

BONANZA CREEK ENERGY OPERATING

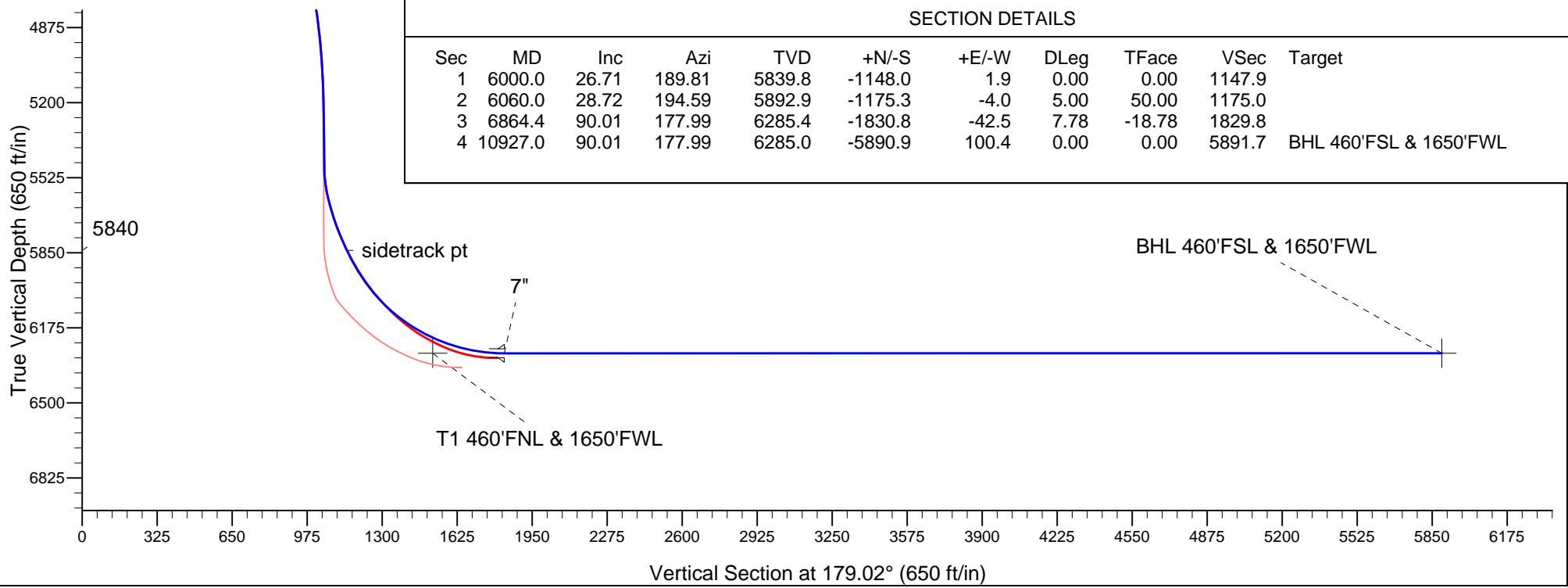
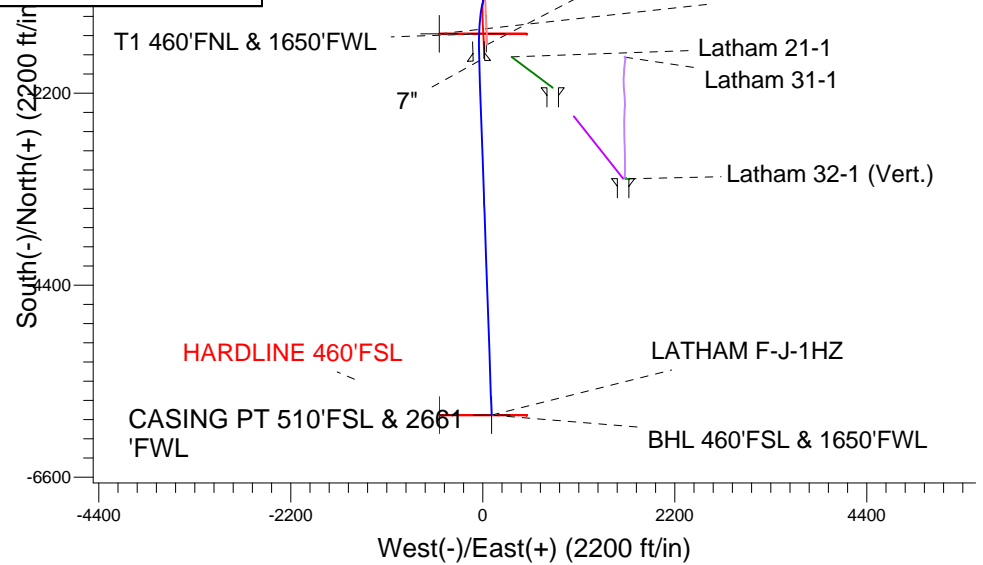
Well Name: LATHAM F-J-1HZ
Surface Location: NORTH PLATTE X-D-35HZ PAD SEC.36-5N-63W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4541.0
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1372969.73 3309304.85 40.351890 -104.390190
KB 15' RKB @ 4556.0ft (KB 15')

WELLBORE TARGET DETAILS (LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
HARDLINE 460'FNL	1.0	-1520.0	-500.0	40.347718	-104.391984	Polygon
HARDLINE 460'FSL	1.0	-5890.0	-500.0	40.335722	-104.391983	Polygon
BHL 460'FSL & 1650'FWL	6285.0	-5890.9	100.4	40.335720	-104.389830	Point
T1 460'FNL & 1650'FWL	6285.0	-1519.2	39.0	40.347720	-104.390050	Point

NORTH PLATTE X-D-35HZ PAD SEC.36-5N-63W
LATHAM F-J-1HZ
Plan 4 sidetrack 2 (aug 12, 2012)
11:02, August 12 2012



Azimuths to True North
Magnetic North: 8.50°
Magnetic Field
Strength: 53025.8snT
Dip Angle: 67.03°
Date: 8/12/2012
Model: IGRF2010



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	6000.0	26.71	189.81	5839.8	-1148.0	1.9	0.00	0.00	1147.9	
2	6060.0	28.72	194.59	5892.9	-1175.3	-4.0	5.00	50.00	1175.0	
3	6864.4	90.01	177.99	6285.4	-1830.8	-42.5	7.78	-18.78	1829.8	
4	10927.0	90.01	177.99	6285.0	-5890.9	100.4	0.00	0.00	5891.7	BHL 460'FSL & 1650'FWL



Directional

BONANZA CREEK ENERGY OPERATING

SEC.36-T5N-R63W

NORTH PLATTE X-D-35HZ PAD SEC.36-5N-63W

LATHAM F-J-1HZ

Wellbore #2 Sidetrack 1

Plan: Plan 4 sidetrack 2 (aug 12, 2012)

Standard Planning Report

12 August, 2012

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
6,000.0	26.71	189.81	5,839.8	-1,148.0	1.9	0.00	0.00	0.00	0.00	
6,060.0	28.72	194.59	5,892.9	-1,175.3	-4.0	5.00	3.36	7.98	50.00	
6,864.4	90.01	177.99	6,285.4	-1,830.8	-42.5	7.78	7.62	-2.06	-18.78	
10,927.0	90.01	177.99	6,285.0	-5,890.9	100.4	0.00	0.00	0.00	0.00	BHL 460'FSL & 165'

Database:	Landmark	Local Co-ordinate Reference:	Well LATHAM F-J-1HZ
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	RKB @ 4556.0ft (KB 15')
Project:	SEC.36-T5N-R63W	MD Reference:	RKB @ 4556.0ft (KB 15')
Site:	NORTH PLATTE X-D-35HZ PAD	North Reference:	True
Well:	LATHAM F-J-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #2 Sidetrack 1		
Design:	Plan 4 sidetrack 2 (aug 12, 2012)		

Planned 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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
50.0	0.26	102.00	50.0	0.0	0.1	0.0	0.53	0.53	0.00
100.0	0.53	102.00	100.0	-0.1	0.4	0.1	0.53	0.53	0.00
150.0	0.70	102.36	150.0	-0.2	1.0	0.2	0.35	0.35	0.72
200.0	0.70	103.43	200.0	-0.3	1.6	0.4	0.03	0.00	2.13
250.0	0.65	96.35	250.0	-0.5	2.2	0.5	0.19	-0.09	-14.14
300.0	0.60	76.63	300.0	-0.4	2.7	0.5	0.44	-0.11	-39.46
350.0	0.69	81.60	350.0	-0.3	3.2	0.4	0.21	0.18	9.95
400.0	0.89	95.75	400.0	-0.3	3.9	0.4	0.56	0.40	28.29
450.0	1.05	107.13	450.0	-0.5	4.8	0.5	0.50	0.33	22.77
500.0	1.19	118.02	500.0	-0.8	5.7	0.9	0.51	0.28	21.77
550.0	1.20	123.61	549.9	-1.4	6.6	1.5	0.23	0.00	11.18
600.0	1.21	128.90	599.9	-2.0	7.4	2.1	0.22	0.03	10.58
650.0	1.31	132.33	649.9	-2.7	8.2	2.9	0.26	0.21	6.86
700.0	1.39	136.81	699.9	-3.5	9.1	3.7	0.26	0.16	8.96
750.0	1.38	147.57	749.9	-4.5	9.8	4.7	0.52	-0.02	21.51
800.0	1.47	156.45	799.9	-5.6	10.4	5.8	0.48	0.18	17.78
850.0	1.68	161.00	849.9	-6.9	10.9	7.0	0.49	0.42	9.09
900.0	1.96	166.87	899.8	-8.4	11.3	8.6	0.67	0.56	11.74
950.0	2.34	173.36	949.8	-10.2	11.7	10.4	0.89	0.75	12.99
1,000.0	2.78	178.32	999.8	-12.4	11.8	12.6	0.98	0.88	9.91
1,050.0	3.26	182.05	1,049.7	-15.1	11.8	15.3	1.05	0.97	7.46
1,100.0	3.86	184.83	1,099.6	-18.1	11.6	18.3	1.25	1.20	5.57
1,150.0	4.51	186.86	1,149.5	-21.8	11.2	22.0	1.33	1.29	4.05
1,200.0	5.15	186.74	1,199.3	-26.0	10.7	26.1	1.28	1.28	-0.24
1,250.0	5.79	186.41	1,249.0	-30.7	10.2	30.9	1.28	1.28	-0.67
1,300.0	6.79	185.87	1,298.7	-36.1	9.6	36.3	2.01	2.01	-1.08
1,350.0	7.75	185.31	1,348.3	-42.4	9.0	42.6	1.92	1.91	-1.13
1,400.0	8.22	183.48	1,397.9	-49.4	8.4	49.5	1.08	0.95	-3.65
1,450.0	8.65	182.99	1,447.3	-56.7	8.1	56.8	0.87	0.86	-0.98
1,500.0	8.92	186.46	1,496.7	-64.3	7.5	64.4	1.18	0.53	6.93
1,550.0	9.41	188.75	1,546.1	-72.2	6.4	72.3	1.22	0.97	4.59
1,600.0	10.21	189.35	1,595.4	-80.6	5.0	80.6	1.63	1.61	1.19
1,650.0	11.35	189.47	1,644.5	-89.7	3.5	89.8	2.28	2.28	0.25
1,700.0	12.81	189.26	1,693.4	-100.1	1.8	100.1	2.90	2.90	-0.42
1,750.0	13.97	187.14	1,742.0	-111.5	0.1	111.5	2.52	2.32	-4.25
1,800.0	15.01	184.36	1,790.4	-124.0	-1.2	124.0	2.50	2.08	-5.55
1,850.0	15.94	182.45	1,838.6	-137.3	-2.0	137.3	2.13	1.87	-3.81
1,900.0	16.86	180.86	1,886.6	-151.4	-2.4	151.4	2.05	1.84	-3.19
1,950.0	17.31	179.38	1,934.4	-166.1	-2.4	166.1	1.25	0.89	-2.97
2,000.0	17.67	177.93	1,982.0	-181.2	-2.0	181.1	1.13	0.73	-2.89
2,050.0	17.40	176.19	2,029.7	-196.2	-1.3	196.2	1.18	-0.54	-3.48
2,100.0	17.03	175.36	2,077.5	-211.0	-0.1	211.0	0.89	-0.75	-1.66
2,150.0	16.27	178.05	2,125.4	-225.3	0.8	225.3	2.16	-1.52	5.38
2,200.0	15.88	179.72	2,173.4	-239.1	0.9	239.0	1.21	-0.78	3.35
2,250.0	16.09	179.24	2,221.5	-252.8	1.1	252.8	0.50	0.43	-0.96
2,300.0	16.20	179.10	2,269.5	-266.7	1.3	266.7	0.24	0.22	-0.28
2,350.0	16.20	179.32	2,317.6	-280.7	1.5	280.7	0.12	0.00	0.43
2,400.0	16.33	178.86	2,365.6	-294.7	1.7	294.7	0.36	0.26	-0.91
2,450.0	16.54	178.02	2,413.5	-308.8	2.0	308.8	0.64	0.43	-1.69
2,500.0	16.68	178.00	2,461.4	-323.1	2.6	323.1	0.27	0.27	-0.04
2,550.0	16.79	178.26	2,509.3	-337.5	3.0	337.5	0.26	0.21	0.53
2,600.0	17.26	177.87	2,557.1	-352.1	3.5	352.1	0.98	0.95	-0.78

Database:	Landmark	Local Co-ordinate Reference:	Well LATHAM F-J-1HZ
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	RKB @ 4556.0ft (KB 15')
Project:	SEC.36-T5N-R63W	MD Reference:	RKB @ 4556.0ft (KB 15')
Site:	NORTH PLATTE X-D-35HZ PAD SEC.36-5N-63W	North Reference:	True
Well:	LATHAM F-J-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #2 Sidetrack 1		
Design:	Plan 4 sidetrack 2 (aug 12, 2012)		

Planned 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)	
2,650.0	17.80	177.40	2,604.8	-367.2	4.1	367.2	1.11	1.08	-0.94	
2,700.0	17.85	176.97	2,652.4	-382.4	4.9	382.5	0.28	0.11	-0.86	
2,750.0	17.87	176.60	2,700.0	-397.8	5.8	397.8	0.23	0.03	-0.74	
2,800.0	17.66	176.60	2,747.6	-413.0	6.7	413.0	0.43	-0.43	0.00	
2,850.0	17.62	177.02	2,795.3	-428.1	7.6	428.1	0.27	-0.07	0.84	
2,900.0	18.11	178.60	2,842.9	-443.4	8.1	443.5	1.36	0.96	3.15	
2,950.0	18.36	179.18	2,890.3	-459.1	8.4	459.2	0.62	0.50	1.18	
3,000.0	18.25	178.39	2,937.8	-474.8	8.7	474.9	0.54	-0.21	-1.60	
3,050.0	17.95	178.27	2,985.3	-490.4	9.2	490.4	0.61	-0.61	-0.23	
3,100.0	17.46	178.82	3,032.9	-505.5	9.6	505.6	1.03	-0.98	1.09	
3,150.0	17.04	178.14	3,080.7	-520.4	9.9	520.5	0.93	-0.84	-1.37	
3,200.0	16.66	176.82	3,128.6	-534.8	10.6	534.9	1.08	-0.76	-2.64	
3,250.0	16.73	177.28	3,176.5	-549.2	11.3	549.3	0.31	0.15	0.93	
3,300.0	16.90	178.08	3,224.3	-563.6	11.9	563.7	0.57	0.33	1.60	
3,350.0	16.58	177.58	3,272.2	-578.0	12.5	578.1	0.69	-0.63	-1.00	
3,400.0	16.35	177.01	3,320.2	-592.1	13.1	592.3	0.57	-0.46	-1.15	
3,450.0	16.78	176.24	3,368.1	-606.4	14.0	606.5	0.96	0.86	-1.53	
3,500.0	17.32	175.73	3,415.9	-620.9	15.0	621.1	1.13	1.09	-1.02	
3,550.0	18.18	175.84	3,463.5	-636.1	16.1	636.3	1.72	1.72	0.22	
3,600.0	18.89	175.97	3,510.9	-652.0	17.3	652.2	1.42	1.42	0.26	
3,650.0	19.38	176.13	3,558.1	-668.4	18.4	668.6	0.97	0.97	0.32	
3,700.0	19.17	175.49	3,605.3	-685.0	19.6	685.2	0.60	-0.42	-1.27	
3,750.0	18.37	174.10	3,652.6	-701.0	21.0	701.3	1.83	-1.59	-2.79	
3,800.0	17.96	172.98	3,700.2	-716.4	22.8	716.7	1.08	-0.82	-2.25	
3,850.0	17.75	172.01	3,747.8	-731.6	24.8	731.9	0.73	-0.42	-1.92	
3,900.0	17.70	171.80	3,795.4	-746.7	26.9	747.0	0.16	-0.09	-0.43	
3,950.0	17.70	171.80	3,843.0	-761.7	29.1	762.1	0.00	0.00	0.00	
4,000.0	17.22	173.34	3,890.7	-776.6	31.1	777.0	1.33	-0.95	3.09	
4,050.0	16.70	175.20	3,938.5	-791.1	32.5	791.6	1.51	-1.05	3.71	
4,100.0	16.70	175.25	3,986.4	-805.5	33.7	805.9	0.03	0.00	0.11	
4,150.0	16.72	175.38	4,034.3	-819.8	34.9	820.3	0.09	0.04	0.26	
4,200.0	16.88	175.96	4,082.2	-834.2	36.0	834.7	0.46	0.31	1.16	
4,250.0	17.05	176.72	4,130.0	-848.7	37.0	849.2	0.56	0.34	1.50	
4,300.0	17.26	178.01	4,177.8	-863.5	37.6	864.0	0.88	0.43	2.59	
4,350.0	17.34	179.55	4,225.5	-878.4	38.0	878.9	0.93	0.14	3.08	
4,400.0	17.18	181.56	4,273.3	-893.2	37.8	893.7	1.23	-0.31	4.02	
4,450.0	16.76	183.06	4,321.1	-907.9	37.2	908.4	1.21	-0.84	3.00	
4,500.0	15.99	183.94	4,369.0	-921.9	36.3	922.4	1.62	-1.54	1.76	
4,550.0	15.23	184.02	4,417.2	-935.3	35.4	935.8	1.52	-1.52	0.15	
4,600.0	14.48	183.53	4,465.5	-948.1	34.5	948.6	1.53	-1.51	-0.98	
4,650.0	13.18	182.78	4,514.0	-960.1	33.9	960.6	2.62	-2.59	-1.49	
4,700.0	11.72	181.79	4,562.9	-970.9	33.4	971.3	2.96	-2.93	-1.98	
4,750.0	11.15	181.37	4,611.9	-980.8	33.1	981.2	1.14	-1.13	-0.84	
4,800.0	10.67	181.01	4,661.0	-990.2	33.0	990.7	0.98	-0.97	-0.72	
4,850.0	10.19	181.16	4,710.2	-999.3	32.8	999.7	0.96	-0.96	0.31	
4,900.0	9.60	181.19	4,759.4	-1,007.9	32.6	1,008.3	1.19	-1.19	0.06	
4,950.0	8.47	180.49	4,808.8	-1,015.8	32.5	1,016.2	2.27	-2.26	-1.40	
5,000.0	7.25	180.10	4,858.3	-1,022.6	32.5	1,023.0	2.43	-2.43	-0.77	
5,050.0	5.86	180.95	4,908.0	-1,028.3	32.4	1,028.7	2.79	-2.78	1.68	
5,100.0	4.76	181.94	4,957.8	-1,032.9	32.3	1,033.3	2.22	-2.21	1.99	
5,150.0	4.12	182.72	5,007.6	-1,036.8	32.1	1,037.2	1.28	-1.28	1.55	
5,200.0	3.42	185.00	5,057.5	-1,040.0	31.9	1,040.4	1.43	-1.40	4.57	
5,250.0	2.68	190.13	5,107.4	-1,042.7	31.6	1,043.1	1.59	-1.49	10.25	

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Project:	SEC.36-T5N-R63W	MD Reference:	RKB @ 4556.0ft (KB 15')
Site:	NORTH PLATTE X-D-35HZ PAD	North Reference:	True
Well:	LATHAM F-J-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #2 Sidetrack 1		
Design:	Plan 4 sidetrack 2 (aug 12, 2012)		

Planned 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)
5,300.0	1.97	192.00	5,157.4	-1,044.7	31.2	1,045.0	1.42	-1.41	3.74
5,350.0	1.28	189.27	5,207.4	-1,046.1	30.9	1,046.4	1.39	-1.38	-5.46
5,400.0	0.90	192.29	5,257.4	-1,047.0	30.8	1,047.3	0.77	-0.76	6.04
5,450.0	0.64	202.31	5,307.4	-1,047.6	30.6	1,048.0	0.58	-0.52	20.05
5,500.0	0.44	225.59	5,357.4	-1,048.0	30.3	1,048.4	0.59	-0.40	46.56
5,550.0	0.39	266.59	5,407.4	-1,048.1	30.0	1,048.5	0.59	-0.10	82.01
5,600.0	0.30	218.93	5,457.4	-1,048.2	29.8	1,048.5	0.58	-0.19	-95.34
5,650.0	3.47	190.76	5,507.3	-1,049.4	29.5	1,049.8	6.43	6.35	-56.33
5,700.0	8.95	195.45	5,557.0	-1,054.7	28.2	1,055.0	11.00	10.96	9.37
5,750.0	13.65	199.72	5,606.0	-1,064.1	25.0	1,064.4	9.53	9.39	8.54
5,800.0	16.50	197.11	5,654.3	-1,076.5	20.9	1,076.7	5.86	5.70	-5.21
5,850.0	19.19	196.95	5,701.9	-1,091.1	16.4	1,091.2	5.38	5.38	-0.33
5,900.0	22.09	196.19	5,748.6	-1,108.0	11.4	1,108.0	5.84	5.81	-1.52
5,950.0	24.23	193.80	5,794.6	-1,127.0	6.3	1,127.0	4.67	4.28	-4.78
6,000.0	26.71	189.81	5,839.8	-1,148.0	1.9	1,147.9	6.03	4.96	-7.98
sidetrack pt									
6,050.0	28.38	193.84	5,884.1	-1,170.6	-2.8	1,170.4	5.00	3.33	8.06
6,060.0	28.72	194.59	5,892.9	-1,175.3	-4.0	1,175.0	5.00	3.47	7.54
6,100.0	31.68	192.68	5,927.5	-1,194.8	-8.7	1,194.5	7.78	7.40	-4.77
6,150.0	35.42	190.71	5,969.1	-1,221.9	-14.3	1,221.5	7.78	7.47	-3.95
6,200.0	39.18	189.07	6,008.9	-1,251.7	-19.5	1,251.2	7.78	7.52	-3.29
6,250.0	42.96	187.67	6,046.6	-1,284.2	-24.3	1,283.6	7.78	7.56	-2.79
6,300.0	46.75	186.46	6,082.0	-1,319.2	-28.6	1,318.5	7.78	7.59	-2.42
6,350.0	50.56	185.39	6,115.0	-1,356.5	-32.4	1,355.8	7.78	7.61	-2.14
6,400.0	54.38	184.43	6,145.5	-1,396.0	-35.8	1,395.2	7.78	7.63	-1.92
6,450.0	58.20	183.56	6,173.2	-1,437.5	-38.7	1,436.6	7.78	7.64	-1.74
6,500.0	62.03	182.76	6,198.1	-1,480.8	-41.1	1,479.9	7.78	7.66	-1.60
6,550.0	65.86	182.01	6,220.1	-1,525.7	-43.0	1,524.7	7.78	7.66	-1.49
6,600.0	69.69	181.31	6,239.0	-1,571.9	-44.3	1,570.9	7.78	7.67	-1.41
6,650.0	73.53	180.64	6,254.8	-1,619.4	-45.1	1,618.3	7.78	7.68	-1.34
6,700.0	77.37	180.00	6,267.3	-1,667.7	-45.4	1,666.7	7.78	7.68	-1.29
6,750.0	81.21	179.37	6,276.6	-1,716.9	-45.1	1,715.8	7.78	7.68	-1.25
6,800.0	85.05	178.76	6,282.6	-1,766.5	-44.3	1,765.5	7.78	7.68	-1.22
6,850.0	88.90	178.16	6,285.2	-1,816.4	-42.9	1,815.4	7.78	7.69	-1.21
6,864.0	89.97	177.99	6,285.4	-1,830.4	-42.5	1,829.4	7.78	7.69	-1.20
7"									
6,864.4	90.01	177.99	6,285.4	-1,830.8	-42.5	1,829.8	7.78	7.69	-1.20
6,900.0	90.01	177.99	6,285.4	-1,866.4	-41.2	1,865.4	0.00	0.00	0.00
6,950.0	90.01	177.99	6,285.4	-1,916.3	-39.5	1,915.4	0.00	0.00	0.00
7,000.0	90.01	177.99	6,285.4	-1,966.3	-37.7	1,965.4	0.00	0.00	0.00
7,050.0	90.01	177.99	6,285.4	-2,016.3	-35.9	2,015.4	0.00	0.00	0.00
7,100.0	90.01	177.99	6,285.4	-2,066.2	-34.2	2,065.3	0.00	0.00	0.00
7,150.0	90.01	177.99	6,285.4	-2,116.2	-32.4	2,115.3	0.00	0.00	0.00
7,200.0	90.01	177.99	6,285.3	-2,166.2	-30.7	2,165.3	0.00	0.00	0.00
7,250.0	90.01	177.99	6,285.3	-2,216.1	-28.9	2,215.3	0.00	0.00	0.00
7,300.0	90.01	177.99	6,285.3	-2,266.1	-27.2	2,265.3	0.00	0.00	0.00
7,350.0	90.01	177.99	6,285.3	-2,316.1	-25.4	2,315.3	0.00	0.00	0.00
7,400.0	90.01	177.99	6,285.3	-2,366.0	-23.6	2,365.3	0.00	0.00	0.00
7,450.0	90.01	177.99	6,285.3	-2,416.0	-21.9	2,415.3	0.00	0.00	0.00
7,500.0	90.01	177.99	6,285.3	-2,466.0	-20.1	2,465.3	0.00	0.00	0.00
7,550.0	90.01	177.99	6,285.3	-2,516.0	-18.4	2,515.3	0.00	0.00	0.00
7,600.0	90.01	177.99	6,285.3	-2,565.9	-16.6	2,565.3	0.00	0.00	0.00
7,650.0	90.01	177.99	6,285.3	-2,615.9	-14.8	2,615.3	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well LATHAM F-J-1HZ
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	RKB @ 4556.0ft (KB 15')
Project:	SEC.36-T5N-R63W	MD Reference:	RKB @ 4556.0ft (KB 15')
Site:	NORTH PLATTE X-D-35HZ PAD	North Reference:	True
Well:	LATHAM F-J-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #2 Sidetrack 1		
Design:	Plan 4 sidetrack 2 (aug 12, 2012)		

Planned 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)
7,700.0	90.01	177.99	6,285.3	-2,665.9	-13.1	2,665.3	0.00	0.00	0.00
7,750.0	90.01	177.99	6,285.3	-2,715.8	-11.3	2,715.2	0.00	0.00	0.00
7,800.0	90.01	177.99	6,285.3	-2,765.8	-9.6	2,765.2	0.00	0.00	0.00
7,850.0	90.01	177.99	6,285.3	-2,815.8	-7.8	2,815.2	0.00	0.00	0.00
7,900.0	90.01	177.99	6,285.3	-2,865.7	-6.1	2,865.2	0.00	0.00	0.00
7,950.0	90.01	177.99	6,285.3	-2,915.7	-4.3	2,915.2	0.00	0.00	0.00
8,000.0	90.01	177.99	6,285.3	-2,965.7	-2.5	2,965.2	0.00	0.00	0.00
8,050.0	90.01	177.99	6,285.3	-3,015.6	-0.8	3,015.2	0.00	0.00	0.00
8,100.0	90.01	177.99	6,285.3	-3,065.6	1.0	3,065.2	0.00	0.00	0.00
8,150.0	90.01	177.99	6,285.3	-3,115.6	2.7	3,115.2	0.00	0.00	0.00
8,200.0	90.01	177.99	6,285.3	-3,165.6	4.5	3,165.2	0.00	0.00	0.00
8,250.0	90.01	177.99	6,285.3	-3,215.5	6.2	3,215.2	0.00	0.00	0.00
8,300.0	90.01	177.99	6,285.2	-3,265.5	8.0	3,265.2	0.00	0.00	0.00
8,350.0	90.01	177.99	6,285.2	-3,315.5	9.8	3,315.1	0.00	0.00	0.00
8,400.0	90.01	177.99	6,285.2	-3,365.4	11.5	3,365.1	0.00	0.00	0.00
8,450.0	90.01	177.99	6,285.2	-3,415.4	13.3	3,415.1	0.00	0.00	0.00
8,500.0	90.01	177.99	6,285.2	-3,465.4	15.0	3,465.1	0.00	0.00	0.00
8,550.0	90.01	177.99	6,285.2	-3,515.3	16.8	3,515.1	0.00	0.00	0.00
8,600.0	90.01	177.99	6,285.2	-3,565.3	18.6	3,565.1	0.00	0.00	0.00
8,650.0	90.01	177.99	6,285.2	-3,615.3	20.3	3,615.1	0.00	0.00	0.00
8,700.0	90.01	177.99	6,285.2	-3,665.2	22.1	3,665.1	0.00	0.00	0.00
8,750.0	90.01	177.99	6,285.2	-3,715.2	23.8	3,715.1	0.00	0.00	0.00
8,800.0	90.01	177.99	6,285.2	-3,765.2	25.6	3,765.1	0.00	0.00	0.00
8,850.0	90.01	177.99	6,285.2	-3,815.1	27.3	3,815.1	0.00	0.00	0.00
8,900.0	90.01	177.99	6,285.2	-3,865.1	29.1	3,865.1	0.00	0.00	0.00
8,950.0	90.01	177.99	6,285.2	-3,915.1	30.9	3,915.0	0.00	0.00	0.00
9,000.0	90.01	177.99	6,285.2	-3,965.1	32.6	3,965.0	0.00	0.00	0.00
9,050.0	90.01	177.99	6,285.2	-4,015.0	34.4	4,015.0	0.00	0.00	0.00
9,100.0	90.01	177.99	6,285.2	-4,065.0	36.1	4,065.0	0.00	0.00	0.00
9,150.0	90.01	177.99	6,285.2	-4,115.0	37.9	4,115.0	0.00	0.00	0.00
9,200.0	90.01	177.99	6,285.2	-4,164.9	39.6	4,165.0	0.00	0.00	0.00
9,250.0	90.01	177.99	6,285.2	-4,214.9	41.4	4,215.0	0.00	0.00	0.00
9,300.0	90.01	177.99	6,285.2	-4,264.9	43.2	4,265.0	0.00	0.00	0.00
9,350.0	90.01	177.99	6,285.1	-4,314.8	44.9	4,315.0	0.00	0.00	0.00
9,400.0	90.01	177.99	6,285.1	-4,364.8	46.7	4,365.0	0.00	0.00	0.00
9,450.0	90.01	177.99	6,285.1	-4,414.8	48.4	4,415.0	0.00	0.00	0.00
9,500.0	90.01	177.99	6,285.1	-4,464.7	50.2	4,465.0	0.00	0.00	0.00
9,550.0	90.01	177.99	6,285.1	-4,514.7	52.0	4,514.9	0.00	0.00	0.00
9,600.0	90.01	177.99	6,285.1	-4,564.7	53.7	4,564.9	0.00	0.00	0.00
9,650.0	90.01	177.99	6,285.1	-4,614.7	55.5	4,614.9	0.00	0.00	0.00
9,700.0	90.01	177.99	6,285.1	-4,664.6	57.2	4,664.9	0.00	0.00	0.00
9,750.0	90.01	177.99	6,285.1	-4,714.6	59.0	4,714.9	0.00	0.00	0.00
9,800.0	90.01	177.99	6,285.1	-4,764.6	60.7	4,764.9	0.00	0.00	0.00
9,850.0	90.01	177.99	6,285.1	-4,814.5	62.5	4,814.9	0.00	0.00	0.00
9,900.0	90.01	177.99	6,285.1	-4,864.5	64.3	4,864.9	0.00	0.00	0.00
9,950.0	90.01	177.99	6,285.1	-4,914.5	66.0	4,914.9	0.00	0.00	0.00
10,000.0	90.01	177.99	6,285.1	-4,964.4	67.8	4,964.9	0.00	0.00	0.00
10,050.0	90.01	177.99	6,285.1	-5,014.4	69.5	5,014.9	0.00	0.00	0.00
10,100.0	90.01	177.99	6,285.1	-5,064.4	71.3	5,064.9	0.00	0.00	0.00
10,150.0	90.01	177.99	6,285.1	-5,114.3	73.0	5,114.8	0.00	0.00	0.00
10,200.0	90.01	177.99	6,285.1	-5,164.3	74.8	5,164.8	0.00	0.00	0.00
10,250.0	90.01	177.99	6,285.1	-5,214.3	76.6	5,214.8	0.00	0.00	0.00
10,300.0	90.01	177.99	6,285.1	-5,264.3	78.3	5,264.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well LATHAM F-J-1HZ
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	RKB @ 4556.0ft (KB 15')
Project:	SEC.36-T5N-R63W	MD Reference:	RKB @ 4556.0ft (KB 15')
Site:	NORTH PLATTE X-D-35HZ PAD	North Reference:	True
Well:	LATHAM F-J-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #2 Sidetrack 1		
Design:	Plan 4 sidetrack 2 (aug 12, 2012)		

Planned 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)
10,350.0	90.01	177.99	6,285.1	-5,314.2	80.1	5,314.8	0.00	0.00	0.00
10,400.0	90.01	177.99	6,285.0	-5,364.2	81.8	5,364.8	0.00	0.00	0.00
10,450.0	90.01	177.99	6,285.0	-5,414.2	83.6	5,414.8	0.00	0.00	0.00
10,500.0	90.01	177.99	6,285.0	-5,464.1	85.4	5,464.8	0.00	0.00	0.00
10,550.0	90.01	177.99	6,285.0	-5,514.1	87.1	5,514.8	0.00	0.00	0.00
10,600.0	90.01	177.99	6,285.0	-5,564.1	88.9	5,564.8	0.00	0.00	0.00
10,650.0	90.01	177.99	6,285.0	-5,614.0	90.6	5,614.8	0.00	0.00	0.00
10,700.0	90.01	177.99	6,285.0	-5,664.0	92.4	5,664.8	0.00	0.00	0.00
10,750.0	90.01	177.99	6,285.0	-5,714.0	94.1	5,714.7	0.00	0.00	0.00
10,800.0	90.01	177.99	6,285.0	-5,763.9	95.9	5,764.7	0.00	0.00	0.00
10,850.0	90.01	177.99	6,285.0	-5,813.9	97.7	5,814.7	0.00	0.00	0.00
10,900.0	90.01	177.99	6,285.0	-5,863.9	99.4	5,864.7	0.00	0.00	0.00
10,927.0	90.01	177.99	6,285.0	-5,890.9	100.4	5,891.7	0.00	0.00	0.00

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
T1 460'FNL & 1650'F	0.00	0.00	6,285.0	-1,519.2	39.0	1,371,451.24	3,309,362.88	40.347720	-104.390050
- plan misses target center by 103.3ft at 6566.3ft MD (6226.6 TVD, -1540.6 N, -43.5 E)									
- Point									
BHL 460'FSL & 1650'I	0.00	0.00	6,285.0	-5,890.9	100.4	1,367,080.84	3,309,478.93	40.335720	-104.389830
- plan hits target center									
- Point									
HARDLINE 460'FNL	0.00	0.00	1.0	-1,520.0	-500.0	1,371,443.66	3,308,823.94	40.347718	-104.391984
- plan misses target center by 1600.1ft at 0.6ft MD (0.6 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			1.0	0.0	0.0	1,371,443.66	3,308,823.94		
Point 2			1.0	0.0	1,000.0	1,371,456.17	3,309,823.81		
Point 3			1.0	0.0	0.0	1,371,443.66	3,308,823.94		
HARDLINE 460'FSL	0.00	0.00	1.0	-5,890.0	-500.0	1,367,074.19	3,308,878.63	40.335722	-104.391983
- plan misses target center by 5911.2ft at 2.7ft MD (2.7 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			1.0	0.0	0.0	1,367,074.19	3,308,878.63		
Point 2			1.0	0.0	1,000.0	1,367,086.70	3,309,878.50		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,864.0	6,285.4	7"	7	8-3/4

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates	Comment
+N/-S (ft)	+E/-W (ft)		
6,000.0	5,839.8	-1,148.0	1.9
			sidetrack pt



Directional

BONANZA CREEK ENERGY OPERATING

SEC.36-T5N-R63W

NORTH PLATTE X-D-35HZ PAD SEC.36-5N-63W

LATHAM F-J-1HZ

Wellbore #2 Sidetrack 1

Plan 4 sidetrack 2 (aug 12, 2012)

Anticollision Report

12 August, 2012

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well LATHAM F-J-1HZ
Project:	SEC.36-T5N-R63W	TVD Reference:	RKB @ 4556.0ft (KB 15')
Reference Site:	NORTH PLATTE X-D-35HZ PAD SEC.36-5N-63W	MD Reference:	RKB @ 4556.0ft (KB 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LATHAM F-J-1HZ	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #2 Sidetrack 1	Database:	Landmark
Reference Design:	Plan 4 sidetrack 2 (aug 12, 2012)	Offset TVD Reference:	Offset Datum

Offset Design NORTH PLATTE X-D-35HZ PAD SEC.36-5N-63W - LATHAM F-J-1HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 133-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
6,000.0	5,839.8	5,991.0	5,848.3	23.4	22.0	-174.22	-1,049.2	28.7	102.7	73.7	29.03	3.538	CC, ES	
6,055.1	5,888.4	6,053.6	5,910.3	23.8	22.2	-176.02	-1,057.8	28.8	122.0	93.1	28.89	4.221		
6,100.0	5,927.5	6,107.1	5,962.4	24.2	22.4	-176.24	-1,069.7	28.1	135.0	106.1	28.92	4.668		
6,200.0	6,008.9	6,271.1	6,104.7	25.2	23.8	-168.99	-1,145.7	26.4	150.1	120.6	29.43	5.099		
6,288.7	6,074.2	6,373.1	6,175.9	26.2	25.0	-161.89	-1,218.6	29.9	149.0	118.3	30.69	4.856		
6,300.0	6,082.0	6,386.1	6,184.4	26.3	25.1	-161.04	-1,228.4	30.4	149.0	118.1	30.89	4.824		
6,400.0	6,145.5	6,510.7	6,256.7	27.7	26.8	-153.34	-1,329.4	36.0	148.2	114.5	33.71	4.397	SF	
6,500.0	6,198.1	6,624.9	6,307.0	29.1	28.6	-146.79	-1,431.8	40.5	144.6	107.3	37.35	3.872		
6,600.0	6,239.0	6,752.4	6,340.3	30.7	30.7	-138.38	-1,554.4	46.6	137.2	93.4	43.74	3.136		
6,696.2	6,266.5	6,844.0	6,346.6	32.3	32.2	-131.64	-1,645.7	47.1	123.7	74.0	49.71	2.489		
6,700.0	6,267.3	6,844.0	6,346.6	32.4	32.2	-131.62	-1,645.7	47.1	123.8	74.0	49.75	2.488		
6,800.0	6,282.6	6,844.0	6,346.6	34.1	32.2	-128.22	-1,645.7	47.1	164.4	111.5	52.91	3.107		
6,900.0	6,285.4	6,844.0	6,346.6	35.9	32.2	-122.52	-1,645.7	47.1	245.4	187.5	57.89	4.239		
7,000.0	6,285.4	6,844.0	6,346.6	37.6	32.2	-122.52	-1,645.7	47.1	337.2	277.8	59.41	5.676		
7,100.0	6,285.4	6,844.0	6,346.6	39.4	32.2	-122.52	-1,645.7	47.1	432.6	371.7	60.94	7.099		

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well LATHAM F-J-1HZ
Project:	SEC.36-T5N-R63W	TVD Reference:	RKB @ 4556.0ft (KB 15')
Reference Site:	NORTH PLATTE X-D-35HZ PAD SEC.36-5N-63W	MD Reference:	RKB @ 4556.0ft (KB 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LATHAM F-J-1HZ	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #2 Sidetrack 1	Database:	Landmark
Reference Design:	Plan 4 sidetrack 2 (aug 12, 2012)	Offset TVD Reference:	Offset Datum

Offset Design NORTH PLATTE X-D-35HZ PAD SEC.36-5N-63W - LATHAM F-J-1HZ - Wellbore #2 Sidetrack 1 - Well												Offset Site Error:	0.0 ft
Survey Program: 133-MWD, 227-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,000.0	5,839.8	6,000.0	5,839.8	0.0	0.0	0.00	-1,148.0	1.9	0.0	0.0	0.00	0.000	Level 1, CC, SF
6,060.3	5,892.9	6,060.3	5,892.9	1.4	1.3	-87.24	-1,176.3	-2.1	1.3	-0.7	2.05	0.646	Level 1, ES
6,100.0	5,927.5	6,099.7	5,926.7	2.3	1.7	-80.42	-1,196.4	-4.2	4.9	1.4	3.51	1.388	Level 3
6,200.0	6,008.9	6,198.8	6,008.0	3.5	2.4	-90.92	-1,252.9	-6.0	13.6	9.1	4.57	2.981	
6,300.0	6,082.0	6,297.6	6,082.6	4.5	3.2	-98.29	-1,317.6	-5.5	23.2	17.1	6.09	3.803	
6,400.0	6,145.5	6,396.8	6,150.0	5.6	4.3	-104.18	-1,390.3	-1.6	34.9	26.8	8.16	4.281	
6,500.0	6,198.1	6,498.2	6,209.1	6.8	5.7	-108.46	-1,472.4	3.0	46.2	35.6	10.67	4.332	
6,600.0	6,239.0	6,599.1	6,255.4	8.1	7.2	-110.87	-1,561.8	6.6	54.4	40.9	13.51	4.031	
6,700.0	6,267.3	6,703.0	6,289.4	9.5	8.9	-112.03	-1,659.7	12.3	62.2	45.6	16.64	3.741	
6,800.0	6,282.6	6,810.1	6,304.2	11.1	10.8	-109.98	-1,765.6	14.7	62.8	42.6	20.27	3.099	
6,820.7	6,284.2	6,831.4	6,304.9	11.4	11.1	-109.38	-1,786.9	14.7	62.0	41.0	21.04	2.948	
6,900.0	6,285.4	6,844.0	6,305.3	12.7	11.3	-108.88	-1,799.4	14.6	89.4	66.7	22.65	3.946	
7,000.0	6,285.4	6,844.0	6,305.3	14.4	11.3	-108.88	-1,799.4	14.6	176.0	151.6	24.34	7.232	
7,100.0	6,285.4	6,844.0	6,305.3	16.1	11.3	-108.88	-1,799.4	14.6	271.9	245.9	26.03	10.445	
7,200.0	6,285.3	6,844.0	6,305.3	17.9	11.3	-108.88	-1,799.4	14.6	370.1	342.3	27.75	13.336	
7,300.0	6,285.3	6,844.0	6,305.3	19.7	11.3	-108.88	-1,799.4	14.6	469.0	439.5	29.47	15.912	

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well LATHAM F-J-1HZ
Project:	SEC.36-T5N-R63W	TVD Reference:	RKB @ 4556.0ft (KB 15')
Reference Site:	NORTH PLATTE X-D-35HZ PAD SEC.36-5N-63W	MD Reference:	RKB @ 4556.0ft (KB 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LATHAM F-J-1HZ	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #2 Sidetrack 1	Database:	Landmark
Reference Design:	Plan 4 sidetrack 2 (aug 12, 2012)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 4556.0ft (KB 15')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: LATHAM F-J-1HZ
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.72°



Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well LATHAM F-J-1HZ
Project:	SEC.36-T5N-R63W	TVD Reference:	RKB @ 4556.0ft (KB 15')
Reference Site:	NORTH PLATTE X-D-35HZ PAD SEC.36-5N-63W	MD Reference:	RKB @ 4556.0ft (KB 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	LATHAM F-J-1HZ	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #2 Sidetrack 1	Database:	Landmark
Reference Design:	Plan 4 sidetrack 2 (aug 12, 2012)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 4556.0ft (KB 15')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

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