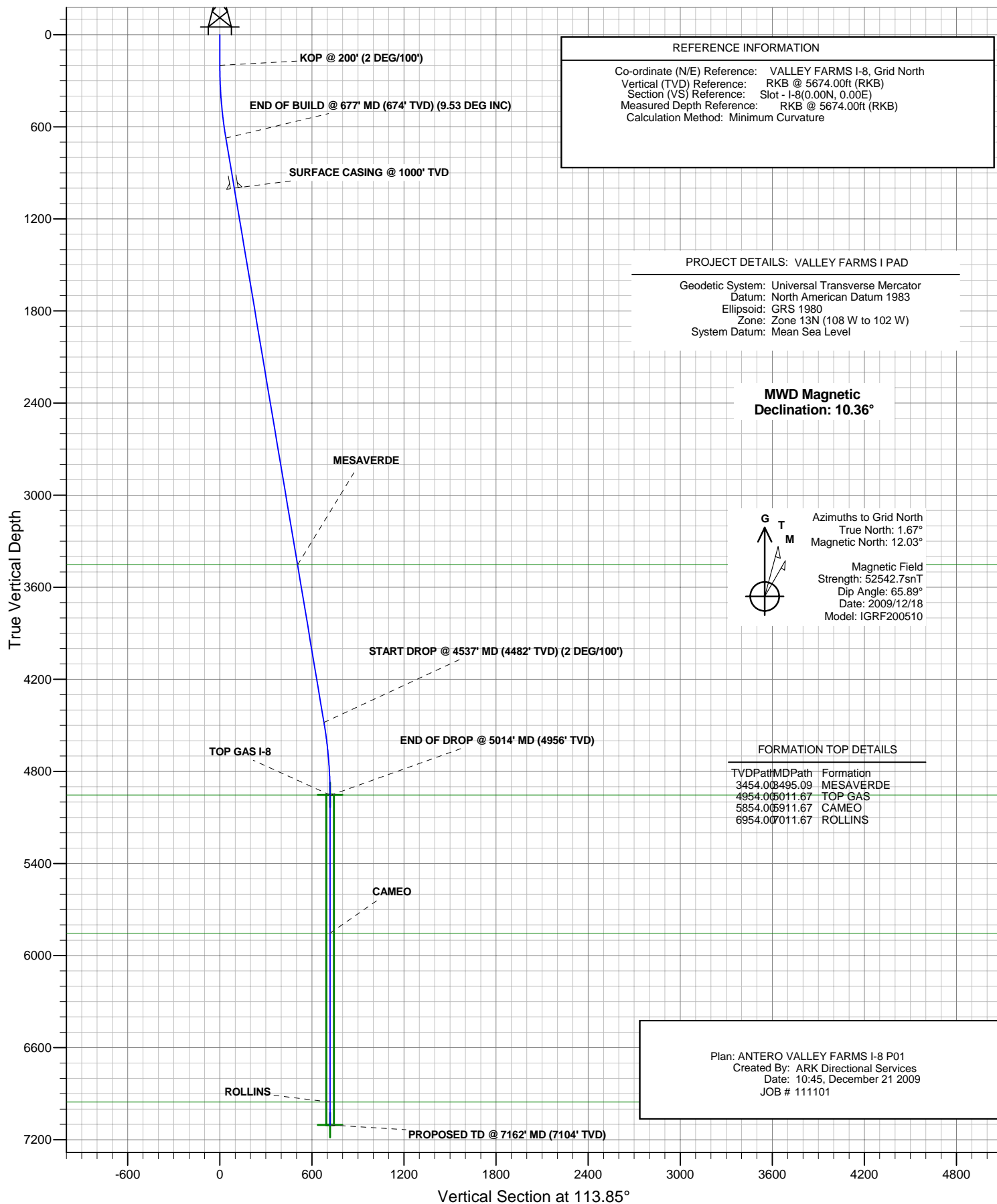




# ANTERO RESOURCES

## ANTERO VALLEY FARMS I-8

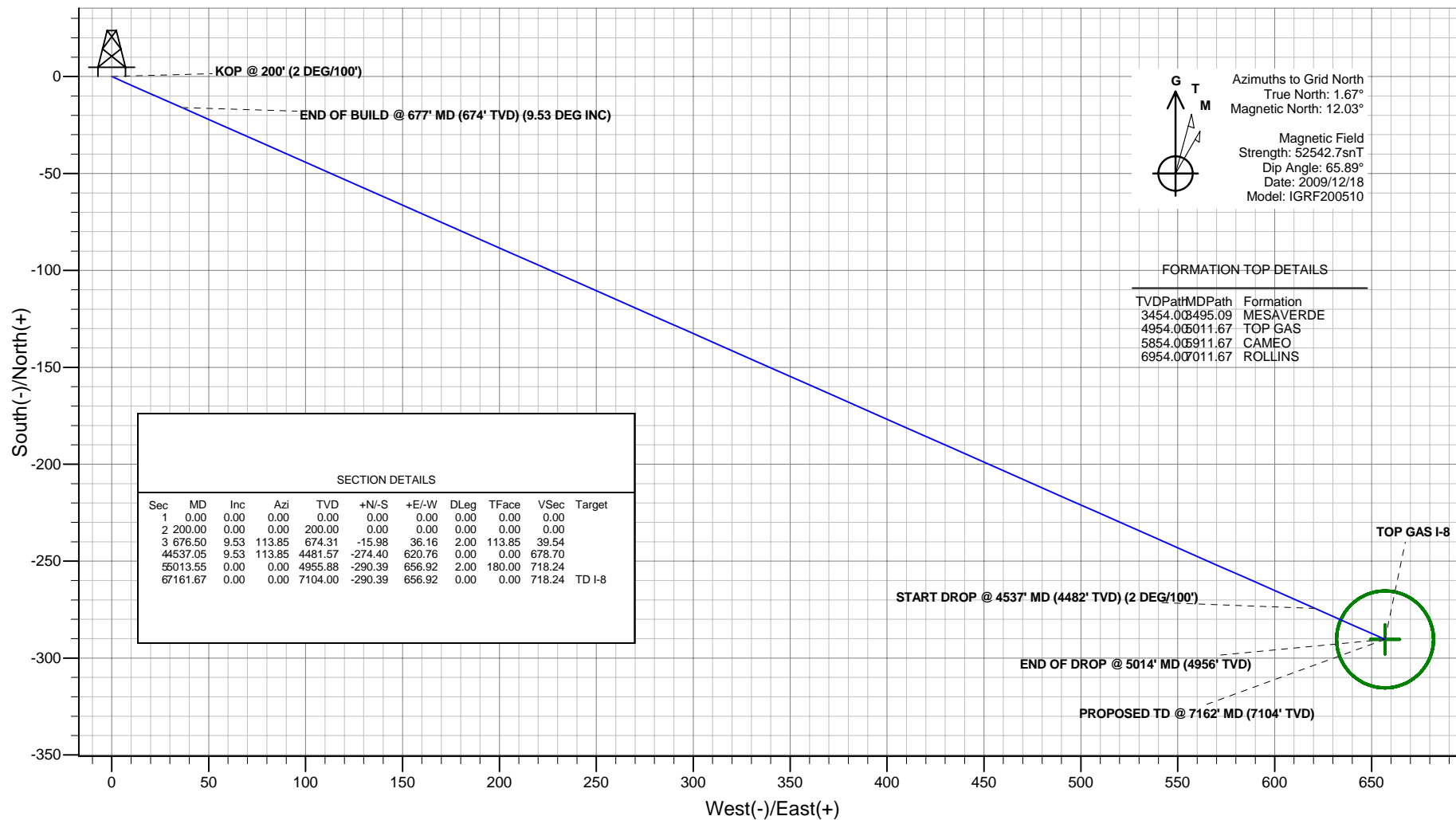




## PLAN VIEW

## ANTERO RESOURCES

Project: VALLEY FARMS I PAD  
Site: FRONTIER 12  
Well: VALLEY FARMS I-8 (111101)  
Wellbore: ANTERO VALLEY FARMS I-8  
Design: ANTERO VALLEY FARMS I-8 P01  
JOB # 111101



Plan: ANTERO VALLEY FARMS I-8 P01  
Created By: ARK Directional Services  
Date: 10:48, December 21 2009

### PROJECT DETAILS: VALLEY FARMS I PAD

Geodetic System: Universal Transverse Mercator  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Zone 13N (108 W to 102 W)  
System Datum: Mean Sea Level

### REFERENCE INFORMATION

Co-ordinate (N/E) Reference: VALLEY FARMS I-8, Grid North  
Vertical (TVD) Reference: RKB @ 5674.00ft (RKB)  
Section (VS) Reference: Slot - I-8(0.00N, 0.00E)  
Measured Depth Reference: RKB @ 5674.00ft (RKB)  
Calculation Method: Minimum Curvature

# **ANTERO RESOURCES**

**VALLEY FARMS I PAD**

**FRONTIER 12**

**VALLEY FARMS I-8**

**Plan: ANTERO VALLEY FARMS I-8 P01**

## **Standard Planning Report - Geographic**

**21 December, 2009**

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well VALLEY FARMS I-8 (111101) - Slot I-8
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5674.00ft (RKB)
<b>Project:</b>	VALLEY FARMS I PAD	<b>MD Reference:</b>	RKB @ 5674.00ft (RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	VALLEY FARMS I-8 (111101)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ANTERO VALLEY FARMS I-8		
<b>Design:</b>	ANTERO VALLEY FARMS I-8 P01		

<b>Project</b>	VALLEY FARMS I PAD		
<b>Map System:</b>	Universal Transverse Mercator	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

Site	FRONTIER 12				
Site Position:		Northing:	14,365,113.21 ft	Latitude:	39° 31' 35.888 N
From:	Lat/Long	Easting:	901,976.81 ft	Longitude:	107° 37' 7.093 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-1.67 °

Well	VALLEY FARMS I-8 (111101) - Slot I-8					
Well Position	+N/-S	4.21 ft	Northing:	14,365,117.42 ft	Latitude:	39° 31' 35.938 N
	+E/-W	29.71 ft	Easting:	902,006.52 ft	Longitude:	107° 37' 6.716 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,650.00 ft

<b>Wellbore</b>	ANTERO VALLEY FARMS I-8				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	2009/12/18	10.36	65.89	52,543

<b>Design</b>	ANTERO VALLEY FARMS I-8 P01				
<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>	<b>Direction (°)</b>	
	0.00	0.00	0.00	113.85	

<b>Plan Sections</b>										
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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
676.50	9.53	113.85	674.31	-15.98	36.16	2.00	2.00	0.00	113.85	
4,537.05	9.53	113.85	4,481.57	-274.40	620.76	0.00	0.00	0.00	0.00	
5,013.55	0.00	0.00	4,955.88	-290.39	656.92	2.00	-2.00	0.00	180.00	
7,161.67	0.00	0.00	7,104.00	-290.39	656.92	0.00	0.00	0.00	0.00	TD I-8

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well VALLEY FARMS I-8 (111101) - Slot I-8
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5674.00ft (RKB)
<b>Project:</b>	VALLEY FARMS I PAD	<b>MD Reference:</b>	RKB @ 5674.00ft (RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	VALLEY FARMS I-8 (111101)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ANTERO VALLEY FARMS I-8		
<b>Design:</b>	ANTERO VALLEY FARMS I-8 P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,365,117.42	902,006.52	39° 31' 35.938 N	107° 37' 6.716 W
100.00	0.00	0.00	100.00	0.00	0.00	14,365,117.42	902,006.52	39° 31' 35.938 N	107° 37' 6.716 W
200.00	0.00	0.00	200.00	0.00	0.00	14,365,117.42	902,006.52	39° 31' 35.938 N	107° 37' 6.716 W
<b>KOP @ 200' (2 DEG/100')</b>									
300.00	2.00	113.85	299.98	-0.71	1.60	14,365,116.71	902,008.12	39° 31' 35.931 N	107° 37' 6.695 W
400.00	4.00	113.85	399.84	-2.82	6.38	14,365,114.60	902,012.90	39° 31' 35.912 N	107° 37' 6.634 W
500.00	6.00	113.85	499.45	-6.34	14.35	14,365,111.08	902,020.87	39° 31' 35.879 N	107° 37' 6.531 W
600.00	8.00	113.85	598.70	-11.27	25.50	14,365,106.15	902,032.02	39° 31' 35.834 N	107° 37' 6.387 W
676.50	9.53	113.85	674.31	-15.98	36.16	14,365,101.44	902,042.68	39° 31' 35.790 N	107° 37' 6.249 W
<b>END OF BUILD @ 677' MD (674' TVD) (9.53 DEG INC)</b>									
700.00	9.53	113.85	697.48	-17.56	39.72	14,365,099.86	902,046.24	39° 31' 35.776 N	107° 37' 6.203 W
800.00	9.53	113.85	796.10	-24.25	54.86	14,365,093.17	902,061.38	39° 31' 35.714 N	107° 37' 6.007 W
900.00	9.53	113.85	894.72	-30.95	70.01	14,365,086.47	902,076.53	39° 31' 35.652 N	107° 37' 5.812 W
1,000.00	9.53	113.85	993.34	-37.64	85.15	14,365,079.78	902,091.67	39° 31' 35.590 N	107° 37' 5.616 W
1,006.75	9.53	113.85	1,000.00	-38.09	86.17	14,365,079.33	902,092.69	39° 31' 35.586 N	107° 37' 5.603 W
<b>SURFACE CASING @ 1000' TVD</b>									
1,100.00	9.53	113.85	1,091.96	-44.33	100.29	14,365,073.09	902,106.81	39° 31' 35.529 N	107° 37' 5.421 W
1,200.00	9.53	113.85	1,190.58	-51.03	115.43	14,365,066.39	902,121.95	39° 31' 35.467 N	107° 37' 5.225 W
1,300.00	9.53	113.85	1,289.20	-57.72	130.58	14,365,059.70	902,137.10	39° 31' 35.405 N	107° 37' 5.029 W
1,400.00	9.53	113.85	1,387.82	-64.41	145.72	14,365,053.01	902,152.24	39° 31' 35.343 N	107° 37' 4.834 W
1,500.00	9.53	113.85	1,486.44	-71.11	160.86	14,365,046.31	902,167.38	39° 31' 35.282 N	107° 37' 4.638 W
1,600.00	9.53	113.85	1,585.06	-77.80	176.01	14,365,039.62	902,182.53	39° 31' 35.220 N	107° 37' 4.442 W
1,700.00	9.53	113.85	1,683.68	-84.50	191.15	14,365,032.92	902,197.67	39° 31' 35.158 N	107° 37' 4.247 W
1,800.00	9.53	113.85	1,782.30	-91.19	206.29	14,365,026.23	902,212.81	39° 31' 35.096 N	107° 37' 4.051 W
1,900.00	9.53	113.85	1,880.92	-97.88	221.44	14,365,019.54	902,227.95	39° 31' 35.035 N	107° 37' 3.856 W
2,000.00	9.53	113.85	1,979.54	-104.58	236.58	14,365,012.84	902,243.10	39° 31' 34.973 N	107° 37' 3.660 W
2,100.00	9.53	113.85	2,078.16	-111.27	251.72	14,365,006.15	902,258.24	39° 31' 34.911 N	107° 37' 3.464 W
2,200.00	9.53	113.85	2,176.78	-117.96	266.86	14,364,999.46	902,273.38	39° 31' 34.849 N	107° 37' 3.269 W
2,300.00	9.53	113.85	2,275.40	-124.66	282.01	14,364,992.76	902,288.53	39° 31' 34.787 N	107° 37' 3.073 W
2,400.00	9.53	113.85	2,374.02	-131.35	297.15	14,364,986.07	902,303.67	39° 31' 34.726 N	107° 37' 2.878 W
2,500.00	9.53	113.85	2,472.64	-138.05	312.29	14,364,979.37	902,318.81	39° 31' 34.664 N	107° 37' 2.682 W
2,600.00	9.53	113.85	2,571.26	-144.74	327.44	14,364,972.68	902,333.95	39° 31' 34.602 N	107° 37' 2.486 W
2,700.00	9.53	113.85	2,669.88	-151.43	342.58	14,364,965.99	902,349.10	39° 31' 34.540 N	107° 37' 2.291 W
2,800.00	9.53	113.85	2,768.50	-158.13	357.72	14,364,959.29	902,364.24	39° 31' 34.479 N	107° 37' 2.095 W
2,900.00	9.53	113.85	2,867.12	-164.82	372.86	14,364,952.60	902,379.38	39° 31' 34.417 N	107° 37' 1.900 W
3,000.00	9.53	113.85	2,965.74	-171.51	388.01	14,364,945.91	902,394.53	39° 31' 34.355 N	107° 37' 1.704 W
3,100.00	9.53	113.85	3,064.36	-178.21	403.15	14,364,939.21	902,409.67	39° 31' 34.293 N	107° 37' 1.508 W
3,200.00	9.53	113.85	3,162.98	-184.90	418.29	14,364,932.52	902,424.81	39° 31' 34.232 N	107° 37' 1.313 W
3,300.00	9.53	113.85	3,261.60	-191.60	433.44	14,364,925.82	902,439.96	39° 31' 34.170 N	107° 37' 1.117 W
3,400.00	9.53	113.85	3,360.22	-198.29	448.58	14,364,919.13	902,455.10	39° 31' 34.108 N	107° 37' 0.921 W
3,495.09	9.53	113.85	3,454.00	-204.65	462.98	14,364,912.77	902,469.50	39° 31' 34.049 N	107° 37' 0.735 W
<b>MESAVERDE</b>									
3,500.00	9.53	113.85	3,458.84	-204.98	463.72	14,364,912.44	902,470.24	39° 31' 34.046 N	107° 37' 0.726 W
3,600.00	9.53	113.85	3,557.46	-211.68	478.86	14,364,905.74	902,485.38	39° 31' 33.985 N	107° 37' 0.530 W
3,700.00	9.53	113.85	3,656.08	-218.37	494.01	14,364,899.05	902,500.53	39° 31' 33.923 N	107° 37' 0.335 W
3,800.00	9.53	113.85	3,754.70	-225.06	509.15	14,364,892.36	902,515.67	39° 31' 33.861 N	107° 37' 0.139 W
3,900.00	9.53	113.85	3,853.32	-231.76	524.29	14,364,885.66	902,530.81	39° 31' 33.799 N	107° 36' 59.943 W
4,000.00	9.53	113.85	3,951.94	-238.45	539.44	14,364,878.97	902,545.96	39° 31' 33.738 N	107° 36' 59.748 W
4,100.00	9.53	113.85	4,050.56	-245.15	554.58	14,364,872.27	902,561.10	39° 31' 33.676 N	107° 36' 59.552 W
4,200.00	9.53	113.85	4,149.18	-251.84	569.72	14,364,865.58	902,576.24	39° 31' 33.614 N	107° 36' 59.357 W
4,300.00	9.53	113.85	4,247.80	-258.53	584.87	14,364,858.89	902,591.38	39° 31' 33.552 N	107° 36' 59.161 W
4,400.00	9.53	113.85	4,346.42	-265.23	600.01	14,364,852.19	902,606.53	39° 31' 33.490 N	107° 36' 58.965 W
4,500.00	9.53	113.85	4,445.04	-271.92	615.15	14,364,845.50	902,621.67	39° 31' 33.429 N	107° 36' 58.770 W

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well VALLEY FARMS I-8 (111101) - Slot I-8
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5674.00ft (RKB)
<b>Project:</b>	VALLEY FARMS I PAD	<b>MD Reference:</b>	RKB @ 5674.00ft (RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	VALLEY FARMS I-8 (111101)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ANTERO VALLEY FARMS I-8		
<b>Design:</b>	ANTERO VALLEY FARMS I-8 P01		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
4,537.05	9.53	113.85	4,481.58	-274.40	620.76	14,364,843.02	902,627.28	39° 31' 33.406 N	107° 36' 58.697 W	
<b>START DROP @ 4537' MD (4482' TVD) (2 DEG/100')</b>										
4,600.00	8.27	113.85	4,543.77	-278.34	629.67	14,364,839.08	902,636.19	39° 31' 33.370 N	107° 36' 58.582 W	
4,700.00	6.27	113.85	4,642.96	-283.45	641.24	14,364,833.97	902,647.76	39° 31' 33.322 N	107° 36' 58.433 W	
4,800.00	4.27	113.85	4,742.53	-287.17	649.65	14,364,830.25	902,656.16	39° 31' 33.288 N	107° 36' 58.324 W	
4,900.00	2.27	113.85	4,842.36	-289.48	654.86	14,364,827.94	902,661.38	39° 31' 33.267 N	107° 36' 58.257 W	
5,000.00	0.27	113.85	4,942.33	-290.37	656.89	14,364,827.05	902,663.41	39° 31' 33.258 N	107° 36' 58.231 W	
5,011.67	0.04	113.85	4,954.00	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
<b>TOP GAS</b>										
5,013.55	0.00	0.00	4,955.88	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
<b>END OF DROP @ 5014' MD (4956' TVD)</b>										
5,100.00	0.00	0.00	5,042.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
5,200.00	0.00	0.00	5,142.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
5,300.00	0.00	0.00	5,242.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
5,400.00	0.00	0.00	5,342.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
5,500.00	0.00	0.00	5,442.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
5,600.00	0.00	0.00	5,542.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
5,700.00	0.00	0.00	5,642.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
5,800.00	0.00	0.00	5,742.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
5,900.00	0.00	0.00	5,842.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
5,911.67	0.00	0.00	5,854.00	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
<b>CAMEO</b>										
6,000.00	0.00	0.00	5,942.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
6,100.00	0.00	0.00	6,042.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
6,200.00	0.00	0.00	6,142.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
6,300.00	0.00	0.00	6,242.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
6,400.00	0.00	0.00	6,342.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
6,500.00	0.00	0.00	6,442.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
6,600.00	0.00	0.00	6,542.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
6,700.00	0.00	0.00	6,642.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
6,800.00	0.00	0.00	6,742.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
6,900.00	0.00	0.00	6,842.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
7,000.00	0.00	0.00	6,942.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
7,011.67	0.00	0.00	6,954.00	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
<b>ROLLINS</b>										
7,100.00	0.00	0.00	7,042.33	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
7,161.65	0.00	0.00	7,103.98	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
<b>PROPOSED TD @ 7162' MD (7104' TVD)</b>										
7,161.67	0.00	0.00	7,104.00	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
TOP GAS I-8		0.00	4,954.00	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
- hit/miss target										
- Shape (radius 25.00)										
TD I-8	0.00	360.00	7,104.00	-290.39	656.92	14,364,827.04	902,663.44	39° 31' 33.258 N	107° 36' 58.230 W	
- plan hits target										
- Circle (radius 25.00)										

# Planning Report - Geographic

<b>Database:</b>	EDMDB	<b>Local Co-ordinate Reference:</b>	Well VALLEY FARMS I-8 (111101) - Slot I-8
<b>Company:</b>	ANTERO RESOURCES	<b>TVD Reference:</b>	RKB @ 5674.00ft (RKB)
<b>Project:</b>	VALLEY FARMS I PAD	<b>MD Reference:</b>	RKB @ 5674.00ft (RKB)
<b>Site:</b>	FRONTIER 12	<b>North Reference:</b>	Grid
<b>Well:</b>	VALLEY FARMS I-8 (111101)	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ANTERO VALLEY FARMS I-8		
<b>Design:</b>	ANTERO VALLEY FARMS I-8 P01		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,006.75	1,000.00	SURFACE CASING @ 1000' TVD	8.62	12.25	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,495.09	3,454.00	MESAVERDE		0.00	
5,011.67	4,954.00	TOP GAS		0.00	
5,911.67	5,854.00	CAMEO		0.00	
7,011.67	6,954.00	ROLLINS		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.00	200.00	0.00	0.00	KOP @ 200' (2 DEG/100')	
676.50	674.31	-15.98	36.16	END OF BUILD @ 677' MD (674' TVD) (9.53 DEG INC)	
4,537.05	4,481.58	-274.40	620.76	START DROP @ 4537' MD (4482' TVD) (2 DEG/100')	
5,013.55	4,955.88	-290.39	656.92	END OF DROP @ 5014' MD (4956' TVD)	
7,161.65	7,103.98	-290.39	656.92	PROPOSED TD @ 7162' MD (7104' TVD)	