



REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Dixon A12 (112026) - Slot A12, Grid North
Vertical (TVD) Reference: KB @ 5559.00ft (Original Well Elev)
Section (VS) Reference: Slot - A12(0.00N, 0.00E)
Measured Depth Reference: KB @ 5559.00ft (Original Well Elev)
Calculation Method: Minimum Curvature

PROJECT DETAILS: Dixon

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

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00	
1600.00	6.00	140.00	1599.63	-8.01	6.73	3.00	140.00	9.95	
2745.36	40.00	158.56	2639.19	-408.62	185.16	3.00	21.25	448.25	
4592.71	40.00	158.56	4054.26	-1513.99	619.27	0.00	0.00	1635.74	
5926.19	0.00	158.56	5282.00	-1929.98	782.64	3.00	180.00	2082.63	
8323.19	0.00	158.56	7679.00	-1929.98	782.64	0.00	158.56	2082.63	BH A12



Antero Resources

Dixon

Dixon A

Dixon A12 (112026) - Slot A12

Dixon A12

Plan: Dixon A12 P01

Standard Planning Report - Geographic

24 May, 2012



Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A12 (112026) - Slot A12
Company:	Antero Resources	TVD Reference:	KB @ 5559.00ft (Original Well Elev)
Project:	Dixon	MD Reference:	KB @ 5559.00ft (Original Well Elev)
Site:	Dixon A	North Reference:	Grid
Well:	Dixon A12 (112026)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A12		
Design:	Dixon A12 P01		

Project	Dixon		
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	Dixon A					
Site Position:		Northing:	14,366,922.96 usft	Latitude:	39.529609988°N	
From:	Map	Easting:	877,460.93 usft	Longitude:	107.705677999°W	
Position Uncertainty:		0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.72 °

Well	Dixon A12 (112026) - Slot A12					
Well Position	+N/-S	0.00 ft	Northing:	14,366,923.20 usft	Latitude:	39.529608963°N
	+E/-W	0.00 ft	Easting:	877,440.78 usft	Longitude:	107.705749417°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,535.00 ft

Wellbore	Dixon A12				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/23/12	10.07	65.79	52,189

Design	Dixon A12 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	157.93

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	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	6.00	140.00	1,599.63	-8.01	6.73	3.00	3.00	0.00	140.00	
2,745.36	40.00	158.56	2,639.19	-408.62	185.16	3.00	2.97	1.62	21.25	
4,592.71	40.00	158.56	4,054.26	-1,513.99	619.27	0.00	0.00	0.00	0.00	
5,926.19	0.00	158.56	5,282.00	-1,929.98	782.64	3.00	-3.00	0.00	180.00	
8,323.19	0.00	158.56	7,679.00	-1,929.98	782.64	0.00	0.00	0.00	158.56	BH A12



Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A12 (112026) - Slot A12
Company:	Antero Resources	TVD Reference:	KB @ 5559.00ft (Original Well Elev)
Project:	Dixon	MD Reference:	KB @ 5559.00ft (Original Well Elev)
Site:	Dixon A	North Reference:	Grid
Well:	Dixon A12 (112026)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A12		
Design:	Dixon A12 P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
Wasatch									
100.00	0.00	0.00	100.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
200.00	0.00	0.00	200.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
300.00	0.00	0.00	300.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
400.00	0.00	0.00	400.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
500.00	0.00	0.00	500.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
600.00	0.00	0.00	600.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
700.00	0.00	0.00	700.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
800.00	0.00	0.00	800.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
900.00	0.00	0.00	900.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
Surf Csg at 1000 MD/TVD									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,366,923.20	877,440.78	39.529608963°N	107.705749417°W
Nudge 3°/100 at 1400 MD/TVD									
1,500.00	3.00	140.00	1,499.95	-2.01	1.68	14,366,921.19	877,442.46	39.529603601°N	107.705743244°W
1,600.00	6.00	140.00	1,599.63	-8.01	6.73	14,366,915.18	877,447.50	39.529587531°N	107.705724739°W
Build 3°/100 at 1600 MD/TVD									
1,700.00	8.86	147.07	1,698.79	-18.49	14.27	14,366,904.71	877,455.05	39.529559425°N	107.705696882°W
1,800.00	11.79	150.68	1,797.16	-33.87	23.47	14,366,889.33	877,464.25	39.529517991°N	107.705662677°W
1,900.00	14.75	152.87	1,894.48	-54.11	34.28	14,366,869.08	877,475.06	39.529463343°N	107.705622217°W
2,000.00	17.72	154.33	1,990.48	-79.17	46.68	14,366,844.03	877,487.46	39.529395629°N	107.705575613°W
2,100.00	20.70	155.39	2,084.90	-108.97	60.64	14,366,814.23	877,501.42	39.529315035°N	107.705522994°W
2,200.00	23.69	156.19	2,177.47	-143.42	76.11	14,366,779.77	877,516.89	39.529221783°N	107.705464502°W
2,300.00	26.68	156.82	2,267.96	-182.45	93.06	14,366,740.75	877,533.84	39.529116128°N	107.705400300°W
2,400.00	29.67	157.33	2,356.10	-225.93	111.44	14,366,697.27	877,552.22	39.528998359°N	107.705330562°W
2,500.00	32.66	157.76	2,441.66	-273.75	131.20	14,366,649.45	877,571.97	39.528868800°N	107.705255481°W
2,600.00	35.65	158.12	2,524.41	-325.78	152.28	14,366,597.42	877,593.05	39.528727805°N	107.705175261°W
2,700.00	38.65	158.43	2,604.10	-381.87	174.62	14,366,541.32	877,615.40	39.528575761°N	107.705090123°W
2,745.36	40.00	158.56	2,639.19	-408.62	185.16	14,366,514.58	877,625.94	39.528503268°N	107.705049948°W
Hold 40° at 2745 MD/2639 TVD									
2,800.00	40.00	158.56	2,681.05	-441.31	198.00	14,366,481.88	877,638.78	39.528414630°N	107.705000976°W
2,900.00	40.00	158.56	2,757.65	-501.15	221.50	14,366,422.05	877,662.28	39.528252419°N	107.704911356°W
3,000.00	40.00	158.56	2,834.25	-560.98	245.00	14,366,362.21	877,685.78	39.528090208°N	107.704821736°W
3,100.00	40.00	158.56	2,910.84	-620.82	268.50	14,366,302.38	877,709.28	39.527927997°N	107.704732116°W
3,200.00	40.00	158.56	2,987.44	-680.65	292.00	14,366,242.54	877,732.77	39.527765785°N	107.704642497°W
3,300.00	40.00	158.56	3,064.04	-740.49	315.49	14,366,182.71	877,756.27	39.527603574°N	107.704552879°W
3,400.00	40.00	158.56	3,140.64	-800.32	338.99	14,366,122.87	877,779.77	39.527441362°N	107.704463260°W
3,500.00	40.00	158.56	3,217.24	-860.16	362.49	14,366,063.04	877,803.27	39.527279151°N	107.704373643°W
3,600.00	40.00	158.56	3,293.84	-920.00	385.99	14,366,003.20	877,826.77	39.527116939°N	107.704284025°W
3,700.00	40.00	158.56	3,370.44	-979.83	409.49	14,365,943.37	877,850.27	39.526954727°N	107.704194408°W
3,800.00	40.00	158.56	3,447.04	-1,039.67	432.99	14,365,883.53	877,873.77	39.526792515°N	107.704104792°W
3,900.00	40.00	158.56	3,523.64	-1,099.50	456.49	14,365,823.69	877,897.27	39.526630303°N	107.704015176°W
4,000.00	40.00	158.56	3,600.24	-1,159.34	479.99	14,365,763.86	877,920.77	39.526468091°N	107.703925560°W
4,100.00	40.00	158.56	3,676.84	-1,219.17	503.49	14,365,704.02	877,944.27	39.526305879°N	107.703835945°W
4,200.00	40.00	158.56	3,753.44	-1,279.01	526.99	14,365,644.19	877,967.77	39.526143667°N	107.703746330°W
4,300.00	40.00	158.56	3,830.04	-1,338.85	550.49	14,365,584.35	877,991.26	39.525981455°N	107.703656716°W
4,400.00	40.00	158.56	3,906.64	-1,398.68	573.99	14,365,524.52	878,014.76	39.525819242°N	107.703567102°W
4,494.47	40.00	158.56	3,979.00	-1,455.21	596.18	14,365,467.99	878,036.96	39.525666006°N	107.703482448°W
Mesaverde									
4,500.00	40.00	158.56	3,983.24	-1,458.52	597.48	14,365,464.68	878,038.26	39.525657030°N	107.703477489°W

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A12 (112026) - Slot A12
Company:	Antero Resources	TVD Reference:	KB @ 5559.00ft (Original Well Elev)
Project:	Dixon	MD Reference:	KB @ 5559.00ft (Original Well Elev)
Site:	Dixon A	North Reference:	Grid
Well:	Dixon A12 (112026)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A12		
Design:	Dixon A12 P01		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
4,592.71	40.00	158.56	4,054.26	-1,513.99	619.27	14,365,409.21	878,060.05	39.525506640°N	107.703394407°W	
Drop 3°/100 at 4593 MD/4054 TVD										
4,600.00	39.79	158.56	4,059.85	-1,518.34	620.98	14,365,404.86	878,061.76	39.525494844°N	107.703387891°W	
4,700.00	36.79	158.56	4,138.33	-1,576.01	643.63	14,365,347.19	878,084.40	39.525338520°N	107.703301531°W	
4,800.00	33.79	158.56	4,219.95	-1,629.77	664.74	14,365,293.43	878,105.52	39.525192774°N	107.703221015°W	
4,900.00	30.79	158.56	4,304.48	-1,679.48	684.26	14,365,243.72	878,125.04	39.525058006°N	107.703146565°W	
5,000.00	27.79	158.56	4,391.69	-1,725.00	702.14	14,365,198.19	878,142.92	39.524934587°N	107.703078385°W	
5,100.00	24.79	158.56	4,481.34	-1,766.22	718.33	14,365,156.98	878,159.11	39.524822853°N	107.703016660°W	
5,200.00	21.79	158.56	4,573.18	-1,803.01	732.78	14,365,120.19	878,173.56	39.524723112°N	107.702961560°W	
5,300.00	18.79	158.56	4,666.97	-1,835.28	745.45	14,365,087.92	878,186.23	39.524635637°N	107.702913237°W	
5,400.00	15.79	158.56	4,762.44	-1,862.93	756.31	14,365,060.27	878,197.09	39.524560668°N	107.702871822°W	
5,417.19	15.27	158.56	4,779.00	-1,867.21	757.99	14,365,055.98	878,198.77	39.524549059°N	107.702865409°W	
Price Coal										
5,500.00	12.79	158.56	4,859.34	-1,885.90	765.33	14,365,037.30	878,206.11	39.524498409°N	107.702837429°W	
5,600.00	9.79	158.56	4,957.39	-1,904.11	772.48	14,365,019.09	878,213.26	39.524449032°N	107.702810152°W	
5,700.00	6.79	158.56	5,056.34	-1,917.52	777.75	14,365,005.68	878,218.53	39.524412672°N	107.702790066°W	
5,800.00	3.79	158.56	5,155.90	-1,926.10	781.12	14,364,997.10	878,221.89	39.524389429°N	107.702777226°W	
5,900.00	0.79	158.56	5,255.81	-1,929.81	782.57	14,364,993.39	878,223.35	39.524379367°N	107.702771667°W	
5,926.19	0.00	158.56	5,282.00	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
Vertical at 5926 MD/5282 TVD										
6,000.00	0.00	158.56	5,355.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
6,100.00	0.00	158.56	5,455.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
6,123.19	0.00	158.56	5,479.00	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
Top Gas										
6,200.00	0.00	158.56	5,555.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
6,300.00	0.00	158.56	5,655.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
6,400.00	0.00	158.56	5,755.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
6,500.00	0.00	158.56	5,855.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
6,600.00	0.00	158.56	5,955.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
6,700.00	0.00	158.56	6,055.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
6,800.00	0.00	158.56	6,155.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
6,900.00	0.00	158.56	6,255.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
7,000.00	0.00	158.56	6,355.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
7,023.19	0.00	158.56	6,379.00	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
Cameo										
7,100.00	0.00	158.56	6,455.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
7,200.00	0.00	158.56	6,555.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
7,300.00	0.00	158.56	6,655.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
7,400.00	0.00	158.56	6,755.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
7,500.00	0.00	158.56	6,855.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
7,600.00	0.00	158.56	6,955.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
7,700.00	0.00	158.56	7,055.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
7,800.00	0.00	158.56	7,155.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
7,900.00	0.00	158.56	7,255.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
8,000.00	0.00	158.56	7,355.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
8,100.00	0.00	158.56	7,455.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
8,123.19	0.00	158.56	7,479.00	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
Rollins										
8,200.00	0.00	158.56	7,555.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
8,300.00	0.00	158.56	7,655.81	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
8,323.19	0.00	158.56	7,679.00	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W	
TD at 8323 MD/7679 TVD										

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A12 (112026) - Slot A12
Company:	Antero Resources	TVD Reference:	KB @ 5559.00ft (Original Well Elev)
Project:	Dixon	MD Reference:	KB @ 5559.00ft (Original Well Elev)
Site:	Dixon A	North Reference:	Grid
Well:	Dixon A12 (112026)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A12		
Design:	Dixon A12 P01		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
BH A12	0.00	0.00	7,679.00	-1,929.98	782.64	14,364,993.22	878,223.42	39.524378914°N	107.702771417°W
- plan hits target center									
- Circle (radius 20.00)									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)	Name		(in)	(in)
1,000.00	1,000.00	Surf Csg at 1000 MD/TVD		5.500	6.000

Formations						
Measured Depth	Vertical Depth				Dip	Dip Direction
(ft)	(ft)	Name	Lithology		(°)	(°)
0.00	0.00	Wasatch				
4,494.47	3,979.00	Mesaverde				
5,417.19	4,779.00	Price Coal				
6,123.19	5,479.00	Top Gas				
7,023.19	6,379.00	Cameo				
8,123.19	7,479.00	Rollins				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
1,400.00	1,400.00	0.00	0.00	Nudge 3°/100 at 1400 MD/TVD	
1,600.00	1,599.63	-8.01	6.73	Build 3°/100 at 1600 MD/TVD	
2,745.36	2,639.19	-408.62	185.16	Hold 40° at 2745 MD/2639 TVD	
4,592.71	4,054.26	-1,513.99	619.27	Drop 3°/100 at 4593 MD/4054 TVD	
5,926.19	5,282.00	-1,929.98	782.64	Vertical at 5926 MD/5282 TVD	
8,323.19	7,679.00	-1,929.98	782.64	TD at 8323 MD/7679 TVD	