

BONANZA CREEK OIL COMPANY

Location: COLORADO Slot: SLOT#15 LATHAM K31-O34-14HNB (272°FNL & 332°FEL, SEC.14)
Field: WELD COUNTY Well: LATHAM K31-O34-14HNB
Facility: SEC.14-T4N-R63W Wellbore: LATHAM K31-O34-14HNB PWB

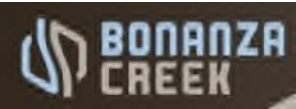
Plot reference wellpath is LATHAM K31-O34-14HNB (REV-A.0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (17) (RKB)	North Reference: True north
Measured depths are referenced to RIG (17) (RKB)	Scale: True distance
RIG (17) (RKB) to Mean Sea Level: 4620 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: SLOT#15 LATHAM K31-O34-14HNB (272°FNL & 332°FEL, SEC.14)): 0 feet	Created by: doddanna on 2018-09-21
Coordinates are in feet referenced to Slot	Database: WellArchitectDB2

Location Information

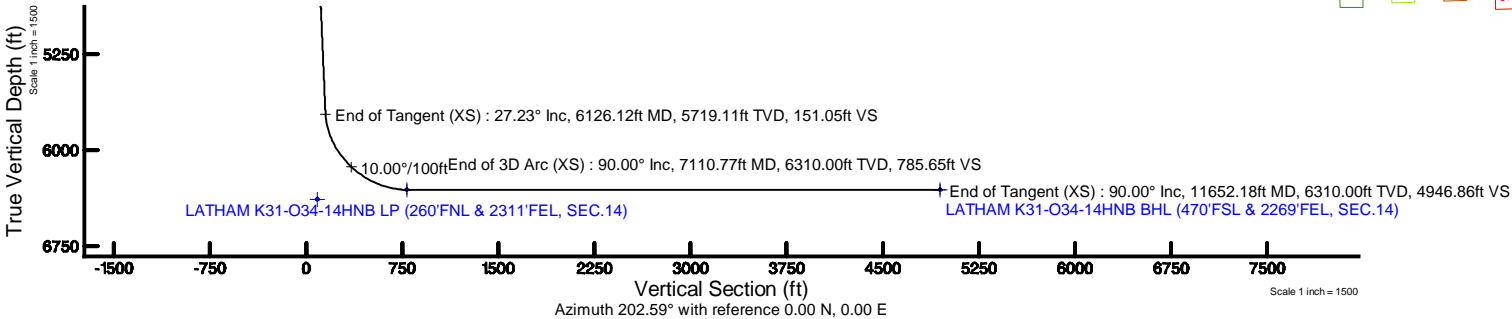
Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.14-T4N-R63W			3307689.092	1361141.238	40°19'10.121"N	104°23'47.454"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#15 LATHAM K31-O34-14HNB (272°FNL & 332°FEL, SEC.14)	-81.26	-152.44	3307537.661	1361056.091	40°19'09.316"N	104°23'49.422"W
RIG (17) (RKB) to Ground level (At Slot: SLOT#15 LATHAM K31-O34-14HNB (272°FNL & 332°FEL, SEC.14))					4620ft	
Mean Sea Level to Ground level (At Slot: SLOT#15 LATHAM K31-O34-14HNB (272°FNL & 332°FEL, SEC.14))					0ft	
RIG (17) (RKB) to Mean Sea Level					4620ft	

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	1550.00	BHI NavitTrak	BHI NavitTrak (Rotating+Axial Corr)		LATHAM K31-O34-14HNB PWB
1550.00	11652.18	BHI AutoTrak Curve	BHI AutoTrak Curve (Axial Corr, Short spacing)		LATHAM K31-O34-14HNB PWB



BGGM (1900.0 to 2019.0) Dip: 66.81° Field: 52277.8 nT
Magnetic North is 8.06 degrees East of True North (at 9/19/2018)
To correct azimuth from Magnetic to True add 8.06 degrees

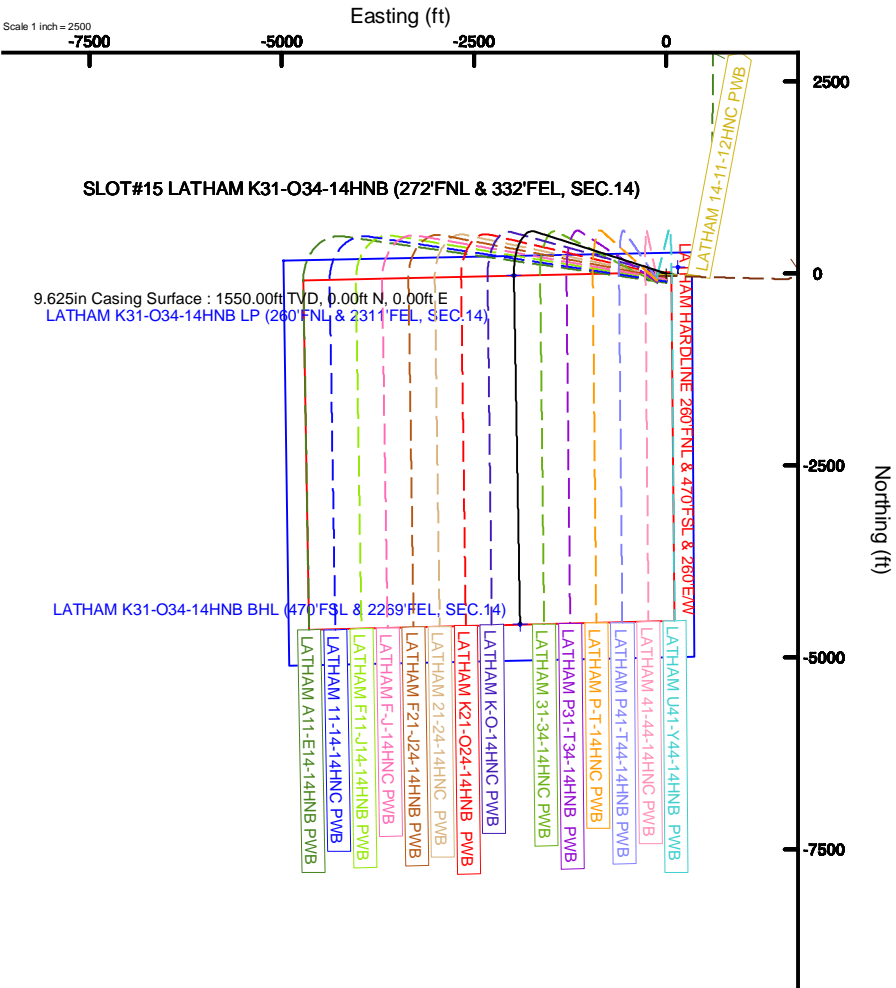


Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	17.00	0.000	287.750	17.00	0.00	0.00	0.00	0.00
End of Tangent	1550.00	0.000	287.750	1550.00	0.00	0.00	0.00	0.00
End of Build (XS)	2911.64	27.233	287.750	2860.95	96.81	-302.43	2.00	26.82
End of Tangent (XS)	6126.12	27.233	287.750	5719.11	545.26	-1703.37	0.00	151.05
End of 3D Arc (XS)	7110.77	90.000	178.984	6310.00	-26.47	-1981.21	10.00	785.65
End of Tangent (XS)	11652.18	90.000	178.984	6310.00	-4567.16	-1900.65	0.00	4946.86

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
11652.18	90.000	178.984	6310.00	-4567.16	-1900.65	3305694.06	1356467.85	40°18'24.186"N	104°24'13.955"W





Planned Wellpath Report

LATHAM K31-O34-14HNB (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BONANZA CREEK OIL COMPANY	Slot	SLOT#15 LATHAM K31-O34-14HNB (272'FNL & 332'FEL, SEC.14)
Area	COLORADO	Well	LATHAM K31-O34-14HNB
Field	WELD COUNTY	Wellbore	LATHAM K31-O34-14HNB PWB
Facility	SEC.14-T4N-R63W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	True	User	Bushjamh
Scale	0.999958	Report Generated	9/20/2018 at 2:58:06 PM
Convergence at slot	0.71° East	Database/Source file	WellArchitectDB2/LATHAM K31-O34-14HNB (REV-A.0) PWP PR.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-81.26	-152.44	3307537.68	1361058.09	40°19'09.318"N	104°23'49.422"W
Facility Reference Pt			3307689.09	1361141.24	40°19'10.121"N	104°23'47.454"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	4620.00ft
Horizontal Reference Pt	Slot	RIG (17') (RKB) to Mean Sea Level	4620.00ft
Vertical Reference Pt	RIG (17') (RKB)	RIG (17') (RKB) to Ground Level at Slot (SLOT#15 LATHAM K31-O34-14HNB (272'FNL & 332'FEL, SEC.14))	4620.00ft
MD Reference Pt	RIG (17') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	202.59°



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Area	COLORADO	Well	LATHAM K31-O34-14HNB
Field	WELD COUNTY	Wellbore	LATHAM K31-O34-14HNB PWB
Facility	SEC.14-T4N-R63W		

WELLPATH DATA (123 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	287.750	0.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
17.00	0.000	287.750	17.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	Tie On
117.00†	0.000	287.750	117.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
217.00†	0.000	287.750	217.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
317.00†	0.000	287.750	317.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
417.00†	0.000	287.750	417.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
517.00†	0.000	287.750	517.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
617.00†	0.000	287.750	617.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
717.00†	0.000	287.750	717.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
817.00†	0.000	287.750	817.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
917.00†	0.000	287.750	917.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
1017.00†	0.000	287.750	1017.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
1117.00†	0.000	287.750	1117.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
1217.00†	0.000	287.750	1217.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
1317.00†	0.000	287.750	1317.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
1417.00†	0.000	287.750	1417.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
1517.00†	0.000	287.750	1517.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	
1550.00	0.000	287.750	1550.00	0.00	0.00	0.00	40°19'09.318"N	104°23'49.422"W	0.00	End of Tangent
1617.00†	1.340	287.750	1616.99	0.07	0.24	-0.75	40°19'09.320"N	104°23'49.432"W	2.00	
1717.00†	3.340	287.750	1716.91	0.41	1.48	-4.63	40°19'09.333"N	104°23'49.482"W	2.00	
1817.00†	5.340	287.750	1816.61	1.05	3.79	-11.84	40°19'09.355"N	104°23'49.575"W	2.00	
1917.00†	7.340	287.750	1916.00	1.98	7.16	-22.36	40°19'09.389"N	104°23'49.711"W	2.00	
2017.00†	9.340	287.750	2014.93	3.21	11.58	-36.17	40°19'09.432"N	104°23'49.889"W	2.00	
2117.00†	11.340	287.750	2113.31	4.72	17.05	-53.27	40°19'09.486"N	104°23'50.110"W	2.00	
2217.00†	13.340	287.750	2210.99	6.53	23.57	-73.62	40°19'09.551"N	104°23'50.372"W	2.00	
2317.00†	15.340	287.750	2307.87	8.62	31.12	-97.21	40°19'09.625"N	104°23'50.677"W	2.00	
2417.00†	17.340	287.750	2403.83	11.00	39.69	-124.00	40°19'09.710"N	104°23'51.023"W	2.00	
2517.00†	19.340	287.750	2498.74	13.65	49.29	-153.96	40°19'09.805"N	104°23'51.410"W	2.00	
2617.00†	21.340	287.750	2592.50	16.59	59.88	-187.07	40°19'09.910"N	104°23'51.837"W	2.00	
2717.00†	23.340	287.750	2684.99	19.80	71.47	-223.27	40°19'10.024"N	104°23'52.304"W	2.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	BONANZA CREEK OIL COMPANY	Slot	SLOT#15 LATHAM K31-O34-14HNB (272'FNL & 332'FEL, SEC.14)
Area	COLORADO	Well	LATHAM K31-O34-14HNB
Field	WELD COUNTY	Wellbore	LATHAM K31-O34-14HNB PWB
Facility	SEC.14-T4N-R63W		

WELLPATH DATA (123 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2817.00†	25.340	287.750	2776.10	23.28	84.03	-262.52	40°19'10.148"N	104°23'52.811"W	2.00	
2911.64	27.233	287.750	2860.95	26.82	96.81	-302.43	40°19'10.275"N	104°23'53.326"W	2.00	End of Build (XS)
2917.00†	27.233	287.750	2865.71	27.03	97.56	-304.77	40°19'10.282"N	104°23'53.357"W	0.00	
3017.00†	27.233	287.750	2954.63	30.89	111.51	-348.35	40°19'10.420"N	104°23'53.919"W	0.00	
3117.00†	27.233	287.750	3043.54	34.75	125.46	-391.93	40°19'10.558"N	104°23'54.482"W	0.00	
3217.00†	27.233	287.750	3132.46	38.62	139.41	-435.51	40°19'10.696"N	104°23'55.045"W	0.00	
3317.00†	27.233	287.750	3221.38	42.48	153.36	-479.10	40°19'10.833"N	104°23'55.607"W	0.00	
3417.00†	27.233	287.750	3310.29	46.35	167.31	-522.68	40°19'10.971"N	104°23'56.170"W	0.00	
3517.00†	27.233	287.750	3399.21	50.21	181.26	-566.26	40°19'11.109"N	104°23'56.732"W	0.00	
3617.00†	27.233	287.750	3488.12	54.08	195.22	-609.84	40°19'11.247"N	104°23'57.295"W	0.00	
3717.00†	27.233	287.750	3577.04	57.94	209.17	-653.43	40°19'11.385"N	104°23'57.858"W	0.00	
3817.00†	27.233	287.750	3665.95	61.81	223.12	-697.01	40°19'11.523"N	104°23'58.420"W	0.00	
3917.00†	27.233	287.750	3754.87	65.67	237.07	-740.59	40°19'11.661"N	104°23'58.983"W	0.00	
4017.00†	27.233	287.750	3843.78	69.54	251.02	-784.17	40°19'11.798"N	104°23'59.546"W	0.00	
4117.00†	27.233	287.750	3932.70	73.40	264.97	-827.75	40°19'11.936"N	104°24'00.108"W	0.00	
4217.00†	27.233	287.750	4021.61	77.27	278.92	-871.34	40°19'12.074"N	104°24'00.671"W	0.00	
4317.00†	27.233	287.750	4110.53	81.13	292.87	-914.92	40°19'12.212"N	104°24'01.234"W	0.00	
4417.00†	27.233	287.750	4199.45	85.00	306.82	-958.50	40°19'12.350"N	104°24'01.796"W	0.00	
4517.00†	27.233	287.750	4288.36	88.86	320.78	-1002.08	40°19'12.488"N	104°24'02.359"W	0.00	
4617.00†	27.233	287.750	4377.28	92.73	334.73	-1045.67	40°19'12.625"N	104°24'02.922"W	0.00	
4717.00†	27.233	287.750	4466.19	96.59	348.68	-1089.25	40°19'12.763"N	104°24'03.484"W	0.00	
4817.00†	27.233	287.750	4555.11	100.45	362.63	-1132.83	40°19'12.901"N	104°24'04.047"W	0.00	
4917.00†	27.233	287.750	4644.02	104.32	376.58	-1176.41	40°19'13.039"N	104°24'04.610"W	0.00	
5017.00†	27.233	287.750	4732.94	108.18	390.53	-1220.00	40°19'13.177"N	104°24'05.172"W	0.00	
5117.00†	27.233	287.750	4821.85	112.05	404.48	-1263.58	40°19'13.315"N	104°24'05.735"W	0.00	
5217.00†	27.233	287.750	4910.77	115.91	418.43	-1307.16	40°19'13.453"N	104°24'06.298"W	0.00	
5317.00†	27.233	287.750	4999.68	119.78	432.38	-1350.74	40°19'13.590"N	104°24'06.860"W	0.00	
5417.00†	27.233	287.750	5088.60	123.64	446.33	-1394.32	40°19'13.728"N	104°24'07.423"W	0.00	
5517.00†	27.233	287.750	5177.51	127.51	460.29	-1437.91	40°19'13.866"N	104°24'07.986"W	0.00	
5617.00†	27.233	287.750	5266.43	131.37	474.24	-1481.49	40°19'14.004"N	104°24'08.548"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	BONANZA CREEK OIL COMPANY	Slot	SLOT#15 LATHAM K31-O34-14HNB (272'FNL & 332'FEL, SEC.14)
Area	COLORADO	Well	LATHAM K31-O34-14HNB
Field	WELD COUNTY	Wellbore	LATHAM K31-O34-14HNB PWB
Facility	SEC.14-T4N-R63W		

WELLPATH DATA (123 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5717.00†	27.233	287.750	5355.35	135.24	488.19	-1525.07	40°19'14.142"N	104°24'09.111"W	0.00	
5817.00†	27.233	287.750	5444.26	139.10	502.14	-1568.65	40°19'14.280"N	104°24'09.674"W	0.00	
5917.00†	27.233	287.750	5533.18	142.97	516.09	-1612.24	40°19'14.417"N	104°24'10.236"W	0.00	
6017.00†	27.233	287.750	5622.09	146.83	530.04	-1655.82	40°19'14.555"N	104°24'10.799"W	0.00	
6117.00†	27.233	287.750	5711.01	150.70	543.99	-1699.40	40°19'14.693"N	104°24'11.362"W	0.00	
6126.12	27.233	287.750	5719.11	151.05	545.26	-1703.37	40°19'14.706"N	104°24'11.413"W	0.00	End of Tangent (XS)
6217.00†	25.987	267.563	5800.54	161.25	550.77	-1743.15	40°19'14.760"N	104°24'11.927"W	10.00	
6317.00†	27.927	245.805	5889.89	187.65	540.21	-1786.51	40°19'14.656"N	104°24'12.486"W	10.00	
6417.00†	32.718	228.318	5976.35	229.17	512.57	-1828.16	40°19'14.382"N	104°24'13.024"W	10.00	
6517.00†	39.323	215.487	6057.30	284.55	468.69	-1866.84	40°19'13.949"N	104°24'13.523"W	10.00	
6617.00†	46.975	206.036	6130.28	352.09	409.90	-1901.36	40°19'13.368"N	104°24'13.969"W	10.00	
6717.00†	55.228	198.759	6193.07	429.76	337.98	-1930.69	40°19'12.657"N	104°24'14.347"W	10.00	
6817.00†	63.833	192.836	6243.77	515.18	255.13	-1953.93	40°19'11.838"N	104°24'14.647"W	10.00	
6917.00†	72.647	187.742	6280.82	605.76	163.85	-1970.37	40°19'10.936"N	104°24'14.860"W	10.00	
7017.00†	81.577	183.121	6303.12	698.76	66.93	-1979.51	40°19'09.979"N	104°24'14.977"W	10.00	
7110.77	90.000	178.984	6310.00†	785.65	-26.47	-1981.21	40°19'09.056"N	104°24'14.999"W	10.00	End of 3D Arc (XS)
7117.00†	90.000	178.984	6310.00	791.35	-32.69	-1981.10	40°19'08.994"N	104°24'14.998"W	0.00	
7217.00†	90.000	178.984	6310.00	882.98	-132.68	-1979.33	40°19'08.006"N	104°24'14.975"W	0.00	
7317.00†	90.000	178.984	6310.00	974.61	-232.66	-1977.55	40°19'07.018"N	104°24'14.952"W	0.00	
7417.00†	90.000	178.984	6310.00	1066.24	-332.65	-1975.78	40°19'06.030"N	104°24'14.929"W	0.00	
7517.00†	90.000	178.984	6310.00	1157.86	-432.63	-1974.00	40°19'05.042"N	104°24'14.906"W	0.00	
7617.00†	90.000	178.984	6310.00	1249.49	-532.62	-1972.23	40°19'04.054"N	104°24'14.883"W	0.00	
7717.00†	90.000	178.984	6310.00	1341.12	-632.60	-1970.46	40°19'03.066"N	104°24'14.860"W	0.00	
7817.00†	90.000	178.984	6310.00	1432.75	-732.58	-1968.68	40°19'02.078"N	104°24'14.837"W	0.00	
7917.00†	90.000	178.984	6310.00	1524.38	-832.57	-1966.91	40°19'01.090"N	104°24'14.814"W	0.00	
8017.00†	90.000	178.984	6310.00	1616.01	-932.55	-1965.13	40°19'00.102"N	104°24'14.791"W	0.00	
8117.00†	90.000	178.984	6310.00	1707.63	-1032.54	-1963.36	40°18'59.114"N	104°24'14.768"W	0.00	
8217.00†	90.000	178.984	6310.00	1799.26	-1132.52	-1961.59	40°18'58.126"N	104°24'14.745"W	0.00	
8317.00†	90.000	178.984	6310.00	1890.89	-1232.51	-1959.81	40°18'57.138"N	104°24'14.722"W	0.00	
8417.00†	90.000	178.984	6310.00	1982.52	-1332.49	-1958.04	40°18'56.150"N	104°24'14.699"W	0.00	



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LATHAM K31-O34-14HNB (REV-A.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BONANZA CREEK OIL COMPANY	Slot	SLOT#15 LATHAM K31-O34-14HNB (272'FNL & 332'FEL, SEC.14)
Area	COLORADO	Well	LATHAM K31-O34-14HNB
Field	WELD COUNTY	Wellbore	LATHAM K31-O34-14HNB PWB
Facility	SEC.14-T4N-R63W		

WELLPATH DATA (123 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8517.00†	90.000	178.984	6310.00	2074.15	-1432.47	-1956.26	40°18'55.162"N	104°24'14.676"W	0.00	
8617.00†	90.000	178.984	6310.00	2165.78	-1532.46	-1954.49	40°18'54.174"N	104°24'14.653"W	0.00	
8717.00†	90.000	178.984	6310.00	2257.40	-1632.44	-1952.72	40°18'53.186"N	104°24'14.630"W	0.00	
8817.00†	90.000	178.984	6310.00	2349.03	-1732.43	-1950.94	40°18'52.198"N	104°24'14.607"W	0.00	
8917.00†	90.000	178.984	6310.00	2440.66	-1832.41	-1949.17	40°18'51.210"N	104°24'14.584"W	0.00	
9017.00†	90.000	178.984	6310.00	2532.29	-1932.40	-1947.40	40°18'50.222"N	104°24'14.561"W	0.00	
9117.00†	90.000	178.984	6310.00	2623.92	-2032.38	-1945.62	40°18'49.234"N	104°24'14.538"W	0.00	
9217.00†	90.000	178.984	6310.00	2715.55	-2132.36	-1943.85	40°18'48.246"N	104°24'14.515"W	0.00	
9317.00†	90.000	178.984	6310.00	2807.17	-2232.35	-1942.07	40°18'47.258"N	104°24'14.492"W	0.00	
9417.00†	90.000	178.984	6310.00	2898.80	-2332.33	-1940.30	40°18'46.270"N	104°24'14.469"W	0.00	
9517.00†	90.000	178.984	6310.00	2990.43	-2432.32	-1938.53	40°18'45.282"N	104°24'14.446"W	0.00	
9617.00†	90.000	178.984	6310.00	3082.06	-2532.30	-1936.75	40°18'44.294"N	104°24'14.423"W	0.00	
9717.00†	90.000	178.984	6310.00	3173.69	-2632.29	-1934.98	40°18'43.306"N	104°24'14.400"W	0.00	
9817.00†	90.000	178.984	6310.00	3265.32	-2732.27	-1933.20	40°18'42.318"N	104°24'14.377"W	0.00	
9917.00†	90.000	178.984	6310.00	3356.94	-2832.25	-1931.43	40°18'41.330"N	104°24'14.354"W	0.00	
10017.00†	90.000	178.984	6310.00	3448.57	-2932.24	-1929.66	40°18'40.342"N	104°24'14.331"W	0.00	
10117.00†	90.000	178.984	6310.00	3540.20	-3032.22	-1927.88	40°18'39.353"N	104°24'14.308"W	0.00	
10217.00†	90.000	178.984	6310.00	3631.83	-3132.21	-1926.11	40°18'38.365"N	104°24'14.285"W	0.00	
10317.00†	90.000	178.984	6310.00	3723.46	-3232.19	-1924.33	40°18'37.377"N	104°24'14.262"W	0.00	
10417.00†	90.000	178.984	6310.00	3815.09	-3332.18	-1922.56	40°18'36.389"N	104°24'14.239"W	0.00	
10517.00†	90.000	178.984	6310.00	3906.71	-3432.16	-1920.79	40°18'35.401"N	104°24'14.216"W	0.00	
10617.00†	90.000	178.984	6310.00	3998.34	-3532.14	-1919.01	40°18'34.413"N	104°24'14.193"W	0.00	
10717.00†	90.000	178.984	6310.00	4089.97	-3632.13	-1917.24	40°18'33.425"N	104°24'14.170"W	0.00	
10817.00†	90.000	178.984	6310.00	4181.60	-3732.11	-1915.47	40°18'32.437"N	104°24'14.147"W	0.00	
10917.00†	90.000	178.984	6310.00	4273.23	-3832.10	-1913.69	40°18'31.449"N	104°24'14.124"W	0.00	
11017.00†	90.000	178.984	6310.00	4364.86	-3932.08	-1911.92	40°18'30.461"N	104°24'14.101"W	0.00	
11117.00†	90.000	178.984	6310.00	4456.48	-4032.07	-1910.14	40°18'29.473"N	104°24'14.078"W	0.00	
11217.00†	90.000	178.984	6310.00	4548.11	-4132.05	-1908.37	40°18'28.485"N	104°24'14.055"W	0.00	
11317.00†	90.000	178.984	6310.00	4639.74	-4232.03	-1906.60	40°18'27.497"N	104°24'14.032"W	0.00	
11417.00†	90.000	178.984	6310.00	4731.37	-4332.02	-1904.82	40°18'26.509"N	104°24'14.009"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	BONANZA CREEK OIL COMPANY	Slot	SLOT#15 LATHAM K31-O34-14HNB (272'FNL & 332'FEL, SEC.14)
Area	COLORADO	Well	LATHAM K31-O34-14HNB
Field	WELD COUNTY	Wellbore	LATHAM K31-O34-14HNB PWB
Facility	SEC.14-T4N-R63W		

WELLPATH DATA (123 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11517.00†	90.000	178.984	6310.00	4823.00	-4432.00	-1903.05	40°18'25.521"N	104°24'13.986"W	0.00	
11617.00†	90.000	178.984	6310.00	4914.63	-4531.99	-1901.27	40°18'24.533"N	104°24'13.963"W	0.00	
11652.18	90.000	178.984	6310.00 ²	4946.86	-4567.16	-1900.65	40°18'24.186"N	104°24'13.955"W	0.00	End of Tangent (XS)

HOLE & CASING SECTIONS - Ref Wellbore: LATHAM K31-O34-14HNB PWB Ref Wellpath: LATHAM K31-O34-14HNB (REV-A.0) PWP

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

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
LATHAM SECTION 14		-1.00	81.24	152.44	3307689.09	1361141.22	40°19'10.121"N	104°23'47.454"W	polygon
2) LATHAM K31-O34-14HNB BHL (470'FSL & 2269'FEL, SEC.14)	11652.18	6310.00	-4567.16	-1900.65	3305694.06	1356467.85	40°18'24.186"N	104°24'13.955"W	point
1) LATHAM K31-O34-14HNB LP (260'FNL & 2311'FEL, SEC.14)	7110.77	6310.00	-26.47	-1981.21	3305557.04	1361006.98	40°19'09.056"N	104°24'14.999"W	point
LATHAM HARDLINE 260'FNL & 470'FSL & 260'E/W		6385.00	-44.93	-120.06	3307418.19	1361011.67	40°19'08.874"N	104°23'50.972"W	polygon



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Area	COLORADO	Well	LATHAM K31-O34-14HNB
Field	WELD COUNTY	Wellbore	LATHAM K31-O34-14HNB PWB
Facility	SEC.14-T4N-R63W		

SURVEY PROGRAM - Ref Wellbore: LATHAM K31-O34-14HNB PWB Ref Wellpath: LATHAM K31-O34-14HNB (REV-A.0) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	1550.00	BHI NaviTrak (Rotating+Axial Corr)		LATHAM K31-O34-14HNB PWB
1550.00	11652.18	BHI AutoTrak Curve (Axial Corr, Short spacing)		LATHAM K31-O34-14HNB PWB



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Area	COLORADO	Well	LATHAM K31-O34-14HNB
Field	WELD COUNTY	Wellbore	LATHAM K31-O34-14HNB PWB
Facility	SEC.14-T4N-R63W		

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	287.750	17.00	Tie On
1550.00	0.000	287.750	1550.00	End of Tangent
2911.64	27.233	287.750	2860.95	End of Build (XS)
6126.12	27.233	287.750	5719.11	End of Tangent (XS)
7110.77	90.000	178.984	6310.00	End of 3D Arc (XS)
11652.18	90.000	178.984	6310.00	End of Tangent (XS)