



# **Longs Peak Resources**

**Weld County, Co (NAD 83)**

**Matira West Pad**

**Matira West Federal 3019-6CH**

**Wellbore #1**

**Plan: Plan #1**

## **Standard Survey Report**

**20 February, 2017**



# Integrity Directional Services, LLC

## Survey Report



<b>Company:</b>	Longs Peak Resources	<b>Local Co-ordinate Reference:</b>	Well Matira West Federal 3019-6CH
<b>Project:</b>	Weld County, Co (NAD 83)	<b>TVD Reference:</b>	KB=25 @ 6040.00ft
<b>Site:</b>	Matira West Pad	<b>MD Reference:</b>	KB=25 @ 6040.00ft
<b>Well:</b>	Matira West Federal 3019-6CH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDM 5000.1 Multi User Db

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

Site	Matira West Pad				
Site Position:		Northing:	1,598,033.8282 usft	Latitude:	40° 58' 20.208 N
From:	Lat/Long	Easting:	3,218,753.7685 usft	Longitude:	104° 42' 28.296 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.51 °

Well							Matira West Federal 3019-6CH						
Well Position		+N/-S	0.00 ft	Northing:		1,598,035.6221 usfl		Latitude:		40° 58' 20.208 N			
		+E/-W	0.00 ft			Easting:				3,218,955.3567 usfl		Longitude:	
Position Uncertainty			0.00 ft	Wellhead Elevation:		0.00 ft		Ground Level:		6,015.00 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>
	IGRF2015	2/16/2017	8.26	67.33	52,721

<b>Design</b>	Plan #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00		1.18

<b>Survey Tool Program</b>	<b>Date</b>	2/20/2017			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.00	19,371.86	Plan #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Planned 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 (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
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



<b>Company:</b>	Longs Peak Resources	<b>Local Co-ordinate Reference:</b>	Well Matira West Federal 3019-6CH
<b>Project:</b>	Weld County, Co (NAD 83)	<b>TVD Reference:</b>	KB=25 @ 6040.00ft
<b>Site:</b>	Matira West Pad	<b>MD Reference:</b>	KB=25 @ 6040.00ft
<b>Well:</b>	Matira West Federal 3019-6CH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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
<b>Start Build 2.00</b>									
2,700.00	2.00	162.69	2,699.98	-1.67	0.52	-1.66	2.00	2.00	0.00
2,800.00	4.00	162.69	2,799.84	-6.66	2.08	-6.62	2.00	2.00	0.00
2,900.00	6.00	162.69	2,899.45	-14.98	4.67	-14.88	2.00	2.00	0.00
2,929.27	6.59	162.69	2,928.54	-18.05	5.62	-17.93	2.00	2.00	0.00
<b>Start 5452.10 hold at 2929.27 MD</b>									
3,000.00	6.59	162.69	2,998.81	-25.79	8.04	-25.62	0.00	0.00	0.00
3,100.00	6.59	162.69	3,098.15	-36.74	11.45	-36.49	0.00	0.00	0.00
3,200.00	6.59	162.69	3,197.49	-47.69	14.86	-47.37	0.00	0.00	0.00
3,300.00	6.59	162.69	3,296.83	-58.64	18.28	-58.25	0.00	0.00	0.00
3,400.00	6.59	162.69	3,396.17	-69.58	21.69	-69.12	0.00	0.00	0.00
3,500.00	6.59	162.69	3,495.51	-80.53	25.10	-80.00	0.00	0.00	0.00
3,600.00	6.59	162.69	3,594.85	-91.48	28.51	-90.87	0.00	0.00	0.00
3,700.00	6.59	162.69	3,694.19	-102.43	31.93	-101.75	0.00	0.00	0.00
3,800.00	6.59	162.69	3,793.53	-113.38	35.34	-112.63	0.00	0.00	0.00
3,900.00	6.59	162.69	3,892.87	-124.33	38.75	-123.50	0.00	0.00	0.00
4,000.00	6.59	162.69	3,992.21	-135.28	42.16	-134.38	0.00	0.00	0.00
4,100.00	6.59	162.69	4,091.55	-146.23	45.58	-145.25	0.00	0.00	0.00
4,200.00	6.59	162.69	4,190.89	-157.17	48.99	-156.13	0.00	0.00	0.00
4,300.00	6.59	162.69	4,290.23	-168.12	52.40	-167.01	0.00	0.00	0.00
4,400.00	6.59	162.69	4,389.57	-179.07	55.81	-177.88	0.00	0.00	0.00
4,500.00	6.59	162.69	4,488.91	-190.02	59.23	-188.76	0.00	0.00	0.00
4,600.00	6.59	162.69	4,588.25	-200.97	62.64	-199.63	0.00	0.00	0.00
4,700.00	6.59	162.69	4,687.59	-211.92	66.05	-210.51	0.00	0.00	0.00
4,800.00	6.59	162.69	4,786.93	-222.87	69.46	-221.39	0.00	0.00	0.00
4,900.00	6.59	162.69	4,886.27	-233.82	72.88	-232.26	0.00	0.00	0.00
5,000.00	6.59	162.69	4,985.61	-244.77	76.29	-243.14	0.00	0.00	0.00

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5,100.00	6.59	162.69	5,084.95	-255.71	79.70	-254.01	0.00	0.00	0.00
5,200.00	6.59	162.69	5,184.29	-266.66	83.11	-264.89	0.00	0.00	0.00
5,300.00	6.59	162.69	5,283.63	-277.61	86.53	-275.77	0.00	0.00	0.00
5,400.00	6.59	162.69	5,382.97	-288.56	89.94	-286.64	0.00	0.00	0.00
5,500.00	6.59	162.69	5,482.31	-299.51	93.35	-297.52	0.00	0.00	0.00
5,600.00	6.59	162.69	5,581.65	-310.46	96.76	-308.39	0.00	0.00	0.00
5,700.00	6.59	162.69	5,680.99	-321.41	100.17	-319.27	0.00	0.00	0.00
5,800.00	6.59	162.69	5,780.34	-332.36	103.59	-330.15	0.00	0.00	0.00
5,900.00	6.59	162.69	5,879.68	-343.30	107.00	-341.02	0.00	0.00	0.00
6,000.00	6.59	162.69	5,979.02	-354.25	110.41	-351.90	0.00	0.00	0.00
6,100.00	6.59	162.69	6,078.36	-365.20	113.82	-362.77	0.00	0.00	0.00
6,200.00	6.59	162.69	6,177.70	-376.15	117.24	-373.65	0.00	0.00	0.00
6,300.00	6.59	162.69	6,277.04	-387.10	120.65	-384.53	0.00	0.00	0.00
6,400.00	6.59	162.69	6,376.38	-398.05	124.06	-395.40	0.00	0.00	0.00
6,500.00	6.59	162.69	6,475.72	-409.00	127.47	-406.28	0.00	0.00	0.00
6,600.00	6.59	162.69	6,575.06	-419.95	130.89	-417.15	0.00	0.00	0.00
6,700.00	6.59	162.69	6,674.40	-430.89	134.30	-428.03	0.00	0.00	0.00
6,800.00	6.59	162.69	6,773.74	-441.84	137.71	-438.91	0.00	0.00	0.00
6,900.00	6.59	162.69	6,873.08	-452.79	141.12	-449.78	0.00	0.00	0.00
7,000.00	6.59	162.69	6,972.42	-463.74	144.54	-460.66	0.00	0.00	0.00
7,100.00	6.59	162.69	7,071.76	-474.69	147.95	-471.53	0.00	0.00	0.00
7,200.00	6.59	162.69	7,171.10	-485.64	151.36	-482.41	0.00	0.00	0.00
7,300.00	6.59	162.69	7,270.44	-496.59	154.77	-493.29	0.00	0.00	0.00
7,400.00	6.59	162.69	7,369.78	-507.54	158.19	-504.16	0.00	0.00	0.00
7,500.00	6.59	162.69	7,469.12	-518.48	161.60	-515.04	0.00	0.00	0.00
7,600.00	6.59	162.69	7,568.46	-529.43	165.01	-525.91	0.00	0.00	0.00
7,700.00	6.59	162.69	7,667.80	-540.38	168.42	-536.79	0.00	0.00	0.00
7,800.00	6.59	162.69	7,767.14	-551.33	171.84	-547.67	0.00	0.00	0.00
7,900.00	6.59	162.69	7,866.48	-562.28	175.25	-558.54	0.00	0.00	0.00
8,000.00	6.59	162.69	7,965.82	-573.23	178.66	-569.42	0.00	0.00	0.00
8,100.00	6.59	162.69	8,065.16	-584.18	182.07	-580.29	0.00	0.00	0.00
8,200.00	6.59	162.69	8,164.50	-595.13	185.49	-591.17	0.00	0.00	0.00
8,300.00	6.59	162.69	8,263.84	-606.07	188.90	-602.05	0.00	0.00	0.00
8,381.37	6.59	162.69	8,344.67	-614.98	191.68	-610.89	0.00	0.00	0.00
<b>Start DLS 10.00 TFO -162.62</b>									
8,400.00	4.84	156.08	8,363.21	-616.72	192.31	-612.62	10.00	-9.37	-35.48
8,500.00	5.91	19.29	8,463.02	-615.71	195.73	-611.54	10.00	1.07	-136.78
8,600.00	15.70	6.97	8,561.14	-597.38	199.08	-593.14	10.00	9.79	-12.33
8,700.00	25.65	4.05	8,654.59	-562.28	202.26	-557.98	10.00	9.95	-2.91
8,800.00	35.62	2.70	8,740.52	-511.47	205.17	-507.13	10.00	9.98	-1.35
8,900.00	45.61	1.88	8,816.33	-446.51	207.73	-442.12	10.00	9.99	-0.82
9,000.00	55.60	1.31	8,879.72	-369.36	209.85	-364.95	10.00	9.99	-0.58
9,100.00	65.59	0.85	8,928.76	-282.36	211.47	-277.94	10.00	9.99	-0.45
9,200.00	75.58	0.47	8,961.95	-188.18	212.54	-183.75	10.00	9.99	-0.39



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## Survey Report



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9,300.00	85.58	0.11	8,978.29	-89.65	213.03	-85.23	10.00	9.99	-0.35
9,344.24	90.00	359.96	8,980.00	-45.46	213.06	-41.05	10.00	9.99	-0.34
<b>Start 10027.62 hold at 9344.24 MD</b>									
9,400.00	90.00	359.96	8,980.00	10.31	213.02	14.70	0.00	0.00	0.00
9,500.00	90.00	359.96	8,980.00	110.31	212.95	114.68	0.00	0.00	0.00
9,600.00	90.00	359.96	8,980.00	210.31	212.88	214.66	0.00	0.00	0.00
9,700.00	90.00	359.96	8,980.00	310.31	212.81	314.63	0.00	0.00	0.00
9,800.00	90.00	359.96	8,980.00	410.31	212.74	414.61	0.00	0.00	0.00
9,900.00	90.00	359.96	8,980.00	510.31	212.67	514.59	0.00	0.00	0.00
10,000.00	90.00	359.96	8,980.00	610.31	212.60	614.57	0.00	0.00	0.00
10,100.00	90.00	359.96	8,980.00	710.31	212.54	714.54	0.00	0.00	0.00
10,200.00	90.00	359.96	8,980.00	810.31	212.47	814.52	0.00	0.00	0.00
10,300.00	90.00	359.96	8,980.00	910.31	212.40	914.50	0.00	0.00	0.00
10,400.00	90.00	359.96	8,980.00	1,010.31	212.33	1,014.47	0.00	0.00	0.00
10,500.00	90.00	359.96	8,980.00	1,110.31	212.26	1,114.45	0.00	0.00	0.00
10,600.00	90.00	359.96	8,980.00	1,210.31	212.19	1,214.43	0.00	0.00	0.00
10,700.00	90.00	359.96	8,980.00	1,310.31	212.12	1,314.41	0.00	0.00	0.00
10,800.00	90.00	359.96	8,980.00	1,410.31	212.05	1,414.38	0.00	0.00	0.00
10,900.00	90.00	359.96	8,980.00	1,510.31	211.98	1,514.36	0.00	0.00	0.00
11,000.00	90.00	359.96	8,980.00	1,610.31	211.91	1,614.34	0.00	0.00	0.00
11,100.00	90.00	359.96	8,980.00	1,710.31	211.84	1,714.32	0.00	0.00	0.00
11,200.00	90.00	359.96	8,980.00	1,810.31	211.78	1,814.29	0.00	0.00	0.00
11,300.00	90.00	359.96	8,980.00	1,910.31	211.71	1,914.27	0.00	0.00	0.00
11,400.00	90.00	359.96	8,980.00	2,010.31	211.64	2,014.25	0.00	0.00	0.00
11,500.00	90.00	359.96	8,980.00	2,110.31	211.57	2,114.22	0.00	0.00	0.00
11,600.00	90.00	359.96	8,980.00	2,210.31	211.50	2,214.20	0.00	0.00	0.00
11,700.00	90.00	359.96	8,980.00	2,310.31	211.43	2,314.18	0.00	0.00	0.00
11,800.00	90.00	359.96	8,980.00	2,410.31	211.36	2,414.16	0.00	0.00	0.00
11,900.00	90.00	359.96	8,980.00	2,510.31	211.29	2,514.13	0.00	0.00	0.00
12,000.00	90.00	359.96	8,980.00	2,610.31	211.22	2,614.11	0.00	0.00	0.00
12,100.00	90.00	359.96	8,980.00	2,710.31	211.15	2,714.09	0.00	0.00	0.00
12,200.00	90.00	359.96	8,980.00	2,810.31	211.08	2,814.06	0.00	0.00	0.00
12,300.00	90.00	359.96	8,980.00	2,910.31	211.01	2,914.04	0.00	0.00	0.00
12,400.00	90.00	359.96	8,980.00	3,010.31	210.95	3,014.02	0.00	0.00	0.00
12,500.00	90.00	359.96	8,980.00	3,110.31	210.88	3,114.00	0.00	0.00	0.00
12,600.00	90.00	359.96	8,980.00	3,210.31	210.81	3,213.97	0.00	0.00	0.00
12,700.00	90.00	359.96	8,980.00	3,310.31	210.74	3,313.95	0.00	0.00	0.00
12,800.00	90.00	359.96	8,980.00	3,410.31	210.67	3,413.93	0.00	0.00	0.00
12,900.00	90.00	359.96	8,980.00	3,510.31	210.60	3,513.91	0.00	0.00	0.00
13,000.00	90.00	359.96	8,980.00	3,610.31	210.53	3,613.88	0.00	0.00	0.00
13,100.00	90.00	359.96	8,980.00	3,710.31	210.46	3,713.86	0.00	0.00	0.00
13,200.00	90.00	359.96	8,980.00	3,810.31	210.39	3,813.84	0.00	0.00	0.00
13,300.00	90.00	359.96	8,980.00	3,910.31	210.32	3,913.81	0.00	0.00	0.00

# Integrity Directional Services, LLC

## Survey Report



<b>Company:</b>	Longs Peak Resources	<b>Local Co-ordinate Reference:</b>	Well Matira West Federal 3019-6CH
<b>Project:</b>	Weld County, Co (NAD 83)	<b>TVD Reference:</b>	KB=25 @ 6040.00ft
<b>Site:</b>	Matira West Pad	<b>MD Reference:</b>	KB=25 @ 6040.00ft
<b>Well:</b>	Matira West Federal 3019-6CH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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)
13,400.00	90.00	359.96	8,980.00	4,010.31	210.25	4,013.79	0.00	0.00	0.00
13,500.00	90.00	359.96	8,980.00	4,110.31	210.19	4,113.77	0.00	0.00	0.00
13,600.00	90.00	359.96	8,980.00	4,210.31	210.12	4,213.75	0.00	0.00	0.00
13,700.00	90.00	359.96	8,980.00	4,310.31	210.05	4,313.72	0.00	0.00	0.00
13,800.00	90.00	359.96	8,980.00	4,410.31	209.98	4,413.70	0.00	0.00	0.00
13,900.00	90.00	359.96	8,980.00	4,510.31	209.91	4,513.68	0.00	0.00	0.00
14,000.00	90.00	359.96	8,980.00	4,610.31	209.84	4,613.66	0.00	0.00	0.00
14,100.00	90.00	359.96	8,980.00	4,710.31	209.77	4,713.63	0.00	0.00	0.00
14,200.00	90.00	359.96	8,980.00	4,810.31	209.70	4,813.61	0.00	0.00	0.00
14,300.00	90.00	359.96	8,980.00	4,910.31	209.63	4,913.59	0.00	0.00	0.00
14,400.00	90.00	359.96	8,980.00	5,010.31	209.56	5,013.56	0.00	0.00	0.00
14,500.00	90.00	359.96	8,980.00	5,110.31	209.49	5,113.54	0.00	0.00	0.00
14,600.00	90.00	359.96	8,980.00	5,210.31	209.42	5,213.52	0.00	0.00	0.00
14,700.00	90.00	359.96	8,980.00	5,310.31	209.36	5,313.50	0.00	0.00	0.00
14,800.00	90.00	359.96	8,980.00	5,410.31	209.29	5,413.47	0.00	0.00	0.00
14,900.00	90.00	359.96	8,980.00	5,510.31	209.22	5,513.45	0.00	0.00	0.00
15,000.00	90.00	359.96	8,980.00	5,610.31	209.15	5,613.43	0.00	0.00	0.00
15,100.00	90.00	359.96	8,980.00	5,710.31	209.08	5,713.40	0.00	0.00	0.00
15,200.00	90.00	359.96	8,980.00	5,810.31	209.01	5,813.38	0.00	0.00	0.00
15,300.00	90.00	359.96	8,980.00	5,910.31	208.94	5,913.36	0.00	0.00	0.00
15,400.00	90.00	359.96	8,980.00	6,010.31	208.87	6,013.34	0.00	0.00	0.00
15,500.00	90.00	359.96	8,980.00	6,110.31	208.80	6,113.31	0.00	0.00	0.00
15,600.00	90.00	359.96	8,980.00	6,210.31	208.73	6,213.29	0.00	0.00	0.00
15,700.00	90.00	359.96	8,980.00	6,310.31	208.66	6,313.27	0.00	0.00	0.00
15,800.00	90.00	359.96	8,980.00	6,410.31	208.60	6,413.25	0.00	0.00	0.00
15,900.00	90.00	359.96	8,980.00	6,510.31	208.53	6,513.22	0.00	0.00	0.00
16,000.00	90.00	359.96	8,980.00	6,610.31	208.46	6,613.20	0.00	0.00	0.00
16,100.00	90.00	359.96	8,980.00	6,710.31	208.39	6,713.18	0.00	0.00	0.00
16,200.00	90.00	359.96	8,980.00	6,810.31	208.32	6,813.15	0.00	0.00	0.00
16,300.00	90.00	359.96	8,980.00	6,910.31	208.25	6,913.13	0.00	0.00	0.00
16,400.00	90.00	359.96	8,980.00	7,010.30	208.18	7,013.11	0.00	0.00	0.00
16,500.00	90.00	359.96	8,980.00	7,110.30	208.11	7,113.09	0.00	0.00	0.00
16,600.00	90.00	359.96	8,980.00	7,210.30	208.04	7,213.06	0.00	0.00	0.00
16,700.00	90.00	359.96	8,980.00	7,310.30	207.97	7,313.04	0.00	0.00	0.00
16,800.00	90.00	359.96	8,980.00	7,410.30	207.90	7,413.02	0.00	0.00	0.00
16,900.00	90.00	359.96	8,980.00	7,510.30	207.83	7,512.99	0.00	0.00	0.00
17,000.00	90.00	359.96	8,980.00	7,610.30	207.77	7,612.97	0.00	0.00	0.00
17,100.00	90.00	359.96	8,980.00	7,710.30	207.70	7,712.95	0.00	0.00	0.00
17,200.00	90.00	359.96	8,980.00	7,810.30	207.63	7,812.93	0.00	0.00	0.00
17,300.00	90.00	359.96	8,980.00	7,910.30	207.56	7,912.90	0.00	0.00	0.00
17,400.00	90.00	359.96	8,980.00	8,010.30	207.49	8,012.88	0.00	0.00	0.00
17,500.00	90.00	359.96	8,980.00	8,110.30	207.42	8,112.86	0.00	0.00	0.00
17,600.00	90.00	359.96	8,980.00	8,210.30	207.35	8,212.84	0.00	0.00	0.00

# Integrity Directional Services, LLC

## Survey Report



<b>Company:</b>	Longs Peak Resources	<b>Local Co-ordinate Reference:</b>	Well Matira West Federal 3019-6CH
<b>Project:</b>	Weld County, Co (NAD 83)	<b>TVD Reference:</b>	KB=25 @ 6040.00ft
<b>Site:</b>	Matira West Pad	<b>MD Reference:</b>	KB=25 @ 6040.00ft
<b>Well:</b>	Matira West Federal 3019-6CH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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)
17,700.00	90.00	359.96	8,980.00	8,310.30	207.28	8,312.81	0.00	0.00	0.00
17,800.00	90.00	359.96	8,980.00	8,410.30	207.21	8,412.79	0.00	0.00	0.00
17,900.00	90.00	359.96	8,980.00	8,510.30	207.14	8,512.77	0.00	0.00	0.00
18,000.00	90.00	359.96	8,980.00	8,610.30	207.07	8,612.74	0.00	0.00	0.00
18,100.00	90.00	359.96	8,980.00	8,710.30	207.01	8,712.72	0.00	0.00	0.00
18,200.00	90.00	359.96	8,980.00	8,810.30	206.94	8,812.70	0.00	0.00	0.00
18,300.00	90.00	359.96	8,980.00	8,910.30	206.87	8,912.68	0.00	0.00	0.00
18,400.00	90.00	359.96	8,980.00	9,010.30	206.80	9,012.65	0.00	0.00	0.00
18,500.00	90.00	359.96	8,980.00	9,110.30	206.73	9,112.63	0.00	0.00	0.00
18,600.00	90.00	359.96	8,980.00	9,210.30	206.66	9,212.61	0.00	0.00	0.00
18,700.00	90.00	359.96	8,980.00	9,310.30	206.59	9,312.59	0.00	0.00	0.00
18,800.00	90.00	359.96	8,980.00	9,410.30	206.52	9,412.56	0.00	0.00	0.00
18,900.00	90.00	359.96	8,980.00	9,510.30	206.45	9,512.54	0.00	0.00	0.00
19,000.00	90.00	359.96	8,980.00	9,610.30	206.38	9,612.52	0.00	0.00	0.00
19,100.00	90.00	359.96	8,980.00	9,710.30	206.31	9,712.49	0.00	0.00	0.00
19,200.00	90.00	359.96	8,980.00	9,810.30	206.24	9,812.47	0.00	0.00	0.00
19,300.00	90.00	359.96	8,980.00	9,910.30	206.18	9,912.45	0.00	0.00	0.00
19,371.86	90.00	359.96	8,980.00	9,982.17	206.13	9,984.30	0.00	0.00	0.00
TD at 19371.86									

### Design Targets

Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
3019-6CH HEEL (243)	- Shape	0.00	0.00	8,412.97	-618.40	194.02	1,597,417.223 3	3,219,149.375 6	40° 58' 14.081 N	104° 42' 23.211 W
- plan hits target center										
- Point										
3019-6CH LP (330' F)	- Shape	0.00	0.00	8,980.00	-45.46	213.06	1,597,990.167 1	3,219,168.414 6	40° 58' 19.740 N	104° 42' 22.896 W
- plan hits target center										
- Point										
3019-6CH BHL (151' I)	- Shape	0.00	0.00	8,980.00	9,982.17	206.13	1,608,017.769 4	3,219,161.482 4	40° 59' 58.812 N	104° 42' 21.816 W
- plan hits target center										
- Point										

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
2600	2600	0	0	Start Build 2.00
2929	2929	-18	6	Start 5452.10 hold at 2929.27 MD
8381	8345	-615	192	Start DLS 10.00 TFO -162.62
9344	8980	-45	213	Start 10027.62 hold at 9344.24 MD
19,372	8980	9982	206	TD at 19371.86



**Integrity Directional Services, LLC**  
Survey Report



<b>Company:</b>	Longs Peak Resources	<b>Local Co-ordinate Reference:</b>	Well Matira West Federal 3019-6CH
<b>Project:</b>	Weld County, Co (NAD 83)	<b>TVD Reference:</b>	KB=25 @ 6040.00ft
<b>Site:</b>	Matira West Pad	<b>MD Reference:</b>	KB=25 @ 6040.00ft
<b>Well:</b>	Matira West Federal 3019-6CH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDM 5000.1 Multi User Db

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