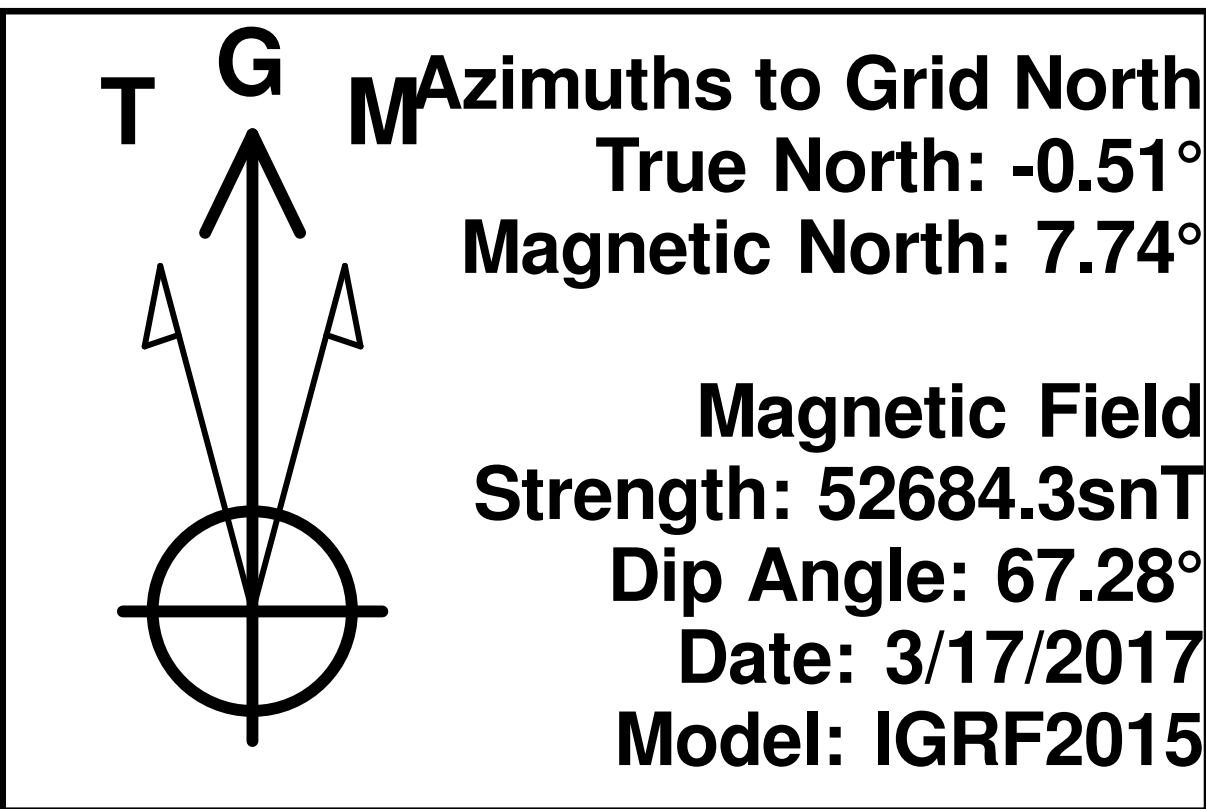


Longs Peak Resources
Project: Weld County, Co (NAD 83)
Site: Jaco West Pad
Well: Jaco West 1930-3NH
Wellbore: Wellbore #1
Plan: Design #1 (Jaco West 1930-3NH/Wellbore #1)

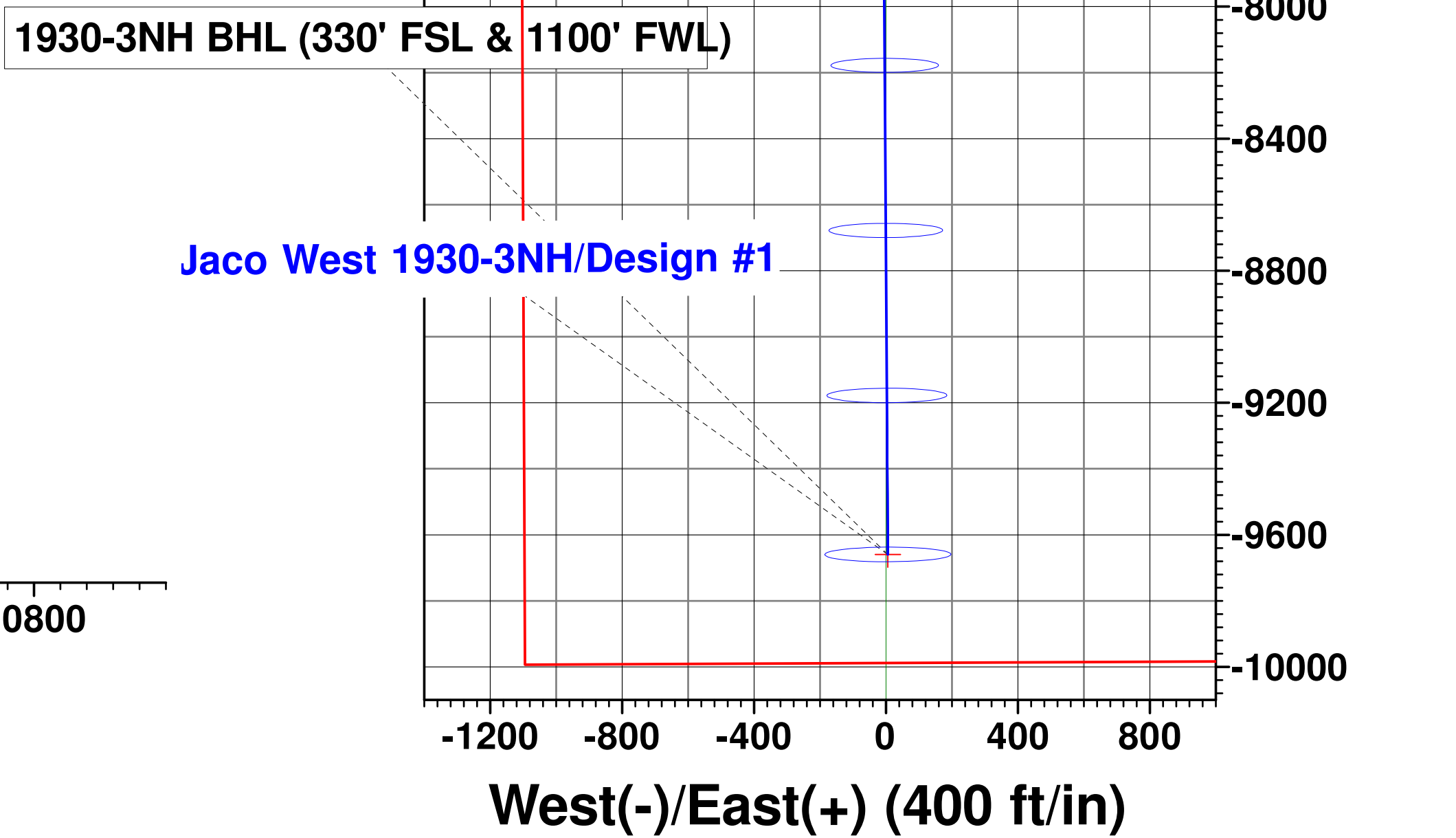
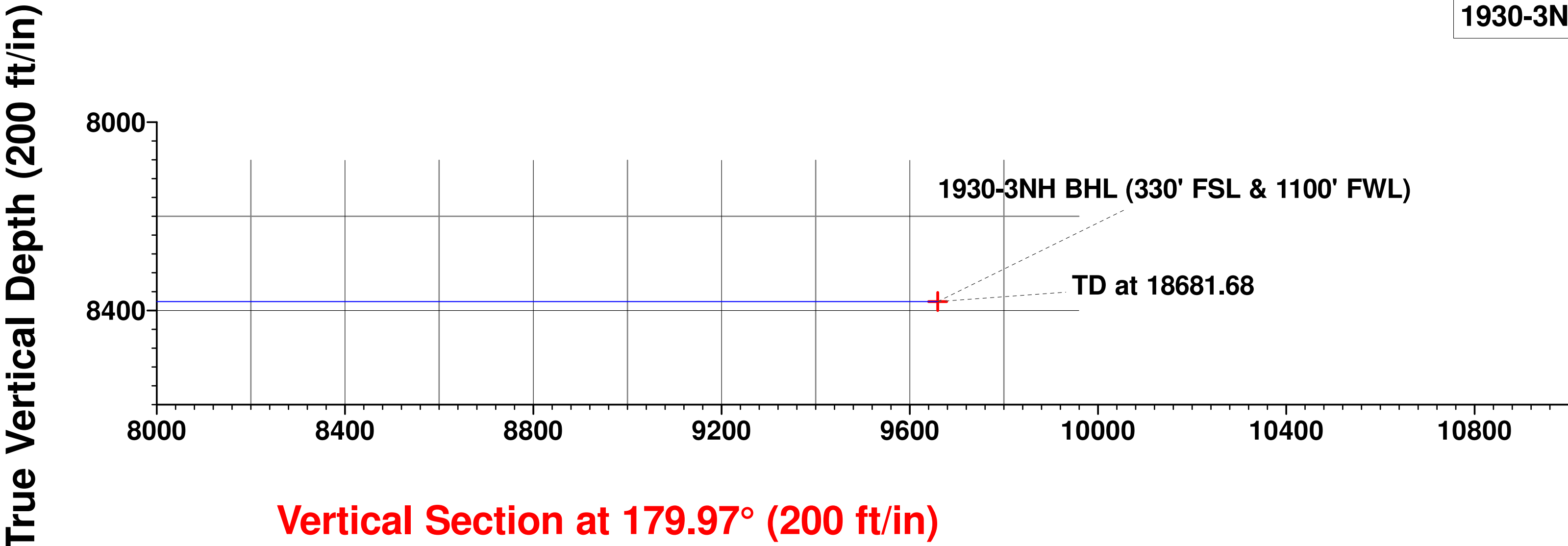
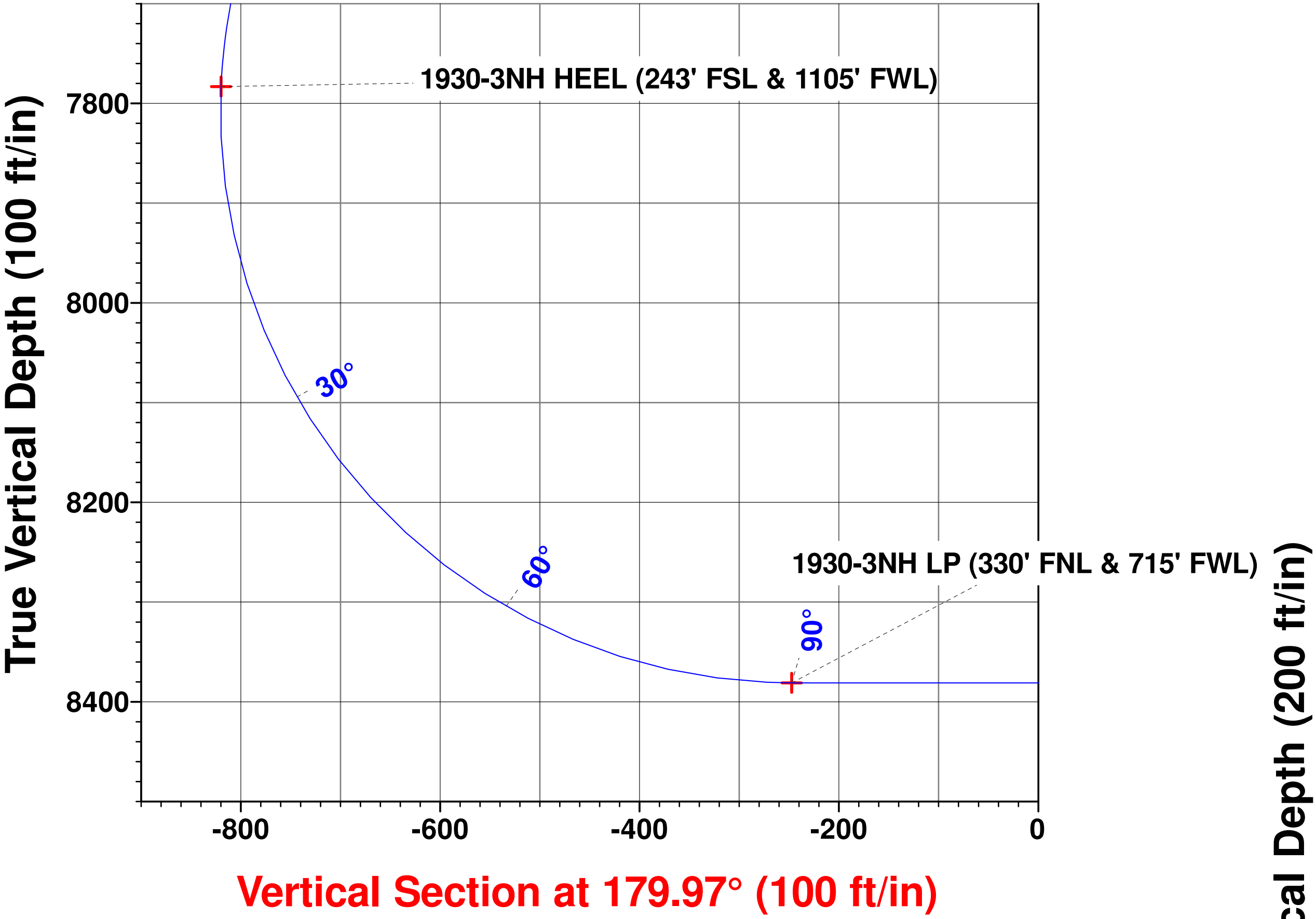
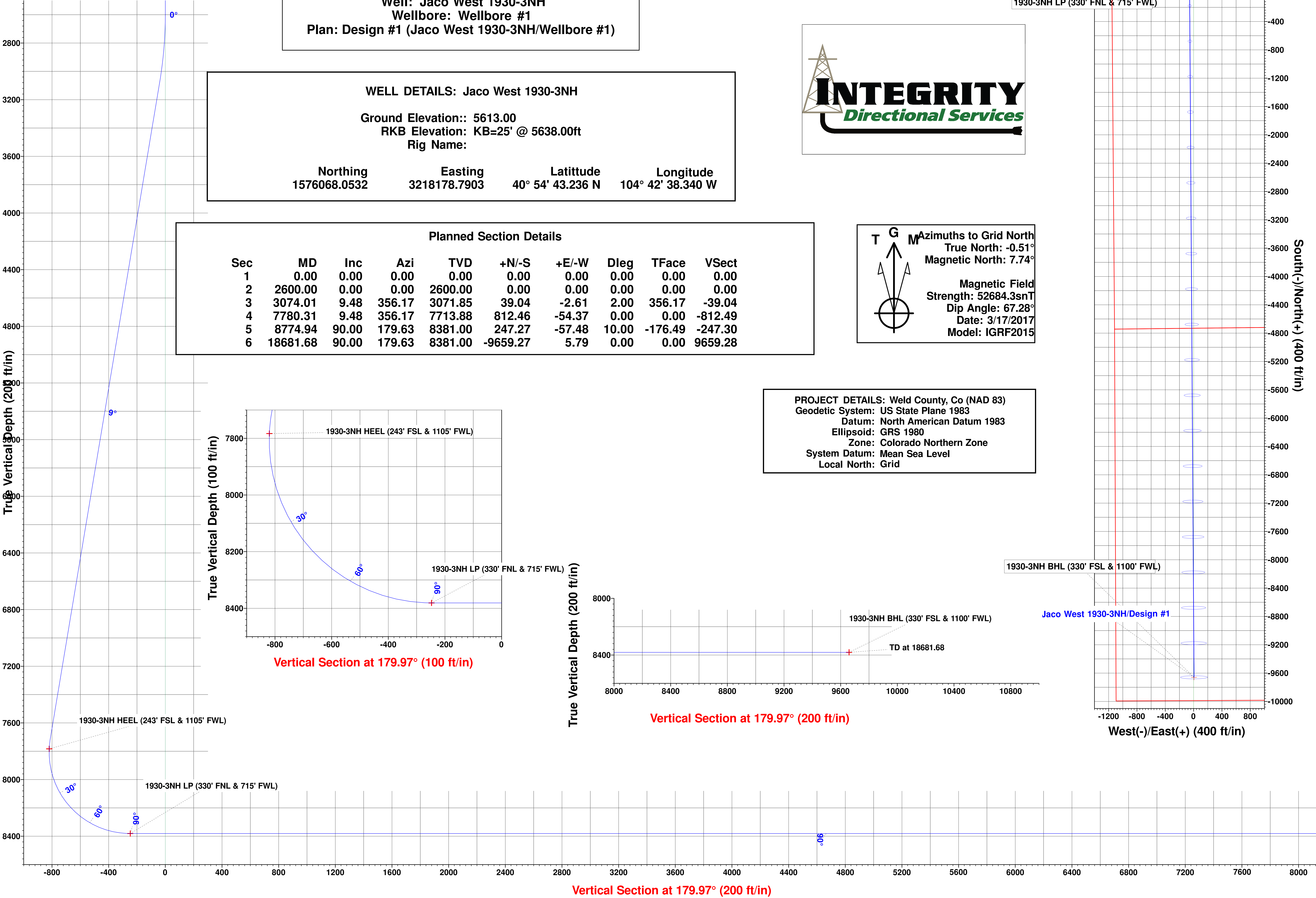
WELL DETAILS: Jaco West 1930-3NH
Ground Elevation:: 5613.00
RKB Elevation: KB=25' @ 5638.00ft
Rig Name:
Northing 1576068.0532 Easting 3218178.7903 Latitude 40° 54' 43.236 N Longitude 104° 42' 38.340 W



Planned Section Details									
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	3074.01	9.48	356.17	3071.85	39.04	-2.61	2.00	356.17	-39.04
4	7780.31	9.48	356.17	7713.88	812.46	-54.37	0.00	0.00	-812.49
5	8774.94	90.00	179.63	8381.00	247.27	-57.48	10.00	-176.49	-247.30
6	18681.68	90.00	179.63	8381.00	-9659.27	5.79	0.00	0.00	9659.28



PROJECT DETAILS: Weld County, Co (NAD 83)
Geodetic System: US State Plane 1983
Datum: 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 1930-3NH

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 1930-3NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5638.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5638.00ft
Well:	Jaco West 1930-3NH	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
From:	Lat/Long	Easting:	3,218,097.0468 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	40° 54' 45.000 N
		Longitude:	104° 42' 39.384 W
		Grid Convergence:	0.51 °

Well	Jaco West 1930-3NH		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	40° 54' 43.236 N
		Longitude:	104° 42' 38.340 W
		Ground Level:	5,613.00 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	179.97	

Survey Tool Program	Date 3/17/2017				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	18,681.68	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 1930-3NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5638.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5638.00ft
Well:	Jaco West 1930-3NH	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	356.17	2,699.98	1.74	-0.12	-1.74	2.00	2.00	0.00
2,800.00	4.00	356.17	2,799.84	6.96	-0.47	-6.96	2.00	2.00	0.00
2,900.00	6.00	356.17	2,899.45	15.66	-1.05	-15.66	2.00	2.00	0.00
3,000.00	8.00	356.17	2,998.70	27.82	-1.86	-27.82	2.00	2.00	0.00
3,074.01	9.48	356.17	3,071.85	39.04	-2.61	-39.04	2.00	2.00	0.00
3,100.00	9.48	356.17	3,097.49	43.31	-2.90	-43.31	0.00	0.00	0.00
3,200.00	9.48	356.17	3,196.12	59.74	-4.00	-59.75	0.00	0.00	0.00
3,300.00	9.48	356.17	3,294.75	76.18	-5.10	-76.18	0.00	0.00	0.00
3,400.00	9.48	356.17	3,393.39	92.61	-6.20	-92.61	0.00	0.00	0.00
3,500.00	9.48	356.17	3,492.02	109.04	-7.30	-109.05	0.00	0.00	0.00
3,600.00	9.48	356.17	3,590.66	125.48	-8.40	-125.48	0.00	0.00	0.00
3,700.00	9.48	356.17	3,689.29	141.91	-9.50	-141.92	0.00	0.00	0.00
3,800.00	9.48	356.17	3,787.93	158.35	-10.60	-158.35	0.00	0.00	0.00
3,900.00	9.48	356.17	3,886.56	174.78	-11.70	-174.79	0.00	0.00	0.00
4,000.00	9.48	356.17	3,985.19	191.21	-12.80	-191.22	0.00	0.00	0.00
4,100.00	9.48	356.17	4,083.83	207.65	-13.89	-207.66	0.00	0.00	0.00
4,200.00	9.48	356.17	4,182.46	224.08	-14.99	-224.09	0.00	0.00	0.00
4,300.00	9.48	356.17	4,281.10	240.51	-16.09	-240.52	0.00	0.00	0.00
4,400.00	9.48	356.17	4,379.73	256.95	-17.19	-256.96	0.00	0.00	0.00
4,500.00	9.48	356.17	4,478.37	273.38	-18.29	-273.39	0.00	0.00	0.00
4,600.00	9.48	356.17	4,577.00	289.82	-19.39	-289.83	0.00	0.00	0.00
4,700.00	9.48	356.17	4,675.63	306.25	-20.49	-306.26	0.00	0.00	0.00
4,800.00	9.48	356.17	4,774.27	322.68	-21.59	-322.70	0.00	0.00	0.00
4,900.00	9.48	356.17	4,872.90	339.12	-22.69	-339.13	0.00	0.00	0.00
5,000.00	9.48	356.17	4,971.54	355.55	-23.79	-355.56	0.00	0.00	0.00
5,100.00	9.48	356.17	5,070.17	371.98	-24.89	-372.00	0.00	0.00	0.00
5,200.00	9.48	356.17	5,168.81	388.42	-25.99	-388.43	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1930-3NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5638.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5638.00ft
Well:	Jaco West 1930-3NH	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	9.48	356.17	5,267.44	404.85	-27.09	-404.87	0.00	0.00	0.00
5,400.00	9.48	356.17	5,366.07	421.29	-28.19	-421.30	0.00	0.00	0.00
5,500.00	9.48	356.17	5,464.71	437.72	-29.29	-437.74	0.00	0.00	0.00
5,600.00	9.48	356.17	5,563.34	454.15	-30.39	-454.17	0.00	0.00	0.00
5,700.00	9.48	356.17	5,661.98	470.59	-31.49	-470.61	0.00	0.00	0.00
5,800.00	9.48	356.17	5,760.61	487.02	-32.59	-487.04	0.00	0.00	0.00
5,900.00	9.48	356.17	5,859.25	503.45	-33.69	-503.47	0.00	0.00	0.00
6,000.00	9.48	356.17	5,957.88	519.89	-34.79	-519.91	0.00	0.00	0.00
6,100.00	9.48	356.17	6,056.51	536.32	-35.89	-536.34	0.00	0.00	0.00
6,200.00	9.48	356.17	6,155.15	552.76	-36.99	-552.78	0.00	0.00	0.00
6,300.00	9.48	356.17	6,253.78	569.19	-38.09	-569.21	0.00	0.00	0.00
6,400.00	9.48	356.17	6,352.42	585.62	-39.19	-585.65	0.00	0.00	0.00
6,500.00	9.48	356.17	6,451.05	602.06	-40.29	-602.08	0.00	0.00	0.00
6,600.00	9.48	356.17	6,549.69	618.49	-41.39	-618.52	0.00	0.00	0.00
6,700.00	9.48	356.17	6,648.32	634.92	-42.49	-634.95	0.00	0.00	0.00
6,800.00	9.48	356.17	6,746.95	651.36	-43.59	-651.38	0.00	0.00	0.00
6,900.00	9.48	356.17	6,845.59	667.79	-44.69	-667.82	0.00	0.00	0.00
7,000.00	9.48	356.17	6,944.22	684.23	-45.79	-684.25	0.00	0.00	0.00
7,100.00	9.48	356.17	7,042.86	700.66	-46.89	-700.69	0.00	0.00	0.00
7,200.00	9.48	356.17	7,141.49	717.09	-47.98	-717.12	0.00	0.00	0.00
7,300.00	9.48	356.17	7,240.13	733.53	-49.08	-733.56	0.00	0.00	0.00
7,400.00	9.48	356.17	7,338.76	749.96	-50.18	-749.99	0.00	0.00	0.00
7,500.00	9.48	356.17	7,437.39	766.39	-51.28	-766.43	0.00	0.00	0.00
7,600.00	9.48	356.17	7,536.03	782.83	-52.38	-782.86	0.00	0.00	0.00
7,700.00	9.48	356.17	7,634.66	799.26	-53.48	-799.29	0.00	0.00	0.00
7,780.31	9.48	356.17	7,713.88	812.46	-54.37	-812.49	0.00	0.00	0.00
7,800.00	7.52	355.25	7,733.35	815.36	-54.58	-815.39	10.00	-9.98	-4.68
7,900.00	2.57	192.61	7,833.12	819.70	-55.62	-819.73	10.00	-4.94	-162.64
8,000.00	12.52	182.24	7,932.13	806.65	-56.53	-806.68	10.00	9.95	-10.37
8,100.00	22.51	181.03	8,027.38	776.60	-57.30	-776.63	10.00	9.99	-1.21
8,200.00	32.51	180.54	8,115.96	730.47	-57.90	-730.50	10.00	10.00	-0.49
8,300.00	42.51	180.26	8,195.18	669.66	-58.31	-669.69	10.00	10.00	-0.28
8,400.00	52.51	180.08	8,262.64	596.01	-58.52	-596.05	10.00	10.00	-0.19
8,500.00	62.51	179.93	8,316.29	511.77	-58.52	-511.81	10.00	10.00	-0.14
8,600.00	72.51	179.82	8,354.50	419.50	-58.32	-419.53	10.00	10.00	-0.12
8,700.00	82.51	179.71	8,376.11	321.99	-57.91	-322.03	10.00	10.00	-0.11
8,774.94	90.00	179.63	8,381.00	247.27	-57.48	-247.30	10.00	10.00	-0.10
8,800.00	90.00	179.63	8,381.00	222.21	-57.32	-222.24	0.00	0.00	0.00
8,900.00	90.00	179.63	8,381.00	122.21	-56.69	-122.24	0.00	0.00	0.00
9,000.00	90.00	179.63	8,381.00	22.21	-56.05	-22.25	0.00	0.00	0.00
9,100.00	90.00	179.63	8,381.00	-77.79	-55.41	77.75	0.00	0.00	0.00
9,200.00	90.00	179.63	8,381.00	-177.78	-54.77	177.75	0.00	0.00	0.00
9,300.00	90.00	179.63	8,381.00	-277.78	-54.13	277.75	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1930-3NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5638.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5638.00ft
Well:	Jaco West 1930-3NH	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	179.63	8,381.00	-377.78	-53.49	377.75	0.00	0.00	0.00
9,500.00	90.00	179.63	8,381.00	-477.78	-52.85	477.75	0.00	0.00	0.00
9,600.00	90.00	179.63	8,381.00	-577.78	-52.21	577.74	0.00	0.00	0.00
9,700.00	90.00	179.63	8,381.00	-677.77	-51.58	677.74	0.00	0.00	0.00
9,800.00	90.00	179.63	8,381.00	-777.77	-50.94	777.74	0.00	0.00	0.00
9,900.00	90.00	179.63	8,381.00	-877.77	-50.30	877.74	0.00	0.00	0.00
10,000.00	90.00	179.63	8,381.00	-977.77	-49.66	977.74	0.00	0.00	0.00
10,100.00	90.00	179.63	8,381.00	-1,077.77	-49.02	1,077.74	0.00	0.00	0.00
10,200.00	90.00	179.63	8,381.00	-1,177.76	-48.38	1,177.73	0.00	0.00	0.00
10,300.00	90.00	179.63	8,381.00	-1,277.76	-47.74	1,277.73	0.00	0.00	0.00
10,400.00	90.00	179.63	8,381.00	-1,377.76	-47.10	1,377.73	0.00	0.00	0.00
10,500.00	90.00	179.63	8,381.00	-1,477.76	-46.47	1,477.73	0.00	0.00	0.00
10,600.00	90.00	179.63	8,381.00	-1,577.76	-45.83	1,577.73	0.00	0.00	0.00
10,700.00	90.00	179.63	8,381.00	-1,677.75	-45.19	1,677.73	0.00	0.00	0.00
10,800.00	90.00	179.63	8,381.00	-1,777.75	-44.55	1,777.72	0.00	0.00	0.00
10,900.00	90.00	179.63	8,381.00	-1,877.75	-43.91	1,877.72	0.00	0.00	0.00
11,000.00	90.00	179.63	8,381.00	-1,977.75	-43.27	1,977.72	0.00	0.00	0.00
11,100.00	90.00	179.63	8,381.00	-2,077.75	-42.63	2,077.72	0.00	0.00	0.00
11,200.00	90.00	179.63	8,381.00	-2,177.74	-41.99	2,177.72	0.00	0.00	0.00
11,300.00	90.00	179.63	8,381.00	-2,277.74	-41.36	2,277.72	0.00	0.00	0.00
11,400.00	90.00	179.63	8,381.00	-2,377.74	-40.72	2,377.71	0.00	0.00	0.00
11,500.00	90.00	179.63	8,381.00	-2,477.74	-40.08	2,477.71	0.00	0.00	0.00
11,600.00	90.00	179.63	8,381.00	-2,577.74	-39.44	2,577.71	0.00	0.00	0.00
11,700.00	90.00	179.63	8,381.00	-2,677.73	-38.80	2,677.71	0.00	0.00	0.00
11,800.00	90.00	179.63	8,381.00	-2,777.73	-38.16	2,777.71	0.00	0.00	0.00
11,900.00	90.00	179.63	8,381.00	-2,877.73	-37.52	2,877.71	0.00	0.00	0.00
12,000.00	90.00	179.63	8,381.00	-2,977.73	-36.88	2,977.70	0.00	0.00	0.00
12,100.00	90.00	179.63	8,381.00	-3,077.73	-36.25	3,077.70	0.00	0.00	0.00
12,200.00	90.00	179.63	8,381.00	-3,177.72	-35.61	3,177.70	0.00	0.00	0.00
12,300.00	90.00	179.63	8,381.00	-3,277.72	-34.97	3,277.70	0.00	0.00	0.00
12,400.00	90.00	179.63	8,381.00	-3,377.72	-34.33	3,377.70	0.00	0.00	0.00
12,500.00	90.00	179.63	8,381.00	-3,477.72	-33.69	3,477.70	0.00	0.00	0.00
12,600.00	90.00	179.63	8,381.00	-3,577.72	-33.05	3,577.69	0.00	0.00	0.00
12,700.00	90.00	179.63	8,381.00	-3,677.71	-32.41	3,677.69	0.00	0.00	0.00
12,800.00	90.00	179.63	8,381.00	-3,777.71	-31.78	3,777.69	0.00	0.00	0.00
12,900.00	90.00	179.63	8,381.00	-3,877.71	-31.14	3,877.69	0.00	0.00	0.00
13,000.00	90.00	179.63	8,381.00	-3,977.71	-30.50	3,977.69	0.00	0.00	0.00
13,100.00	90.00	179.63	8,381.00	-4,077.70	-29.86	4,077.69	0.00	0.00	0.00
13,200.00	90.00	179.63	8,381.00	-4,177.70	-29.22	4,177.68	0.00	0.00	0.00
13,300.00	90.00	179.63	8,381.00	-4,277.70	-28.58	4,277.68	0.00	0.00	0.00
13,400.00	90.00	179.63	8,381.00	-4,377.70	-27.94	4,377.68	0.00	0.00	0.00
13,500.00	90.00	179.63	8,381.00	-4,477.70	-27.30	4,477.68	0.00	0.00	0.00
13,600.00	90.00	179.63	8,381.00	-4,577.69	-26.67	4,577.68	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1930-3NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5638.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5638.00ft
Well:	Jaco West 1930-3NH	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	179.63	8,381.00	-4,677.69	-26.03	4,677.68	0.00	0.00	0.00
13,800.00	90.00	179.63	8,381.00	-4,777.69	-25.39	4,777.67	0.00	0.00	0.00
13,900.00	90.00	179.63	8,381.00	-4,877.69	-24.75	4,877.67	0.00	0.00	0.00
14,000.00	90.00	179.63	8,381.00	-4,977.69	-24.11	4,977.67	0.00	0.00	0.00
14,100.00	90.00	179.63	8,381.00	-5,077.68	-23.47	5,077.67	0.00	0.00	0.00
14,200.00	90.00	179.63	8,381.00	-5,177.68	-22.83	5,177.67	0.00	0.00	0.00
14,300.00	90.00	179.63	8,381.00	-5,277.68	-22.19	5,277.67	0.00	0.00	0.00
14,400.00	90.00	179.63	8,381.00	-5,377.68	-21.56	5,377.66	0.00	0.00	0.00
14,500.00	90.00	179.63	8,381.00	-5,477.68	-20.92	5,477.66	0.00	0.00	0.00
14,600.00	90.00	179.63	8,381.00	-5,577.67	-20.28	5,577.66	0.00	0.00	0.00
14,700.00	90.00	179.63	8,381.00	-5,677.67	-19.64	5,677.66	0.00	0.00	0.00
14,800.00	90.00	179.63	8,381.00	-5,777.67	-19.00	5,777.66	0.00	0.00	0.00
14,900.00	90.00	179.63	8,381.00	-5,877.67	-18.36	5,877.66	0.00	0.00	0.00
15,000.00	90.00	179.63	8,381.00	-5,977.67	-17.72	5,977.65	0.00	0.00	0.00
15,100.00	90.00	179.63	8,381.00	-6,077.66	-17.08	6,077.65	0.00	0.00	0.00
15,200.00	90.00	179.63	8,381.00	-6,177.66	-16.45	6,177.65	0.00	0.00	0.00
15,300.00	90.00	179.63	8,381.00	-6,277.66	-15.81	6,277.65	0.00	0.00	0.00
15,400.00	90.00	179.63	8,381.00	-6,377.66	-15.17	6,377.65	0.00	0.00	0.00
15,500.00	90.00	179.63	8,381.00	-6,477.66	-14.53	6,477.65	0.00	0.00	0.00
15,600.00	90.00	179.63	8,381.00	-6,577.65	-13.89	6,577.64	0.00	0.00	0.00
15,700.00	90.00	179.63	8,381.00	-6,677.65	-13.25	6,677.64	0.00	0.00	0.00
15,800.00	90.00	179.63	8,381.00	-6,777.65	-12.61	6,777.64	0.00	0.00	0.00
15,900.00	90.00	179.63	8,381.00	-6,877.65	-11.97	6,877.64	0.00	0.00	0.00
16,000.00	90.00	179.63	8,381.00	-6,977.65	-11.34	6,977.64	0.00	0.00	0.00
16,100.00	90.00	179.63	8,381.00	-7,077.64	-10.70	7,077.64	0.00	0.00	0.00
16,200.00	90.00	179.63	8,381.00	-7,177.64	-10.06	7,177.63	0.00	0.00	0.00
16,300.00	90.00	179.63	8,381.00	-7,277.64	-9.42	7,277.63	0.00	0.00	0.00
16,400.00	90.00	179.63	8,381.00	-7,377.64	-8.78	7,377.63	0.00	0.00	0.00
16,500.00	90.00	179.63	8,381.00	-7,477.64	-8.14	7,477.63	0.00	0.00	0.00
16,600.00	90.00	179.63	8,381.00	-7,577.63	-7.50	7,577.63	0.00	0.00	0.00
16,700.00	90.00	179.63	8,381.00	-7,677.63	-6.86	7,677.63	0.00	0.00	0.00
16,800.00	90.00	179.63	8,381.00	-7,777.63	-6.23	7,777.62	0.00	0.00	0.00
16,900.00	90.00	179.63	8,381.00	-7,877.63	-5.59	7,877.62	0.00	0.00	0.00
17,000.00	90.00	179.63	8,381.00	-7,977.63	-4.95	7,977.62	0.00	0.00	0.00
17,100.00	90.00	179.63	8,381.00	-8,077.62	-4.31	8,077.62	0.00	0.00	0.00
17,200.00	90.00	179.63	8,381.00	-8,177.62	-3.67	8,177.62	0.00	0.00	0.00
17,300.00	90.00	179.63	8,381.00	-8,277.62	-3.03	8,277.62	0.00	0.00	0.00
17,400.00	90.00	179.63	8,381.00	-8,377.62	-2.39	8,377.61	0.00	0.00	0.00
17,500.00	90.00	179.63	8,381.00	-8,477.62	-1.76	8,477.61	0.00	0.00	0.00
17,600.00	90.00	179.63	8,381.00	-8,577.61	-1.12	8,577.61	0.00	0.00	0.00
17,700.00	90.00	179.63	8,381.00	-8,677.61	-0.48	8,677.61	0.00	0.00	0.00
17,800.00	90.00	179.63	8,381.00	-8,777.61	0.16	8,777.61	0.00	0.00	0.00
17,900.00	90.00	179.63	8,381.00	-8,877.61	0.80	8,877.61	0.00	0.00	0.00
18,000.00	90.00	179.63	8,381.00	-8,977.61	1.44	8,977.60	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1930-3NH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5638.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5638.00ft
Well:	Jaco West 1930-3NH	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	179.63	8,381.00	-9,077.60	2.08	9,077.60	0.00	0.00	0.00
18,200.00	90.00	179.63	8,381.00	-9,177.60	2.72	9,177.60	0.00	0.00	0.00
18,300.00	90.00	179.63	8,381.00	-9,277.60	3.35	9,277.60	0.00	0.00	0.00
18,400.00	90.00	179.63	8,381.00	-9,377.60	3.99	9,377.60	0.00	0.00	0.00
18,500.00	90.00	179.63	8,381.00	-9,477.59	4.63	9,477.60	0.00	0.00	0.00
18,600.00	90.00	179.63	8,381.00	-9,577.59	5.27	9,577.59	0.00	0.00	0.00
18,681.68	90.00	179.63	8,381.00	-9,659.27	5.79	9,659.28	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
1930-3NH HEEL (243	0.00	0.00	7,783.16	819.71	-55.11	1,576,887.761 6	3,218,123.678 9	40° 54' 51.340 N	104° 42' 38.963 W
- plan hits target center									
- Point									
1930-3NH BHL (330' I	0.00	0.00	8,381.00	-9,659.27	5.79	1,566,408.797 8	3,218,184.582 9	40° 53' 7.800 N	104° 42' 39.384 W
- plan hits target center									
- Point									
1930-3NH LP (330' FI	0.00	0.00	8,381.00	247.27	-57.48	1,576,315.318 8	3,218,121.306 2	40° 54' 45.684 N	104° 42' 39.060 W
- plan hits target center									
- Point									

Checked By: _____ Approved By: _____ Date: _____