

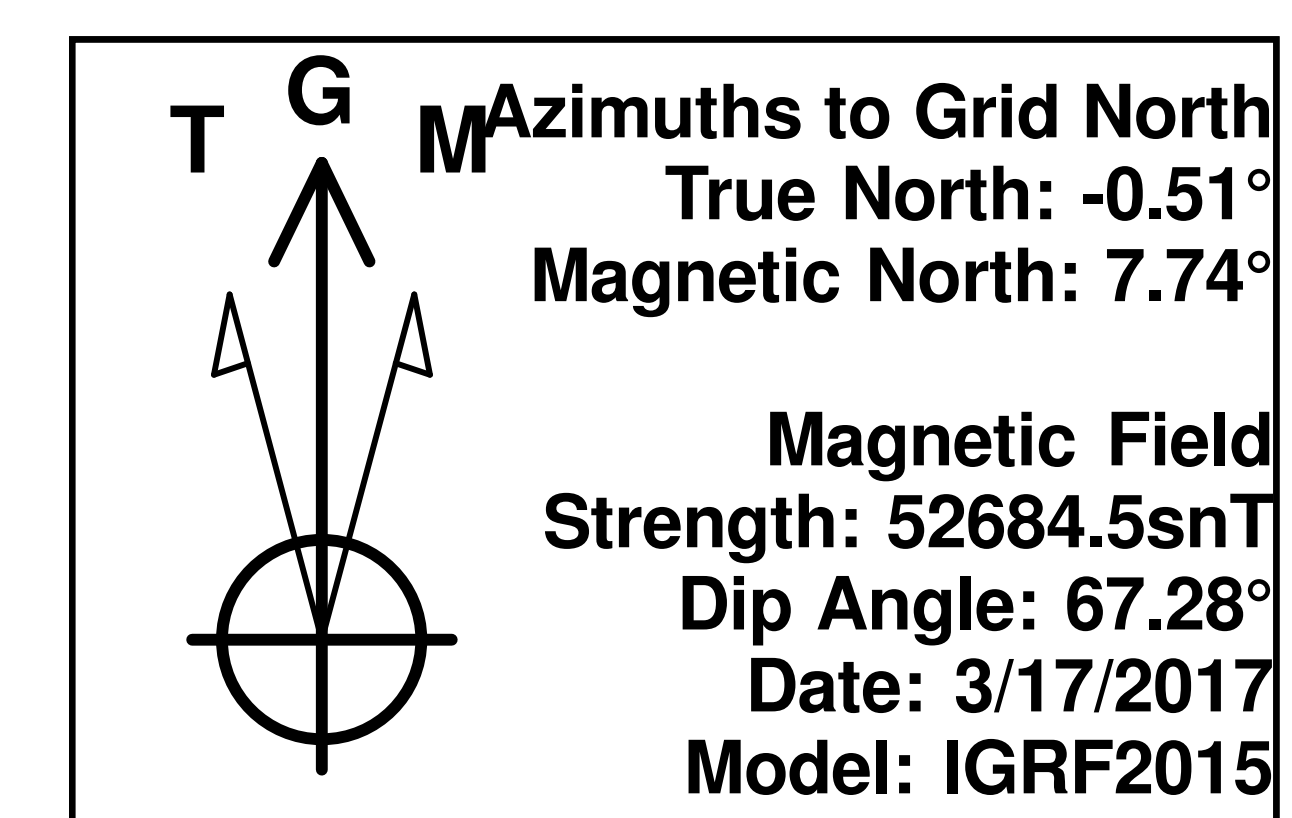
Longs Peak Resources
Project: Weld County, Co (NAD 83)
Site: Jaco West Pad
Well: Jaco West 1807-1NH
Wellbore: Wellbore #1



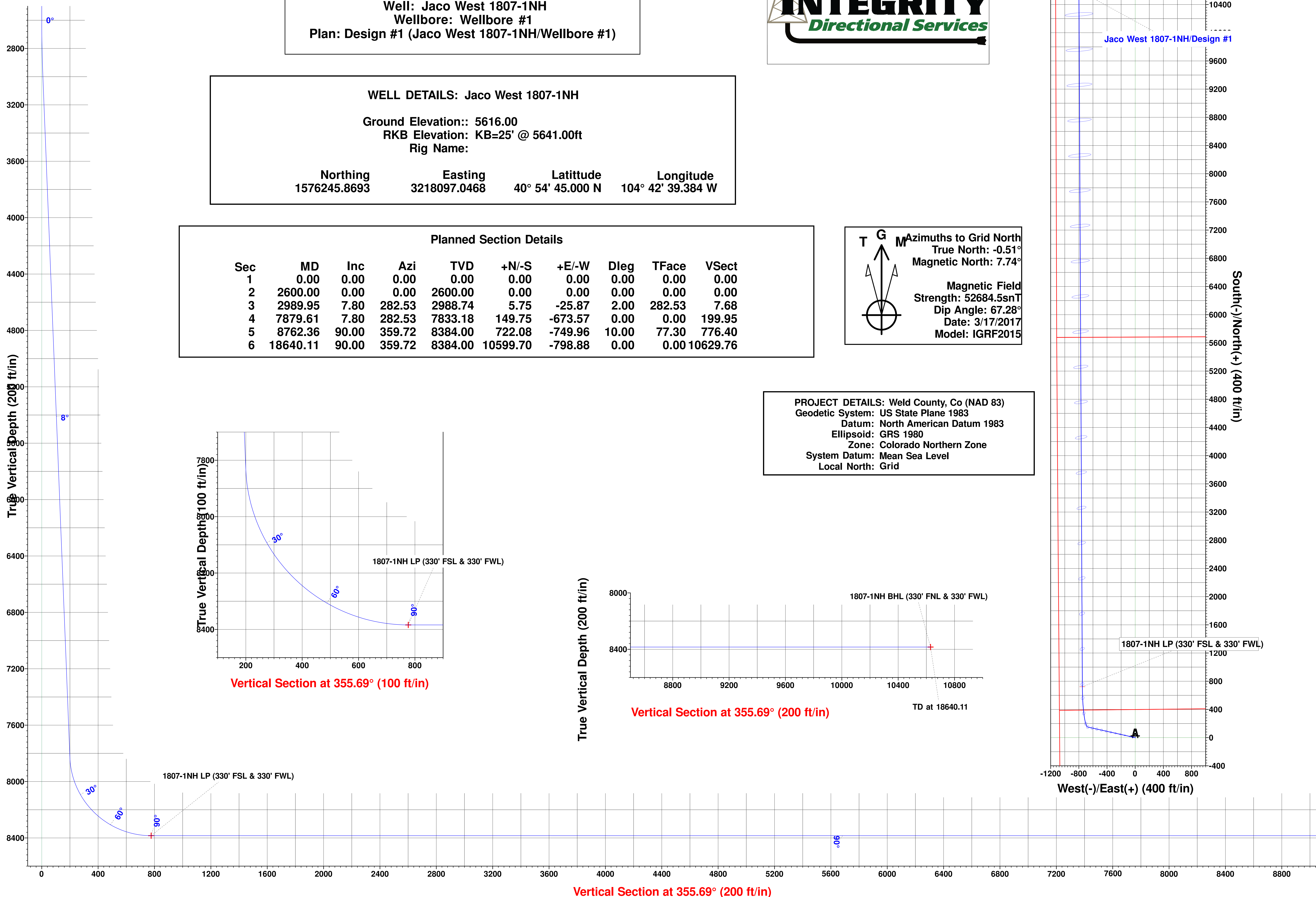
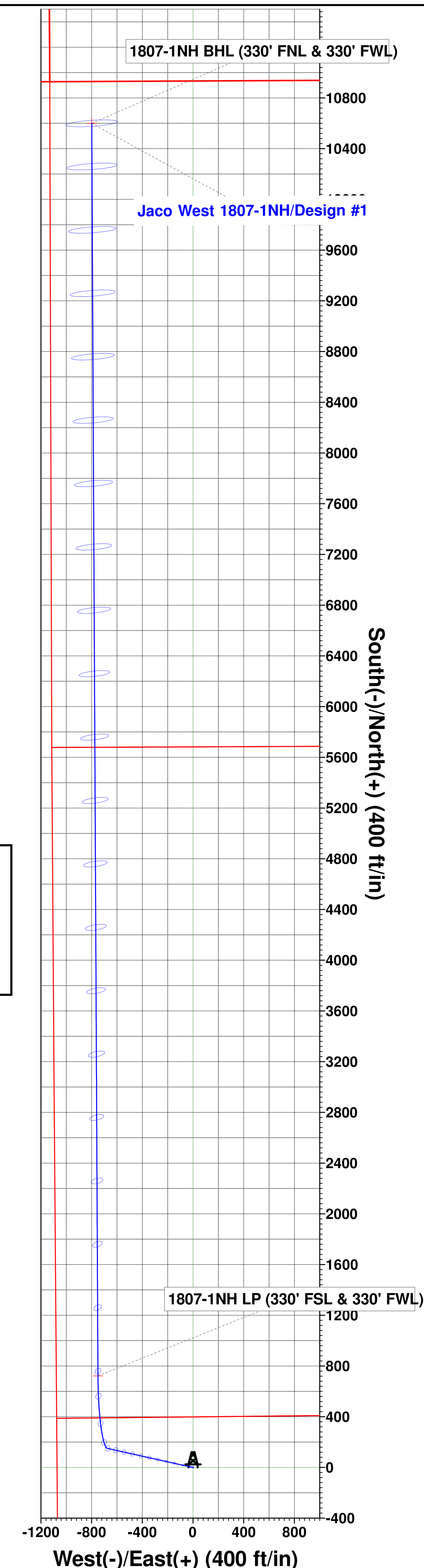
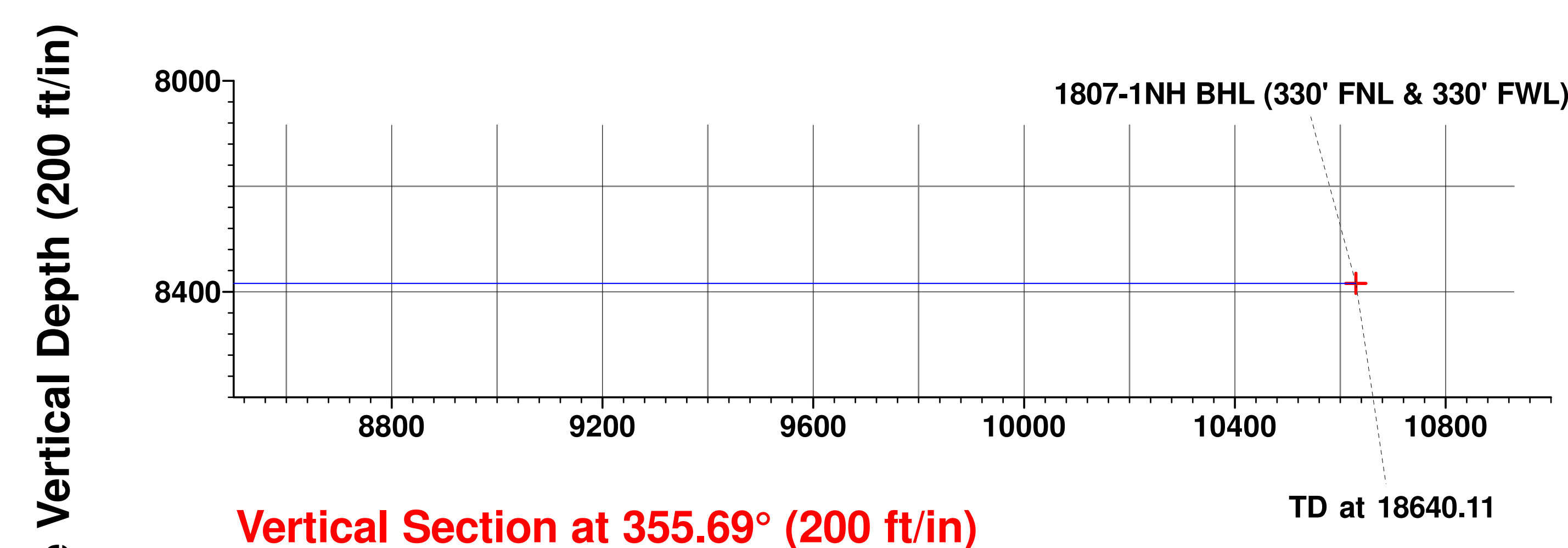
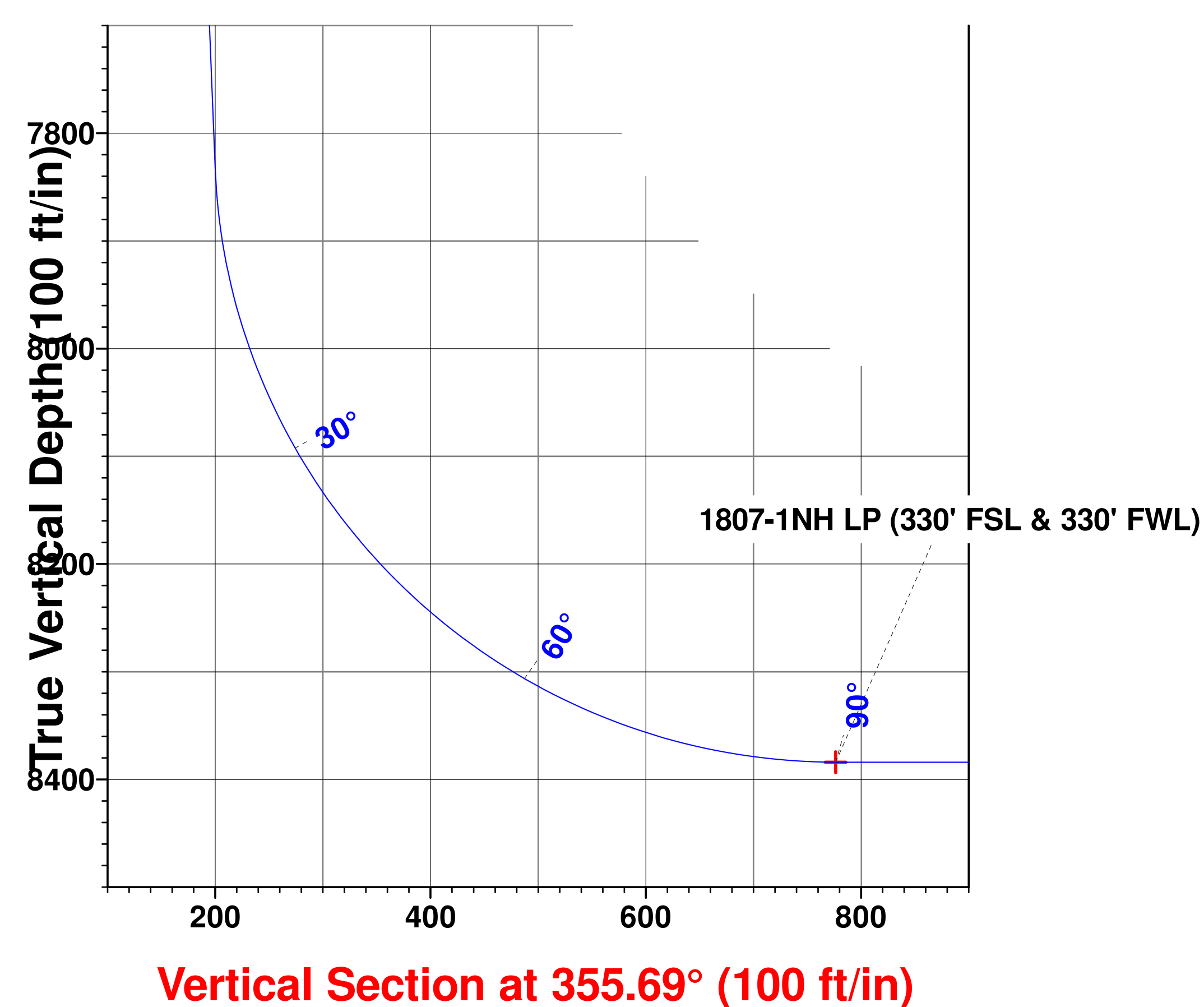
Ground Elevation:: 5616.00
RKB Elevation: KB=25' @ 5641.00ft
Rig Name:

Northings	Easting	Latitude	Longitude
1576245.8693	3218097.0468	40° 54' 45.000 N	104° 42' 39.384 W

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	0.00
3	2989.95	7.80	282.53	2988.74	5.75	-25.87	2.00	282.53	7.68
4	7879.61	7.80	282.53	7833.18	149.75	-673.57	0.00	0.00	199.95
5	8762.36	90.00	359.72	8384.00	722.08	-749.96	10.00	77.30	776.40
6	18640.11	90.00	359.72	8384.00	10599.70	-798.88	0.00	0.00	10629.76



PROJECT DETAILS: Weld County, Co (NAD 83)
Geodetic System: US State Plane 1983
Date: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level
Local North: Grid



Longs Peak Resources

Weld County, Co (NAD 83)

Jaco West Pad

Jaco West 1807-1NH

Wellbore #1

Plan: Design #1

Standard Survey Report

17 March, 2017



Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1807-1NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5641.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5641.00ft
Well:	Jaco West 1807-1NH	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.1 Multi User Db

Project	Weld County, Co (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Jaco West Pad			
Site Position:		Northing:	1,576,245.8732 usft	Latitude:	40° 54' 45.000 N
From:	Lat/Long	Easting:	3,218,097.0468 usft	Longitude:	104° 42' 39.384 W
Position Uncertainty:		Slot Radius:	13-3/16 "	Grid Convergence:	0.51 °

Well	Jaco West 1807-1NH					
Well Position	+N/-S	0.00 ft	Northing:	1,576,245.8693 usfl	Latitude:	40° 54' 45.000 N
	+E/-W	0.00 ft	Easting:	3,218,097.0468 usfl	Longitude:	104° 42' 39.384 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	5,616.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/17/2017	8.25	67.28	52,684

Design	Design #1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	355.69	

Survey Tool Program	Date	3/17/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	18,640.11	Design #1 (Wellbore #1)	MWD	MWD - Standard	

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1807-1NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5641.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5641.00ft
Well:	Jaco West 1807-1NH	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.1 Multi User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	2.00	282.53	2,699.98	0.38	-1.70	0.51	2.00	2.00	0.00
2,800.00	4.00	282.53	2,799.84	1.51	-6.81	2.02	2.00	2.00	0.00
2,900.00	6.00	282.53	2,899.45	3.41	-15.32	4.55	2.00	2.00	0.00
2,989.95	7.80	282.53	2,988.74	5.75	-25.87	7.68	2.00	2.00	0.00
3,000.00	7.80	282.53	2,998.70	6.05	-27.20	8.07	0.00	0.00	0.00
3,100.00	7.80	282.53	3,097.78	8.99	-40.44	12.01	0.00	0.00	0.00
3,200.00	7.80	282.53	3,196.85	11.94	-53.69	15.94	0.00	0.00	0.00
3,300.00	7.80	282.53	3,295.93	14.88	-66.94	19.87	0.00	0.00	0.00
3,400.00	7.80	282.53	3,395.00	17.83	-80.18	23.80	0.00	0.00	0.00
3,500.00	7.80	282.53	3,494.08	20.77	-93.43	27.73	0.00	0.00	0.00
3,600.00	7.80	282.53	3,593.15	23.72	-106.68	31.67	0.00	0.00	0.00
3,700.00	7.80	282.53	3,692.23	26.66	-119.92	35.60	0.00	0.00	0.00
3,800.00	7.80	282.53	3,791.30	29.61	-133.17	39.53	0.00	0.00	0.00
3,900.00	7.80	282.53	3,890.38	32.55	-146.41	43.46	0.00	0.00	0.00
4,000.00	7.80	282.53	3,989.45	35.50	-159.66	47.40	0.00	0.00	0.00
4,100.00	7.80	282.53	4,088.53	38.44	-172.91	51.33	0.00	0.00	0.00
4,200.00	7.80	282.53	4,187.60	41.39	-186.15	55.26	0.00	0.00	0.00
4,300.00	7.80	282.53	4,286.68	44.33	-199.40	59.19	0.00	0.00	0.00
4,400.00	7.80	282.53	4,385.75	47.28	-212.65	63.12	0.00	0.00	0.00
4,500.00	7.80	282.53	4,484.83	50.22	-225.89	67.06	0.00	0.00	0.00
4,600.00	7.80	282.53	4,583.90	53.17	-239.14	70.99	0.00	0.00	0.00
4,700.00	7.80	282.53	4,682.98	56.11	-252.39	74.92	0.00	0.00	0.00
4,800.00	7.80	282.53	4,782.05	59.06	-265.63	78.85	0.00	0.00	0.00
4,900.00	7.80	282.53	4,881.13	62.00	-278.88	82.78	0.00	0.00	0.00
5,000.00	7.80	282.53	4,980.20	64.95	-292.12	86.72	0.00	0.00	0.00
5,100.00	7.80	282.53	5,079.28	67.89	-305.37	90.65	0.00	0.00	0.00
5,200.00	7.80	282.53	5,178.35	70.84	-318.62	94.58	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1807-1NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5641.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5641.00ft
Well:	Jaco West 1807-1NH	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.1 Multi User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.00	7.80	282.53	5,277.43	73.78	-331.86	98.51	0.00	0.00	0.00
5,400.00	7.80	282.53	5,376.51	76.73	-345.11	102.45	0.00	0.00	0.00
5,500.00	7.80	282.53	5,475.58	79.67	-358.36	106.38	0.00	0.00	0.00
5,600.00	7.80	282.53	5,574.66	82.62	-371.60	110.31	0.00	0.00	0.00
5,700.00	7.80	282.53	5,673.73	85.56	-384.85	114.24	0.00	0.00	0.00
5,800.00	7.80	282.53	5,772.81	88.51	-398.09	118.17	0.00	0.00	0.00
5,900.00	7.80	282.53	5,871.88	91.45	-411.34	122.11	0.00	0.00	0.00
6,000.00	7.80	282.53	5,970.96	94.40	-424.59	126.04	0.00	0.00	0.00
6,100.00	7.80	282.53	6,070.03	97.34	-437.83	129.97	0.00	0.00	0.00
6,200.00	7.80	282.53	6,169.11	100.29	-451.08	133.90	0.00	0.00	0.00
6,300.00	7.80	282.53	6,268.18	103.23	-464.33	137.83	0.00	0.00	0.00
6,400.00	7.80	282.53	6,367.26	106.18	-477.57	141.77	0.00	0.00	0.00
6,500.00	7.80	282.53	6,466.33	109.12	-490.82	145.70	0.00	0.00	0.00
6,600.00	7.80	282.53	6,565.41	112.07	-504.06	149.63	0.00	0.00	0.00
6,700.00	7.80	282.53	6,664.48	115.01	-517.31	153.56	0.00	0.00	0.00
6,800.00	7.80	282.53	6,763.56	117.95	-530.56	157.50	0.00	0.00	0.00
6,900.00	7.80	282.53	6,862.63	120.90	-543.80	161.43	0.00	0.00	0.00
7,000.00	7.80	282.53	6,961.71	123.84	-557.05	165.36	0.00	0.00	0.00
7,100.00	7.80	282.53	7,060.78	126.79	-570.30	169.29	0.00	0.00	0.00
7,200.00	7.80	282.53	7,159.86	129.73	-583.54	173.22	0.00	0.00	0.00
7,300.00	7.80	282.53	7,258.93	132.68	-596.79	177.16	0.00	0.00	0.00
7,400.00	7.80	282.53	7,358.01	135.62	-610.03	181.09	0.00	0.00	0.00
7,500.00	7.80	282.53	7,457.08	138.57	-623.28	185.02	0.00	0.00	0.00
7,600.00	7.80	282.53	7,556.16	141.51	-636.53	188.95	0.00	0.00	0.00
7,700.00	7.80	282.53	7,655.23	144.46	-649.77	192.88	0.00	0.00	0.00
7,800.00	7.80	282.53	7,754.31	147.40	-663.02	196.82	0.00	0.00	0.00
7,879.61	7.80	282.53	7,833.18	149.75	-673.57	199.95	0.00	0.00	0.00
7,900.00	8.48	296.14	7,853.37	150.71	-676.27	201.11	10.00	3.35	66.75
8,000.00	15.69	331.33	7,951.20	165.86	-689.41	217.21	10.00	7.21	35.19
8,100.00	24.88	342.98	8,044.94	197.93	-702.08	250.13	10.00	9.19	11.65
8,200.00	34.51	348.52	8,131.72	245.93	-713.91	298.89	10.00	9.63	5.53
8,300.00	44.29	351.85	8,208.91	308.41	-724.53	361.99	10.00	9.78	3.33
8,400.00	54.13	354.18	8,274.16	383.47	-733.62	437.52	10.00	9.84	2.33
8,500.00	64.01	355.98	8,325.49	468.83	-740.90	523.19	10.00	9.88	1.81
8,600.00	73.91	357.51	8,361.35	561.90	-746.14	616.38	10.00	9.90	1.53
8,700.00	83.82	358.89	8,380.64	659.84	-749.21	714.28	10.00	9.91	1.38
8,762.36	90.00	359.72	8,384.00	722.08	-749.96	776.40	10.00	9.91	1.33
8,800.00	90.00	359.72	8,384.00	759.72	-750.15	813.94	0.00	0.00	0.00
8,900.00	90.00	359.72	8,384.00	859.71	-750.64	913.70	0.00	0.00	0.00
9,000.00	90.00	359.72	8,384.00	959.71	-751.14	1,013.45	0.00	0.00	0.00
9,100.00	90.00	359.72	8,384.00	1,059.71	-751.64	1,113.20	0.00	0.00	0.00
9,200.00	90.00	359.72	8,384.00	1,159.71	-752.13	1,212.96	0.00	0.00	0.00
9,300.00	90.00	359.72	8,384.00	1,259.71	-752.63	1,312.71	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1807-1NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5641.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5641.00ft
Well:	Jaco West 1807-1NH	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.1 Multi User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,400.00	90.00	359.72	8,384.00	1,359.71	-753.12	1,412.46	0.00	0.00	0.00
9,500.00	90.00	359.72	8,384.00	1,459.71	-753.62	1,512.22	0.00	0.00	0.00
9,600.00	90.00	359.72	8,384.00	1,559.71	-754.11	1,611.97	0.00	0.00	0.00
9,700.00	90.00	359.72	8,384.00	1,659.70	-754.61	1,711.72	0.00	0.00	0.00
9,800.00	90.00	359.72	8,384.00	1,759.70	-755.10	1,811.48	0.00	0.00	0.00
9,900.00	90.00	359.72	8,384.00	1,859.70	-755.60	1,911.23	0.00	0.00	0.00
10,000.00	90.00	359.72	8,384.00	1,959.70	-756.09	2,010.98	0.00	0.00	0.00
10,100.00	90.00	359.72	8,384.00	2,059.70	-756.59	2,110.74	0.00	0.00	0.00
10,200.00	90.00	359.72	8,384.00	2,159.70	-757.08	2,210.49	0.00	0.00	0.00
10,300.00	90.00	359.72	8,384.00	2,259.70	-757.58	2,310.24	0.00	0.00	0.00
10,400.00	90.00	359.72	8,384.00	2,359.70	-758.07	2,410.00	0.00	0.00	0.00
10,500.00	90.00	359.72	8,384.00	2,459.69	-758.57	2,509.75	0.00	0.00	0.00
10,600.00	90.00	359.72	8,384.00	2,559.69	-759.06	2,609.50	0.00	0.00	0.00
10,700.00	90.00	359.72	8,384.00	2,659.69	-759.56	2,709.25	0.00	0.00	0.00
10,800.00	90.00	359.72	8,384.00	2,759.69	-760.05	2,809.01	0.00	0.00	0.00
10,900.00	90.00	359.72	8,384.00	2,859.69	-760.55	2,908.76	0.00	0.00	0.00
11,000.00	90.00	359.72	8,384.00	2,959.69	-761.04	3,008.51	0.00	0.00	0.00
11,100.00	90.00	359.72	8,384.00	3,059.69	-761.54	3,108.27	0.00	0.00	0.00
11,200.00	90.00	359.72	8,384.00	3,159.69	-762.03	3,208.02	0.00	0.00	0.00
11,300.00	90.00	359.72	8,384.00	3,259.68	-762.53	3,307.77	0.00	0.00	0.00
11,400.00	90.00	359.72	8,384.00	3,359.68	-763.02	3,407.53	0.00	0.00	0.00
11,500.00	90.00	359.72	8,384.00	3,459.68	-763.52	3,507.28	0.00	0.00	0.00
11,600.00	90.00	359.72	8,384.00	3,559.68	-764.02	3,607.03	0.00	0.00	0.00
11,700.00	90.00	359.72	8,384.00	3,659.68	-764.51	3,706.79	0.00	0.00	0.00
11,800.00	90.00	359.72	8,384.00	3,759.68	-765.01	3,806.54	0.00	0.00	0.00
11,900.00	90.00	359.72	8,384.00	3,859.68	-765.50	3,906.29	0.00	0.00	0.00
12,000.00	90.00	359.72	8,384.00	3,959.68	-766.00	4,006.05	0.00	0.00	0.00
12,100.00	90.00	359.72	8,384.00	4,059.67	-766.49	4,105.80	0.00	0.00	0.00
12,200.00	90.00	359.72	8,384.00	4,159.67	-766.99	4,205.55	0.00	0.00	0.00
12,300.00	90.00	359.72	8,384.00	4,259.67	-767.48	4,305.31	0.00	0.00	0.00
12,400.00	90.00	359.72	8,384.00	4,359.67	-767.98	4,405.06	0.00	0.00	0.00
12,500.00	90.00	359.72	8,384.00	4,459.67	-768.47	4,504.81	0.00	0.00	0.00
12,600.00	90.00	359.72	8,384.00	4,559.67	-768.97	4,604.57	0.00	0.00	0.00
12,700.00	90.00	359.72	8,384.00	4,659.67	-769.46	4,704.32	0.00	0.00	0.00
12,800.00	90.00	359.72	8,384.00	4,759.67	-769.96	4,804.07	0.00	0.00	0.00
12,900.00	90.00	359.72	8,384.00	4,859.67	-770.45	4,903.82	0.00	0.00	0.00
13,000.00	90.00	359.72	8,384.00	4,959.66	-770.95	5,003.58	0.00	0.00	0.00
13,100.00	90.00	359.72	8,384.00	5,059.66	-771.44	5,103.33	0.00	0.00	0.00
13,200.00	90.00	359.72	8,384.00	5,159.66	-771.94	5,203.08	0.00	0.00	0.00
13,300.00	90.00	359.72	8,384.00	5,259.66	-772.43	5,302.84	0.00	0.00	0.00
13,400.00	90.00	359.72	8,384.00	5,359.66	-772.93	5,402.59	0.00	0.00	0.00
13,500.00	90.00	359.72	8,384.00	5,459.66	-773.42	5,502.34	0.00	0.00	0.00
13,600.00	90.00	359.72	8,384.00	5,559.66	-773.92	5,602.10	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1807-1NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5641.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5641.00ft
Well:	Jaco West 1807-1NH	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.1 Multi User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,700.00	90.00	359.72	8,384.00	5,659.66	-774.41	5,701.85	0.00	0.00	0.00
13,800.00	90.00	359.72	8,384.00	5,759.65	-774.91	5,801.60	0.00	0.00	0.00
13,900.00	90.00	359.72	8,384.00	5,859.65	-775.41	5,901.36	0.00	0.00	0.00
14,000.00	90.00	359.72	8,384.00	5,959.65	-775.90	6,001.11	0.00	0.00	0.00
14,100.00	90.00	359.72	8,384.00	6,059.65	-776.40	6,100.86	0.00	0.00	0.00
14,200.00	90.00	359.72	8,384.00	6,159.65	-776.89	6,200.62	0.00	0.00	0.00
14,300.00	90.00	359.72	8,384.00	6,259.65	-777.39	6,300.37	0.00	0.00	0.00
14,400.00	90.00	359.72	8,384.00	6,359.65	-777.88	6,400.12	0.00	0.00	0.00
14,500.00	90.00	359.72	8,384.00	6,459.65	-778.38	6,499.88	0.00	0.00	0.00
14,600.00	90.00	359.72	8,384.00	6,559.64	-778.87	6,599.63	0.00	0.00	0.00
14,700.00	90.00	359.72	8,384.00	6,659.64	-779.37	6,699.38	0.00	0.00	0.00
14,800.00	90.00	359.72	8,384.00	6,759.64	-779.86	6,799.14	0.00	0.00	0.00
14,900.00	90.00	359.72	8,384.00	6,859.64	-780.36	6,898.89	0.00	0.00	0.00
15,000.00	90.00	359.72	8,384.00	6,959.64	-780.85	6,998.64	0.00	0.00	0.00
15,100.00	90.00	359.72	8,384.00	7,059.64	-781.35	7,098.39	0.00	0.00	0.00
15,200.00	90.00	359.72	8,384.00	7,159.64	-781.84	7,198.15	0.00	0.00	0.00
15,300.00	90.00	359.72	8,384.00	7,259.64	-782.34	7,297.90	0.00	0.00	0.00
15,400.00	90.00	359.72	8,384.00	7,359.63	-782.83	7,397.65	0.00	0.00	0.00
15,500.00	90.00	359.72	8,384.00	7,459.63	-783.33	7,497.41	0.00	0.00	0.00
15,600.00	90.00	359.72	8,384.00	7,559.63	-783.82	7,597.16	0.00	0.00	0.00
15,700.00	90.00	359.72	8,384.00	7,659.63	-784.32	7,696.91	0.00	0.00	0.00
15,800.00	90.00	359.72	8,384.00	7,759.63	-784.81	7,796.67	0.00	0.00	0.00
15,900.00	90.00	359.72	8,384.00	7,859.63	-785.31	7,896.42	0.00	0.00	0.00
16,000.00	90.00	359.72	8,384.00	7,959.63	-785.80	7,996.17	0.00	0.00	0.00
16,100.00	90.00	359.72	8,384.00	8,059.63	-786.30	8,095.93	0.00	0.00	0.00
16,200.00	90.00	359.72	8,384.00	8,159.62	-786.80	8,195.68	0.00	0.00	0.00
16,300.00	90.00	359.72	8,384.00	8,259.62	-787.29	8,295.43	0.00	0.00	0.00
16,400.00	90.00	359.72	8,384.00	8,359.62	-787.79	8,395.19	0.00	0.00	0.00
16,500.00	90.00	359.72	8,384.00	8,459.62	-788.28	8,494.94	0.00	0.00	0.00
16,600.00	90.00	359.72	8,384.00	8,559.62	-788.78	8,594.69	0.00	0.00	0.00
16,700.00	90.00	359.72	8,384.00	8,659.62	-789.27	8,694.45	0.00	0.00	0.00
16,800.00	90.00	359.72	8,384.00	8,759.62	-789.77	8,794.20	0.00	0.00	0.00
16,900.00	90.00	359.72	8,384.00	8,859.62	-790.26	8,893.95	0.00	0.00	0.00
17,000.00	90.00	359.72	8,384.00	8,959.61	-790.76	8,993.71	0.00	0.00	0.00
17,100.00	90.00	359.72	8,384.00	9,059.61	-791.25	9,093.46	0.00	0.00	0.00
17,200.00	90.00	359.72	8,384.00	9,159.61	-791.75	9,193.21	0.00	0.00	0.00
17,300.00	90.00	359.72	8,384.00	9,259.61	-792.24	9,292.96	0.00	0.00	0.00
17,400.00	90.00	359.72	8,384.00	9,359.61	-792.74	9,392.72	0.00	0.00	0.00
17,500.00	90.00	359.72	8,384.00	9,459.61	-793.23	9,492.47	0.00	0.00	0.00
17,600.00	90.00	359.72	8,384.00	9,559.61	-793.73	9,592.22	0.00	0.00	0.00
17,700.00	90.00	359.72	8,384.00	9,659.61	-794.22	9,691.98	0.00	0.00	0.00
17,800.00	90.00	359.72	8,384.00	9,759.61	-794.72	9,791.73	0.00	0.00	0.00
17,900.00	90.00	359.72	8,384.00	9,859.60	-795.21	9,891.48	0.00	0.00	0.00
18,000.00	90.00	359.72	8,384.00	9,959.60	-795.71	9,991.24	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1807-1NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5641.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5641.00ft
Well:	Jaco West 1807-1NH	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.1 Multi User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
18,100.00	90.00	359.72	8,384.00	10,059.60	-796.20	10,090.99	0.00	0.00	0.00
18,200.00	90.00	359.72	8,384.00	10,159.60	-796.70	10,190.74	0.00	0.00	0.00
18,300.00	90.00	359.72	8,384.00	10,259.60	-797.19	10,290.50	0.00	0.00	0.00
18,400.00	90.00	359.72	8,384.00	10,359.60	-797.69	10,390.25	0.00	0.00	0.00
18,500.00	90.00	359.72	8,384.00	10,459.60	-798.18	10,490.00	0.00	0.00	0.00
18,600.00	90.00	359.72	8,384.00	10,559.60	-798.68	10,589.76	0.00	0.00	0.00
18,640.11	90.00	359.72	8,384.00	10,599.70	-798.88	10,629.77	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
1807-1NH LP (330' F) - plan hits target center - Point	0.00	0.00	8,384.00	722.08	-749.96	1,576,967.944 8	3,217,347.085 3	40° 54' 52.200 N	104° 42' 49.068 W
1807-1NH BHL (330' I) - plan hits target center - Point	0.00	0.00	8,384.00	10,599.70	-798.88	1,586,845.550 6	3,217,298.169 6	40° 56' 29.796 N	104° 42' 48.564 W

Checked By: _____ Approved By: _____ Date: _____