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DEC 16 2013

WV GEOLOGICAL SURVEY
MORGANTOWN, WV



Antero Resources
Ruth Unit 1H
Doddridge County WV
Northing: 14251337.29
Easting: 1762689.77
Original Wellpath

WELL DETAILS: Ruth Unit 1H

+N/S	+E/W	Northing	Ground Level:	1090.0	Longitude	80.1
0.0	0.0	14251337.29				

REFERENCE INFORMATION
 Coordinates: UTM
 Vertical (VD) Reference: Ruth Unit 1H, 421 South Eagle Lane, Oklahoma City, Oklahoma
 Horizontal (HD) Reference: Ruth Unit 1H, 421 South Eagle Lane, Oklahoma City, Oklahoma
 Horizontal (HD) Reference: Ruth Unit 1H, 421 South Eagle Lane, Oklahoma City, Oklahoma
 Vertical (VD) Reference: Ruth Unit 1H, 421 South Eagle Lane, Oklahoma City, Oklahoma

DESIGN TARGET DETAILS

Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude
SHL Ruth Unit 1H	0.0	0.0	0.0	14251337.29	1762689.77	39° 14' 41.055" N	80° 34' 5.240" W
Actual SHL Ruth Unit 1H	7185.3	0.0	0.0	14251337.29	1762689.77	39° 14' 41.141" N	80° 32' 49.482" W
PERF. OF RUTH UNIT 1H	7185.3	0.0	0.0	14251337.29	1762689.77	39° 14' 41.141" N	80° 32' 49.482" W

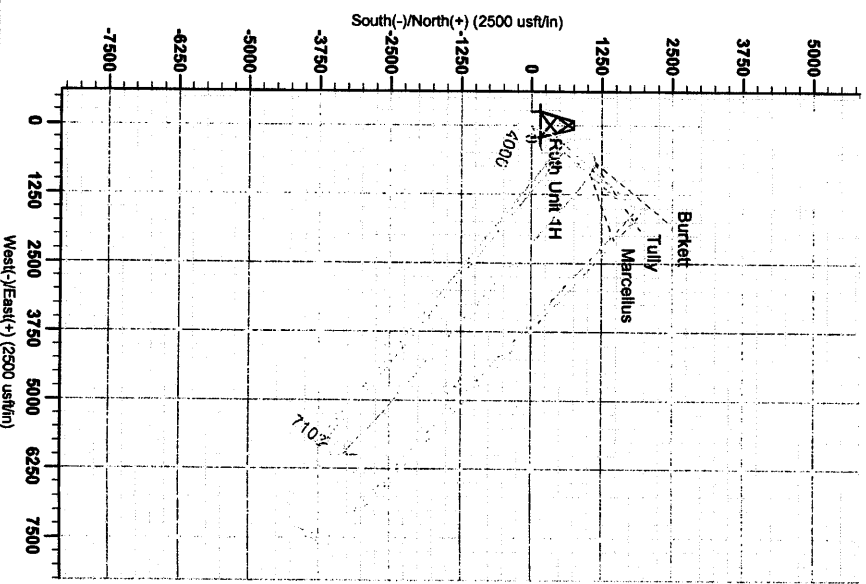
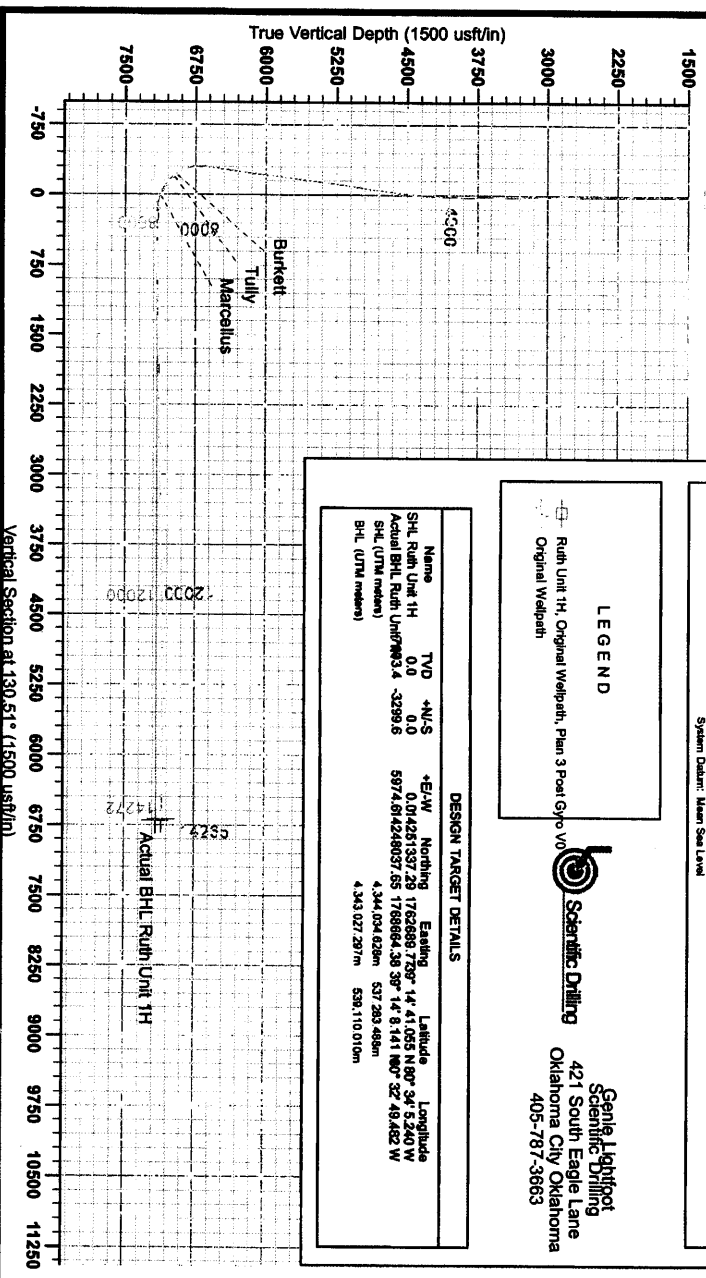
PROJECT DETAILS: Doddridge County WV
 Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Ellipsoid: Clarke 1866 (NAD83 CONUS)
 Zone: Zone 17N (84 W to 78 W)
 System Datum: Mean Sea Level

LEGEND
 - Ruth Unit 1H, Original Wellpath, Plan 3 Post-Grp 0V
 - Original Wellpath

Scientific Drilling
 421 South Eagle Lane
 Oklahoma City, Oklahoma
 405-787-3663

DESIGN TARGET DETAILS

Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude
SHL Ruth Unit 1H	0.0	0.0	0.0	14251337.29	1762689.77	39° 14' 41.055" N	80° 34' 5.240" W
Actual BHL Ruth Unit 1H	3299.6	0.0	0.0	14251337.29	1762689.77	39° 14' 41.141" N	80° 32' 49.482" W
SHL (UTM meters)				4344.034	628m	537.283	494m
BHL (UTM meters)				4343.027	297m	539.110	010m



To convert Magnetic North to grid, Subtract 8.83°
 To convert True North to Grid, Subtract 0.27°

Admitts to Grid North
 True North: -0.27°
 Magnetic North: -8.83°
 Magnetic Field
 Strength: 50.00
 Dip Angle: 66.86°
 Date: 2/19/2013
 Model: IGRF2010