

Longs Peak Resources
Project: Weld County, Co (NAD 83)
Site: Jaco West Pad
Well: Jaco West 1807-4CH
Wellbore: Wellbore #1
Plan: Design #1 (Jaco West 1807-4CH/Wellbore #1)

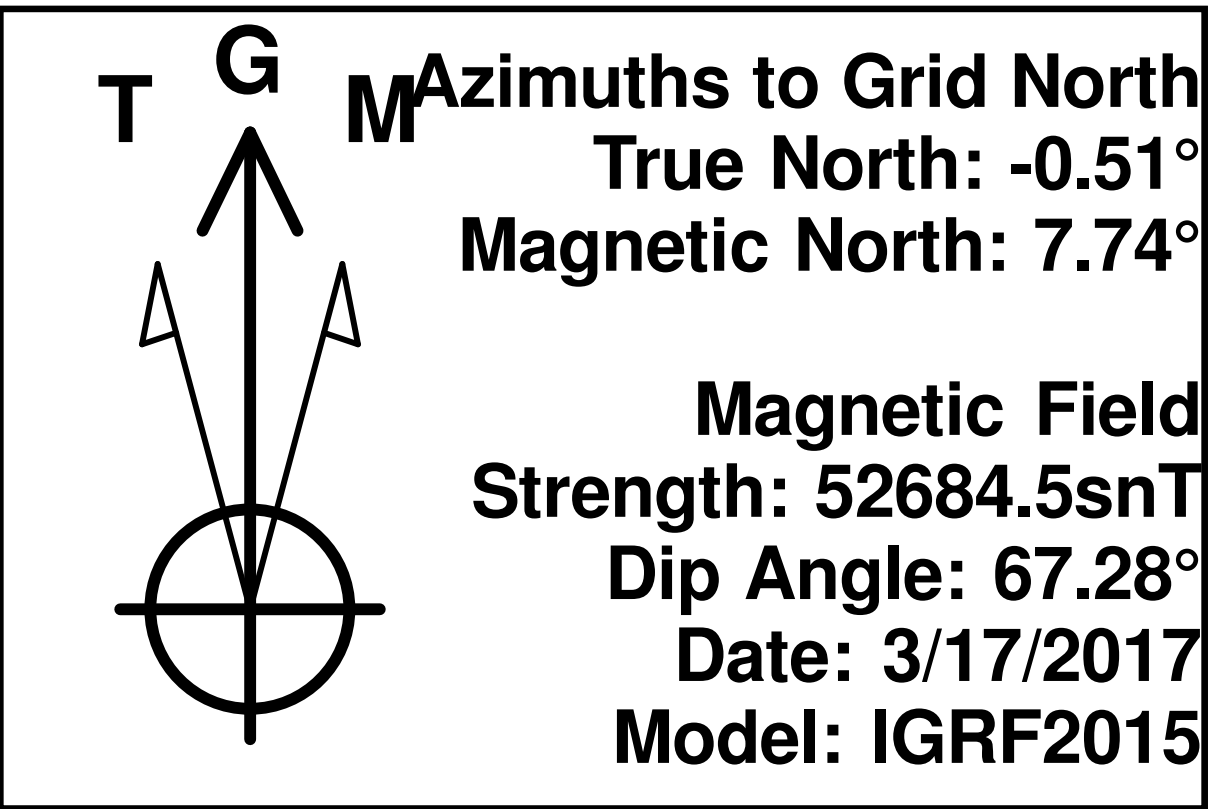


WELL DETAILS: Jaco West 1807-4CH

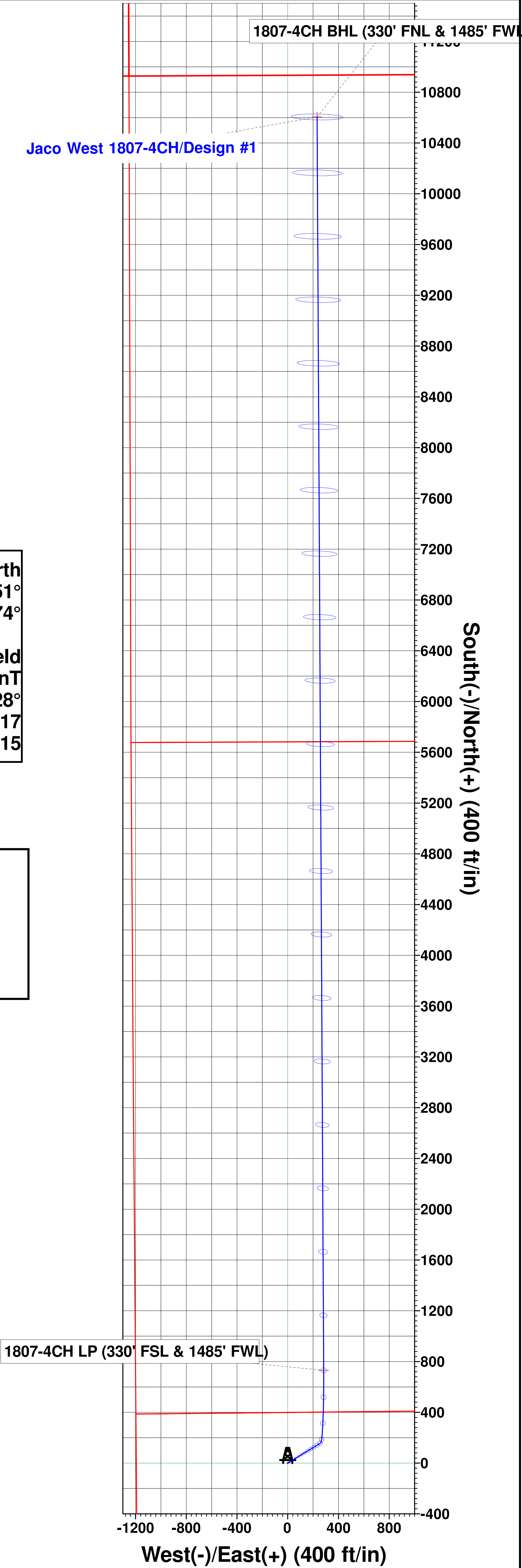
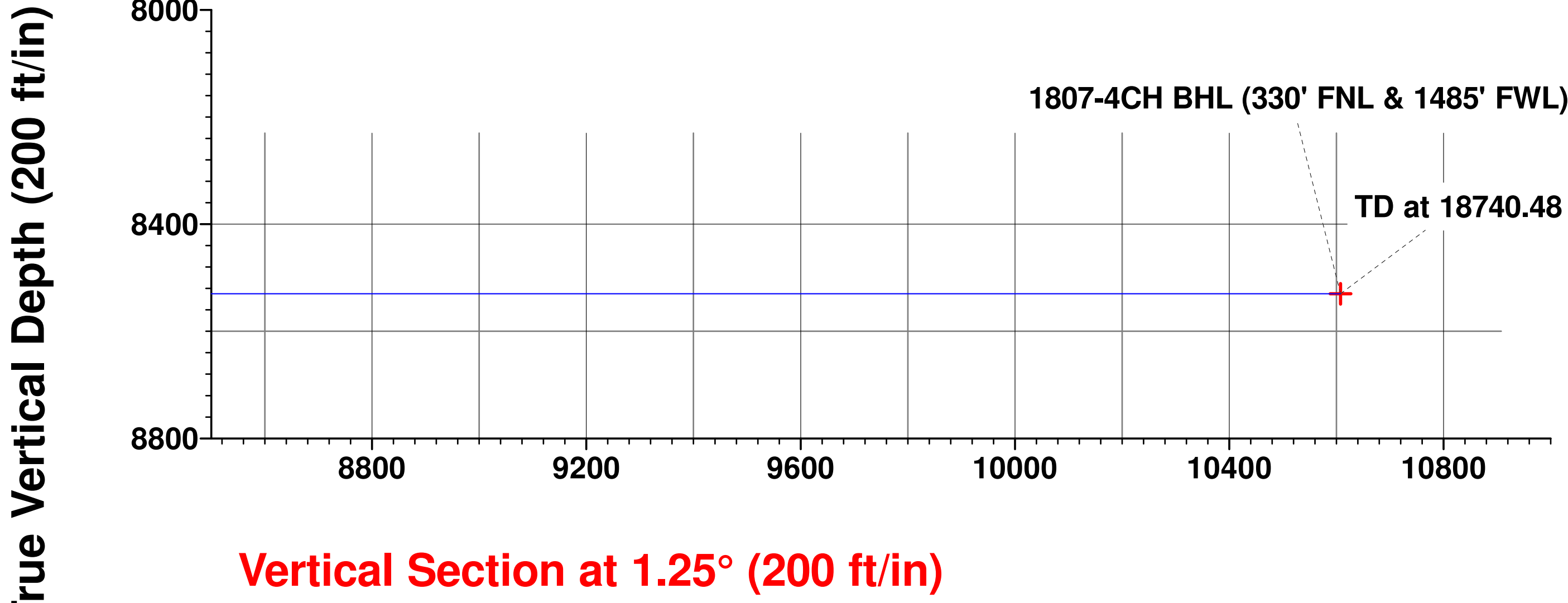
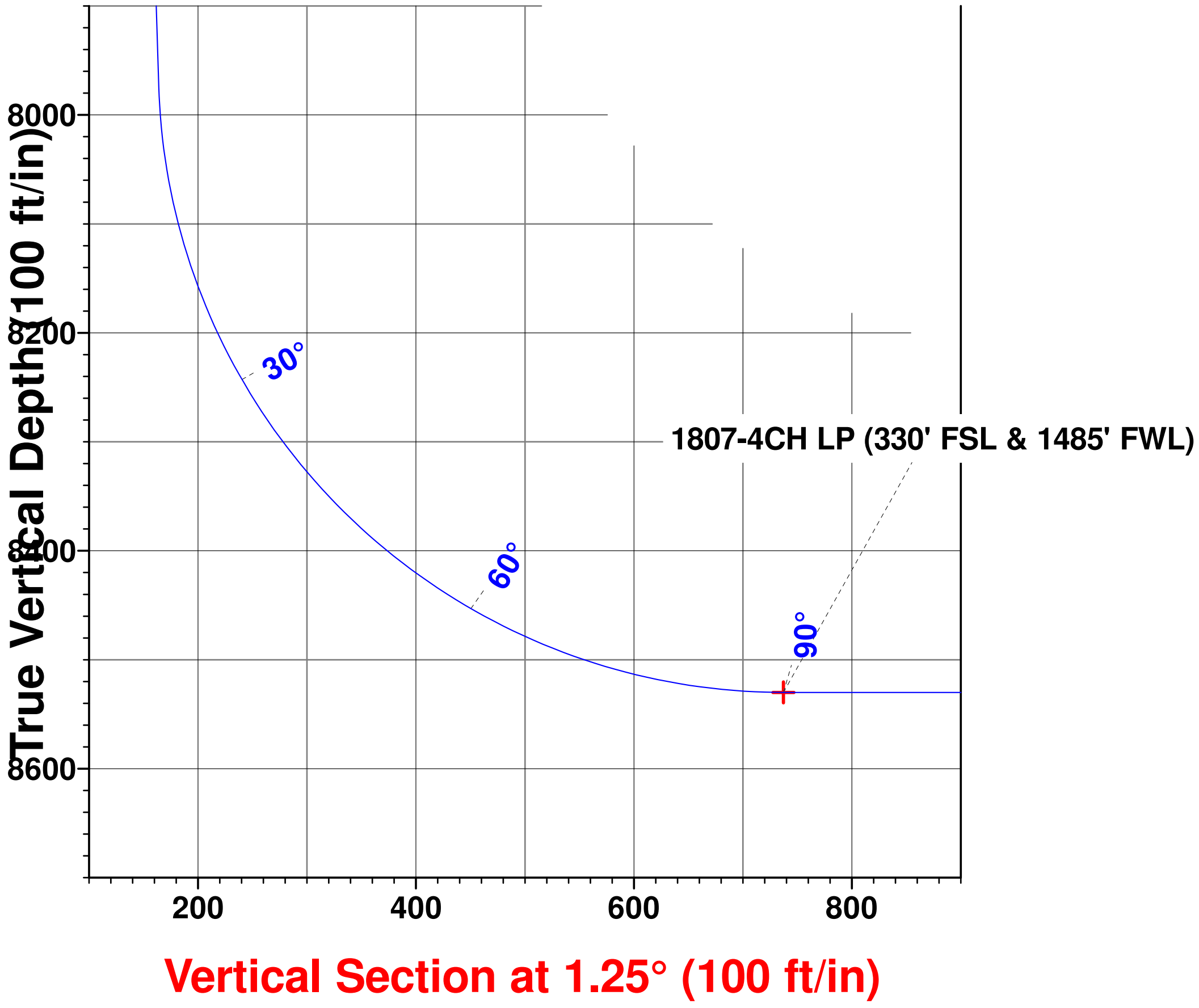
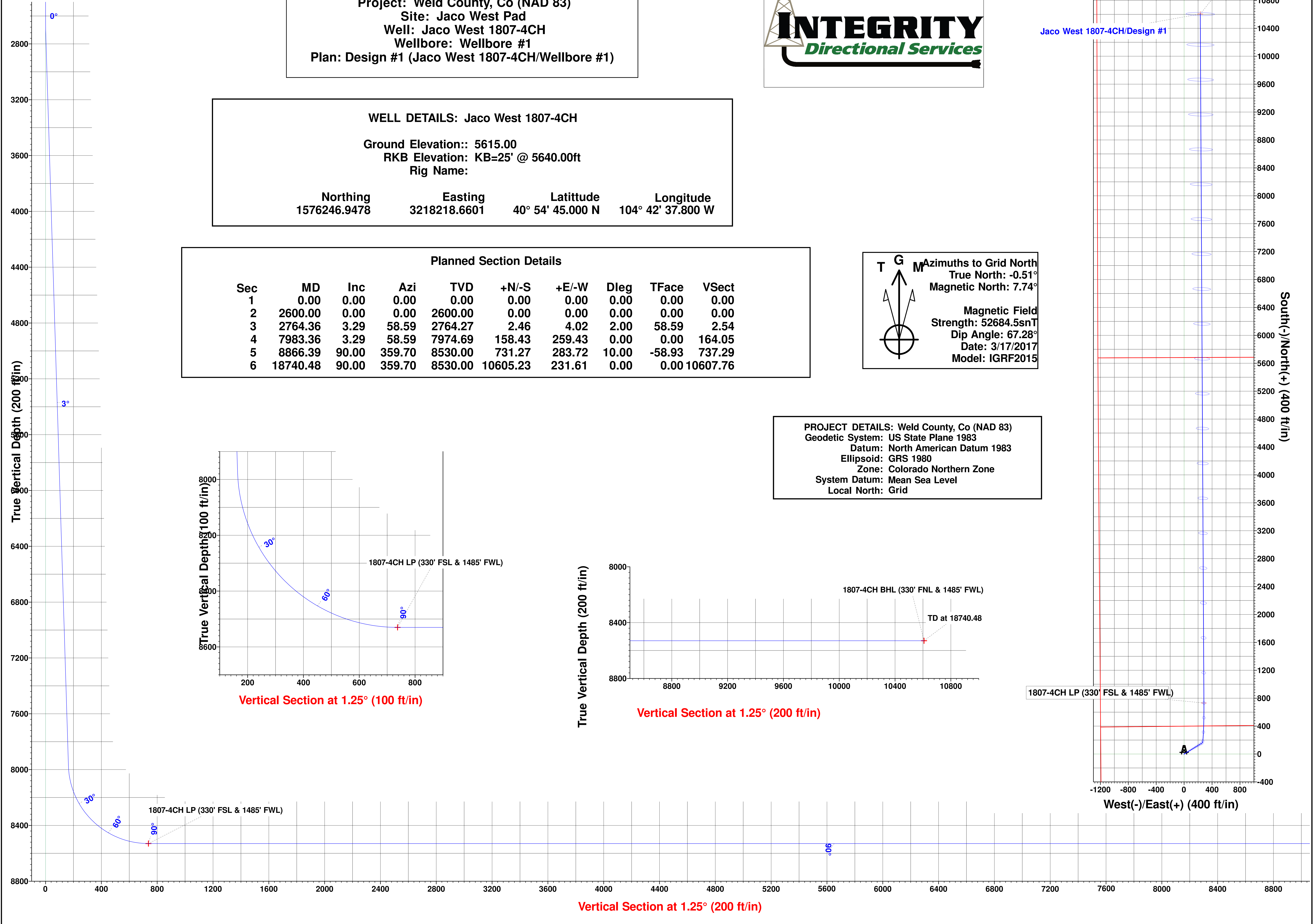
Ground Elevation:: 5615.00
RKB Elevation: KB=25' @ 5640.00ft
Rig Name:

Northing	Easting	Latitude	Longitude
1576246.9478	3218218.6601	40° 54' 45.000 N	104° 42' 37.800 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	2764.36	3.29	58.59	2764.27	2.46	4.02	2.00	58.59	2.54
4	7983.36	3.29	58.59	7974.69	158.43	259.43	0.00	0.00	164.05
5	8866.39	90.00	359.70	8530.00	731.27	283.72	10.00	-58.93	737.29
6	18740.48	90.00	359.70	8530.00	10605.23	231.61	0.00	0.00	10607.76



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 1807-4CH

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 1807-4CH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5640.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5640.00ft
Well:	Jaco West 1807-4CH	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 1807-4CH		
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' 45.000 N
		Longitude:	104° 42' 37.800 W
		Ground Level:	5,615.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/17/2017	8.25	67.28	52,685

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	1.25	

Survey Tool Program	Date	3/17/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	18,740.48	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



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Site:	Jaco West Pad	MD Reference:	KB=25' @ 5640.00ft
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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	58.59	2,699.98	0.91	1.49	0.94	2.00	2.00	0.00
2,764.36	3.29	58.59	2,764.27	2.46	4.02	2.54	2.00	2.00	0.00
2,800.00	3.29	58.59	2,799.85	3.52	5.77	3.65	0.00	0.00	0.00
2,900.00	3.29	58.59	2,899.69	6.51	10.66	6.74	0.00	0.00	0.00
3,000.00	3.29	58.59	2,999.52	9.50	15.55	9.84	0.00	0.00	0.00
3,100.00	3.29	58.59	3,099.36	12.49	20.45	12.93	0.00	0.00	0.00
3,200.00	3.29	58.59	3,199.19	15.48	25.34	16.03	0.00	0.00	0.00
3,300.00	3.29	58.59	3,299.03	18.46	30.24	19.12	0.00	0.00	0.00
3,400.00	3.29	58.59	3,398.86	21.45	35.13	22.21	0.00	0.00	0.00
3,500.00	3.29	58.59	3,498.70	24.44	40.02	25.31	0.00	0.00	0.00
3,600.00	3.29	58.59	3,598.53	27.43	44.92	28.40	0.00	0.00	0.00
3,700.00	3.29	58.59	3,698.37	30.42	49.81	31.50	0.00	0.00	0.00
3,800.00	3.29	58.59	3,798.21	33.41	54.71	34.59	0.00	0.00	0.00
3,900.00	3.29	58.59	3,898.04	36.40	59.60	37.69	0.00	0.00	0.00
4,000.00	3.29	58.59	3,997.88	39.38	64.49	40.78	0.00	0.00	0.00
4,100.00	3.29	58.59	4,097.71	42.37	69.39	43.88	0.00	0.00	0.00
4,200.00	3.29	58.59	4,197.55	45.36	74.28	46.97	0.00	0.00	0.00
4,300.00	3.29	58.59	4,297.38	48.35	79.17	50.07	0.00	0.00	0.00
4,400.00	3.29	58.59	4,397.22	51.34	84.07	53.16	0.00	0.00	0.00
4,500.00	3.29	58.59	4,497.05	54.33	88.96	56.26	0.00	0.00	0.00
4,600.00	3.29	58.59	4,596.89	57.32	93.86	59.35	0.00	0.00	0.00
4,700.00	3.29	58.59	4,696.73	60.30	98.75	62.45	0.00	0.00	0.00
4,800.00	3.29	58.59	4,796.56	63.29	103.64	65.54	0.00	0.00	0.00
4,900.00	3.29	58.59	4,896.40	66.28	108.54	68.63	0.00	0.00	0.00
5,000.00	3.29	58.59	4,996.23	69.27	113.43	71.73	0.00	0.00	0.00
5,100.00	3.29	58.59	5,096.07	72.26	118.33	74.82	0.00	0.00	0.00
5,200.00	3.29	58.59	5,195.90	75.25	123.22	77.92	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



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5,300.00	3.29	58.59	5,295.74	78.23	128.11	81.01	0.00	0.00	0.00
5,400.00	3.29	58.59	5,395.57	81.22	133.01	84.11	0.00	0.00	0.00
5,500.00	3.29	58.59	5,495.41	84.21	137.90	87.20	0.00	0.00	0.00
5,600.00	3.29	58.59	5,595.24	87.20	142.79	90.30	0.00	0.00	0.00
5,700.00	3.29	58.59	5,695.08	90.19	147.69	93.39	0.00	0.00	0.00
5,800.00	3.29	58.59	5,794.92	93.18	152.58	96.49	0.00	0.00	0.00
5,900.00	3.29	58.59	5,894.75	96.17	157.48	99.58	0.00	0.00	0.00
6,000.00	3.29	58.59	5,994.59	99.15	162.37	102.68	0.00	0.00	0.00
6,100.00	3.29	58.59	6,094.42	102.14	167.26	105.77	0.00	0.00	0.00
6,200.00	3.29	58.59	6,194.26	105.13	172.16	108.87	0.00	0.00	0.00
6,300.00	3.29	58.59	6,294.09	108.12	177.05	111.96	0.00	0.00	0.00
6,400.00	3.29	58.59	6,393.93	111.11	181.94	115.05	0.00	0.00	0.00
6,500.00	3.29	58.59	6,493.76	114.10	186.84	118.15	0.00	0.00	0.00
6,600.00	3.29	58.59	6,593.60	117.09	191.73	121.24	0.00	0.00	0.00
6,700.00	3.29	58.59	6,693.43	120.07	196.63	124.34	0.00	0.00	0.00
6,800.00	3.29	58.59	6,793.27	123.06	201.52	127.43	0.00	0.00	0.00
6,900.00	3.29	58.59	6,893.11	126.05	206.41	130.53	0.00	0.00	0.00
7,000.00	3.29	58.59	6,992.94	129.04	211.31	133.62	0.00	0.00	0.00
7,100.00	3.29	58.59	7,092.78	132.03	216.20	136.72	0.00	0.00	0.00
7,200.00	3.29	58.59	7,192.61	135.02	221.10	139.81	0.00	0.00	0.00
7,300.00	3.29	58.59	7,292.45	138.00	225.99	142.91	0.00	0.00	0.00
7,400.00	3.29	58.59	7,392.28	140.99	230.88	146.00	0.00	0.00	0.00
7,500.00	3.29	58.59	7,492.12	143.98	235.78	149.10	0.00	0.00	0.00
7,600.00	3.29	58.59	7,591.95	146.97	240.67	152.19	0.00	0.00	0.00
7,700.00	3.29	58.59	7,691.79	149.96	245.56	155.28	0.00	0.00	0.00
7,800.00	3.29	58.59	7,791.62	152.95	250.46	158.38	0.00	0.00	0.00
7,900.00	3.29	58.59	7,891.46	155.94	255.35	161.47	0.00	0.00	0.00
7,983.36	3.29	58.59	7,974.69	158.43	259.43	164.05	0.00	0.00	0.00
8,000.00	4.38	39.60	7,991.29	159.17	260.24	164.81	10.00	6.59	-114.13
8,100.00	13.65	11.38	8,089.98	173.71	265.02	179.46	10.00	9.27	-28.22
8,200.00	23.52	6.19	8,184.65	205.20	269.51	211.03	10.00	9.87	-5.20
8,300.00	33.47	3.96	8,272.43	252.66	273.58	258.58	10.00	9.95	-2.22
8,400.00	43.43	2.67	8,350.65	314.67	277.10	320.64	10.00	9.97	-1.29
8,500.00	53.41	1.79	8,416.93	389.32	279.96	395.34	10.00	9.98	-0.89
8,600.00	63.40	1.11	8,469.25	474.36	282.09	480.41	10.00	9.98	-0.68
8,700.00	73.38	0.54	8,506.04	567.21	283.41	573.26	10.00	9.99	-0.57
8,800.00	83.37	0.03	8,526.16	665.03	283.88	671.07	10.00	9.99	-0.51
8,866.39	90.00	359.70	8,530.00	731.27	283.72	737.29	10.00	9.99	-0.49
8,900.00	90.00	359.70	8,530.00	764.88	283.54	770.89	0.00	0.00	0.00
9,000.00	90.00	359.70	8,530.00	864.88	283.01	870.85	0.00	0.00	0.00
9,100.00	90.00	359.70	8,530.00	964.88	282.48	970.82	0.00	0.00	0.00
9,200.00	90.00	359.70	8,530.00	1,064.88	281.96	1,070.78	0.00	0.00	0.00
9,300.00	90.00	359.70	8,530.00	1,164.88	281.43	1,170.74	0.00	0.00	0.00

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9,400.00	90.00	359.70	8,530.00	1,264.87	280.90	1,270.71	0.00	0.00	0.00
9,500.00	90.00	359.70	8,530.00	1,364.87	280.37	1,370.67	0.00	0.00	0.00
9,600.00	90.00	359.70	8,530.00	1,464.87	279.85	1,470.63	0.00	0.00	0.00
9,700.00	90.00	359.70	8,530.00	1,564.87	279.32	1,570.60	0.00	0.00	0.00
9,800.00	90.00	359.70	8,530.00	1,664.87	278.79	1,670.56	0.00	0.00	0.00
9,900.00	90.00	359.70	8,530.00	1,764.87	278.26	1,770.52	0.00	0.00	0.00
10,000.00	90.00	359.70	8,530.00	1,864.87	277.73	1,870.49	0.00	0.00	0.00
10,100.00	90.00	359.70	8,530.00	1,964.87	277.21	1,970.45	0.00	0.00	0.00
10,200.00	90.00	359.70	8,530.00	2,064.86	276.68	2,070.41	0.00	0.00	0.00
10,300.00	90.00	359.70	8,530.00	2,164.86	276.15	2,170.38	0.00	0.00	0.00
10,400.00	90.00	359.70	8,530.00	2,264.86	275.62	2,270.34	0.00	0.00	0.00
10,500.00	90.00	359.70	8,530.00	2,364.86	275.10	2,370.30	0.00	0.00	0.00
10,600.00	90.00	359.70	8,530.00	2,464.86	274.57	2,470.27	0.00	0.00	0.00
10,700.00	90.00	359.70	8,530.00	2,564.86	274.04	2,570.23	0.00	0.00	0.00
10,800.00	90.00	359.70	8,530.00	2,664.86	273.51	2,670.19	0.00	0.00	0.00
10,900.00	90.00	359.70	8,530.00	2,764.85	272.98	2,770.16	0.00	0.00	0.00
11,000.00	90.00	359.70	8,530.00	2,864.85	272.46	2,870.12	0.00	0.00	0.00
11,100.00	90.00	359.70	8,530.00	2,964.85	271.93	2,970.08	0.00	0.00	0.00
11,200.00	90.00	359.70	8,530.00	3,064.85	271.40	3,070.04	0.00	0.00	0.00
11,300.00	90.00	359.70	8,530.00	3,164.85	270.87	3,170.01	0.00	0.00	0.00
11,400.00	90.00	359.70	8,530.00	3,264.85	270.35	3,269.97	0.00	0.00	0.00
11,500.00	90.00	359.70	8,530.00	3,364.85	269.82	3,369.93	0.00	0.00	0.00
11,600.00	90.00	359.70	8,530.00	3,464.84	269.29	3,469.90	0.00	0.00	0.00
11,700.00	90.00	359.70	8,530.00	3,564.84	268.76	3,569.86	0.00	0.00	0.00
11,800.00	90.00	359.70	8,530.00	3,664.84	268.24	3,669.82	0.00	0.00	0.00
11,900.00	90.00	359.70	8,530.00	3,764.84	267.71	3,769.79	0.00	0.00	0.00
12,000.00	90.00	359.70	8,530.00	3,864.84	267.18	3,869.75	0.00	0.00	0.00
12,100.00	90.00	359.70	8,530.00	3,964.84	266.65	3,969.71	0.00	0.00	0.00
12,200.00	90.00	359.70	8,530.00	4,064.84	266.12	4,069.68	0.00	0.00	0.00
12,300.00	90.00	359.70	8,530.00	4,164.83	265.60	4,169.64	0.00	0.00	0.00
12,400.00	90.00	359.70	8,530.00	4,264.83	265.07	4,269.60	0.00	0.00	0.00
12,500.00	90.00	359.70	8,530.00	4,364.83	264.54	4,369.57	0.00	0.00	0.00
12,600.00	90.00	359.70	8,530.00	4,464.83	264.01	4,469.53	0.00	0.00	0.00
12,700.00	90.00	359.70	8,530.00	4,564.83	263.49	4,569.49	0.00	0.00	0.00
12,800.00	90.00	359.70	8,530.00	4,664.83	262.96	4,669.46	0.00	0.00	0.00
12,900.00	90.00	359.70	8,530.00	4,764.83	262.43	4,769.42	0.00	0.00	0.00
13,000.00	90.00	359.70	8,530.00	4,864.82	261.90	4,869.38	0.00	0.00	0.00
13,100.00	90.00	359.70	8,530.00	4,964.82	261.37	4,969.35	0.00	0.00	0.00
13,200.00	90.00	359.70	8,530.00	5,064.82	260.85	5,069.31	0.00	0.00	0.00
13,300.00	90.00	359.70	8,530.00	5,164.82	260.32	5,169.27	0.00	0.00	0.00
13,400.00	90.00	359.70	8,530.00	5,264.82	259.79	5,269.24	0.00	0.00	0.00
13,500.00	90.00	359.70	8,530.00	5,364.82	259.26	5,369.20	0.00	0.00	0.00
13,600.00	90.00	359.70	8,530.00	5,464.82	258.74	5,469.16	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1807-4CH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5640.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5640.00ft
Well:	Jaco West 1807-4CH	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	359.70	8,530.00	5,564.81	258.21	5,569.13	0.00	0.00	0.00
13,800.00	90.00	359.70	8,530.00	5,664.81	257.68	5,669.09	0.00	0.00	0.00
13,900.00	90.00	359.70	8,530.00	5,764.81	257.15	5,769.05	0.00	0.00	0.00
14,000.00	90.00	359.70	8,530.00	5,864.81	256.62	5,869.02	0.00	0.00	0.00
14,100.00	90.00	359.70	8,530.00	5,964.81	256.10	5,968.98	0.00	0.00	0.00
14,200.00	90.00	359.70	8,530.00	6,064.81	255.57	6,068.94	0.00	0.00	0.00
14,300.00	90.00	359.70	8,530.00	6,164.81	255.04	6,168.91	0.00	0.00	0.00
14,400.00	90.00	359.70	8,530.00	6,264.81	254.51	6,268.87	0.00	0.00	0.00
14,500.00	90.00	359.70	8,530.00	6,364.80	253.99	6,368.83	0.00	0.00	0.00
14,600.00	90.00	359.70	8,530.00	6,464.80	253.46	6,468.80	0.00	0.00	0.00
14,700.00	90.00	359.70	8,530.00	6,564.80	252.93	6,568.76	0.00	0.00	0.00
14,800.00	90.00	359.70	8,530.00	6,664.80	252.40	6,668.72	0.00	0.00	0.00
14,900.00	90.00	359.70	8,530.00	6,764.80	251.87	6,768.69	0.00	0.00	0.00
15,000.00	90.00	359.70	8,530.00	6,864.80	251.35	6,868.65	0.00	0.00	0.00
15,100.00	90.00	359.70	8,530.00	6,964.80	250.82	6,968.61	0.00	0.00	0.00
15,200.00	90.00	359.70	8,530.00	7,064.79	250.29	7,068.57	0.00	0.00	0.00
15,300.00	90.00	359.70	8,530.00	7,164.79	249.76	7,168.54	0.00	0.00	0.00
15,400.00	90.00	359.70	8,530.00	7,264.79	249.24	7,268.50	0.00	0.00	0.00
15,500.00	90.00	359.70	8,530.00	7,364.79	248.71	7,368.46	0.00	0.00	0.00
15,600.00	90.00	359.70	8,530.00	7,464.79	248.18	7,468.43	0.00	0.00	0.00
15,700.00	90.00	359.70	8,530.00	7,564.79	247.65	7,568.39	0.00	0.00	0.00
15,800.00	90.00	359.70	8,530.00	7,664.79	247.12	7,668.35	0.00	0.00	0.00
15,900.00	90.00	359.70	8,530.00	7,764.78	246.60	7,768.32	0.00	0.00	0.00
16,000.00	90.00	359.70	8,530.00	7,864.78	246.07	7,868.28	0.00	0.00	0.00
16,100.00	90.00	359.70	8,530.00	7,964.78	245.54	7,968.24	0.00	0.00	0.00
16,200.00	90.00	359.70	8,530.00	8,064.78	245.01	8,068.21	0.00	0.00	0.00
16,300.00	90.00	359.70	8,530.00	8,164.78	244.49	8,168.17	0.00	0.00	0.00
16,400.00	90.00	359.70	8,530.00	8,264.78	243.96	8,268.13	0.00	0.00	0.00
16,500.00	90.00	359.70	8,530.00	8,364.78	243.43	8,368.10	0.00	0.00	0.00
16,600.00	90.00	359.70	8,530.00	8,464.77	242.90	8,468.06	0.00	0.00	0.00
16,700.00	90.00	359.70	8,530.00	8,564.77	242.37	8,568.02	0.00	0.00	0.00
16,800.00	90.00	359.70	8,530.00	8,664.77	241.85	8,667.99	0.00	0.00	0.00
16,900.00	90.00	359.70	8,530.00	8,764.77	241.32	8,767.95	0.00	0.00	0.00
17,000.00	90.00	359.70	8,530.00	8,864.77	240.79	8,867.91	0.00	0.00	0.00
17,100.00	90.00	359.70	8,530.00	8,964.77	240.26	8,967.88	0.00	0.00	0.00
17,200.00	90.00	359.70	8,530.00	9,064.77	239.74	9,067.84	0.00	0.00	0.00
17,300.00	90.00	359.70	8,530.00	9,164.76	239.21	9,167.80	0.00	0.00	0.00
17,400.00	90.00	359.70	8,530.00	9,264.76	238.68	9,267.77	0.00	0.00	0.00
17,500.00	90.00	359.70	8,530.00	9,364.76	238.15	9,367.73	0.00	0.00	0.00
17,600.00	90.00	359.70	8,530.00	9,464.76	237.62	9,467.69	0.00	0.00	0.00
17,700.00	90.00	359.70	8,530.00	9,564.76	237.10	9,567.66	0.00	0.00	0.00
17,800.00	90.00	359.70	8,530.00	9,664.76	236.57	9,667.62	0.00	0.00	0.00
17,900.00	90.00	359.70	8,530.00	9,764.76	236.04	9,767.58	0.00	0.00	0.00
18,000.00	90.00	359.70	8,530.00	9,864.76	235.51	9,867.55	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report



Company:	Longs Peak Resources	Local Co-ordinate Reference:	Well Jaco West 1807-4CH
Project:	Weld County, Co (NAD 83)	TVD Reference:	KB=25' @ 5640.00ft
Site:	Jaco West Pad	MD Reference:	KB=25' @ 5640.00ft
Well:	Jaco West 1807-4CH	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	359.70	8,530.00	9,964.75	234.99	9,967.51	0.00	0.00	0.00
18,200.00	90.00	359.70	8,530.00	10,064.75	234.46	10,067.47	0.00	0.00	0.00
18,300.00	90.00	359.70	8,530.00	10,164.75	233.93	10,167.44	0.00	0.00	0.00
18,400.00	90.00	359.70	8,530.00	10,264.75	233.40	10,267.40	0.00	0.00	0.00
18,500.00	90.00	359.70	8,530.00	10,364.75	232.88	10,367.36	0.00	0.00	0.00
18,600.00	90.00	359.70	8,530.00	10,464.75	232.35	10,467.33	0.00	0.00	0.00
18,700.00	90.00	359.70	8,530.00	10,564.75	231.82	10,567.29	0.00	0.00	0.00
18,740.48	90.00	359.70	8,530.00	10,605.23	231.61	10,607.76	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
1807-4CH LP (330' F)	0.00	0.00	8,530.00	731.27	283.72	1,576,978.217 4	3,218,502.377 1	40° 54' 52.200 N	104° 42' 34.020 W
- plan hits target center									
- Point									
1807-4CH BHL (330' I)	0.00	0.00	8,530.00	10,605.23	231.61	1,586,852.152 9	3,218,450.265 6	40° 56' 29.760 N	104° 42' 33.552 W
- plan hits target center									
- Point									

Checked By: _____ Approved By: _____ Date: _____