PWB
1550.00	17538.31	BHI AutoTrak Curve	BHI AutoTrak Curve (Axial Corr, Short spacing)		LATHAM K31-1-12XRLNB PWB

Hole and Casing Sections

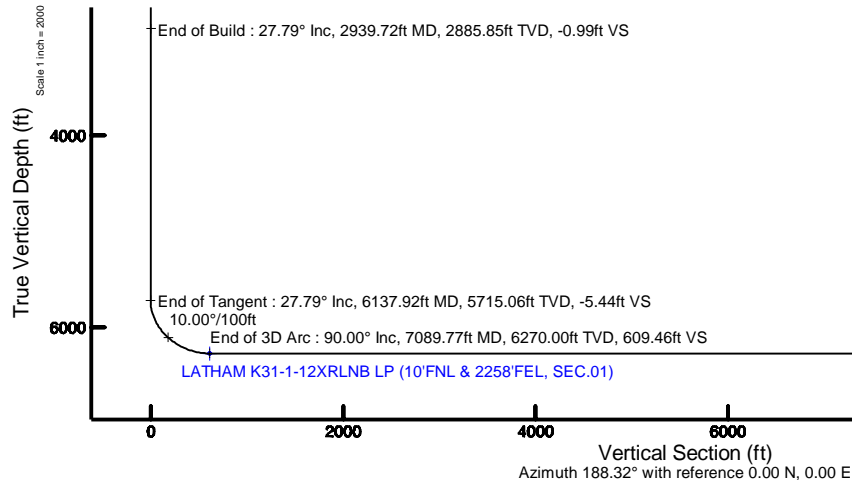
Name	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start Local N (ft)	Start Local E (ft)	End Local N (ft)	End Local E (ft)	Wellbore
9.625in Casing Surface	17.00	1550.00	1533.00	17.00	1550.00	0.00	0.00	0.00	0.00	LATHAM K31-1-12XRLNB PWB
8.5in Open Hole	1550.00	17538.31	15988.31	1550.00	6270.00	0.00	0.00	-10751.57	-1571.76	LATHAM K31-1-12XRLNB PWB

Well Profile Data

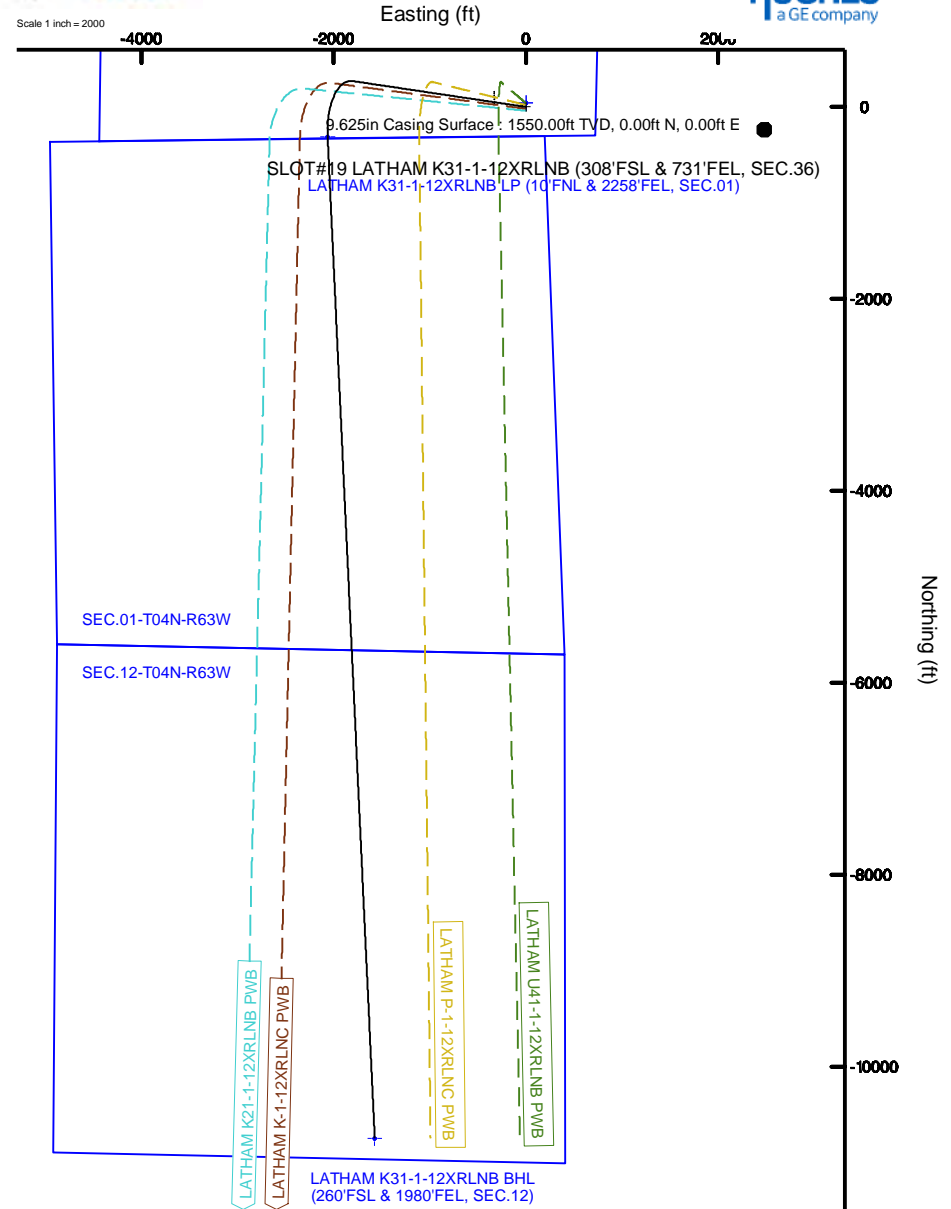
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	17.00	0.000	278.488	17.00	0.00	0.00	0.00	0.00
End of Tangent	1550.00	0.000	278.488	1550.00	0.00	0.00	0.00	0.00
End of Build	2939.72	27.794	278.488	2885.85	48.79	-326.90	2.00	-0.99
End of Tangent	6137.92	27.794	278.488	5715.06	268.92	-1801.88	0.00	-5.44
End of 3D Arc	7089.77	90.000	177.312	6270.00	-314.53	-2061.77	10.00	609.46
End of Tangent	17538.31	90.000	177.312	6270.00	-10751.57	-1571.76	0.00	10865.85

Bottom Hole Location

MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
17538.31	90.000	177.312	6270.00	-10751.57	-1571.76	3311207.52	1361526.10	40°19'13.489"N	104°23'01.970"W



Scale 1 inch = 2000



BGGM (1900.0 to 2019.0) Dip: 66.84° Field: 52305.6 nT
Magnetic North is 8.07 degrees East of True North (at 9/7/2018)

To correct azimuth from Magnetic to True add 8.07 degrees

Scale 1 inch = 2000



Planned Wellpath Report

LATHAM K31-1-12XRLNB PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION

Operator	BONANZA CREEK OIL COMPANY	Slot	SLOT#19 LATHAM K31-1-12XRLNB (308'FSL & 731'FEL, SEC.36)
Area	COLORADO	Well	LATHAM K31-1-12XRLNB
Field	WELD COUNTY	Wellbore	LATHAM K31-1-12XRLNB PWB
Facility	SEC.36-T5N-R63W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	True	User	Robiale01
Scale	0.999958	Report Generated	10/10/2018 at 10:21:12 AM
Convergence at slot	0.72° East	Database/Source file	WA DENVER/LATHAM_K31-1-12XRLNB_PWP_REV-A.0_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-4478.52	3853.70	3312643.09	1372296.21	40°20'59.734"N	104°22'41.678"W
Facility Reference Pt			3308733.91	1376726.04	40°21'43.992"N	104°23'31.452"W
Field Reference Pt			3224525.77	1254425.87	40°01'44.400"N	104°41'53.556"W

WELLPATH DATUM

Calculation method	Minimum curvature	RIG (17') (RKB) to Facility Vertical Datum	4570.00ft
Horizontal Reference Pt	Slot	RIG (17') (RKB) to Mean Sea Level	4570.00ft
Vertical Reference Pt	RIG (17') (RKB)	RIG (17') (RKB) to Ground Level at Slot (SLOT#19 LATHAM K31-1-12XRLNB (308'FSL & 731'FEL, SEC.36))	4570.00ft
MD Reference Pt	RIG (17') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	188.32°



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Area	COLORADO	Well	LATHAM K31-1-12XRLNB
Field	WELD COUNTY	Wellbore	LATHAM K31-1-12XRLNB PWB
Facility	SEC.36-T5N-R63W		

WELLPATH DATA (182 stations) † = interpolated/extrapolated station									
MD [ft]	Inclination [°]		Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00†	0.000		278.488	0.00	0.00	0.00	0.00	0.00	
17.00	0.000		278.488	17.00	0.00	0.00	0.00	0.00	Tie On
117.00†	0.000		278.488	117.00	0.00	0.00	0.00	0.00	
217.00†	0.000		278.488	217.00	0.00	0.00	0.00	0.00	
317.00†	0.000		278.488	317.00	0.00	0.00	0.00	0.00	
417.00†	0.000		278.488	417.00	0.00	0.00	0.00	0.00	
517.00†	0.000		278.488	517.00	0.00	0.00	0.00	0.00	
617.00†	0.000		278.488	617.00	0.00	0.00	0.00	0.00	
717.00†	0.000		278.488	717.00	0.00	0.00	0.00	0.00	
817.00†	0.000		278.488	817.00	0.00	0.00	0.00	0.00	
917.00†	0.000		278.488	917.00	0.00	0.00	0.00	0.00	
1017.00†	0.000		278.488	1017.00	0.00	0.00	0.00	0.00	
1117.00†	0.000		278.488	1117.00	0.00	0.00	0.00	0.00	
1217.00†	0.000		278.488	1217.00	0.00	0.00	0.00	0.00	
1317.00†	0.000		278.488	1317.00	0.00	0.00	0.00	0.00	
1417.00†	0.000		278.488	1417.00	0.00	0.00	0.00	0.00	
1517.00†	0.000		278.488	1517.00	0.00	0.00	0.00	0.00	
1550.00	0.000		278.488	1550.00	0.00	0.00	0.00	0.00	End of Tangent
1617.00†	1.340		278.488	1616.99	0.00	0.12	-0.77	2.00	
1717.00†	3.340		278.488	1716.91	-0.01	0.72	-4.81	2.00	
1817.00†	5.340		278.488	1816.61	-0.04	1.84	-12.30	2.00	
1917.00†	7.340		278.488	1916.00	-0.07	3.47	-23.22	2.00	
2017.00†	9.340		278.488	2014.93	-0.11	5.61	-37.56	2.00	
2117.00†	11.340		278.488	2113.31	-0.17	8.26	-55.31	2.00	
2217.00†	13.340		278.488	2210.99	-0.23	11.41	-76.45	2.00	
2317.00†	15.340		278.488	2307.87	-0.30	15.07	-100.95	2.00	
2417.00†	17.340		278.488	2403.83	-0.39	19.22	-128.77	2.00	
2517.00†	19.340		278.488	2498.74	-0.48	23.86	-159.89	2.00	
2617.00†	21.340		278.488	2592.50	-0.59	28.99	-194.27	2.00	
2717.00†	23.340		278.488	2684.99	-0.70	34.60	-231.86	2.00	
2817.00†	25.340		278.488	2776.10	-0.82	40.69	-272.62	2.00	
2917.00†	27.340		278.488	2865.71	-0.96	47.24	-316.50	2.00	
2939.72	27.794		278.488	2885.85	-0.99	48.79	-326.90	2.00	End of Build
3017.00†	27.794		278.488	2954.22	-1.10	54.11	-362.54	0.00	

WELLPATH DATA (182 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
3117.00†	27.794	278.488	3042.68	-1.23	60.99	-408.66	0.00	
3217.00†	27.794	278.488	3131.14	-1.37	67.87	-454.78	0.00	
3317.00†	27.794	278.488	3219.60	-1.51	74.76	-500.90	0.00	
3417.00†	27.794	278.488	3308.07	-1.65	81.64	-547.02	0.00	
3517.00†	27.794	278.488	3396.53	-1.79	88.52	-593.14	0.00	
3617.00†	27.794	278.488	3484.99	-1.93	95.40	-639.26	0.00	
3717.00†	27.794	278.488	3573.45	-2.07	102.29	-685.37	0.00	
3817.00†	27.794	278.488	3661.92	-2.21	109.17	-731.49	0.00	
3917.00†	27.794	278.488	3750.38	-2.35	116.05	-777.61	0.00	
4017.00†	27.794	278.488	3838.84	-2.49	122.94	-823.73	0.00	
4117.00†	27.794	278.488	3927.31	-2.63	129.82	-869.85	0.00	



Planned Wellpath Report

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Area	COLORADO	Well	LATHAM K31-1-12XRLNB
Field	WELD COUNTY	Wellbore	LATHAM K31-1-12XRLNB PWB
Facility	SEC.36-T5N-R63W		

WELLPATH DATA (182 stations) † = interpolated/extrapolated station									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments	
4217.00†	27.794	278.488	4015.77	-2.77	136.70	-915.97	0.00		
4317.00†	27.794	278.488	4104.23	-2.91	143.58	-962.09	0.00		
4417.00†	27.794	278.488	4192.69	-3.05	150.47	-1008.21	0.00		
4517.00†	27.794	278.488	4281.16	-3.19	157.35	-1054.33	0.00		
4617.00†	27.794	278.488	4369.62	-3.32	164.23	-1100.45	0.00		
4717.00†	27.794	278.488	4458.08	-3.46	171.12	-1146.57	0.00		
4817.00†	27.794	278.488	4546.54	-3.60	178.00	-1192.69	0.00		
4917.00†	27.794	278.488	4635.01	-3.74	184.88	-1238.80	0.00		
5017.00†	27.794	278.488	4723.47	-3.88	191.76	-1284.92	0.00		
5117.00†	27.794	278.488	4811.93	-4.02	198.65	-1331.04	0.00		
5217.00†	27.794	278.488	4900.40	-4.16	205.53	-1377.16	0.00		
5317.00†	27.794	278.488	4988.86	-4.30	212.41	-1423.28	0.00		
5417.00†	27.794	278.488	5077.32	-4.44	219.30	-1469.40	0.00		
5517.00†	27.794	278.488	5165.78	-4.58	226.18	-1515.52	0.00		
5617.00†	27.794	278.488	5254.25	-4.72	233.06	-1561.64	0.00		
5717.00†	27.794	278.488	5342.71	-4.86	239.95	-1607.76	0.00		
5817.00†	27.794	278.488	5431.17	-5.00	246.83	-1653.88	0.00		
5917.00†	27.794	278.488	5519.63	-5.14	253.71	-1700.00	0.00		
6017.00†	27.794	278.488	5608.10	-5.28	260.59	-1746.11	0.00		
6117.00†	27.794	278.488	5696.56	-5.41	267.48	-1792.23	0.00		
6137.92	27.794	278.488	5715.06	-5.44	268.92	-1801.88	0.00	End of Tangent	
6217.00†	27.469	261.401	5785.24	-0.18	268.91	-1838.21	10.00		
6317.00†	29.951	241.137	5873.15	21.67	253.37	-1882.99	10.00		
6417.00†	34.983	224.957	5957.65	59.85	220.96	-1925.21	10.00		
6517.00†	41.644	212.872	6036.18	113.21	172.64	-1963.60	10.00		
6617.00†	49.265	203.757	6106.35	180.12	109.90	-1996.98	10.00		
6717.00†	57.453	196.583	6166.03	258.55	34.64	-2024.34	10.00		
6817.00†	65.978	190.637	6213.41	346.11	-50.86	-2044.85	10.00		
6917.00†	74.704	185.443	6247.04	440.15	-143.99	-2057.89	10.00		
7017.00†	83.539	180.669	6265.90	537.81	-241.93	-2063.06	10.00		
7089.77	90.000	177.312	6270.00†	609.46	-314.53	-2061.77	10.00	End of 3D Arc	
7117.00†	90.000	177.312	6270.00	636.18	-341.72	-2060.49	0.00		
7217.00†	90.000	177.312	6270.00	734.34	-441.61	-2055.80	0.00		
7317.00†	90.000	177.312	6270.00	832.50	-541.50	-2051.11	0.00		

WELLPATH DATA (182 stations) † = interpolated/extrapolated station									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments	
7417.00†	90.000	177.312	6270.00	930.67	-641.39	-2046.43	0.00		
7517.00†	90.000	177.312	6270.00	1028.83	-741.28	-2041.74	0.00		
7617.00†	90.000	177.312	6270.00	1126.99	-841.17	-2037.05	0.00		
7717.00†	90.000	177.312	6270.00	1225.15	-941.06	-2032.36	0.00		
7817.00†	90.000	177.312	6270.00	1323.31	-1040.95	-2027.67	0.00		
7917.00†	90.000	177.312	6270.00	1421.47	-1140.84	-2022.98	0.00		
8017.00†	90.000	177.312	6270.00	1519.63	-1240.73	-2018.29	0.00		
8117.00†	90.000	177.312	6270.00	1617.79	-1340.62	-2013.60	0.00		
8217.00†	90.000	177.312	6270.00	1715.95	-1440.51	-2008.91	0.00		
8317.00†	90.000	177.312	6270.00	1814.11	-1540.40	-2004.22	0.00		
8417.00†	90.000	177.312	6270.00	1912.28	-1640.29	-1999.53	0.00		



Planned Wellpath Report

LATHAM K31-1-12XRLNB PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION			
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Area	COLORADO	Well	LATHAM K31-1-12XRLNB
Field	WELD COUNTY	Wellbore	LATHAM K31-1-12XRLNB PWB
Facility	SEC.36-T5N-R63W		

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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments	
8517.00†	90.000	177.312	6270.00	2010.44	-1740.18	-1994.84	0.00		
8617.00†	90.000	177.312	6270.00	2108.60	-1840.07	-1990.15	0.00		
8717.00†	90.000	177.312	6270.00	2206.76	-1939.96	-1985.46	0.00		
8817.00†	90.000	177.312	6270.00	2304.92	-2039.85	-1980.77	0.00		
8917.00†	90.000	177.312	6270.00	2403.08	-2139.74	-1976.08	0.00		
9017.00†	90.000	177.312	6270.00	2501.24	-2239.63	-1971.39	0.00		
9117.00†	90.000	177.312	6270.00	2599.40	-2339.52	-1966.70	0.00		
9217.00†	90.000	177.312	6270.00	2697.56	-2439.41	-1962.01	0.00		
9317.00†	90.000	177.312	6270.00	2795.72	-2539.30	-1957.32	0.00		
9417.00†	90.000	177.312	6270.00	2893.89	-2639.19	-1952.63	0.00		
9517.00†	90.000	177.312	6270.00	2992.05	-2739.08	-1947.94	0.00		
9617.00†	90.000	177.312	6270.00	3090.21	-2838.97	-1943.25	0.00		
9717.00†	90.000	177.312	6270.00	3188.37	-2938.86	-1938.56	0.00		
9817.00†	90.000	177.312	6270.00	3286.53	-3038.75	-1933.87	0.00		
9917.00†	90.000	177.312	6270.00	3384.69	-3138.64	-1929.18	0.00		
10017.00†	90.000	177.312	6270.00	3482.85	-3238.53	-1924.49	0.00		
10117.00†	90.000	177.312	6270.00	3581.01	-3338.42	-1919.80	0.00		
10217.00†	90.000	177.312	6270.00	3679.17	-3438.31	-1915.11	0.00		
10317.00†	90.000	177.312	6270.00	3777.33	-3538.20	-1910.42	0.00		
10417.00†	90.000	177.312	6270.00	3875.50	-3638.09	-1905.73	0.00		
10517.00†	90.000	177.312	6270.00	3973.66	-3737.98	-1901.04	0.00		
10617.00†	90.000	177.312	6270.00	4071.82	-3837.87	-1896.35	0.00		
10717.00†	90.000	177.312	6270.00	4169.98	-3937.76	-1891.66	0.00		
10817.00†	90.000	177.312	6270.00	4268.14	-4037.65	-1886.97	0.00		
10917.00†	90.000	177.312	6270.00	4366.30	-4137.54	-1882.28	0.00		
11017.00†	90.000	177.312	6270.00	4464.46	-4237.43	-1877.59	0.00		
11117.00†	90.000	177.312	6270.00	4562.62	-4337.32	-1872.90	0.00		
11217.00†	90.000	177.312	6270.00	4660.78	-4437.21	-1868.21	0.00		
11317.00†	90.000	177.312	6270.00	4758.94	-4537.10	-1863.52	0.00		
11417.00†	90.000	177.312	6270.00	4857.11	-4636.99	-1858.84	0.00		
11517.00†	90.000	177.312	6270.00	4955.27	-4736.88	-1854.15	0.00		
11617.00†	90.000	177.312	6270.00	5053.43	-4836.77	-1849.46	0.00		
11717.00†	90.000	177.312	6270.00	5151.59	-4936.66	-1844.77	0.00		
11817.00†	90.000	177.312	6270.00	5249.75	-5036.55	-1840.08	0.00		

WELLPATH DATA (182 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
11917.00†	90.000	177.312	6270.00	5347.91	-5136.44	-1835.39	0.00	
12017.00†	90.000	177.312	6270.00	5446.07	-5236.33	-1830.70	0.00	
12117.00†	90.000	177.312	6270.00	5544.23	-5336.22	-1826.01	0.00	
12217.00†	90.000	177.312	6270.00	5642.39	-5436.11	-1821.32	0.00	
12317.00†	90.000	177.312	6270.00	5740.55	-5536.00	-1816.63	0.00	
12417.00†	90.000	177.312	6270.00	5838.72	-5635.89	-1811.94	0.00	
12517.00†	90.000	177.312	6270.00	5936.88	-5735.78	-1807.25	0.00	
12617.00†	90.000	177.312	6270.00	6035.04	-5835.67	-1802.56	0.00	
12717.00†	90.000	177.312	6270.00	6133.20	-5935.56	-1797.87	0.00	
12817.00†	90.000	177.312	6270.00	6231.36	-6035.45	-1793.18	0.00	
12917.00†	90.000	177.312	6270.00	6329.52	-6135.34	-1788.49	0.00	



Planned Wellpath Report

LATHAM K31-1-12XRLNB PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION			
Operator	BONANZA CREEK OIL COMPANY	Slot	SLOT#19 LATHAM K31-1-12XRLNB (308'FSL & 731'FEL, SEC.36)
Area	COLORADO	Well	LATHAM K31-1-12XRLNB
Field	WELD COUNTY	Wellbore	LATHAM K31-1-12XRLNB PWB
Facility	SEC.36-T5N-R63W		

WELLPATH DATA (182 stations) † = interpolated/extrapolated station									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments	
13017.00†	90.000	177.312	6270.00	6427.68	-6235.23	-1783.80	0.00		
13117.00†	90.000	177.312	6270.00	6525.84	-6335.12	-1779.11	0.00		
13217.00†	90.000	177.312	6270.00	6624.00	-6435.01	-1774.42	0.00		
13317.00†	90.000	177.312	6270.00	6722.17	-6534.90	-1769.73	0.00		
13417.00†	90.000	177.312	6270.00	6820.33	-6634.79	-1765.04	0.00		
13517.00†	90.000	177.312	6270.00	6918.49	-6734.68	-1760.35	0.00		
13617.00†	90.000	177.312	6270.00	7016.65	-6834.57	-1755.66	0.00		
13717.00†	90.000	177.312	6270.00	7114.81	-6934.46	-1750.97	0.00		
13817.00†	90.000	177.312	6270.00	7212.97	-7034.35	-1746.28	0.00		
13917.00†	90.000	177.312	6270.00	7311.13	-7134.24	-1741.59	0.00		
14017.00†	90.000	177.312	6270.00	7409.29	-7234.13	-1736.90	0.00		
14117.00†	90.000	177.312	6270.00	7507.45	-7334.02	-1732.21	0.00		
14217.00†	90.000	177.312	6270.00	7605.61	-7433.91	-1727.52	0.00		
14317.00†	90.000	177.312	6270.00	7703.78	-7533.80	-1722.83	0.00		
14417.00†	90.000	177.312	6270.00	7801.94	-7633.69	-1718.14	0.00		
14517.00†	90.000	177.312	6270.00	7900.10	-7733.58	-1713.45	0.00		
14617.00†	90.000	177.312	6270.00	7998.26	-7833.47	-1708.76	0.00		
14717.00†	90.000	177.312	6270.00	8096.42	-7933.36	-1704.07	0.00		
14817.00†	90.000	177.312	6270.00	8194.58	-8033.25	-1699.38	0.00		
14917.00†	90.000	177.312	6270.00	8292.74	-8133.14	-1694.69	0.00		
15017.00†	90.000	177.312	6270.00	8390.90	-8233.03	-1690.00	0.00		
15117.00†	90.000	177.312	6270.00	8489.06	-8332.92	-1685.31	0.00		
15217.00†	90.000	177.312	6270.00	8587.22	-8432.81	-1680.62	0.00		
15317.00†	90.000	177.312	6270.00	8685.39	-8532.70	-1675.94	0.00		
15417.00†	90.000	177.312	6270.00	8783.55	-8632.59	-1671.25	0.00		
15517.00†	90.000	177.312	6270.00	8881.71	-8732.48	-1666.56	0.00		
15617.00†	90.000	177.312	6270.00	8979.87	-8832.37	-1661.87	0.00		
15717.00†	90.000	177.312	6270.00	9078.03	-8932.26	-1657.18	0.00		
15817.00†	90.000	177.312	6270.00	9176.19	-9032.15	-1652.49	0.00		
15917.00†	90.000	177.312	6270.00	9274.35	-9132.04	-1647.80	0.00		
16017.00†	90.000	177.312	6270.00	9372.51	-9231.93	-1643.11	0.00		
16117.00†	90.000	177.312	6270.00	9470.67	-9331.82	-1638.42	0.00		
16217.00†	90.000	177.312	6270.00	9568.83	-9431.71	-1633.73	0.00		
16317.00†	90.000	177.312	6270.00	9667.00	-9531.60	-1629.04	0.00		

WELLPATH DATA (182 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
16417.00†	90.000	177.312	6270.00	9765.16	-9631.49	-1624.35	0.00	
16517.00†	90.000	177.312	6270.00	9863.32	-9731.38	-1619.66	0.00	
16617.00†	90.000	177.312	6270.00	9961.48	-9831.27	-1614.97	0.00	
16717.00†	90.000	177.312	6270.00	10059.64	-9931.16	-1610.28	0.00	
16817.00†	90.000	177.312	6270.00	10157.80	-10031.05	-1605.59	0.00	
16917.00†	90.000	177.312	6270.00	10255.96	-10130.94	-1600.90	0.00	
17017.00†	90.000	177.312	6270.00	10354.12	-10230.83	-1596.21	0.00	
17117.00†	90.000	177.312	6270.00	10452.28	-10330.72	-1591.52	0.00	
17217.00†	90.000	177.312	6270.00	10550.44	-10430.61	-1586.83	0.00	
17317.00†	90.000	177.312	6270.00	10648.61	-10530.50	-1582.14	0.00	
17417.00†	90.000	177.312	6270.00	10746.77	-10630.39	-1577.45	0.00	



Planned Wellpath Report

LATHAM K31-1-12XRLNB PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION			
Operator	BONANZA CREEK OIL COMPANY	Slot	SLOT#19 LATHAM K31-1-12XRLNB (308'FSL & 731'FEL, SEC.36)
Area	COLORADO	Well	LATHAM K31-1-12XRLNB
Field	WELD COUNTY	Wellbore	LATHAM K31-1-12XRLNB PWB
Facility	SEC.36-T5N-R63W		

WELLPATH DATA (182 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
17517.00†	90.000	177.312	6270.00	10844.93	-10730.28	-1572.76	0.00	
17538.31	90.000	177.312	6270.00 ²	10865.85	-10751.57	-1571.76	0.00	End of Tangent

HOLE & CASING SECTIONS - Ref Wellbore: LATHAM K31-1-12XRLNB PWB Ref Wellpath: LATHAM K31-1-12XRLNB PWP (REV-A.0)									
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	17.00	1550.00	1533.00	17.00	1550.00	0.00	0.00	0.00	0.00
8.5in Open Hole	1550.00	17538.31	15988.31	1550.00	6270.00	0.00	0.00	-10751.57	-1571.76

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.01-T04N-R63W		0.00	40.07	0.28	3312642.86	1372336.29	40°21'00.130"N	104°22'41.675"W	polygon
SEC.12-T04N-R63W		0.00	40.07	0.28	3312642.86	1372336.29	40°21'00.130"N	104°22'41.675"W	polygon
SEC.36-T5N-R63W		3.00	5363.95	-6914.88	3305661.21	1377572.03	40°21'52.729"N	104°24'11.009"W	polygon
2) LATHAM K31-1-12XRLNB BHL (260'FSL & 1980'FEL, SEC.12)	17538.31	6270.00	-10751.57	-1571.76	3311207.52	1361526.10	40°19'13.489"N	104°23'01.970"W	point
1) LATHAM K31-1-12XRLNB LP (10'FNL & 2258'FEL, SEC.01)	7089.77	6270.00	-314.53	-2061.77	3310585.55	1371955.65	40°20'56.625"N	104°23'08.307"W	point

SURVEY PROGRAM - Ref Wellbore: LATHAM K31-1-12XRLNB PWB Ref Wellpath: LATHAM K31-1-12XRLNB PWP (REV-A.0)				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	1550.00	BHI NaviTrak (Rotating+Axial Corr)		LATHAM K31-1-12XRLNB PWB
1550.00	17538.31	BHI AutoTrak Curve (Axial Corr, Short spacing)		LATHAM K31-1-12XRLNB PWB