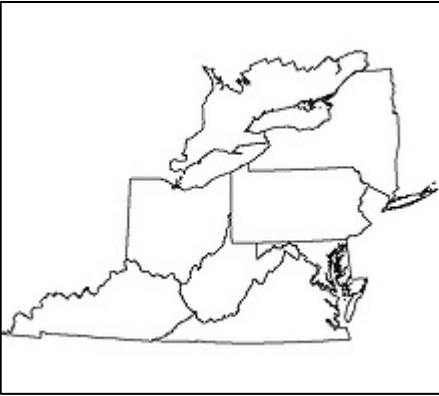

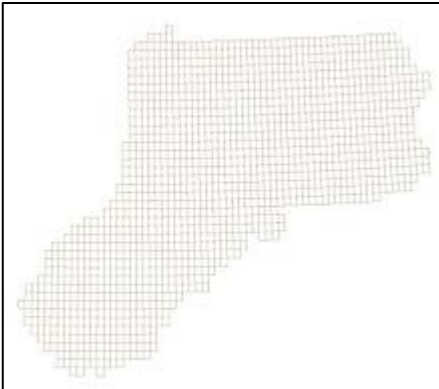


## General Geography Layers

Layer Name / File / Source	Attribute Name	Type	Length	Attribute Description
<b>State Boundaries</b>				
<i>State_Boundaries</i>				
From Trenton-Black River Project (WVGES/AONGRC)				
	ST	Text	7	State or Province Abbreviation
	CNT_ST	Long	9	Number of Counties, State/Province
	ST_NAME	Text	25	State Name
	POLYID	Double	10	Polygon ID
	FEATUREID	Text	10	Feature ID
	CNTRLONG	Double	10	Polygon Centerpoint, Longitude
	CNTRLAT	Double	10	Polygon Centerpoint, Latitude
<b>Counties</b>				
<i>Counties</i>				
From Trenton-Black River Project (WVGES/AONGRC)				
	COUNTY	Text	30	County or Province Name
	ST	Text	7	State or Province Abbreviation of County
<b>Quadrangles</b>				
<i>WV_PA_MD_Quads_NAAEAC</i>				
Compiled from WVU GIS Tech, PASDA, MD-DNR				
	USGS_QD_ID	Text	8	USGS Quadrangle ID
	QUAD_NAME	Text	41	Quadrangle Name
	NM6	Text	9	6 Character Quadrangle Abbreviation (WV)
	COUNTIES	Text	51	Counties Holding or Bisecting the Quadrangle
	STATE1	Text	9	Main State Containing Quadrangle
	STATE2	Text	9	Secondary State Containing Quadrangle
	STATE3	Text	10	Tertiary State Containing Quadrangle
	STATE4	Text	2	Quaternary State Containing Quadrangle

**Cities**

*PA\_WV\_Cities\_NAAEAC*

Extracted from National Atlas/USGS (<http://nationalatlas.gov/atlasftp.html>)



CITIESX020	Double	11	Internal Feature Number
FEATURE	Text	27	Type of City or Town ("Populated Place" or "County Seat")
NAME	Text	48	City or Town Name
POP_RANGE	Text	21	The Population Range of the City or Town Based on 2000 U.S. Census Bureau Data
POP_2000	Long	8	The 2000 Population of a City or Town
FIPS55	Text	5	The 5-Digit FIPS Code of the Named Populated Place, Primary County Division, or other Locational Entity of the US.
COUNTY	Text	55	County Name Containing the City or Town
FIPS	Text	5	5-Digit FIPS Code of the County or County Equivalent
STATE	Text	2	State Abbreviation of City or Town
STATE_FIPS	Text	2	2-Digit FIPS Code of the State or State Equivalent

**Roads**

*WV\_PA\_Major\_Roads\_NAAEAC*

Compiled from WVU GIS Tech Center (SAMB) and PASDA

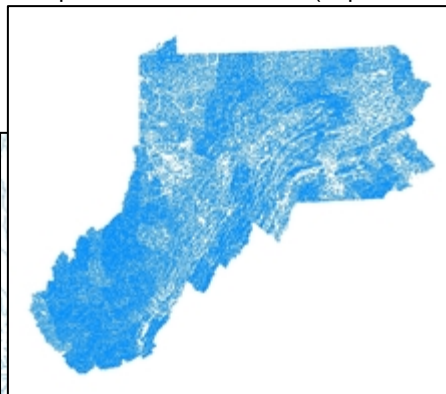


Route	Text	3	3-Digit Route Number (Leading Zeros)
Label	Text	25	Raw Route Number with Suffixes Where Appropriate
LocalName	Text	254	Local Name of Road
TRAF_RT_NO	Text	2	Road type (Interstate, US, State)

**Streams**

*WV\_PA\_MD\_TIGER\_Streams\_NAAEAC*

Compiled 2007 TIGER Data (<http://www.census.gov/cgi-bin/geo/shapefiles/national-files>)



STATEFP	Text	2	Current State FIPS Code
COUNTYFP	Text	3	Current County FIPS Code
COUNTYNS	Text	8	Current county ANSI code
TLID	Double	10	Permanent edge ID
TFIDL	Double	10	Permanent face ID on the left of the edge
TFIDR	Double	10	Permanent face ID on the right of the edge
MTFCC	Text	5	MAF/TIGER Feature Class Code of the primary feature for the edge
FULLNAME	Text	100	Full Name
SMID	Text	22	Spatial metadata identifier
FEATCAT	Text	1	General feature classification category
HYDROFLG	Text	1	Hydrography feature indicator

**Bodies of Water**

WV\_PA\_MD\_TIGER\_AreaWater\_NAAEAC

Compiled 2007 TIGER Data (<http://www.census.gov/cgi-bin/geo/shapefiles/national-files>)

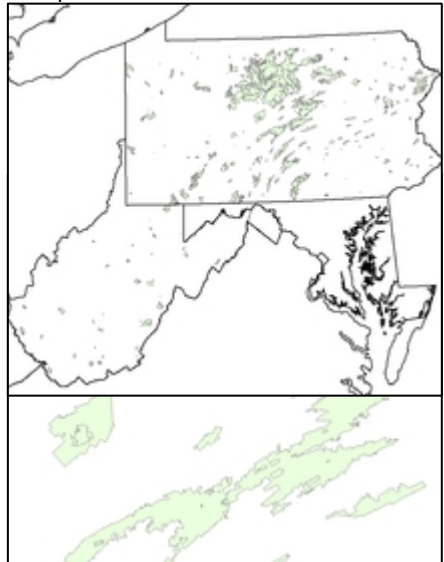


STATEFP	Text	2	Current State FIPS Code
COUNTYFP	Text	3	Current County FIPS Code
COUNTYNS	Text	8	Current County ANSI Code
			Current official code for use by federal agencies for data transfer and dissemination, if applicable
ANSICODE	Text	8	
HYDROID	Text	22	Area Hydrography Identifier
FULLNAME	Text	120	Full Name of Water Feature
MTFCC	Text	5	MAF/TIGER Feature Class Code

**State Forests and Parks**

WV\_PA\_LandsState\_NAAEAC

Compiled from WVU GIS Tech Center and PASDA



AREA	Double	19	Area of feature in internal units squared
ACREAGE	Double	19	Acreage
AREA_M2	Double	19	Area in Square Meters
NAME	Text	70	State Forest or Park Name
STEW_NAME	Text	40	Land Steward's name
OWNER_NAME	Text	30	Owner's Name
SRC_INFO	Text	75	Source Information, WV
HECTARES	Double	19	Hectares

**National Forests and Parks**

WV\_PA\_MD\_LandsNational\_NAAEAC

Extracted from National Atlas/USGS (<http://nationalatlas.gov/atlasftp.html>)



AREA	Float	13	Size of the Shape in Square Dec. Deg.
PERIMETER	Float	13	Perimeter of the Shape in Square Dec. Deg.
FEATURE1	Text	80	Primary or Only Type of Federal Land and the Owning Agency
FEATURE2	Text	80	Secondary Type of Federal Land and the Owning Agency
AGBUR	Text	7	A code for the owning or administering agency
URL	Text	150	Web Address of a Federal Agency Website
NAME1	Text	80	The name associated with Feature1
NAME2	Text	80	The name associated with Feature2
STATE_FIPS	Text	14	2-digit State code for the State in which the Federal land is located

**Rasters**

**Shaded Relief (raster)**

*ned\_albers2*

From Trenton-Black River Project (WVGES/AONGRC)



Image File – No Attribute Data

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**West Virginia Topography (raster mosaic)**

*Topographic\_Map\_Mosaic*

WVGES

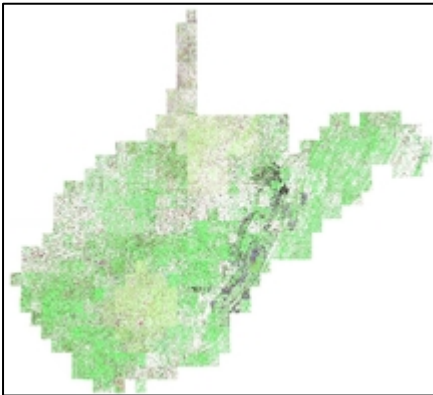


Image File – No Attribute Data

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**Pennsylvania Topography (raster mosaic or IMS service)**

*PA\_Topo*

PASDA ArcIMS Image Service (<http://maps.pasda.psu.edu>)

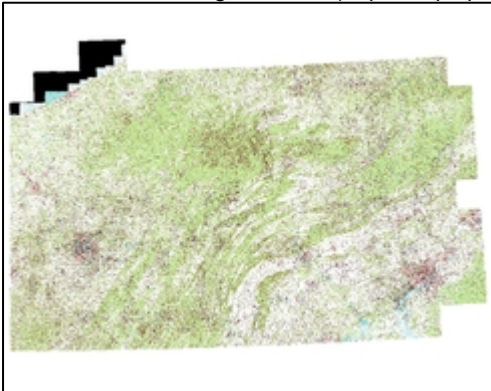
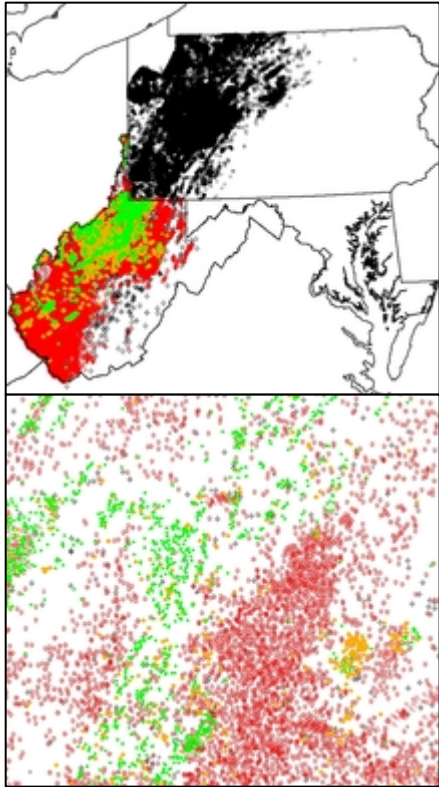


Image File – No Attribute Data

## General Geology Layers

Layer Name / File / Source	Attribute Name	Type	Length	Attribute Description
<b>All Gas and Oil Wells</b>				
ALLWELLS_PAWV_NAAEAC				
WVGES, PGS				
	API	Double	19	API Number
	COUNTYNAME	Text	10	County Name
	PERMIT	Long	5	Permit Number
	OPERNM	Text	55	Operator Name
	CO_NUM	Text	15	Company Number
	FARM	Text	40	Surface Owner
	WELL_NUM	Text	6	Farm Number
	MINERAL	Text	24	Oil and Gas Rights Owner
	ELEV	Short	4	Elevation (Surface of the Well), Feet
	DATUMTR	Text	15	Above Mean Sea Level
	TD	Long	5	Elevation Datum
	DFMNM	Text	20	Total Depth, Feet
	DFM	Text	3	Deepest Formation Name
	DFMTNM	Text	20	Deepest Formation Code
	DFMT	Text	3	Deepest Formation Tested Name
	LSDEEPPLAY	Text	3	Deepest Formation Tested Code
	FIELDNM	Text	15	Deepest Play ( <i>Project Plays Only</i> )
	WELLTYPETR	Text	15	Oil and Gas Field Name
	WELLTYPE	Text	1	Well Type
	SUFFIXTR	Text	14	Well Type Code
	STATUSTR	Text	9	Suffix--Describes the Episode of Drilling/Deviated Drilling
	CMPMN	Short	2	Status--Describes the Status of the Drilling Permit
	CMPDY	Short	2	Completion Month
	CMPYR	Short	4	Completion Day
	LOGS_AVAIL	Text	14	Completion Year
	LOG_TOP	Long	5	Logs Available
	LOG_BOT	Long	5	Log Top Depth (Gross Interval), Feet
	SCAN	Text	1	Log Bottom Depth (Gross Interval), Feet
	DIGITIZED	Text	1	Log Scanned--Denotes if Log Scanned or Not
	CORE1TOP	Long	5	Log Digitized--Denotes if Log Digitized or Not
	CORE1BTM	Long	5	Core 1 Top Depth, Feet
	TOPFM1NM	Text	20	Core 1 Bottom Depth, Feet
	TOPFM1	Text	3	Core 1 Top Formation Name
	BTMFM1NM	Text	20	Core 1 Top Formation Code
	BTMFM1	Text	3	Core 1 Bottom Formation Name
	CORE2TOP	Long	5	Core 1 Bottom Formation Code
	CORE2BTM	Long	5	Core 2 Top Depth, Feet
	TOPFM2NM	Text	20	Core 2 Bottom Depth, Feet
	TOPFM2	Text	3	Core 2 Top Formation Name
	BTMFM2NM	Text	20	Core 2 Top Formation Code
BTMFM2	Text	3	Core 2 Bottom Formation Name	
SAMPLE	Text	7	Core 2 Bottom Formation Code	
			Sample Available--Denotes if Sample Available or Not	

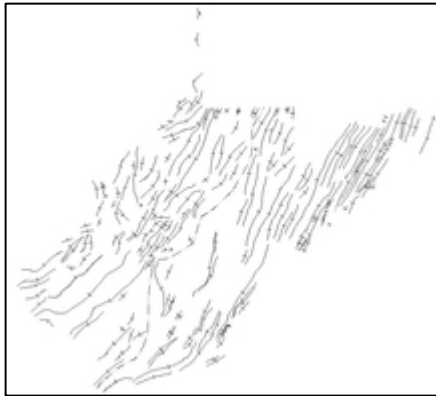
Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	9	Latitude, Decimal Degrees
LON_DD	Double	10	Longitude, Decimal Degrees
UTME	Float	8	Universal Transverse Mercator Easting, Meters
UTMN	Double	9	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not
COUNTY	Text	9	County Name

**Folds**

WV\_Folds\_NAAEAC

WVU GIS Tech Center / WVGES

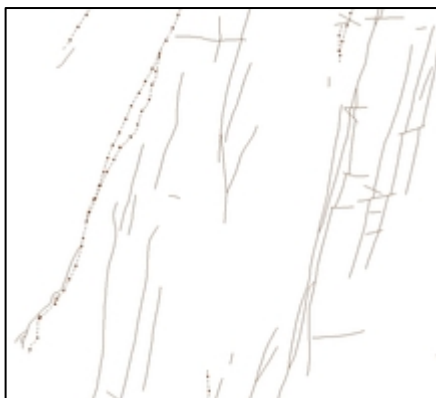


FNODE_	Long	9	
TNODE_	Long	9	
LPOLY_	Long	9	
RPOLY_	Long	9	
LENGTH	Float	13	Fold Length
WVFOLD_	Long	9	
WVFOLD_ID	Long	9	
TYPE	Text	10	Fold Type (anticline, syncline, boundary)
NAME	Text	30	Fold Name

**Faults**

WV\_Faults\_NAAEAC

WVU GIS Tech Center / WVGES

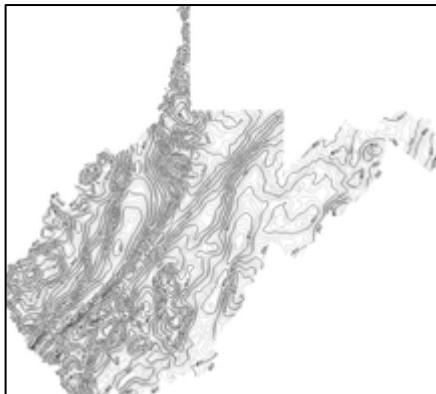


FNODE_	Long	9	
TNODE_	Long	9	
LPOLY_	Long	9	
RPOLY_	Long	9	
LENGTH	Float	13	Fault Length
WVFAULT_	Long	9	
WVFAULT_ID	Long	9	
TYPE	Text	10	Fault Type
NAME	Text	30	Fault Name

**Aeromagnetic Data (WV)**

WV\_AeroAllContours\_NAAEAC

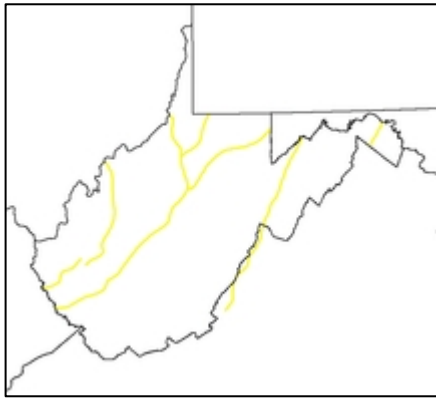
WVU GIS Tech Center / WVGES



OBJECTID	Long	9	Object Identifier
Contour_Va	Short	4	Aeromagnetic Contour Value
SHAPE_Leng	Double	19	
Hachured	Text	3	Contour Hachured (no, yes)
Shape_Le_1	Double	19	
Cntr_Type	Text	9	Contour Type (primary, secondary)

**Axial Trace of Persistent Gravity High or Low**

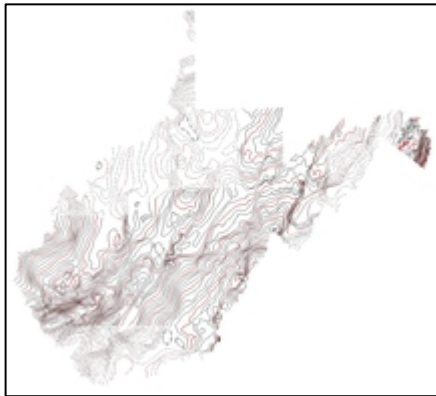
WV\_GravityAxialTrace\_NAAEAC  
 WVU GIS Tech Center / WVGES



SHAPE_Leng	Double	19	Line Length
Axis	Text	4	Axis (high, low)

**Gravity Contours**

WV\_GravityContours\_NAAEAC  
 WVU GIS Tech Center



Id	Long	9	
milligal_c	Short	4	Contour Value, Milligals
Shape_Leng	Double	19	Line Length
Hatched	Text	50	Hachured (no, yes)
Line_style	Text	5	Line Style (solid, dashed)

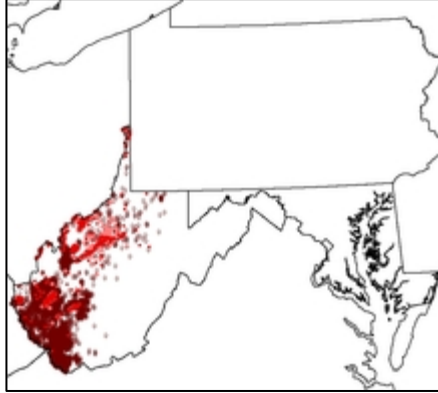


## Play Layers: Berea/Murrysville (BERE)

Layer Name / File / Source	Attribute Name	Type	Length	Attribute Description
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### Wells

Wells with Reported Pay, BERE  
 BERE\_WVGESOGDSPAY\_NAAEAC  
 WVGES

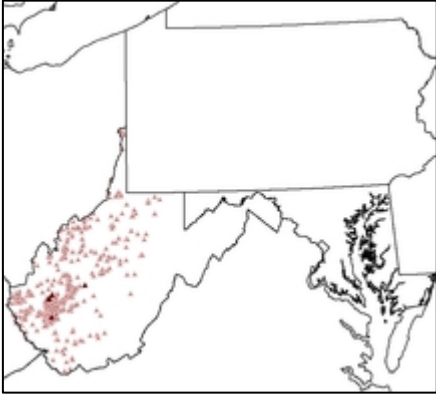


API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not
ACTIVITYTR	Text	21	Activity--Describes Completed Interval (" <i>Pay</i> " Activity Only for Project)
ACTIVITY	Text	1	Activity Code
PRODUCTTR	Text	18	Product--Denotes Gas, Oil or Combination Associated with Activity Interval
PRODUCT	Text	1	Product Code
TOPDEPTH	Long	5	Pay Top Depth, Feet
TOPFMNM	Text	20	Pay Top Formation Name
TOPFM	Text	3	Pay Top Formation Code
BTMDEPTH	Long	5	Pay Bottom Depth, Feet
BTMFMNM	Text	20	Pay Bottom Formation Name
BTMFM	Text	3	Pay Bottom Formation Code
GASBEFORE	Long	6	Gas Volume Before Treatment, Thousand Cubic Feet
GASAFTER	Long	6	Gas Volume After Treatment, Thousand Cubic Feet
OILBEFORE	Long	5	Oil Volume Before Treatment, Barrels
OILAFTER	Long	5	Oil Volume After Treatment, Barrels

**Wells with Core/Sample Data, BERE**  
 BERE\_WVGESOGDSCORE\_NAAEAC  
 WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

Field Name	Field Type	Field Length	Description
SLABC2PHOT	Text	1	Core Photograph 2 Available-- Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Digitized Logs, BERE**

BERE\_WVGESOGDSDIGITIZED\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

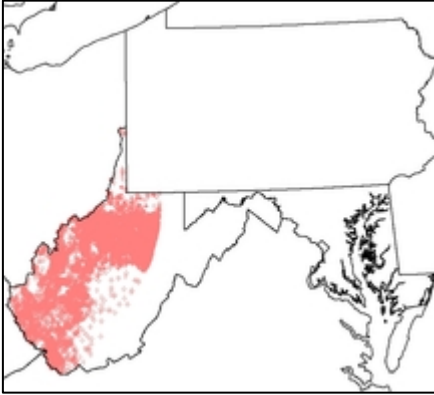
Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

Attribute Name	Field Type	Field Length	Description
SLABC2PHOT	Text	1	Core Photograph 2 Available-- Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Scanned Logs, BERE**

BERE\_WVGESOGDSSCANNED\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

Attribute Name	Field Type	Field Length	Description
SLABC2PHOT	Text	1	Core Photograph 2 Available-- Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not



**Wells that Penetrate, BERE**

BERE\_WVGESOGDSPPLAY\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

Attribute Name	Field Type	Field Length	Description
SLABC2PHOT	Text	1	Core Photograph 2 Available-- Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Cross Sections**

**Gas Atlas Cross Sections (MDe-7)**

MDeFig7\_XSection\_NAAEAC

WVGES



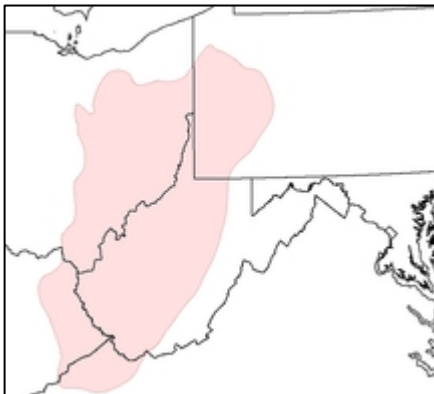
Figure	Text	15	Gas Atlas Figure Reference
XSection	Text	25	Cross Section Direction
Comment	Text	200	Comment
XSecFile	Text	50	Cross Section File Name (for Mapping Hyperlink)

**General**

**Play Outline, BERE**

OGLAYERS\_Berea\_Polygon\_NAAEAC

WVGES



SHAPE_LEN	Double	19	Shape Length
SHAPE_AREA	Double	19	Shape Area
SHAPE_LEN	Double	19	Shape Length

**Gas Fields, BERE**

WV\_GASRES\_MDe\_NAAEAC

WVGES, PGS



ID	Double	12	Shape Identifier
FIELD_NAME	Text	35	Field Name
FIELD_ID	Double	12	Field Number
PLAY	Text	4	Play
FM	Text	5	Formation Name
FM_DETAILS	Text	66	Formation Name Details
PROD_TYPE	Text	26	Production Type

**Oil Fields, BERE**

WV\_OILRES\_MDe\_NAAEAC

WVGES, PGS



ID	Double	12	Shape Identifier
FIELD_NAME	Text	35	Field Name
FIELD_ID	Double	12	Field Number
PLAY	Text	4	Play
FM	Text	5	Formation Name
FM_DETAILS	Text	66	Formation Name Details
PROD_TYPE	Text	26	Production Type

**Gas Atlas: Producing Trends (MDe-2)**

**Producing Trends, MDe2**

MDeFig2\_ProducingTrends\_NAAEAC

WVGES

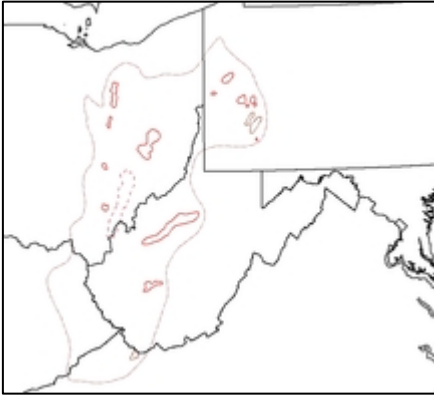


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	65	Trend Name

**Outcrop and Subcrop, MDe2**

MDeFig2-4-26\_Outcrops\_NAAEAC

WVGES

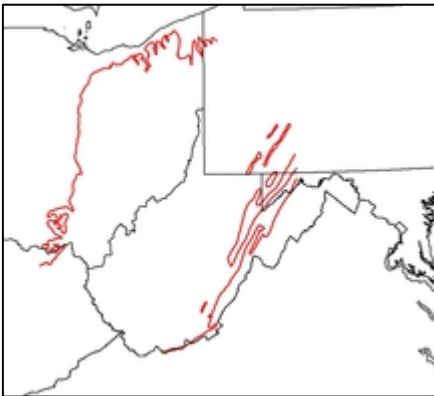


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	65	Trend Name

**Gas Atlas: Productive Gas Pools/Fields, Selected (MDe-3)**

**Pools and Fields, MDe3**

MDeFig3\_PoolsFields\_NAAEAC

WVGES



Figure	Text	15	Gas Atlas Figure Reference
FieldName	Text	35	Field Name

**Gas Atlas: Formation Distribution (MDe-4)**

**Limits, MDe4**

MDeFig4\_Limits\_NAAEAC

WVGES

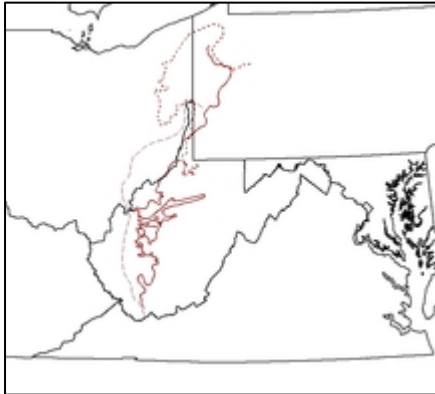


Figure	Text	15	Gas Atlas Figure Reference
BereaTypes	Text	25	Berea Types (Boundaries)

**Outcrop and Subcrop, MDe4**

MDeFig2-4-26\_Outcrops\_NAAEAC

WVGES

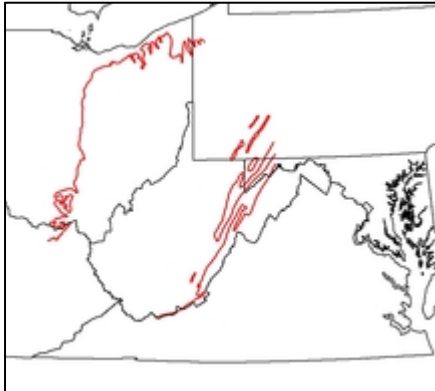


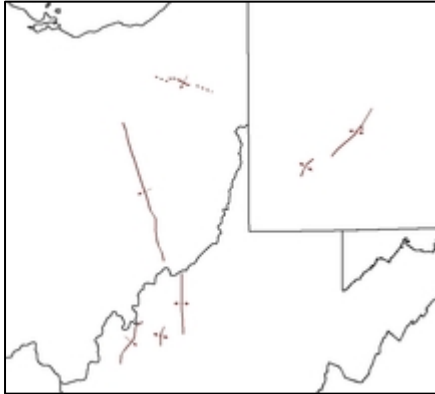
Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	65	Trend Name

**Gas Atlas: Major Structural Features (MDe-11)**

**Faults, MDe11**

MDeFig11\_Faults\_NAAEAC

WVGES



FaultName	Text	30	Fault Name
Figure	Text	15	Gas Atlas Figure Reference

**Gas Atlas: Isopach, Berea Sandstone, Gay-Fink/Cabin Creek Fields, WV (MDe-20)**

**Contours, MDe20**

MDeFig20\_Contours\_NAAEAC

WVGES



Figure	Text	10	Gas Atlas Figure Reference
TrendName	Long	9	Contour Value, Feet

**Fields, MDe20**

MDeFig20\_Fields\_NAAEAC

WVGES



Figure	Text	10	Gas Atlas Figure Reference
FieldName	Text	25	Field Name

**Gas Atlas: Gas Resources (MDe-26)**

**Probable Resources, MDe26**

MDeFig26\_ProbableResources\_NAAEAC  
WVGES



Figure	Text	15	Gas Atlas Figure Reference
TrendName	Long	90	Trend Name

**Possible Resources, MDe26**

MDeFig26\_PossibleResources\_NAAEAC  
WVGES

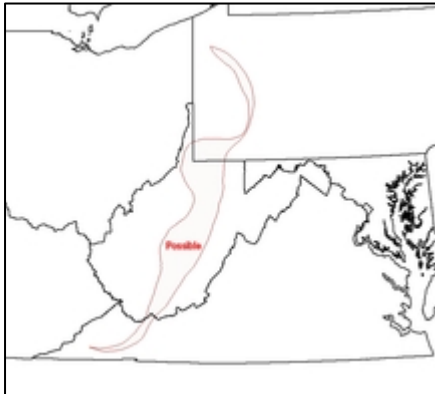


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Long	90	Trend Name

**Outcrop and Subcrop, MDe26**

MDeFig2-4-26\_Outcrops\_NAAEAC  
WVGES

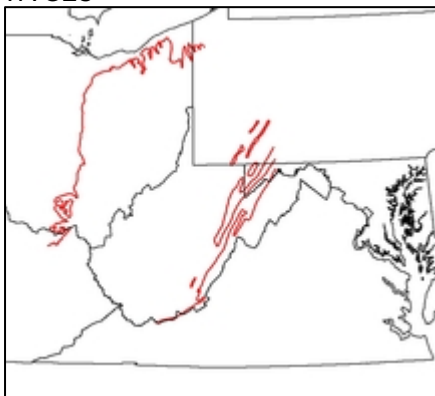


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	65	Trend Name

**Other**

**Thickness--Regional, BERE**

*BEREBoswell1993\_Thickness\_NAAEAC*

DOE



Thickness

Text

15

Thickness, Feet



## Play Layers: Venango (VNNG)

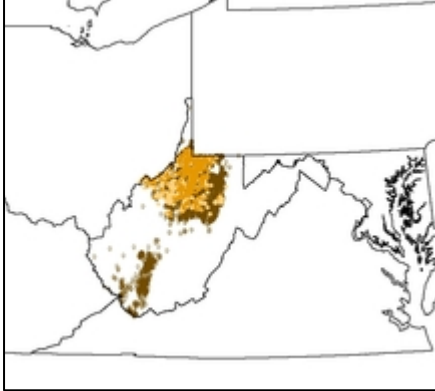
Layer Name / File / Source	Attribute Name	Type	Length	Attribute Description
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### Wells

#### Wells with Reported Pay, VNNG

VNNG\_WVGESOGDSPAY\_NAAEAC

WVGES



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LONG_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not
ACTIVITYTR	Text	21	Activity--Describes Completed Interval (" <i>Pay</i> " Activity Only for Project)
ACTIVITY	Text	1	Activity Code
PRODUCTTR	Text	18	Product--Denotes Gas, Oil or Combination Associated with Activity Interval
PRODUCT	Text	1	Product Code
TOPDEPTH	Long	5	Pay Top Depth, Feet
TOPFMNM	Text	20	Pay Top Formation Name
TOPFM	Text	3	Pay Top Formation Code
BTMDEPTH	Long	5	Pay Bottom Depth, Feet
BTMFMNM	Text	20	Pay Bottom Formation Name
BTMFM	Text	3	Pay Bottom Formation Code
GASBEFORE	Long	6	Gas Volume Before Treatment, Thousand Cubic Feet
GASAFTER	Long	6	Gas Volume After Treatment, Thousand Cubic Feet
OILBEFORE	Long	5	Oil Volume Before Treatment, Barrels
OILAFTER	Long	5	Oil Volume After Treatment, Barrels

**Wells with Core/Sample Data, VNNG**

VNNG\_WVGESOGDSCORE\_NAAEAC\_NEW  
WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

Field Name	Field Type	Field Length	Description
SLABC2PHOT	Text	1	Core Photograph 2 Available-- Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Digitized Logs, VNNG**

VNNG\_WVGESOGDSDIGITIZED\_NAAEAC\_NEW

WVGES, PGS



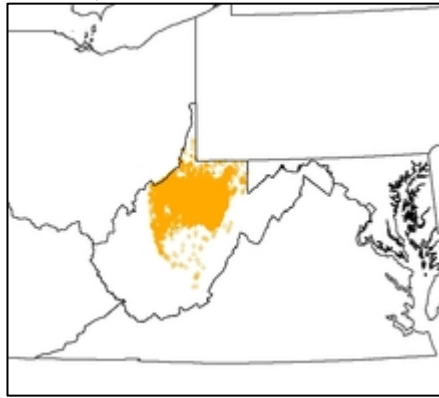
API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
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ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

Field Name	Field Type	Field Length	Description
SLABC2PHOT	Text	1	Core Photograph 2 Available-- Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Scanned Logs, VNNG**

VNNG\_WVGESOGDSSCANDED\_NAAEAC\_NEW  
WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not



**Wells that Penetrate, VNNG**

VNNG\_WVGESOGDSPPLAY\_NAAEAC\_NEW

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

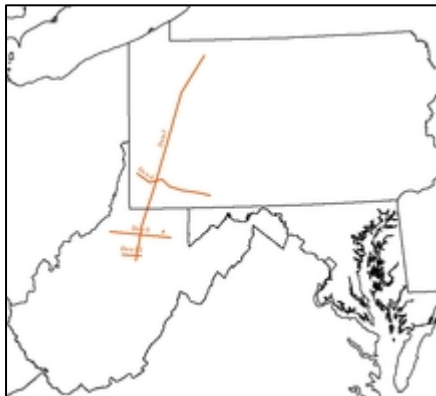
Attribute Name	Attribute Type	Attribute Length	Description
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Cross Sections**

**Gas Atlas Cross Sections (Dvs-5,7,8,19,23)**

*DvsFig-5-7-8-19-23\_XSection\_NAAEAC*

WVGES



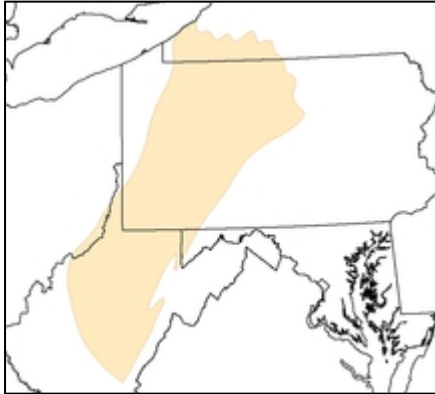
Attribute Name	Attribute Type	Attribute Length	Description
Figure	Text	15	Gas Atlas Figure Number
XSection	Text	25	Cross Section Direction
Comment	Text	200	Comment
XSecFile	Text	50	Cross Section File Name (for Mapping Hyperlink)

**General**

**Play Outline, VNNG**

*OGLAYERS\_Venango\_Polygon\_NAAEAC*

WVGES



SHAPE_LEN	Double	19	Shape Length
SHAPE_AREA	Double	19	Shape Area
SHAPE_LEN	Double	19	Shape Length

**Gas Fields, VNNG**

*WV\_GASRES\_Dvs\_Corrected\_NAAEAC*

WVGES



ID	Double	12	Shape Identifier
FIELD_NAME	Text	35	Field Name
FIELD_ID	Double	12	Field Number
PLAY	Text	4	Play
FM	Text	5	Formation Name
FM_DETAILS	Text	66	Formation Name Details
PROD_TYPE	Text	26	Production Type

**Oil Fields, VNNG**

*WV\_OILRES\_Dvs\_withMetadata\_NAAEAC*

WVGES



ID	Double	12	Shape Identifier
FIELD_NAME	Text	35	Field Name
FIELD_ID	Double	12	Field Number
PLAY	Text	4	Play
FM	Text	5	Formation Name
FM_DETAILS	Text	66	Formation Name Details
PROD_TYPE	Text	26	Production Type

**Gas Atlas: Significant Wells/Fields (Dvs-2)**

**Significant Wells, Dvs2**

*DvsFig2\_SignificantWells\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
WellName	Text	50	Well Name

**Upper Devonian Outcrop, Dvs2**

*DvsFig2\_Outcrop\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Comment	Text	50	Comment

**Historic Shallow Gas Belt, Dvs2**

*DvsFig2\_GasBelt\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Comment	Text	50	Comment

**Significant Fields, Dvs2**

*DvsFig2\_SignificantFields\_NAAEAC*

WVGES

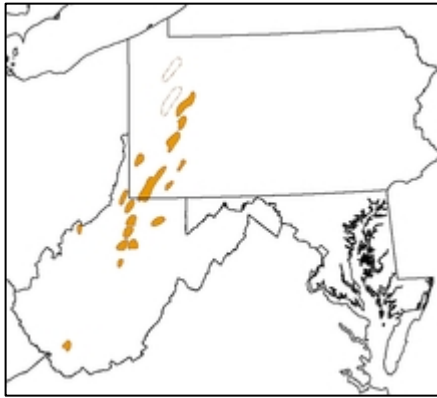


Figure	Text	15	Gas Atlas Figure Reference
FieldName	Text	50	Field Name

**Gas Atlas: Isolith, Total Sandstone, Northern WV (Dvs-14)**

**Wells, Dvs14**

*DvsFig14\_Wells\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
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**Isoliths, Sandstone, Dvs14**

*DvsFig14\_Isoliths\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value

**Outcrop Belt, Dvs14**

*DvsFig14\_OutcropBelt\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Comment	Text	50	Comment

**Gas Atlas: Isolith, V-2 Interval, Regional (Dvs-9)**

**Control Wells, Dvs9**

*DvsFig9\_Wells\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
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**Isoliths, Sandstone, Dvs9**

*DvsFig9\_Isoliths\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value

**Approximate Outcrop, Dvs9**

*DvsFig9\_ApproximateOutcrop\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
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**Gas Atlas: Isolith, V-3 Interval, Regional (Dvs-17)**

**Control Wells, Dvs17**

*DvsFig17\_Wells\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
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**Isoliths, Sandstone, Dvs17**

*DvsFig17\_Isoliths\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value

**Approximate Outcrop, Dvs17**

*DvsFig17\_ApproximateOutcrop\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Comment	Text	200	Comment

**Gas Atlas: Isolith, V-4 Interval, Regional (Dvs-10)**

**Control Wells, Dvs10**

*DvsFig10\_Wells\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
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**Isoliths, Sandstone, Dvs10**

*DvsFig10\_Isoliths\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value



**Approximate Outcrop, Dvs10**

*DvsFig10\_ApproximateOutcrop\_NAAEAC*  
WVGES



Figure                      Text                      15                      Gas Atlas Figure Reference

**Other**


**Thickness--Regional, VNNG**

*VNNGBoswell1993\_Thickness\_NAAEAC*  
DOE



Thickness                      Text                      15                      Thickness, Feet

## Play Layers: Bradford (BDFD)

Layer Name / File / Source	Attribute Name	Type	Length	Attribute Description
<b>Wells</b>				
<b>Wells with Reported Pay, BDFD</b>				
BDFD_PAY_NAAEAC				
WVGES				
	API	Double	19	API Number
	COUNTYNAME	Text	10	County Name
	PERMIT	Long	5	Permit Number
	OPERNM	Text	55	Operator Name
	CO_NUM	Text	15	Company Number
	FARM	Text	40	Surface Owner
	WELL_NUM	Text	6	Farm Number
	MINERAL	Text	30	Oil and Gas Rights Owner
	ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
	DATUMTR	Text	15	Elevation Datum
	TD	Long	5	Total Depth, Feet
	DFMNM	Text	20	Deepest Formation Name
	DFM	Text	3	Deepest Formation Code
	DFMTNM	Text	20	Deepest Formation Tested Name
	DFMT	Text	3	Deepest Formation Tested Code
	LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
	FIELDNM	Text	15	Oil and Gas Field Name
	WELLTYPETR	Text	15	Well Type
	WELLTYPE	Text	1	Well Type Code
	SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
	STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
	CMPMN	Short	2	Completion Month
	CMPDY	Short	2	Completion Day
	CMPYR	Short	4	Completion Year
	LOGS_AVAIL	Text	14	Logs Available
	LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
	LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
	SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
	DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
	CORE1TOP	Long	5	Core 1 Top Depth, Feet
	CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
	TOPFM1NM	Text	20	Core 1 Top Formation Name
	TOPFM1	Text	3	Core 1 Top Formation Code
	BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code	
CORE2TOP	Long	5	Core 2 Top Depth, Feet	
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet	
TOPFM2NM	Text	20	Core 2 Top Formation Name	
TOPFM2	Text	3	Core 2 Top Formation Code	
BTMFM2NM	Text	20	Core 2 Bottom Formation Name	
BTMFM2	Text	3	Core 2 Bottom Formation Code	
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not	

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not
ACTIVITYTR	Text	21	Activity--Describes Completed Interval (" <i>Pay</i> " Activity Only for Project)
ACTIVITY	Text	1	Activity Code
PRODUCTTR	Text	18	Product--Denotes Gas, Oil or Combination Associated with Activity Interval
PRODUCT	Text	1	Product Code
TOPDEPTH	Long	5	Pay Top Depth, Feet
TOPFMNM	Text	20	Pay Top Formation Name
TOPFM	Text	3	Pay Top Formation Code
BTMDEPTH	Long	5	Pay Bottom Depth, Feet
BTMFMNM	Text	20	Pay Bottom Formation Name
BTMFM	Text	3	Pay Bottom Formation Code
GASBEFORE	Long	6	Gas Volume Before Treatment, Thousand Cubic Feet
GASAFTER	Long	6	Gas Volume After Treatment, Thousand Cubic Feet
OILBEFORE	Long	5	Oil Volume Before Treatment, Barrels
OILAFTER	Long	5	Oil Volume After Treatment, Barrels

**Wells with Core/Sample Data, BDFD**

BDFD\_CORE\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Digitized Logs, BDFD**

BDFD\_DIGITIZED\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

LAT_DD	Double	15	Latitude, Decimal Degrees
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UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Scanned Logs, BDFD**

BDFD\_SCANNED\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not



Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells that Penetrate, BDFD**

BDFD\_PPLAY\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Cross Sections**

**Gas Atlas Cross Sections (Dbs-6,8,9,15,20,27)**

*DbsFig6-8-9-15-20-27\_XSection\_NAAEAC*

WVGES

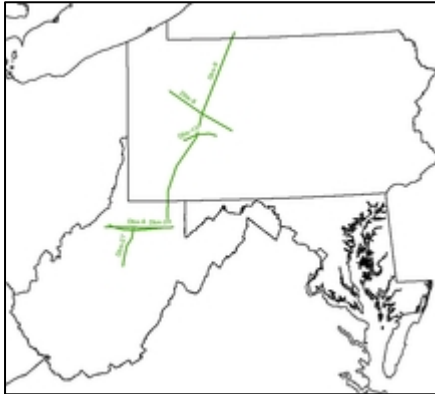


Figure	Text	15	Gas Atlas Figure Reference
XSection	Text	25	Cross Section Label
Comment	Text	200	Comment
XSecFile	Text	50	Cross Section File Name (for Mapping Hyperlink to Cross Section Image)

**General**

**Play Outline, BDFD**

*OGLAYERS\_Bradford\_Polygon\_NAAEAC*

WVGES



OBJECTID	Double	10	Object Identifier
SHAPE LENG	Double	19	Play Polygon Length
SHAPE AREA	Double	19	Play Polygon Area

**Gas Fields, BDFD**

*WV\_GASRES\_Dbs\_Corrected\_NAAEAC*

WVGES



ID	Double	12	Object Identifier
FIELD_NAME	Text	35	Gas Field Name
FIELD_ID	Double	12	Gas Field Code
PLAY	Text	4	Play Code
FM	Text	5	Formation Code
FM_DETAILS	Text	66	Formation Details
PROD_TYPE	Text	26	Production Type

**Gas Atlas: Significant Wells/Fields (Dbs-2)**

**Discovery Well, Dbs2**

*DbsFig2\_DiscoveryWell\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
WellName	Text	30	Well Name

**Upper Devonian Outcrop, Dbs2**

*DbsFig2\_UpperDevonianOutcrop\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	60	Trend Name

**Significant Fields, Dbs2**

*DbsFig2\_SignificantFields\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
FieldName	Text	50	Gas Field Name

**Early Oil Producing Regions, Dbs2**

*DbsFig2\_OilRegions\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
FieldName	Text	50	Oil Field Region

**Gas Atlas: Gas Production, Bradford Play, Armstrong County+, PA (Dbs-4)**

**Producing Areas, Dbs4**

*DbsFig4\_ProducingAreas\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
FieldName	Text	50	Gas Field/Producing Region
Comment	Text	200	Comment

**Gas Atlas: Isolith, Net Siltstone, WV (Dbs-22b)**

**Isoliths, Siltstone, Dbs22b**

*DbsFig22b\_Isoliths\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Percentage of Interval >= 25% Clean Sand
Unit	Text	2	Contour Value Unit (Contour Value see above)

**Shelf Slope Break, Dbs22b**

*DbsFig22b\_ShelfSlope\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Comment	Text	200	Comment

**Gas Atlas: Isolith, B-2 Interval, Regional (Dbs-13)**

**Control Wells, Dbs13**

*DbsFig13\_Wells\_NAAEAC*

WVGES

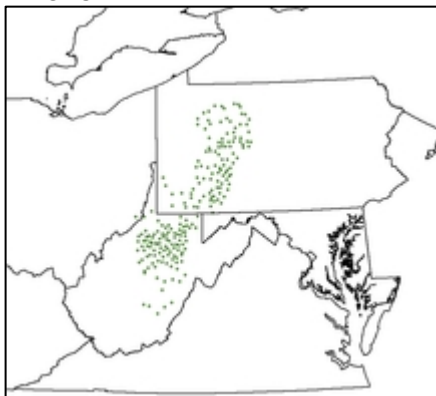


Figure	Text	15	Gas Atlas Figure Reference
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**Isoliths, Sandstone, Dbs13**

*DbsFig13\_Isoliths\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Gas Atlas Figure Reference Contour Value, Feet

**Approximate Outcrop, Dbs13**

*DbsFig13\_ApproximateOutcrop\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Comment	Text	100	Comment

**Gas Atlas: Isopach, Total Interval, Northern WV (Dbs-22a)**

**Isopachs, Dbs22a**

*DbsFig22a\_Isopachs\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet
Comment	Text	200	Comment

**Thickening Trend, Dbs22a**

*DbsFig22a\_ThickeningTrend\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Comment	Text	200	Comment



**Gas Atlas: Isopach, Upper Balltown Sandstone, Harrison County, WV (Dbs-21)**

**Control Wells, Dbs21**

*DbsFig21\_Wells\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
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**Isopachs, Dbs21**

*DbsFig21\_Isopachs\_NAAEAC*

WVGES



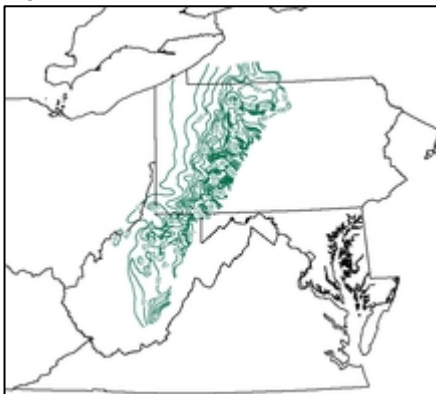
Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet
Comment	Text	200	Comment

**Other**

**Thickness--Regional, BDFD**


*BDFDBoswell1993\_Thickness\_NAAEAC*

DOE



Thickness	Text	15	Thickness Value, Feet
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## Play Layers: Elk (ELK)

Layer Name / File / Source	Attribute Name	Type	Length	Attribute Description
<b>Wells</b>				
<b>Wells with Reported Pay, ELK</b>				
ELK_PAY_NAAEAC				
WVGES				
	API	Double	19	API Number
	COUNTYNAME	Text	10	County Name
	PERMIT	Long	5	Permit Number
	OPERNM	Text	55	Operator Name
	CO_NUM	Text	15	Company Number
	FARM	Text	40	Surface Owner
	WELL_NUM	Text	6	Farm Number
	MINERAL	Text	30	Oil and Gas Rights Owner
	ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
	DATUMTR	Text	15	Elevation Datum
	TD	Long	5	Total Depth, Feet
	DFMNM	Text	20	Deepest Formation Name
	DFM	Text	3	Deepest Formation Code
	DFMTNM	Text	20	Deepest Formation Tested Name
	DFMT	Text	3	Deepest Formation Tested Code
	LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
	FIELDNM	Text	15	Oil and Gas Field Name
	WELLTYPETR	Text	15	Well Type
	WELLTYPE	Text	1	Well Type Code
	SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
	STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
	CMPMN	Short	2	Completion Month
	CMPDY	Short	2	Completion Day
	CMPYR	Short	4	Completion Year
	LOGS_AVAIL	Text	14	Logs Available
	LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
	LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
	SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
	DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
	CORE1TOP	Long	5	Core 1 Top Depth, Feet
	CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
	TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code	
BTMFM1NM	Text	20	Core 1 Bottom Formation Name	
BTMFM1	Text	3	Core 1 Bottom Formation Code	
CORE2TOP	Long	5	Core 2 Top Depth, Feet	
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet	
TOPFM2NM	Text	20	Core 2 Top Formation Name	
TOPFM2	Text	3	Core 2 Top Formation Code	
BTMFM2NM	Text	20	Core 2 Bottom Formation Name	
BTMFM2	Text	3	Core 2 Bottom Formation Code	

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not
ACTIVITYTR	Text	21	Activity--Describes Completed Interval (" <i>Pay</i> " Activity Only for Project)
ACTIVITY	Text	1	Activity Code
PRODUCTTR	Text	18	Product--Denotes Gas, Oil or Combination Associated with Activity Interval
PRODUCT	Text	1	Product Code
TOPDEPTH	Long	5	Pay Top Depth, Feet
TOPFMNM	Text	20	Pay Top Formation Name
TOPPFM	Text	3	Pay Top Formation Code
BTMDEPTH	Long	5	Pay Bottom Depth, Feet
BTMFMNM	Text	20	Pay Bottom Formation Name
BTMFM	Text	3	Pay Bottom Formation Code
GASBEFORE	Long	6	Gas Volume Before Treatment, Thousand Cubic Feet
GASAFTER	Long	6	Gas Volume After Treatment, Thousand Cubic Feet
OILBEFORE	Long	5	Oil Volume Before Treatment, Barrels
OILAFTER	Long	5	Oil Volume After Treatment, Barrels

**Wells with Core/Sample Data, ELK**

ELK\_CORE\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Digitized Logs, ELK**

ELK\_DIGITIZED\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

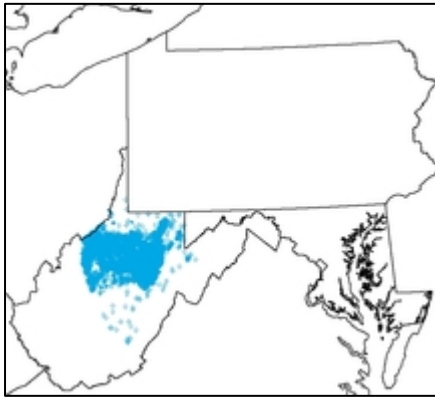
Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Scanned Logs, ELK**

ELK\_SCANNED\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not



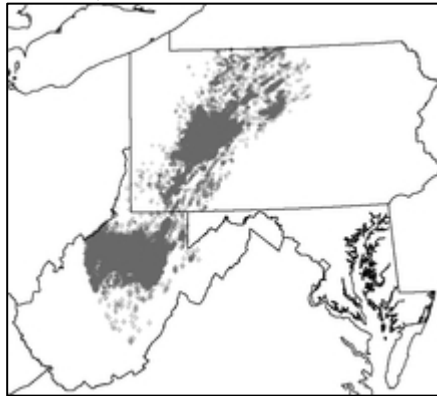
Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

Field Name	Data Type	Length	Description
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells that Penetrate, ELK**

ELK\_PPLAY\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Cross Sections**

**Gas Atlas Cross Sections (Des-10,11,12,14,17b,18,20b,26,29a/b,33,34b)**

*DesFig10-11-12-14-17b-18-20b-26-29ab-33-34b\_XSection\_NAAEAC*

WVGES

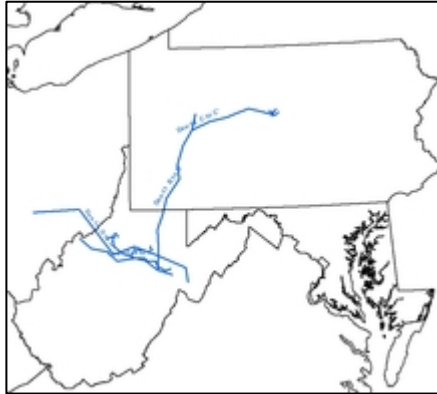


Figure	Text	15	Gas Atlas Figure Reference
XSection	Text	25	Cross Section Label
Comment	Text	200	Comment
XSecFile	Text	50	Cross Section File Name (for Mapping Hyperlink to Cross Section Image)

**General**

**Play Outline, ELK**

*OGLAYERS\_Elk\_Polygon\_NAAEAC*

WVGES



OBJECTID	Double	10	Object Identifier
SHAPE_LEN	Double	19	Play Polygon Length
SHAPE_AREA	Double	19	Play Polygon Area

**Gas Fields, ELK**

*WV\_GASRES\_Des\_NAAEAC*

WVGES



ID	Double	12	Object Identifier
FIELD_NAME	Text	35	Gas Field Name
FIELD_ID	Double	12	Gas Field Code
PLAY	Text	4	Play Code
FM	Text	5	Formation Code
FM_DETAILS	Text	66	Formation Details
PROD_TYPE	Text	15	Production Type

**Gas Atlas: Significant Wells/Fields (Des-2)**

**First Producing Wells, Des2**

*DesFig2\_Wells\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
WellName	Text	50	Well Name

**Upper Devonian Outcrop, Des2**

*DesFig2\_UpperDevonianOutcrop\_NAAEAC*

WVGES

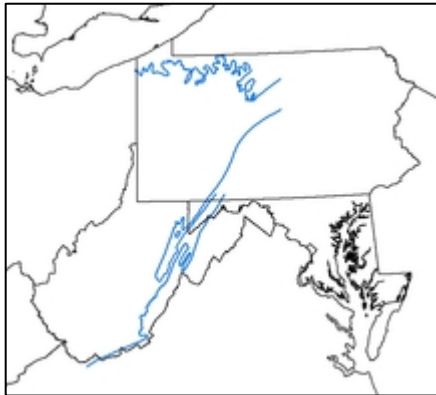


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	50	Trend Name

**Fields, Des2**

*DesFig2\_Fields\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
FieldName	Text	50	Gas Field Name

**Gas Atlas: Fields in the Benson 30-Field Consolidated Area, North-Central WV (Des-3)**

**Cored Wells, Des3**

*DesFig3\_Wells\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
WellName	Text	20	Well Name

**Outcrops, Des3**

*DesFig3\_Outcrops\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Trend	Text	50	Trend Name

**Fields, Des3**

*DesFig3\_Fields\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
FieldName	Text	50	Gas Field Name

**Gas Atlas: Facies, Upper Benson, North-Central WV (Des-17a)**

**Outer Lobe, Des17a**

*DesFig17a\_OuterLobe\_NAAEAC*

WVGES



Figure	Text	10	Gas Atlas Figure Reference
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**Inner Lobe, Des17a**

*DesFig17a\_InnerLobe\_NAAEAC*

WVGES



Figure	Text	10	Gas Atlas Figure Reference
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**Gas Atlas: Inner Lobe Subfacies/Thickness, Upper Benson, North-Central WV (Des-15,19)**

**Contours, Des15**

*DesFig15\_Contours\_NAAEAC*

WVGES



Figure	Text	10	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet

**Structural Features, Des15/19**

*DesFig15-19\_StructuralFeatures\_NAAEAC*

WVGES



Figure	Text	10	Gas Atlas Figure Reference
StructFea	Text	30	Structural Feature Name

**Cross-Strike Discontinuities, Des15/19**

*DesFig19\_Discontinuities\_NAAEAC*

WVGES



Figure	Text	10	Gas Atlas Figure Reference
CrsStrkDis	Text	50	Cross-Strike Discontinuity Name
Label	Text	5	Cross-Strike Discontinuity Label

**Turbidite Proximal Deposits, Inner Lobe Subfacies, Des19**

*DesFig19\_TurbiditeDeposits\_NAAEAC*

WVGES



Figure	Text	10	Gas Atlas Figure Reference
Subfacies	Text	30	Subfacies Name
Comment	Text	85	Comment



**Wilbur Field, Des15/19**

*DesFig15-19\_Wilbur\_NAAEAC*

WVGES



Figure	Text	10	Gas Atlas Figure Reference
FieldName	Text	20	Gas Field Name/Label

**Gas Atlas: Isolith, Benson, Regional (Des-13)**

**Selected Field Locations, Des13**

*DesFig13\_FieldLocations\_NAAEAC*

WVGES



Figure	Text	10	Gas Atlas Figure Reference
FieldName	Text	20	Gas Field Name

**Isoliths, Sandstone, Des13**

*DesFig13\_Isoliths\_NAAEAC*

WVGES



Figure	Text	10	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet

**Gas Atlas: Isopach, Fifth Elk, Council Run Field, Centre and Clinton Counties, PA (Des-31,34a)**

**Wells, Des34a**

*DesFig34a\_Wells\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
WellName	Text	35	Well Name

**Isopachs, Des34a**

*DesFig34a\_Isopachs\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet

**Isopachs, Regional, Des31**

*DesFig31\_Isopachs\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet

**Upper Devonian Outcrop, Approximate Location, Des31**

*DesFig31\_UpperDevonianOutcrop\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Comment	Text	65	Comment

**Gas Atlas: Isopach, Net Pay and Structure, Benson, Wilbur Field, Doddridge+ County, WV (Des-27,30)**

**Wells, Des27**

*DesFig27\_Wells\_NAAEAC*

WVGES



Figure	Text	10	Gas Atlas Figure Reference
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**Isopachs, Des27/30**

*DesFig27\_Isopachs\_NAAEAC*

WVGES



Figure	Text	10	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet
Comment	Text	70	Comment

**Structure Contours, Des30**

*DesFig30\_StructureContours\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet
Comment	Text	200	Comment

**Fold Axes, Des30**

*DesFig30\_FoldAxes\_NAAEAC*

WVGES

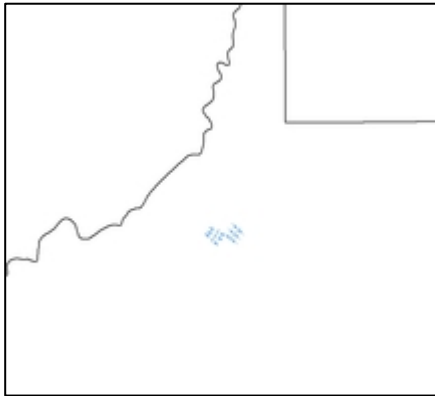


Figure	Text	10	Gas Atlas Figure Reference
Structure	Text	20	Structure Type

**Gas Atlas: Net Pay, Benson, Weston-Jane Lew Field, Lewis County, WV (Des-22)**

**Wells, Des22**

*DesFig22\_Wells\_NAAEAC*

WVGES

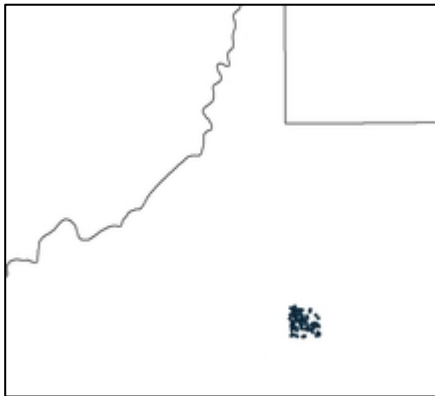


Figure	Text	10	Gas Atlas Figure Reference
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**Contours, Des22**

*DesFig22\_Contours\_NAAEAC*

WVGES

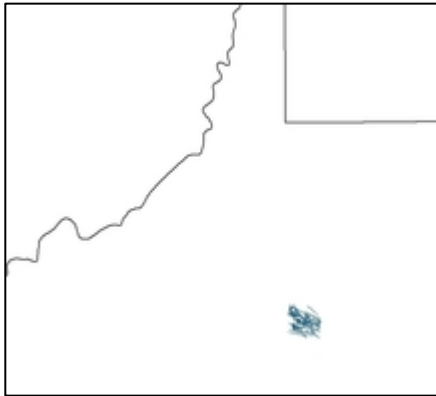


Figure	Text	10	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet

**Gas Atlas: Isoline, First Year Cumulative Production, Weston-Jane Lew Field, Lewis County, WV (Des-24)**

**Wells and Type Log Wells, Des24**

*DesFig24\_WellsEtc\_NAAEAC*

WVGES

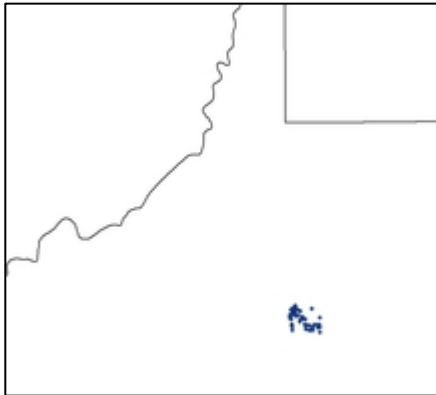


Figure	Text	15	Gas Atlas Figure Reference
WellType	Text	25	Well Type

**Isolines, Des24**

*DesFig24\_Isolines\_NAAEAC*

WVGES

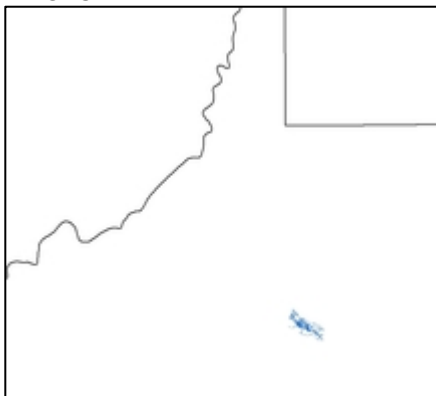


Figure	Text	10	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Million Cubic Feet
Comment	Text	90	Comment

Other

**Thickness--Regional, Benson Only**

*ELKBoswell1993\_Thickness\_NAAEAC*

DOE



Thickness

Text

15

Thickness Value, Feet

**Play Layers: Medina/"Clinton" (MDIN)**

Layer Name / File / Source	Attribute Name	Type	Length	Attribute Description
<b>Wells</b>				
<b>Wells with Reported Pay, MDIN</b>				
MDIN_PAY_NAAEAC				
WVGES				
<b>Image Unavailable</b>	API	Double	19	API Number
	COUNTYNAME	Text	10	County Name
	PERMIT	Long	5	Permit Number
	OPERNM	Text	55	Operator Name
	CO_NUM	Text	15	Company Number
	FARM	Text	40	Surface Owner
	WELL_NUM	Text	6	Farm Number
	MINERAL	Text	30	Oil and Gas Rights Owner Elevation (Surface of the Well), Feet
	ELEV	Short	4	Above Mean Sea Level
	DATUMTR	Text	15	Elevation Datum
	TD	Long	5	Total Depth, Feet
	DFMNM	Text	20	Deepest Formation Name
	DFM	Text	3	Deepest Formation Code
	DFMTNM	Text	20	Deepest Formation Tested Name
	DFMT	Text	3	Deepest Formation Tested Code
	LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
	FIELDNM	Text	15	Oil and Gas Field Name
	WELLTYPETR	Text	15	Well Type
	WELLTYPE	Text	1	Well Type Code
	SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
	STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
	CMPMN	Short	2	Completion Month
	CMPDY	Short	2	Completion Day
	CMPYR	Short	4	Completion Year
	LOGS_AVAIL	Text	14	Logs Available
	LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
	LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
	SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
	DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
	CORE1TOP	Long	5	Core 1 Top Depth, Feet
	CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
	TOPFM1NM	Text	20	Core 1 Top Formation Name
	TOPFM1	Text	3	Core 1 Top Formation Code
	BTMFM1NM	Text	20	Core 1 Bottom Formation Name
	BTMFM1	Text	3	Core 1 Bottom Formation Code
	CORE2TOP	Long	5	Core 2 Top Depth, Feet
	CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
	TOPFM2NM	Text	20	Core 2 Top Formation Name
	TOPFM2	Text	3	Core 2 Top Formation Code
	BTMFM2NM	Text	20	Core 2 Bottom Formation Name
	BTMFM2	Text	3	Core 2 Bottom Formation Code
	SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

Field Name	Field Type	Field Length	Description
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not
ACTIVITYTR	Text	21	Activity--Describes Completed Interval (" <i>Pay</i> " Activity Only for Project)
ACTIVITY	Text	1	Activity Code
PRODUCTTR	Text	18	Product--Denotes Gas, Oil or Combination Associated with Activity Interval
PRODUCT	Text	1	Product Code
TOPDEPTH	Long	5	Pay Top Depth, Feet
TOPFMNM	Text	20	Pay Top Formation Name
TOPFM	Text	3	Pay Top Formation Code
BTMDEPTH	Long	5	Pay Bottom Depth, Feet
BTMFMNM	Text	20	Pay Bottom Formation Name
BTMFM	Text	3	Pay Bottom Formation Code
GASBEFORE	Long	6	Gas Volume Before Treatment, Thousand Cubic Feet
GASAFTER	Long	6	Gas Volume After Treatment, Thousand Cubic Feet
OILBEFORE	Long	5	Oil Volume Before Treatment, Barrels
OILAFTER	Long	5	Oil Volume After Treatment, Barrels



**Wells with Core/Sample Data, MDIN**

MDIN\_CORE\_NAAEAC

WVGES, PGS

Image Unavailable

API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Digitized Logs, MDIN**

MDIN\_DIGITIZED\_NAAEAC

WVGES, PGS

Image Unavailable

API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Scanned Logs, MDIN**

MDIN\_SCANNED\_NAAEAC

WVGES, PGS

Image Unavailable

API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells that Penetrate, MDIN**

MDIN\_PPLAY\_NAAEAC

WVGES, PGS

**Image Unavailable**

API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Cross Sections**

**Gas Atlas Cross Sections (Scm-4,5)**

*ScmFig4-5\_XSection\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
XSection	Text	25	Cross Section Label
Comment	Text	200	Comment
XSecFile	Text	50	Cross Section File Name (for Mapping Hyperlink to Cross Section Image)

**General**

**Play Outline, MDIN**

*OGLAYERS\_Medina\_Polygon\_NAAEAC*

WVGES

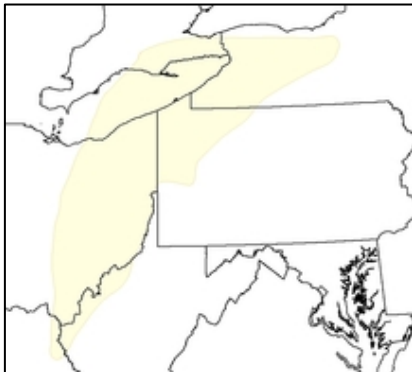


Figure	Text	15	Gas Atlas Figure Reference
PlayName	Text	100	Play Name



**Gas Atlas: Significant Gas Fields (Scm-2)**

**Fields, Scm2**

ScmFig2\_Fields\_NAAEAC

WVGES

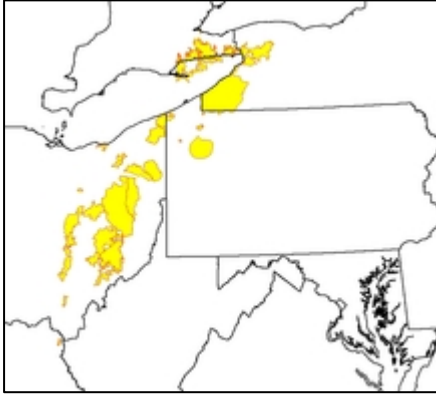


Figure	Text	15	Gas Atlas Figure Reference
FieldName	Text	50	Gas Field Name

**Gas Atlas: Structure, Medina, Regional (Scm-9)**

**Contours, Scm9**

ScmFig9\_Contours\_NAAEAC

WVGES

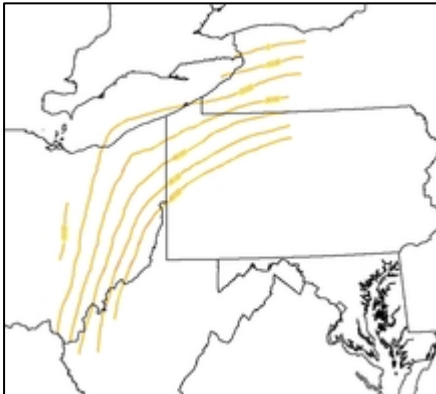


Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet

**Gas Atlas: Isopach, Net Sandstone, Grimsby, Regional (Scm-8)**

**Contours, Scm8**

ScmFig8\_Contours\_NAAEAC

WVGES

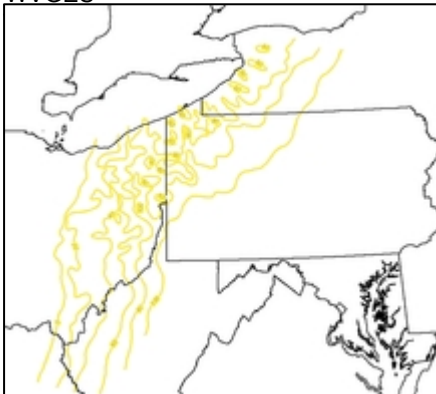


Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet

**Gas Atlas: Isopach, Net Pay, Grimsby, Regional (Scm-11)**

**Boundary, Scm11**

*ScmFig11\_Boundary\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
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**Isopachs, Scm11**

*ScmFig11\_Isopachs\_NAAEAC*

WVGES

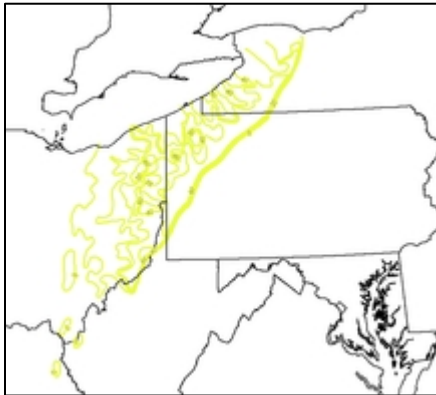


Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet

**Gas Atlas: Isopach, Net Sandstone, Whirlpool, Regional (Scm-7)**

**Boundary, Scm7**

*ScmFig7\_Boundary\_NAAEAC*

WVGES

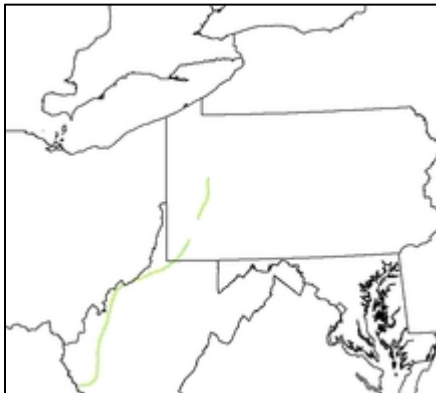


Figure	Text	15	Gas Atlas Figure Reference
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**Isopachs, Scm7**

*ScmFig7\_Isopachs\_NAAEAC*

WVGES

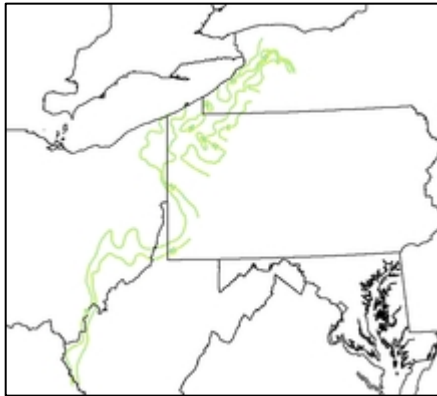


Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet

**Gas Atlas: Isopach, Net Pay, Whirlpool, Regional (Scm-10)**

**Isopachs, Scm10**

*ScmFig10\_Isopachs\_NAAEAC*

WVGES

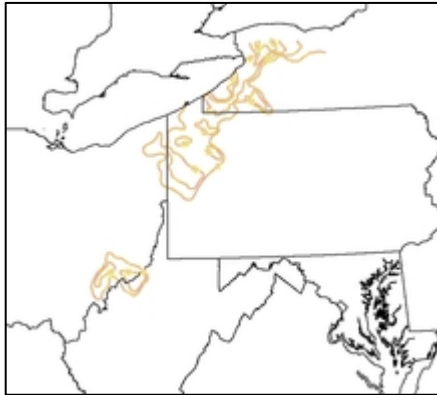


Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet

**Gas Atlas: Reservoir Trends, Cataract/Medina Group, Regional (Scm-31)**

**Resource, Scm31**

*ScmFig31\_Resource\_NAAEAC*

WVGES

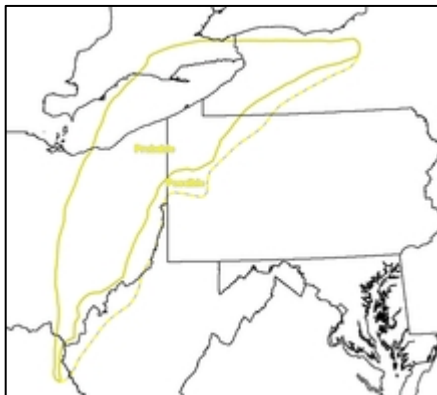


Figure	Text	15	Gas Atlas Figure Reference
Resource	Test	30	Resource Type

## Play Layers: Tuscarora (TCRR)

Layer Name / File / Source	Attribute Name	Type	Length	Attribute Description
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### Wells

#### Wells with Reported Pay, TCRR

TCRR\_PAY\_NAAEAC

WVGES



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not
LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not
ACTIVITYTR	Text	21	Activity--Describes Completed Interval (" <i>Pay</i> " Activity Only for Project)
ACTIVITY	Text	1	Activity Code
PRODUCTTR	Text	18	Product--Denotes Gas, Oil or Combination Associated with Activity Interval
PRODUCT	Text	1	Product Code
TOPDEPTH	Long	5	Pay Top Depth, Feet
TOPFMNM	Text	20	Pay Top Formation Name
TOPFM	Text	3	Pay Top Formation Code
BTMDEPTH	Long	5	Pay Bottom Depth, Feet
BTMFMNM	Text	20	Pay Bottom Formation Name
BTMFM	Text	3	Pay Bottom Formation Code
GASBEFORE	Long	6	Gas Volume Before Treatment, Thousand Cubic Feet
GASAFTER	Long	6	Gas Volume After Treatment, Thousand Cubic Feet
OILBEFORE	Long	5	Oil Volume Before Treatment, Barrels
OILAFTER	Long	5	Oil Volume After Treatment, Barrels

**Wells with Core/Sample Data, TCRR**

TCRR\_CORE\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Digitized Logs, TCRR**

TCRR\_DIGITIZED\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not



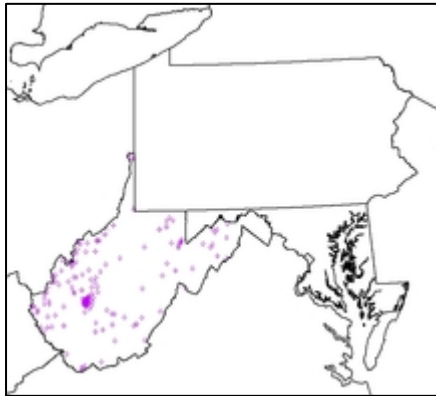
Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
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BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
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BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells with Scanned Logs, TCRR**

TCRR\_SCANNED\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
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DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
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FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

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VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Wells that Penetrate, TCRR**

TCRR\_PPLAY\_NAAEAC

WVGES, PGS



API	Double	19	API Number
COUNTYNAME	Text	10	County Name
PERMIT	Long	5	Permit Number
OPERNM	Text	55	Operator Name
CO_NUM	Text	15	Company Number
FARM	Text	40	Surface Owner
WELL_NUM	Text	6	Farm Number
MINERAL	Text	30	Oil and Gas Rights Owner
ELEV	Short	4	Elevation (Surface of the Well), Feet Above Mean Sea Level
DATUMTR	Text	15	Elevation Datum
TD	Long	5	Total Depth, Feet
DFMNM	Text	20	Deepest Formation Name
DFM	Text	3	Deepest Formation Code
DFMTNM	Text	20	Deepest Formation Tested Name
DFMT	Text	3	Deepest Formation Tested Code
LSDEEPPLAY	Text	3	Deepest Play ( <i>Project Plays Only</i> )
FIELDNM	Text	15	Oil and Gas Field Name
WELLTYPETR	Text	15	Well Type
WELLTYPE	Text	1	Well Type Code
SUFFIXTR	Text	14	Suffix--Describes the Episode of Drilling/Deviated Drilling
STATUSTR	Text	9	Status--Describes the Status of the Drilling Permit
CMPMN	Short	2	Completion Month
CMPDY	Short	2	Completion Day
CMPYR	Short	4	Completion Year
LOGS_AVAIL	Text	14	Logs Available
LOG_TOP	Long	5	Log Top Depth (Gross Interval), Feet
LOG_BOT	Long	5	Log Bottom Depth (Gross Interval), Feet
SCAN	Text	1	Log Scanned--Denotes if Log Scanned or Not
DIGITIZED	Text	1	Log Digitized--Denotes if Log Digitized or Not
CORE1TOP	Long	5	Core 1 Top Depth, Feet
CORE1BTM	Long	5	Core 1 Bottom Depth, Feet
TOPFM1NM	Text	20	Core 1 Top Formation Name
TOPFM1	Text	3	Core 1 Top Formation Code
BTMFM1NM	Text	20	Core 1 Bottom Formation Name
BTMFM1	Text	3	Core 1 Bottom Formation Code
CORE2TOP	Long	5	Core 2 Top Depth, Feet
CORE2BTM	Long	5	Core 2 Bottom Depth, Feet
TOPFM2NM	Text	20	Core 2 Top Formation Name
TOPFM2	Text	3	Core 2 Top Formation Code
BTMFM2NM	Text	20	Core 2 Bottom Formation Name
BTMFM2	Text	3	Core 2 Bottom Formation Code
SAMPLE	Text	7	Sample Available--Denotes if Sample Available or Not
SLABC1PHOT	Text	1	Core Photograph 1 Available--Denotes if Core Photograph Exists or Not
SLABC2PHOT	Text	1	Core Photograph 2 Available--Denotes if Core Photograph Exists or Not

Appendix A – Appalachian Basin Tight Gas Interactive Mapping System: Layer Attribute Descriptions

LAT_DD	Double	15	Latitude, Decimal Degrees
LON_DD	Double	16	Longitude, Decimal Degrees
UTME	Double	9	Universal Transverse Mercator Easting, Meters
UTMN	Double	10	Universal Transverse Mercator Northing, Meters
QUAD75NM	Text	21	7.5' Quadrangle Name
TXDSTNM	Text	18	Tax District Name
LOCFLAGTR	Text	37	Location Flag--Describes Source or Type of Well Location Data
BEREA	Text	1	Berea Penetrated--Denotes if Berea Penetrated or Not
VENANGO	Text	1	Venango Penetrated--Denotes if Venango Penetrated or Not
BRADFORD	Text	1	Bradford Penetrated--Denotes if Bradford Penetrated or Not
ELK	Text	1	Elk Penetrated--Denotes if Elk Penetrated or Not
MEDINA	Text	1	Medina Penetrated--Denotes if Medina Penetrated or Not
TUSCARORA	Text	1	Tuscarora Penetrated--Denotes if Tuscarora Penetrated or Not

**Cross Sections**

**Gas Atlas Cross Sections (Sts-5,6,9,10)**

*StsFig-5-6-9-10\_XSection\_NAAEAC*

WVGES

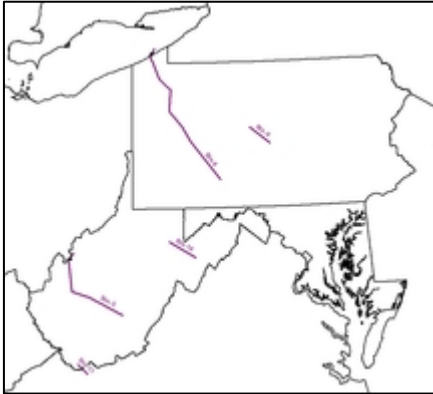


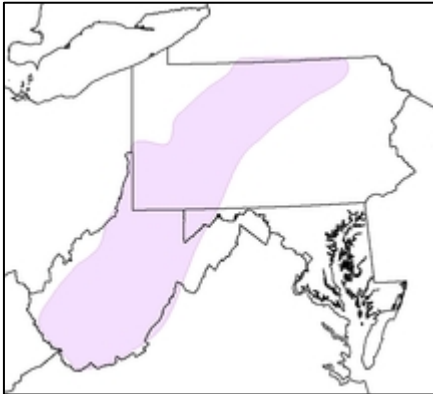
Figure	Text	15	Gas Atlas Figure Reference
XSection	Text	25	Cross Section Direction
Comment	Text	200	Comment
XSecFile	Text	50	Cross Section File Name (for Mapping Hyperlink to Cross Section Image)

**General**

**Play Outline, TCRR**

*OGLAYERS\_Tuscarora\_polygon\_NAAEAC*

WVGES

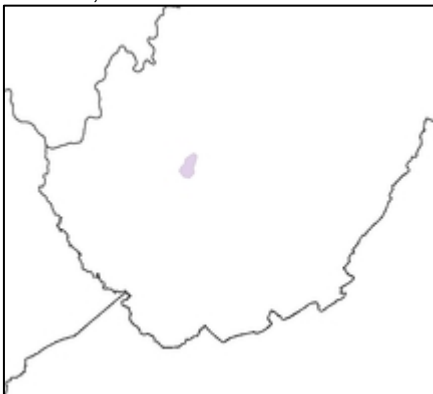


SHAPE LENG	Double	19	Play Polygon Length
SHAPE AREA	Double	19	Play Polygon Area

**Gas Fields, TCRR**

*GASRES\_Sts\_NAAEAC*

WVGES, PGS



ID	Double	12	Shape Identifier
FIELD_NAME	Text	35	Field Name
FIELD_ID	Double	12	Field Number
PLAY	Text	4	Play
FM	Text	5	Formation Name
FM_DETAILS	Text	66	Formation Name Details
PROD_TYPE	Text	26	Production Type

**Gas Atlas: Fields and Pools (Sts-2)**

**Structural Provinces, Sts2**

*StsFig2\_StructuralProvinces\_NAAEAC*

WVGES

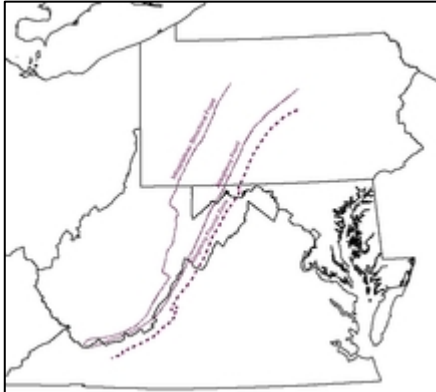


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	60	Trend Name

**Fields and Pools, Sts2**

*StsFig2\_Fields\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
FieldName	Text	50	Field Name

**Gas Atlas: Penetrations, Nitrogen, and CO2 (Sts-3)**

**Wells, Sts3**

*StsFig3\_Wells\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
WellType	Text	20	Well Type

**Inert Gas, Sts3**

*StsFig3\_InertGas\_NAAEAC*

WVGES



Figure	Text	15	Gas Atlas Figure Reference
Comment	Text	60	Comment
Label	Text	20	Gas Type

**Gas Atlas: Isopach and Lithofacies, Lower Silurian, Regional (Sts-7)**

**Isopachs, Sts7**

*StsFig7\_Isopachs\_NAAEAC*

WVGES

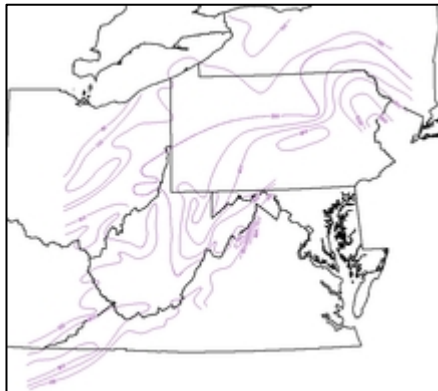


Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet
Comment	Text	254	Comment



**Outcrop Limit, Sts7**

StsFig7\_OutcropLimit\_NAAEAC  
WVGES



Figure Comment	Text	15	Gas Atlas Figure Reference
	Text	200	Comment

**Lithofacies, Sts7**

StsFig7\_Lithofacies\_NAAEAC  
WVGES

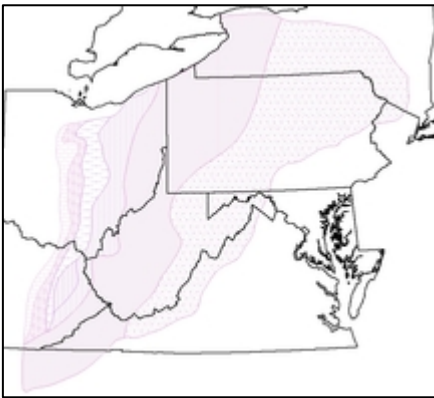


Figure Lithology	Text	15	Gas Atlas Figure Reference
	Text	100	Lithologic Description

**Gas Atlas: Structure, Indian Creek Field, Kanawha County, WV (Sts-12)**

**Wells, Sts12**

StsFig12\_Wells\_NAAEAC  
WVGES

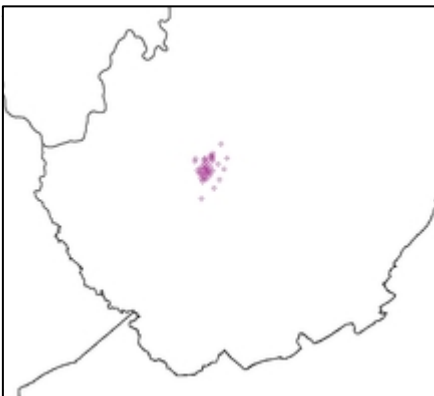


Figure WellType	Text	15	Gas Atlas Figure Reference
	Text	25	Well Type

**Structure Contours, Sts12**

*StsFig12\_Contours\_NAAEAC*

WVGES

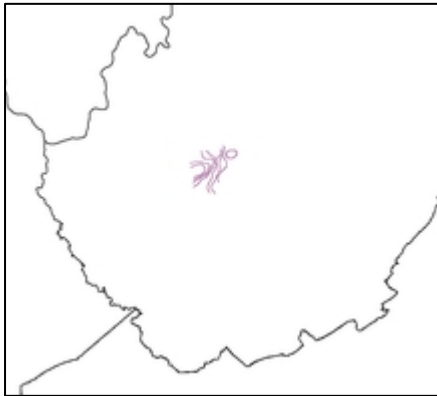


Figure	Text	15	Gas Atlas Figure Reference
Contour	Long	9	Contour Value, Feet
Comment	Text	200	Comment

**Gas/Water Contact, Sts12**

*StsFig12\_Contact\_NAAEAC*

WVGES

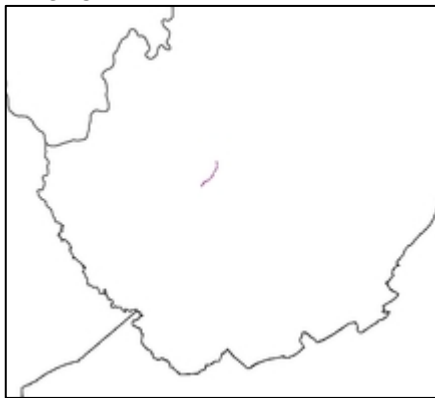


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	25	Trend Name

**Warfield Anticline, Sts12**

*StsFig12\_WarfieldAnticline\_NAAEAC*

WVGES

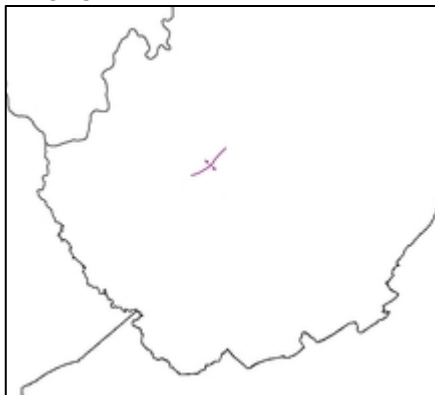


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	25	Trend Name

**Indian Creek Field, Sts12**

*StsFig12\_IndianCreekField\_NAAEAC*

WVGES

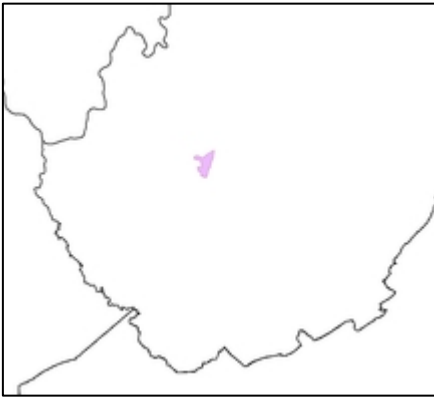


Figure	Text	15	Gas Atlas Figure Reference
FieldName	Text	50	Field Name

**Gas Atlas: Well Location and Structure, Leadmine Field, Tucker and Preston Counties, WV (Sts-15)**

**Wells, Sts15**

*StsFig15\_Wells\_NAAEAC*

WVGES

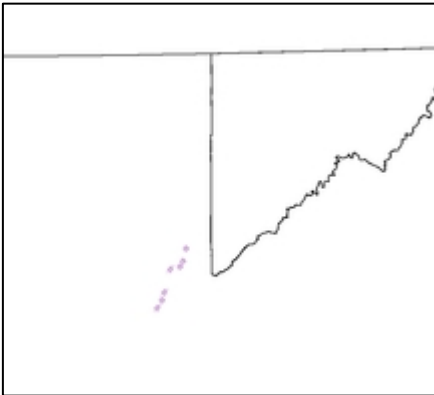


Figure	Text	15	Gas Atlas Figure Reference
WellType	Text	35	Well Type
WellName	Text	40	Well Name

**Anticlines and Synclines, Sts15**

*StsFig15\_AnticlinesSynclines\_NAAEAC*

WVGES

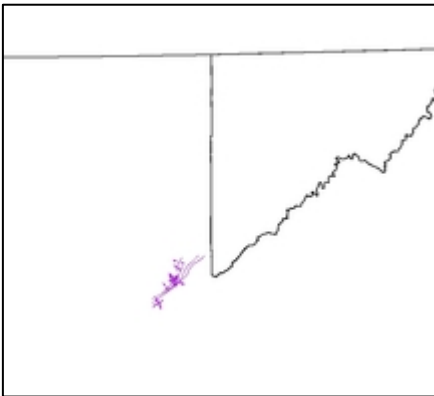


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	50	Trend Name

**Leadmine Field, Sts15**

*StsFig15\_LeadmineField\_NAAEAC*

WVGES

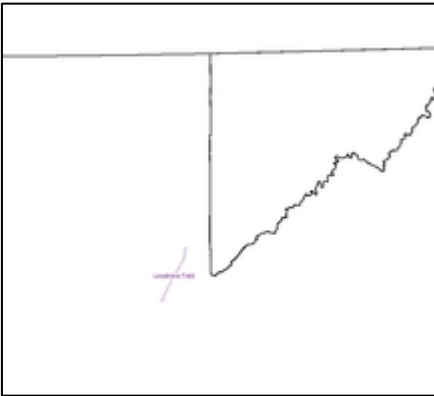


Figure	Text	15	Gas Atlas Figure Reference
FieldName	Text	50	Field Name

**Gas Atlas: Well Location, Cucumber Creek Field, McDowell County, WV (Sts-17)**

**Wells, Sts17**

*StsFig17\_Wells\_NAAEAC*

WVGES

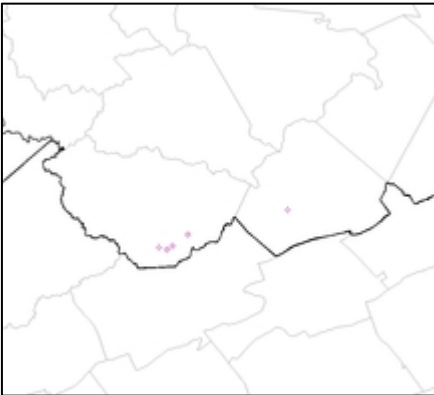


Figure	Text	15	Gas Atlas Figure Reference
WellType	Text	25	Well Type
WellName	Text	50	Well Name

**Fault, Sts17**

*StsFig17\_Fault\_NAAEAC*

WVGES

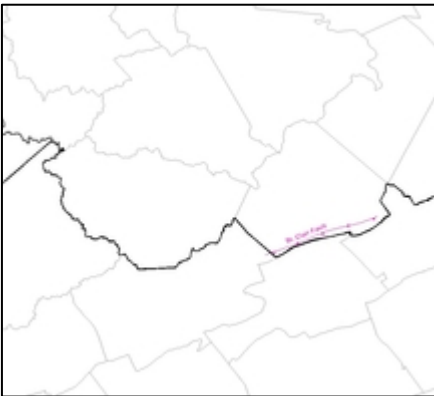


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	50	Trend Name

**Anticlines and Synclines, Sts17**

*StsFig17\_AnticlinesSynclines\_NAAEAC*

WVGES

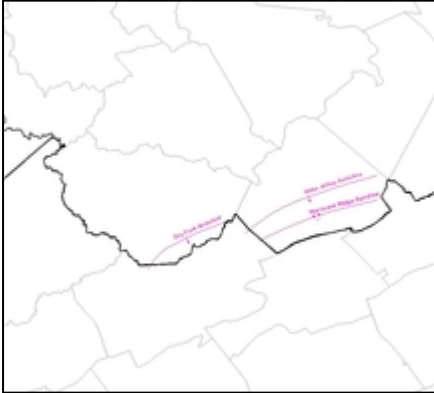


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	50	Trend Name

**Gas Atlas: Well Location, Centre County, PA (Sts-19)**

**Wells, Sts19**

*StsFig19\_Wells\_NAAEAC*

WVGES

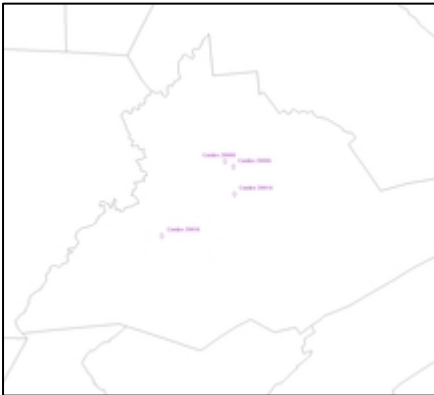


Figure	Text	15	Gas Atlas Figure Reference
WellName	Text	50	Well Name

**Allegheny Front, Sts19**

*StsFig19\_AlleghenyFront\_NAAEAC*

WVGES

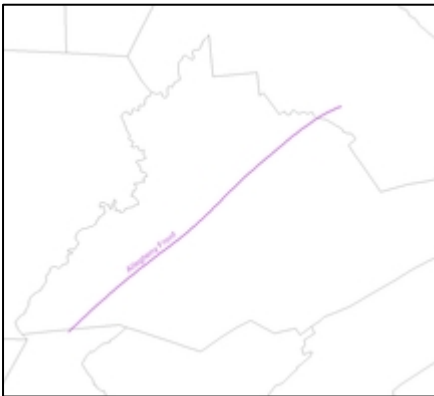


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	25	Trend Name

**Anticlines and Synclines, Sts19**

*StsFig19\_AnticlinesSynclines\_NAAEAC*

WVGES

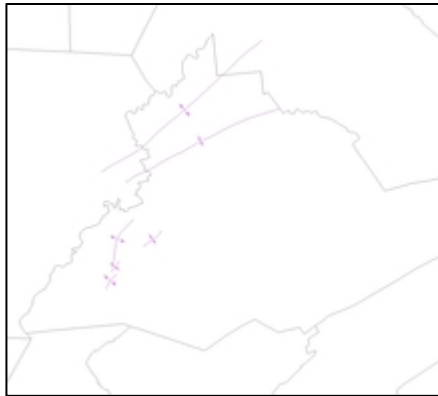
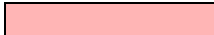

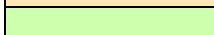


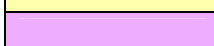


Figure	Text	15	Gas Atlas Figure Reference
TrendName	Text	50	Trend Name

**Comments:**

Color scheme for plays in the IMS application:

Berea/Murrysville (BERE)	
Venango (VNNG)	
Bradford (BDFD)	
Elk (ELK)	
Medina / "Clinton" (MDIN)	
Tuscarora (TCRR)	

Some shapefile names may change after the filing of this final report.

Some unnecessary attributes in compiled shapefiles, especially in the General and Geology Layers, may be eliminated. Many of these are noted with grey text.

Due to issues in the summer with Pennsylvania's data servers, Pennsylvania data arrived late and WVGES is still processing that data at the time of this writing. Therefore, most well-based and general gas/oil field layers show just information for West Virginia. Also, several general geography and geology layers are missing Pennsylvania data at this time.

Attributes and descriptions, as of 12/10/2008