

Longs Peak Resources
Project: Weld County, Co (NAD 83)
Site: Jaco West Pad
Well: Jaco West 1930-2CH
Wellbore: Wellbore #1
Plan: Design #1 (Jaco West 1930-2CH/Wellbore #1)

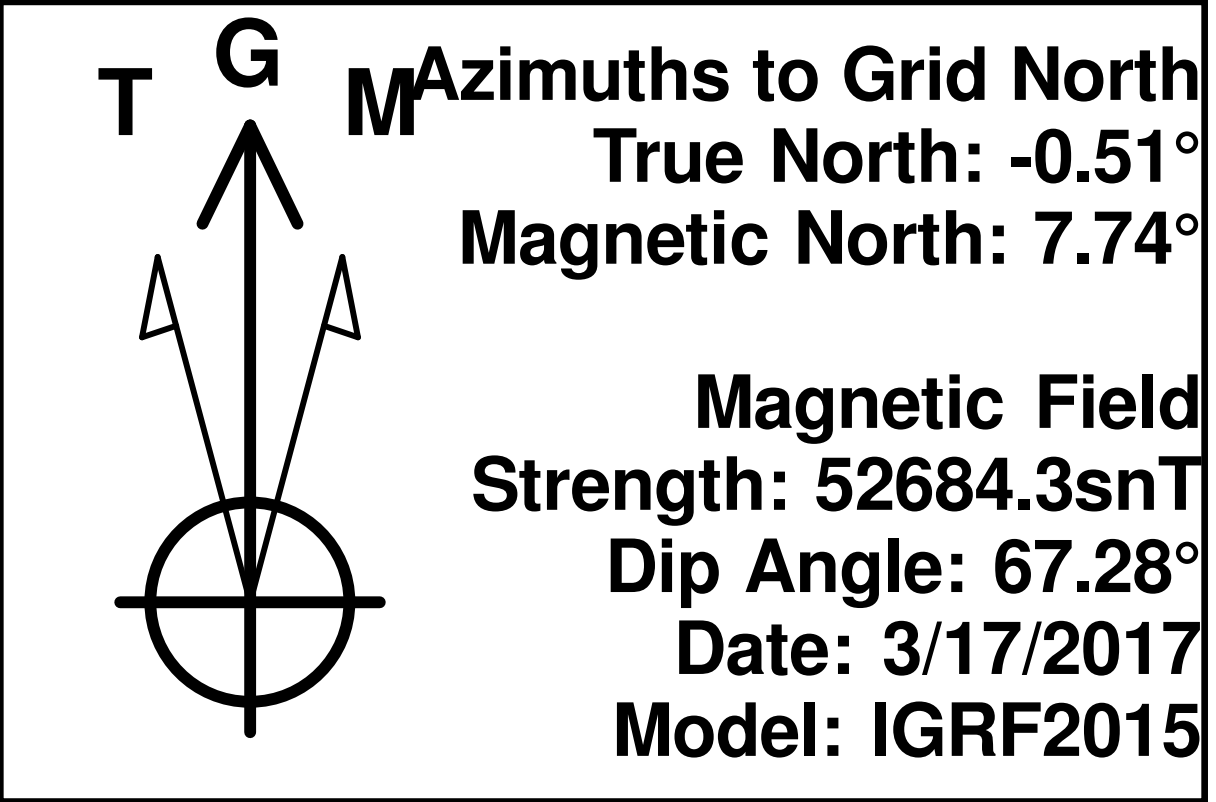


WELL DETAILS: Jaco West 1930-2CH

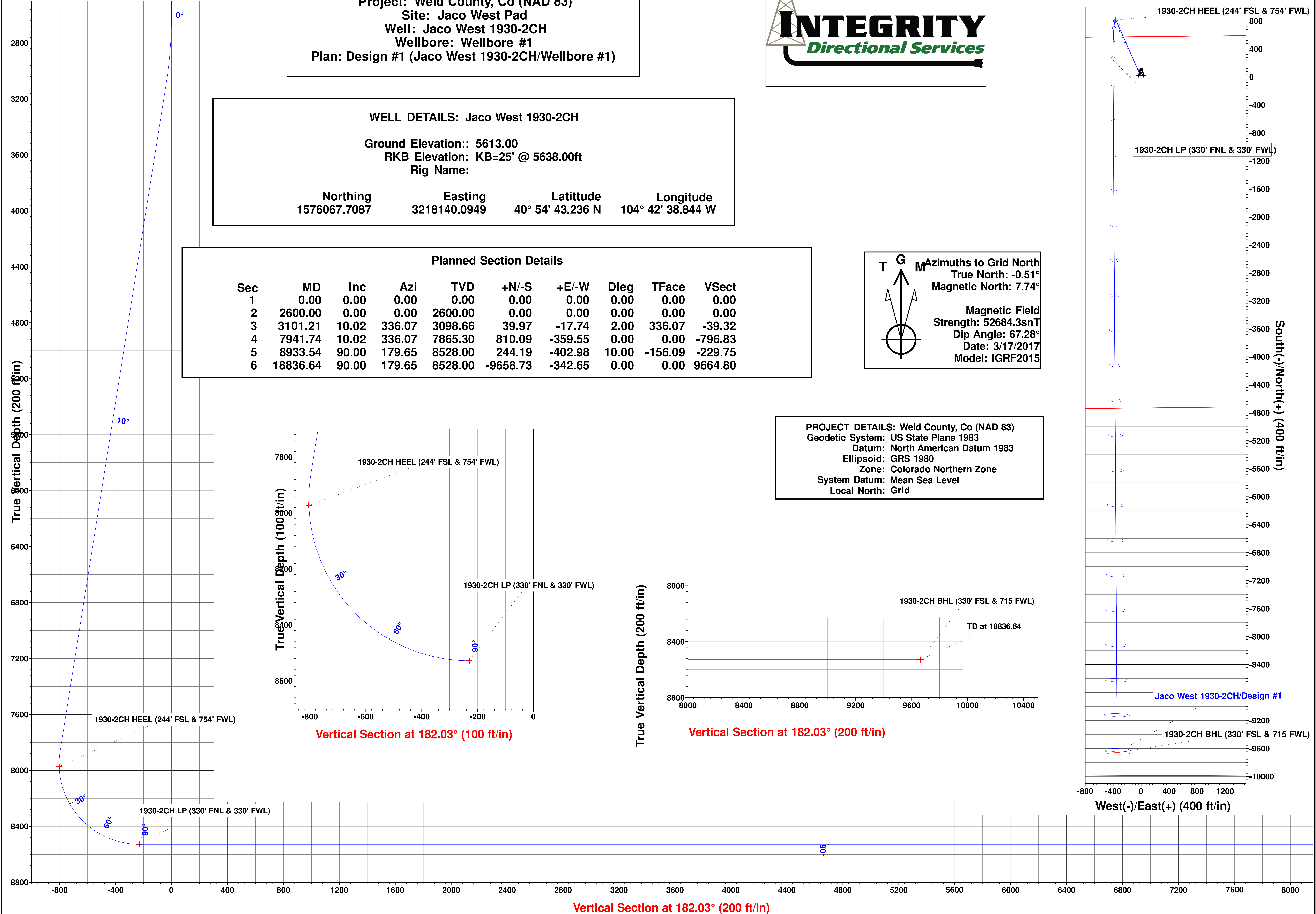
Ground Elevation:: 5613.00
RKB Elevation: KB=25' @ 5638.00ft
Rig Name:

Northing	Easting	Latitude	Longitude
1576067.7087	3218140.0949	40° 54' 43.236 N	104° 42' 38.844 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	3101.21	10.02	336.07	3098.66	39.97	-17.74	2.00	336.07	-39.32
4	7941.74	10.02	336.07	7865.30	810.09	-359.55	0.00	0.00	-796.83
5	8933.54	90.00	179.65	8528.00	244.19	-402.98	10.00	-156.09	-229.75
6	18836.64	90.00	179.65	8528.00	-9658.73	-342.65	0.00	0.00	9664.80



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 1930-2CH

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 1930-2CH
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 1930-2CH	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:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.51 °

Well		Jaco West 1930-2CH				
Well Position	+N/-S	0.00 ft	Northing:	1,576,067.7087 usfl	Latitude:	40° 54' 43.236 N
	+E/-W	0.00 ft	Easting:	3,218,140.0949 usfl	Longitude:	104° 42' 38.844 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	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	182.03	

Survey Tool Program	Date	3/17/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	18,836.65	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

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Site:	Jaco West Pad	MD Reference:	KB=25' @ 5638.00ft
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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	336.07	2,699.98	1.60	-0.71	-1.57	2.00	2.00	0.00
2,800.00	4.00	336.07	2,799.84	6.38	-2.83	-6.27	2.00	2.00	0.00
2,900.00	6.00	336.07	2,899.45	14.34	-6.37	-14.11	2.00	2.00	0.00
3,000.00	8.00	336.07	2,998.70	25.48	-11.31	-25.07	2.00	2.00	0.00
3,100.00	10.00	336.07	3,097.47	39.78	-17.66	-39.13	2.00	2.00	0.00
3,101.21	10.02	336.07	3,098.66	39.97	-17.74	-39.32	2.00	2.00	0.00
3,200.00	10.02	336.07	3,195.94	55.69	-24.72	-54.78	0.00	0.00	0.00
3,300.00	10.02	336.07	3,294.41	71.60	-31.78	-70.43	0.00	0.00	0.00
3,400.00	10.02	336.07	3,392.89	87.51	-38.84	-86.08	0.00	0.00	0.00
3,500.00	10.02	336.07	3,491.36	103.42	-45.90	-101.73	0.00	0.00	0.00
3,600.00	10.02	336.07	3,589.83	119.33	-52.96	-117.38	0.00	0.00	0.00
3,700.00	10.02	336.07	3,688.31	135.24	-60.02	-133.03	0.00	0.00	0.00
3,800.00	10.02	336.07	3,786.78	151.15	-67.09	-148.68	0.00	0.00	0.00
3,900.00	10.02	336.07	3,885.25	167.06	-74.15	-164.32	0.00	0.00	0.00
4,000.00	10.02	336.07	3,983.73	182.97	-81.21	-179.97	0.00	0.00	0.00
4,100.00	10.02	336.07	4,082.20	198.88	-88.27	-195.62	0.00	0.00	0.00
4,200.00	10.02	336.07	4,180.67	214.79	-95.33	-211.27	0.00	0.00	0.00
4,300.00	10.02	336.07	4,279.15	230.70	-102.39	-226.92	0.00	0.00	0.00
4,400.00	10.02	336.07	4,377.62	246.61	-109.45	-242.57	0.00	0.00	0.00
4,500.00	10.02	336.07	4,476.09	262.52	-116.52	-258.22	0.00	0.00	0.00
4,600.00	10.02	336.07	4,574.57	278.43	-123.58	-273.87	0.00	0.00	0.00
4,700.00	10.02	336.07	4,673.04	294.34	-130.64	-289.52	0.00	0.00	0.00
4,800.00	10.02	336.07	4,771.51	310.25	-137.70	-305.17	0.00	0.00	0.00
4,900.00	10.02	336.07	4,869.99	326.16	-144.76	-320.82	0.00	0.00	0.00
5,000.00	10.02	336.07	4,968.46	342.07	-151.82	-336.47	0.00	0.00	0.00
5,100.00	10.02	336.07	5,066.93	357.98	-158.89	-352.12	0.00	0.00	0.00
5,200.00	10.02	336.07	5,165.41	373.89	-165.95	-367.77	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



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Site:	Jaco West Pad	MD Reference:	KB=25' @ 5638.00ft
Well:	Jaco West 1930-2CH	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	10.02	336.07	5,263.88	389.80	-173.01	-383.42	0.00	0.00	0.00
5,400.00	10.02	336.07	5,362.35	405.71	-180.07	-399.07	0.00	0.00	0.00
5,500.00	10.02	336.07	5,460.83	421.61	-187.13	-414.72	0.00	0.00	0.00
5,600.00	10.02	336.07	5,559.30	437.52	-194.19	-430.36	0.00	0.00	0.00
5,700.00	10.02	336.07	5,657.77	453.43	-201.25	-446.01	0.00	0.00	0.00
5,800.00	10.02	336.07	5,756.25	469.34	-208.32	-461.66	0.00	0.00	0.00
5,900.00	10.02	336.07	5,854.72	485.25	-215.38	-477.31	0.00	0.00	0.00
6,000.00	10.02	336.07	5,953.19	501.16	-222.44	-492.96	0.00	0.00	0.00
6,100.00	10.02	336.07	6,051.67	517.07	-229.50	-508.61	0.00	0.00	0.00
6,200.00	10.02	336.07	6,150.14	532.98	-236.56	-524.26	0.00	0.00	0.00
6,300.00	10.02	336.07	6,248.62	548.89	-243.62	-539.91	0.00	0.00	0.00
6,400.00	10.02	336.07	6,347.09	564.80	-250.68	-555.56	0.00	0.00	0.00
6,500.00	10.02	336.07	6,445.56	580.71	-257.75	-571.21	0.00	0.00	0.00
6,600.00	10.02	336.07	6,544.04	596.62	-264.81	-586.86	0.00	0.00	0.00
6,700.00	10.02	336.07	6,642.51	612.53	-271.87	-602.51	0.00	0.00	0.00
6,800.00	10.02	336.07	6,740.98	628.44	-278.93	-618.16	0.00	0.00	0.00
6,900.00	10.02	336.07	6,839.46	644.35	-285.99	-633.81	0.00	0.00	0.00
7,000.00	10.02	336.07	6,937.93	660.26	-293.05	-649.46	0.00	0.00	0.00
7,100.00	10.02	336.07	7,036.40	676.17	-300.11	-665.11	0.00	0.00	0.00
7,200.00	10.02	336.07	7,134.88	692.08	-307.18	-680.76	0.00	0.00	0.00
7,300.00	10.02	336.07	7,233.35	707.99	-314.24	-696.41	0.00	0.00	0.00
7,400.00	10.02	336.07	7,331.82	723.90	-321.30	-712.05	0.00	0.00	0.00
7,500.00	10.02	336.07	7,430.30	739.81	-328.36	-727.70	0.00	0.00	0.00
7,600.00	10.02	336.07	7,528.77	755.72	-335.42	-743.35	0.00	0.00	0.00
7,700.00	10.02	336.07	7,627.24	771.63	-342.48	-759.00	0.00	0.00	0.00
7,800.00	10.02	336.07	7,725.72	787.54	-349.54	-774.65	0.00	0.00	0.00
7,900.00	10.02	336.07	7,824.19	803.45	-356.61	-790.30	0.00	0.00	0.00
7,941.74	10.02	336.07	7,865.30	810.09	-359.55	-796.83	0.00	0.00	0.00
8,000.00	5.25	309.36	7,923.04	816.42	-363.68	-803.02	10.00	-8.19	-45.83
8,100.00	7.78	210.84	8,022.62	813.51	-370.70	-799.86	10.00	2.52	-98.52
8,200.00	17.12	192.93	8,120.19	793.31	-377.48	-779.43	10.00	9.34	-17.92
8,300.00	26.93	187.65	8,212.79	756.43	-383.80	-742.34	10.00	9.81	-5.27
8,400.00	36.84	185.07	8,297.60	703.99	-389.48	-689.74	10.00	9.91	-2.59
8,500.00	46.78	183.46	8,372.05	637.59	-394.34	-623.21	10.00	9.94	-1.61
8,600.00	56.74	182.31	8,433.86	559.25	-398.24	-544.78	10.00	9.96	-1.15
8,700.00	66.71	181.40	8,481.18	471.34	-401.05	-456.82	10.00	9.97	-0.91
8,800.00	76.68	180.61	8,512.55	376.53	-402.69	-362.02	10.00	9.97	-0.79
8,900.00	86.65	179.89	8,527.02	277.71	-403.11	-263.25	10.00	9.97	-0.72
8,933.54	90.00	179.65	8,528.00	244.19	-402.98	-229.75	10.00	9.98	-0.71
9,000.00	90.00	179.65	8,528.00	177.73	-402.57	-163.35	0.00	0.00	0.00
9,100.00	90.00	179.65	8,528.00	77.74	-401.96	-63.44	0.00	0.00	0.00
9,200.00	90.00	179.65	8,528.00	-22.26	-401.35	36.48	0.00	0.00	0.00
9,300.00	90.00	179.65	8,528.00	-122.26	-400.74	136.39	0.00	0.00	0.00

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9,400.00	90.00	179.65	8,528.00	-222.26	-400.13	236.31	0.00	0.00	0.00
9,500.00	90.00	179.65	8,528.00	-322.26	-399.53	336.22	0.00	0.00	0.00
9,600.00	90.00	179.65	8,528.00	-422.26	-398.92	436.13	0.00	0.00	0.00
9,700.00	90.00	179.65	8,528.00	-522.25	-398.31	536.05	0.00	0.00	0.00
9,800.00	90.00	179.65	8,528.00	-622.25	-397.70	635.96	0.00	0.00	0.00
9,900.00	90.00	179.65	8,528.00	-722.25	-397.09	735.87	0.00	0.00	0.00
10,000.00	90.00	179.65	8,528.00	-822.25	-396.48	835.79	0.00	0.00	0.00
10,100.00	90.00	179.65	8,528.00	-922.25	-395.87	935.70	0.00	0.00	0.00
10,200.00	90.00	179.65	8,528.00	-1,022.24	-395.26	1,035.61	0.00	0.00	0.00
10,300.00	90.00	179.65	8,528.00	-1,122.24	-394.65	1,135.53	0.00	0.00	0.00
10,400.00	90.00	179.65	8,528.00	-1,222.24	-394.04	1,235.44	0.00	0.00	0.00
10,500.00	90.00	179.65	8,528.00	-1,322.24	-393.43	1,335.36	0.00	0.00	0.00
10,600.00	90.00	179.65	8,528.00	-1,422.24	-392.82	1,435.27	0.00	0.00	0.00
10,700.00	90.00	179.65	8,528.00	-1,522.23	-392.22	1,535.18	0.00	0.00	0.00
10,800.00	90.00	179.65	8,528.00	-1,622.23	-391.61	1,635.10	0.00	0.00	0.00
10,900.00	90.00	179.65	8,528.00	-1,722.23	-391.00	1,735.01	0.00	0.00	0.00
11,000.00	90.00	179.65	8,528.00	-1,822.23	-390.39	1,834.92	0.00	0.00	0.00
11,100.00	90.00	179.65	8,528.00	-1,922.23	-389.78	1,934.84	0.00	0.00	0.00
11,200.00	90.00	179.65	8,528.00	-2,022.23	-389.17	2,034.75	0.00	0.00	0.00
11,300.00	90.00	179.65	8,528.00	-2,122.22	-388.56	2,134.67	0.00	0.00	0.00
11,400.00	90.00	179.65	8,528.00	-2,222.22	-387.95	2,234.58	0.00	0.00	0.00
11,500.00	90.00	179.65	8,528.00	-2,322.22	-387.34	2,334.49	0.00	0.00	0.00
11,600.00	90.00	179.65	8,528.00	-2,422.22	-386.73	2,434.41	0.00	0.00	0.00
11,700.00	90.00	179.65	8,528.00	-2,522.22	-386.12	2,534.32	0.00	0.00	0.00
11,800.00	90.00	179.65	8,528.00	-2,622.21	-385.51	2,634.23	0.00	0.00	0.00
11,900.00	90.00	179.65	8,528.00	-2,722.21	-384.91	2,734.15	0.00	0.00	0.00
12,000.00	90.00	179.65	8,528.00	-2,822.21	-384.30	2,834.06	0.00	0.00	0.00
12,100.00	90.00	179.65	8,528.00	-2,922.21	-383.69	2,933.97	0.00	0.00	0.00
12,200.00	90.00	179.65	8,528.00	-3,022.21	-383.08	3,033.89	0.00	0.00	0.00
12,300.00	90.00	179.65	8,528.00	-3,122.21	-382.47	3,133.80	0.00	0.00	0.00
12,400.00	90.00	179.65	8,528.00	-3,222.20	-381.86	3,233.72	0.00	0.00	0.00
12,500.00	90.00	179.65	8,528.00	-3,322.20	-381.25	3,333.63	0.00	0.00	0.00
12,600.00	90.00	179.65	8,528.00	-3,422.20	-380.64	3,433.54	0.00	0.00	0.00
12,700.00	90.00	179.65	8,528.00	-3,522.20	-380.03	3,533.46	0.00	0.00	0.00
12,800.00	90.00	179.65	8,528.00	-3,622.20	-379.42	3,633.37	0.00	0.00	0.00
12,900.00	90.00	179.65	8,528.00	-3,722.19	-378.81	3,733.28	0.00	0.00	0.00
13,000.00	90.00	179.65	8,528.00	-3,822.19	-378.21	3,833.20	0.00	0.00	0.00
13,100.00	90.00	179.65	8,528.00	-3,922.19	-377.60	3,933.11	0.00	0.00	0.00
13,200.00	90.00	179.65	8,528.00	-4,022.19	-376.99	4,033.03	0.00	0.00	0.00
13,300.00	90.00	179.65	8,528.00	-4,122.19	-376.38	4,132.94	0.00	0.00	0.00
13,400.00	90.00	179.65	8,528.00	-4,222.18	-375.77	4,232.85	0.00	0.00	0.00
13,500.00	90.00	179.65	8,528.00	-4,322.18	-375.16	4,332.77	0.00	0.00	0.00
13,600.00	90.00	179.65	8,528.00	-4,422.18	-374.55	4,432.68	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1930-2CH
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 1930-2CH	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	179.65	8,528.00	-4,522.18	-373.94	4,532.59	0.00	0.00	0.00
13,800.00	90.00	179.65	8,528.00	-4,622.18	-373.33	4,632.51	0.00	0.00	0.00
13,900.00	90.00	179.65	8,528.00	-4,722.18	-372.72	4,732.42	0.00	0.00	0.00
14,000.00	90.00	179.65	8,528.00	-4,822.17	-372.11	4,832.33	0.00	0.00	0.00
14,100.00	90.00	179.65	8,528.00	-4,922.17	-371.50	4,932.25	0.00	0.00	0.00
14,200.00	90.00	179.65	8,528.00	-5,022.17	-370.90	5,032.16	0.00	0.00	0.00
14,300.00	90.00	179.65	8,528.00	-5,122.17	-370.29	5,132.08	0.00	0.00	0.00
14,400.00	90.00	179.65	8,528.00	-5,222.17	-369.68	5,231.99	0.00	0.00	0.00
14,500.00	90.00	179.65	8,528.00	-5,322.16	-369.07	5,331.90	0.00	0.00	0.00
14,600.00	90.00	179.65	8,528.00	-5,422.16	-368.46	5,431.82	0.00	0.00	0.00
14,700.00	90.00	179.65	8,528.00	-5,522.16	-367.85	5,531.73	0.00	0.00	0.00
14,800.00	90.00	179.65	8,528.00	-5,622.16	-367.24	5,631.64	0.00	0.00	0.00
14,900.00	90.00	179.65	8,528.00	-5,722.16	-366.63	5,731.56	0.00	0.00	0.00
15,000.00	90.00	179.65	8,528.00	-5,822.16	-366.02	5,831.47	0.00	0.00	0.00
15,100.00	90.00	179.65	8,528.00	-5,922.15	-365.41	5,931.39	0.00	0.00	0.00
15,200.00	90.00	179.65	8,528.00	-6,022.15	-364.80	6,031.30	0.00	0.00	0.00
15,300.00	90.00	179.65	8,528.00	-6,122.15	-364.19	6,131.21	0.00	0.00	0.00
15,400.00	90.00	179.65	8,528.00	-6,222.15	-363.59	6,231.13	0.00	0.00	0.00
15,500.00	90.00	179.65	8,528.00	-6,322.15	-362.98	6,331.04	0.00	0.00	0.00
15,600.00	90.00	179.65	8,528.00	-6,422.14	-362.37	6,430.95	0.00	0.00	0.00
15,700.00	90.00	179.65	8,528.00	-6,522.14	-361.76	6,530.87	0.00	0.00	0.00
15,800.00	90.00	179.65	8,528.00	-6,622.14	-361.15	6,630.78	0.00	0.00	0.00
15,900.00	90.00	179.65	8,528.00	-6,722.14	-360.54	6,730.69	0.00	0.00	0.00
16,000.00	90.00	179.65	8,528.00	-6,822.14	-359.93	6,830.61	0.00	0.00	0.00
16,100.00	90.00	179.65	8,528.00	-6,922.13	-359.32	6,930.52	0.00	0.00	0.00
16,200.00	90.00	179.65	8,528.00	-7,022.13	-358.71	7,030.44	0.00	0.00	0.00
16,300.00	90.00	179.65	8,528.00	-7,122.13	-358.10	7,130.35	0.00	0.00	0.00
16,400.00	90.00	179.65	8,528.00	-7,222.13	-357.49	7,230.26	0.00	0.00	0.00
16,500.00	90.00	179.65	8,528.00	-7,322.13	-356.89	7,330.18	0.00	0.00	0.00
16,600.00	90.00	179.65	8,528.00	-7,422.13	-356.28	7,430.09	0.00	0.00	0.00
16,700.00	90.00	179.65	8,528.00	-7,522.12	-355.67	7,530.00	0.00	0.00	0.00
16,800.00	90.00	179.65	8,528.00	-7,622.12	-355.06	7,629.92	0.00	0.00	0.00
16,900.00	90.00	179.65	8,528.00	-7,722.12	-354.45	7,729.83	0.00	0.00	0.00
17,000.00	90.00	179.65	8,528.00	-7,822.12	-353.84	7,829.75	0.00	0.00	0.00
17,100.00	90.00	179.65	8,528.00	-7,922.12	-353.23	7,929.66	0.00	0.00	0.00
17,200.00	90.00	179.65	8,528.00	-8,022.11	-352.62	8,029.57	0.00	0.00	0.00
17,300.00	90.00	179.65	8,528.00	-8,122.11	-352.01	8,129.49	0.00	0.00	0.00
17,400.00	90.00	179.65	8,528.00	-8,222.11	-351.40	8,229.40	0.00	0.00	0.00
17,500.00	90.00	179.65	8,528.00	-8,322.11	-350.79	8,329.31	0.00	0.00	0.00
17,600.00	90.00	179.65	8,528.00	-8,422.11	-350.18	8,429.23	0.00	0.00	0.00
17,700.00	90.00	179.65	8,528.00	-8,522.11	-349.58	8,529.14	0.00	0.00	0.00
17,800.00	90.00	179.65	8,528.00	-8,622.10	-348.97	8,629.05	0.00	0.00	0.00
17,900.00	90.00	179.65	8,528.00	-8,722.10	-348.36	8,728.97	0.00	0.00	0.00
18,000.00	90.00	179.65	8,528.00	-8,822.10	-347.75	8,828.88	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1930-2CH
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 1930-2CH	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	179.65	8,528.00	-8,922.10	-347.14	8,928.80	0.00	0.00	0.00
18,200.00	90.00	179.65	8,528.00	-9,022.10	-346.53	9,028.71	0.00	0.00	0.00
18,300.00	90.00	179.65	8,528.00	-9,122.09	-345.92	9,128.62	0.00	0.00	0.00
18,400.00	90.00	179.65	8,528.00	-9,222.09	-345.31	9,228.54	0.00	0.00	0.00
18,500.00	90.00	179.65	8,528.00	-9,322.09	-344.70	9,328.45	0.00	0.00	0.00
18,600.00	90.00	179.65	8,528.00	-9,422.09	-344.09	9,428.36	0.00	0.00	0.00
18,700.00	90.00	179.65	8,528.00	-9,522.09	-343.48	9,528.28	0.00	0.00	0.00
18,800.00	90.00	179.65	8,528.00	-9,622.08	-342.87	9,628.19	0.00	0.00	0.00
18,836.65	90.00	179.65	8,528.00	-9,658.73	-342.65	9,664.80	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
1930-2CH HEEL (244 - plan hits target center - Point	0.00	0.00	7,972.74	817.15	-367.19	1,576,884.857 1	3,217,772.900 6	40° 54' 51.342 N	104° 42' 43.532 W
1930-2CH BHL (330' I - plan hits target center - Point	0.00	0.00	8,528.00	-9,658.73	-342.65	1,566,408.999 5	3,217,797.443 8	40° 53' 7.836 N	104° 42' 44.424 W
1930-2CH LP (330' FI - plan hits target center - Point	0.00	0.00	8,528.00	244.19	-402.98	1,576,311.9027	3,217,737.1198	40° 54' 45.684 N	104° 42' 44.064 W

Checked By: _____ Approved By: _____ Date: _____