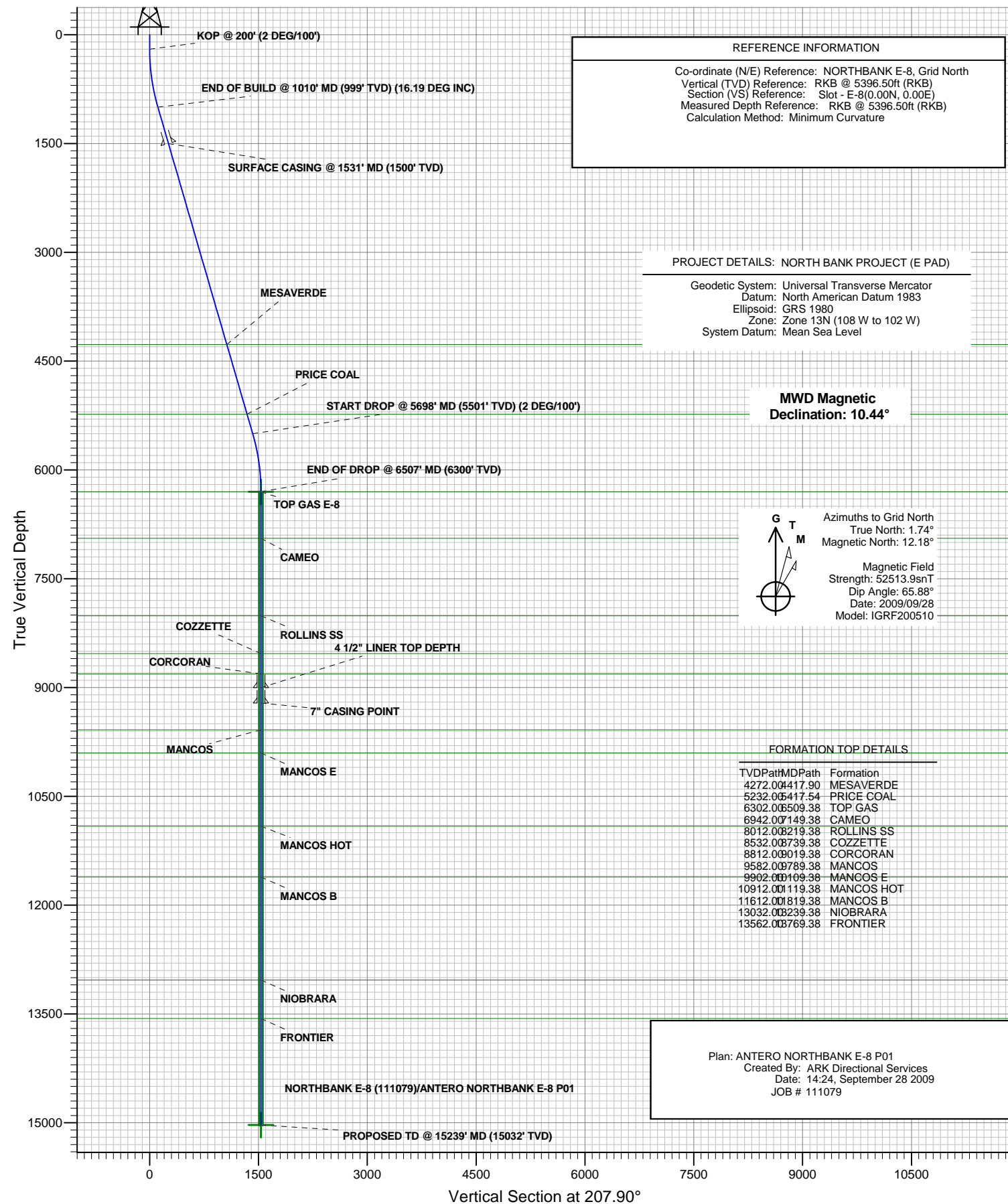




ANTERO RESOURCES

ANTERO NORTHBANK E-8



Plan: ANTERO NORTHBANK E-8 P01
Created By: ARK Directional Services
Date: 14:24, September 28 2009
JOB # 111079

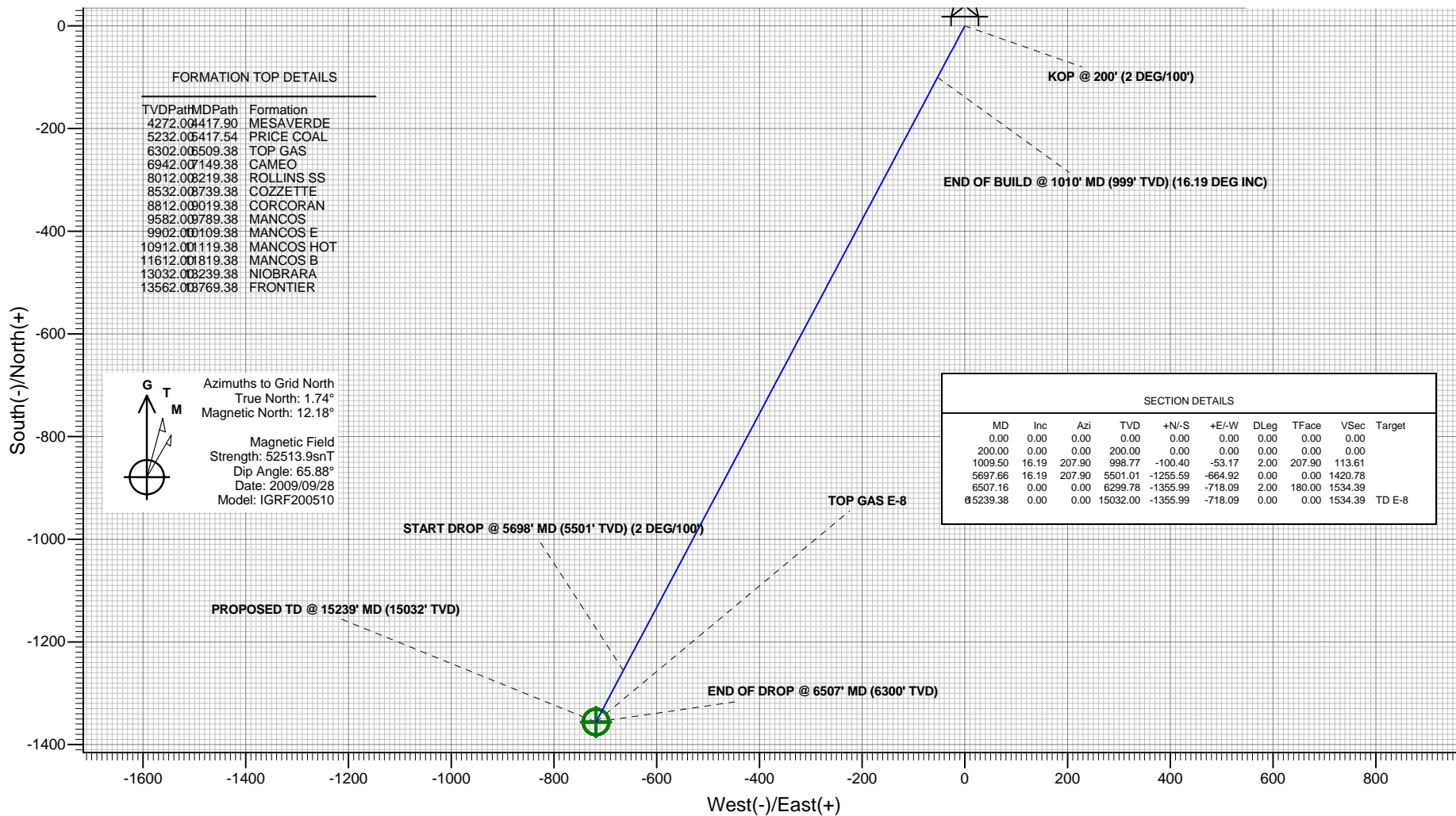


ANTERO RESOURCES

Project: NORTH BANK PROJECT (E PAD)
Site: FRONTIER 14
Well: NORTHBANK E-8 (111079)
Wellbore: ANTERO NORTHBANK E-8
Design: ANTERO NORTHBANK E-8 P01
JOB # 111079



PLAN VIEW



Plan: ANTERO NORTHBANK E-8 P01
Created By: ARK Directional Services
Date: 14:22, September 28 2009

PROJECT DETAILS: NORTH BANK PROJECT (E 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: NORTHBANK E-8, Grid North
Vertical (TVD) Reference: RKB @ 5396.50ft (RKB)
Section (VS) Reference: Slot - E-8(0.00N, 0.00E)
Measured Depth Reference: RKB @ 5396.50ft (RKB)
Calculation Method: Minimum Curvature

ANTERO RESOURCES

**NORTH BANK PROJECT (E PAD)
FRONTIER 14**

Plan: ANTERO NORTHBANK E-8 P01

Standard Planning Report - Geographic

28 September, 2009

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well NORTHBANK E-8 (111079) - Slot E-8
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5396.50ft (RKB)
Project:	NORTH BANK PROJECT (E PAD)	MD Reference:	RKB @ 5396.50ft (RKB)
Site:	FRONTIER 14	North Reference:	Grid
Well:	NORTHBANK E-8 (111079)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO NORTHBANK E-8		
Design:	ANTERO NORTHBANK E-8 P01		

Project	NORTH BANK PROJECT (E PAD)		
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		FRONTIER 14			
Site Position:		Northing:	14,371,304.90 ft	Latitude:	39° 32' 27.570 N
From:	Map	Easting:	869,754.01 ft	Longitude:	107° 44' 0.427 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-1.74 °

Well	NORTHBANK E-8 (111079) - Slot E-8					
Well Position	+N/-S	45.34 ft	Northing:	14,371,350.23 ft	Latitude:	39° 32' 28.013 N
	+E/-W	-16.63 ft	Easting:	869,737.37 ft	Longitude:	107° 44' 0.657 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,378.00 ft

Wellbore	ANTERO NORTHBANK E-8				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2009/09/28	10.44	65.88	52,514

Design	ANTERO NORTHBANK E-8 P01			
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	207.90

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,009.50	16.19	207.90	998.77	-100.40	-53.17	2.00	2.00	0.00	207.90	
5,697.66	16.19	207.90	5,501.01	-1,255.59	-664.92	0.00	0.00	0.00	0.00	
6,507.16	0.00	0.00	6,299.78	-1,355.99	-718.09	2.00	-2.00	0.00	180.00	
15,239.38	0.00	0.00	15,032.00	-1,355.99	-718.09	0.00	0.00	0.00	0.00	TD E-8

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well NORTHBANK E-8 (111079) - Slot E-8
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5396.50ft (RKB)
Project:	NORTH BANK PROJECT (E PAD)	MD Reference:	RKB @ 5396.50ft (RKB)
Site:	FRONTIER 14	North Reference:	Grid
Well:	NORTHBANK E-8 (111079)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO NORTHBANK E-8		
Design:	ANTERO NORTHBANK E-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	14,371,350.23	869,737.37	39° 32' 28.013 N	107° 44' 0.657 W
100.00	0.00	0.00	100.00	0.00	0.00	14,371,350.23	869,737.37	39° 32' 28.013 N	107° 44' 0.657 W
200.00	0.00	0.00	200.00	0.00	0.00	14,371,350.23	869,737.37	39° 32' 28.013 N	107° 44' 0.657 W
KOP @ 200' (2 DEG/100')									
300.00	2.00	207.90	299.98	-1.54	-0.82	14,371,348.69	869,736.56	39° 32' 27.997 N	107° 44' 0.666 W
400.00	4.00	207.90	399.84	-6.17	-3.27	14,371,344.07	869,734.11	39° 32' 27.951 N	107° 44' 0.696 W
500.00	6.00	207.90	499.45	-13.87	-7.34	14,371,336.36	869,730.03	39° 32' 27.874 N	107° 44' 0.745 W
600.00	8.00	207.90	598.70	-24.64	-13.05	14,371,325.60	869,724.33	39° 32' 27.766 N	107° 44' 0.813 W
700.00	10.00	207.90	697.47	-38.46	-20.37	14,371,311.77	869,717.00	39° 32' 27.627 N	107° 44' 0.901 W
800.00	12.00	207.90	795.62	-55.32	-29.30	14,371,294.91	869,708.08	39° 32' 27.458 N	107° 44' 1.009 W
900.00	14.00	207.90	893.06	-75.20	-39.83	14,371,275.03	869,697.55	39° 32' 27.258 N	107° 44' 1.135 W
1,009.50	16.19	207.90	998.77	-100.40	-53.17	14,371,249.83	869,684.20	39° 32' 27.005 N	107° 44' 1.296 W
END OF BUILD @ 1010' MD (999' TVD) (16.19 DEG INC)									
1,100.00	16.19	207.90	1,085.68	-122.70	-64.98	14,371,227.53	869,672.39	39° 32' 26.782 N	107° 44' 1.438 W
1,200.00	16.19	207.90	1,181.72	-147.34	-78.03	14,371,202.89	869,659.35	39° 32' 26.534 N	107° 44' 1.595 W
1,300.00	16.19	207.90	1,277.75	-171.98	-91.08	14,371,178.25	869,646.30	39° 32' 26.287 N	107° 44' 1.752 W
1,400.00	16.19	207.90	1,373.78	-196.62	-104.13	14,371,153.61	869,633.25	39° 32' 26.040 N	107° 44' 1.908 W
1,500.00	16.19	207.90	1,469.82	-221.26	-117.17	14,371,128.97	869,620.20	39° 32' 25.793 N	107° 44' 2.065 W
1,531.43	16.19	207.90	1,500.00	-229.01	-121.28	14,371,121.23	869,616.10	39° 32' 25.715 N	107° 44' 2.115 W
SURFACE CASING @ 1531' MD (1500' TVD)									
1,600.00	16.19	207.90	1,565.85	-245.90	-130.22	14,371,104.33	869,607.15	39° 32' 25.545 N	107° 44' 2.222 W
1,700.00	16.19	207.90	1,661.89	-270.54	-143.27	14,371,079.69	869,594.10	39° 32' 25.298 N	107° 44' 2.379 W
1,800.00	16.19	207.90	1,757.92	-295.18	-156.32	14,371,055.05	869,581.05	39° 32' 25.051 N	107° 44' 2.536 W
1,900.00	16.19	207.90	1,853.96	-319.82	-169.37	14,371,030.41	869,568.00	39° 32' 24.804 N	107° 44' 2.693 W
2,000.00	16.19	207.90	1,949.99	-344.46	-182.42	14,371,005.77	869,554.95	39° 32' 24.556 N	107° 44' 2.850 W
2,100.00	16.19	207.90	2,046.02	-369.11	-195.47	14,370,981.13	869,541.91	39° 32' 24.309 N	107° 44' 3.007 W
2,200.00	16.19	207.90	2,142.06	-393.75	-208.52	14,370,956.49	869,528.86	39° 32' 24.062 N	107° 44' 3.164 W
2,300.00	16.19	207.90	2,238.09	-418.39	-221.57	14,370,931.85	869,515.81	39° 32' 23.815 N	107° 44' 3.320 W
2,400.00	16.19	207.90	2,334.13	-443.03	-234.61	14,370,907.21	869,502.76	39° 32' 23.567 N	107° 44' 3.477 W
2,500.00	16.19	207.90	2,430.16	-467.67	-247.66	14,370,882.57	869,489.71	39° 32' 23.320 N	107° 44' 3.634 W
2,600.00	16.19	207.90	2,526.20	-492.31	-260.71	14,370,857.93	869,476.66	39° 32' 23.073 N	107° 44' 3.791 W
2,700.00	16.19	207.90	2,622.23	-516.95	-273.76	14,370,833.29	869,463.61	39° 32' 22.825 N	107° 44' 3.948 W
2,800.00	16.19	207.90	2,718.26	-541.59	-286.81	14,370,808.65	869,450.56	39° 32' 22.578 N	107° 44' 4.105 W
2,900.00	16.19	207.90	2,814.30	-566.23	-299.86	14,370,784.01	869,437.51	39° 32' 22.331 N	107° 44' 4.262 W
3,000.00	16.19	207.90	2,910.33	-590.87	-312.91	14,370,759.37	869,424.47	39° 32' 22.084 N	107° 44' 4.419 W
3,100.00	16.19	207.90	3,006.37	-615.51	-325.96	14,370,734.73	869,411.42	39° 32' 21.836 N	107° 44' 4.575 W
3,200.00	16.19	207.90	3,102.40	-640.15	-339.01	14,370,710.08	869,398.37	39° 32' 21.589 N	107° 44' 4.732 W
3,300.00	16.19	207.90	3,198.43	-664.79	-352.05	14,370,685.44	869,385.32	39° 32' 21.342 N	107° 44' 4.889 W
3,400.00	16.19	207.90	3,294.47	-689.43	-365.10	14,370,660.80	869,372.27	39° 32' 21.095 N	107° 44' 5.046 W
3,500.00	16.19	207.90	3,390.50	-714.07	-378.15	14,370,636.16	869,359.22	39° 32' 20.847 N	107° 44' 5.203 W
3,600.00	16.19	207.90	3,486.54	-738.71	-391.20	14,370,611.52	869,346.17	39° 32' 20.600 N	107° 44' 5.360 W
3,700.00	16.19	207.90	3,582.57	-763.35	-404.25	14,370,586.88	869,333.12	39° 32' 20.353 N	107° 44' 5.517 W
3,800.00	16.19	207.90	3,678.61	-787.99	-417.30	14,370,562.24	869,320.07	39° 32' 20.106 N	107° 44' 5.674 W
3,900.00	16.19	207.90	3,774.64	-812.63	-430.35	14,370,537.60	869,307.03	39° 32' 19.858 N	107° 44' 5.830 W
4,000.00	16.19	207.90	3,870.67	-837.27	-443.40	14,370,512.96	869,293.98	39° 32' 19.611 N	107° 44' 5.987 W
4,100.00	16.19	207.90	3,966.71	-861.91	-456.45	14,370,488.32	869,280.93	39° 32' 19.364 N	107° 44' 6.144 W
4,200.00	16.19	207.90	4,062.74	-886.55	-469.49	14,370,463.68	869,267.88	39° 32' 19.117 N	107° 44' 6.301 W
4,300.00	16.19	207.90	4,158.78	-911.20	-482.54	14,370,439.04	869,254.83	39° 32' 18.869 N	107° 44' 6.458 W
4,400.00	16.19	207.90	4,254.81	-935.84	-495.59	14,370,414.40	869,241.78	39° 32' 18.622 N	107° 44' 6.615 W
4,417.90	16.19	207.90	4,272.00	-940.25	-497.93	14,370,409.99	869,239.45	39° 32' 18.578 N	107° 44' 6.643 W
MESAVERDE									
4,500.00	16.19	207.90	4,350.85	-960.48	-508.64	14,370,389.76	869,228.73	39° 32' 18.375 N	107° 44' 6.772 W
4,600.00	16.19	207.90	4,446.88	-985.12	-521.69	14,370,365.12	869,215.68	39° 32' 18.127 N	107° 44' 6.929 W
4,700.00	16.19	207.90	4,542.91	-1,009.76	-534.74	14,370,340.48	869,202.63	39° 32' 17.880 N	107° 44' 7.085 W

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well NORTHBANK E-8 (111079) - Slot E-8
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5396.50ft (RKB)
Project:	NORTH BANK PROJECT (E PAD)	MD Reference:	RKB @ 5396.50ft (RKB)
Site:	FRONTIER 14	North Reference:	Grid
Well:	NORTHBANK E-8 (111079)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO NORTHBANK E-8		
Design:	ANTERO NORTHBANK E-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
4,800.00	16.19	207.90	4,638.95	-1,034.40	-547.79	14,370,315.84	869,189.59	39° 32' 17.633 N	107° 44' 7.242 W
4,900.00	16.19	207.90	4,734.98	-1,059.04	-560.84	14,370,291.20	869,176.54	39° 32' 17.386 N	107° 44' 7.399 W
5,000.00	16.19	207.90	4,831.02	-1,083.68	-573.89	14,370,266.56	869,163.49	39° 32' 17.138 N	107° 44' 7.556 W
5,100.00	16.19	207.90	4,927.05	-1,108.32	-586.94	14,370,241.92	869,150.44	39° 32' 16.891 N	107° 44' 7.713 W
5,200.00	16.19	207.90	5,023.09	-1,132.96	-599.98	14,370,217.28	869,137.39	39° 32' 16.644 N	107° 44' 7.870 W
5,300.00	16.19	207.90	5,119.12	-1,157.60	-613.03	14,370,192.64	869,124.34	39° 32' 16.397 N	107° 44' 8.027 W
5,400.00	16.19	207.90	5,215.15	-1,182.24	-626.08	14,370,168.00	869,111.29	39° 32' 16.149 N	107° 44' 8.184 W
5,417.54	16.19	207.90	5,232.00	-1,186.56	-628.37	14,370,163.67	869,109.00	39° 32' 16.106 N	107° 44' 8.211 W
PRICE COAL									
5,500.00	16.19	207.90	5,311.19	-1,206.88	-639.13	14,370,143.36	869,098.24	39° 32' 15.902 N	107° 44' 8.340 W
5,600.00	16.19	207.90	5,407.22	-1,231.52	-652.18	14,370,118.72	869,085.20	39° 32' 15.655 N	107° 44' 8.497 W
5,697.66	16.19	207.90	5,501.01	-1,255.58	-664.92	14,370,094.65	869,072.45	39° 32' 15.413 N	107° 44' 8.651 W
START DROP @ 5698' MD (5501' TVD) (2 DEG/100')									
5,700.00	16.14	207.90	5,503.26	-1,256.16	-665.23	14,370,094.08	869,072.15	39° 32' 15.408 N	107° 44' 8.654 W
5,800.00	14.14	207.90	5,599.78	-1,279.25	-677.45	14,370,070.99	869,059.92	39° 32' 15.176 N	107° 44' 8.801 W
5,900.00	12.14	207.90	5,697.15	-1,299.34	-688.09	14,370,050.90	869,049.28	39° 32' 14.974 N	107° 44' 8.929 W
6,000.00	10.14	207.90	5,795.26	-1,316.42	-697.14	14,370,033.82	869,040.24	39° 32' 14.803 N	107° 44' 9.038 W
6,100.00	8.14	207.90	5,893.99	-1,330.46	-704.57	14,370,019.78	869,032.80	39° 32' 14.662 N	107° 44' 9.127 W
6,200.00	6.14	207.90	5,993.21	-1,341.45	-710.39	14,370,008.79	869,026.98	39° 32' 14.552 N	107° 44' 9.197 W
6,300.00	4.14	207.90	6,092.80	-1,349.37	-714.59	14,370,000.87	869,022.79	39° 32' 14.472 N	107° 44' 9.248 W
6,400.00	2.14	207.90	6,192.64	-1,354.22	-717.16	14,369,996.02	869,020.22	39° 32' 14.424 N	107° 44' 9.278 W
6,507.16	0.00	207.90	6,299.78	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
END OF DROP @ 6507' MD (6300' TVD)									
6,509.38	0.00	0.00	6,302.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
TOP GAS - TOP GAS E-8									
6,600.00	0.00	0.00	6,392.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
6,700.00	0.00	0.00	6,492.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
6,800.00	0.00	0.00	6,592.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
6,900.00	0.00	0.00	6,692.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
7,000.00	0.00	0.00	6,792.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
7,100.00	0.00	0.00	6,892.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
7,149.38	0.00	0.00	6,942.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
CAMEO									
7,200.00	0.00	0.00	6,992.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
7,300.00	0.00	0.00	7,092.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
7,400.00	0.00	0.00	7,192.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
7,500.00	0.00	0.00	7,292.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
7,600.00	0.00	0.00	7,392.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
7,700.00	0.00	0.00	7,492.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
7,800.00	0.00	0.00	7,592.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
7,900.00	0.00	0.00	7,692.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
8,000.00	0.00	0.00	7,792.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
8,100.00	0.00	0.00	7,892.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
8,200.00	0.00	0.00	7,992.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
8,219.38	0.00	0.00	8,012.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
ROLLINS SS									
8,300.00	0.00	0.00	8,092.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
8,400.00	0.00	0.00	8,192.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
8,500.00	0.00	0.00	8,292.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
8,600.00	0.00	0.00	8,392.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
8,700.00	0.00	0.00	8,492.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
8,739.38	0.00	0.00	8,532.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
COZZETTE									
8,800.00	0.00	0.00	8,592.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well NORTHBANK E-8 (111079) - Slot E-8
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5396.50ft (RKB)
Project:	NORTH BANK PROJECT (E PAD)	MD Reference:	RKB @ 5396.50ft (RKB)
Site:	FRONTIER 14	North Reference:	Grid
Well:	NORTHBANK E-8 (111079)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO NORTHBANK E-8		
Design:	ANTERO NORTHBANK E-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
8,900.00	0.00	0.00	8,692.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
9,000.00	0.00	0.00	8,792.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
9,019.38	0.00	0.00	8,812.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
CORCORAN									
9,100.00	0.00	0.00	8,892.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
9,200.00	0.00	0.00	8,992.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
9,209.38	0.00	0.00	9,002.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
4 1/2" LINER TOP DEPTH									
9,300.00	0.00	0.00	9,092.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
9,400.00	0.00	0.00	9,192.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
9,421.38	0.00	0.00	9,214.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
7" CASING POINT									
9,500.00	0.00	0.00	9,292.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
9,600.00	0.00	0.00	9,392.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
9,700.00	0.00	0.00	9,492.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
9,789.38	0.00	0.00	9,582.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
MANCOS									
9,800.00	0.00	0.00	9,592.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
9,900.00	0.00	0.00	9,692.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
10,000.00	0.00	0.00	9,792.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
10,100.00	0.00	0.00	9,892.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
10,109.38	0.00	0.00	9,902.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
MANCOS E									
10,200.00	0.00	0.00	9,992.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
10,300.00	0.00	0.00	10,092.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
10,400.00	0.00	0.00	10,192.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
10,500.00	0.00	0.00	10,292.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
10,600.00	0.00	0.00	10,392.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
10,700.00	0.00	0.00	10,492.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
10,800.00	0.00	0.00	10,592.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
10,900.00	0.00	0.00	10,692.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
11,000.00	0.00	0.00	10,792.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
11,100.00	0.00	0.00	10,892.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
11,119.38	0.00	0.00	10,912.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
MANCOS HOT									
11,200.00	0.00	0.00	10,992.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
11,300.00	0.00	0.00	11,092.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
11,400.00	0.00	0.00	11,192.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
11,500.00	0.00	0.00	11,292.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
11,600.00	0.00	0.00	11,392.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
11,700.00	0.00	0.00	11,492.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
11,800.00	0.00	0.00	11,592.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
11,819.38	0.00	0.00	11,612.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
MANCOS B									
11,900.00	0.00	0.00	11,692.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
12,000.00	0.00	0.00	11,792.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
12,100.00	0.00	0.00	11,892.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
12,200.00	0.00	0.00	11,992.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
12,300.00	0.00	0.00	12,092.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
12,400.00	0.00	0.00	12,192.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
12,500.00	0.00	0.00	12,292.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
12,600.00	0.00	0.00	12,392.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
12,700.00	0.00	0.00	12,492.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
12,800.00	0.00	0.00	12,592.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well NORTHBANK E-8 (111079) - Slot E-8
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5396.50ft (RKB)
Project:	NORTH BANK PROJECT (E PAD)	MD Reference:	RKB @ 5396.50ft (RKB)
Site:	FRONTIER 14	North Reference:	Grid
Well:	NORTHBANK E-8 (111079)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO NORTHBANK E-8		
Design:	ANTERO NORTHBANK E-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
12,900.00	0.00	0.00	12,692.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
13,000.00	0.00	0.00	12,792.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
13,100.00	0.00	0.00	12,892.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
13,200.00	0.00	0.00	12,992.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
13,239.38	0.00	0.00	13,032.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
NIOBRARA									
13,300.00	0.00	0.00	13,092.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
13,400.00	0.00	0.00	13,192.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
13,500.00	0.00	0.00	13,292.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
13,600.00	0.00	0.00	13,392.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
13,700.00	0.00	0.00	13,492.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
13,769.38	0.00	0.00	13,562.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
FRONTIER									
13,800.00	0.00	0.00	13,592.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
13,900.00	0.00	0.00	13,692.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
14,000.00	0.00	0.00	13,792.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
14,100.00	0.00	0.00	13,892.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
14,200.00	0.00	0.00	13,992.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
14,300.00	0.00	0.00	14,092.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
14,400.00	0.00	0.00	14,192.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
14,500.00	0.00	0.00	14,292.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
14,600.00	0.00	0.00	14,392.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
14,700.00	0.00	0.00	14,492.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
14,800.00	0.00	0.00	14,592.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
14,900.00	0.00	0.00	14,692.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
15,000.00	0.00	0.00	14,792.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
15,100.00	0.00	0.00	14,892.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
15,200.00	0.00	0.00	14,992.62	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
15,239.36	0.00	0.00	15,031.98	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
PROPOSED TD @ 15239' MD (15032' TVD)									
15,239.38	0.00	0.00	15,032.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
TD E-8									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
TOP GAS E-8		360.00	6,302.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
- plan hits target									
- Circle (radius 25.00)									
TD E-8	0.00	360.00	15,032.00	-1,355.99	-718.09	14,369,994.25	869,019.28	39° 32' 14.406 N	107° 44' 9.290 W
- plan hits target									
- Circle (radius 25.00)									

Planning Report - Geographic

Database:	EDMDB	Local Co-ordinate Reference:	Well NORTHBANK E-8 (111079) - Slot E-8
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5396.50ft (RKB)
Project:	NORTH BANK PROJECT (E PAD)	MD Reference:	RKB @ 5396.50ft (RKB)
Site:	FRONTIER 14	North Reference:	Grid
Well:	NORTHBANK E-8 (111079)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO NORTHBANK E-8		
Design:	ANTERO NORTHBANK E-8 P01		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
9,421.38	9,214.00	7" CASING POINT	7.00	7.50	
1,531.43	1,500.00	SURFACE CASING @ 1531' MD (1500' TVD)	9.62	12.25	
9,209.38	9,002.00	4 1/2" LINER TOP DEPTH	7.00	7.50	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,417.90	4,272.00	MESAVERDE		0.00	
5,417.54	5,232.00	PRICE COAL		0.00	
6,509.38	6,302.00	TOP GAS		0.00	
7,149.38	6,942.00	CAMEO		0.00	
8,219.38	8,012.00	ROLLINS SS		0.00	
8,739.38	8,532.00	COZZETTE		0.00	
9,019.38	8,812.00	CORCORAN		0.00	
9,789.38	9,582.00	MANCOS		0.00	
10,109.38	9,902.00	MANCOS E		0.00	
11,119.38	10,912.00	MANCOS HOT		0.00	
11,819.38	11,612.00	MANCOS B		0.00	
13,239.38	13,032.00	NIOBRARA		0.00	
13,769.38	13,562.00	FRONTIER		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')	
1,009.50	998.77	-100.40	-53.17	END OF BUILD @ 1010' MD (999' TVD) (16.19 DEG INC)	
5,697.66	5,501.01	-1,255.58	-664.92	START DROP @ 5698' MD (5501' TVD) (2 DEG/100')	
6,507.16	6,299.78	-1,355.99	-718.09	END OF DROP @ 6507' MD (6300' TVD)	
15,239.36	15,031.98	-1,355.99	-718.09	PROPOSED TD @ 15239' MD (15032' TVD)	