

BONANZA CREEK OIL COMPANY

Location: COLORADO Slot: SLOT#28 STATE SEVENTY HOLES K31-O34-5HNB (584'FNL & 2611'FWL,SEC.05)
Field: WELD COUNTY Well: STATE SEVENTY HOLES K31-O34-5HNB
Facility: SEC.05-T04N-R62W Wellbore: STATE SEVENTY HOLES K31-O34-5HNB PWB

Plot reference wellpath is STATE SEVENTY HOLES K31-O34-5HNB 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: 4552 feet		Depths are in feet
Mean Sea Level to Ground level (At Slot: SLOT#28 STATE SEVENTY HOLES K31-O34-5HNB (584'FNL & 2611'FWL,SEC.05)): 0 feet		Created by: robied01 on 2018-10-11
Coordinates are in feet referenced to Slot		Database: WADENVER

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.05-T04N-R62W			332559.236	1367149.704	40°20'07.620"N	104°20'34.476"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#28 STATE SEVENTY HOLES K31-O34-5HNB (584'FNL & 2611'FWL,SEC.05)	4351.68	-2101.86	3320400.868	1371473.400	40°20'50.621"N	104°21'01.622"W
RIG (17) (RKB) to Ground level (At Slot: SLOT#28 STATE SEVENTY HOLES K31-O34-5HNB (584'FNL & 2611'FWL,SEC.05))					4552ft	
Mean Sea Level to Ground level (At Slot: SLOT#28 STATE SEVENTY HOLES K31-O34-5HNB (584'FNL & 2611'FWL,SEC.05))					0ft	
RIG (17) (RKB) to Mean Sea Level					4552ft	

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	1450.00	BHI NewTrak	BHI NewTrak (Rotating+Axial Corr)		STATE SEVENTY HOLES K31-O34-5HNB PWB
1450.00	12186.80	BHI AutoTrak Curve	BHI AutoTrak Curve (Axial Corr, Short spacing)		STATE SEVENTY HOLES K31-O34-5HNB PWB

Hole and Casing Sections

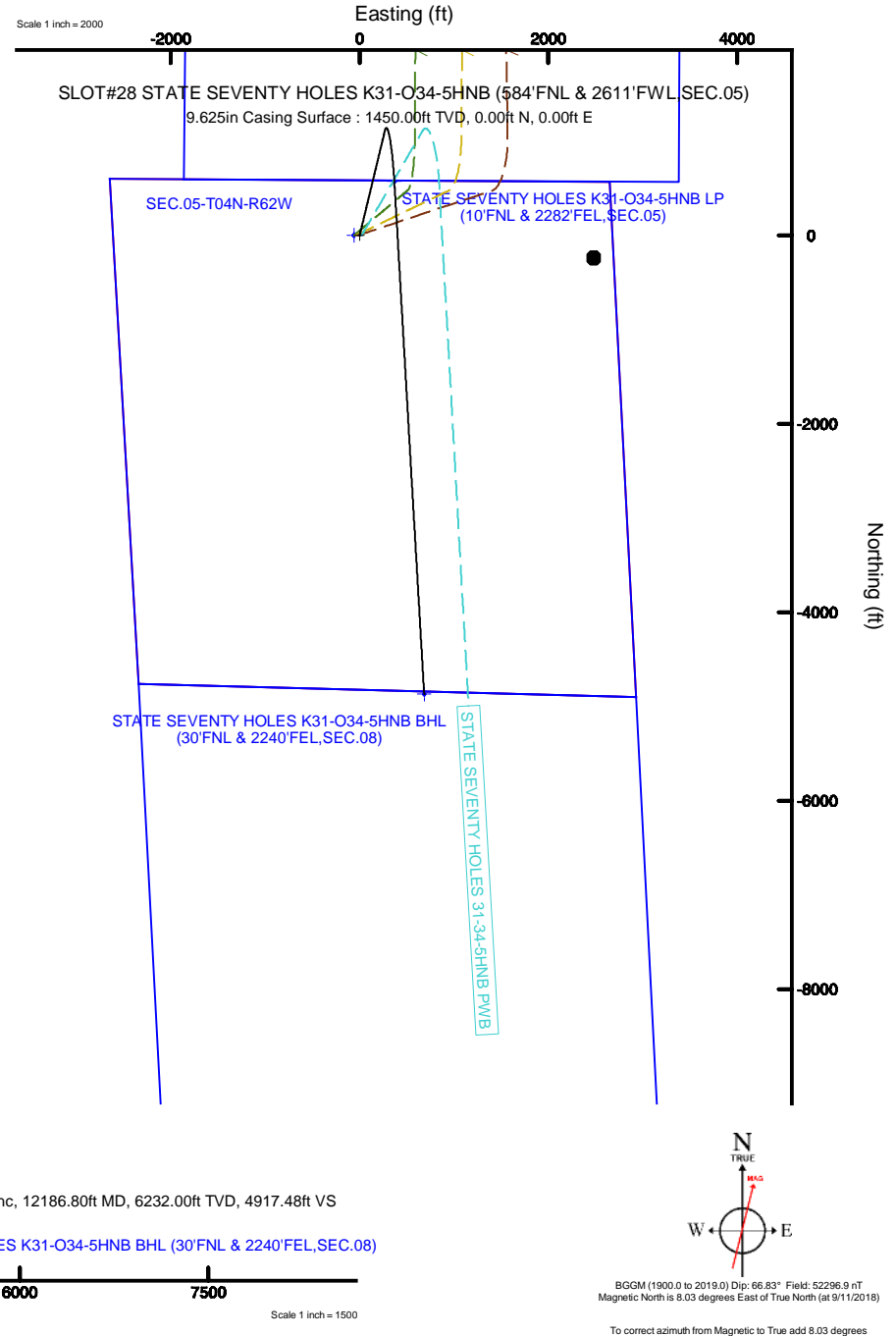
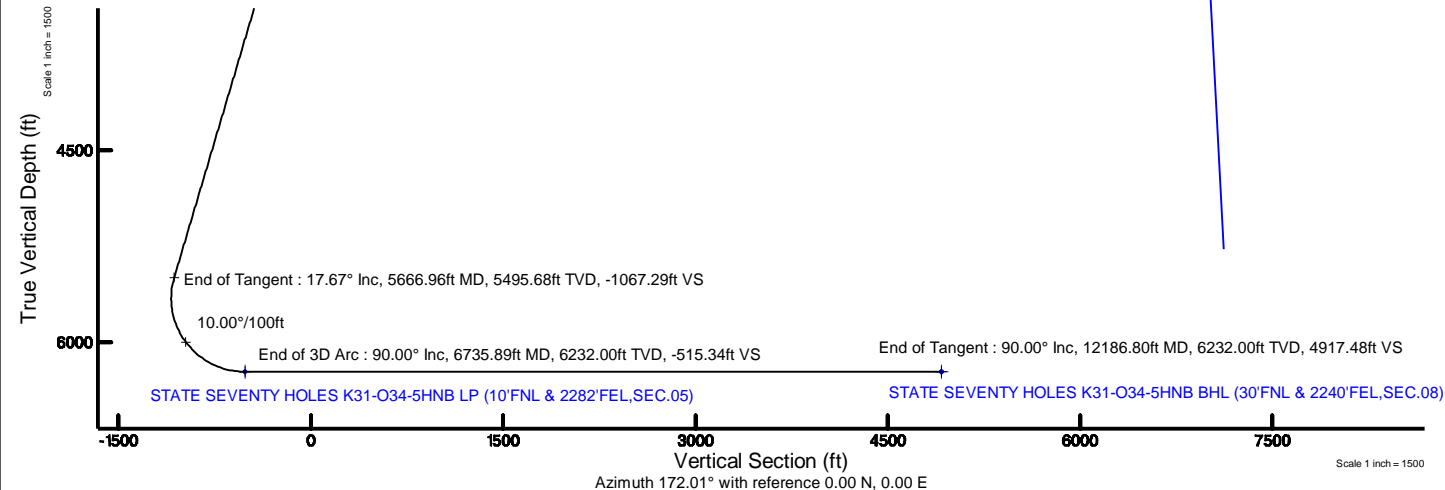
Name	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start Local N (ft)	Start Local E (ft)	End Local N (ft)	End Local E (ft)	Wellbore
9.625in Casing Surface	17.00	1450.00	1433.00	17.00	1450.00	0.00	0.00	0.00	0.00	STATE SEVENTY HOLES K31-O34-5HNB PWB
8.5in Open Hole	1450.00	12186.80	10736.80	1450.00	6232.00	0.00	0.00	-4869.71	683.76	STATE SEVENTY HOLES K31-O34-5HNB 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	13.518	17.00	0.00	0.00	0.00	0.00
End of Tangent	1450.00	0.000	13.518	1450.00	0.00	0.00	0.00	0.00
End of Build	2333.69	17.674	13.518	2319.74	131.47	31.61	2.00	-125.80
End of Tangent	5666.96	17.674	13.518	5495.68	1115.41	268.15	0.00	-1067.29
End of 3D Arc	6735.89	90.000	176.677	6232.00	572.04	367.79	10.00	-515.34
End of Tangent	12186.80	90.000	176.677	6232.00	-4869.71	683.76	0.00	4917.48

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
12186.80	90.000	176.677	6232.00	-4869.71	683.76	3321147.66	1366613.18	40°20'02.500"N	104°20'52.793"W





Planned Wellpath Report

STATE SEVENTY HOLES K31-O34-5HNB PWP (REV-A.0)
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REFERENCE WELLPATH IDENTIFICATION

Operator	BONANZA CREEK OIL COMPANY	Slot	SLOT#28 STATE SEVENTY HOLES K31-O34-5HNB (584'FNL & 2611'FWL,SEC.05)
Area	COLORADO	Well	STATE SEVENTY HOLES K31-O34-5HNB
Field	WELD COUNTY	Wellbore	STATE SEVENTY HOLES K31-O34-5HNB PWB
Facility	SEC.05-T04N-R62W		

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	10/11/2018 at 3:30:12 PM
Convergence at slot	0.74° East	Database/Source file	WA DENVER/STATE_SEVENTY_HOLES_K31-O34-5HNB_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	4351.68	-2101.86	3320400.87	1371473.40	40°20'50.621"N	104°21'01.622"W
Facility Reference Pt			3322559.24	1367149.70	40°20'07.620"N	104°20'34.476"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	4552.00ft
Horizontal Reference Pt	Slot	RIG (17") (RKB) to Mean Sea Level	4552.00ft
Vertical Reference Pt	RIG (17") (RKB)	RIG (17") (RKB) to Ground Level at Slot (SLOT#28 STATE SEVENTY HOLES K31-O34-5HNB (584'FNL & 2611'FWL,SEC.05))	4552.00ft
MD Reference Pt	RIG (17") (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	172.01°



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Area	COLORADO	Well	STATE SEVENTY HOLES K31-O34-5HNB
Field	WELD COUNTY	Wellbore	STATE SEVENTY HOLES K31-O34-5HNB PWB
Facility	SEC.05-T04N-R62W		

WELLPATH DATA (128 stations) † = interpolated/extrapolated station									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments	
0.00†	0.000	13.518	0.00	0.00	0.00	0.00	0.00		
17.00	0.000	13.518	17.00	0.00	0.00	0.00	0.00	Tie On	
117.00†	0.000	13.518	117.00	0.00	0.00	0.00	0.00		
217.00†	0.000	13.518	217.00	0.00	0.00	0.00	0.00		
317.00†	0.000	13.518	317.00	0.00	0.00	0.00	0.00		
417.00†	0.000	13.518	417.00	0.00	0.00	0.00	0.00		
517.00†	0.000	13.518	517.00	0.00	0.00	0.00	0.00		
617.00†	0.000	13.518	617.00	0.00	0.00	0.00	0.00		
717.00†	0.000	13.518	717.00	0.00	0.00	0.00	0.00		
817.00†	0.000	13.518	817.00	0.00	0.00	0.00	0.00		
917.00†	0.000	13.518	917.00	0.00	0.00	0.00	0.00		
1017.00†	0.000	13.518	1017.00	0.00	0.00	0.00	0.00		
1117.00†	0.000	13.518	1117.00	0.00	0.00	0.00	0.00		
1217.00†	0.000	13.518	1217.00	0.00	0.00	0.00	0.00		
1317.00†	0.000	13.518	1317.00	0.00	0.00	0.00	0.00		
1417.00†	0.000	13.518	1417.00	0.00	0.00	0.00	0.00		
1450.00	0.000	13.518	1450.00	0.00	0.00	0.00	0.00	End of Tangent	
1517.00†	1.340	13.518	1516.99	-0.73	0.76	0.18	2.00		
1617.00†	3.340	13.518	1616.91	-4.53	4.73	1.14	2.00		
1717.00†	5.340	13.518	1716.61	-11.57	12.09	2.91	2.00		
1817.00†	7.340	13.518	1816.00	-21.84	22.83	5.49	2.00		
1917.00†	9.340	13.518	1914.93	-35.33	36.93	8.88	2.00		
2017.00†	11.340	13.518	2013.31	-52.03	54.38	13.07	2.00		
2117.00†	13.340	13.518	2110.99	-71.91	75.16	18.07	2.00		
2217.00†	15.340	13.518	2207.87	-94.96	99.24	23.86	2.00		
2317.00†	17.340	13.518	2303.83	-121.13	126.59	30.43	2.00		
2333.69	17.674	13.518	2319.74	-125.80	131.47	31.61	2.00	End of Build	
2417.00†	17.674	13.518	2399.12	-149.33	156.06	37.52	0.00		
2517.00†	17.674	13.518	2494.40	-177.58	185.58	44.61	0.00		
2617.00†	17.674	13.518	2589.68	-205.82	215.10	51.71	0.00		
2717.00†	17.674	13.518	2684.96	-234.07	244.62	58.81	0.00		
2817.00†	17.674	13.518	2780.24	-262.31	274.14	65.90	0.00		
2917.00†	17.674	13.518	2875.52	-290.56	303.66	73.00	0.00		
3017.00†	17.674	13.518	2970.80	-318.80	333.18	80.10	0.00		

WELLPATH DATA (128 stations) † = interpolated/extrapolated station									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments	
3117.00†	17.674	13.518	3066.08	-347.05	362.69	87.19	0.00		
3217.00†	17.674	13.518	3161.36	-375.29	392.21	94.29	0.00		
3317.00†	17.674	13.518	3256.64	-403.54	421.73	101.39	0.00		
3417.00†	17.674	13.518	3351.92	-431.78	451.25	108.48	0.00		
3517.00†	17.674	13.518	3447.20	-460.03	480.77	115.58	0.00		
3617.00†	17.674	13.518	3542.48	-488.27	510.29	122.68	0.00		
3717.00†	17.674	13.518	3637.76	-516.52	539.81	129.77	0.00		
3817.00†	17.674	13.518	3733.04	-544.76	569.33	136.87	0.00		
3917.00†	17.674	13.518	3828.32	-573.01	598.84	143.97	0.00		
4017.00†	17.674	13.518	3923.60	-601.26	628.36	151.06	0.00		
4117.00†	17.674	13.518	4018.88	-629.50	657.88	158.16	0.00		



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Field	WELD COUNTY	Wellbore	STATE SEVENTY HOLES K31-O34-5HNB PWB
Facility	SEC.05-T04N-R62W		

WELLPATH DATA (128 stations) † = interpolated/extrapolated station									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments	
4217.00†	17.674	13.518	4114.16	-657.75	687.40	165.25	0.00		
4317.00†	17.674	13.518	4209.44	-685.99	716.92	172.35	0.00		
4417.00†	17.674	13.518	4304.72	-714.24	746.44	179.45	0.00		
4517.00†	17.674	13.518	4400.00	-742.48	775.96	186.54	0.00		
4617.00†	17.674	13.518	4495.28	-770.73	805.48	193.64	0.00		
4717.00†	17.674	13.518	4590.56	-798.97	835.00	200.74	0.00		
4817.00†	17.674	13.518	4685.84	-827.22	864.51	207.83	0.00		
4917.00†	17.674	13.518	4781.12	-855.46	894.03	214.93	0.00		
5017.00†	17.674	13.518	4876.40	-883.71	923.55	222.03	0.00		
5117.00†	17.674	13.518	4971.68	-911.95	953.07	229.12	0.00		
5217.00†	17.674	13.518	5066.96	-940.20	982.59	236.22	0.00		
5317.00†	17.674	13.518	5162.24	-968.44	1012.11	243.32	0.00		
5417.00†	17.674	13.518	5257.52	-996.69	1041.63	250.41	0.00		
5517.00†	17.674	13.518	5352.80	-1024.93	1071.15	257.51	0.00		
5617.00†	17.674	13.518	5448.08	-1053.18	1100.66	264.60	0.00		
5666.96	17.674	13.518	5495.68	-1067.29	1115.41	268.15	0.00	End of Tangent	
5717.00†	12.991	20.264	5543.93	-1079.32	1128.08	271.88	10.00		
5817.00†	5.601	66.942	5642.66	-1090.52	1140.57	280.28	10.00		
5917.00†	9.666	143.856	5741.97	-1084.37	1135.69	289.75	10.00		
6017.00†	18.839	160.979	5838.83	-1061.06	1113.59	299.99	10.00		
6117.00†	28.562	166.913	5930.29	-1021.30	1074.94	310.69	10.00		
6217.00†	38.420	169.993	6013.60	-966.30	1020.92	321.53	10.00		
6317.00†	48.329	171.964	6086.20	-897.72	953.17	332.17	10.00		
6417.00†	58.262	173.404	6145.89	-817.66	873.75	342.31	10.00		
6517.00†	68.209	174.562	6190.87	-728.54	785.06	351.62	10.00		
6617.00†	78.162	175.568	6219.76	-633.08	689.81	359.82	10.00		
6717.00†	88.119	176.503	6231.69	-534.17	590.89	366.66	10.00		
6735.89	90.000	176.677	6232.00 ¹	-515.34	572.04	367.79	10.00	End of 3D Arc	
6817.00†	90.000	176.677	6232.00	-434.50	491.06	372.49	0.00		
6917.00†	90.000	176.677	6232.00	-334.83	391.23	378.29	0.00		
7017.00†	90.000	176.677	6232.00	-235.16	291.40	384.08	0.00		
7117.00†	90.000	176.677	6232.00	-135.49	191.57	389.88	0.00		
7217.00†	90.000	176.677	6232.00	-35.83	91.73	395.68	0.00		
7317.00†	90.000	176.677	6232.00	63.84	-8.10	401.47	0.00		

WELLPATH DATA (128 stations) † = interpolated/extrapolated station									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments	
7417.00†	90.000	176.677	6232.00	163.51	-107.93	407.27	0.00		
7517.00†	90.000	176.677	6232.00	263.18	-207.76	413.07	0.00		
7617.00†	90.000	176.677	6232.00	362.85	-307.59	418.86	0.00		
7717.00†	90.000	176.677	6232.00	462.51	-407.42	424.66	0.00		
7817.00†	90.000	176.677	6232.00	562.18	-507.26	430.46	0.00		
7917.00†	90.000	176.677	6232.00	661.85	-607.09	436.25	0.00		
8017.00†	90.000	176.677	6232.00	761.52	-706.92	442.05	0.00		
8117.00†	90.000	176.677	6232.00	861.19	-806.75	447.85	0.00		
8217.00†	90.000	176.677	6232.00	960.85	-906.58	453.64	0.00		
8317.00†	90.000	176.677	6232.00	1060.52	-1006.42	459.44	0.00		
8417.00†	90.000	176.677	6232.00	1160.19	-1106.25	465.24	0.00		



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REFERENCE WELLPATH IDENTIFICATION			
Operator	BONANZA CREEK OIL COMPANY	Slot	SLOT#28 STATE SEVENTY HOLES K31-O34-5HNB (584'FNL & 2611'FWL,SEC.05)
Area	COLORADO	Well	STATE SEVENTY HOLES K31-O34-5HNB
Field	WELD COUNTY	Wellbore	STATE SEVENTY HOLES K31-O34-5HNB PWB
Facility	SEC.05-T04N-R62W		

WELLPATH DATA (128 stations) † = interpolated/extrapolated station									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments	
8517.00†	90.000	176.677	6232.00	1259.86	-1206.08	471.03	0.00		
8617.00†	90.000	176.677	6232.00	1359.53	-1305.91	476.83	0.00		
8717.00†	90.000	176.677	6232.00	1459.20	-1405.74	482.63	0.00		
8817.00†	90.000	176.677	6232.00	1558.86	-1505.58	488.42	0.00		
8917.00†	90.000	176.677	6232.00	1658.53	-1605.41	494.22	0.00		
9017.00†	90.000	176.677	6232.00	1758.20	-1705.24	500.01	0.00		
9117.00†	90.000	176.677	6232.00	1857.87	-1805.07	505.81	0.00		
9217.00†	90.000	176.677	6232.00	1957.54	-1904.90	511.61	0.00		
9317.00†	90.000	176.677	6232.00	2057.20	-2004.73	517.40	0.00		
9417.00†	90.000	176.677	6232.00	2156.87	-2104.57	523.20	0.00		
9517.00†	90.000	176.677	6232.00	2256.54	-2204.40	529.00	0.00		
9617.00†	90.000	176.677	6232.00	2356.21	-2304.23	534.79	0.00		
9717.00†	90.000	176.677	6232.00	2455.88	-2404.06	540.59	0.00		
9817.00†	90.000	176.677	6232.00	2555.54	-2503.89	546.39	0.00		
9917.00†	90.000	176.677	6232.00	2655.21	-2603.73	552.18	0.00		
10017.00†	90.000	176.677	6232.00	2754.88	-2703.56	557.98	0.00		
10117.00†	90.000	176.677	6232.00	2854.55	-2803.39	563.78	0.00		
10217.00†	90.000	176.677	6232.00	2954.22	-2903.22	569.57	0.00		
10317.00†	90.000	176.677	6232.00	3053.88	-3003.05	575.37	0.00		
10417.00†	90.000	176.677	6232.00	3153.55	-3102.89	581.17	0.00		
10517.00†	90.000	176.677	6232.00	3253.22	-3202.72	586.96	0.00		
10617.00†	90.000	176.677	6232.00	3352.89	-3302.55	592.76	0.00		
10717.00†	90.000	176.677	6232.00	3452.56	-3402.38	598.56	0.00		
10817.00†	90.000	176.677	6232.00	3552.22	-3502.21	604.35	0.00		
10917.00†	90.000	176.677	6232.00	3651.89	-3602.04	610.15	0.00		
11017.00†	90.000	176.677	6232.00	3751.56	-3701.88	615.95	0.00		
11117.00†	90.000	176.677	6232.00	3851.23	-3801.71	621.74	0.00		
11217.00†	90.000	176.677	6232.00	3950.90	-3901.54	627.54	0.00		
11317.00†	90.000	176.677	6232.00	4050.57	-4001.37	633.34	0.00		
11417.00†	90.000	176.677	6232.00	4150.23	-4101.20	639.13	0.00		
11517.00†	90.000	176.677	6232.00	4249.90	-4201.04	644.93	0.00		
11617.00†	90.000	176.677	6232.00	4349.57	-4300.87	650.73	0.00		
11717.00†	90.000	176.677	6232.00	4449.24	-4400.70	656.52	0.00		
11817.00†	90.000	176.677	6232.00	4548.91	-4500.53	662.32	0.00		

WELLPATH DATA (128 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
11917.00†	90.000	176.677	6232.00	4648.57	-4600.36	668.12	0.00	
12017.00†	90.000	176.677	6232.00	4748.24	-4700.19	673.91	0.00	
12117.00†	90.000	176.677	6232.00	4847.91	-4800.03	679.71	0.00	
12186.80	90.000	176.677	6232.00 ²	4917.48	-4869.71	683.76	0.00	End of Tangent

HOLE & CASING SECTIONS - Ref Wellbore: STATE SEVENTY HOLES K31-O34-5HNB PWB Ref Wellpath: STATE SEVENTY HOLES K31-O34-5HNB 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	1450.00	1433.00	17.00	1450.00	0.00	0.00	0.00	0.00
8.5in Open Hole	1450.00	12186.80	10736.80	1450.00	6232.00	0.00	0.00	-4869.71	683.76



Planned Wellpath Report

STATE SEVENTY HOLES K31-O34-5HNB PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION			
Operator	BONANZA CREEK OIL COMPANY	Slot	SLOT#28 STATE SEVENTY HOLES K31-O34-5HNB (584'FNL & 2611'FWL,SEC.05)
Area	COLORADO	Well	STATE SEVENTY HOLES K31-O34-5HNB
Field	WELD COUNTY	Wellbore	STATE SEVENTY HOLES K31-O34-5HNB PWB
Facility	SEC.05-T04N-R62W		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.05-T4N-R62W		-1.00	1267.89	-4354.34	3316030.65	1372684.68	40°21'03.146"N	104°21'57.863"W	polygon
SEC.08-T04N-R62W		-1.00	0.76	-60.01	3320340.86	1371473.38	40°20'50.629"N	104°21'02.397"W	polygon
SEC.32-T05N-R62W		-1.00	11303.50	-425.56	3319828.83	1382769.94	40°22'42.319"N	104°21'07.121"W	polygon
2) STATE SEVENTY HOLES K31-O34-5HNB BHL (30'FNL & 2240'FEL,SEC.08)	12186.80	6232.00	-4869.71	683.76	3321147.66	1366613.18	40°20'02.500"N	104°20'52.793"W	point
1) STATE SEVENTY HOLES K31-O34-5HNB LP (10'FNL & 2282'FEL,SEC.05)	6735.89	6232.00	572.04	367.79	3320761.19	1372050.13	40°20'56.274"N	104°20'56.872"W	point

SURVEY PROGRAM - Ref Wellbore: STATE SEVENTY HOLES K31-O34-5HNB PWB					Ref Wellpath: STATE SEVENTY HOLES K31-O34-5HNB PWP (REV-A.0)	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model			Log Name/Comment	Wellbore
17.00	1450.00	BHI NaviTrak (Rotating+Axial Corr)				STATE SEVENTY HOLES K31-O34-5HNB PWB
1450.00	12186.80	BHI AutoTrak Curve (Axial Corr, Short spacing)				STATE SEVENTY HOLES K31-O34-5HNB PWB