

Longs Peak Resources
Project: Weld County, Co (NAD 83)
Site: Avila East Pad
Well: Avila East Federal 2920-12C
Wellbore: Wellbore #1
Plan: Plan #1 (Avila East Federal 2920-12C/Wellbore #1)



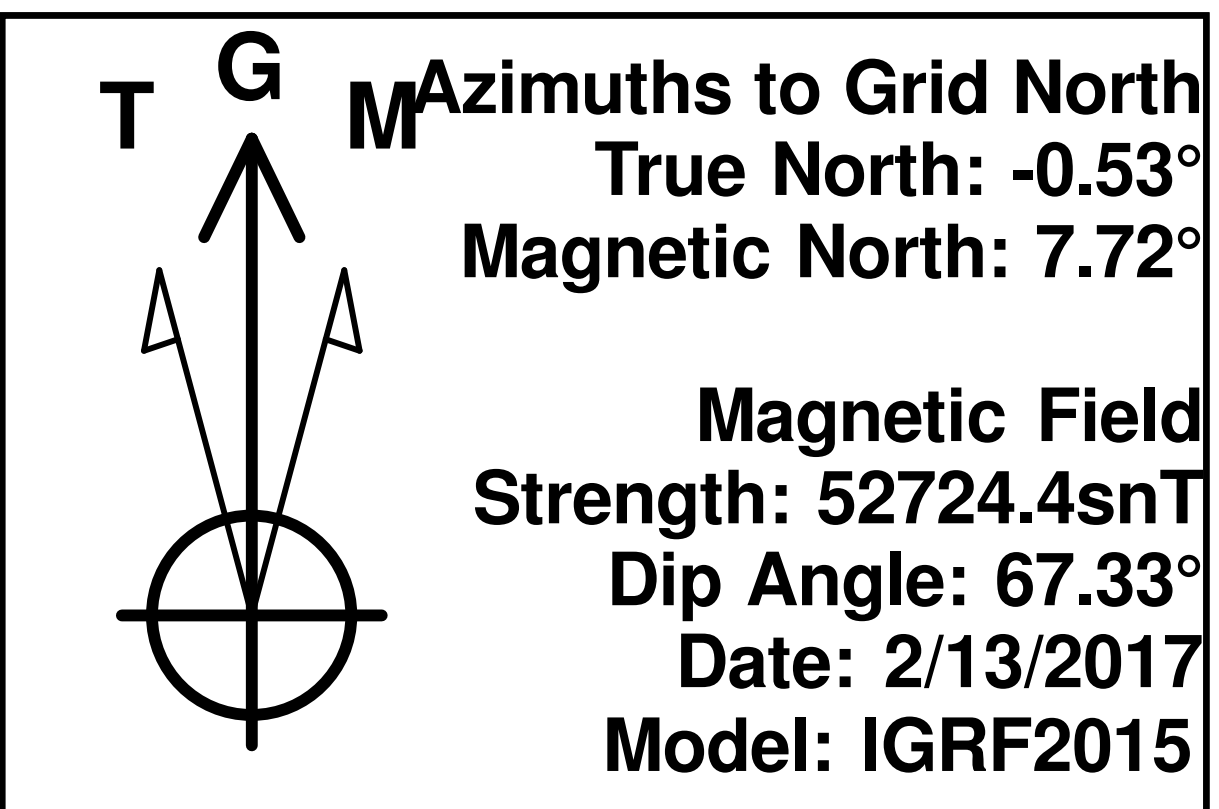
WELL DETAILS: Avila East Federal 2920-12C

Ground Elevation:: 5983.00
RKB Elevation: KB=25' @ 6008.00ft
Rig Name:

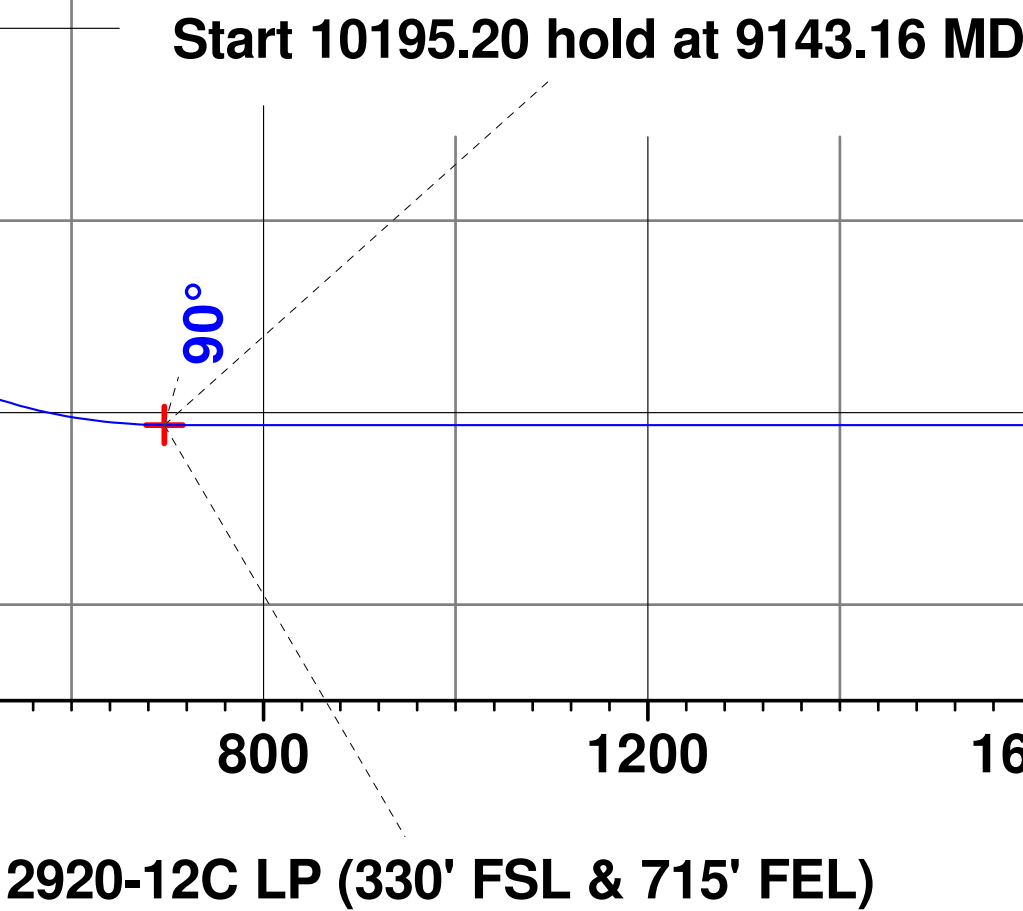
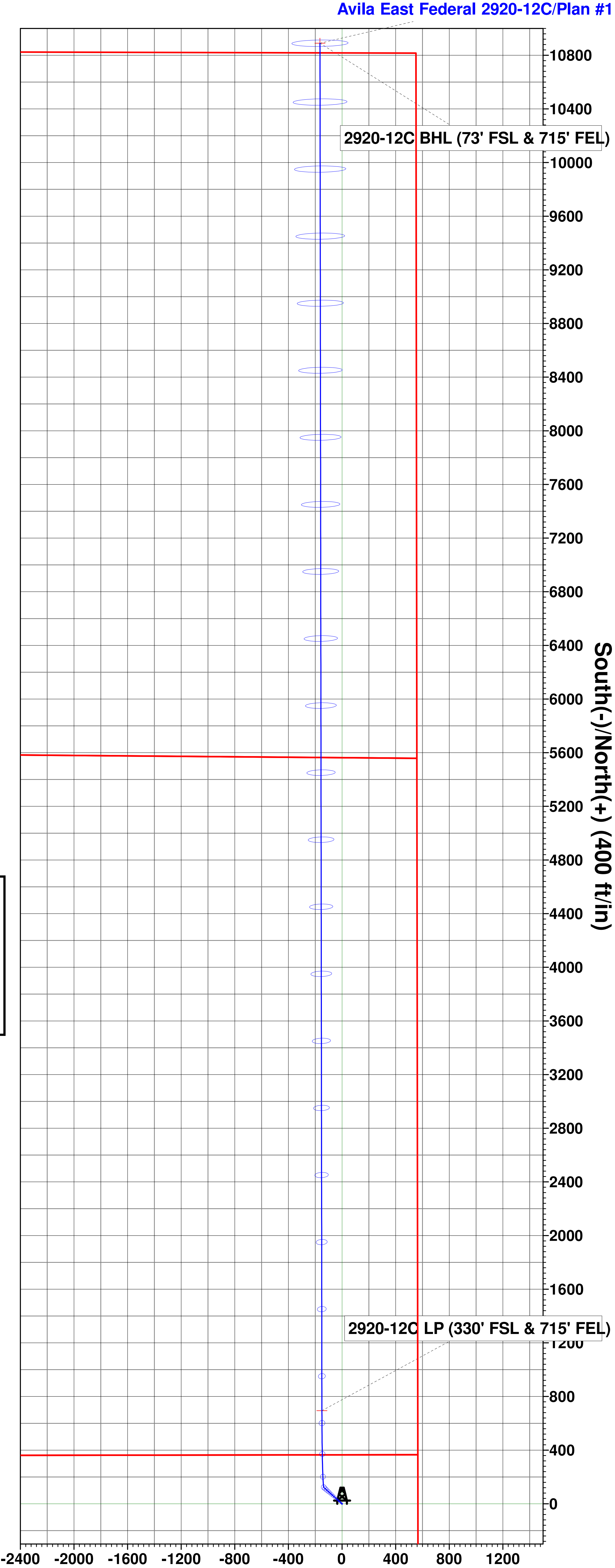
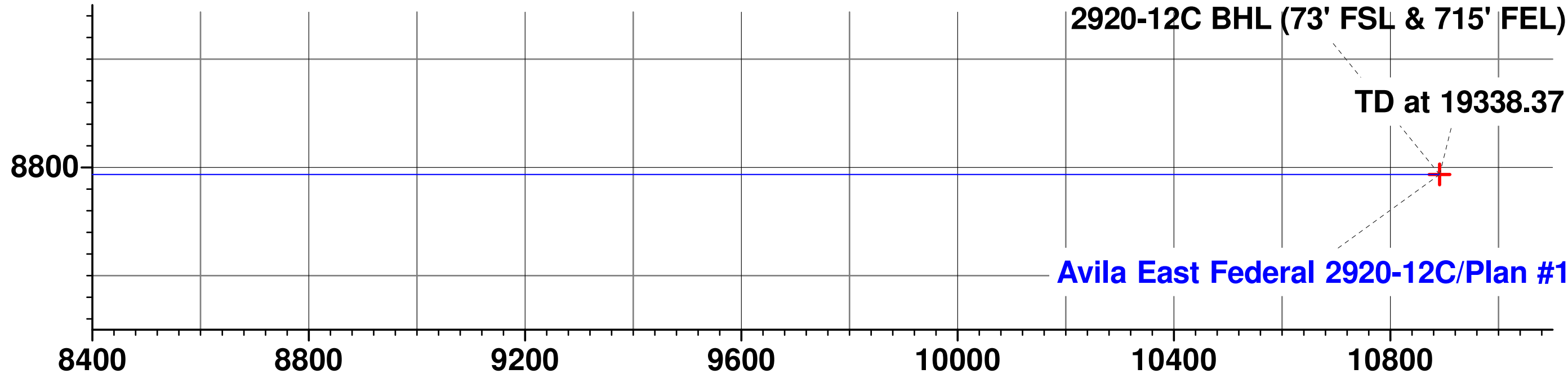
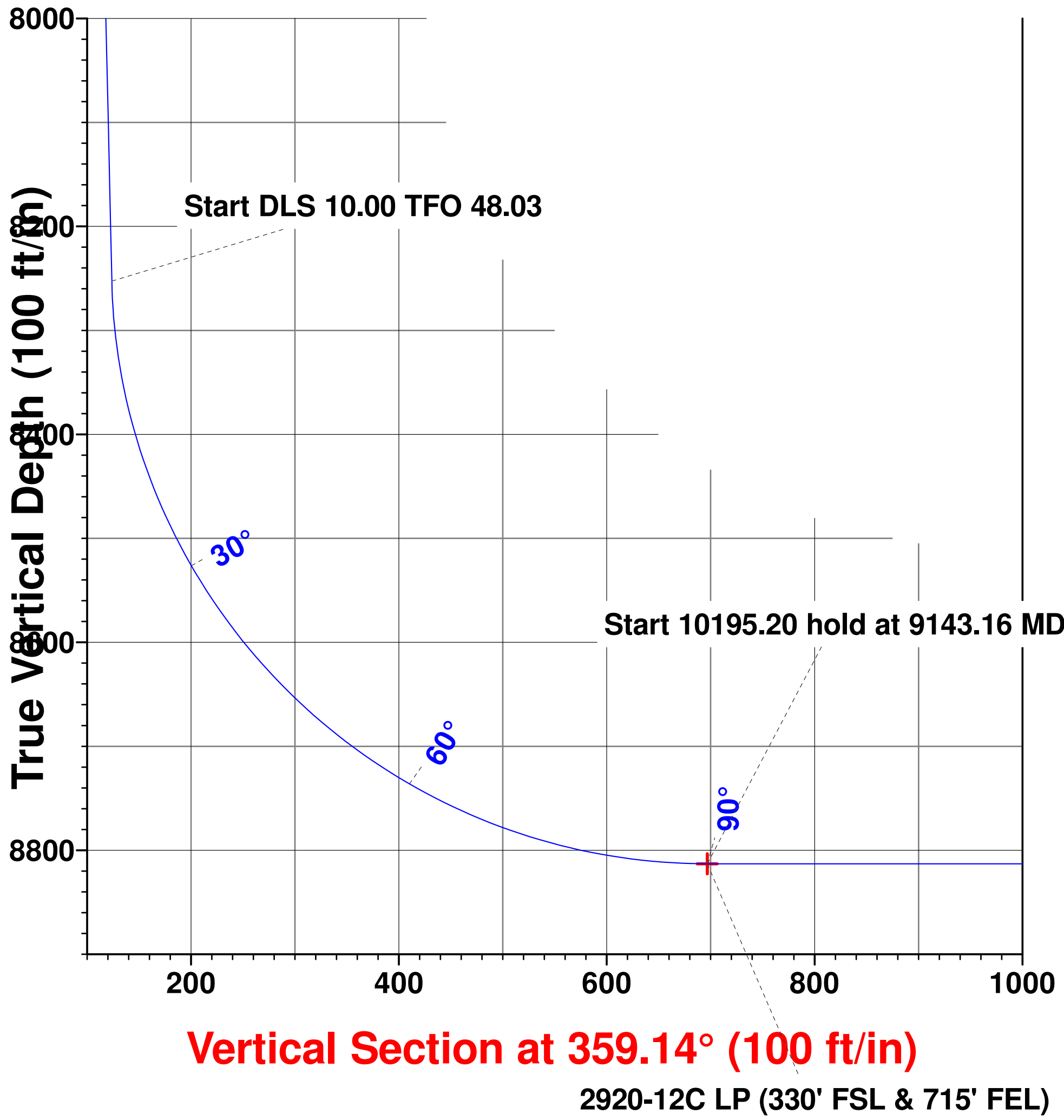
Northing	Easting	Latitude	Longitude
1597317.4234	3226918.4972	40° 58' 12.396 N	104° 40' 41.952 W

Planned Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
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	2693.14	1.86	311.91	2693.12	1.01	-1.13	2.00	311.91	1.03
4	8255.62	1.86	311.91	8252.66	121.77	-135.69	0.00	0.00	123.81
5	9143.16	90.00	359.92	8813.00	694.58	-150.05	10.00	48.03	696.76
6	19338.37	90.00	359.92	8813.00	10889.77	-164.40	0.00	0.00	10891.01



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)

Avila East Pad

Avila East Federal 2920-12C

Wellbore #1

Plan: Plan #1

Standard Survey Report

13 February, 2017



Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Avila East Federal 2920-12C
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 6008.00ft
Site:	Avila East Pad	MD Reference:	KB=25' @ 6008.00ft
Well:	Avila East Federal 2920-12C	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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	Avila East Pad		
Site Position:		Northing:	1,597,315.9475 usft
From:	Lat/Long	Easting:	3,226,758.3266 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	40° 58' 12.396 N
		Longitude:	104° 40' 44.040 W
		Grid Convergence:	0.53 °

Well	Avila East Federal 2920-12C		
Well Position	+N/-S	0.00 ft	Northing: 1,597,317.4234 usft
	+E/-W	0.00 ft	Easting: 3,226,918.4973 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	40° 58' 12.396 N
		Longitude:	104° 40' 41.952 W
		Ground Level:	5,983.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/13/2017	8.25	67.33	52,724

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	359.14	

Survey Tool Program	Date	2/13/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	19,338.37	Plan #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



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Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 6008.00ft
Site:	Avila East Pad	MD Reference:	KB=25' @ 6008.00ft
Well:	Avila East Federal 2920-12C	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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
Start Build 2.00									
2,693.14	1.86	311.91	2,693.12	1.01	-1.13	1.03	2.00	2.00	0.00
Start 5562.48 hold at 2693.14 MD									
2,700.00	1.86	311.91	2,699.98	1.16	-1.29	1.18	0.00	0.00	0.00
2,800.00	1.86	311.91	2,799.93	3.33	-3.71	3.39	0.00	0.00	0.00
2,900.00	1.86	311.91	2,899.87	5.50	-6.13	5.59	0.00	0.00	0.00
3,000.00	1.86	311.91	2,999.82	7.67	-8.55	7.80	0.00	0.00	0.00
3,100.00	1.86	311.91	3,099.77	9.84	-10.97	10.01	0.00	0.00	0.00
3,200.00	1.86	311.91	3,199.72	12.02	-13.39	12.22	0.00	0.00	0.00
3,300.00	1.86	311.91	3,299.66	14.19	-15.81	14.42	0.00	0.00	0.00
3,400.00	1.86	311.91	3,399.61	16.36	-18.23	16.63	0.00	0.00	0.00
3,500.00	1.86	311.91	3,499.56	18.53	-20.65	18.84	0.00	0.00	0.00
3,600.00	1.86	311.91	3,599.50	20.70	-23.07	21.05	0.00	0.00	0.00
3,700.00	1.86	311.91	3,699.45	22.87	-25.48	23.25	0.00	0.00	0.00
3,800.00	1.86	311.91	3,799.40	25.04	-27.90	25.46	0.00	0.00	0.00
3,900.00	1.86	311.91	3,899.35	27.21	-30.32	27.67	0.00	0.00	0.00
4,000.00	1.86	311.91	3,999.29	29.38	-32.74	29.87	0.00	0.00	0.00
4,100.00	1.86	311.91	4,099.24	31.55	-35.16	32.08	0.00	0.00	0.00
4,200.00	1.86	311.91	4,199.19	33.73	-37.58	34.29	0.00	0.00	0.00
4,300.00	1.86	311.91	4,299.13	35.90	-40.00	36.50	0.00	0.00	0.00
4,400.00	1.86	311.91	4,399.08	38.07	-42.42	38.70	0.00	0.00	0.00
4,500.00	1.86	311.91	4,499.03	40.24	-44.84	40.91	0.00	0.00	0.00
4,600.00	1.86	311.91	4,598.98	42.41	-47.26	43.12	0.00	0.00	0.00
4,700.00	1.86	311.91	4,698.92	44.58	-49.68	45.33	0.00	0.00	0.00
4,800.00	1.86	311.91	4,798.87	46.75	-52.10	47.53	0.00	0.00	0.00
4,900.00	1.86	311.91	4,898.82	48.92	-54.51	49.74	0.00	0.00	0.00
5,000.00	1.86	311.91	4,998.76	51.09	-56.93	51.95	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



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Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 6008.00ft
Site:	Avila East Pad	MD Reference:	KB=25' @ 6008.00ft
Well:	Avila East Federal 2920-12C	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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)
5,100.00	1.86	311.91	5,098.71	53.26	-59.35	54.15	0.00	0.00	0.00
5,200.00	1.86	311.91	5,198.66	55.44	-61.77	56.36	0.00	0.00	0.00
5,300.00	1.86	311.91	5,298.61	57.61	-64.19	58.57	0.00	0.00	0.00
5,400.00	1.86	311.91	5,398.55	59.78	-66.61	60.78	0.00	0.00	0.00
5,500.00	1.86	311.91	5,498.50	61.95	-69.03	62.98	0.00	0.00	0.00
5,600.00	1.86	311.91	5,598.45	64.12	-71.45	65.19	0.00	0.00	0.00
5,700.00	1.86	311.91	5,698.39	66.29	-73.87	67.40	0.00	0.00	0.00
5,800.00	1.86	311.91	5,798.34	68.46	-76.29	69.61	0.00	0.00	0.00
5,900.00	1.86	311.91	5,898.29	70.63	-78.71	71.81	0.00	0.00	0.00
6,000.00	1.86	311.91	5,998.24	72.80	-81.13	74.02	0.00	0.00	0.00
6,100.00	1.86	311.91	6,098.18	74.97	-83.55	76.23	0.00	0.00	0.00
6,200.00	1.86	311.91	6,198.13	77.15	-85.96	78.43	0.00	0.00	0.00
6,300.00	1.86	311.91	6,298.08	79.32	-88.38	80.64	0.00	0.00	0.00
6,400.00	1.86	311.91	6,398.02	81.49	-90.80	82.85	0.00	0.00	0.00
6,500.00	1.86	311.91	6,497.97	83.66	-93.22	85.06	0.00	0.00	0.00
6,600.00	1.86	311.91	6,597.92	85.83	-95.64	87.26	0.00	0.00	0.00
6,700.00	1.86	311.91	6,697.87	88.00	-98.06	89.47	0.00	0.00	0.00
6,800.00	1.86	311.91	6,797.81	90.17	-100.48	91.68	0.00	0.00	0.00
6,900.00	1.86	311.91	6,897.76	92.34	-102.90	93.89	0.00	0.00	0.00
7,000.00	1.86	311.91	6,997.71	94.51	-105.32	96.09	0.00	0.00	0.00
7,100.00	1.86	311.91	7,097.66	96.69	-107.74	98.30	0.00	0.00	0.00
7,200.00	1.86	311.91	7,197.60	98.86	-110.16	100.51	0.00	0.00	0.00
7,300.00	1.86	311.91	7,297.55	101.03	-112.58	102.72	0.00	0.00	0.00
7,400.00	1.86	311.91	7,397.50	103.20	-114.99	104.92	0.00	0.00	0.00
7,500.00	1.86	311.91	7,497.44	105.37	-117.41	107.13	0.00	0.00	0.00
7,600.00	1.86	311.91	7,597.39	107.54	-119.83	109.34	0.00	0.00	0.00
7,700.00	1.86	311.91	7,697.34	109.71	-122.25	111.54	0.00	0.00	0.00
7,800.00	1.86	311.91	7,797.29	111.88	-124.67	113.75	0.00	0.00	0.00
7,900.00	1.86	311.91	7,897.23	114.05	-127.09	115.96	0.00	0.00	0.00
8,000.00	1.86	311.91	7,997.18	116.22	-129.51	118.17	0.00	0.00	0.00
8,100.00	1.86	311.91	8,097.13	118.40	-131.93	120.37	0.00	0.00	0.00
8,200.00	1.86	311.91	8,197.07	120.57	-134.35	122.58	0.00	0.00	0.00
8,255.62	1.86	311.91	8,252.66	121.77	-135.69	123.81	0.00	0.00	0.00
Start DLS 10.00 TFO 48.03									
8,300.00	5.85	346.27	8,296.94	124.45	-136.77	126.50	10.00	8.98	77.43
8,400.00	15.74	355.00	8,395.05	142.97	-139.17	145.05	10.00	9.89	8.73
8,500.00	25.72	357.04	8,488.46	178.24	-141.47	180.36	10.00	9.98	2.04
8,600.00	35.71	357.99	8,574.33	229.20	-143.62	231.34	10.00	9.99	0.95
8,700.00	45.70	358.57	8,650.04	294.31	-145.54	296.47	10.00	9.99	0.58
8,800.00	55.70	358.97	8,713.30	371.57	-147.18	373.75	10.00	10.00	0.41
8,900.00	65.69	359.29	8,762.19	458.65	-148.49	460.84	10.00	10.00	0.32
9,000.00	75.69	359.57	8,795.21	552.90	-149.42	555.09	10.00	10.00	0.27
9,100.00	85.69	359.81	8,811.38	651.46	-149.95	653.65	10.00	10.00	0.25
9,143.16	90.00	359.92	8,813.00	694.58	-150.05	696.76	10.00	10.00	0.24

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Survey Report



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Start 10195.20 hold at 9143.16 MD									
9,200.00	90.00	359.92	8,813.00	751.42	-150.13	753.60	0.00	0.00	0.00
9,300.00	90.00	359.92	8,813.00	851.42	-150.27	853.59	0.00	0.00	0.00
9,400.00	90.00	359.92	8,813.00	951.42	-150.41	953.58	0.00	0.00	0.00
9,500.00	90.00	359.92	8,813.00	1,051.42	-150.55	1,053.57	0.00	0.00	0.00
9,600.00	90.00	359.92	8,813.00	1,151.42	-150.69	1,153.56	0.00	0.00	0.00
9,700.00	90.00	359.92	8,813.00	1,251.42	-150.83	1,253.55	0.00	0.00	0.00
9,800.00	90.00	359.92	8,813.00	1,351.42	-150.97	1,353.54	0.00	0.00	0.00
9,900.00	90.00	359.92	8,813.00	1,451.42	-151.11	1,453.53	0.00	0.00	0.00
10,000.00	90.00	359.92	8,813.00	1,551.42	-151.25	1,553.52	0.00	0.00	0.00
10,100.00	90.00	359.92	8,813.00	1,651.42	-151.39	1,653.51	0.00	0.00	0.00
10,200.00	90.00	359.92	8,813.00	1,751.42	-151.53	1,753.50	0.00	0.00	0.00
10,300.00	90.00	359.92	8,813.00	1,851.42	-151.68	1,853.49	0.00	0.00	0.00
10,400.00	90.00	359.92	8,813.00	1,951.42	-151.82	1,953.48	0.00	0.00	0.00
10,500.00	90.00	359.92	8,813.00	2,051.42	-151.96	2,053.48	0.00	0.00	0.00
10,600.00	90.00	359.92	8,813.00	2,151.42	-152.10	2,153.47	0.00	0.00	0.00
10,700.00	90.00	359.92	8,813.00	2,251.42	-152.24	2,253.46	0.00	0.00	0.00
10,800.00	90.00	359.92	8,813.00	2,351.41	-152.38	2,353.45	0.00	0.00	0.00
10,900.00	90.00	359.92	8,813.00	2,451.41	-152.52	2,453.44	0.00	0.00	0.00
11,000.00	90.00	359.92	8,813.00	2,551.41	-152.66	2,553.43	0.00	0.00	0.00
11,100.00	90.00	359.92	8,813.00	2,651.41	-152.80	2,653.42	0.00	0.00	0.00
11,200.00	90.00	359.92	8,813.00	2,751.41	-152.94	2,753.41	0.00	0.00	0.00
11,300.00	90.00	359.92	8,813.00	2,851.41	-153.08	2,853.40	0.00	0.00	0.00
11,400.00	90.00	359.92	8,813.00	2,951.41	-153.22	2,953.39	0.00	0.00	0.00
11,500.00	90.00	359.92	8,813.00	3,051.41	-153.36	3,053.38	0.00	0.00	0.00
11,600.00	90.00	359.92	8,813.00	3,151.41	-153.51	3,153.37	0.00	0.00	0.00
11,700.00	90.00	359.92	8,813.00	3,251.41	-153.65	3,253.36	0.00	0.00	0.00
11,800.00	90.00	359.92	8,813.00	3,351.41	-153.79	3,353.35	0.00	0.00	0.00
11,900.00	90.00	359.92	8,813.00	3,451.41	-153.93	3,453.34	0.00	0.00	0.00
12,000.00	90.00	359.92	8,813.00	3,551.41	-154.07	3,553.33	0.00	0.00	0.00
12,100.00	90.00	359.92	8,813.00	3,651.41	-154.21	3,653.33	0.00	0.00	0.00
12,200.00	90.00	359.92	8,813.00	3,751.41	-154.35	3,753.32	0.00	0.00	0.00
12,300.00	90.00	359.92	8,813.00	3,851.41	-154.49	3,853.31	0.00	0.00	0.00
12,400.00	90.00	359.92	8,813.00	3,951.41	-154.63	3,953.30	0.00	0.00	0.00
12,500.00	90.00	359.92	8,813.00	4,051.41	-154.77	4,053.29	0.00	0.00	0.00
12,600.00	90.00	359.92	8,813.00	4,151.41	-154.91	4,153.28	0.00	0.00	0.00
12,700.00	90.00	359.92	8,813.00	4,251.41	-155.05	4,253.27	0.00	0.00	0.00
12,800.00	90.00	359.92	8,813.00	4,351.41	-155.20	4,353.26	0.00	0.00	0.00
12,900.00	90.00	359.92	8,813.00	4,451.41	-155.34	4,453.25	0.00	0.00	0.00
13,000.00	90.00	359.92	8,813.00	4,551.41	-155.48	4,553.24	0.00	0.00	0.00
13,100.00	90.00	359.92	8,813.00	4,651.41	-155.62	4,653.23	0.00	0.00	0.00
13,200.00	90.00	359.92	8,813.00	4,751.41	-155.76	4,753.22	0.00	0.00	0.00
13,300.00	90.00	359.92	8,813.00	4,851.41	-155.90	4,853.21	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Avila East Federal 2920-12C
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 6008.00ft
Site:	Avila East Pad	MD Reference:	KB=25' @ 6008.00ft
Well:	Avila East Federal 2920-12C	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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)
13,400.00	90.00	359.92	8,813.00	4,951.41	-156.04	4,953.20	0.00	0.00	0.00
13,500.00	90.00	359.92	8,813.00	5,051.41	-156.18	5,053.19	0.00	0.00	0.00
13,600.00	90.00	359.92	8,813.00	5,151.41	-156.32	5,153.18	0.00	0.00	0.00
13,700.00	90.00	359.92	8,813.00	5,251.41	-156.46	5,253.18	0.00	0.00	0.00
13,800.00	90.00	359.92	8,813.00	5,351.41	-156.60	5,353.17	0.00	0.00	0.00
13,900.00	90.00	359.92	8,813.00	5,451.41	-156.74	5,453.16	0.00	0.00	0.00
14,000.00	90.00	359.92	8,813.00	5,551.41	-156.89	5,553.15	0.00	0.00	0.00
14,100.00	90.00	359.92	8,813.00	5,651.41	-157.03	5,653.14	0.00	0.00	0.00
14,200.00	90.00	359.92	8,813.00	5,751.41	-157.17	5,753.13	0.00	0.00	0.00
14,300.00	90.00	359.92	8,813.00	5,851.41	-157.31	5,853.12	0.00	0.00	0.00
14,400.00	90.00	359.92	8,813.00	5,951.41	-157.45	5,953.11	0.00	0.00	0.00
14,500.00	90.00	359.92	8,813.00	6,051.41	-157.59	6,053.10	0.00	0.00	0.00
14,600.00	90.00	359.92	8,813.00	6,151.41	-157.73	6,153.09	0.00	0.00	0.00
14,700.00	90.00	359.92	8,813.00	6,251.41	-157.87	6,253.08	0.00	0.00	0.00
14,800.00	90.00	359.92	8,813.00	6,351.41	-158.01	6,353.07	0.00	0.00	0.00
14,900.00	90.00	359.92	8,813.00	6,451.41	-158.15	6,453.06	0.00	0.00	0.00
15,000.00	90.00	359.92	8,813.00	6,551.41	-158.29	6,553.05	0.00	0.00	0.00
15,100.00	90.00	359.92	8,813.00	6,651.41	-158.43	6,653.04	0.00	0.00	0.00
15,200.00	90.00	359.92	8,813.00	6,751.41	-158.58	6,753.04	0.00	0.00	0.00
15,300.00	90.00	359.92	8,813.00	6,851.41	-158.72	6,853.03	0.00	0.00	0.00
15,400.00	90.00	359.92	8,813.00	6,951.41	-158.86	6,953.02	0.00	0.00	0.00
15,500.00	90.00	359.92	8,813.00	7,051.41	-159.00	7,053.01	0.00	0.00	0.00
15,600.00	90.00	359.92	8,813.00	7,151.41	-159.14	7,153.00	0.00	0.00	0.00
15,700.00	90.00	359.92	8,813.00	7,251.41	-159.28	7,252.99	0.00	0.00	0.00
15,800.00	90.00	359.92	8,813.00	7,351.41	-159.42	7,352.98	0.00	0.00	0.00
15,900.00	90.00	359.92	8,813.00	7,451.41	-159.56	7,452.97	0.00	0.00	0.00
16,000.00	90.00	359.92	8,813.00	7,551.41	-159.70	7,552.96	0.00	0.00	0.00
16,100.00	90.00	359.92	8,813.00	7,651.41	-159.84	7,652.95	0.00	0.00	0.00
16,200.00	90.00	359.92	8,813.00	7,751.41	-159.98	7,752.94	0.00	0.00	0.00
16,300.00	90.00	359.92	8,813.00	7,851.41	-160.12	7,852.93	0.00	0.00	0.00
16,400.00	90.00	359.92	8,813.00	7,951.41	-160.27	7,952.92	0.00	0.00	0.00
16,500.00	90.00	359.92	8,813.00	8,051.41	-160.41	8,052.91	0.00	0.00	0.00
16,600.00	90.00	359.92	8,813.00	8,151.41	-160.55	8,152.90	0.00	0.00	0.00
16,700.00	90.00	359.92	8,813.00	8,251.41	-160.69	8,252.89	0.00	0.00	0.00
16,800.00	90.00	359.92	8,813.00	8,351.41	-160.83	8,352.89	0.00	0.00	0.00
16,900.00	90.00	359.92	8,813.00	8,451.41	-160.97	8,452.88	0.00	0.00	0.00
17,000.00	90.00	359.92	8,813.00	8,551.41	-161.11	8,552.87	0.00	0.00	0.00
17,100.00	90.00	359.92	8,813.00	8,651.41	-161.25	8,652.86	0.00	0.00	0.00
17,200.00	90.00	359.92	8,813.00	8,751.41	-161.39	8,752.85	0.00	0.00	0.00
17,300.00	90.00	359.92	8,813.00	8,851.41	-161.53	8,852.84	0.00	0.00	0.00
17,400.00	90.00	359.92	8,813.00	8,951.41	-161.67	8,952.83	0.00	0.00	0.00
17,500.00	90.00	359.92	8,813.00	9,051.41	-161.81	9,052.82	0.00	0.00	0.00
17,600.00	90.00	359.92	8,813.00	9,151.41	-161.96	9,152.81	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Avila East Federal 2920-12C
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 6008.00ft
Site:	Avila East Pad	MD Reference:	KB=25' @ 6008.00ft
Well:	Avila East Federal 2920-12C	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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)
17,700.00	90.00	359.92	8,813.00	9,251.41	-162.10	9,252.80	0.00	0.00	0.00
17,800.00	90.00	359.92	8,813.00	9,351.41	-162.24	9,352.79	0.00	0.00	0.00
17,900.00	90.00	359.92	8,813.00	9,451.41	-162.38	9,452.78	0.00	0.00	0.00
18,000.00	90.00	359.92	8,813.00	9,551.41	-162.52	9,552.77	0.00	0.00	0.00
18,100.00	90.00	359.92	8,813.00	9,651.41	-162.66	9,652.76	0.00	0.00	0.00
18,200.00	90.00	359.92	8,813.00	9,751.41	-162.80	9,752.75	0.00	0.00	0.00
18,300.00	90.00	359.92	8,813.00	9,851.41	-162.94	9,852.74	0.00	0.00	0.00
18,400.00	90.00	359.92	8,813.00	9,951.41	-163.08	9,952.74	0.00	0.00	0.00
18,500.00	90.00	359.92	8,813.00	10,051.41	-163.22	10,052.73	0.00	0.00	0.00
18,600.00	90.00	359.92	8,813.00	10,151.41	-163.36	10,152.72	0.00	0.00	0.00
18,700.00	90.00	359.92	8,813.00	10,251.41	-163.50	10,252.71	0.00	0.00	0.00
18,800.00	90.00	359.92	8,813.00	10,351.41	-163.64	10,352.70	0.00	0.00	0.00
18,900.00	90.00	359.92	8,813.00	10,451.41	-163.79	10,452.69	0.00	0.00	0.00
19,000.00	90.00	359.92	8,813.00	10,551.41	-163.93	10,552.68	0.00	0.00	0.00
19,100.00	90.00	359.92	8,813.00	10,651.41	-164.07	10,652.67	0.00	0.00	0.00
19,200.00	90.00	359.92	8,813.00	10,751.41	-164.21	10,752.66	0.00	0.00	0.00
19,300.00	90.00	359.92	8,813.00	10,851.41	-164.35	10,852.65	0.00	0.00	0.00
19,338.37	90.00	359.92	8,813.00	10,889.77	-164.40	10,891.01	0.00	0.00	0.00
TD at 19338.37									

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									
2920-12C BHL (73' F)	0.00	0.00	8,813.00	10,889.77	-164.40	1,608,207.174 0	3,226,754.094 5	41° 0' 0.000 N	104° 40' 42.780 W
- plan hits target center									
- Point									
2920-12C LP (330' F)	0.00	0.00	8,813.00	694.58	-150.05	1,598,011.9998	3,226,768.451 5	40° 58' 19.272 N	104° 40' 43.824 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
2693	2693	1	-1	Start 5562.48 hold at 2693.14 MD
8256	8253	122	-136	Start DLS 10.00 TFO 48.03
9143	8813	695	-150	Start 10195.20 hold at 9143.16 MD
19,338	8813	10,890	-164	TD at 19338.37

Checked By: _____ Approved By: _____ Date: _____