



# **Longs Peak Resources**

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

**Dorada West Pad**

**Dorada West 1411-5NH**

**Wellbore #1**

**Plan: Design #1**

## **Standard Survey Report**

**27 March, 2017**



# Integrity Directional Services, LLC

## Survey Report



<b>Company:</b>	Longs Peak Resources	<b>Local Co-ordinate Reference:</b>	Well Dorada West 1411-5NH
<b>Project:</b>	Weld County, Co (NAD 83)	<b>TVD Reference:</b>	KB=25' @ 5697.00ft
<b>Site:</b>	Dorada West Pad	<b>MD Reference:</b>	KB=25' @ 5697.00ft
<b>Well:</b>	Dorada West 1411-5NH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #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		

<b>Site</b>	Dorada West Pad		
<b>Site Position:</b>		<b>Northing:</b>	1,576,950.1329 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,206,868.6705 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40° 54' 52.920 N
		<b>Longitude:</b>	104° 45' 5.544 W
		<b>Grid Convergence:</b>	0.48 °

<b>Well</b>	Dorada West 1411-5NH		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 1,576,947.8352 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 3,207,029.0052 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft
		<b>Latitude:</b>	40° 54' 52.884 N
		<b>Longitude:</b>	104° 45' 3.456 W
		<b>Ground Level:</b>	5,672.00 ft

<b>Wellbore</b>	Wellbore #1		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>
	IGRF2015	3/27/2017	8.27
			<b>Dip Angle (°)</b> 67.27
			<b>Field Strength (nT)</b> 52,678

<b>Design</b>	Design #1		
<b>Audit Notes:</b>			
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<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>
	0.00	0.00	0.00
			<b>Direction (°)</b> 6.69

<b>Survey Tool Program</b>	<b>Date</b> 3/27/2017		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>
0.00	18,901.04	Design #1 (Wellbore #1)	MWD
			<b>Description</b> 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

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## Survey Report



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<b>Project:</b>	Weld County, Co (NAD 83)	<b>TVD Reference:</b>	KB=25' @ 5697.00ft
<b>Site:</b>	Dorada West Pad	<b>MD Reference:</b>	KB=25' @ 5697.00ft
<b>Well:</b>	Dorada West 1411-5NH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #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
2,700.00	2.00	116.90	2,699.98	-0.79	1.56	-0.60	2.00	2.00	0.00
2,800.00	4.00	116.90	2,799.84	-3.16	6.22	-2.41	2.00	2.00	0.00
2,900.00	6.00	116.90	2,899.45	-7.10	14.00	-5.42	2.00	2.00	0.00
3,000.00	8.00	116.90	2,998.70	-12.61	24.86	-9.63	2.00	2.00	0.00
3,100.00	10.00	116.90	3,097.47	-19.69	38.81	-15.03	2.00	2.00	0.00
3,200.00	12.00	116.90	3,195.62	-28.33	55.83	-21.63	2.00	2.00	0.00
3,300.00	14.00	116.90	3,293.06	-38.50	75.89	-29.40	2.00	2.00	0.00
3,342.15	14.84	116.90	3,333.87	-43.25	85.25	-33.02	2.00	2.00	0.00
3,400.00	14.84	116.90	3,389.80	-49.96	98.46	-38.14	0.00	0.00	0.00
3,500.00	14.84	116.90	3,486.46	-61.55	121.31	-46.99	0.00	0.00	0.00
3,600.00	14.84	116.90	3,583.12	-73.14	144.15	-55.84	0.00	0.00	0.00
3,700.00	14.84	116.90	3,679.79	-84.73	167.00	-64.69	0.00	0.00	0.00
3,800.00	14.84	116.90	3,776.45	-96.32	189.84	-73.54	0.00	0.00	0.00
3,900.00	14.84	116.90	3,873.11	-107.91	212.69	-82.39	0.00	0.00	0.00
4,000.00	14.84	116.90	3,969.78	-119.50	235.53	-91.24	0.00	0.00	0.00
4,100.00	14.84	116.90	4,066.44	-131.09	258.38	-100.09	0.00	0.00	0.00
4,200.00	14.84	116.90	4,163.10	-142.68	281.22	-108.94	0.00	0.00	0.00
4,300.00	14.84	116.90	4,259.77	-154.27	304.07	-117.79	0.00	0.00	0.00
4,400.00	14.84	116.90	4,356.43	-165.86	326.91	-126.64	0.00	0.00	0.00
4,500.00	14.84	116.90	4,453.09	-177.46	349.76	-135.48	0.00	0.00	0.00
4,600.00	14.84	116.90	4,549.75	-189.05	372.60	-144.33	0.00	0.00	0.00
4,700.00	14.84	116.90	4,646.42	-200.64	395.45	-153.18	0.00	0.00	0.00
4,800.00	14.84	116.90	4,743.08	-212.23	418.29	-162.03	0.00	0.00	0.00
4,900.00	14.84	116.90	4,839.74	-223.82	441.14	-170.88	0.00	0.00	0.00
5,000.00	14.84	116.90	4,936.41	-235.41	463.98	-179.73	0.00	0.00	0.00
5,100.00	14.84	116.90	5,033.07	-247.00	486.83	-188.58	0.00	0.00	0.00
5,200.00	14.84	116.90	5,129.73	-258.59	509.67	-197.43	0.00	0.00	0.00

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5,300.00	14.84	116.90	5,226.40	-270.18	532.52	-206.28	0.00	0.00	0.00
5,400.00	14.84	116.90	5,323.06	-281.77	555.36	-215.13	0.00	0.00	0.00
5,500.00	14.84	116.90	5,419.72	-293.36	578.21	-223.98	0.00	0.00	0.00
5,600.00	14.84	116.90	5,516.39	-304.95	601.05	-232.83	0.00	0.00	0.00
5,700.00	14.84	116.90	5,613.05	-316.54	623.90	-241.68	0.00	0.00	0.00
5,800.00	14.84	116.90	5,709.71	-328.13	646.74	-250.53	0.00	0.00	0.00
5,900.00	14.84	116.90	5,806.38	-339.72	669.59	-259.38	0.00	0.00	0.00
6,000.00	14.84	116.90	5,903.04	-351.32	692.43	-268.22	0.00	0.00	0.00
6,100.00	14.84	116.90	5,999.70	-362.91	715.28	-277.07	0.00	0.00	0.00
6,200.00	14.84	116.90	6,096.37	-374.50	738.12	-285.92	0.00	0.00	0.00
6,300.00	14.84	116.90	6,193.03	-386.09	760.97	-294.77	0.00	0.00	0.00
6,400.00	14.84	116.90	6,289.69	-397.68	783.81	-303.62	0.00	0.00	0.00
6,500.00	14.84	116.90	6,386.35	-409.27	806.65	-312.47	0.00	0.00	0.00
6,600.00	14.84	116.90	6,483.02	-420.86	829.50	-321.32	0.00	0.00	0.00
6,700.00	14.84	116.90	6,579.68	-432.45	852.34	-330.17	0.00	0.00	0.00
6,800.00	14.84	116.90	6,676.34	-444.04	875.19	-339.02	0.00	0.00	0.00
6,900.00	14.84	116.90	6,773.01	-455.63	898.03	-347.87	0.00	0.00	0.00
7,000.00	14.84	116.90	6,869.67	-467.22	920.88	-356.72	0.00	0.00	0.00
7,100.00	14.84	116.90	6,966.33	-478.81	943.72	-365.57	0.00	0.00	0.00
7,200.00	14.84	116.90	7,063.00	-490.40	966.57	-374.42	0.00	0.00	0.00
7,300.00	14.84	116.90	7,159.66	-501.99	989.41	-383.27	0.00	0.00	0.00
7,400.00	14.84	116.90	7,256.32	-513.59	1,012.26	-392.12	0.00	0.00	0.00
7,500.00	14.84	116.90	7,352.99	-525.18	1,035.10	-400.97	0.00	0.00	0.00
7,600.00	14.84	116.90	7,449.65	-536.77	1,057.95	-409.81	0.00	0.00	0.00
7,700.00	14.84	116.90	7,546.31	-548.36	1,080.79	-418.66	0.00	0.00	0.00
7,800.00	14.84	116.90	7,642.98	-559.95	1,103.64	-427.51	0.00	0.00	0.00
7,900.00	14.84	116.90	7,739.64	-571.54	1,126.48	-436.36	0.00	0.00	0.00
8,000.00	14.84	116.90	7,836.30	-583.13	1,149.33	-445.21	0.00	0.00	0.00
8,051.11	14.84	116.90	7,885.70	-589.05	1,161.00	-449.73	0.00	0.00	0.00
8,100.00	13.34	97.68	7,933.15	-592.64	1,172.19	-452.00	10.00	-3.07	-39.32
8,200.00	15.42	57.43	8,030.25	-587.01	1,194.88	-443.76	10.00	2.08	-40.25
8,300.00	22.23	34.21	8,124.97	-564.15	1,216.78	-418.50	10.00	6.81	-23.22
8,400.00	30.77	22.38	8,214.45	-524.76	1,237.20	-377.00	10.00	8.54	-11.83
8,500.00	39.94	15.45	8,295.95	-470.03	1,255.54	-320.51	10.00	9.17	-6.94
8,600.00	49.39	10.78	8,367.01	-401.63	1,271.23	-250.74	10.00	9.45	-4.67
8,700.00	58.98	7.28	8,425.47	-321.63	1,283.79	-169.82	10.00	9.59	-3.49
8,800.00	68.65	4.44	8,469.54	-232.47	1,292.85	-80.21	10.00	9.67	-2.85
8,900.00	78.36	1.95	8,497.90	-136.85	1,298.13	15.37	10.00	9.71	-2.49
9,000.00	88.10	359.62	8,509.68	-37.68	1,299.47	114.02	10.00	9.73	-2.32
9,019.56	90.00	359.18	8,510.00	-18.13	1,299.26	133.41	10.00	9.74	-2.28
9,100.00	90.00	359.18	8,510.00	62.30	1,298.11	213.16	0.00	0.00	0.00
9,200.00	90.00	359.18	8,510.00	162.29	1,296.67	312.30	0.00	0.00	0.00
9,300.00	90.00	359.18	8,510.00	262.28	1,295.23	411.44	0.00	0.00	0.00



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9,400.00	90.00	359.18	8,510.00	362.27	1,293.80	510.58	0.00	0.00	0.00
9,500.00	90.00	359.18	8,510.00	462.26	1,292.36	609.73	0.00	0.00	0.00
9,600.00	90.00	359.18	8,510.00	562.25	1,290.92	708.87	0.00	0.00	0.00
9,700.00	90.00	359.18	8,510.00	662.24	1,289.48	808.01	0.00	0.00	0.00
9,800.00	90.00	359.18	8,510.00	762.23	1,288.05	907.15	0.00	0.00	0.00
9,900.00	90.00	359.18	8,510.00	862.22	1,286.61	1,006.29	0.00	0.00	0.00
10,000.00	90.00	359.18	8,510.00	962.21	1,285.17	1,105.43	0.00	0.00	0.00
10,100.00	90.00	359.18	8,510.00	1,062.20	1,283.74	1,204.57	0.00	0.00	0.00
10,200.00	90.00	359.18	8,510.00	1,162.19	1,282.30	1,303.71	0.00	0.00	0.00
10,300.00	90.00	359.18	8,510.00	1,262.18	1,280.86	1,402.85	0.00	0.00	0.00
10,400.00	90.00	359.18	8,510.00	1,362.17	1,279.43	1,501.99	0.00	0.00	0.00
10,500.00	90.00	359.18	8,510.00	1,462.16	1,277.99	1,601.13	0.00	0.00	0.00
10,600.00	90.00	359.18	8,510.00	1,562.15	1,276.55	1,700.27	0.00	0.00	0.00
10,700.00	90.00	359.18	8,510.00	1,662.14	1,275.11	1,799.42	0.00	0.00	0.00
10,800.00	90.00	359.18	8,510.00	1,762.13	1,273.68	1,898.56	0.00	0.00	0.00
10,900.00	90.00	359.18	8,510.00	1,862.12	1,272.24	1,997.70	0.00	0.00	0.00
11,000.00	90.00	359.18	8,510.00	1,962.11	1,270.80	2,096.84	0.00	0.00	0.00
11,100.00	90.00	359.18	8,510.00	2,062.10	1,269.37	2,195.98	0.00	0.00	0.00
11,200.00	90.00	359.18	8,510.00	2,162.09	1,267.93	2,295.12	0.00	0.00	0.00
11,300.00	90.00	359.18	8,510.00	2,262.08	1,266.49	2,394.26	0.00	0.00	0.00
11,400.00	90.00	359.18	8,510.00	2,362.07	1,265.05	2,493.40	0.00	0.00	0.00
11,500.00	90.00	359.18	8,510.00	2,462.06	1,263.62	2,592.54	0.00	0.00	0.00
11,600.00	90.00	359.18	8,510.00	2,562.05	1,262.18	2,691.68	0.00	0.00	0.00
11,700.00	90.00	359.18	8,510.00	2,662.04	1,260.74	2,790.82	0.00	0.00	0.00
11,800.00	90.00	359.18	8,510.00	2,762.02	1,259.31	2,889.96	0.00	0.00	0.00
11,900.00	90.00	359.18	8,510.00	2,862.01	1,257.87	2,989.11	0.00	0.00	0.00
12,000.00	90.00	359.18	8,510.00	2,962.00	1,256.43	3,088.25	0.00	0.00	0.00
12,100.00	90.00	359.18	8,510.00	3,061.99	1,254.99	3,187.39	0.00	0.00	0.00
12,200.00	90.00	359.18	8,510.00	3,161.98	1,253.56	3,286.53	0.00	0.00	0.00
12,300.00	90.00	359.18	8,510.00	3,261.97	1,252.12	3,385.67	0.00	0.00	0.00
12,400.00	90.00	359.18	8,510.00	3,361.96	1,250.68	3,484.81	0.00	0.00	0.00
12,500.00	90.00	359.18	8,510.00	3,461.95	1,249.25	3,583.95	0.00	0.00	0.00
12,600.00	90.00	359.18	8,510.00	3,561.94	1,247.81	3,683.09	0.00	0.00	0.00
12,700.00	90.00	359.18	8,510.00	3,661.93	1,246.37	3,782.23	0.00	0.00	0.00
12,800.00	90.00	359.18	8,510.00	3,761.92	1,244.93	3,881.37	0.00	0.00	0.00
12,900.00	90.00	359.18	8,510.00	3,861.91	1,243.50	3,980.51	0.00	0.00	0.00
13,000.00	90.00	359.18	8,510.00	3,961.90	1,242.06	4,079.66	0.00	0.00	0.00
13,100.00	90.00	359.18	8,510.00	4,061.89	1,240.62	4,178.80	0.00	0.00	0.00
13,200.00	90.00	359.18	8,510.00	4,161.88	1,239.19	4,277.94	0.00	0.00	0.00
13,300.00	90.00	359.18	8,510.00	4,261.87	1,237.75	4,377.08	0.00	0.00	0.00
13,400.00	90.00	359.18	8,510.00	4,361.86	1,236.31	4,476.22	0.00	0.00	0.00
13,500.00	90.00	359.18	8,510.00	4,461.85	1,234.87	4,575.36	0.00	0.00	0.00
13,600.00	90.00	359.18	8,510.00	4,561.84	1,233.44	4,674.50	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 Dorada West 1411-5NH
<b>Project:</b>	Weld County, Co (NAD 83)	<b>TVD Reference:</b>	KB=25' @ 5697.00ft
<b>Site:</b>	Dorada West Pad	<b>MD Reference:</b>	KB=25' @ 5697.00ft
<b>Well:</b>	Dorada West 1411-5NH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #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)
13,700.00	90.00	359.18	8,510.00	4,661.83	1,232.00	4,773.64	0.00	0.00	0.00
13,800.00	90.00	359.18	8,510.00	4,761.82	1,230.56	4,872.78	0.00	0.00	0.00
13,900.00	90.00	359.18	8,510.00	4,861.81	1,229.13	4,971.92	0.00	0.00	0.00
14,000.00	90.00	359.18	8,510.00	4,961.80	1,227.69	5,071.06	0.00	0.00	0.00
14,100.00	90.00	359.18	8,510.00	5,061.79	1,226.25	5,170.20	0.00	0.00	0.00
14,200.00	90.00	359.18	8,510.00	5,161.78	1,224.81	5,269.35	0.00	0.00	0.00
14,300.00	90.00	359.18	8,510.00	5,261.77	1,223.38	5,368.49	0.00	0.00	0.00
14,400.00	90.00	359.18	8,510.00	5,361.76	1,221.94	5,467.63	0.00	0.00	0.00
14,500.00	90.00	359.18	8,510.00	5,461.75	1,220.50	5,566.77	0.00	0.00	0.00
14,600.00	90.00	359.18	8,510.00	5,561.74	1,219.07	5,665.91	0.00	0.00	0.00
14,700.00	90.00	359.18	8,510.00	5,661.73	1,217.63	5,765.05	0.00	0.00	0.00
14,800.00	90.00	359.18	8,510.00	5,761.71	1,216.19	5,864.19	0.00	0.00	0.00
14,900.00	90.00	359.18	8,510.00	5,861.70	1,214.75	5,963.33	0.00	0.00	0.00
15,000.00	90.00	359.18	8,510.00	5,961.69	1,213.32	6,062.47	0.00	0.00	0.00
15,100.00	90.00	359.18	8,510.00	6,061.68	1,211.88	6,161.61	0.00	0.00	0.00
15,200.00	90.00	359.18	8,510.00	6,161.67	1,210.44	6,260.75	0.00	0.00	0.00
15,300.00	90.00	359.18	8,510.00	6,261.66	1,209.01	6,359.89	0.00	0.00	0.00
15,400.00	90.00	359.18	8,510.00	6,361.65	1,207.57	6,459.04	0.00	0.00	0.00
15,500.00	90.00	359.18	8,510.00	6,461.64	1,206.13	6,558.18	0.00	0.00	0.00
15,600.00	90.00	359.18	8,510.00	6,561.63	1,204.70	6,657.32	0.00	0.00	0.00
15,700.00	90.00	359.18	8,510.00	6,661.62	1,203.26	6,756.46	0.00	0.00	0.00
15,800.00	90.00	359.18	8,510.00	6,761.61	1,201.82	6,855.60	0.00	0.00	0.00
15,900.00	90.00	359.18	8,510.00	6,861.60	1,200.38	6,954.74	0.00	0.00	0.00
16,000.00	90.00	359.18	8,510.00	6,961.59	1,198.95	7,053.88	0.00	0.00	0.00
16,100.00	90.00	359.18	8,510.00	7,061.58	1,197.51	7,153.02	0.00	0.00	0.00
16,200.00	90.00	359.18	8,510.00	7,161.57	1,196.07	7,252.16	0.00	0.00	0.00
16,300.00	90.00	359.18	8,510.00	7,261.56	1,194.64	7,351.30	0.00	0.00	0.00
16,400.00	90.00	359.18	8,510.00	7,361.55	1,193.20	7,450.44	0.00	0.00	0.00
16,500.00	90.00	359.18	8,510.00	7,461.54	1,191.76	7,549.58	0.00	0.00	0.00
16,600.00	90.00	359.18	8,510.00	7,561.53	1,190.32	7,648.73	0.00	0.00	0.00
16,700.00	90.00	359.18	8,510.00	7,661.52	1,188.89	7,747.87	0.00	0.00	0.00
16,800.00	90.00	359.18	8,510.00	7,761.51	1,187.45	7,847.01	0.00	0.00	0.00
16,900.00	90.00	359.18	8,510.00	7,861.50	1,186.01	7,946.15	0.00	0.00	0.00
17,000.00	90.00	359.18	8,510.00	7,961.49	1,184.58	8,045.29	0.00	0.00	0.00
17,100.00	90.00	359.18	8,510.00	8,061.48	1,183.14	8,144.43	0.00	0.00	0.00
17,200.00	90.00	359.18	8,510.00	8,161.47	1,181.70	8,243.57	0.00	0.00	0.00
17,300.00	90.00	359.18	8,510.00	8,261.46	1,180.26	8,342.71	0.00	0.00	0.00
17,400.00	90.00	359.18	8,510.00	8,361.45	1,178.83	8,441.85	0.00	0.00	0.00
17,500.00	90.00	359.18	8,510.00	8,461.44	1,177.39	8,540.99	0.00	0.00	0.00
17,600.00	90.00	359.18	8,510.00	8,561.43	1,175.95	8,640.13	0.00	0.00	0.00
17,700.00	90.00	359.18	8,510.00	8,661.42	1,174.52	8,739.27	0.00	0.00	0.00
17,800.00	90.00	359.18	8,510.00	8,761.41	1,173.08	8,838.42	0.00	0.00	0.00
17,900.00	90.00	359.18	8,510.00	8,861.39	1,171.64	8,937.56	0.00	0.00	0.00
18,000.00	90.00	359.18	8,510.00	8,961.38	1,170.20	9,036.70	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 Dorada West 1411-5NH
<b>Project:</b>	Weld County, Co (NAD 83)	<b>TVD Reference:</b>	KB=25' @ 5697.00ft
<b>Site:</b>	Dorada West Pad	<b>MD Reference:</b>	KB=25' @ 5697.00ft
<b>Well:</b>	Dorada West 1411-5NH	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Design #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)
18,100.00	90.00	359.18	8,510.00	9,061.37	1,168.77	9,135.84	0.00	0.00	0.00
18,200.00	90.00	359.18	8,510.00	9,161.36	1,167.33	9,234.98	0.00	0.00	0.00
18,300.00	90.00	359.18	8,510.00	9,261.35	1,165.89	9,334.12	0.00	0.00	0.00
18,400.00	90.00	359.18	8,510.00	9,361.34	1,164.46	9,433.26	0.00	0.00	0.00
18,500.00	90.00	359.18	8,510.00	9,461.33	1,163.02	9,532.40	0.00	0.00	0.00
18,600.00	90.00	359.18	8,510.00	9,561.32	1,161.58	9,631.54	0.00	0.00	0.00
18,700.00	90.00	359.18	8,510.00	9,661.31	1,160.14	9,730.68	0.00	0.00	0.00
18,800.00	90.00	359.18	8,510.00	9,761.30	1,158.71	9,829.82	0.00	0.00	0.00
18,900.00	90.00	359.18	8,510.00	9,861.29	1,157.27	9,928.97	0.00	0.00	0.00
18,901.04	90.00	359.18	8,510.00	9,862.33	1,157.26	9,930.00	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									
1411-5NH HEEL (243	0.00	0.00	7,933.06	-592.64	1,172.17	1,576,355.196	3,208,201.168	40° 54' 46.930 N	104° 44' 48.255 W
- plan hits target center						4	2		
- Point									
1411-5NH LP (330' F	0.00	0.00	8,510.00	-18.13	1,299.26	1,576,929.703	3,208,328.266	40° 54' 52.596 N	104° 44' 46.536 W
- plan hits target center						4	3		
- Point									
1411-5NH BHL (330' I	0.00	0.00	8,510.00	9,862.33	1,157.26	1,586,810.148	3,208,186.258	40° 56' 30.228 N	104° 44' 47.292 W
- plan hits target center						6	1		
- Point									

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