



REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Dixon A15 (112027) - Slot A15, Grid North
Vertical (TVD) Reference: KB @ 5559.00ft (Original Well Elev)
Section (VS) Reference: Slot - A15(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	VSEct	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1150.00	0.00	0.00	1150.00	0.00	0.00	0.00	0.00	0.00	
1350.00	6.00	360.00	1349.63	10.46	0.00	3.00	360.00	5.72	
1861.77	17.62	301.31	1851.01	77.87	-66.57	3.00	-77.61	98.32	
4526.69	17.62	301.31	4390.91	497.07	-755.72	0.00	0.00	904.54	
5113.99	0.00	301.31	4969.00	543.63	-832.26	3.00	180.00	994.08	
8013.99	0.00	301.31	7869.00	543.63	-832.26	0.00	301.31	994.08	BH A15



Antero Resources

Dixon

Dixon A

Dixon A15 (112027) - Slot A15

Dixon A15

Plan: Dixon A15 P01

Standard Planning Report - Geographic

24 May, 2012



Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A15 (112027) - Slot A15
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 A15 (112027)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A15		
Design:	Dixon A15 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 A15 (112027) - Slot A15					
Well Position	+N/-S	0.00 ft	Northing:	14,366,923.04 usft	Latitude:	39.529609349°N
	+E/-W	0.00 ft	Easting:	877,450.78 usft	Longitude:	107.705713978°W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,535.00 ft

Wellbore	Dixon A15				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/23/12	10.07	65.79	52,189

Design	Dixon A15 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	303.15

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	
1,150.00	0.00	0.00	1,150.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,350.00	6.00	360.00	1,349.63	10.46	0.00	3.00	3.00	0.00	360.00	
1,861.77	17.62	301.31	1,851.01	77.87	-66.57	3.00	2.27	-11.47	-77.61	
4,526.69	17.62	301.31	4,390.91	497.07	-755.72	0.00	0.00	0.00	0.00	
5,113.99	0.00	301.31	4,969.00	543.63	-832.26	3.00	-3.00	0.00	180.00	
8,013.99	0.00	301.31	7,869.00	543.63	-832.26	0.00	0.00	0.00	301.31	BH A15



Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A15 (112027) - Slot A15
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 A15 (112027)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A15		
Design:	Dixon A15 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	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
Wasatch									
100.00	0.00	0.00	100.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
200.00	0.00	0.00	200.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
300.00	0.00	0.00	300.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
400.00	0.00	0.00	400.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
500.00	0.00	0.00	500.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
600.00	0.00	0.00	600.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
700.00	0.00	0.00	700.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
800.00	0.00	0.00	800.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
900.00	0.00	0.00	900.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
Surf Csg at 1000 MD/TVD									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
1,150.00	0.00	0.00	1,150.00	0.00	0.00	14,366,923.04	877,450.78	39.529609349°N	107.705713978°W
Nudge 3°/100 at 1150 MD/TVD									
1,200.00	1.50	360.00	1,199.99	0.65	0.00	14,366,923.69	877,450.78	39.529611144°N	107.705714048°W
1,300.00	4.50	360.00	1,299.85	5.89	0.00	14,366,928.92	877,450.78	39.529625500°N	107.705714605°W
1,350.00	6.00	360.00	1,349.63	10.46	0.00	14,366,933.50	877,450.78	39.529638051°N	107.705715093°W
Build 3°/100 at 1350 MD/TVD									
1,400.00	6.49	346.92	1,399.34	15.83	-0.64	14,366,938.86	877,450.14	39.529652718°N	107.705717929°W
1,500.00	8.23	327.64	1,498.53	27.38	-5.75	14,366,950.42	877,445.03	39.529683993°N	107.705737267°W
1,600.00	10.55	315.89	1,597.19	40.01	-15.96	14,366,963.04	877,434.82	39.529717785°N	107.705774775°W
1,700.00	13.15	308.52	1,695.05	53.67	-31.24	14,366,976.70	877,419.54	39.529754002°N	107.705830352°W
1,800.00	15.89	303.60	1,791.86	68.33	-51.54	14,366,991.36	877,399.24	39.529792544°N	107.705903845°W
1,861.77	17.62	301.31	1,851.01	77.87	-66.57	14,367,000.90	877,384.21	39.529817469°N	107.705958110°W
Hold 18° at 1862 MD/1851 TVD									
1,900.00	17.62	301.31	1,887.44	83.88	-76.46	14,367,006.91	877,374.32	39.529833149°N	107.705993771°W
2,000.00	17.62	301.31	1,982.75	99.61	-102.32	14,367,022.64	877,348.46	39.529874170°N	107.706087060°W
2,100.00	17.62	301.31	2,078.06	115.34	-128.18	14,367,038.38	877,322.60	39.529915190°N	107.706180348°W
2,200.00	17.62	301.31	2,173.37	131.07	-154.04	14,367,054.11	877,296.74	39.529956210°N	107.706273636°W
2,300.00	17.62	301.31	2,268.68	146.80	-179.90	14,367,069.84	877,270.88	39.529997230°N	107.706366925°W
2,400.00	17.62	301.31	2,363.98	162.53	-205.76	14,367,085.57	877,245.02	39.530038249°N	107.706460214°W
2,500.00	17.62	301.31	2,459.29	178.26	-231.62	14,367,101.30	877,219.16	39.530079269°N	107.706553502°W
2,600.00	17.62	301.31	2,554.60	193.99	-257.48	14,367,117.03	877,193.30	39.530120289°N	107.706646791°W
2,700.00	17.62	301.31	2,649.91	209.72	-283.34	14,367,132.76	877,167.44	39.530161308°N	107.706740080°W
2,800.00	17.62	301.31	2,745.22	225.45	-309.20	14,367,148.49	877,141.58	39.530202328°N	107.706833369°W
2,900.00	17.62	301.31	2,840.53	241.19	-335.06	14,367,164.22	877,115.72	39.530243347°N	107.706926659°W
3,000.00	17.62	301.31	2,935.84	256.92	-360.92	14,367,179.95	877,089.86	39.530284367°N	107.707019948°W
3,100.00	17.62	301.31	3,031.15	272.65	-386.78	14,367,195.68	877,064.00	39.530325386°N	107.707113237°W
3,200.00	17.62	301.31	3,126.46	288.38	-412.64	14,367,211.41	877,038.14	39.530366405°N	107.707206527°W
3,300.00	17.62	301.31	3,221.77	304.11	-438.50	14,367,227.14	877,012.28	39.530407424°N	107.707299816°W
3,400.00	17.62	301.31	3,317.08	319.84	-464.36	14,367,242.87	876,986.42	39.530448443°N	107.707393106°W
3,500.00	17.62	301.31	3,412.38	335.57	-490.22	14,367,258.60	876,960.56	39.530489462°N	107.707486396°W
3,600.00	17.62	301.31	3,507.69	351.30	-516.08	14,367,274.33	876,934.70	39.530530481°N	107.707579686°W
3,700.00	17.62	301.31	3,603.00	367.03	-541.94	14,367,290.06	876,908.84	39.530571500°N	107.707672976°W
3,800.00	17.62	301.31	3,698.31	382.76	-567.80	14,367,305.79	876,882.98	39.530612519°N	107.707766266°W
3,900.00	17.62	301.31	3,793.62	398.49	-593.66	14,367,321.53	876,857.12	39.530653538°N	107.707859556°W
4,000.00	17.62	301.31	3,888.93	414.22	-619.52	14,367,337.26	876,831.26	39.530694556°N	107.707952847°W
4,100.00	17.62	301.31	3,984.24	429.95	-645.38	14,367,352.99	876,805.40	39.530735575°N	107.708046137°W
4,200.00	17.62	301.31	4,079.55	445.68	-671.24	14,367,368.72	876,779.54	39.530776593°N	107.708139428°W
4,293.86	17.62	301.31	4,169.00	460.45	-695.51	14,367,383.48	876,755.27	39.530815091°N	107.708226986°W
Mesaverde									
4,300.00	17.62	301.31	4,174.86	461.41	-697.10	14,367,384.45	876,753.68	39.530817611°N	107.708232719°W

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A15 (112027) - Slot A15
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 A15 (112027)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A15		
Design:	Dixon A15 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
4,400.00	17.62	301.31	4,270.17	477.14	-722.96	14,367,400.18	876,727.82	39.530858630°N	107.708326009°W
4,500.00	17.62	301.31	4,365.47	492.87	-748.82	14,367,415.91	876,701.96	39.530899648°N	107.708419300°W
4,526.69	17.62	301.31	4,390.91	497.07	-755.72	14,367,420.11	876,695.06	39.530910595°N	107.708444199°W
Drop 3°/100 at 4527 MD/4391 TVD									
4,600.00	15.42	301.31	4,461.19	507.91	-773.53	14,367,430.94	876,677.25	39.530938841°N	107.708508442°W
4,700.00	12.42	301.31	4,558.24	520.41	-794.08	14,367,443.44	876,656.70	39.530971437°N	107.708582577°W
4,800.00	9.42	301.31	4,656.42	530.25	-810.26	14,367,453.28	876,640.52	39.530997105°N	107.708640956°W
4,900.00	6.42	301.31	4,755.46	537.41	-822.03	14,367,460.44	876,628.75	39.531015774°N	107.708683418°W
5,000.00	3.42	301.31	4,855.08	541.87	-829.36	14,367,464.90	876,621.42	39.531027395°N	107.708709847°W
5,100.00	0.42	301.31	4,955.01	543.61	-832.22	14,367,466.64	876,618.56	39.531031934°N	107.708720170°W
5,113.99	0.00	301.31	4,969.00	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
Vertical at 5114 MD/4969 TVD - Price Coal									
5,200.00	0.00	301.31	5,055.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
5,300.00	0.00	301.31	5,155.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
5,400.00	0.00	301.31	5,255.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
5,500.00	0.00	301.31	5,355.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
5,600.00	0.00	301.31	5,455.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
5,700.00	0.00	301.31	5,555.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
5,800.00	0.00	301.31	5,655.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
5,813.99	0.00	301.31	5,669.00	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
Top Gas									
5,900.00	0.00	301.31	5,755.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
6,000.00	0.00	301.31	5,855.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
6,100.00	0.00	301.31	5,955.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
6,200.00	0.00	301.31	6,055.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
6,300.00	0.00	301.31	6,155.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
6,400.00	0.00	301.31	6,255.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
6,500.00	0.00	301.31	6,355.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
6,600.00	0.00	301.31	6,455.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
6,700.00	0.00	301.31	6,555.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
6,713.99	0.00	301.31	6,569.00	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
Cameo									
6,800.00	0.00	301.31	6,655.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
6,900.00	0.00	301.31	6,755.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
7,000.00	0.00	301.31	6,855.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
7,100.00	0.00	301.31	6,955.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
7,200.00	0.00	301.31	7,055.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
7,300.00	0.00	301.31	7,155.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
7,400.00	0.00	301.31	7,255.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
7,500.00	0.00	301.31	7,355.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
7,600.00	0.00	301.31	7,455.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
7,700.00	0.00	301.31	7,555.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
7,800.00	0.00	301.31	7,655.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
7,813.99	0.00	301.31	7,669.00	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
Rollins									
7,900.00	0.00	301.31	7,755.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
8,000.00	0.00	301.31	7,855.01	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
8,013.99	0.00	301.31	7,869.00	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°W
TD at 8014 MD/7869 TVD									

Database:	EDM5000-New	Local Co-ordinate Reference:	Well Dixon A15 (112027) - Slot A15
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 A15 (112027)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dixon A15		
Design:	Dixon A15 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 A15	0.00	360.00	7,869.00	543.63	-832.26	14,367,466.67	876,618.52	39.531032003°N	107.708720328°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				
4,293.86	4,169.00	Mesaverde				
5,113.99	4,969.00	Price Coal				
5,813.99	5,669.00	Top Gas				
6,713.99	6,569.00	Cameo				
7,813.99	7,669.00	Rollins				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
1,150.00	1,150.00	0.00	0.00	Nudge 3°/100 at 1150 MD/TVD	
1,350.00	1,349.63	10.46	0.00	Build 3°/100 at 1350 MD/TVD	
1,861.77	1,851.01	77.87	-66.57	Hold 18° at 1862 MD/1851 TVD	
4,526.69	4,390.91	497.07	-755.72	Drop 3°/100 at 4527 MD/4391 TVD	
5,113.99	4,969.00	543.63	-832.26	Vertical at 5114 MD/4969 TVD	
8,013.99	7,869.00	543.63	-832.26	TD at 8014 MD/7869 TVD	