

# BONANZA CREEK ENERGY OPERATING

Well Name: **LATHAM 14-11-12HZ**

Surface Location: LATHAM 14-12 PAD S12-4N-63W

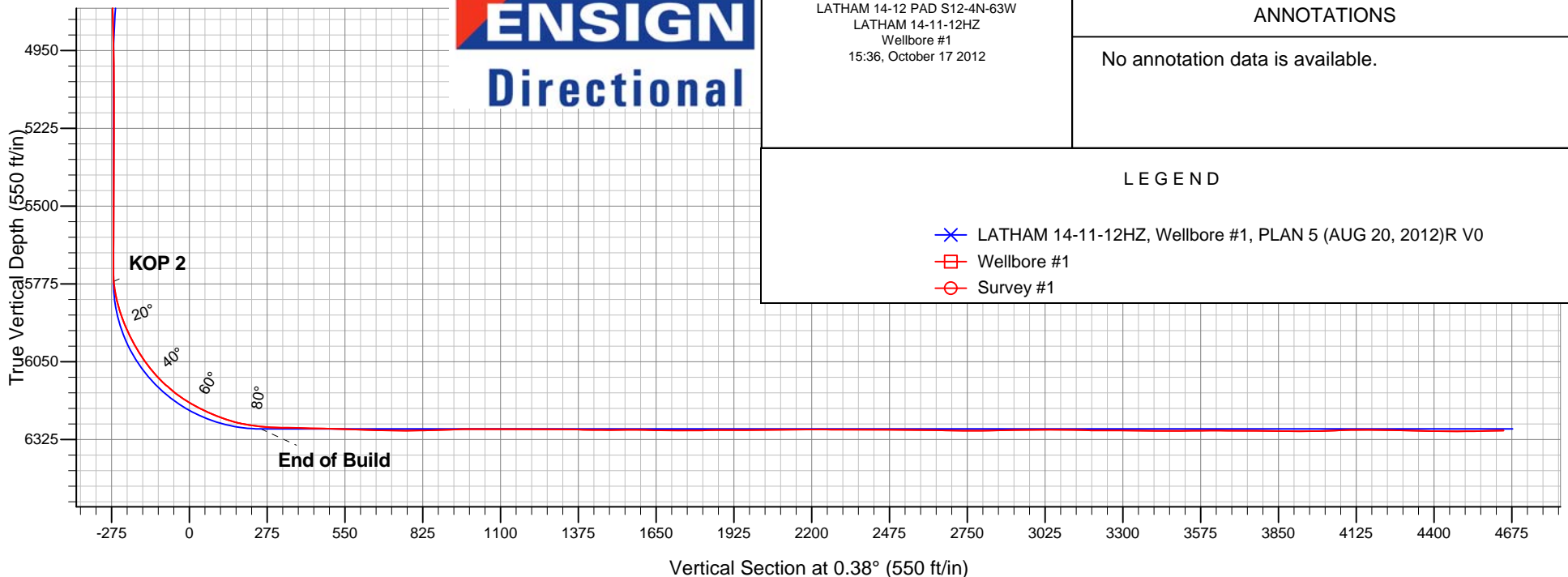
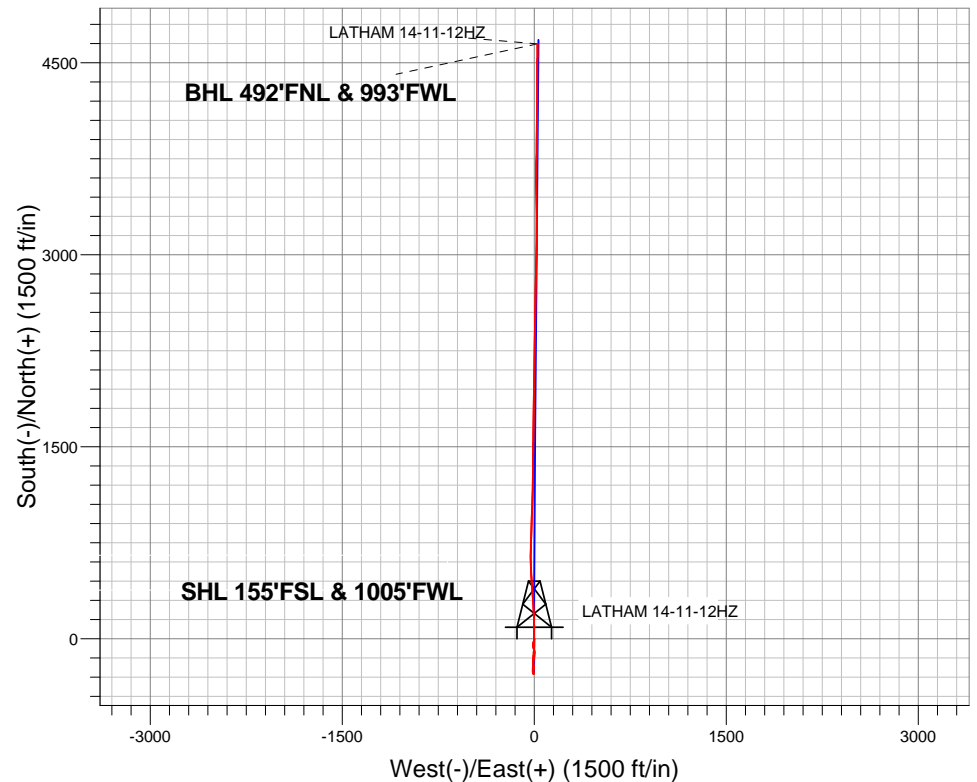
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4566.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1361488.17	3308868.53	40.320390	-104.392270	
kb est 15' rkb @ 4581.0ft (kb est 15')						

## FINAL SURVEY

Projected Bottom Hole Location  
10963'MD 6293'TVD 4646'N & 24'E of SHL  
91.4 degree Incl @ 0.1 degree AZM





# **BONANZA CREEK ENERGY OPERATING**

**SEC.12-T4N-R63W  
LATHAM 14-12 PAD S12-4N-63W  
LATHAM 14-11-12HZ**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**17 October, 2012**

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well LATHAM 14-11-12HZ
<b>Project:</b>	SEC.12-T4N-R63W	<b>TVD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Site:</b>	LATHAM 14-12 PAD S12-4N-63W	<b>MD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Well:</b>	LATHAM 14-11-12HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.12-T4N-R63W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	LATHAM 14-12 PAD S12-4N-63W		
<b>Site Position:</b>		<b>Northing:</b>	1,361,729.04 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,308,608.97 ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40.321060
		<b>Longitude:</b>	-104.393190
		<b>Grid Convergence:</b>	0.72 °

<b>Well</b>	LATHAM 14-11-12HZ		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	0.0 ft
		<b>Latitude:</b>	40.320390
		<b>Longitude:</b>	-104.392270
		<b>Ground Level:</b>	4,566.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	8/20/2012	8.50	67.01	53,007

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	0.38	

<b>Survey Program</b>	<b>Date</b>	8/30/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
121.0	10,963.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
<b>HARDLINE 460'FSL</b>										
0.8	0.00	173.60	0.8	0.0	0.0	0.0	0.50	0.50	0.00	
<b>HARDLINE460'FNL</b>										
1.0	0.00	173.60	1.0	0.0	0.0	0.0	0.50	0.50	0.00	
<b>SHL 155'FSL &amp; 1005'FWL</b>										
121.0	0.60	173.60	121.0	-0.6	0.1	-0.6	0.50	0.50	0.00	
209.0	1.00	179.20	209.0	-1.9	0.1	-1.9	0.46	0.45	6.36	
301.0	1.10	186.40	301.0	-3.5	0.0	-3.5	0.18	0.11	7.83	
395.0	1.30	184.80	395.0	-5.5	-0.1	-5.5	0.22	0.21	-1.70	
486.0	1.70	195.00	485.9	-7.8	-0.6	-7.8	0.53	0.44	11.21	
579.0	2.50	201.20	578.9	-11.1	-1.7	-11.1	0.89	0.86	6.67	
694.0	3.30	203.50	693.7	-16.4	-3.9	-16.4	0.70	0.70	2.00	

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well LATHAM 14-11-12HZ
<b>Project:</b>	SEC.12-T4N-R63W	<b>TVD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Site:</b>	LATHAM 14-12 PAD S12-4N-63W	<b>MD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Well:</b>	LATHAM 14-11-12HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

#### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
793.0	3.40	201.40	792.5	-21.8	-6.1	-21.8	0.16	0.10	-2.12
917.0	3.80	191.90	916.3	-29.2	-8.3	-29.3	0.58	0.32	-7.66
1,041.0	3.60	185.50	1,040.0	-37.1	-9.5	-37.2	0.37	-0.16	-5.16
1,167.0	4.20	190.10	1,165.7	-45.6	-10.7	-45.7	0.54	0.48	3.65
1,290.0	4.80	179.00	1,288.4	-55.2	-11.4	-55.2	0.86	0.49	-9.02
1,412.0	4.10	166.20	1,410.0	-64.5	-10.3	-64.6	0.99	-0.57	-10.49
1,534.0	3.30	159.30	1,531.7	-72.0	-8.0	-72.1	0.75	-0.66	-5.66
1,657.0	2.80	157.10	1,654.6	-78.1	-5.6	-78.1	0.42	-0.41	-1.79
1,779.0	2.60	168.80	1,776.4	-83.6	-3.9	-83.6	0.48	-0.16	9.59
1,901.0	3.30	167.10	1,898.3	-89.7	-2.6	-89.7	0.58	0.57	-1.39
2,023.0	3.30	166.20	2,020.1	-96.5	-0.9	-96.5	0.04	0.00	-0.74
2,146.0	2.50	162.70	2,142.9	-102.5	0.7	-102.5	0.67	-0.65	-2.85
2,269.0	2.60	185.90	2,265.8	-107.9	1.2	-107.9	0.84	0.08	18.86
2,391.0	3.30	184.70	2,387.6	-114.1	0.6	-114.1	0.58	0.57	-0.98
2,513.0	2.90	186.80	2,509.5	-120.7	0.0	-120.7	0.34	-0.33	1.72
2,635.0	4.00	181.10	2,631.2	-128.0	-0.5	-128.0	0.94	0.90	-4.67
2,758.0	3.70	184.30	2,754.0	-136.3	-0.8	-136.3	0.30	-0.24	2.60
2,883.0	2.80	192.20	2,878.8	-143.3	-1.8	-143.3	0.80	-0.72	6.32
3,007.0	3.00	193.80	3,002.6	-149.4	-3.2	-149.4	0.17	0.16	1.29
3,132.0	3.30	189.60	3,127.4	-156.1	-4.6	-156.1	0.30	0.24	-3.36
3,257.0	3.40	189.40	3,252.2	-163.3	-5.8	-163.3	0.08	0.08	-0.16
3,381.0	5.20	192.20	3,375.8	-172.4	-7.6	-172.5	1.46	1.45	2.26
3,507.0	5.50	180.40	3,501.3	-184.0	-8.8	-184.1	0.90	0.24	-9.37
3,632.0	6.10	170.90	3,625.7	-196.6	-7.8	-196.6	0.90	0.48	-7.60
3,756.0	5.10	171.60	3,749.1	-208.6	-6.0	-208.6	0.81	-0.81	0.56
3,881.0	5.70	182.40	3,873.5	-220.2	-5.4	-220.3	0.94	0.48	8.64
4,006.0	6.10	180.30	3,997.9	-233.1	-5.7	-233.1	0.36	0.32	-1.68
4,131.0	6.90	187.10	4,122.0	-247.2	-6.7	-247.2	0.89	0.64	5.44
4,256.0	6.00	184.70	4,246.3	-261.1	-8.1	-261.2	0.75	-0.72	-1.92
4,381.0	3.30	174.60	4,370.8	-271.2	-8.3	-271.3	2.25	-2.16	-8.08
4,506.0	1.50	139.30	4,495.7	-276.1	-6.9	-276.1	1.80	-1.44	-28.24
4,631.0	1.30	0.60	4,620.7	-275.9	-5.8	-275.9	2.10	-0.16	-110.96
4,756.0	1.70	3.40	4,745.7	-272.6	-5.7	-272.7	0.33	0.32	2.24
4,881.0	1.40	5.90	4,870.6	-269.2	-5.4	-269.3	0.25	-0.24	2.00
5,007.0	0.70	344.80	4,996.6	-267.0	-5.5	-267.0	0.63	-0.56	-16.75
5,132.0	0.40	244.90	5,121.6	-266.4	-6.1	-266.5	0.69	-0.24	-79.92
5,257.0	0.40	264.50	5,246.6	-266.7	-6.9	-266.7	0.11	0.00	15.68
5,382.0	0.50	244.20	5,371.6	-266.9	-7.8	-267.0	0.15	0.08	-16.24
5,507.0	0.50	238.30	5,496.6	-267.5	-8.8	-267.5	0.04	0.00	-4.72
5,633.0	0.50	223.00	5,622.6	-268.1	-9.6	-268.2	0.11	0.00	-12.14
5,699.0	0.70	231.90	5,688.6	-268.6	-10.2	-268.7	0.33	0.30	13.48
5,729.0	0.70	249.30	5,718.6	-268.8	-10.5	-268.8	0.71	0.00	58.00
5,760.0	2.40	343.20	5,749.6	-268.2	-10.8	-268.3	8.21	5.48	302.90
5,790.0	6.60	352.20	5,779.5	-265.9	-11.2	-266.0	14.15	14.00	30.00
5,821.0	10.80	355.80	5,810.1	-261.3	-11.7	-261.3	13.66	13.55	11.61
5,853.0	14.30	357.10	5,841.3	-254.3	-12.1	-254.4	10.97	10.94	4.06
5,884.0	17.60	358.50	5,871.1	-245.8	-12.4	-245.9	10.72	10.65	4.52
5,915.0	20.60	1.50	5,900.4	-235.7	-12.4	-235.7	10.18	9.68	9.68
5,946.0	23.60	2.50	5,929.1	-224.0	-12.0	-224.1	9.75	9.68	3.23
5,978.0	26.10	3.40	5,958.2	-210.6	-11.3	-210.7	7.90	7.81	2.81
6,009.0	28.80	3.40	5,985.7	-196.3	-10.5	-196.4	8.71	8.71	0.00
6,040.0	31.70	2.50	6,012.5	-180.7	-9.7	-180.8	9.47	9.35	-2.90
6,071.0	34.20	2.30	6,038.5	-163.9	-9.0	-163.9	8.07	8.06	-0.65
6,103.0	37.00	3.60	6,064.5	-145.3	-8.0	-145.3	9.06	8.75	4.06

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well LATHAM 14-11-12HZ
<b>Project:</b>	SEC.12-T4N-R63W	<b>TVD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Site:</b>	LATHAM 14-12 PAD S12-4N-63W	<b>MD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Well:</b>	LATHAM 14-11-12HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,134.0	41.00	4.80	6,088.6	-125.8	-6.6	-125.9	13.13	12.90	3.87
6,165.0	44.90	4.50	6,111.3	-104.8	-4.8	-104.8	12.60	12.58	-0.97
6,196.0	47.80	3.40	6,132.7	-82.4	-3.3	-82.4	9.70	9.35	-3.55
6,228.0	50.60	1.60	6,153.6	-58.2	-2.3	-58.2	9.73	8.75	-5.63
6,257.0	54.10	0.60	6,171.3	-35.3	-1.8	-35.3	12.37	12.07	-3.45
6,288.0	57.90	0.20	6,188.6	-9.6	-1.6	-9.6	12.30	12.26	-1.29
6,320.0	61.60	359.70	6,204.7	18.1	-1.7	18.1	11.64	11.56	-1.56
6,350.0	64.50	359.40	6,218.3	44.8	-1.9	44.8	9.71	9.67	-1.00
6,381.0	65.90	359.50	6,231.3	73.0	-2.1	72.9	4.53	4.52	0.32
6,412.0	68.20	359.40	6,243.4	101.5	-2.4	101.5	7.43	7.42	-0.32
6,444.0	71.90	358.80	6,254.3	131.6	-2.9	131.5	11.70	11.56	-1.88
6,474.0	75.10	358.80	6,262.9	160.3	-3.5	160.3	10.67	10.67	0.00
6,505.0	79.20	357.40	6,269.7	190.5	-4.5	190.5	13.94	13.23	-4.52
6,536.0	82.20	357.10	6,274.8	221.1	-6.0	221.0	9.72	9.68	-0.97
6,568.0	83.60	356.50	6,278.7	252.8	-7.7	252.7	4.75	4.38	-1.88
6,599.0	86.40	356.00	6,281.4	283.6	-9.8	283.5	9.17	9.03	-1.61
6,617.5	88.13	356.00	6,282.3	302.0	-11.1	301.9	9.35	9.35	0.00
TARGET 1 460'FSL & 1000'FWL									
6,630.0	89.30	356.00	6,282.6	314.5	-11.9	314.4	9.35	9.35	0.00
6,662.0	89.30	356.40	6,283.0	346.4	-14.0	346.3	1.25	0.00	1.25
6,693.0	88.40	356.40	6,283.6	377.4	-16.0	377.2	2.90	-2.90	0.00
6,743.0	88.30	356.00	6,285.0	427.2	-19.3	427.1	0.82	-0.20	-0.80
6,774.0	88.90	355.50	6,285.8	458.1	-21.6	458.0	2.52	1.94	-1.61
6,805.0	88.80	355.00	6,286.4	489.0	-24.2	488.8	1.64	-0.32	-1.61
6,836.0	88.20	356.70	6,287.2	519.9	-26.4	519.7	5.81	-1.94	5.48
6,868.0	88.50	359.20	6,288.1	551.9	-27.6	551.7	7.87	0.94	7.81
6,899.0	88.30	359.50	6,289.0	582.9	-27.9	582.7	1.16	-0.65	0.97
6,930.0	87.80	359.40	6,290.1	613.9	-28.2	613.7	1.64	-1.61	-0.32
6,961.0	88.00	359.90	6,291.2	644.8	-28.4	644.6	1.74	0.65	1.61
6,993.0	88.30	0.40	6,292.2	676.8	-28.3	676.6	1.82	0.94	1.56
7,024.0	89.20	0.60	6,292.9	707.8	-28.0	707.6	2.97	2.90	0.65
7,054.0	90.50	2.00	6,293.0	737.8	-27.4	737.6	6.37	4.33	4.67
7,085.0	90.00	2.00	6,292.8	768.8	-26.3	768.6	1.61	-1.61	0.00
7,116.0	90.20	1.80	6,292.8	799.8	-25.2	799.6	0.91	0.65	-0.65
7,147.0	91.20	2.20	6,292.4	830.7	-24.2	830.6	3.47	3.23	1.29
7,179.0	91.50	2.20	6,291.7	862.7	-22.9	862.5	0.94	0.94	0.00
7,210.0	91.60	2.00	6,290.8	893.7	-21.8	893.5	0.72	0.32	-0.65
7,241.0	92.20	2.20	6,289.8	924.6	-20.7	924.5	2.04	1.94	0.65
7,272.0	91.80	1.60	6,288.7	955.6	-19.6	955.4	2.33	-1.29	-1.94
7,303.0	90.70	2.20	6,288.0	986.6	-18.6	986.4	4.04	-3.55	1.94
7,333.0	89.50	1.80	6,288.0	1,016.6	-17.6	1,016.4	4.22	-4.00	-1.33
7,365.0	89.60	1.80	6,288.2	1,048.5	-16.6	1,048.4	0.31	0.31	0.00
7,396.0	90.20	2.30	6,288.3	1,079.5	-15.5	1,079.4	2.52	1.94	1.61
7,427.0	90.00	2.00	6,288.2	1,110.5	-14.3	1,110.4	1.16	-0.65	-0.97
7,459.0	89.50	1.30	6,288.4	1,142.5	-13.4	1,142.4	2.69	-1.56	-2.19
7,490.0	89.80	1.50	6,288.6	1,173.5	-12.6	1,173.4	1.16	0.97	0.65
7,521.0	90.10	1.60	6,288.6	1,204.5	-11.8	1,204.4	1.02	0.97	0.32
7,553.0	90.10	1.30	6,288.5	1,236.5	-11.0	1,236.4	0.94	0.00	-0.94
7,584.0	89.50	0.10	6,288.6	1,267.4	-10.6	1,267.4	4.33	-1.94	-3.87
7,615.0	90.20	359.90	6,288.7	1,298.4	-10.6	1,298.3	2.35	2.26	-0.65
7,647.0	89.80	359.40	6,288.7	1,330.4	-10.8	1,330.3	2.00	-1.25	-1.56
7,678.0	88.50	0.10	6,289.2	1,361.4	-10.9	1,361.3	4.76	-4.19	2.26
7,709.0	88.50	0.40	6,290.0	1,392.4	-10.8	1,392.3	0.97	0.00	0.97
7,741.0	89.30	0.90	6,290.6	1,424.4	-10.4	1,424.3	2.95	2.50	1.56

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well LATHAM 14-11-12HZ
<b>Project:</b>	SEC.12-T4N-R63W	<b>TVD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Site:</b>	LATHAM 14-12 PAD S12-4N-63W	<b>MD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Well:</b>	LATHAM 14-11-12HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
7,772.0	89.50	0.90	6,290.9	1,455.4	-9.9	1,455.3	0.65	0.65	0.00	
7,803.0	90.00	1.30	6,291.1	1,486.4	-9.3	1,486.3	2.07	1.61	1.29	
7,834.0	90.90	0.90	6,290.8	1,517.4	-8.7	1,517.3	3.18	2.90	-1.29	
7,865.0	90.60	0.80	6,290.4	1,548.4	-8.3	1,548.3	1.02	-0.97	-0.32	
7,897.0	89.50	0.90	6,290.4	1,580.4	-7.8	1,580.3	3.45	-3.44	0.31	
7,928.0	88.70	0.80	6,290.9	1,611.4	-7.3	1,611.3	2.60	-2.58	-0.32	
7,959.0	88.50	0.80	6,291.6	1,642.4	-6.9	1,642.3	0.65	-0.65	0.00	
7,990.0	89.30	0.80	6,292.2	1,673.4	-6.5	1,673.3	2.58	2.58	0.00	
8,021.0	89.90	0.90	6,292.4	1,704.4	-6.0	1,704.3	1.96	1.94	0.32	
8,052.0	90.00	1.30	6,292.5	1,735.4	-5.4	1,735.3	1.33	0.32	1.29	
8,084.0	90.00	0.60	6,292.5	1,767.3	-4.9	1,767.3	2.19	0.00	-2.19	
8,115.0	90.10	0.60	6,292.4	1,798.3	-4.6	1,798.3	0.32	0.32	0.00	
8,146.0	91.10	0.20	6,292.1	1,829.3	-4.4	1,829.3	3.47	3.23	-1.29	
8,177.0	91.40	0.80	6,291.4	1,860.3	-4.1	1,860.3	2.16	0.97	1.94	
8,208.0	90.20	1.10	6,291.0	1,891.3	-3.6	1,891.3	3.99	-3.87	0.97	
8,239.0	89.90	1.10	6,291.0	1,922.3	-3.0	1,922.3	0.97	-0.97	0.00	
8,271.0	89.80	0.40	6,291.1	1,954.3	-2.6	1,954.3	2.21	-0.31	-2.19	
8,302.0	89.90	0.10	6,291.2	1,985.3	-2.4	1,985.3	1.02	0.32	-0.97	
8,334.0	90.00	0.40	6,291.2	2,017.3	-2.3	2,017.3	0.99	0.31	0.94	
8,365.0	90.60	0.90	6,291.0	2,048.3	-1.9	2,048.3	2.52	1.94	1.61	
8,396.0	90.70	0.60	6,290.7	2,079.3	-1.5	2,079.3	1.02	0.32	-0.97	
8,428.0	90.80	0.80	6,290.2	2,111.3	-1.1	2,111.3	0.70	0.31	0.63	
8,459.0	91.50	0.90	6,289.6	2,142.3	-0.7	2,142.2	2.28	2.26	0.32	
8,490.0	90.80	1.30	6,289.0	2,173.3	-0.1	2,173.2	2.60	-2.26	1.29	
8,522.0	89.70	1.10	6,288.9	2,205.3	0.6	2,205.2	3.49	-3.44	-0.63	
8,553.0	89.40	0.90	6,289.1	2,236.3	1.1	2,236.2	1.16	-0.97	-0.65	
8,584.0	89.40	0.90	6,289.4	2,267.3	1.6	2,267.2	0.00	0.00	0.00	
8,616.0	89.30	0.60	6,289.8	2,299.3	2.0	2,299.2	0.99	-0.31	-0.94	
8,647.0	90.30	1.80	6,289.9	2,330.3	2.7	2,330.2	5.04	3.23	3.87	
8,678.0	90.30	0.90	6,289.7	2,361.2	3.4	2,361.2	2.90	0.00	-2.90	
8,709.0	90.00	1.80	6,289.7	2,392.2	4.2	2,392.2	3.06	-0.97	2.90	
8,741.0	89.60	0.90	6,289.8	2,424.2	4.9	2,424.2	3.08	-1.25	-2.81	
8,772.0	89.30	0.40	6,290.1	2,455.2	5.3	2,455.2	1.88	-0.97	-1.61	
8,803.0	89.30	0.60	6,290.4	2,486.2	5.5	2,486.2	0.65	0.00	0.65	
8,833.0	89.80	1.10	6,290.7	2,516.2	6.0	2,516.2	2.36	1.67	1.67	
8,864.0	89.70	0.90	6,290.8	2,547.2	6.5	2,547.2	0.72	-0.32	-0.65	
8,896.0	89.30	0.60	6,291.1	2,579.2	6.9	2,579.2	1.56	-1.25	-0.94	
8,927.0	88.60	0.40	6,291.7	2,610.2	7.2	2,610.2	2.35	-2.26	-0.65	
8,958.0	89.70	1.30	6,292.1	2,641.2	7.7	2,641.2	4.58	3.55	2.90	
8,990.0	89.40	1.30	6,292.4	2,673.2	8.4	2,673.2	0.94	-0.94	0.00	
9,021.0	88.70	0.80	6,292.9	2,704.2	9.0	2,704.2	2.77	-2.26	-1.61	
9,052.0	89.40	0.80	6,293.4	2,735.2	9.4	2,735.2	2.26	2.26	0.00	
9,084.0	89.90	1.60	6,293.6	2,767.2	10.1	2,767.2	2.95	1.56	2.50	
9,115.0	90.70	2.00	6,293.4	2,798.1	11.0	2,798.2	2.89	2.58	1.29	
9,146.0	90.80	1.60	6,293.0	2,829.1	12.0	2,829.1	1.33	0.32	-1.29	
9,178.0	90.90	1.60	6,292.6	2,861.1	12.9	2,861.1	0.31	0.31	0.00	
9,208.0	91.40	1.80	6,292.0	2,891.1	13.8	2,891.1	1.80	1.67	0.67	
9,239.0	91.60	1.50	6,291.1	2,922.1	14.7	2,922.1	1.16	0.65	-0.97	
9,270.0	91.00	1.10	6,290.4	2,953.0	15.4	2,953.1	2.33	-1.94	-1.29	
9,302.0	89.90	1.10	6,290.2	2,985.0	16.0	2,985.1	3.44	-3.44	0.00	
9,333.0	90.00	1.10	6,290.2	3,016.0	16.6	3,016.1	0.32	0.32	0.00	
9,364.0	90.70	1.60	6,290.0	3,047.0	17.3	3,047.1	2.77	2.26	1.61	
9,394.0	89.90	0.60	6,289.9	3,077.0	17.9	3,077.1	4.27	-2.67	-3.33	
9,425.0	88.60	359.50	6,290.3	3,108.0	17.9	3,108.1	5.49	-4.19	-3.55	

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well LATHAM 14-11-12HZ
<b>Project:</b>	SEC.12-T4N-R63W	<b>TVD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Site:</b>	LATHAM 14-12 PAD S12-4N-63W	<b>MD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Well:</b>	LATHAM 14-11-12HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

## Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,457.0	88.40	359.50	6,291.1	3,140.0	17.6	3,140.0	0.63	-0.63	0.00
9,488.0	88.20	359.50	6,292.0	3,171.0	17.4	3,171.0	0.65	-0.65	0.00
9,519.0	89.60	359.50	6,292.6	3,202.0	17.1	3,202.0	4.52	4.52	0.00
9,550.0	90.40	359.90	6,292.6	3,233.0	16.9	3,233.0	2.89	2.58	1.29
9,582.0	90.70	359.70	6,292.3	3,265.0	16.8	3,265.0	1.13	0.94	-0.63
9,613.0	89.00	359.90	6,292.4	3,296.0	16.7	3,296.0	5.52	-5.48	0.65
9,645.0	88.80	359.50	6,293.0	3,328.0	16.6	3,328.0	1.40	-0.63	-1.25
9,676.0	88.90	359.50	6,293.6	3,359.0	16.3	3,359.0	0.32	0.32	0.00
9,707.0	89.20	359.50	6,294.2	3,390.0	16.0	3,390.0	0.97	0.97	0.00
9,737.0	90.30	0.10	6,294.3	3,420.0	15.9	3,420.0	4.18	3.67	2.00
9,769.0	90.20	359.50	6,294.1	3,452.0	15.8	3,452.0	1.90	-0.31	-1.88
9,800.0	90.00	359.40	6,294.1	3,483.0	15.5	3,483.0	0.72	-0.65	-0.32
9,831.0	90.50	359.40	6,294.0	3,514.0	15.2	3,514.0	1.61	1.61	0.00
9,863.0	90.70	359.40	6,293.6	3,545.9	14.8	3,546.0	0.63	0.63	0.00
9,894.0	90.60	359.20	6,293.3	3,576.9	14.5	3,577.0	0.72	-0.32	-0.65
9,925.0	90.00	358.50	6,293.1	3,607.9	13.8	3,607.9	2.97	-1.94	-2.26
9,956.0	89.70	359.70	6,293.2	3,638.9	13.4	3,638.9	3.99	-0.97	3.87
9,988.0	89.90	0.80	6,293.3	3,670.9	13.5	3,670.9	3.49	0.63	3.44
10,018.0	89.90	1.10	6,293.4	3,700.9	14.0	3,700.9	1.00	0.00	1.00
10,049.0	89.40	2.20	6,293.5	3,731.9	14.9	3,731.9	3.90	-1.61	3.55
10,080.0	88.90	2.00	6,294.0	3,762.9	16.0	3,762.9	1.74	-1.61	-0.65
10,112.0	89.80	1.60	6,294.4	3,794.9	17.0	3,794.9	3.08	2.81	-1.25
10,143.0	90.00	0.90	6,294.4	3,825.9	17.7	3,825.9	2.35	0.65	-2.26
10,175.0	89.30	0.40	6,294.6	3,857.9	18.1	3,857.9	2.69	-2.19	-1.56
10,205.0	88.60	359.70	6,295.2	3,887.9	18.1	3,887.9	3.30	-2.33	-2.33
10,237.0	88.80	0.40	6,295.9	3,919.8	18.1	3,919.9	2.27	0.63	2.19
10,268.0	91.20	0.80	6,295.9	3,950.8	18.4	3,950.9	7.85	7.74	1.29
10,300.0	92.00	0.60	6,295.0	3,982.8	18.8	3,982.9	2.58	2.50	-0.63
10,330.0	92.50	0.90	6,293.8	4,012.8	19.2	4,012.8	1.94	1.67	1.00
10,362.0	91.70	0.60	6,292.6	4,044.8	19.6	4,044.8	2.67	-2.50	-0.94
10,393.0	91.50	1.30	6,291.8	4,075.8	20.2	4,075.8	2.35	-0.65	2.26
10,424.0	91.30	0.90	6,291.0	4,106.7	20.8	4,106.8	1.44	-0.65	-1.29
10,456.0	89.70	0.60	6,290.7	4,138.7	21.2	4,138.8	5.09	-5.00	-0.94
10,487.0	90.30	0.90	6,290.7	4,169.7	21.6	4,169.8	2.16	1.94	0.97
10,519.0	89.30	359.50	6,290.9	4,201.7	21.7	4,201.8	5.38	-3.13	-4.38
10,550.0	88.60	0.40	6,291.4	4,232.7	21.7	4,232.8	3.68	-2.26	2.90
10,581.0	89.20	359.90	6,292.0	4,263.7	21.7	4,263.8	2.52	1.94	-1.61
10,612.0	88.60	0.40	6,292.6	4,294.7	21.8	4,294.8	2.52	-1.94	1.61
10,643.0	88.80	0.10	6,293.3	4,325.7	22.0	4,325.8	1.16	0.65	-0.97
10,674.0	88.60	359.70	6,294.0	4,356.7	21.9	4,356.7	1.44	-0.65	-1.29
10,706.0	89.10	359.90	6,294.7	4,388.7	21.8	4,388.7	1.68	1.56	0.63
10,737.0	89.00	359.90	6,295.2	4,419.7	21.7	4,419.7	0.32	-0.32	0.00
10,768.0	89.20	359.90	6,295.7	4,450.7	21.7	4,450.7	0.65	0.65	0.00
10,798.0	90.50	1.30	6,295.7	4,480.7	22.0	4,480.7	6.37	4.33	4.67
10,830.0	90.70	1.30	6,295.4	4,512.7	22.7	4,512.7	0.63	0.63	0.00
10,861.0	90.90	0.80	6,295.0	4,543.7	23.3	4,543.7	1.74	0.65	-1.61
10,893.0	91.00	0.80	6,294.4	4,575.7	23.7	4,575.7	0.31	0.31	0.00
10,912.0	91.10	0.10	6,294.1	4,594.7	23.9	4,594.7	3.72	0.53	-3.68
10,963.0	91.40	0.10	6,293.0	4,645.6	24.0	4,645.7	0.59	0.59	0.00
BHL 460'FNL & 1000'FWL									

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well LATHAM 14-11-12HZ
<b>Project:</b>	SEC.12-T4N-R63W	<b>TVD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Site:</b>	LATHAM 14-12 PAD S12-4N-63W	<b>MD Reference:</b>	rkb @ 4581.0ft (kb est 15')
<b>Well:</b>	LATHAM 14-11-12HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_