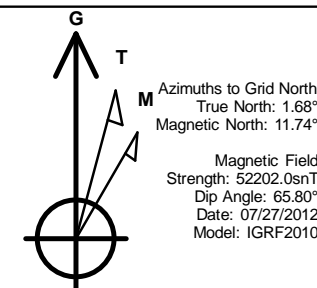


FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
3723.00	3723.00	Williams Fork	
4591.00	4591.00	Price Coal	
5553.00	5553.00	Top of Gas	
6367.00	6373.74	Coal Ridge Coal TSE	
6473.00	6492.63	Coal Ridge Coal Base	
6647.00	6723.43	South Canyon TSE	
6793.00	6998.48	South Canyon Coals Base	
6873.00	7234.15	Middle Sandstone B Top	



REFERENCE INFORMATION	PROJECT DETAILS: Valley Farms
Co-ordinate (N/E) Reference: Well Valley Farms F-1H (112017), Grid North	Geodetic System: Universal Transverse Mercator
Vertical (TVD) Reference: KB @ 5648.00ft (Original Well Elev)	Datum: North American Datum 1983
Section (VS) Reference: Slot - (0.00N, 0.00E)	Ellipsoid: GRS 1980
Measured Depth Reference: KB @ 5648.00ft (Original Well Elev)	Zone: Zone 13N (108 W to 102 W)
Calculation Method: Minimum Curvature	System Datum: Mean Sea Level

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSEct	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6098.24	0.00	0.00	6098.24	0.00	0.00	0.00	0.00	0.00	
6785.74	55.00	58.60	6684.91	159.12	260.68	8.00	58.60	218.46	
7503.31	91.00	10.66	6903.00	711.80	607.41	8.00	-61.77	839.55	BH
14075.08	91.00	10.66	6788.30	7169.12	1823.19	0.00	0.00	7397.32	BH

Antero Resources

Valley Farms

Valley Farms F

Valley Farms F-1H (102872)

VF F-1H

Plan: Valley Farms F-1H P01

Standard Planning Report

02 May, 2012

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Valley Farms F-1H (102872)
Company:	Antero Resources	TVD Reference:	KB @ 5648.00ft (Original Well Elev)
Project:	Valley Farms	MD Reference:	KB @ 5648.00ft (Original Well Elev)
Site:	Valley Farms F	North Reference:	Grid
Well:	Valley Farms F-1H (102872)	Survey Calculation Method:	Minimum Curvature
Wellbore:	VF F-1H		
Design:	Valley Farms F-1H P01		

Project	Valley Farms		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		Valley Farms F			
Site Position:		Northing:	14,364,936.63 usft	Latitude:	39.525610886°N
From:	Map	Easting:	895,244.49 usft	Longitude:	107.642468953°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.68 °

Well	Valley Farms F-1H (102872)					
Well Position	+N/-S	105.59 ft	Northing:	14,365,042.21 usft	Latitude:	39.525893587°N
	+E/-W	-86.56 ft	Easting:	895,157.93 usft	Longitude:	107.642786598°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,618.00 ft

Wellbore	VF F-1H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	07/27/12	10.05	65.80	52,202

Design	Valley Farms F-1H P01				
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	14.27	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,098.24	0.00	0.00	6,098.24	0.00	0.00	0.00	0.00	0.00	0.00	
6,785.74	55.00	58.60	6,684.91	159.12	260.68	8.00	8.00	0.00	58.60	
7,503.31	91.00	10.66	6,903.00	711.80	607.41	8.00	5.02	-6.68	-61.77	BH
14,075.08	91.00	10.66	6,788.31	7,169.12	1,823.19	0.00	0.00	0.00	0.00	BH

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Valley Farms F-1H (102872)
Company:	Antero Resources	TVD Reference:	KB @ 5648.00ft (Original Well Elev)
Project:	Valley Farms	MD Reference:	KB @ 5648.00ft (Original Well Elev)
Site:	Valley Farms F	North Reference:	Grid
Well:	Valley Farms F-1H (102872)	Survey Calculation Method:	Minimum Curvature
Wellbore:	VF F-1H		
Design:	Valley Farms F-1H P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Surf Csg at 1000 MD/TVD									
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	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
Int Csg at 3300 MD/TVD									
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,723.00	0.00	0.00	3,723.00	0.00	0.00	0.00	0.00	0.00	0.00
Williams Fork									
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,591.00	0.00	0.00	4,591.00	0.00	0.00	0.00	0.00	0.00	0.00
Price Coal									
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Valley Farms F-1H (102872)
Company:	Antero Resources	TVD Reference:	KB @ 5648.00ft (Original Well Elev)
Project:	Valley Farms	MD Reference:	KB @ 5648.00ft (Original Well Elev)
Site:	Valley Farms F	North Reference:	Grid
Well:	Valley Farms F-1H (102872)	Survey Calculation Method:	Minimum Curvature
Wellbore:	VF F-1H		
Design:	Valley Farms F-1H P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,553.00	0.00	0.00	5,553.00	0.00	0.00	0.00	0.00	0.00	0.00
Top of Gas									
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,098.24	0.00	0.00	6,098.24	0.00	0.00	0.00	0.00	0.00	0.00
KOP 8°/100 at 6098 MD/TVD									
6,100.00	0.14	58.60	6,100.00	0.00	0.00	0.00	8.00	8.00	0.00
6,200.00	8.14	58.60	6,199.66	3.76	6.16	5.16	8.00	8.00	0.00
6,300.00	16.14	58.60	6,297.34	14.71	24.10	20.19	8.00	8.00	0.00
6,373.74	22.04	58.60	6,367.00	27.27	44.67	37.44	8.00	8.00	0.00
Coal Ridge Coal TSE									
6,400.00	24.14	58.60	6,391.15	32.63	53.46	44.80	8.00	8.00	0.00
6,492.63	31.55	58.60	6,473.00	55.16	90.37	75.73	8.00	8.00	0.00
Coal Ridge Coal Base									
6,500.00	32.14	58.60	6,479.26	57.19	93.69	78.51	8.00	8.00	0.00
6,600.00	40.14	58.60	6,559.95	87.89	143.99	120.67	8.00	8.00	0.00
6,700.00	48.14	58.60	6,631.65	124.14	203.38	170.44	8.00	8.00	0.00
6,723.43	50.02	58.60	6,647.00	133.37	218.49	183.10	8.00	8.00	0.00
South Canyon TSE									
6,785.74	55.00	58.60	6,684.91	159.12	260.68	218.46	8.00	8.00	0.00
Start turn at 6785 MD/6685 TVD									
6,800.00	55.55	57.38	6,693.04	165.33	270.61	226.93	8.00	3.83	-8.55
6,900.00	59.69	49.27	6,746.65	215.80	338.16	292.49	8.00	4.14	-8.11
6,998.48	64.21	41.96	6,793.00	276.61	400.11	366.69	8.00	4.60	-7.42
South Canyon Coals Base									
7,000.00	64.28	41.85	6,793.66	277.62	401.02	367.90	8.00	4.79	-7.12
7,100.00	69.23	35.00	6,833.15	349.59	457.99	451.69	8.00	4.95	-6.85
7,200.00	74.43	28.60	6,864.35	430.31	507.94	542.22	8.00	5.20	-6.40
7,234.15	76.25	26.49	6,873.00	459.60	523.21	574.38	8.00	5.33	-6.17
Middle Sandstone B Top									
7,300.00	79.80	22.52	6,886.67	518.20	549.91	637.74	8.00	5.40	-6.04
7,400.00	85.29	16.64	6,899.65	611.55	583.07	736.39	8.00	5.48	-5.88
7,500.00	90.82	10.85	6,903.05	708.55	606.79	836.25	8.00	5.53	-5.79
7,503.31	91.00	10.66	6,903.00	711.80	607.41	839.55	8.00	5.54	-5.78
Hold 91° at 7503 MD/6903 TVD									
7,600.00	91.00	10.66	6,901.31	806.81	625.30	936.04	0.00	0.00	0.00
7,700.00	91.00	10.66	6,899.57	905.07	643.80	1,035.82	0.00	0.00	0.00
7,800.00	91.00	10.66	6,897.82	1,003.33	662.30	1,135.61	0.00	0.00	0.00
7,900.00	91.00	10.66	6,896.08	1,101.59	680.80	1,235.40	0.00	0.00	0.00
8,000.00	91.00	10.66	6,894.33	1,199.84	699.30	1,335.19	0.00	0.00	0.00
8,100.00	91.00	10.66	6,892.58	1,298.10	717.80	1,434.97	0.00	0.00	0.00
8,200.00	91.00	10.66	6,890.84	1,396.36	736.30	1,534.76	0.00	0.00	0.00

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Valley Farms F-1H (102872)
Company:	Antero Resources	TVD Reference:	KB @ 5648.00ft (Original Well Elev)
Project:	Valley Farms	MD Reference:	KB @ 5648.00ft (Original Well Elev)
Site:	Valley Farms F	North Reference:	Grid
Well:	Valley Farms F-1H (102872)	Survey Calculation Method:	Minimum Curvature
Wellbore:	VF F-1H		
Design:	Valley Farms F-1H P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,300.00	91.00	10.66	6,889.09	1,494.62	754.80	1,634.55	0.00	0.00	0.00
8,400.00	91.00	10.66	6,887.35	1,592.88	773.30	1,734.33	0.00	0.00	0.00
8,500.00	91.00	10.66	6,885.60	1,691.14	791.80	1,834.12	0.00	0.00	0.00
8,600.00	91.00	10.66	6,883.86	1,789.39	810.30	1,933.91	0.00	0.00	0.00
8,700.00	91.00	10.66	6,882.11	1,887.65	828.80	2,033.69	0.00	0.00	0.00
8,800.00	91.00	10.66	6,880.37	1,985.91	847.30	2,133.48	0.00	0.00	0.00
8,900.00	91.00	10.66	6,878.62	2,084.17	865.80	2,233.27	0.00	0.00	0.00
9,000.00	91.00	10.66	6,876.88	2,182.43	884.30	2,333.05	0.00	0.00	0.00
9,100.00	91.00	10.66	6,875.13	2,280.69	902.80	2,432.84	0.00	0.00	0.00
9,200.00	91.00	10.66	6,873.39	2,378.95	921.30	2,532.63	0.00	0.00	0.00
9,300.00	91.00	10.66	6,871.64	2,477.20	939.80	2,632.41	0.00	0.00	0.00
9,400.00	91.00	10.66	6,869.90	2,575.46	958.30	2,732.20	0.00	0.00	0.00
9,500.00	91.00	10.66	6,868.15	2,673.72	976.80	2,831.99	0.00	0.00	0.00
9,600.00	91.00	10.66	6,866.41	2,771.98	995.30	2,931.77	0.00	0.00	0.00
9,700.00	91.00	10.66	6,864.66	2,870.24	1,013.80	3,031.56	0.00	0.00	0.00
9,800.00	91.00	10.66	6,862.92	2,968.50	1,032.30	3,131.35	0.00	0.00	0.00
9,900.00	91.00	10.66	6,861.17	3,066.75	1,050.80	3,231.14	0.00	0.00	0.00
10,000.00	91.00	10.66	6,859.43	3,165.01	1,069.30	3,330.92	0.00	0.00	0.00
10,100.00	91.00	10.66	6,857.68	3,263.27	1,087.80	3,430.71	0.00	0.00	0.00
10,200.00	91.00	10.66	6,855.93	3,361.53	1,106.30	3,530.50	0.00	0.00	0.00
10,300.00	91.00	10.66	6,854.19	3,459.79	1,124.80	3,630.28	0.00	0.00	0.00
10,400.00	91.00	10.66	6,852.44	3,558.05	1,143.30	3,730.07	0.00	0.00	0.00
10,500.00	91.00	10.66	6,850.70	3,656.30	1,161.80	3,829.86	0.00	0.00	0.00
10,600.00	91.00	10.66	6,848.95	3,754.56	1,180.30	3,929.64	0.00	0.00	0.00
10,700.00	91.00	10.66	6,847.21	3,852.82	1,198.80	4,029.43	0.00	0.00	0.00
10,800.00	91.00	10.66	6,845.46	3,951.08	1,217.30	4,129.22	0.00	0.00	0.00
10,900.00	91.00	10.66	6,843.72	4,049.34	1,235.80	4,229.00	0.00	0.00	0.00
11,000.00	91.00	10.66	6,841.97	4,147.60	1,254.30	4,328.79	0.00	0.00	0.00
11,100.00	91.00	10.66	6,840.23	4,245.85	1,272.80	4,428.58	0.00	0.00	0.00
11,200.00	91.00	10.66	6,838.48	4,344.11	1,291.30	4,528.36	0.00	0.00	0.00
11,300.00	91.00	10.66	6,836.74	4,442.37	1,309.80	4,628.15	0.00	0.00	0.00
11,400.00	91.00	10.66	6,834.99	4,540.63	1,328.30	4,727.94	0.00	0.00	0.00
11,500.00	91.00	10.66	6,833.25	4,638.89	1,346.80	4,827.72	0.00	0.00	0.00
11,600.00	91.00	10.66	6,831.50	4,737.15	1,365.30	4,927.51	0.00	0.00	0.00
11,700.00	91.00	10.66	6,829.76	4,835.40	1,383.80	5,027.30	0.00	0.00	0.00
11,800.00	91.00	10.66	6,828.01	4,933.66	1,402.30	5,127.09	0.00	0.00	0.00
11,900.00	91.00	10.66	6,826.27	5,031.92	1,420.80	5,226.87	0.00	0.00	0.00
12,000.00	91.00	10.66	6,824.52	5,130.18	1,439.30	5,326.66	0.00	0.00	0.00
12,100.00	91.00	10.66	6,822.78	5,228.44	1,457.80	5,426.45	0.00	0.00	0.00
12,200.00	91.00	10.66	6,821.03	5,326.70	1,476.30	5,526.23	0.00	0.00	0.00
12,300.00	91.00	10.66	6,819.28	5,424.95	1,494.80	5,626.02	0.00	0.00	0.00
12,400.00	91.00	10.66	6,817.54	5,523.21	1,513.30	5,725.81	0.00	0.00	0.00
12,500.00	91.00	10.66	6,815.79	5,621.47	1,531.80	5,825.59	0.00	0.00	0.00
12,600.00	91.00	10.66	6,814.05	5,719.73	1,550.30	5,925.38	0.00	0.00	0.00
12,700.00	91.00	10.66	6,812.30	5,817.99	1,568.80	6,025.17	0.00	0.00	0.00
12,800.00	91.00	10.66	6,810.56	5,916.25	1,587.30	6,124.95	0.00	0.00	0.00
12,900.00	91.00	10.66	6,808.81	6,014.50	1,605.80	6,224.74	0.00	0.00	0.00
13,000.00	91.00	10.66	6,807.07	6,112.76	1,624.30	6,324.53	0.00	0.00	0.00
13,100.00	91.00	10.66	6,805.32	6,211.02	1,642.80	6,424.31	0.00	0.00	0.00
13,200.00	91.00	10.66	6,803.58	6,309.28	1,661.30	6,524.10	0.00	0.00	0.00
13,300.00	91.00	10.66	6,801.83	6,407.54	1,679.80	6,623.89	0.00	0.00	0.00
13,400.00	91.00	10.66	6,800.09	6,505.80	1,698.30	6,723.68	0.00	0.00	0.00
13,500.00	91.00	10.66	6,798.34	6,604.05	1,716.80	6,823.46	0.00	0.00	0.00
13,600.00	91.00	10.66	6,796.60	6,702.31	1,735.30	6,923.25	0.00	0.00	0.00

Planning Report

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Valley Farms F-1H (102872)
Company:	Antero Resources	TVD Reference:	KB @ 5648.00ft (Original Well Elev)
Project:	Valley Farms	MD Reference:	KB @ 5648.00ft (Original Well Elev)
Site:	Valley Farms F	North Reference:	Grid
Well:	Valley Farms F-1H (102872)	Survey Calculation Method:	Minimum Curvature
Wellbore:	VF F-1H		
Design:	Valley Farms F-1H P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,700.00	91.00	10.66	6,794.85	6,800.57	1,753.80	7,023.04	0.00	0.00	0.00
13,800.00	91.00	10.66	6,793.11	6,898.83	1,772.30	7,122.82	0.00	0.00	0.00
13,900.00	91.00	10.66	6,791.36	6,997.09	1,790.80	7,222.61	0.00	0.00	0.00
14,000.00	91.00	10.66	6,789.62	7,095.35	1,809.30	7,322.40	0.00	0.00	0.00
14,075.08	91.00	10.66	6,788.31	7,169.12	1,823.19	7,397.32	0.00	0.00	0.00
TD at 14075 MD/6788 TVD									

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									
BH	0.00	0.00	6,788.30	7,169.12	1,823.19	14,372,211.32	896,981.12	39.545708779°N	107.637072381°W
- plan hits target center									
- Point									
LP	0.00	360.00	6,903.00	711.80	607.41	14,365,754.01	895,765.34	39.527895336°N	107.640708812°W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	1,000.00	Surf Csg at 1000 MD/TVD	10.750	12.250	
3,300.00	3,300.00	Int Csg at 3300 MD/TVD	8.625	9.785	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,723.00	3,723.00	Williams Fork				
4,591.00	4,591.00	Price Coal				
5,553.00	5,553.00	Top of Gas				
6,373.74	6,367.00	Coal Ridge Coal TSE				
6,492.63	6,473.00	Coal Ridge Coal Base				
6,723.43	6,647.00	South Canyon TSE				
6,998.48	6,793.00	South Canyon Coals Base				
7,234.15	6,873.00	Middle Sandstone B Top				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
6,098.24	6,098.24	0.00	0.00	KOP 8°/100 at 6098 MD/TVD	
6,785.74	6,684.91	159.12	260.68	Start turn at 6785 MD/6685 TVD	
7,503.31	6,903.00	711.80	607.41	Hold 91° at 7503 MD/6903 TVD	
14,075.08	6,788.31	7,169.12	1,823.19	TD at 14075 MD/6788 TVD	