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625 Liberty Avenue, Suite 1700 | Pittsburgh, PA 15222
844-MVP-TALK | mail@mountainvalleypipeline.info
www.mountainvalleypipeline.info

May 22, 2015

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Mountain Valley Pipeline, LLC
Docket No. PF15-3-000
Draft Resource Report Nos. 2, 6 and 9

Dear Ms. Bose:

Pursuant to the Commission's rules and regulations, Mountain Valley Pipeline, LLC ("MVP") is submitting for filing in the captioned proceeding Draft Resource Report Nos. 2, 6 and 9.

A copy of this filing is also being provided to Paul Friedman, OEP and to Lavinia DiSanto, Cardno. Should you have any questions regarding this matter, please contact the undersigned by telephone at (412) 395-5540 or by e-mail at pdiehl@eqt.com.

Respectfully submitted,

Mountain Valley Pipeline, LLC

Paul W. Diehl

Enclosures

cc: Paul Friedman (w/enclosures)
Lavinia M. DiSanto, Cardno, Inc. (w/enclosures)

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Mountain Valley Pipeline Project

Docket No. PF15-3

Resource Report 2 – Water Use and Quality

Draft

May 2015

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Mountain Valley Pipeline Project
Resource Report 2 – Water Use and Quality

Resource Report 2 Filing Requirements	
Information	**Location in Resource Report**
Minimum Filing Requirements	
1. Identify all perennial surface waterbodies crossed by the proposed project and their water quality classification. (§ 380.12(d)(1)) • Identify by milepost • Indicate if potable water intakes are within 3 miles downstream of the crossing.	Section 2.2.1, 2.2.2.2, 2.2.2.4, Appendix 2-A, Table 2-A-1 and 2-A-2
2. Identify all waterbody crossings that may have contaminated waters or sediments. (§ 380.12(d)(1)) • Identify by milepost • Include offshore sediments.	Section 2.2.2.5
3. Identify watershed areas, designated surface water protection areas, and sensitive waterbodies crossed by the proposed project. (§ 380.12(d)(1)) • Identify by milepost	Section 2.2.1.1, Appendix 2-A Table 2-A-1, Section 2.2.2 and 2.2.2.4,
4. Provide a table (based on NWI maps if delineations have not been done) identifying all wetlands, by milepost and length, crossed by the proposed project, and the total acreage and acreage of each wetland type that would be affected by construction. (§ 380.12(d)(l&4))	Section 2.3.2 Appendix 2-B, Table 2-B-1 and 2-B-2
5. Discuss construction and restoration methods proposed for crossing wetlands, and compare them to staff's Wetland and Waterbody Construction and Mitigation Procedures. (§ 380.12(d)(2))	Section 2.3.3, 2.34
6. Describe the proposed waterbody construction, impact mitigation, and restoration methods to be used to cross surface waters and compare to the staff's Wetland and Waterbody Construction and Mitigation Procedures. (§ 380.12(d)(2)) • Although the Procedures do not apply offshore, the first part of this requirement does apply. Be sure to include effects of sedimentation, etc. This information is needed on a mile-by-mile basis and will require completion of geophysical and other surveys before filing. (See also Resource Report 3.)	Section 2.2.1.4, 2.2.4
7. Provide original National Wetlands Inventory (NWI) maps or the appropriate state wetland maps, if NWI maps are not available, that show all proposed facilities and include milepost locations for proposed pipeline routes. (§ 380.12(d)(4))	Appendix 2-C, Figure 2-C-1
8. Identify all U.S. Environmental Protection Agency (EPA)- or state-designated aquifers crossed. (§ 380.12(d)(9)) • Identify the location of known public and private groundwater supply wells or springs within 150 feet of construction.	Sections 2.1.3.1, 2.1.3.2, and 2.1.3.3
9. Identify proposed mitigation for impacts on groundwater resources.	Section 2.1.4
10. Discuss the potential for blasting to affect water wells, springs, and wetlands, and associated mitigation.	Section 2.1.4.3
11. Identify all sources of hydrostatic test water, the quantity of water required, methods for withdrawal, and treatment of discharge, and any waste products generated.	Section 2.2.3
12. If underground storage of natural gas is proposed, identify how water produced from the storage field will be disposed.	Not Applicable (no underground storage)

Resource Report 2 Filing Requirements	
Information	**Location in Resource Report**
13. If salt caverns are proposed for storage of natural gas, identify the source locations, the quantity required, the method and rate of water withdrawal, and disposal methods.	Not Applicable (no salt cavern storage)
14. For each waterbody greater than 100 feet wide, provide site-specific construction mitigation and restoration plans.	Section 2.2.1.3,
15. Indicate mitigation measures to be undertaken to ensure that public or private water supplies are returned to their former capacity in the event of damage resulting from construction.	Sections 2.1.3.2 and 2.1.4
16. Describe typical staging area requirements at waterbody and wetland crossings.	Section 2.2.4, 2.3.4
17. If wetlands would be filled or permanently lost, describe proposed measures to compensate for permanent wetland losses.	Section 2.3.4
18. If forested wetlands would be affected, describe proposed measures to restore forested wetlands following construction.	Section 2.3.4
19. Describe techniques to be used to minimize turbidity and sedimentation impacts associated with offshore trenching, if any.	Section 2.2.4, 2.3.4

FERC Environmental Information Request for Resource Report 2 Dated March 13, 2015	
Request	**Location in Resource Report**
1. Describe how Mountain Valley would determine the Project's effect on groundwater supplies, such as wells or springs. If construction would adversely affect a groundwater supply, outline the measures Mountain Valley would implement to mitigate impacts on landowners, including ensuring that a temporary source of water would be provided until the well is restored, and explain how the damaged water supply system would be repaired and returned to its former quality and quantity.	Section 2.1.3.1, p.2-7; Section 2.1.3.2, p.2-9; Section 2.1.3.3, p.2-10; Section 2.1.3.5, p.2-14; Section 2.1.4, p.2-16
2. Include a detailed discussion of the Red Sulphur Public Service District watershed. Include the distance crossed of both the watershed and the "Zone of Critical Concern," a map of these areas, and proposed impact avoidance, minimization, and mitigation measures.	Section 2.1.3.4, p.2-12; Section 2.1.4, p. 2-16; Section 2.2.2.4, p.2-29; Figure 2-C-3
3. Include a discussion of the Town of Boones Mill water source and treatment plant and the Banister River Basin (Cherry Stone headwaters). Include distance crossed, a map of these areas, and proposed impact avoidance, minimization, and mitigation measures for each feature.	Section 2.1.3.4, p.2-12; Section 2.1.4, p. 2-16; Figure 2-C-4
4. List, in a table organized by MP, site-specific methods to be used to cross all waterbodies, based on waterbody size and designation, in accordance with the FERC Procedures. Identify any waterbodies that would be crossed using Direct Pipe trenchless technologies.	Appendix 2-A, Table 2-A-1 and 2-A-2
5. Include a detailed discussion of the crossing of the headwaters (Mill Creek near MP 230) to Bottom Creek, an Exceptional State Water (Tier III) stream. The analysis should outline measures proposed to avoid, minimize, or mitigate impacts on this stream system.	Section 2.2.2.2, p.2-27; Figure 2-C-2

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WATER USE AND QUALITY
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RESOURCE REPORT 2
WATER USE AND QUALITY

LIST OF ACRONYMS AND ABBREVIATIONS

ATWS	additional temporary workspace
BMPs	best management practices
CFR	Code of Federal Regulations
E&SCP	Erosion and Sediment Control Plan
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FIRM	Flood Insurance Rate Maps
gpm	gallons per minute
HDD	horizontal directional drilling
HUC	hydrologic unit code
MP	milepost
MVP	Mountain Valley Pipeline, LLC
NHD	National Hydrology Database
NPDES	National Pollutant Discharge Elimination System
NPS	National Parks Service
NRI	National Rivers Inventory
NWI	National Wetland Inventory
PEM	palustrine emergent
PFO	palustrine forested
Plan	FERC's May 2013 version of the Upland Erosion Control, Revegetation, and Maintenance Plan
Procedures	FERC's May 2013 version of the Wetland and Waterbody Construction and Mitigation Procedures
Project	Mountain Valley Pipeline Project
PSS	palustrine scrub/shrub
RCRIS	Resource and Conservation Recovery Act Information System
RSPSD	Red Sulphur Public Service District
SDWA	Safe Drinking Water Act
SPCC Plan	Spill Prevention, Control and Countermeasure Plan
TMDL	Total Maximum Daily Load
USACE	United States Army Corps of Engineers
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Society
VDCR	Virginia Department of Conservation and Recreation
VDEP	Virginia Department of Environmental Protection
VDEQ	Virginia Department of Environmental Quality
VDGIF	Virginia Department of Game and Inland Fisheries
VDH	Virginia Department of Health
VDH-ODW	Virginia Department of Health – Office of Drinking Water
WVDEP	West Virginia Department of Environmental Protection
WVDHHR	West Virginia Department of Health and Human Resources

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RESOURCE REPORT 2
WATER USE AND QUALITY

Introduction

Mountain Valley Pipeline, LLC (MVP), a joint venture between affiliates of EQT Corporation, NextEra Energy, Inc., WGL Holdings, Inc. and Vega Energy Partners, Ltd., is seeking a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act authorizing it to construct and operate the proposed Mountain Valley Pipeline Project (Project) located in 16 counties in West Virginia and Virginia MVP plans to construct an approximately 294.1-mile, 42-inch-diameter natural gas pipeline to provide timely, cost-effective access to the growing demand for natural gas for use by local distribution companies, industrial users and power generation in the Mid-Atlantic and southeastern markets, as well as potential markets in the Appalachian region.

The proposed pipeline will extend from the existing Equitrans, L.P. transmission system in Wetzel County, West Virginia to Transcontinental Gas Pipe Line Company, LLC's Zone 5 compressor station 165 in Pittsylvania County, Virginia. In addition to the pipeline, the Project will require approximately 217,200 horsepower of compression at approximately four compressor stations currently planned along the route, as well as measurement, regulation, and other ancillary facilities required for the safe operation of the pipeline. The pipeline is designed to transport up to 2.0 billion cubic feet per day of natural gas. Resource Report 1 provides a complete summary of the Project facilities (see Tables 1.2-1and 1.2-2) and a general location map of the Project facilities (Figure 1.2-1).

Environmental Resource Report Organization

Resource Report 2 is prepared and organized according to the FERC *Guidance Manual for Environmental Report Preparation* (August 2002). This report is organized into three major sections and a separate section listing the sources used to prepare this report. Section 2.1 describes groundwater resources, Section 2.2 describes surface water resources, and Section 2.3 describes wetlands.

2.1 GROUNDWATER RESOURCES

2.1.1 Aquifers – Geology, Hydrology, Uses, and Quality

Information on major aquifers discussed in this section is based on information from the Ground Water Atlas of the United States (USGS 1997), Aquifer-Characteristics Data for West Virginia (USGS 2001), and Aquifer Susceptibility in Virginia (USGS 2003). Aquifer systems have generally been characterized based on physiographic provinces in Virginia and are characterized based on geologic age in West Virginia. Groundwater aquifers used for public and private water sources can be located in unconsolidated depositional units or lithified bedrock units, depending on the location. Unconsolidated surficial deposits, such as alluvium, alluvial fans, and colluvium, are found in all the aquifer system areas. However, bedrock aquifers are the primary source of groundwater in the Project area. Aquifer systems are summarized in Table 2.1-1 by County for the Project area.

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Table 2.1-1

Aquifers Crossed by the MVP Project

State / County	Approximate Mileposts	Aquifer System Name	Dominant Lithology
West Virginia			
Wetzel	0.0 – 37.1	Upper Pennsylvanian (Monongahela Group) and Permian (Dunkard Group)	Sandstone, siltstone, shale
Harrison			
Doddridge			
Lewis	37.1 - 65.9		
		Lower Pennsylvanian (Conemaugh Group) (Allegheny, Kanawha, New River, and Pocahontas formations)	Siltstone, shale, limestone, coal, sandstone
Braxton	65.9 - 80.7		
Webster	80.7 – 109.7, 110.1 – 110.8	Mississippian bedrock (Pottsville Group, Mauch Chunk Group, Hinton Formation, Bluefiedl, Bluestone, and Princeton Formations, Greenbrier Group, Maccrady Formation and Pocono Group)	Sandstone and shale, limestone
Nicholas	110.8 – 135.3	Lower Pennsylvanian (Conemaugh Group) (Allegheny, Kanawha, New River, and Pocahontas formations)	Siltstone, shale, limestone, coal, sandstone
Greenbrier	135.3 – 154, 154.5 – 156.8	Mississippian bedrock (Pottsville Group, Mauch Chunk Group, Hinton Formation, Bluefiedl, Bluestone, and Princeton Formations, Greenbrier Group, Maccrady Formation and Pocono Group)	Sandstone and shale, limestone
Fayette	154 – 154.5		
Summers	154.5 - 173.3		
Monroe	173.3 – 195.2	Devonian and Silurian	Shales, sandstone, siltstone
		Ordovician	Sandstone, shale, limestone, dolomite
Virginia			
Giles	195.2 - 212.4	Ordovician	Sandstone, shale, limestone, dolomite
Montgomery	212.4 - 229.2	Mississippian-Devonian-Silurian aquifer system	Sandstone and shale, limestone
Roanoke	229.2 – 238.7	Mississippian-Devonian-Silurian aquifer system	Sandstone and shale, limestone
Roanoke	229.7 – 238.7	Cambrian-Ordovician aquifer system	Sandstone, shale, limestone, dolomite
Franklin	238.7 – 274.8	Blue Ridge and Piedmont aquifer system	Undifferentiated Sedimentary rock; Gneiss, schist, and metamorphic rock
Pittsylvania	274.8 – 294.1	Piedmont aquifer System	Gneiss, schist, and metamorphic rock

Sources: USGS 1997, 2001, 2003

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2.1.1.1 Major Aquifers – Geology and Hydrology

Appalachian Plateau Regional Aquifer System

In West Virginia, the Project lies almost entirely within the Appalachian Plateaus province that consists of sub-horizontal consolidated sedimentary rocks of Devonian to Permian age. Aquifers in consolidated sedimentary rocks in the Appalachian Plateaus province are divided into the following categories- Mississippian aquifers and Permian and Pennsylvanian aquifers. Reported typical yields of wells completed in all these units range from 30 to 300 gallons per minute (gpm), but some wells yield as much as 600 gpm.

Permian and Upper Pennsylvanian aquifers are present in Wetzel, Harrison, Doddridge, and northern Lewis counties in West Virginia; and Lower Pennsylvanian aquifers are present in Lewis, Braxton, Webster, Nicholas, and Greenbrier counties in West Virginia. The Permian aquifers are primarily nearly horizontal layers of shale with sandstone, limestone, and coal, with sandstone the primary groundwater source. Pennsylvanian rocks consist of cyclic sequences of fractured sandstone, shale, conglomerate, clay, coal, and minor limestone. On a regional scale, the rocks that comprise the Pennsylvanian system have little primary porosity and generally depend on facture permeability that includes joints, faults, and bedding planes separations. Groundwater is also present in solution openings in the limestone. Individual wells completed within the Pennsylvanian aquifers generally yield between 5 to 400 gpm within West Virginia.

Mississippian aquifers are present in the following West Virginia counties crossed by the Project: Webster, Greenbrier, Fayette, Summers, and Monroe. These aquifers are moderately-folded, predominantly sandstone and limestone with shale. Many of the water bearing geologic formations have similar hydrologic characteristics and are therefore grouped into aquifer systems. The aquifers may be porous or slightly fractured. Groundwater generally flows along fractures and joints in the bedrock. The Mississippian Greenbrier Limestone locally is a productive aquifer. Yields from the Greenbrier Limestone range from 5 to 100 gpm to wells, but some springs that issue from the Greenbrier discharge 1,000 gpm or more. Yields of wells completed in sandstone of the Pocono Group range from 5 to 120 gpm.

Rocks of Devonian age are also exposed north of the Mississippian strata in the Appalachian Plateaus Province. The Project traverses Monroe County which has areas of Devonian bedrock in the province. Devonian strata consist mostly of fine grained sandstone, siltstone, and shale, and are not considered to be principal aquifers, although these beds can locally yield as much as 200 gpm where they are fractured.

Valley and Ridge Regional Aquifer System

The Valley and Ridge regional aquifer system is characterized by a belt of northeast-southwest trending ridges and valleys formed by the differential erosion of a thick sequence of folded and faulted Paleozoic sedimentary rocks. The Project traverses the aquifer system from southern Monroe County, West Virginia, to southern Roanoke County, Virginia. The Jefferson National Forest is crossed by the Project from milepost (MP) 195.2 to MP 197 and from MP 212.7 to MP 214.3 in Giles County, Virginia. The principal aquifers in the system are carbonate rocks and sandstones that range in age from early to late Paleozoic. Although the water-yielding character of the carbonate rocks depends on the degree of fracturing and development of solution cavities in the rock, the limestone formations generally yield moderate to large volumes of water. Sandstone formations also can yield large quantities of water to wells where the sandstone is fractured. Yields of wells completed in Silurian and lower Devonian limestones commonly

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only range from 10 to 20 gpm, but may reach 100 gpm in some areas; and some springs that issue from these rocks discharge as much as 15,000 gpm. Devonian and Mississippian sandstones commonly yield 15 gpm or less to wells. Wells completed in the Cambrian-Ordovician yield 25 to upwards of 400 gpm. Sandstones of Ordovician to Devonian age commonly yield less than 120 gpm.

In the Project area, the Valley and Ridge Cambrian-Ordovician system includes a carbonate (limestone and dolostone) aquifer that is characterized by karst terrain that has caves, sinkholes, and springs. This aquifer, crossed by the Project route in southern Monroe County, West Virginia, and Giles County, Virginia, commonly includes solution channels and cavities, and large volumes of water can move at relatively high velocities along the dissolution features in areas with low hydraulic gradients. Karst aquifer areas are more specifically discussed in Section 2.1.1.4.

The Mississippian-Devonian-Silurian aquifer system is present in Roanoke County and consists of shale and sandstone. Recharge is accomplished as water percolates locally through the soil cover and enters openings in the underlying rock. The openings are in the form of small joints, fractures, bedding planes, and fault zones.

Large springs are most characteristic of the Valley and Ridge Province. Spring-flow is particularly large for springs that issue from the carbonate rocks. Three types of springs are common, and all result from ground-water movement driven by the force of gravity. Contact springs form where water-saturated permeable material overlies less-permeable material. The water comes to the land surface at the contact of the two types of material, and the springs might issue where the contact intersects a sloping land surface. Contact springs are common in the Valley and Ridge Province but generally discharge only small volumes of water. Impermeable-rock springs are fed by fractures, joints, or bedding planes in rocks that have low intergranular permeability. Small springs of this type that issue where a vertical joint intersects a bedding plane and that generally discharge only small volumes of water are typical of parts of the Appalachian Plateaus Province, but are also in the Valley and Ridge. Tubular springs issue from solution channels in carbonate rocks. The largest magnitude springs are of this type because the catchment basins of networks of solution openings are likely to be more extensive than those of intersecting fractures, and the large solution openings in the carbonate rocks are able to transmit large quantities of water.

Blue Ridge and Piedmont Regional Aquifer System

The Project traverses the Piedmont and Blue Ridge regional aquifer system from southern Roanoke County to the Project endpoint in Pittsylvania County, Virginia. The Piedmont and Blue Ridge Provinces are underlain by crystalline-rock and undifferentiated sedimentary-rock aquifers in the Project area. Hard, crystalline igneous and metamorphic formations dominate this region with some areas of sedimentary rocks and weathered bedrock deposits overlying the bedrock. The size and number of fractures and faults in the bedrock which store and transmit groundwater decrease with depth, so most significant water supplies are found within a few hundred feet of the surface. Most of the rocks that compose the crystalline-rock and undifferentiated sedimentary-rock aquifers are crystalline metamorphic and igneous rocks of many types. The main types of crystalline rocks are coarse-grained gneisses and schists of various mineral compositions; however, fine-grained rocks, such as phyllite and metamorphosed volcanic rocks, are common in places. Wells yields in crystalline yield from less than 1 gpm to more than 100 gpm; and range in depth from 60 to 500 feet.

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The undifferentiated sedimentary-rock aquifers consist of tightly cemented, predominately clastic rocks, many of which grade into metamorphic rocks. The undifferentiated sedimentary-rock aquifers consist principally of fractured sandstone but locally include fractured shale. Crystalline metamorphic and igneous rock aquifers are present from the karst area to the ending Project milepost in Pittsylvania County, Virginia.

2.1.1.2 Water Quality

The chemical quality of water in the freshwater parts of the bedrock aquifers of the Appalachian Plateaus is somewhat variable but generally is satisfactory for municipal supplies and other purposes. Groundwater in the aquifers is generally hard to very hard but is otherwise of excellent quality and is suitable for all uses. Contamination of groundwater by the improper construction or plugging of oil and gas wells is a common problem in the Appalachian Plateaus province. Natural brines are associated with accumulations of oil and gas and are at shallow depths in many places. Wells that penetrate aquifers that contain brine, if not properly cased and cemented, can provide conduits for the brine to enter shallower freshwater aquifers. It was once a common practice for brine produced with oil and gas to be discharged into open pits from which it seeped downward to contaminate fresh ground-water bodies. Such practices are generally prohibited now, but effects of the past remain. Contamination from septic systems located too close to domestic wells is also a common water quality issue.

Coal mining areas located generally within the limits of Pennsylvanian rocks, commonly includes water that has been in contact with mine workings or that has infiltrated and leached mine spoil piles. Water affected by coal-mining operations is usually acidic. Sulfur-bearing minerals, such as pyrite, that are present in the coal are exposed to air in mines and spoil piles, and the oxidized sulfur combines with water to form sulfuric acid. The acid water commonly contains large concentrations of iron, manganese, sulfate, and dissolved solids and is dis-colored. An exception is in the southern coal fields of West Virginia where the coal is low in sulfur, mine drainage tends to be alkaline, and water from working or abandoned mines is commonly used for public supply.

Water quality in the aquifers of the Valley and Ridge province is somewhat variable but is generally suitable for municipal supplies and other purposes. Most of the water in the upper parts of the aquifers is not greatly mineralized and is suitable for drinking and most other uses. As with the Appalachian Piedmont province, abandoned or improperly plugged boreholes drilled for oil and gas exploration provide paths for upward movement of mineralized water in some areas. Potential for contamination is also high in limestone rock where groundwater moves rapidly. In karst terrain, recharge may occur through surface run-off into limestone sinkholes, bypassing filtration through the soil. This can cause serious water quality problems since polluted surface water may be introduced directly into the groundwater system. Groundwater quality can also be adversely affected by private trash dumps located in sinkholes that receive surface run-off. In addition, carbonate formations contribute to the "hardness" of the groundwater.

The quality of water from aquifers in the different rock types of the Piedmont and the Blue Ridge provinces is similar. The water generally is suitable for drinking and other uses, but iron, manganese, and sulfate locally occur in objectionable concentrations. The potential for contamination in crystalline rock is high because of rapid movement of water in fractures, joints, and bedding planes.

As stated in draft Resource Report 1, Section 1.3.1, MVP proposes the use of a 125-foot-wide construction right-of-way, and the pipeline trench would be excavated to a depth of about 7 to 10 feet in most locations.

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The Project is not anticipated to have any impacts to groundwater resources or require additional mitigation measures. This is due to the surficial nature of the disturbance, the relatively short-term nature of the disturbance, and the depth to the aquifers which are mostly below any proposed disturbance area.

2.1.1.3 Water Use

The area crossed by the Project is primarily rural and groundwater supplies – including wells and springs – are relied upon by private and public entities. Approximately 70 million gallons of groundwater per day are withdrawn to supply the 42 percent of all West Virginians who rely on groundwater for domestic supplies. Twenty-three percent obtain water from private wells and 19 percent from public supply wells (USGS 2012). The 2005 USGS Water Use report (USGS 2005) estimated that approximately 2.2 million Virginians depended on groundwater for their domestic supply. Approximately 3 out of every 10 Virginians use groundwater from public water supplies, private wells, or springs for their daily water supply. While Virginia's groundwater is generally of good quality, both the quality and quantity can vary across the five physiographic provinces found in the state. Reliance on groundwater is also highly variable across the state, depending on a variety of geographic, geologic, and socioeconomic factors.

Approximately half of the groundwater use in sedimentary-rock aquifers in the Appalachian Plateaus aquifer system is used for domestic and commercial purposes and less than half is attributed to other purposes including industrial, mining, and thermoelectric power purposes; with most of this water used in coal mining operations. Slightly more than one-half of groundwater in the Valley and Ridge province is used for domestic and commercial supplies. Agricultural use of groundwater is generally insignificant in the area. There has been little residential or industrial development in the Blue Ridge province and groundwater use has been mainly for domestic needs rather than for public wells. The lower slopes of the mountains are the most favorable areas for groundwater accumulation. Springs are common and are often used for private water supplies.

2.1.1.4 Groundwater in Karst Terrain

Groundwater in karst terrain is present along the proposed pipeline route from approximate MP 172.2 to MP 173.2 in Summers County, West Virginia; from approximate MP 193.4 to MP 194.5 in Monroe County, West Virginia; in segments from approximate MP 197.9 to MP 212 in Giles County, Virginia; and from approximate MP 216 to MP 221.1 in Montgomery County, Virginia (Draper Aden Associates 2015).

Surface water in karst terrain in the Project area generally flows from higher elevations to sinks when it reaches limestone and dolostone rock formations. These soluble rock formations form the sinkholes, insurgencies, and caves that are common in the area and form the basis for the karst hydrology that includes sinking streams, springs, and complex underground flow conditions.

Caves, sinkholes, and sinking streams are examples of openings in karst terrain that provide direct access for surface water to flow directly into the groundwater. In karst terrain the flow of surface water into openings into the groundwater (sinkholes, swallets) is a natural geologic process in the formation and development of karst terrain. Water can flow through connected solution conduits, for distances that range from thousands of feet to several miles. As it moves downgradient from recharge areas, the water tends to be concentrated in ever-larger conduits until it typically discharges as flow from a large spring. The larger solution channels, including caves, generally form at or near the water table, but some dissolution takes place as deep as 100 feet below the top of the zone of saturation. The orientation of the solution openings

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is parallel to that of the joints and fractures in the carbonate rocks. Secondary openings, such as joints in noncarbonate rocks, also have preferred orientations. As a result, wells completed in fractures or solution openings and wells completed in the intervening bedrock can have dissimilar heads and specific capacities, and the pumping of one well will have little effect on water levels in the other. Due to its connection with surface water through sinkholes, caves, and swallets, groundwater in karst geologic terrain is vulnerable to contamination.

MVP is conducting further studies of these areas to evaluate specific karst features crossed or in close proximity to the pipeline, and will use results of this study to evaluate potential impact on groundwater. Sensitive areas and features on or near the alignment would be given additional consideration for development of mitigation procedures or alignment adjustments. Results will be included with Resource Report 2 filed with MVP's application to the FERC. The karst areas crossed are also discussed in greater detail in draft Resource Report 6.

2.1.2 Sole-Source Aquifers

The U.S. Environmental Protection Agency (USEPA) defines a sole- or principal-source aquifer as one that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. USEPA guidelines also stipulate that these areas can have no alternative drinking water sources that could physically, legally, or economically supply all those who depend upon the aquifer for drinking water (USEPA 2015a).

No sole-source aquifers have been designated in the Project area according to USEPA Region 3 (USEPA 2015a). There are no sole-source aquifers in West Virginia. One sole-source aquifer exists in Virginia in the northeastern part of the state, over 100 miles from the Project area; therefore, no impacts to sole-source aquifers are likely to occur.

2.1.3 Water Supply Wells and Springs

2.1.3.1 Public Water Supply Wells and Springs

Information on public wells and springs located within one mile of the Project alignment was obtained from EPA's Safe Drinking Water Information System (USEPA 2015b) and digital location information for public supplies in Virginia was obtained from the Virginia Department of Environmental Quality (VDEQ 2015a) as listed in Table 2.1-2. One public water supply well was identified within 150 feet of the Project in Pittsylvania County, Virginia. The Robin Court Subdivision groundwater supply well that serves a population of 40 appears to be located immediately adjacent to the alignment near MP 291.2. Other groundwater supplies within 0.25 mile of the alignment include Red Sulphur Public Service District (RSPSD) in Monroe County, West Virginia serving a population of 5,352; Camp Roanoke in Roanoke County, Virginia serving a population of 25; and the Town of Boones Mill in Franklin County, Virginia serving a population of 350. Camp Roanoke is located upgradient of the proposed alignment and is not expected to be affected by the Project. The other public supplies are further discussed in Section 2.1.3.4.

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Table 2.1-2

Public Supply Wells and Springs within approximately 1 mile of the MVP Project

State/County	Public Groundwater Supply in Project Area	Location	Supply Information	Population Served
West Virginia (digital location data was not available so location is estimated)				
Braxton	Groundwater supply for public campgrounds	1.2 mile west of MP 73.4	Big Run campground	25
Braxton	Groundwater supply for public campground	1.2 mile west of MP 73.4	Lakes Carryout campground	25
Greenbrier	Public groundwater supply for town of Crichton	0.4 mile SE of MP 136.6	Greenbrier County PSD 2	1,188
Greenbrier	Public groundwater supply for town of Rainelle	0.3 mile east of MP 144.7	Rainelle Water Department	2,178
Greenbrier	Public groundwater supply for town of Rainelle	0.3 mile east of MP 144.7	Rainelle Water Treatment Plant 2	290
Greenbrier	Public groundwater supply for business in town of Rainelle	0.3 mile east of MP 144.7	Debs Party Club	25
Greenbrier	Public groundwater supply for business in town of Rainelle	0.3 mile east of MP 144.7	J and S Restaurant and Catering	25
Monroe	Public water supply (uses Rich Creek Spring) for Peterstown	0.15 mile east of MP 194	Red Sulphur Public Service District	5,352
Virginia				
Giles	Groundwater supply (spring) for town of Ripplemead	0.87 mile east of MP 197.0	LHoist North America of Virginia	160
Giles	Groundwater supply (well)	0.84 mile northwest of MP 203.8	Cascades	90
Roanoke	Groundwater supply well for camp	0.22 mile west of MP 231.0	Camp Roanoke	25
Roanoke	Groundwater supply (well) in town of Bent Mountain	0.88 mile east of MP 234.9	Bent Mountain Bistro	80
Roanoke	Groundwater supply (well) in town of Bent Mountain	0.69 mile east of MP 235.6	Bent Mountain Library and Community Center	25
Franklin	Boones Mill water supply (spring and 2 wells)	0.2 mile south of MP 247.5	Town of Boones Mill	350
Franklin	Boones Mill water supply (1 well)	0.78 mile southwest of 248.8	Town of Boones Mill	350
Franklin	Groundwater supply (well)	1.2 mile east/northeast of MP 248.2	Woodcrest	40
Franklin	Groundwater supply (3 wells)	0.43 mile west of MP 253.4	Teel Brooke Estates	187
Franklin	Groundwater supply (well)	0.67 mile east/northeast of MP 154.1	Sunshine Valley School	100
Franklin	Groundwater supply (well)	1 mile southwest of MP 166.1	The Meadows	89

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Table 2.1-2

Public Supply Wells and Springs within approximately 1 mile of the MVP Project

State/County	Public Groundwater Supply in Project Area	Location	Supply Information	Population Served
Franklin	Groundwater supply (well)	0.75 mile south of MP 166.6	Glad Hill Elementary	365
Franklin	Groundwater supply (2 wells)	0.3 mile northeast of MP 169.9	La Trattoria	250
Franklin	Groundwater supply (well)	0.95 mile north of MP 269.7	Whistle Stop	100
Franklin	Groundwater supply (2 wells)	0.93 mile north of MP 273.4	Carls Place	200
Pittsylvania	Groundwater supply (well)	1 mile north of MP 275.5	Smith Mountain RV Campground	40
Pittsylvania	Groundwater supply (well)	0.5 mile northeast of MP 287.5	The Cedars Country Club	60
Pittsylvania	Groundwater supply (well)	Within 150 feet of alignment near MP 291.2	Robin Court Subdivision	40
a/ Source: USEPA 2015b				

Although it is unlikely that there are public water supply wells or springs that have not been identified within 150 feet of the alignment, MVP land personnel will survey affected landowners to identify locations of any known public supply water wells and springs that have not been identified. Additionally, private water wells may be identified during title reviews. MVP will specifically contact the Robin Court Subdivision to locate the groundwater supply well.

If any public water supply well is identified within 150 feet of the construction footprint of the Project, MVP will clearly flag the wellhead as a precaution for construction equipment and activities. To further mitigate the potential for any construction activities to impact the well, MVP will implement the FERC's May 2013 version of the Upland Erosion Control, Revegetation, and Maintenance Plan (FERC Plan) and FERC's May 2013 version of the Wetland and Waterbody Construction and Mitigation Procedures (FERC Procedures) requirements for stormwater-runoff control and control of petroleum and hazardous materials. In the event that the well is affected or a significant potential for impact arises, MVP will be responsible for notifying the owner/operator of the well. Mitigation measures for protection of public water supplies are further described in Sections 2.1.3.4 and 2.1.4.

2.1.3.2 Private Wells

Publically accessible database information for private wells in West Virginia and Virginia are not available. In response to negative impacts experienced by many localities, businesses, and domestic well users during the drought of 2002, the VDEQ (2015b) is in the process of compiling a GIS database of historical water well construction, withdrawal, and water quality data. However, this dataset is not yet available. Private water wells in the area of the Project are primarily completed in bedrock aquifers. The depths of the tapped aquifer zones range from 30 to over 400 feet, and water levels range from less than 10 feet to over 400 feet (USGS 2001). In general, bedrock aquifers are not expected to be impacted by the Project with the

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implementation of mitigation measures and procedures described in Section 2.1.4. Potential impacts to bedrock aquifers include impacts from blasting and trenching during construction. For areas of karst terrain conditions described in Section 2.1.1.4 and Resource Report 6, additional study and mitigation measures would be implemented as described in Section 2.1.4.

MVP is in the process of conducting landowner surveys and civil surveys where access has been granted, which includes efforts to identify private wells. The resulting information on wells and springs located within 150 feet of the Project will be included in Resource Report 2 filed with MVP's application to FERC. During Project construction, wells within 150 feet of the construction area will be staked and flagged for visibility, and surrounded with silt fence and safety fence. In addition, MVP will offer to conduct a pre-construction water quality evaluation of active wells identified within 150 feet of the Project work area. MVP will document any landowner choosing to opt out of pre-construction evaluation. Landowners participating in the testing program will be contacted by an MVP representative, and a qualified independent contractor will perform the testing. To ensure responsiveness to the concerns of affected landowners, MVP will evaluate landowner complaints or damage associated with construction. In the unlikely event that any private landowner wells are damaged by Project construction, MVP will negotiate a settlement with the landowner that may include repair or replacement. MVP will provide adequate temporary accommodations or a temporary water supply to affected homeowners while their well is repaired or replaced in the event that no other potable water source is readily available. If an impact occurs to a livestock well or an irrigation well, MVP will provide a temporary water source to sustain livestock while a new permanent water supply well is constructed. MVP will not provide a temporary water source for crops, but would compensate landowners for any losses in crops resulting from well damage.

2.1.3.3 Springs

Table 2.1-3 shows springs identified within approximately one mile of the Project. Data on springs was documented from historical sources and from field surveys conducted where access has been granted by landowners (Draper Aden Associates 2015). Landowner surveys and civil surveys are in the process of being conducted to further identify springs located within 150 feet of the Project and this information will be included in Resource Report 2 filed with MVP's application to FERC. Rich Creek Spring is located approximately 1,000 feet northwest of MP 194. This spring was identified during field studies and via a West Virginia database search (McColloch 1986) as the only spring located within 0.5 mile of the alignment in West Virginia. Three springs were identified in Virginia based on a review of the publication Springs of Virginia (Virginia Division of Water Resources and Power 1930). The exact location of these springs was not available.

In addition to springs, Draper Aden Associates (2015) identified swallets (areas where surface water disappears underground). Swallets identified near the MVP project include: one swallet south of MP 200.1, one swallet south of MP 206.1, two swallets south of MP 207.3, one swallet south of MP 221.0. The presence of the swallets is indicative of the karst conditions in this area and the associated hydrologic interconnectivity of surface water with groundwater.

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Table 2.1-3

Springs Identified Within Approximately One mile of the MVP Project

State / County	Name	MP	Direction / Location	Geologic Occurrence
West Virginia				
Monroe a/, c/	Rich Creek Spring	194	1,000 feet northwest	Knox dolostone/undivided Limestone
Virginia				
Giles c/	Unnamed small spring	200.1	1,500 feet south	Undivided limestone
Giles c/	Little Stoney Spring	202.6	900 feet south	Martinsburg / Eggleston / Moccasin
Giles c/	Tawneys Spring	209.1	239 feet south	Knox dolostone
Giles c/	Smokehole Spring	209.3	223 feet southeast	Knox dolostone
Giles c/	Quarry Spring	209.6	681 feet southwest	Knox dolostone
Giles c/	Traverline Spring	210.5	1,000 feet south	Knox dolostone
Montgomery c/	Mill Creek Cave spring	219.1	north of 2,800+ feet	Knox dolostone
Montgomery c/	Old Mill Cave spring	219.5	south of, 2,000+ feet	Knox dolostone
Montgomery c/	Dam Spring	219.6	2,000+ feet south	Knox dolostone
Montgomery c/	Unnamed small spring	219.8	700+ feet south	Knox dolostone
Montgomery c/	Unnamed wet weather spring	220.1	1,000 feet south	Knox dolostone
Montgomery c/	Unnamed spring used for cattle	220.1 – 200.2	Adjacent to north	Knox dolostone
Montgomery c/	Unnamed spring	220.5	600+ feet south	Stones River limestone
Montgomery c/	Unnamed spring	220.6	800 feet south	Stones River limestone
Montgomery c/	Johnsons Cave spring	220.7	south of, 300 feet	Stones River limestone
Montgomery b/	Frank Slusser Spring	Exact location not provided	7 miles northeast of Blacksburg on North Fork of Roanoke River	Ottosee limestone
Montgomery b/	W.K. Grubb Spring	Exact location not available	2 miles southwest of McDonalds Mill on North Fork of Roanoke River	Near top of Beekmantown limestone
Montgomery b/	J.L. Vaughn Spring	Exact location not available	2 miles southeast of Elliston at foot of Poor Mountain near Brake Branch	Watauga shale near contact with Shady dolomite

a/ McColloch 1986
b/ Virginia Division of Water Resources and Power 1930
c/ Draper Aden Associates 2015

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MVP will survey affected landowners to request the locations of known springs to help minimize potential impacts to private springs that are used for water supply purposes. If springs are identified that could be affected by construction activities, MVP will consult with the appropriate regulatory agencies and with individual landowners to minimize impacts. Springs, if used for domestic, livestock, or agriculture, may be tested and evaluated in the same manner as described for water wells in Section 2.1.3.2.

2.1.3.4 Wellhead or Source Water Protection Areas

Under a 1986 amendment to the Safe Drinking Water Act (SDWA), each state is required to develop and implement a wellhead protection program in order to identify the land and recharge areas contributing to public supply wells and prevent the contamination of drinking water supplies. The SDWA was later updated in 1996 to require the development of a broader-based source water assessment program, which includes the assessment of potential contamination to both groundwater and surface water through a watershed approach. The Source Water Assessment and Protection Program for the West Virginia Bureau for Public Health is completing assessments of contamination threats to all public water sources.

In 1999, the Virginia Department of Health – Office of Drinking Water (VDH-ODW) developed a Source Water Assessment Program, as a result of the 1996 Amendments to the SDWA, Section 1453. By 2003, all existing drinking water sources were assessed. The objective of the Source Water Assessment Program is to facilitate and promote the implementation of source water protection measures among the waterworks community. To achieve this, VDH-ODW delineates an assessment area for each drinking water source and creates an inventory of potential sources of contamination. This information is used to make a susceptibility determination of the drinking water source in relation to the potential source of contaminants found in the assessment area. VDH-ODW submits annual progress reports to the Environmental Protection Agency about the protection status of community water systems in Virginia. A source water protection program annual survey is typically performed from June to August of each year (VDH-ODW 2015). Virginia's program focuses on the assessment of aquifers that might be susceptible to contamination.

Source water protection areas for groundwater and spring public water supplies within 150 feet of the Project are listed in Table 2.1-4. The only source water protection area identified as potentially within the 150-foot area is for the Rainelle Water Department located in Greenbrier County, Virginia (WVDHHR 2003). However, the source water protection area is upgradient of the Project and therefore is not anticipated to be impacted. Numerous potential commercial and industrial contaminant sources are located in the town of Rainelle within the protection area. The Rainelle Water Department water system serves a population of approximately 1,865 and the supply is from three wells, although only two are currently in use. The specific locations of the town water supply wells were not available. MVP will contact the Rainelle Water Department to identify the location of the wells in relation to the Project route during final Project design.

One water supply (Rich Creek Spring) is located approximately 1,000 feet northwest of MP 193.9 in West Virginia. The RSPSD uses Rich Creek Spring and downstream portions of Rich Creek as a backup water supply. This location is along the western flank of Peters Mountain in the Beekmantown/Knox limestone and dolomite. The spring is not part of the "zone of critical concern" in the lower Rich Creek watershed by the RSPSD's 2005 Source Water Assessment Report (Draper Aden Associates 2015). The pipeline alignment comes within approximately 4,200 feet of the zone of critical concern at MP 192.9 (see Figure 2-C-3, in Appendix 2-C). Potential groundwater contaminant sources include domestic sewage,

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abandoned mines and gas extraction, and unknown sources (WVDHHR 2005). The Project is generally located east and upgradient of the zone of critical concern and this area is also located in an area of karst conditions. The presence of sinking streams and open throat sinkholes in the vicinity could provide direct conduits for rapid surface water flow into subsurface karst features and potentially impact the cave and spring. However, additional study, and mitigation measures and procedures described in Section 2.1.4 would be employed to avoid impacts to groundwater supplies in karst areas.

Table 2.1-4

Source Water Protection Areas or Specific Water Sources of Concern in the Vicinity of the Proposed MVP Project

Water Supply	Milepost	Approximate Distance (from alignment)	Water Source
Rainelle Water Department, Greenbrier County (source water protection area)	144.1	< 0.1 mile	3 wells
Red Sulphur PSD, Monroe County (zone of critical concern)	192.9	1,000 feet northwest	Spring and surface water
Boones Mill water supply (spring source)	248	0.5 mile southwest	Spring and 3 wells
Teele Brook Estates (wells)	253.4	0.4 mile west	3 wells
La Trattoria (wells)	269.9	0.3 mile northeast	2 wells
The Cedars Country Club (well)	287.5	0.5 mile northeast	well
Robin Court Subdivision (well)	291.2	Within 150 feet	well
Source: WVDHHR 2105			

In Virginia, the Boones Mill water supply source includes a spring and 3 wells. The spring is the primary supply and is located approximately 0.5 mile southwest of MP 248 (see Figure 2-C-4, in Appendix 2-C). The spring is located approximately 200 feet north of the town public water supply treatment facility. A source water assessment conducted in 2002 by the Virginia Department of Health (VDH) indicated the water to be of high susceptibility to contamination due to the karst conditions in the surrounding area. Typical sources of contamination include fertilizer, erosion of natural deposits that produce radiological contaminants, septic tanks, and copper from natural deposits (Town of Boones Mill 2013). The elevation of the spring is approximately 1,468 amsl and the Project alignment in the vicinity ranges from 2,187 to 1,512 amsl at the nearest points. Although the Project is generally upgradient of the spring, it is located across a small valley from the spring and potential impacts to the spring in terms of topographical hydrology are not anticipated. However, the Project and spring are located in an area of karst conditions and therefore have the potential to be impacted by the Project. Mitigation measures and procedures described in Section 2.1.4 would be employed to avoid impacts to the water supply and MVP will contact the Town of Boones Mill prior to the initiation of construction activities.

The water supplies for Teele Brook Estates, La Trattoria, and Cedars Country Club are not anticipated to be impacted by the Project because these areas are located from 0.3 to 0.5 mile from the Project alignment in fairly flat terrain and are not located in areas of karst conditions. The Robin Court Subdivision well is of potential concern due to its location in the immediate vicinity of the proposed alignment. However, due to the surficial nature and short-term duration of the proposed construction activities, impacts to this wellhead

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protection area are not anticipated. Adherence to the FERC Plan and Procedures and implementation of best management practices (BMPs) during construction and restoration will prevent or mitigate impacts to the wellhead protection area. MVP will contact the local water departments and other public supply entities in the vicinity of the Project including the areas of concern identified above with a schedule of construction activities in this area prior to construction.

2.1.3.5 Potential Contaminated Groundwater

Groundwater quality and common sources of potential contamination are discussed in Section 2.1.1.2 and in Section 2.1.3.4 in relation to public water supplies. In addition, EPA's Facility Registry System database (USEPA 2015c) was searched to perform a preliminary identification of documented contaminated sites located within the vicinity of the Project. The database includes information on regulated sites for hazardous waste handling, releases to air, and federal cleanup sites.

Documented contamination sites identified within 0.5 mile of the Project are listed in Table 2.1-5. The sites identified are primarily regulated National Pollutant Discharge and Elimination System (NPDES) and Resource and Conservation Recovery Act Information System (RCRIS) sites. The NPDES sites include regulated stormwater discharges or other regulated discharges to water drainages or sewer systems. The RCRIS sites indicate regulated entities that handle hazardous waste and materials. Their regulated status is not indicative of a contaminant release. Based on the review of the database search results, the potential of encountering contaminated groundwater in the vicinity of the Project area is low. MVP is in the process of collecting state records data of potentially contaminated sites in the vicinity of the Project from West Virginia and Virginia. This information will be included in Resource Report 2 filed with MVP's application to FERC.

Table 2.1-5

Identified Potentially Contaminated Sites within 0.5 mile of the proposed MVP Project a/

Site Name	Milepost	Cardinal Direction of Nearest Milepost	Distance to Nearest Milepost (feet)	Type of Facility
Markwest Mobley Extraction Plant	1	W	3462	Mobley Natural Gas Extraction Plant
TL-283 Job #6	21.7	E	703.2	NPDES site for Natural Gas Transmission
TL-283 Replacement Project (JO	21.7	E	144.2	NPDES site for Natural Gas Transmission
O Rice Pad	23.5	N	1073.9	Crude petroleum and natural gas extraction
AT & T Long Lines-Equip Engr Wolf Smmt	24.2	N	415	RCRIS
Salem City Of	25.6	W	1211.6	NPDES
Sawmiller Inc	25.9	N	238.1	NPDES
Tunnel Hill- Corridor D	26.2	NE	1587.3	NPDES
Flinderation New Holland	26.2	N	951	NPDES
WV Division Of Highways	26.2	NE	2059.2	NPDES
Tunnel Hill Substation	26.2	NE	1662.9	NPDES

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Table 2.1-5

Identified Potentially Contaminated Sites within 0.5 mile of the proposed MVP Project a/

Site Name	Milepost	Cardinal Direction of Nearest Milepost	Distance to Nearest Milepost (feet)	Type of Facility
Antero Resources Varner West Pad	30	W	655.9	NPDES
Morgan Compressor Pad	34	E	898.7	NPDES
2012 Pipeline Replacement Segment	60.8	W	2385.2	NPDES
Craigsville WWTP	109.8	E	874.2	no other information
WV Broadband Grant #2672 Webster	109.8	E	768.8	NPDES
Camden On Gauley Town Of	109.9	SE	1642.3	NPDES
Craigsville Sanitary Sewer Sys	110	SE	2426.7	NPDES
Grassy Run Bridge S334-20-33.6	110	S	1916.9	NPDES, heavy construction
Columbia Forest Products Columbia West Virginia Corp	113.4	N	1055.8	NPDES
Jeld-Wen Inc Dba Jeld-Wen	113.4	N	1609	RCRIS, paint and coating manufacturing
Jeld-Wen	113.5	N	1039.7	TRIS, paint and coating manufacturing
Biofilter Construction	113.5	N	1039.7	NPDES
Beaver Creek-Craigsville Road,	113.6	N	502.8	NPDES, heavy construction
Sheltered Workshop Of Nicholas Co Inc	113.9	N	821	NPDES and RCRIS
Falcon Land Company (P-664)	118.5	E	1691.7	NPDES
Panther Creek Elementary School	122.4	SE	2210.5	NPDES
Old Nicholas Road Waterline Ex	128.9	SW	1980.1	NPDES
Harris Export Coal Corp.	138.9	E	1641.3	NPDES, bituminous coal and lignite surface mining
Reynolds Oil Company -- Rainelle	143.9	E	2377.1	NPDES
C&N Service Center	143.9	E	1748.3	RCRIS
Greenbrier County Public Service District No 2	144.2	SW	1499.6	NPDES, sewer system
Pauls Auto Sales	144.3	SW	2031.4	RCRIS
Napa Auto Parts	144.3	SW	2078.7	RCRIS
Meadow River Hardwood Lumber Co	144.3	SW	3673.4	RCRIS
D.A.T. Wrecker Service	144.3	SW	867.9	RCRIS
Summers County Career Center	173.4	W	2009.2	NPDES
Summers County Career Center	173.4	W	2009.2	NPDES
Metal Storage Building For The	190.7	W	1405	NPDES, heavy construction
Bobs Grocery	190.8	NW	1164.5	NPDES, truck rental and leasing

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Table 2.1-5

Identified Potentially Contaminated Sites within 0.5 mile of the proposed MVP Project a/

Site Name	Milepost	Cardinal Direction of Nearest Milepost	Distance to Nearest Milepost (feet)	Type of Facility
William D. Smith Trucking	209	S	1785.1	NPDES, local trucking without storage
Rowe Fine Furniture	228.7	W	2284.2	enforcement action
Chesapeake & Potomac Telephone Co	236.9	W	1150.8	RCRIS
Procon, Inc	257.5	N	1810	RCRIS
Environmental Options Inc	257.7	NW	1367.4	RCRIS, hazardous waste collection
Transco Station 165	294.14	NE	1453.5	RCRIS, pipeline transportation of natural gas

Source: USEPA 2015c

a/ Does not include regulated sites related to releases to air since these sites are not considered a potential contaminant concern for groundwater.

Note: Site/Facility names are as presented in EPA's database.

2.1.4 Construction Impacts and Mitigation

Construction, operation, and maintenance of the proposed facilities are not expected to have significant or long-term impacts on groundwater resources. Impacts will be minimized or avoided by implementation of the construction practices outlined in the FERC Plan and Procedures and as described in the mitigation measures detailed below.

Although no impacts to supply or quality are expected due to the limited depth of excavation and the short duration of open trench and typical depths to groundwater supplies, MVP will employ accepted measures and procedures to minimize potential impacts. Construction activities associated with the Project that have the potential to impact groundwater include shallow excavations, horizontal directional drills (HDDs), blasting for trench excavation, hydrostatic test discharges, and potential spills or leaks of contaminants from the refueling of construction vehicles or storage of fuel, oil, and other fluids. MVP proposes to implement construction practices designed to avoid impacts on groundwater during construction. These practices will include measures from the FERC Plan and Procedures and a Project-specific SPCC Plan. During construction, the construction contractors will adhere to these general practices related to groundwater protection including:

- Enforcing restrictions on refueling locations and storage of contaminants; and
- Installation of permanent trench plugs, where needed, to maintain existing groundwater flow patterns.

Additional information on groundwater impacts and mitigation associated with construction is provided in the following sections.

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2.1.4.1 Aquifer Disturbance Impacts to Groundwater Sources and Mitigation Measures

Construction activities such as trenching, dewatering, and backfilling may affect shallow aquifers and could cause minor fluctuations in groundwater levels and/or increased turbidity. Impacts will be minimized or avoided by implementation of the construction practices outlined in the FERC Plan and Procedures and in this Section.

Ground disturbance associated with typical pipeline construction is generally within 7-10 feet of the existing ground surface. A depth of 10 feet is above most surficial aquifers utilized as a water source and most existing wells that might be drilled in a shallow aquifer will be cased to at least 20 feet; however, construction activities such as trenching, blasting, dewatering, and backfilling may encounter shallow alluvial aquifers and could cause minor, localized fluctuations in groundwater levels and/or increased turbidity. Most alluvial aquifers exhibit rapid recharge and groundwater movement; therefore, it is likely that such aquifers would quickly re-establish equilibrium and turbidity levels would rapidly subside.

Surficial aquifers could experience minor disturbances from changes in overland water flow and recharge caused by clearing and grading of the right-of-way. The ability of soil to absorb water can be altered through near-surface compaction by heavy construction vehicles. This minor impact would be temporary and is not expected to significantly affect groundwater resources or quality. It is noted that most groundwater use along the Project alignment taps deeper bedrock aquifers. Impacts to bedrock aquifers are not expected since construction activities are not likely to occur at a depth which would impact the bedrock aquifers in the Project area. Potential impacts would be greatest in areas of shallow aquifers, including shallow karst areas. In these areas, potential impacts would be avoided by implementing the same measures from the FERC Procedures and BMPs. MVP is also evaluating specific karst features in the vicinity of the proposed pipeline and will develop site-specific measures as appropriate to further ensure that impacts to shallow groundwater will be avoided. Extensive field review of karst features and rock strata will be completed to gain a better understanding of groundwater flow conditions. In addition, property owners will be interviewed to obtain information regarding high/low water flow patterns; and geophysical techniques may be considered in some areas. Results of this ongoing karst evaluation and proposed site-specific measures will be included in Resource Report 6 filed with MVP's application to FERC.

Groundwater depth varies based on a number of factors including weather, season, humidity and surficial geology. Accordingly, the depth to groundwater varies along the Project route based on these conditions. Shallow groundwater along the Project alignment would generally coincide with wetland areas (see Section 2.2) and locations near springs and karst geological conditions (see Section 2.1.1.4 and Section 2.1.3.3). The excavated trench for pipeline installation would be most likely to intercept shallow groundwater in these locations. Typical installation depth is anticipated to be approximately 7-10 feet below existing grade. As described in Section 2.1.1.1, bedrock aquifers are predominant along the entire extent of the Project. Typical depths to groundwater in bedrock aquifers are 30 to 400 feet as described in Section 2.1.1.1 and Section 2.1.3.2. Therefore, in most upland portions of the route, groundwater will not be encountered during trench excavation. However, the water table will intersect the trench in some wetland and floodplain areas that are crossed. Accordingly, temporary trench dewatering is anticipated to be required in wetland areas.

Dewatering of the pipeline trench, the only activity requiring pumping of groundwater, may be necessary in areas where there is a high water table. However, pipeline construction activities within a particular

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location are typically completed within several days, and any lowering of localized groundwater is expected to be temporary. MVP will discharge water from trench dewatering activities into well-vegetated upland areas, or into straw bale structures if vegetation is insufficient.

2.1.4.2 Blasting Impacts on Water Supply Wells and Mitigation Measures

Although mechanical methods of removing bedrock are preferred, blasting may be conducted as needed to excavate the pipeline trench in some areas of shallow bedrock. If blasting is required in an area near water supply wells, blasting could cause temporary changes in water level and turbidity may affect groundwater quality in bedrock-based water well systems located in close proximity to the construction right-of-way.

MVP will implement the following measures to avoid, minimize, and mitigate potential impacts to water supply wells from blasting:

- Blasting will be conducted in a manner to minimize possible impacts on nearby water supply wells. Use of controlled blasting techniques should avoid the impacts of blasting and limit rock fracture to the immediate vicinity of detonation along the trench line, and contain impact to within the construction right-of-way.
- If blasting is conducted within 150 feet of an active water well, MVP will conduct a pre-construction evaluation of the well. The well will be tested for yield and water quality. Upon request by a landowner who had a pre-construction test, a post-construction test will be performed. Landowners will be contacted by an MVP representative and a qualified independent contractor will conduct the testing.
- MVP will evaluate, on a timely basis, landowner complaints regarding potential damage resulting from blasting to wells, homes, or outbuildings. If the damage is substantiated, MVP will negotiate a settlement with the landowner that may include repair or replacement.

2.1.4.3 Contaminated Groundwater Impacts and Mitigation Measures

Although the probability of encountering contaminated groundwater resources during construction is expected to be low, should existing contaminated groundwater be encountered it could pose health and safety concerns to construction workers and potentially elevate overall environmental risk through increased exposure. MVP's Environmental Inspectors will be trained to detect direct and indirect evidence of soil and/or groundwater contamination. If contaminated soil or groundwater is encountered during construction, MVP will notify the affected landowner and will coordinate with the appropriate federal and state agencies in accordance with applicable notification requirements.

2.2 SURFACE WATER RESOURCES

Surface water resources identified in the vicinity of the Project include rivers, streams, associated tributaries, ponds, lakes, and catchment basins. This section describes the surface water resources crossed by the Project, and the measures proposed by MVP to mitigate potential adverse effects on those resources.

To determine the surface water resources crossed by the Project, this report relied on watershed data from United States Geological Society (USGS), delineated stream data up to and including April 24, 2015, the National Hydrography Database (NHD) maintained by USGS, and the 303(d)/305(b) reports submitted by the states to the USEPA.

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Field delineations are currently being conducted within a 300–foot-wide pipeline survey corridor, access roads, additional temporary workspace (ATWS), contractor yards, and proposed aboveground facility work space. Surveys will continue through 2015, where land access is granted.

2.2.1 Waterbody Crossings

2.2.1.1 Surface Water Basins

The United States is divided and sub-divided into successively smaller hydrologic units that are classified into four levels and hydrologic unit code (HUC): regions (HUC 2), sub-regions (HUC 4), basins (HUC 6), and sub-basins (HUC 8). Sub-basins are further divided into watersheds (HUC 10). The Project is located in three major regions, the Ohio River, the Mid-Atlantic and the South Atlantic-Gulf. The Project will cross nine sub-basins and 29 watersheds in the Ohio River Basin, one sub-basin and one watershed in the Mid-Atlantic Region, and two sub-basins and nine watersheds in the South Atlantic-Gulf Basin. Table 2.2-1 identifies these major regions and their respective sub-basins by 8-digit HUC and watershed by 10-digit HUC. Appendix 2-A Table 2-A-1 is comprehensive list of watersheds crossed by milepost.

Table 2.2-1

Watersheds Crossed by the MVP Project

Major Region (2-digit HUC)	Sub-basin (8-digit HUC)	Watershed (10-digit HUC)	County
West Virginia			
Ohio River (05)	Little Muskingum-Middle Island (05030201)	Fishing Creek (0503020102)	Wetzel
	West Fork (05020002)	Tenmile Creek (0502000205)	Wetzel, Harrison, Doddridge
	Little Muskingum-Middle Island (05030201)	Headwaters Middle Island Creek (0503020104)	Harrison, Doddridge
	West Fork (05020002	Middle West Fork River (0502000203)	Doddridge, Harrison, Lewis
	Little Kanawha (05030203)	Leading Creek (0503020302)	Lewis
	West Fork (05020002)	Upper West Fork River (0502000201)	Lewis
	Little Kanawha (05030203)	Sand Fork (0503020301)	Lewis
	Little Kanawha (05030203)	Upper Little Kanawha River (0503020303)	Lewis, Braxton
	Elk (05050007)	Holly River (0505000703)	Braxton, Webster
	Elk (05050007)	Middle Elk River (0505000706)	Webster
	Elk (05050007)	Laurel Creek (Laurel Creek)	Webster
	Elk (05050007)	Birch Creek (0505000704)	Webster
	Gauley (05050007)	Headwaters Gauley River (0505000503)	Webster, Nicholas
	Gauley (05050007)	Outlet Gauley River (0505000508)	Nicholas
	Gauley (05050007)	Hominy Creek (0505000505)	Nicholas, Greenbrier

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Table 2.2-1

Watersheds Crossed by the MVP Project

Major Region (2-digit HUC)	Sub-basin (8-digit HUC)	Watershed (10-digit HUC)	County
	Gauley (05050007), Lower New (05050004)	Meadow River (0505000506)	Nicholas, Greenbrier, Fayette, Summers
	Gauley (05050007), Lower New (05050004)	Glade Creek – New River (0505000402)	Summers
	Lower New (05050004), Greenbrier (05050003), Middle New (05050002)	Wolf Creek-Greenbrier River (0505000309)	Summers, Monroe
	Greenbrier (05050003), Middle New (05050002)	Indian Creek (0505000207)	Monroe
	Middle New (05050002)	East River-New River (0505000206)	Monroe
Virginia			
Ohio River (05)	Middle New (05050002)	East River-New River (0505000206)	Giles
Mid-Atlantic (02)	Upper James (02080201)	Upper Craig Creek (0208020110)	Montgomery
Ohio River (05)	Middle New (05050002)	Sinking Creek – New River (0505000203)	Montgomery, Giles
	Upper New (05050001)	Back Creek – New River (0505000118)	Montgomery
South Atlantic-Gulf (03)	Upper Roanoke (03010101)	North Fork Roanoke River (0301010102)	Montgomery
	Upper Roanoke (03010101)	Mason Creek – Roanoke River (0301010103)	Montgomery, Roanoke
	Upper Roanoke (03010101)	South Fork Roanoke River (0301010101)	Roanoke
	Upper Roanoke (03010101)	Upper Blackwater (0301010105)	Roanoke, Franklin
	Upper Roanoke (03010101)	Lower Blackwater (0301010106)	Franklin
	Upper Roanoke (03010101)	Lower Pigg River (0301010110)	Franklin, Pittsylvania
	Banister (03010105)	Stinking River – Banister River (0301010502)	Pittsylvania
	Banister (03010105)	Cherrystone Creek-Banister River (0301010501)	Pittsylvania

Source: USGS 2015

2.2.1.2 Flood Zones

MVP has reviewed Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for areas crossed by the Project route and recorded the location of 100-year flood zones. A summary of 100-year flood zones is listed in Table 2.2-2.

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Table 2.2-2

FEMA-100 year Flood Zones crossed by the MVP Project

State/County	Floodplain Waterbody	Milepost	Length Crossed (feet)
West Virginia			
Wetzel	North Fork Fishing Creek	0.7	465
Wetzel	Price Run	5.0	643
Harrison	Little Tenmile Creek	15.5	311
Harrison	Rockcamp Run	18.9	217
Harrison	Indian Run	23.1	171
Harrison	Salem Fork	26.0	441
Doddridge	Laurel Run	34.6	198
Lewis	Right Fork Freemans Creek	42.3	141
Lewis	Left Fork Freemans Creek	45.6	331
Lewis	Sand Fork	54.8	244
Lewis	Indian Fork	58.2	182
Lewis	Oil Creek	62.2	238
Braxton	Falls Run	72.9	267
Braxton	Little Kanawha River	75.4	807
Webster	Left Fork Holly River	82.0	241
Webster	Oldlick Creek	82.6	518
Webster	Right Fork Holly River	84.4	210
Webster	Elk River	87.6	439
Webster	Camp Creek	93.4	786
Webster	Amos Run	98.0	437
Webster	Lost Run	98.9	130
Webster	Laurel Creek	99.2	225
Webster	Strouds Creek	110.1	259
Nicholas	Big Beaver Creek a/	114.3	260
Nicholas	Big Beaver Creek a/	116.1	148
Nicholas	Gauley River	118.9	401
Nicholas	Hominy Creek	126.9	255
Greenbrier	Meadow Creek a/	140.4	96
Greenbrier	Meadow River a/	144.0	366
Greenbrier	Little Sewell Creek	147.1	252
Greenbrier	Buffalo Creek	154.8	317
Greenbrier	Morris Fork	155.6	156
Summers	Hungard Creek	169.7	162
Summers	Greenbrier River	170.4	1769
Summers	Kelly Creek	171.7	171

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Table 2.2-2

FEMA-100 year Flood Zones crossed by the MVP Project

State/County	Floodplain Waterbody	Milepost	Length Crossed (feet)
Virginia			
Monroe	Indian Creek	181.7	110
Monroe	Hans Creek	186.5	259
Monroe	Dry Creek	190.7	320
Giles	Stony Creek	199.0	735
Giles	Little Stony Creek	202.8	224
Giles	Sinking Creek	211.2	30
Montgomery	Craig Creek	213.3	108
Montgomery	Mill Creek	219.1	467
Montgomery	North Fork Roanoke River a/	220.4	591
Montgomery	North Fork Roanoke River a/	220.7	620
Montgomery	Bradshaw Creek	224.1	186
Montgomery	Roanoke River	228.3	1445
Franklin	Little Creek	254.4	960
Franklin	Blackwater River a/	256.0	3,317
Franklin	Blackwater River a/	257.0	291
Franklin	Maggodee Creek	260.2	169
Franklin	Blackwater River	260.6	204
Pittsylvania	Unnamed/Unknown	275.3	68
Pittsylvania	Jonnikin Creek	275.7	31
Pittsylvania	Unnamed/Unknown	278.0	127
Pittsylvania	Pigg River	280.0	422
Pittsylvania	Harpen Creek a/	280.8	289
Pittsylvania	Harpen Creek a/	281.4	193
Pittsylvania	Harpen Creek a/	283.0	179
Pittsylvania	Pole Bridge Branch	287.4	350
Pittsylvania	Tributary of Little Cherrystone Creek	292.2	92
Pittsylvania	Little Cherrystone Creek	292.7	2,069

Source : FEMA 2015
a/ Pipeline crosses floodplain multiple times

If applicable, MVP will acquire permits to perform construction within FEMA Flood Zones. MVP will restore pipeline facility workspaces as closely as practicable to pre-construction contours, including the areas within FEMA Flood Zones. Restoration of pre-construction contours will preserve the existing condition of the FEMA Flood Zones and preclude the Project pipeline facilities from having adverse effects on flood storage capacity.

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2.2.1.3 Pipeline Crossings

The following waterbody information is based on waterbodies included within the NHD dataset. Based on NHD data, 270 waterbodies would be crossed by the proposed pipeline. Based on surveyed field data collected where survey access has been granted, and through April 28, 2015, 181 waterbodies would be crossed by the Project. Appendix 2-A, Table 2-A-2 and Table 2-A-3 list waterbodies crossed using NHD and survey field data, respectively. Appendix 2-C Figure 2-C-1, displays NHD waterbodies crossed by the Project. Field surveyed waterbodies are shown on draft Project alignment sheets. Final waterbody crossing information will be updated based on the final alignment and field delineated features and provided in Resource Report 2 included with MVP's application to FERC. Table 2.2-3 is a summary of waterbodies crossed by the Project.

Table 2.2-3

Summary of Waterbodies Crossed by the MVP Project (acres) a/

State	Perennial	Intermittent	Ephemeral	Open Water	Total
West Virginia	71	80	--	--	**151**
Virginia	43	75	--	1	**119**
Total	114	155	--	1	**270**

a/ Table populated with NHD data. Table will be updated and finalized with field verified data in Resource Report 2 filed with MVP's application to the FERC.

MVP proposes to cross intermediate waterbodies (between 10 and 100 feet wide at water's edge) and minor waterbodies (less than 10 feet wide at water's edge) by the open-cut method where a dry-ditch method is not specifically required by the FERC Procedures. Crossings of minor perennial and intermittent streams will be accomplished in accordance with FERC's Procedures and variances requested by MVP, if approved. MVP will also develop and implement its own Project-specific Erosion and Sediment Control Plan (E&SCP) that will outline BMPs to minimize impacts on various resources, including waterbodies. Major waterbodies (over 100 feet wide at water's edge) will be assessed on a case by case basis to determine the best crossing method and site specific construction and restoration plans. Table 2.2-4 is a summary of the number of FERC classification of waterbodies crossed by the Project. Table 2.2-5 is a list of intermediate and major waterbodies crossed by the Project and proposed crossing method.

Table 2.2-4

Summary of FERC Classification of Waterbodies Crossed by the MVP Project a/

State	Minor	Intermediate	Major	Total
West Virginia	141	7	3	151
Virginia	114	4	1	119
Total	255	11	4	270

a/ Table populated with NHD data. Will be updated and finalized with field verified data in Resource Report 2 filed with MVP's application to the FERC.

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Table 2.2-5

Intermediate and Major Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	MP	Approximate Crossing Length (feet)	Crossing Method b/
West Virginia					
Braxton	NHD 46	Little Kanawha River	74.5	63	Open Cut
Webster	NHD 56	Elk River	87.6	150	Open Cut
Webster	NHD 64	Laurel Creek	99.2	50	Open Cut
Nicholas	NHD 72	Big Beaver Creek	114.2	58	Open Cut
Nicholas	NHD 74	Big Beaver Creek	116.1	46	Open Cut
Nicholas	NHD 79	Gauley River	118.9	282	Open Cut
Nicholas	NHD 87	Hominy River	126.9	78	Open Cut
Greenbrier	NHD 93	Meadow River	144.1	78	Open Cut
Summers	NHD 102	Greenbrier	170.5	288	HDD
Monroe	NHD 110	Indian Creek	181.8	57	Open Cut
Virginia					
Montgomery	NHD 174	Roanoke River	228.5	53	Open Cut
Franklin	NHD 215	Blackwater River	256.6	60	Open Cut
Franklin	NHD 220	Maggodee Creek	260.6	42	Open Cut
Franklin	NHD 221	Blackwater River	260.5	70	Open Cut
Pittsylvania	NHD 252	Pigg River	280.1	112	Open Cut

a/ Table to be updated with field verified data. Lengths were approximated using aerial photography.
b/ Crossing method to be finalized in Resource Report 2 filed with MVP's application to the FERC.

2.2.1.4 Waterbody Crossing Methods

Construction methods at waterbody crossings will vary with the characteristics of the waterbody encountered and will be performed consistent with permit conditions outlined in the regulatory permit approvals. MVP will follow FERC's Procedures and its E&SCP to limit water quality and aquatic resource impacts during and following construction. The crossing method planned for each waterbody crossed by the proposed pipeline route is listed in Table 2-A-2 in Appendix 2-A. The crossing methods are designed to maintain water flow and minimize changes in waterbody flow characteristics. Typical drawings for the waterbody crossings are provided in Appendix 1-D of Resource Report 1.

Waterbody crossing methods are described in detail in Section 1.4 of Resource Report 1. The main types of waterbody crossing methods are described as follows:

Open-cut method: An open-cut waterbody crossing is conducted using methods similar to conventional upland open-cut trenching. The pipeline trench is excavated across the waterbody, followed by installation of a prefabricated segment of pipeline, and backfilling of the trench with native material.

Conventional Open-cut: Stream flow is not isolated from the construction activities.

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Dam and pump variation: Temporary dams, typically constructed using sandbags and plastic sheeting, are installed upstream and downstream. Following dam installation, pumps are used to dewater and transport the stream flow around the construction work area and trench. This is a dry-ditch method.

Flume crossing variation: The flow of water is temporarily directed through one or more flume pipes placed over the area to be excavated. This method allows excavation of the pipe trench across the waterbody completely underneath the flume pipes without disruption of water flow in the stream. Stream flow is diverted through the flumes by constructing two bulkheads, using sand bags or plastic dams, to direct the stream flow through the flume pipes. This is a dry-ditch method.

HDD: This method allows for trenchless construction across an area by pre-drilling a hole well below the depth of a conventional pipeline lay and then pulling the pipeline through the pre-drilled borehole.

Because of the minimal environmental impact of HDD, this method has been investigated for crossing major and sensitive waterbodies, where practicable. Currently, MVP anticipates that the HDD technique will be used for the crossing of one river, the Greenbrier River, at MP 170.5. A primary advantage to using HDD is that it avoids disturbance of the streambed, stream banks, and upland in the immediate vicinity of the crossing. Hence, the need for re-contouring approaches and stream banks is avoided, as are the challenges of re-establishing vegetation adjacent to these features. A disadvantage of the HDD method is the possibility of an inadvertent return, when the pressurized drilling mud in the borehole finds a fracture or weak area and the drilling fluids discharge into the waterbody and other areas. Drawings of a typical HDD river crossing, including equipment layout at entry and exit work spaces, and a profile view of the pipeline beneath the river, are included in Appendix 1-D of Resource Report 1. MVP will prepare a draft HDD Contingency Plan during further planning and design for the Greenbrier River crossing, and will consult with resource management agencies as appropriate to provide guidance on the determination of an HDD failure, alternate crossing methods in the event of an HDD failure, and the prevention, detection, required notifications, and response to inadvertent returns. The draft HDD contingency plan will be filed with FERC when completed.

MVP will follow the FERC Procedures and MVP's E&SCP, as well as BMPs to limit water quality and aquatic resource impacts during and following construction across all waterbodies.

Cleanup and Restoration

Cleanup and restoration commence as soon as practicable following completion of backfilling and testing. A detailed discussion is presented in Resource Report 1. These activities include replacing grade cuts to original contours, seeding fertilizing, and mulching to restore ground cover and minimize erosion. Temporary workspaces are stabilized for their natural reversion toward their previous state.

Completed stream crossings using the open-cut, flume or dam and pump methods will be stabilized before returning flow to the channel. Original streambed and bank contours will be re-established, and mulch, jute thatching, or bonded fiber blankets will be installed on the stream banks. Where the flume technique is used, stream banks will be stabilized before removing the flume pipes and returning flow to the waterbody channel.

Seeding of disturbed stream approaches will be completed in accordance with FERC's Procedures after final grading, weather and soil conditions permitting. Where necessary, slope breakers will be installed

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adjacent to stream banks to minimize the potential for erosion. Sediment barriers, such as silt fence and/or straw bales will be maintained across the right-of-way until permanent vegetation is established. Temporary equipment bridges will be removed following construction.

2.2.2 Sensitive Waterbodies

Sensitive surface waters include the following:

- Outstanding or exceptional quality waterbodies;
- Waterbodies that contain threatened or endangered species or critical habitat;
- Waterbodies located in sensitive and protected watershed areas;
- Waterbodies that are crossed less than 3 miles upstream of potable water intake structures;
- Waters that do not meet the water quality standards associated with their designated beneficial uses; and
- Rivers on or designated to be added to the Nationwide Rivers Inventory (NRI) or a State River Inventory.

Several waterbodies crossed by the Project possess one or more of the above characteristics of sensitive surface waters. The following sections discuss these sensitive waterbodies.

2.2.2.1 National or State Wild and Scenic Rivers

MVP reviewed rivers that are or may be designated as wild and scenic. The different sources viewed include the NRI (NPS 2014), National Wild and Scenic River System (National Wild and Scenic Rivers System 2015, and Virginia Department of Conservation and Recreation (VDCR) (VDCR 2014).

The NRI is a listing of more than 3,400 free-flowing river segments in the United States that are believed to possess one or more "outstandingly remarkable" natural or cultural values considered to be of more than local or regional significance (NPS 2014). The National Park Service (NPS) maintains the NRI as a list of river segments that potentially qualify as national wild, scenic, or recreational river areas. All federal agencies must seek to avoid or mitigate actions that would adversely affect any NRI segments. Table 2.2-6 lists four federal wild and scenic rivers identified in the NRI database the Project is proposed to cross (NPS 1996).

The National Wild and Scenic River System was created by Congress in 1968 to preserve certain rivers with outstanding natural, cultural and recreational values in a free-flowing condition. Rivers are designated as wild, scenic or recreational. The Project does not cross federally designated wild and scenic rivers according to the National Wild and Scenic River System (National Wild and Scenic Rivers System 2015).

VDCR administers the Virginia Scenic River program to identify, designate and help protect rivers and streams that possess outstanding scenic, recreational, historic and natural characteristics of statewide significance for future generations. In addition to existing designated state scenic rivers, other river segments have been deemed qualified or worthy of further study. Although no designated segments are crossed by the Project, VDCR lists two waterbodies qualified for designation and three waterbodies considered worthy of designation that are crossed by the Project (VDCR 2014). Table 2.2-7 lists the five waterbodies crossed that are qualified and worthy of scenic designation.

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Table 2.2-6

Potentially Eligible Wild and Scenic Rivers Crossed by the MVP Project

State/County	MP	Stream Name	Eligibility Value	Description
West Virginia				
Webster	82.0	Left Fork Holly River	S	Scenic - Diverse juxtaposition and combination of land, water and vegetation elements.)
Webster	87.6	Elk River	O	Hydrologic - One of the longest, relatively free-flowing rivers in this section and province
Summers	170.5	Greenbrier River	S, R, G, F, H	Mainstem of the Greenbrier providing flat and whitewater boating and excellent warmwater fishing. Generally accessible, with several towns and significant residential and seasonal home development, and paralleled by CSX Railroad.
Virginia				
Montgomery	213.3	Craig	R, G, H, C	Historic- Segment includes the Phoenix Bridge crossing, a National Historic Register Site in the vicinity of Eagle Rock. The bridge was built in 1887 and is a notable example of pre-fabricated bridges by one of the most important manufacturers, the Phoenix Bridge Company. Recreation- Segment is recognized as a clean, clear, free-flowing mountain stream in close proximity to the large public land holdings of the Jefferson National Forest and the City of Roanoke. Cultural - Segment corridor includes Mulberry Bottom, a locally significant historic dwelling dating from 1786. Geologic-Segment includes a classic example of an anticline, an arch of stratified rock in which layers bend downward in opposite directions from the crest.

Source : NPS 1996
Eligibility Values:
S – Scenery; R – Recreation; G – Geology; F – Fish; W – Wildlife; P – Prehistory; H – History; C – Cultural;
O – Other (including, but not limited to, hydrology, paleontology and botany resources)

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Table 2.2-7

Significant Rivers Crossed by the MVP Project in Virginia

County	MP	Stream Name	Eligibility Status
Giles	202.9	Little Stoney Creek	Worthy
Giles	211.2	Sinking Creek	Worthy
Montgomery	228.6	Roanoke River	Qualifier
Franklin	257	Blackwater River	Qualifier
Pittsylvania	280.1	Pigg River	Worthy
Source: VDCR 2014			

2.2.2.2 State-Designated Use and Exceptional Waters

West Virginia and Virginia classify surface waters to evaluate water quality. Each system includes a "designation use" that describes the potential or realized capacity of a waterbody to provide defined ecological benefits and recreational values for residents and visitors. A summary of the use designation system for each state is provided below. State water classifications for waterbodies crossed by the Project route are detailed in Appendix 2-A, Tables 2-A-2 and 2-A-3.

West Virginia

West Virginia classifies surface waters according to five categories of designated use: public water supply, propagation and maintenance of fish and other aquatic life, water contact recreation, agriculture and wildlife, and water supply for industrial, water transport, cooling and power (Title47CSR2 Section 6.2-6.6). The public water supply category has four sub-categories: all community domestic water supply systems, all non-community domestic water supply systems, all private domestic water systems, and all other surface water intakes used for human consumption. The propagation and maintenance of fish and other aquatic life category has three sub-categories: warm-water fishery streams, trout waters, and wetlands. The agriculture and wildlife category has three sub-categories: irrigation, livestock watering, and wildlife. The water supply for industrial, water transport, cooling and power has four sub-categories: water transport, cooling water, power production, and industrial. Waters that have not been assigned a designated use are assigned a default designation of propagation and maintenance of fish and other aquatic life, and water contact recreation (Title47CSR2 Section6.2-6.6).

West Virginia Department of Environmental Protection (WVDEP) also designates surface waters into one of three tiers of antidegradation protection as set forth by the Antidegradation Implementation Procedures found in the state code, Title 60CSR5. Tier 1 maintains and protects existing uses and the water quality conditions. Tier 2 maintains and protects high quality waters where the water quality exceeds levels necessary to support recreation and wildlife and the propagation and maintenance of fish and other aquatic life. Tier 3 maintains and protects water quality in outstanding national resource waters.

The Project does not cross Tier 3 streams in West Virginia (WVDEP 2013).

Virginia

In Virginia, "all state waters, including wetlands, are designated for the following uses: recreational uses, e.g., swimming and boating; the propagation and growth of a balanced, indigenous population of aquatic

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life, including game fish, which might reasonably be expected to inhabit them; wildlife; and the production of edible and marketable natural resources, e.g., fish and shellfish" (9VAC25-260-10).

The Virginia Department of Game and Inland Fisheries (VDGIF) has established a classification system for trout waters based on aesthetics, productivity, resident fish population and stream structure. In general, these include natural trout waters with wild trout habitat, and stockable trout waters with cold-water habitat not suitable for wild trout but adequate for year-round hold-over of stocked trout (9VAC-260-370). Remaining streams are considered unsuitable for trout due to one or more of the following conditions: summer temperatures; a significant population of warm-water gamefish; insufficient flow; and intolerable water quality.

The Commonwealth of Virginia further designates all surface waters within the Commonwealth into one of three levels, or tiers, of antidegradation protection as set forth by the Antidegradation Policy found in the state code, 9VAC25-260-30. The crossing of Tier I waters requires satisfying the adopted water quality standards. The crossing of Tier II waters permits negative effects on water quality only in limited circumstances. Tier III waters are considered to be of exceptional quality and, as such, the Antidegradation Policy prohibits any increased pollutant discharge. However, activities causing temporary sources of pollution may be allowed where they are demonstrated to be temporary and affected waters are returned to equal or better conditions within a minimal timeframe. Tier III waters are designated by name within the code.

The Project does not cross any Tier 3 waters but does come in close proximity to two Tier III waters including Little Stoney Creek and Bottom Creek (VDEQ 2014). The 6.5 mile Tier III segment of Little Stoney Creek is located approximately 1.3 miles upstream of the Project. The 2.2 mile Tier III segment of Bottom Creek is located over 3 miles downstream from the Project (Figure 2-C-2, in Appendix 2-C). The Project alignment crosses Mill Creek approximately at MP 237.3. Mill Creek flows into Bottom Creek approximately one mile downstream from the crossing. The Tier 3 portion of Bottom Creek is about another two miles from the confluence. To minimize any potential impacts to Tier III streams, MVP will implement measures in the FERC Procedures and MVP's E&SCP.

The FERC Procedures require a construction window from June 1 through September 30 for all crossings of coldwater fisheries and a construction window from June 1 through November 30 for other fisheries (warmwater and warmwater/coolwater). The FERC Procedures state these construction windows may be modified by state agencies. To avoid direct effects to these rivers, MVP is evaluating each river on a case by case basis. After the appropriate geotechnical studies are complete, MVP will decide on the proper crossing technique, which will be included in Resource Report 2 with MVP's application to FERC.

2.2.2.3 Waters Containing Federally or State-listed Threatened or Endangered Species or Critical Habitat

Resource Report 3 Section 3.1 provides details and species descriptions of threatened and endangered species identified as potentially occurring along the Project, including aquatic species and the waterbodies where these species potentially occur.

The proposed pipeline does not cross waterbodies containing critical habitats for federally or state-listed species (USFWS 2015).

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Additional information for threatened and endangered species, including suitable habitat within the Project area is presented in Resource Report 3.

2.2.2.4 Surface Water Protection Areas and Public Surface Water Supplies

The following agencies were contacted to determine the location of any surface water protection areas and potable surface water intakes located within three miles downstream of waterbody crossings: West Virginia Department of Health and Human Resources (WVDHHR) and the VDH. Online services were also reviewed including, WVDHHR's Safe Drinking Water Information System, Source Water Assessment Reports, which was limited to source water protection areas. Online resources for Virginia include: The Western Virginia Water Authority, Water Quality Reports and The West Piedmont Planning Commission Regional Supply Plan. Information on public water supplies has not been received from West Virginia agencies, to date. Public and private groundwater supplies are discussed above in Section 2.1.

West Virginia

Source water protection areas were identified within three miles of the Project area in West Virginia (WVDHHR 2015). There are two source water protection areas that are crossed by the Project and one that is less than one mile away. In Nicholas County, the Project crosses the Craigsville Public Service District and Zone of Critical Concern in the Gauley River watershed at MP 110. The source water protection surrounds the Gauley River and its tributaries, and provides water to the town of Craigsville. In the Summers County, the Project crosses the Big Bend Public Supply District and the Zone of Critical Concern at MP 170.5. The source water protection surrounds the Greenbrier River. In Monroe County, the Project crosses the RSPSD and watershed from approximately MP 190.5 to approximately MP 195.0 and is 0.85 mile upstream of the Zone of Critical Concern which surrounds Rich Creek. Although the Zone of Critical Concern is not crossed by the pipeline, Rich Creek is crossed by the pipeline corridor from MP 194.4 to MP 194.7. Figure 2-C-3, in Appendix 2-C shows the Project alignment in relation to the RSPSD and the Zone of Critical Concern.

Virginia

In Virginia there are no surface water intakes in Giles, Montgomery, and Pittsylvania counties. These counties withdraw water from groundwater sources (New River Valley Planning District Commission 2011). The 158-acre, 3.3 billion gallon Spring Hollow Reservoir supplies water to various neighborhoods in Roanoke and Franklin counties (Western Virginia Water Authority 2015). The Project crosses the Roanoke River at MP 228.6, which feeds the reservoir. The reservoir is not crossed by the Project, but it is 0.13 mile east of the pipeline at MP 230.8. The other locations within these counties receive water from springs and groundwater wells.

Due to the short-term duration of the proposed construction activities, impacts to these surface water protection areas are not anticipated. Adherence to the FERC's May 2013 version of the FERC Plan, the FERC Procedures, and implementation of MVP's E&SCP and BMPs during construction and restoration will prevent, minimize, and/or mitigate impacts to the source water protection area. MVP will contact the local water department with a schedule of construction activities in this area prior to construction.

There is typically downstream movement of existing sediments within the streams during large storm events. Additionally, the streams in this area receive significant sediment input from industry, accidental erosion, and other non-point sources. Public surface water intake facilities are designed to handle surface

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waters with heavy sediment loads. Therefore, additional mitigation measures outside of those specified in the FERC Plan and Procedures and MVP's E&SCP to address potential impacts to public water supplies from the construction right-of-way are not proposed.

2.2.2.5 Contaminated Sediments and Impaired Waters

MVP has reviewed the National Sediment Quality Survey for information regarding contaminated sediments at all waterbody crossings. None of the watersheds in the Project area are listed as containing areas of probable concern for sediment contamination (USEPA 2004). Sampling locations for sites with Tier 1, 2, and 3 contaminated sediments were viewed in the National Sediment Inventory Database (NOAA 2007). None of the waterbodies crossed by the Project are depicted with records of contaminated sediments.

As part of state water quality assessments, Section 303(d) of the federal Clean Water Act (CWA) mandates that states must prepare a list of all waters that do not meet the water quality criteria for their designated uses and develop for each criterion a Total Maximum Daily Load (TMDL), which establishes the maximum allowable discharge into a waterbody to better control pollutant levels. To determine whether any impaired waterbodies will be affected by the Project, MVP reviewed the 303(d) lists for states crossed by the Project that are included in USEPA Categories 4 and 5. Category 4 lists waterbodies where TMDLs have been completed or cannot be completed due to the nature of the contamination, and Category 5 lists waterbodies where TMDLs need to be developed by the state.

A review was performed of statewide 303(d) Impaired Waters and 305(b) through WVDEP and Virginia Department of Environmental Protection (WVDEP 2014; VDEP 2014) to determine crossings of impaired waterbodies. Table 2.2-8 provides a summary of impaired waterbodies crossed by the Project route. MVP will cross all streams in West Virginia and Virginia in accordance with the FERC Plan and Procedures and MVP's E&SCP.

Table 2.2-8

Impaired Waterbodies Crossed by the MVP Project

State/County	Approximate MP	Waterbody Name	Crossing Method a/	Causes of Impairment
West Virginia				
Wetzel	0.6	North Fork Fishing Creek	Open cut	Fecal Coliform, Iron
Wetzel	2.3	Fallen Timber Run	Open cut	Benthic macroinvertebrates bioassessments, Iron
Wetzel	5	Price Run	Open cut	Iron
Harrison	11.2	Right Fork Big Elk Creek	Open cut	Benthic macroinvertebrates bioassessments, Manganese
Harrison	15.5	Little Tenmile Creek	Open cut	Manganese
Harrison	17.9	Little Rockcamp Run	Open cut	Manganese
Harrison	18.9	Rockcamp Run	Open cut	Manganese
Harrison	26.0	Salem Fork	Open cut	Benthic macroinvertebrates bioassessments
Lewis	31.0	Coburn	Open cut	Manganese
Lewis	44.4	Fink Creek	Open cut	Biological

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Table 2.2-8

Impaired Waterbodies Crossed by the MVP Project

State/County	Approximate MP	Waterbody Name	Crossing Method a/	Causes of Impairment
Lewis	52.0	Cove Lick	Open cut	Biological
Lewis	54.8	Sand Fork	Open cut	Iron
Lewis	58.3	Indian Fork	Open cut	Biological
Lewis	60.1	Threelick Run	Open cut	Biological
Lewis	62.2	Oil Creek	Open cut	Aluminum
	107.1	Meadow Fork	Open cut	Iron
Nicholas	114.3, 116.1	Big Beaver Creek	Open cut	Fecal Coliform
Nicholas	120.3	UNT/Little Laurel Creek	Open cut	pH
Nicholas	126.9	Hominy Creek	Open cut	Iron
Greenbrier	140.4	Meadow Creek	Open cut	Iron
Greenbrier	144	Meadow River	Open cut	Fecal Coliform
Greenbrier	147.1	Little Sewell Creek	Open cut	Fecal Coliform
Summers	162.6	Lick Creek	Open cut	Fecal Coliform
Summers	169.2, 169.7	Hungard Creek	Open cut	Fecal Coliform
Summers	170.5	Greenbrier River	Open cut	Fecal Coliform
Summers	171.7	Kelly Creek	Open cut	Fecal Coliform
Monroe	181.7	Indian Creek	Open cut	Biological
Monroe	186.5	Hans Creek	Open cut	Fecal Coliform
Monroe	190.7	Dry Creek	Open cut	Fecal Coliform, Biological
Monroe	194.5 – 194.8	Rich Creek	Open cut	Fecal Coliform, Bacteria
Giles	199	Stony Creek	Open cut	PCB(s) in Fish Tissue
Giles	211.2	Stinking Creek	Open cut	Escherichia Coli (E. COLI)
Virginia				
Montgomery	220.5	North Fork Roanoke River	Open cut	Escherichia Coli (E. COLI)
Montgomery	224.1	Bradshaw Creek	Open cut	Escherichia Coli (E. COLI)
Montgomery	228.6	Roanoke River	Open cut	Temperature, Polychlorinated Biphenyls (PCBs)
Franklin	241.6	North Fork Black River	Open cut	Phosphorus
Franklin	250.4 – 254.5	Teels	Open cut	Benthic macroinvertebrates bioassessments
Franklin	253.7, 254.5	Little Creek	Open cut	Benthic macroinvertebrates bioassessments
Franklin	260.3	Maggodee Creek	Open cut	Benthic macroinvertebrates bioassessments
Franklin	260.6	Blackwater River	Open cut	Escherichia Coli (E. COLI), Mercury in Fish Tissue
Franklin	263.3	Foul Ground Creek	Open cut	Fecal Coliform

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Table 2.2-8

Impaired Waterbodies Crossed by the MVP Project

State/County	Approximate MP	Waterbody Name	Crossing Method a/	Causes of Impairment
Pittsylvania	280.1	Pigg River	Open cut	Bacteria
Pittsylvania	280.8	Harpen Creek	Open cut	Bacteria
Pittsylvania	287.4	Pole Bridge Branch	Open cut	Escherichia Coli (E. COLI)

Source: USEPA 2014; WVDEP 2012a; VDEQ 2012
a/ Crossing method to be finalized in Resource Report 2 filed with MVP's application to the FERC.

2.2.3 Hydrostatic Test Water

The pipeline will be hydrostatically tested to ensure that it is capable of safely operating at the design pressure. Test segments of the pipeline will be capped and filled with water. Surface water used for testing will be drawn through a screened intake. The water in the pipe will be pressurized and held for a minimum of 8 hours in accordance with the U.S. Department of Transportation (USDOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) Office of Pipeline Safety (OPS) requirements identified in 49 Code of Federal Regulations [CFR] Part 192 prior to being placed in service. Any loss of pressure that cannot be attributed to other factors, such as temperature changes, will be investigated. Any leaks detected will be repaired and the segment will be retested.

Upon completion of the test, the water may be pumped to the next segment for testing, or the water may be discharged. The test water will be discharged through an energy-dissipating device in compliance with NPDES permit conditions. Table 2.2-9 provides anticipated hydrostatic test water information for each pipeline segment. Table 2.2-9 includes the names and locations of proposed water withdrawal sources, approximate water volumes to be withdrawn from each source and discharge locations. The total volume of water used for hydrostatic testing is proposed to be approximately 95,722,000 gallons. Test water will contact only new pipe, and no chemicals will be added to the test water. An exception would be that if a municipal water source with chlorinated water is used for testing, addition of a dechlorinating agent may be required prior to discharge depending on the discharge location.

MVP will comply with conditions of NPDES permits that would be obtained for hydrostatic test water discharge in West Virginia and Virginia, as summarized below. MVP has not applied for agency approval for the discharge of hydrostatic test water at this time, but anticipates submitting this application prior to final pipeline design.

West Virginia: MVP will follow the regulations outlined in NPDES General Permit WV0113069 (Hydrostatic Testing General Permit) (WVDEP 2012b). Coverage under this permit includes effluent limitations, monitoring requirements, and other standard conditions.

Virginia: MVP will follow the regulations outlined in VPDES General Permit 9VAC25-120 (VAG83) (Petroleum Contaminated Sites and Hydrostatic Tests). Coverage under this permit includes effluent limitations, monitoring requirements, and other standard conditions.

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Table 2.2-9

Proposed Hydrostatic Test Water Use Summary

Anticipated Year of Construction	Pipeline Construction Section	Hydrostatic Test Segment	Segment Beginning MP	Segment Ending MP	Length of Test Segment (Miles)	Total Water Anticipated for Test Segment (Gallons)	Proposed Water Sources		Proposed Test Water Discharge Location MP
							MP	Name	
2017	1	1A	0.00	26.00	26.00	20,662,342	--	Reuse Water From Test Segment 1B	0.00
		1B	26.00	62.20	36.20	28,768,338	26.00	Salem Fork	
2017	2	2A	62.20	82.10	19.90	15,814,639	--	Reuse Water From Test Segment 2B & 2C	120.25
		2B	82.10	99.00	16.90	13,430,522	--	Reuse Water From Test Segment 2C	
		2C	99.00	120.25	21.25	16,887,491	120.25	Little Laurel Creek	
2017	3	3A	120.25	135.80	15.55	12,357,670	120.25	Little Laurel Creek	120.25
		3B	135.80	139.80	4.00	3,178,822	--	Reuse Water From Test Segment 3A	
		3C	139.80	167.40	27.60	21,933,871	--	Reuse Water From Test Segment 3A & 3B	
		3D	167.40	175.00	7.60	6,039,762	--	Reuse Water From Test Segment 3C	
2018	4	4A	175.00	193.70	18.70	14,860,992	--	Reuse Water From Test Segment 4B & 4C	258.70
		4B	193.70	197.40	3.70	2,940,410	--	Reuse Water From Test Segment 4C	
		4C	197.40	219.10	21.70	17,245,109	--	Reuse Water From Test Segment 4D, 4E, & 5A	
		4D	219.10	231.80	12.70	10,092,759	--	Reuse Water From Test Segment 4E, 5A, & 5B	
		4E	231.80	238.30	6.50	5,165,586	--	Reuse Water From Test Segment 5A & 5B	
2018	5	5A	238.30	244.20	5.90	4,688,762	--	Reuse Water From Test Segment 5B & 5C	258.70
		5B	244.20	248.10	3.90	3,099,351	--	Reuse Water From Test Segment 5C	
		5C	248.10	256.60	8.50	6,754,996	256.60	Blackwater River	
		5D	256.60	258.70	2.10	1,668,881	--	Reuse Water From Test Segment 5C	
		5E	258.70	294.10	35.40	28,132,573	--	Reuse Water From Test Segment 5C & 5D	
Proposed Water Usage for 2017						**67,589,700**	**Gallons**		
Proposed Water Usage for 2018						**28,132,573**	**Gallons**		
Proposed Water Usage for 2017 and 2018						**95,722,273**	**Gallons**		

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Test water will be drawn from various sources and, after testing, will be discharged to upland areas, typically in the same watershed as the source from which it was obtained. Water discharged over land will be directed through containment structures such as hay bale structures and filter bags. The discharge rate will be regulated using valves and energy dissipation devices to prevent erosion.

Once a segment of pipe has been successfully tested and dried, the test cap and manifold will be removed, and the pipe will be connected to the remainder of the pipeline. No desiccant or chemical additives will be used to dry the pipe. MVP will implement Section VII of FERC's Procedures regarding hydrostatic testing, as well as any specifications in individual state permit guidelines.

2.2.4 Construction and Operation Impacts and Mitigation

The construction method utilized at each waterbody crossing will vary with the characteristics of the specific waterbody and will be performed consistent with permit conditions outlined in the regulatory permit approvals.

The preferred crossing method of intermediate waterbodies (between 10 and 100 feet wide at water's edge) and minor waterbodies (less than 10 feet wide at water's edge) at the time of crossing will be conventional open-cut or dry ditch crossing methods as described in the FERC's Procedures and summarized in Section 1.4 of Resource Report 1.

Implementation of the FERC Plan and Procedures and MVP's Project-specific E&SCP, specifically with respect to construction time windows, erosion and sedimentation control, bank stabilization, and bank revegetation, will minimize short- and long-term impacts on the waterbodies crossed by the Project route. MVP will continue to consult with state agencies during the permitting process to identify additional site-specific mitigation measures.

ATWS will be located at least 50 feet away from the water's edge, except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land or as noted with a site specific explanation of the conditions. MVP will limit the amount of vegetation cleared between the waterbody and the ATWS and minimize the amount of extra work space to the greatest extent possible.

Crossings will be aligned as close to perpendicular to the axis of the waterbody channel as engineering and routing conditions allow. If the pipeline route parallels a waterbody, MVP will attempt to maintain at least 10 feet of undisturbed vegetation between the waterbody (and any adjacent wetland, if present) and the construction right-of-way.

Impacts to Waterbodies and Mitigation Measures

Construction of the pipeline could result in minor, short-term impacts to waterbodies. These impacts could occur because of in-stream construction activities, use of access roads, or construction on slopes and riparian areas adjacent to stream channels. Clearing and grading of stream banks, removal of riparian vegetation, instream trenching, trench dewatering, and backfilling could result in stream bank modification, increased sedimentation, turbidity, increase in temperature, and decreased dissolved oxygen concentrations. An increase in soil compaction and vegetation clearing could potentially increase runoff and subsequent stream flow or peak flows.

The following is a description of potential impacts due to the different waterbody crossing methods.

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Open-cut: Temporary impacts from crossing a flowing waterbody can include a short-term increase in the sediment load in the waterbody during the period of trenching and backfilling, increased vulnerability of streambanks to erosion, streambank sloughing, increased turbidity and sedimentation downstream of the crossing location and, without proper mitigation, increased potential for sediment input from the construction right-of-way. Sustained periods of exposure to high levels of suspended solids can cause loss of fish egg and fry, reduced natural fish movements, fish vacating areas of high suspended solids, and other adverse impacts on fisheries resources. (Sedimentation-related impacts to fisheries and other aquatic resources are discussed in greater detail in Resource Report 3.) Additionally, fine silts and colloids that cloud waterbodies could result in diminished visual aesthetics for anglers and other recreational users; these materials could also impact potable water supplies drawn from surface water intakes.

Dry crossing methods (Dam and Pump and Flume): Temporary construction-related impacts would be limited primarily to short periods of increased turbidity during the installation of temporary upstream and downstream dams prior to pipeline installation, and following installation of the pipeline when the dams are removed, and flow across the restored work area is re-established.

HDD crossing method: Potential construction-related impacts from HDD are the loss of upland vegetation due to the greater amount of ATWS needed to stage and operate equipment. There is also the potential for a spill or release of bentonite slurry drilling fluid.

To mitigate these potential impacts, MVP will adhere to the FERC Plan and Procedures and its E&SCP when constructing across and adjacent to waterbodies. Specific measures for the different waterbody crossing methods include:

Open-cut

- In-stream construction activities (including trenching, pipe installation, backfilling, and streambed restoration) will be completed within 24 to 48 hours, except for areas that require blasting or other rock-breaking measures; and
- Operation of equipment in the waterbody will be limited to that needed to construct the crossing.

Dam and Pump

- Sufficient pumps, including on-site backup pumps, will be used to maintain downstream flows;
- Pumps will be properly aligned to prevent streambed scour at pump discharge;
- Dams will be constructed with materials that prevent sediment and other pollutants from entering the waterbody;
- Pump intakes will be screened to minimize entrainment of fish; and
- Dams and pumps will be continuously monitored to ensure proper operation throughout the waterbody crossing.

Flume

- Sand bags, sand bag and plastic sheeting diversion structures, or the equivalent will be used to develop an effective seal and to divert stream flow through the flume pipe;
- Flume pipes will be installed after blasting (if necessary), but before trenching;

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- Flume pipes will remain in place until trenching, pipe laying, backfilling, and initial streambed restoration efforts are complete;
- Flume pipes will be properly aligned to prevent bank erosion and streambed scour; and
- All flume pipes and dams that are not part of the equipment bridge will be removed as soon as final cleanup of the streambed and bank is complete.

HDD

- Analyze the substrate prior to design;
- Revegetate cleared staging areas;
- Not staging equipment in sensitive areas; and
- Prepare a Project-specific Inadvertent Return Response Plan for HDD crossings.

The use of HDD for the crossing of the Greenbrier River will substantially reduce the temporary impacts during construction across this waterbody. MVP will prepare a site-specific crossing plan and an Inadvertent Return Response Plan for this crossing and will file with FERC when available.

Impacts to Waterbodies from Potential Releases of Fuels, Lubricants, and Coolants, and Mitigation Measures

The use of heavy equipment to complete pipeline installation across waterbodies may increase the potential for accidental releases of fuels, lubricants, and coolants. Such releases could adversely affect aquatic species and contaminate public water supplies that rely on surface water intakes located downstream of the waterbody crossing.

To mitigate these potential impacts, construction equipment, vehicles, hazardous materials, chemicals, fuels lubricating oils, and petroleum products would not be parked, stored, or serviced within a 100-foot radius of any waterbody. MVP will install signs along the right-of-way to identify such areas.

MVP will develop a Project-specific Spill Prevention, Control and Countermeasure (SPCC) Plan for implementation during construction. The SPCC Plan will describe preventive measures such as personnel training, equipment inspection, and refueling procedures to reduce the likelihood of spills. It will also include mitigation measures, such as containment and cleanup, to minimize potential impacts if a spill occurs. MVP will minimize the potential impacts of spills of hazardous materials by adhering to this Project-specific SPCC Plan, which will be available in the field during construction. A copy of the SPCC Plan will be filed with FERC when available.

MVP will provide advance notification to the operators of surface water intakes regarding waterbody construction schedules and will notify the operators of any accidental releases of hazardous materials during construction that may affect their water supply.

Impacts to Waterbodies from Turbidity and Sediment Runoff and Mitigation Measures

Pipeline construction across waterbodies could result in increased potential for turbidity and sediment runoff from the construction right-of-way.

To reduce turbidity and sedimentation caused by construction and vehicular traffic crossing waterbodies for access to the Project right-of-way, MVP will install temporary equipment bridges within the approved

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construction right-of-way that would remain in place throughout construction. Equipment bridges would be constructed using methods and materials such as clean rock or gravel and culverts, timber mats, portable prefabricated bridges, and railcars. If excessively soft soils are encountered in the streambed, or if high water flows occur, portable bridges may be utilized at minor stream crossings in lieu of flume pipes. Equipment bridges would be designed to accommodate normal to high stream flow during the period of construction.

To minimize turbidity caused by erosion, trench spoil excavated from within streams flowing at the time of construction would be stored at least 50 feet from the top of the bank, unless impractical due to topography. If extra work areas (beyond the nominal construction right-of-way) are required to be closer than 50 feet from a waterbody or wetland, then MVP would file a site-specific construction plan with FERC for review and written approval, as well as with appropriate agencies. Sediment barriers such as silt fences and straw/hay bales will be placed around the spoil piles to prevent spoil flow into the waterbody. For open-cut crossings of waterbodies that are dry at the time of crossing, MVP could temporarily sidecast trench spoil into the dry waterbody until the trench is backfilled.

Once the pipe is placed in the trench, the excavated material would be replaced and the stream banks and streambed would be restored to their pre-construction contours. Stream banks and riparian areas will be stabilized by using erosion-control devices and appropriate seed mixtures approved by the landowner/agency.

Riparian canopy or stabilizing vegetation would not be removed if possible. Crushing or shearing streamside woody vegetation is preferable to complete removal. Any area where vegetation is removed in conjunction with stream crossings would be stabilized immediately following the completion of the crossing.

Riparian areas and floodplains will not be used as staging or refueling areas. Chemicals, solvents, and fuels will be kept at least 100 feet from streams and riparian areas, unless placed within secondary containment. Any section of pipeline that parallels drainages may be located within the 100-year floodplain. Secondary containment consisting of materials that are impervious to the material being stored (e.g., diking and/or earthen berms with liner) will be used around liquids materials handling and storage areas to prevent spilled material from reaching the waters of the state. Areas which require containment structures include: (i) liquid and hazardous waste drum storage areas, (ii) bulk storage tanks, and (iii) tanker trucks if parked at one location for more than two days. No chemicals or fuel will be transferred within 100 feet of stream banks. Drip pans or other suitable containment devices will be installed to collect all vehicle fluids when performing on-site maintenance. All waste fluids will be removed from the site and disposed of properly.

To mitigate these potential impacts, MVP will implement the FERC Plan and Procedures and its E&SCP, specifically with respect to erosion and sedimentation control, bank stabilization, and bank revegetation, which will minimize impacts related to turbidity and sediment transport into adjacent waterbodies.

MVP will continue to consult with agencies during the permitting process to identify additional appropriate site-specific mitigation measures relating to possible sediment runoff.

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Impacts to Waterbodies from Hydrostatic Testing Discharges and Mitigation Measures

Potential exists for scour, erosion and potential for sediment transport to adjacent waterbodies from hydrostatic testing discharges.

To mitigate these potential impacts, water discharged over land will be directed into energy dissipation devices, filter bags, or straw bale structures, which will be removed upon completion of testing. Typical drawings provided in MVP's E&SCP will include a drawing of a typical hydrostatic test dewatering structure. The hydrostatic test dewatering structure will be placed on a vegetated upland site that will allow water to flow away from the structure and any nearby work areas. The discharge rate will be regulated using valves and energy dissipation devices to prevent erosion and sediment transport. These measures will minimize scour, erosion, and sediment transport from hydrostatic testing.

Impacts to Waterbodies from Rock Blasting and Mitigation Measures

Temporary impacts from blasting rock in an open-cut crossing of a flowing waterbody can include a short-term increase in the sediment load in the waterbody during the period of trenching and injury to fish and mussels from the shock wave created by the blast. Exposure to high levels of suspended solids can cause loss of fish egg and fry, reduced natural fish movements, fish vacating areas of high suspended solids, and other adverse impacts on fisheries resources.

To avoid these potential impacts, the following mitigation measures will be implemented by MVP:

- MVP will adhere to the FERC Plan and Procedures and will develop a Project-specific Blasting Plan to follow when blasting rock in an open-cut crossing of a waterbody. Blasting for trench excavation will be considered only after all other reasonable means of excavation are determined to be unlikely to achieve the required results. Blasting in smaller streams would be done during low flow or dry periods.

2.3 WETLAND RESOURCES

The U.S. Army Corps of Engineers (USACE) and USEPA jointly define wetlands as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Environmental Laboratory 1987). The FERC defines wetlands as any area that is not in actively cultivated or rotated cropland and that satisfies the requirements of the current federal methodology for identifying and delineating wetlands. Wetlands generally include swamps, marshes, bogs, and similar areas.

2.3.1 Wetland Crossings

MVP is conducting wetland delineations in accordance with the 1987 USACE Wetlands Delineation Manual (Environmental Laboratory 1987) and the regional USACE supplements applicable to the Project. The Eastern Mountains and Piedmont Regional Supplement was used for the Project facilities (USACE 2012). Wetland data discussed in this section of draft Resource Report 2 is based on National Wetlands Inventory (NWI) data. According to this data, 21 wetlands would be crossed by the proposed pipeline. Based on surveyed field data collected through April 28, 2015, where right-of-way access has been granted, 67 wetlands would be crossed by the proposed pipeline. In Appendix 2-B, Table 2-B-1 and

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Table 2-B-2 list the wetland crossings for NWI and survey field data, respectively. Final wetland crossing information will be updated based on the final alignment and field delineated features where right-of-way access is been granted, and will be provided in Resource Report 2 included with MVP's application to FERC. Table 2.3-1 is summary of wetlands crossed by the entire length of the Project based on NWI data.

NWI Maps are provided in Appendix 2-C, Figure 2-C-1 of this report.

Table 2.3-1

Summary of Wetlands Crossed by the MVP Project (acres) a/

State	Total Wetlands Affected	PEM b/	PSS	PFO Construction Impacts c/	PFO Operational Impacts d/
West Virginia	3.4	0.2	--	2.3	0.9
Virginia	5.1	0.4	0.8	2.9	1.1
Total	**8.5**	**0.6**	**0.8**	**5.1**	**2.0**

Source: USFWS 2009

a/ Table populated with NWI data. The use of NWI data is not an accurate account of wetlands on the ground. Acres will be updated and finalized with field verified data in Resource Report 2 filed with MVP's application to the FERC.

b/ Includes open water

c/ PFO wetlands including riverine wetland types from the NWI dataset

d/ Impacts are calculated based on a 30' wide maintained right-a-way

2.3.2 Types of Wetlands

The wetland classification system used follows the naming convention found in Classification of Wetlands and Deepwater Habitats of the United States (Cowardin 1979). This classification includes five major systems, including marine, estuarine, riverine, lacustrine, and palustrine. The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppm.

Four Palustrine wetland classes are located in the Project survey corridor: palustrine emergent (PEM), palustrine scrub/shrub (PSS), palustrine forested (PFO), palustrine open water (POW). Classes describe the general appearance of the habitat in terms of either the dominant life form of the vegetation or the physiography and composition of the substrate. Life-forms (e.g., trees, shrubs, and emergents) are used to define classes because they are easily recognizable, do not change distribution rapidly, and have traditionally been used to classify wetlands. The four classes are as follows:

Palustrine Scrub/Shrub (PSS) – Scrub/shrub wetlands are characterized by woody vegetation that is generally less than 6 meters (~20 feet) tall. The woody angiosperms (i.e., small trees or shrubs) in this broad leaved deciduous community have relatively wide, flat leaves that are shed annually during the cold or dry season.

Palustrine Forested (PFO) – Forested wetlands are characterized by woody vegetation that is 6 meters in height or taller. The woody angiosperms (i.e., trees or shrubs) in this broad leaved deciduous community have relatively wide, flat leaves that are shed annually during the cold or dry season.

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Palustrine Emergent (PEM) – Emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

Palustrine Open Water (POW) – Open water communities generally have water depths of less than 6.6 feet (2 meters) and remain permanently inundated.

2.3.3 Wetland Crossing Methods

Crossing of jurisdictional wetlands will be completed in accordance with state and federal permits and the FERC Plan and Procedures. Wetland crossing construction methods are discussed in greater detail in Resource Report 1.

Operation of construction equipment in wetlands will be limited to that needed to clear the right-of-way, dig the trench, fabricate the pipe, install the pipe, backfill the trench, and restore the right-of-way. MVP will segregate the topsoil up to one foot in depth over the trench line in wetlands where hydrologic conditions permit this practice (where soils are not saturated).

Restoration and monitoring of wetland crossings will be conducted in accordance with the FERC Plan and Procedures to ensure successful wetland revegetation. In accordance with FERC's Procedures, fuel will not be stored within 100 feet of wetlands or other waterbodies during construction.

Hydrological conditions in wetlands will likely dictate the use of either conventional open ditch lay or open ditch push/pull lay methods. Selection of the most appropriate method will depend on site-specific weather conditions, inundation, soil saturation, and soil stability at the time of construction. The conventional open ditch lay method will be the most frequently used technique for installation of the pipeline in wetlands. In general, the push/pull lay method will be used in long wetland crossings that are inundated or saturated with groundwater at or near the surface at the time of the crossing. Selection of the push/pull method will be decided during construction by the construction supervisor and/or the MVP representative depending on the conditions at the time of construction.

MVP has considered the avoidance of potential impacts to wetlands in selecting its proposed route. Where wetlands cannot be avoided, MVP will seek to minimize impacts through the use of wetland construction procedures. MVP is committed to constructing the Project in accordance with FERC's Plan and Procedures and MVP's E&SCP to the maximum extent practical. MVP will request site-specific variances, if necessary, to Section VI.B.1 (location of extra workspaces in wetlands) of FERC's Procedures providing a location-specific justification for each requested variance. General wetland crossing methods are described below.

Unsaturated Wetland Crossings

In crossing unsaturated wetlands (wetlands without standing water or saturated soils), construction will be similar to the typical upland construction described in Resource Report 1, with some exceptions. One exception is that only one traffic lane will be provided for construction equipment in unsaturated wetlands. Another exception is MVP may identify specific locations where it would use a wider construction right-of-way in wetlands than the nominal 75-foot construction right-of-way required by the FERC Procedures. If this is necessary, MVP will request a variance from Section VI of the FERC Procedures and will provide site-specific reasoning for the request. If normal construction equipment activity causes rutting or mixing

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of wetland topsoil and subsoil, low-ground-pressure equipment will be used, or temporary equipment mats will be installed to allow passage of equipment with minimal disturbance of the surface and vegetation. Trees will be cut to grade, but stumps will only be removed within 15 feet of the edge of the pipe trench, or where safety concerns dictate otherwise. Topsoil over the pipe trench will be segregated from subsoils. A vegetation buffer zone will be left between the wetland and the upland construction areas, except for the pipe trench and travel lane. Erosion control measures such as silt fences, interceptor dikes, and hay bale structures will be installed and maintained to minimize sedimentation within the wetland. Trench plugs will be installed where necessary to prevent the unintentional draining of water from the wetland. Upon completion of construction, the right-of-way will be restored and a 10-foot wide strip centered on the pipeline will be maintained in an herbaceous state.

Saturated Wetland Crossings

For the purposes of this report, saturated wetlands include wetlands with standing water or highly saturated soils at the time of construction, but not those wetlands that are constantly or regularly completely submerged. Topsoil segregation will not be practical in saturated wetlands. Otherwise, construction will be similar as described for unsaturated wetlands to provide for anticipated widths of the pipeline trench and trench spoil areas. Equipment mats or timbers will be used to facilitate equipment movement through and work within the wetland. Equipment not associated with the pipeline construction within the wetland will be allowed to pass through the wetland when there is no other reasonable access, as provided in the FERC Procedures. For long wetland crossings with standing water or groundwater levels at or near the surface, MVP may use the push/pull technique (see above).

2.3.4 Construction and Operation Impacts and Mitigation

Temporary construction impacts in wetlands may include loss of herbaceous and scrub/shrub vegetation, wildlife habitat disruption, soil disturbance associated with grading, trenching, and stump removal, sedimentation and turbidity increases, and hydrological profile changes. Impacts to forested wetlands may include long-term conversion to emergent and/or scrub/shrub wetland types as a result of tree removal within the construction and operational right-of-way.

ATWS areas will typically be required near wetlands to stage construction, fabricate the pipeline, and store materials. ATWS areas will, to the extent practicable, be located in upland areas a minimum of 50 feet from the wetland edge.

Operation of construction equipment through wetlands will be limited to only that necessary for each stage of pipeline installation. Topsoil segregation techniques will be used in unsaturated wetlands to preserve the seed bank and to facilitate successful restoration. Wetland crossing methods will be determined based on site-specific conditions. Wetlands with soils that can support construction equipment may be crossed using the conventional open-cut method, as described below, with the use of timber mats to prevent soil rutting. In forested wetlands, MVP will minimize tree clearing to the extent practicable while maintaining safe construction conditions. A typical right-of-way cross section drawing for wetland crossings is provided in Appendix 1-D in Resource Report 1.

Fuel will not be stored or equipment refueled within 100 feet of wetlands or other waterbodies. Additionally, MVP will obtain and adhere to the requirements of the permits related to wetland impacts for the Project.

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General Wetland Mitigation Strategies

- In addition to wetlands crossing avoidance or minimization during route design and selection of appropriate crossing techniques, MVP will limit wetland impacts by adherence to the FERC Plan and Procedures and applicable permit requirements.
- Trees will be cut to grade, but stumps will only be removed directly over the trenchline, or where safety concerns dictate otherwise. This will allow existing vegetation to recover more rapidly in the remainder of the right-of-way once the equipment mats and spoil piles have been removed.
- Operation of construction equipment in wetlands will be limited to that needed to clear the right-of-way, excavate the trench, fabricate the pipe, install the pipe, backfill the trench, and restore the right-of-way.
- After the pipeline is installed in the trench, MVP will backfill the ditch with the spoil excavated from the wetland. If dewatering of the trench is necessary, it will be conducted in a manner designed to prevent heavily silt-laden water from entering a waterbody or undisturbed portions of the wetland. Following backfilling, the segregated topsoil will be spread over the area from which it was stripped and restored to approximate pre-construction contour. MVP will remove any timber riprap, timber mats, or other material from the wetland after construction.
- No herbicides, pesticides, lime, fertilizer, or mulch will be used in wetland areas unless required in writing by the appropriate land management or state agency.
- As described in the FERC Plan and Procedures, and in connection with the Wildlife Habitat Council, MVP will develop a project-specific wetland restoration plan where needed in consultation with the appropriate land management or state agencies. In general, MVP will seed wetland areas that are not inundated with standing water with an annual seed mix following the written recommendations for seed mixes, rates, and dates obtained from the appropriate soil conservation authorities. Topsoil segregation in unsaturated wetlands will preserve the native seed source, which will facilitate regrowth of wetland herbaceous and/or woody plant species through natural succession.

Impacts to Forested Wetlands and Mitigation Measures

After the pipeline is constructed, MVP will periodically remove woody species from forested wetlands to facilitate post-construction inspections along the permanently maintained pipeline right-of-way. USDOT regulations limit the re-growth of trees over the pipeline. This operational requirement would result in the long-term conversion of some forested wetlands to emergent and/or scrub/shrub wetland types.

Crossing of the pipeline through forested wetlands has been minimized to the maximum extent practicable through Project siting where appropriate and practical. Clearing for construction within forested wetlands and vegetation maintenance during pipeline operation will be limited per the FERC Procedures, such that only the minimum width needed for pipeline protection and surveillance is maintained, in an effort to reduce permanent impacts to forested wetlands.

As required by the FERC Procedures, MVP will maintain no more than a 10-foot-wide strip centered over the pipeline in an herbaceous state and will only remove woody vegetation greater than 15 feet in height within a 30-foot-wide strip centered over the pipeline. This will result in a 10-foot wide strip of herbaceous

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vegetation centered over the pipeline flanked by a potential shrub (PSS wetland type) strip of 10-foot width on either side.

Impacts to Adjacent Wetlands from Hydrological Profile Changes and Mitigation Measures

Hydrological profile changes from construction activities could adversely affect undisturbed wetlands adjacent to the construction right-of-way. In order to avoid these impacts, pre-construction wetland conditions including contours in the construction right-of-way will be restored to the extent possible.

Impacts to Adjacent Wetlands from Accidental Spills and Mitigation Measures

During construction, accidental spills of fuels, oils or other hazardous materials during wetland crossings could adversely affect adjacent undisturbed wetlands or reduce the successful restoration of wetlands in the construction right-of-way.

In order to avoid these impacts, MVP will develop a Project-specific SPCC Plan for implementation during construction. The SPCC Plan will describe preventive measures such as personnel training, equipment inspection, and refueling procedures to reduce the likelihood of spills. It also includes mitigation measures, such as containment and cleanup, to minimize potential impacts should a spill occur. MVP will minimize the potential impact of spills of hazardous materials by adhering to this Project-specific SPCC Plan, which will be available in the field during construction. Fuel will not be stored or equipment refueled within 100 feet of wetlands or other waterbodies. A copy of the SPCC plan will be filed with FERC when available.

2.4 REFERENCES

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Mountain Valley Pipeline Project

Docket No. PF15-3

Resource Report 2

Appendix 2-A
Waterbody Crossing Tables

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Table 2-A-1

Watersheds Crossed by the MVP Project

State/County	HUC 02	Region	HUC 8	Sub-Basin	HUC10	Watershed	MP Begin	MP End
West Virginia								
Wetzel	05	Ohio Region	05030201	Little Muskingum-Middle Island	0503020102	Fishing Creek	0.0	9.3
Wetzel	05	Ohio Region	05020002	West Fork	0502000205	Tenmile Creek	9.4	9.6
Harrison	05	Ohio Region	05020002	West Fork	0502000205	Tenmile Creek	9.7	31.1
Harrison	05	Ohio Region	05030201	Little Muskingum-Middle Island	0503020104	Headwaters Middle Island Creek	31.2	31.2
Doddridge	05	Ohio Region	05030201	Little Muskingum-Middle Island	0503020104	Headwaters Middle Island Creek	31.3	32.3
Harrison	05	Ohio Region	05030201	Little Muskingum-Middle Island	0503020104	Headwaters Middle Island Creek	32.3	32.3
Harrison	05	Ohio Region	05020002	West Fork	0502000205	Tenmile Creek	32.4	33.3
Harrison	05	Ohio Region	05030201	Little Muskingum-Middle Island	0503020104	Headwaters Middle Island Creek	33.4	33.4
Doddridge	05	Ohio Region	05030201	Little Muskingum-Middle Island	0503020104	Headwaters Middle Island Creek	33.4	33.4
Doddridge	05	Ohio Region	05030201	Little Muskingum-Middle Island	0503020104	Headwaters Middle Island Creek	33.4	33.4
Doddridge	05	Ohio Region	05020002	West Fork	0502000205	Tenmile Creek	33.4	33.4
Doddridge	05	Ohio Region	05020002	West Fork	0502000205	Tenmile Creek	33.4	33.4
Doddridge	05	Ohio Region	05030201	Little Muskingum-Middle Island	0503020104	Headwaters Middle Island Creek	33.5	33.5
Doddridge	05	Ohio Region	05020002	West Fork	0502000205	Tenmile Creek	33.5	33.5
Doddridge	05	Ohio Region	05030201	Little Muskingum-Middle Island	0503020104	Headwaters Middle Island Creek	33.6	36.3
Doddridge	05	Ohio Region	05020002	West Fork	0502000203	Middle West Fork River	36.3	36.3
Doddridge	05	Ohio Region	05030201	Little Muskingum-Middle Island	0503020104	Headwaters Middle Island Creek	36.4	36.5
Doddridge	05	Ohio Region	05030201	Little Muskingum-Middle Island	0503020104	Headwaters Middle Island Creek	36.6	37.1
Harrison	05	Ohio Region	05020002	West Fork	0502000203	Middle West Fork River	36.6	36.6
Doddridge	05	Ohio Region	05020002	West Fork	0502000203	Middle West Fork River	36.6	36.6
Doddridge	05	Ohio Region	05020002	West Fork	0502000203	Middle West Fork River	36.6	36.6
Doddridge	05	Ohio Region	05020002	West Fork	0502000203	Middle West Fork River	37.1	37.1
Harrison	05	Ohio Region	05020002	West Fork	0502000203	Middle West Fork River	37.2	37.7
Lewis	05	Ohio Region	05020002	West Fork	0502000203	Middle West Fork River	37.8	43.0
Lewis	05	Ohio Region	05030203	Little Kanawha	0503020302	Leading Creek	43.1	45.0
Lewis	05	Ohio Region	05020002	West Fork	0502000203	Middle West Fork River	45.1	46.4
Lewis	05	Ohio Region	05020002	West Fork	0502000201	Upper West Fork River	46.5	46.5
Lewis	05	Ohio Region	05030203	Little Kanawha	0503020302	Leading Creek	46.6	46.6

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Table 2-A-1

Watersheds Crossed by the MVP Project

State/County	HUC 02	Region	HUC 8	Sub-Basin	HUC10	Watershed	MP Begin	MP End
Lewis	05	Ohio Region	05020002	West Fork	0502000201	Upper West Fork River	46.6	46.7
Lewis	05	Ohio Region	05030203	Little Kanawha	0503020302	Leading Creek	46.7	46.7
Lewis	05	Ohio Region	05020002	West Fork	0502000201	Upper West Fork River	46.8	46.9
Lewis	05	Ohio Region	05030203	Little Kanawha	0503020302	Leading Creek	47.0	47.0
Lewis	05	Ohio Region	05020002	West Fork	0502000201	Upper West Fork River	47.0	47.0
Lewis	05	Ohio Region	05030203	Little Kanawha	0503020302	Leading Creek	47.1	48.0
Lewis	05	Ohio Region	05020002	West Fork	0502000201	Upper West Fork River	48.1	48.1
Lewis	05	Ohio Region	05030203	Little Kanawha	0503020302	Leading Creek	48.2	48.2
Lewis	05	Ohio Region	05020002	West Fork	0502000201	Upper West Fork River	48.2	48.9
Lewis	05	Ohio Region	05030203	Little Kanawha	0503020302	Leading Creek	49.0	49.0
Lewis	05	Ohio Region	05020002	West Fork	0502000201	Upper West Fork River	49.0	49.0
Lewis	05	Ohio Region	05030203	Little Kanawha	0503020302	Leading Creek	49.1	49.1
Lewis	05	Ohio Region	05020002	West Fork	0502000201	Upper West Fork River	49.1	49.6
Lewis	05	Ohio Region	05030203	Little Kanawha	0503020301	Sand Fork	49.7	59.7
Lewis	05	Ohio Region	05030203	Little Kanawha	0503020303	Upper Little Kanawha River	59.8	65.8
Braxton	05	Ohio Region	05030203	Little Kanawha	0503020303	Upper Little Kanawha River	65.9	78.8
Braxton	05	Ohio Region	05050007	Elk	0505000703	Holly River	78.9	80.6
Webster	05	Ohio Region	05050007	Elk	0505000703	Holly River	80.7	86.1
Webster	05	Ohio Region	05050007	Elk	0505000706	Middle Elk River	86.2	91.4
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	91.5	91.5
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	91.6	91.9
Webster	05	Ohio Region	05050007	Elk	0505000706	Middle Elk River	91.6	91.6
Webster	05	Ohio Region	05050007	Elk	0505000706	Middle Elk River	92.0	92.0
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	92.1	102.5
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	102.5	102.5
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	102.5	102.5
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	102.6	102.6
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	102.6	102.6
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	102.7	102.7
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	102.8	102.9
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	102.9	102.9
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	103.0	103.0
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	103.1	103.1
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	103.2	103.2
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	103.3	103.3
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	103.4	103.4
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	103.4	103.4
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	103.4	103.4
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	103.5	103.5
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	103.5	103.5

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Table 2-A-1

Watersheds Crossed by the MVP Project

State/County	HUC 02	Region	HUC 8	Sub-Basin	HUC10	Watershed	MP Begin	MP End
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	103.6	103.6
Webster	05	Ohio Region	05050007	Elk	0505000702	Laurel Creek	103.7	103.7
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	103.8	105.1
Webster	05	Ohio Region	05050005	Gauley	0505000503	Headwaters Gauley River	105.2	105.3
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	105.4	105.4
Webster	05	Ohio Region	05050005	Gauley	0505000503	Headwaters Gauley River	105.4	105.5
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	105.6	105.6
Webster	05	Ohio Region	05050005	Gauley	0505000503	Headwaters Gauley River	105.7	105.8
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	105.9	107.4
Webster	05	Ohio Region	05050007	Elk	0505000704	Birch River	107.5	107.5
Webster	05	Ohio Region	05050005	Gauley	0505000503	Headwaters Gauley River	107.5	107.5
Webster	05	Ohio Region	05050005	Gauley	0505000503	Headwaters Gauley River	107.6	109.7
Nicholas	05	Ohio Region	05050005	Gauley	0505000503	Headwaters Gauley River	109.8	110
Webster	05	Ohio Region	05050005	Gauley	0505000503	Headwaters Gauley River	110.1	110.8
Nicholas	05	Ohio Region	05050005	Gauley	0505000503	Headwaters Gauley River	110.9	113.5
Nicholas	05	Ohio Region	05050005	Gauley	0505000508	Outlet Gauley River	113.6	122.3
Nicholas	05	Ohio Region	05050005	Gauley	0505000505	Hominy Creek	122.4	133.1
Nicholas	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	133.2	133.2
Nicholas	05	Ohio Region	05050005	Gauley	0505000505	Hominy Creek	133.3	133.8
Nicholas	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	133.9	134
Nicholas	05	Ohio Region	05050005	Gauley	0505000505	Hominy Creek	134.1	134.3
Nicholas	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	134.4	134.4
Nicholas	05	Ohio Region	05050005	Gauley	0505000505	Hominy Creek	134.5	134.5
Nicholas	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	134.6	134.6
Nicholas	05	Ohio Region	05050005	Gauley	0505000505	Hominy Creek	134.7	134.7
Nicholas	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	134.7	134.7
Nicholas	05	Ohio Region	05050005	Gauley	0505000505	Hominy Creek	134.8	134.8
Nicholas	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	134.8	134.8
Nicholas	05	Ohio Region	05050005	Gauley	0505000505	Hominy Creek	134.9	135.2
Greenbrier	05	Ohio Region	05050005	Gauley	0505000505	Hominy Creek	135.3	135.7
Greenbrier	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	135.8	135.8
Greenbrier	05	Ohio Region	05050005	Gauley	0505000505	Hominy Creek	135.9	136.3
Greenbrier	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	136.4	154
Fayette	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	154.1	154.5
Greenbrier	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	154.6	156.8
Summers	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	156.8	156.8
Summers	05	Ohio Region	05050005	Gauley	0505000402	Glade Creek-New River	156.9	156.9
Summers	05	Ohio Region	05050004	Lower New	0505000506	Meadow River	157.0	157.6
Summers	05	Ohio Region	05050005	Gauley	0505000402	Glade Creek-New River	157.7	157.7
Summers	05	Ohio Region	05050004	Lower New	0505000506	Meadow River	157.8	158.5

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Watersheds Crossed by the MVP Project

State/County	HUC 02	Region	HUC 8	Sub-Basin	HUC10	Watershed	MP Begin	MP End
Summers	05	Ohio Region	05050005	Gauley	0505000402	Glade Creek-New River	158.6	158.6
Summers	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	158.6	158.6
Summers	05	Ohio Region	05050004	Lower New	0505000402	Glade Creek-New River	158.6	158.6
Summers	05	Ohio Region	05050004	Lower New	0505000402	Glade Creek-New River	158.6	158.6
Summers	05	Ohio Region	05050004	Lower New	0505000506	Meadow River	158.6	158.6
Summers	05	Ohio Region	05050005	Gauley	0505000506	Meadow River	158.7	158.8
Summers	05	Ohio Region	05050005	Gauley	0505000402	Glade Creek-New River	158.9	159
Summers	05	Ohio Region	05050004	Lower New	0505000506	Meadow River	159.1	159.4
Summers	05	Ohio Region	05050005	Gauley	0505000402	Glade Creek-New River	159.4	159.4
Summers	05	Ohio Region	05050004	Lower New	0505000506	Meadow River	159.4	159.4
Summers	05	Ohio Region	05050005	Gauley	0505000402	Glade Creek-New River	159.5	159.6
Summers	05	Ohio Region	05050004	Lower New	0505000506	Meadow River	159.7	159.9
Summers	05	Ohio Region	05050005	Gauley	0505000402	Glade Creek-New River	160.0	160.0
Summers	05	Ohio Region	05050004	Lower New	0505000506	Meadow River	160.1	160.4
Summers	05	Ohio Region	05050005	Gauley	0505000402	Glade Creek-New River	160.5	160.6
Summers	05	Ohio Region	05050004	Lower New	0505000506	Meadow River	160.7	160.7
Summers	05	Ohio Region	05050005	Gauley	0505000402	Glade Creek-New River	160.8	160.8
Summers	05	Ohio Region	05050004	Lower New	0505000506	Meadow River	160.9	160.9
Summers	05	Ohio Region	05050005	Gauley	0505000402	Glade Creek-New River	161.0	161.0
Summers	05	Ohio Region	05050004	Lower New	0505000506	Meadow River	161.1	161.2
Summers	05	Ohio Region	05050005	Gauley	0505000402	Glade Creek-New River	161.3	163.3
Summers	05	Ohio Region	05050004	Lower New	0505000309	Wolf Creek-Greenbrier River	163.4	163.4
Summers	05	Ohio Region	05050003	Greenbrier	0505000402	Glade Creek-New River	163.5	163.6
Summers	05	Ohio Region	05050004	Lower New	0505000309	Wolf Creek-Greenbrier River	163.7	163.8
Summers	05	Ohio Region	05050003	Greenbrier	0505000402	Glade Creek-New River	163.9	164.0
Summers	05	Ohio Region	05050004	Lower New	0505000309	Wolf Creek-Greenbrier River	164.1	164.3
Summers	05	Ohio Region	05050003	Greenbrier	0505000402	Glade Creek-New River	164.4	164.4
Summers	05	Ohio Region	05050004	Lower New	0505000309	Wolf Creek-Greenbrier River	164.5	173.2
Monroe	05	Ohio Region	05050003	Greenbrier	0505000309	Wolf Creek-Greenbrier River	173.3	179.0
Monroe	05	Ohio Region	05050003	Greenbrier	0505000207	Indian Creek	179.0	179.0
Monroe	05	Ohio Region	05050003	Greenbrier	0505000309	Wolf Creek-Greenbrier River	179.1	179.1
Monroe	05	Ohio Region	05050003	Greenbrier	0505000309	Wolf Creek-Greenbrier River	179.1	179.2
Monroe	05	Ohio Region	05050002	Middle New	0505000207	Indian Creek	179.1	179.1
Monroe	05	Ohio Region	05050002	Middle New	0505000207	Indian Creek	179.3	179.4
Monroe	05	Ohio Region	05050003	Greenbrier	0505000309	Wolf Creek-Greenbrier River	179.5	179.5
Monroe	05	Ohio Region	05050002	Middle New	0505000207	Indian Creek	179.5	179.5
Monroe	05	Ohio Region	05050002	Middle New	0505000309	Wolf Creek-Greenbrier River	179.6	179.7
Monroe	05	Ohio Region	05050003	Greenbrier	0505000207	Indian Creek	179.8	180.0
Monroe	05	Ohio Region	05050002	Middle New	0505000309	Wolf Creek-Greenbrier River	180.1	180.1
Monroe	05	Ohio Region	05050002	Middle New	0505000207	Indian Creek	180.2	189.8

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Table 2-A-1

Watersheds Crossed by the MVP Project

State/County	HUC 02	Region	HUC 8	Sub-Basin	HUC10	Watershed	MP Begin	MP End
Monroe	05	Ohio Region	05050002	Middle New	0505000206	East River-New River	189.9	189.9
Monroe	05	Ohio Region	05050002	Middle New	0505000207	Indian Creek	189.9	189.9
Monroe	05	Ohio Region	05050002	Middle New	0505000206	East River-New River	190.0	195.1
Virginia								
Giles	05	Ohio Region	05050002	Middle New	0505000206	East River-New River	195.2	195.2
Giles	05	Ohio Region	05050002	Middle New	0505000203	Sinking Creek-New River	195.2	212.3
Montgomery	02	Mid-Atlantic Region	02080201	Upper James	0208020110	Upper Craig Creek	212.4	213.9
Montgomery	05	Ohio Region	05050002	Middle New	0505000203	Sinking Creek-New River	212.4	212.4
Montgomery	05	Ohio Region	05050001	Upper New	0505000118	Back Creek-New River	214.0	216.2
Montgomery	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010102	North Fork Roanoke River	216.3	225.9
Montgomery	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010103	Mason Creek-Roanoke River	226.0	226.6
Montgomery	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010102	North Fork Roanoke River	226.7	226.7
Montgomery	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010103	Mason Creek-Roanoke River	226.8	226.9
Montgomery	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010102	North Fork Roanoke River	227.0	227.0
Montgomery	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010103	Mason Creek-Roanoke River	227.1	229.1
Roanoke	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010103	Mason Creek-Roanoke River	229.2	232.5
Roanoke	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010101	South Fork Roanoke River	232.6	238.6
Roanoke	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010105	Upper Blackwater River	238.7	238.7
Franklin	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010105	Upper Blackwater River	238.7	260.4
Franklin	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010106	Lower Blackwater River	260.5	268.0
Franklin	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010108	Upper Pigg River	268.1	274.4
Franklin	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010110	Lower Pigg River	274.5	274.7
Pittsylvania	03	South Atlantic-Gulf Region	03010101	Upper Roanoke	0301010110	Lower Pigg River	274.8	284.1
Pittsylvania	03	South Atlantic-Gulf Region	03010105	Banister	0301010501	Cherrystone Creek-Banister River	284.2	288.8
Pittsylvania	03	South Atlantic-Gulf Region	03010105	Banister	0301010502	Stinking River-Banister River	288.9	290.2
Pittsylvania	03	South Atlantic-Gulf Region	03010105	Banister	0301010501	Cherrystone Creek-Banister River	290.2	290.2
Pittsylvania	03	South Atlantic-Gulf Region	03010105	Banister	0301010502	Stinking River-Banister River	290.3	290.3
Pittsylvania	03	South Atlantic-Gulf Region	03010105	Banister	0301010501	Cherrystone Creek-Banister River	290.4	294.1

Source: USGS 2015

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Table 2-A-2

Desktop Data Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
West Virginia									
Wetzel	NHD1	North Fork Fishing Creek	0.6	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Wetzel	NHD2	Fallen Timber Run	2.3	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Wetzel	NHD3	Price Run	5.0	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Wetzel	NHD4	Stout Run	6.6	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Wetzel	NHD5	Sams Run	7.9	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Wetzel	NHD6	Manion Run	8.9	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD7	Right Fork Big Elk Creek	11.3	Perennial	Open cut	TBD	TBD	A,B,C, D	Warmwater
Harrison	NHD8	Goose Run	12.2	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD9	Little Tenmile Creek	15.5	Perennial	Open cut	TBD	TBD	A,B,C, D	Warmwater
Harrison	NHD10	Little Rockcamp Run	17.9	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD11	Rockcamp Run	18.9	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD12	UNT/Grass Run	20.9	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD13	Grass Run	21.7	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD14	Indian Run	23.1	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD15	Salem Fork	26.0	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD16	UNT/ Halls Run	29.8	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD17	Halls Run	30.1	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD18	Coburn Fork	31.0	Intermittent	Open cut	TBD	TBD	A,B,C, E	Warmwater
Doddridge	NHD19	Traugh Fork	32.1	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD20	Turtletree Fork	32.6	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD21	UNT/ Turtletree Fork	32.7	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Doddridge	NHD22	Laurel Run	34.6	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Harrison	NHD23	Kincheloe Creek	37.7	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD24	Smoke Camp Run	41.0	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD25	Right Fork Freemans Creek	42.3	Perennial	Open cut	TBD	TBD	A,B,C, E	Warmwater
Lewis	NHD26	UNT/Right Fork Freemans Creek	42.8	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD27	Fink Creek	44.4	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD28	Left Fork Freemans Creek	45.6	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD29	Leading Creek	47.7	Intermittent	Open cut	TBD	TBD	A,B,C, D	Warmwater
Lewis	NHD30	UNT/Laurel Run	50.7	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD31	Laurel Run	50.8	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD32	Cove Lick	52.0	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD33	Sand Fork	54.8	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD34	Indian Fork	58.2	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD35	Sugarcamp Run	59.1	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD36	UNT/Indian Fork	59.6	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD37	Threelick Run	60.0	Intermittent	Open cut	TBD	TBD	A,B,C, D	Warmwater
Lewis	NHD38	Oil Creek	62.2	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Lewis	NHD39	Clover Fork	65.9	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Braxton	NHD40	Barbecue Run	67.8	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Braxton	NHD41	Left Fork Knawl Creek	69.0	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Braxton	NHD42	Knawl Creek	69.1	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater

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Table 2-A-2

Desktop Data Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Braxton	NHD43	Falls Run	72.9	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Braxton	NHD44	Hemp Patch Run	74.0	Intermittent	Open cut	TBD	TBD	A,B,C, E	Warmwater
Braxton	NHD45	UNT/ Little Kanawha River	74.5	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Braxton	NHD46	Little Kanawha River	75.3	Perennial	Open cut	Intermediate	63	B,C, E	Warmwater
Braxton	NHD47	Stonecoal Run	77.2	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Braxton	NHD48	UNT/Laurel Run	78.1	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Braxton	NHD49	UNT/Laurel Run	78.6	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Braxton	NHD50	Mudlick Run	80.2	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Webster	NHD51	Left Fork Holly River	82.0	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Webster	NHD52	UNT/ Oldlick Creek	82.6	Intermittent	Open cut	TBD	TBD	B,C	Coldwater
Webster	NHD53	Oldlick Creek	82.7	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Webster	NHD54	UNT/ Oldlick Creek	82.9	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Webster	NHD55	Right Fork Holly River	84.4	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Webster	NHD56	Elk River	87.6	Perennial	Open cut	Major	150	B,C	Coldwater
Webster	NHD57	Cow Run	87.9	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Webster	NHD58	Houston Run	91.0	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Webster	NHD59	UNT/ Camp Creek	92.7	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Webster	NHD60	Lower Laurel Fork	93.3	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Webster	NHD61	Camp Creek	93.4	Perennial	Open cut	TBD	TBD	A,B,C, D	Coldwater
Webster	NHD62	Amos Run	98.0	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Webster	NHD63	Lost Run	98.9	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Webster	NHD64	Laurel Creek	99.2	Perennial	Open cut	Intermediate	50	A,B,C	Coldwater
Webster	NHD65	UNT/ Birch River	104.9	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Webster	NHD66	UNT/ Meadow Fork	106.4	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Webster	NHD67	Meadow Fork	107.0	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Webster	NHD68	Strouds Creek	110.1	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Nicholas	NHD69	Barn Run	111.3	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Nicholas	NHD70	Cherry Run	113.1	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Nicholas	NHD71	UNT/ Big Beaver Creek	113.8	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Nicholas	NHD72	Big Beaver Creek	114.2	Perennial	Open cut	Intermediate	58	A,B,C	Warmwater
Nicholas	NHD73	UNT/ Big Beaver Creek	114.7	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Nicholas	NHD74	Big Beaver Creek	116.1	Perennial	Open cut	Intermediate	46	A,B,C	Warmwater
Nicholas	NHD75	Granny Run	117.0	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Nicholas	NHD76	Big Run	117.5	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Nicholas	NHD77	UNT/ Gauley River	118.1	Intermittent	Open cut	TBD	TBD	B,C	Warmwater
Nicholas	NHD78	UNT/ Gauley River	118.4	Intermittent	Open cut	TBD	TBD	B,C	Warmwater
Nicholas	NHD79	Gauley River	118.9	Perennial	Open cut	Major	282	B,C	Warmwater
Nicholas	NHD80	UNT/Little Laurel Creek	120.2	Intermittent	Open cut	TBD	TBD	A,B,C, D	Coldwater
Nicholas	NHD81	Skelt Run	122.6	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Nicholas	NHD82	Jims Creek	123.4	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Nicholas	NHD83	UNT/ Riley Branch	124.5	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Nicholas	NHD84	Riley Branch	124.7	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Nicholas	NHD85	UNT/ Hominy Creek	125.5	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater

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Table 2-A-2

Desktop Data Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Nicholas	NHD86	UNT/ Hominy Creek	126.0	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Nicholas	NHD87	Hominy Creek	126.9	Perennial	Open cut	Intermediate	78	A,B,C	Coldwater
Nicholas	NHD88	UNT/ Hominy Creek	128.2	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Nicholas	NHD89	Sugar Branch	130.4	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Nicholas	NHD90	UNT/ Hominy Creek	131.4	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Nicholas	NHD91	UNT/ Hominy Creek	132.3	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Greenbrier	NHD92	Meadow Creek	140.4	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Greenbrier	NHD93	Meadow River	144.1	Perennial	Open cut	Intermediate	78	B,C	Warmwater
Greenbrier	NHD94	Little Sewell Creek	147.1	Perennial	Open cut	TBD	TBD	A,B,C, D	Warmwater
Greenbrier	NHD95	UNT/ Boggs Creek	150.0	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Greenbrier	NHD96	Buffalo Creek	154.8	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Greenbrier	NHD97	Morris Fork	155.6	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Greenbrier	NHD98	UNT/ Meadow River	156.5	Intermittent	Open cut	TBD	TBD	B,C	Warmwater
Summers	NHD99	Lick Creek	162.5	Intermittent	Open cut	TBD	TBD	A,B,C, D	Warmwater
Summers	NHD100	Hungard Creek	169.2	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Summers	NHD101	Hungard Creek	169.7	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Summers	NHD102	Greenbrier River	170.5	Perennial	HDD	Intermediate	288	A,B,C	Warmwater
Summers	NHD103	Kelly Creek	171.7	Perennial	Open cut	TBD	TBD	Agriculture and Wildlife	Warmwater
Monroe	NHD104	Wind Creek	175.8	Perennial	Open cut	TBD	TBD	A,B,C, D	Warmwater
Monroe	NHD105	UNT/ Stony Creek	176.4	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD106	Stony Creek	178.1	Perennial	Open cut	TBD	TBD	Warmwater Fishery	Warmwater
Monroe	NHD107	UNT/ Little Stony Creek	178.8	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD108	Slate Run	181.3	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD109	Slate Run	181.4	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD110	Indian Creek	181.8	Perennial	Open cut	Intermediate	57	A,B,C, E	Warmwater
Monroe	NHD111	UNT/ Hans Creek	183.0	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD112	UNT/ Hans Creek	183.2	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD113	UNT/ Hans Creek	184.3	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD114	UNT/ Hans Creek	184.7	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD115	Hans Creek	186.5	Perennial	Open cut	TBD	TBD	A,B,C, E	Warmwater
Monroe	NHD116	UNT/ Blue Lick Creek	187.7	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD117	Blue Lick Creek	189.6	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD118	Dry Creek	190.7	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD119	UNT/ Painter Run	193.1	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Monroe	NHD120	Painter Run	193.2	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Monroe	NHD121	UNT/ Painter Run	193.2	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Monroe	NHD122	UNT/ Painter Run	193.7	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Monroe	NHD123	Rich Creek	194.7	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD124	UNT/ Kimballton Branch	195.7	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Giles	NHD125	UNT/ Kimballton Branch	196.2	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Giles	NHD126	UNT/ Kimballton Branch	197.5	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Giles	NHD127	Kimballton Branch	197.6	Perennial	Open cut	TBD	TBD	A,B,C	Warmwater

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Table 2-A-2

Desktop Data Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Giles	NHD128	UNT/ Stony Creek	198.8	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Giles	NHD129	Stony Creek	199.0	Perennial	Open cut	TBD	TBD	B,C	Warmwater
Giles	NHD130	UNT/ Stony Creek	199.7	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Giles	NHD131	Dry Branch	201.0	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Giles	NHD132	UNT/ Dry Branch	201.0	Intermittent	Open cut	TBD	TBD	A,B,C	Warmwater
Giles	NHD133	UNT/ Little Stony Creek	202.1	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD134	Little Stony Creek	202.8	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD135	UNT/Doe Creek	203.8	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD136	UNT/Doe Creek	204.2	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD137	UNT/Doe Creek	205.0	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD138	Doe Creek	205.0	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD139	UNT/ Sinking Creek	205.5	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD140	UNT/ Sinking Creek	205.7	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD141	UNT/ Sinking Creek	206.1	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD142	UNT/ Sinking Creek	206.7	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD143	UNT/ Sinking Creek	207.1	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD144	UNT/ Sinking Creek	207.3	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD145	UNT/ Sinking Creek	207.8	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD146	UNT/ Sinking Creek	207.9	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD147	UNT/ Sinking Creek	208.4	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD148	UNT/ Sinking Creek	209.0	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD149	UNT/ Sinking Creek	209.5	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD150	UNT/ Sinking Creek	210.1	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD151	Sinking Creek	211.2	Perennial	Open cut	TBD	TBD	A,B,C	Coldwater
Giles	NHD152	UNT/ Sinking Creek	211.4	Intermittent	Open cut	TBD	TBD	A,B,C	Coldwater
Virginia									
Montgomery	NHD153	Craig Creek	213.3	Intermittent	Open cut	TBD	TBD	AL,FC, R, W	No data
Montgomery	NHD154	UNT/ Craig Creek	213.4	Intermittent	Open cut	TBD	TBD	AL,FC, R, W	No data
Montgomery	NHD155	UNT/ Craig Creek	213.6	Intermittent	Open cut	TBD	TBD	AL,FC, R, W	No data
Montgomery	NHD156	UNT/ Craig Creek	214.5	Intermittent	Open cut	TBD	TBD	AL,FC, R, W	No data
Montgomery	NHD157	Toms Creek	214.9	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Montgomery	NHD158	UNT/ Toms Creek	215.1	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Montgomery	NHD159	UNT/ Toms Creek	216.0	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Montgomery	NHD160	Mossy Spring Branch	218.1	Intermittent	Open cut	TBD	TBD	AL,FC, R, W	No data
Montgomery	NHD161	Mill Creek	219.1	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Montgomery	NHD162	Mill Creek	219.1	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Montgomery	NHD163	UNT/ North Fork Roanoke River	220.2	Intermittent	Open cut	TBD	TBD	No data	No data
Montgomery	NHD164	North Fork Roanoke River	220.8	Perennial	Open cut	TBD	TBD	AL,FC, R, W	No data
Montgomery	NHD165	UNT/ North Fork Roanoke River	221.0	Intermittent	Open cut	TBD	TBD	No data	No data
Montgomery	NHD166	UNT/ North Fork Roanoke River	221.3	Intermittent	Open cut	TBD	TBD	No data	No data
Montgomery	NHD167	UNT/ Flatwoods Branch	222.5	Intermittent	Open cut	TBD	TBD	No data	No data
Montgomery	NHD168	UNT/ Flatwoods Branch	222.7	Intermittent	Open cut	TBD	TBD	No data	No data
Montgomery	NHD169	UNT/ Flatwoods Branch	222.9	Intermittent	Open cut	TBD	TBD	No data	No data

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Table 2-A-2

Desktop Data Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Montgomery	NHD170	Flatwoods Branch	223.0	Intermittent	Open cut	TBD	TBD	No data	No data
Montgomery	NHD171	Bradshaw Creek	224.1	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Montgomery	NHD172	UNT/ Roanoke River	227.3	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Montgomery	NHD173	UNT/ Roanoke River	227.4	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Montgomery	NHD174	Roanoke River	228.5	Perennial	Open cut	Intermediate	53	AL, FC, R, W, PWS	No data
Montgomery	NHD175	UNT/ Roanoke River	229.2	Perennial	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Roanoke	NHD176	UNT/ Roanoke River	230.8	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Roanoke	NHD177	UNT/ Roanoke River	231.2	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Roanoke	NHD178	Bottom Creek	233.0	Intermittent	Open cut	TBD	TBD	AL, FC, R, W	Coldwater
Roanoke	NHD179	Bottom Creek	233.2	Intermittent	Open cut	TBD	TBD	AL, FC, R, W	Coldwater
Roanoke	NHD180	UNT/Bottoms Creek	233.8	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Roanoke	NHD181	UNT/Bottoms Creek	234.1	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Roanoke	NHD182	Bottom Creek	234.9	Perennial	Open cut	TBD	TBD	AL, FC, R, W	Coldwater
Roanoke	NHD183	Bottom Creek	234.9	Perennial	Open cut	TBD	TBD	AL, FC, R, W	Coldwater
Roanoke	NHD184	Unnamed Pond	235.8	Lake/Pond Perennial	Open cut	TBD	TBD	No data	No data
Roanoke	NHD185	UNT/Mill Creek	236.0	Intermittent	Open cut	TBD	TBD	No data	No data
Roanoke	NHD186	Mill Creek	237.3	Perennial	Open cut	TBD	TBD	No data	Coldwater
Roanoke	NHD187	UNT/Mill Creek	237.6	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Roanoke	NHD188	UNT/Mill Creek	238.1	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Roanoke	NHD189	UNT/Mill Creek	238.2	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Franklin	NHD190	UNT/ Green Creek	238.8	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD191	Green Creek	239.1	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Franklin	NHD192	UNT/ Green Creek	239.4	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD193	UNT/ North Fork Blackwater River	241.1	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Franklin	NHD194	North Fork Blackwater River	241.6	Perennial	Open cut	TBD	TBD	AL, FC, R, W	Coldwater
Franklin	NHD195	UNT/ North Fork Blackwater River	242.5	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Franklin	NHD196	UNT/ North Fork Blackwater River	243.4	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Franklin	NHD197	UNT/ North Fork Blackwater River	243.6	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Franklin	NHD198	UNT/ Maggodee Creek	246.2	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD199	UNT/ Teels Creek	249.4	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD200	UNT/ Teels Creek	249.7	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD201	Teels Creek	250.4	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD202	Teels Creek	250.7	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD203	Teels Creek	250.9	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD204	UNT/ Teels Creek	250.9	Intermittent	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD205	Teels Creek	251.1	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD206	Teels Creek	251.3	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD207	Teels Creek	252.1	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD208	UNT/ Teels Creek	252.4	Intermittent	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD209	Teels Creek	253.1	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD210	UNT/ Little Creek	253.4	Intermittent	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD211	Little Creek	253.7	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD212	Little Creek	253.7	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data

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Table 2-A-2

Desktop Data Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Franklin	NHD213	Little Creek	254.5	Perennial	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Franklin	NHD214	Unnamed/Unknown	255.2	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Franklin	NHD215	Blackwater River	256.6	Perennial	Open cut	Intermediate	60	AL, FC, R, W, PWS	No data
Franklin	NHD216	Blackwater River	257.0	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Franklin	NHD217	UNT/ Blackwater River	258.2	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD218	UNT/ Blackwater River	258.4	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD219	UNT/Maggodee Creek	259.8	Intermittent	Open cut	TBD	TBD	No data	Coldwater
Franklin	NHD220	Maggodee Creek	260.3	Perennial	Open cut	Intermediate	42	AL, FC, R, W	Coldwater
Franklin	NHD221	Blackwater River	260.5	Perennial	Open cut	Intermediate	70	AL, FC, R, W	No data
Franklin	NHD222	UNT/ Blackwater River	261.4	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Franklin	NHD223	UNT/ Foul Ground Creek	261.8	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Franklin	NHD224	Foul Ground Creek	263.3	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Franklin	NHD225	UNT/ Foul Ground Creek	263.9	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Franklin	NHD226	UNT/ Foul Ground Creek	264.2	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Franklin	NHD227	UNT/ Poplar Camp Creek	265.1	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Franklin	NHD228	Poplar Camp Creek	265.3	Perennial	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Franklin	NHD229	UNT/ Blackwater River	265.9	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD230	UNT/ Blackwater River	266.2	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD231	UNT/ Blackwater River	266.9	Perennial	Open cut	TBD	TBD	No data	No data
Franklin	NHD232	UNT/ Blackwater River	267.4	Perennial	Open cut	TBD	TBD	No data	No data
Franklin	NHD233	Jacks Creek	268.3	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD234	UNT/ Jacks Creek	268.8	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD235	UNT/ Jacks Creek	269.2	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD236	UNT/ Jacks Creek	269.7	Perennial	Open cut	TBD	TBD	No data	No data
Franklin	NHD237	UNT/ Jacks Creek	270.1	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD238	UNT/ Little Jacks Creek	270.4	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD239	Little Jacks Creek	270.8	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD240	Turkey Creek	271.5	Perennial	Open cut	TBD	TBD	No data	No data
Franklin	NHD241	Dinner Creek	272.0	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD242	Polecat Creek	272.3	Intermittent	Open cut	TBD	TBD	No data	No data
Franklin	NHD243	Owens Creek	273.0	Perennial	Open cut	TBD	TBD	No data	No data
Franklin	NHD244	Strawfield Creek	273.2	Perennial	Open cut	TBD	TBD	No data	No data
Franklin	NHD245	Parrot Branch	273.9	Perennial	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD246	UNT/ Jonnikin Creek	275.3	Perennial	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD247	Jonnikin Creek	275.7	Perennial	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD248	UNT/Piggs River	276.6	Intermittent	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD249	UNT/Piggs River	277.2	Intermittent	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD250	UNT/Piggs River	277.5	Intermittent	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD251	UNT/Piggs River	278.0	Perennial	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD252	Pigg River	280.1	Perennial	Open cut	Major	112	AL, FC, R, W	No data
Pittsylvania	NHD253	Harpen Creek	280.8	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Pittsylvania	NHD254	Harpen Creek	281.4	Perennial	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD255	UNT/ Harpen Creek	282.7	Intermittent	Open cut	TBD	TBD	No data	No data

Table 2-A-2

Desktop Data Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Pittsylvania	NHD256	Harpen Creek	283.0	Perennial	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD257	UNT/ Harpen Creek	283.1	Intermittent	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD258	Cherrystone Creek	284.8	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Pittsylvania	NHD259	UNT/Cherrystone Creek	285.1	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Pittsylvania	NHD260	UNT/Cherrystone Creek	285.4	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Pittsylvania	NHD261	UNT/Cherrystone Creek	286.0	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Pittsylvania	NHD262	Pole Bridge Branch	287.4	Perennial	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Pittsylvania	NHD263	UNT/ Pole Bridge Branch	287.6	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Pittsylvania	NHD264	UNT/ Pole Bridge Branch	288.3	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Pittsylvania	NHD265	Mill Creek	289.8	Intermittent	Open cut	TBD	TBD	AL, FC, R, W, PWS	No data
Pittsylvania	NHD266	Little Cherrystone Creek	290.9	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Pittsylvania	NHD267	UNT/Cherrystone Creek	292.2	Perennial	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD268	UNT/ Little Cherrystone Creek	292.9	Perennial	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD269	Little Cherrystone Creek	293.1	Perennial	Open cut	TBD	TBD	AL, FC, R, W	No data
Pittsylvania	NHD270	UNT/ Little Cherrystone Creek	293.4	Perennial	Open cut	TBD	TBD	No data	No data
Pittsylvania	NHD271	UNT/ Little Cherrystone Creek	293.8	Intermittent	Open cut	TBD	TBD	No data	No data

Source: USGS 2015

Definitions

UNT – Unnamed Tributary

a/ Table to be updated and finalized with field verified data in Resource Report 2 filed with MVP's application to the FERC.

b/ Crossing method to be finalized in Resource Report 2 filed with MVP's application to the FERC.

c/ West Virginia State Water Classifications: (Source: WVDEP)

A = Public water
B = Propagation and Maintenance of fish and other aquatic life includes: warm water fishery, trout waters, and wetlands
C = Water Contact Recreation
D = Irrigation, Wildlife, Livestock watering
E = Water transport, Cooling water, Power production, Industrial

d/ Virginia State Water Classifications: (Source: VDEQ)

AL = Propagation and Maintenance of fish and other aquatic life
FC = Production of edible and marketable natural resources including fish and shellfish
R = Water Contact Recreation, including swimming and boating
W = Wildlife
PWS= Public Water Supply
No data = This stream has not been accessed by the VDEQ and there is no data.

e/ Fishery Type: (Source: WVDEP and VDGIF)

No data: No data was available in source documents.

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Table 2-A-3

Surveyed Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
West Virginia									
Nicholas	S-H101	UNT/ Big Beaver Creek	113.4	Perennial	Open cut	Intermediate	12	A,B,C	Warmwater
Nicholas	S-H100	UNT/ Big Beaver Creek	115.7	Perennial	Open cut	Minor	3	A,B,C	Warmwater
Nicholas	S-H99	UNT/ Big Beaver Creek	115.7	Perennial	Open cut	Minor	3	A,B,C	Warmwater
Nicholas	S-H98	UNT/ Big Beaver Creek	116.0	Intermittent	Open cut	Minor	4	A,B,C	Warmwater
Nicholas	S-H97	Big Beaver Creek	116.1	Perennial	Open cut	Intermediate	60	A,B,C	Warmwater
Nicholas	S-I43	UNT/ Big Beaver Creek	117.3	Intermittent	Open cut	Minor	10	A,B,C	Warmwater
Nicholas	S-I44	Big Run	117.5	Perennial	Open cut	Minor	8	A,B,C	Warmwater
Nicholas	S-I47	UNT/ Gauley River	118.1	Intermittent	Open cut	Minor	2	B,C	Warmwater
Nicholas	S-I48	UNT/ Gauley River	118.4	Perennial	Open cut	Minor	10	B,C	Warmwater
Nicholas	S-J29	Gauley River	118.9	Perennial	HDD	Major	100	B,C	Warmwater
Nicholas	S-J28	UNT/Little Laurel Creek	119.7	Intermittent	Open cut	Minor	5	A,B,C, D	Coldwater
Nicholas	S-J25	UNT/Little Laurel Creek	120.2	Ephemeral	Open cut	Minor	5	A,B,C, D	Coldwater
Nicholas	S-J24	UNT/Little Laurel Creek	120.3	Perennial	Open cut	Minor	10	A,B,C, D	Coldwater
Nicholas	S-J23	UNT/Little Laurel Creek	122.2	Ephemeral	Open cut	Minor	1	A,B,C, D	Coldwater
Nicholas	S-J22	UNT/Little Laurel Creek	122.3	Ephemeral	Open cut	Minor	3	A,B,C, D	Coldwater
Nicholas	S-I41	UNT/ Hominy Creek	126.8	Intermittent	Open cut	Minor	8	A,B,C	Coldwater
Nicholas	S-H88	Sugar Branch	130.4	Perennial	Open cut	Intermediate	40	A,B,C	Coldwater
Nicholas	S-H89	UNT/ Sugar Branch	130.4	Perennial	Open cut	Minor	4	A,B,C	Coldwater
Nicholas	S-H80	UNT/ Hominy Creek	131.1	Intermittent	Open cut	Minor	2	A,B,C	Coldwater
Nicholas	S-H70	UNT/ Hominy Creek	131.4	Ephemeral	Open cut	Minor	2	A,B,C	Coldwater
Nicholas	S-H71	UNT/ Hominy Creek	131.4	Perennial	Open cut	Intermediate	12	A,B,C	Coldwater
Nicholas	S-H70	UNT/ Hominy Creek	131.4	Ephemeral	Open cut	Minor	2	A,B,C	Coldwater
Nicholas	S-H71	UNT/ Hominy Creek	131.4	Perennial	Open cut	Intermediate	12	A,B,C	Coldwater
Nicholas	S-H66	UNT/ Hominy Creek	131.7	Intermittent	Open cut	Minor	10	A,B,C	Coldwater
Nicholas	S-H67	UNT/ Hominy Creek	131.7	Perennial	Open cut	Intermediate	12	A,B,C	Coldwater
Nicholas	S-H65	UNT/ Hominy Creek	131.9	Intermittent	Open cut	Minor	2	A,B,C	Coldwater
Nicholas	S-H64	UNT/ Hominy Creek	132.0	Intermittent	Open cut	Minor	3	A,B,C	Coldwater
Greenbrier	S-J20	Meadow Creek	140.4	Perennial	Open cut	Intermediate	30	A,B,C	Warmwater
Greenbrier	S-J20	Meadow Creek	140.4	Perennial	Open cut	Intermediate	30	A,B,C	Warmwater
Greenbrier	S-I25	UNT/ Meadow Creek	140.9	Intermittent	Open cut	Minor	5	A,B,C	Warmwater
Greenbrier	S-I26	UNT/ Meadow Creek	141.0	Intermittent	Open cut	Minor	5	A,B,C	Warmwater
Greenbrier	S-I27	UNT/ Meadow Creek	141.1	Intermittent	Open cut	Minor	5	A,B,C	Warmwater
Greenbrier	S-I28	Meadow River	144.1	Perennial	Open cut	Intermediate	50	B,C	Warmwater
Summers	S-M6	UNT/ Red Spring Branch	159.0	Ephemeral	Open cut	Minor	4	A, B, C	Warmwater
Summers	P-J1-1.2		159.9	POND	Open cut		0		
Summers	S-J13	UNT/ Pattterson Creek	160.0	Ephemeral	Open cut	Minor	4	A, B, C	Warmwater
Summers	S-J13	UNT/ Pattterson Creek	160.1	Ephemeral	Open cut	Minor	4	A, B, C	Warmwater
Summers	S-J13	UNT/ Red Spring Branch	160.2	Ephemeral	Open cut	Minor	4	A, B, C	Warmwater
Summers	S-M5		160.5	POND	Open cut		6		
Summers	S-M2	UNT/ Hungard Creek	169.6	Intermittent	Open cut	Minor	3	A,B,C	Warmwater

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Table 2-A-3

Surveyed Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Summers	S-M1	Hungard Creek	169.7	Perennial	Open cut	Intermediate	20	A,B,C	Warmwater
Summers	S-G47	UNT/ Kelly Creek	173.2	Ephemeral	Open cut	Minor	2	A,B,C, D	Warmwater
Monroe	S-G46	UNT/ Kelly Creek	174.3	Ephemeral	Open cut	Minor	4	A,B,C, D	Warmwater
Monroe	S-G51	UNT/ Wind Creek	175.7	Intermittent	Open cut	Minor	3	A,B,C, D	Warmwater
Monroe	S-G49	UNT/ Wind Creek	175.7	Perennial	Open cut	Intermediate	20	A,B,C, D	Warmwater
Monroe	S-G51	UNT/ Wind Creek	175.7	Intermittent	Open cut	Minor	3	A,B,C, D	Warmwater
Monroe	S-G49	Wind Creek	175.8	Perennial	Open cut	Intermediate	20	A,B,C, D	Warmwater
Monroe	S-G48	Wind Creek	175.8	Perennial	Open cut	Intermediate	20	A,B,C, D	Warmwater
Monroe	S-G49	Wind Creek	175.8	Perennial	Open cut	Intermediate	20	A,B,C, D	Warmwater
Monroe	S-G48	Wind Creek	175.8	Perennial	Open cut	Intermediate	20	A,B,C, D	Warmwater
Monroe	S-D26	UNT/ Hans Creek	182.7	Ephemeral	Open cut	Minor	2	A,B,C	Warmwater
Monroe	S-D25	UNT/ Hans Creek	183.0	Intermittent	Open cut	Minor	4	A,B,C	Warmwater
Monroe	S-D24	UNT/ Hans Creek	183.2	Ephemeral	Open cut	Minor	2	A,B,C	Warmwater
Monroe	S-G43	UNT/ Hans Creek	188.7	Ephemeral	Open cut	Minor	4	A,B,C	Warmwater
Monroe	S-G42	UNT/ Hans Creek	188.8	Intermittent	Open cut	Minor	3	A,B,C	Warmwater
Monroe	S-E44	UNT/ Dry Branch	190.4	Ephemeral	Open cut	Minor	4	A,B,C	Warmwater
Monroe	S-E43	UNT/ Dry Branch	190.4	Ephemeral	Open cut	Minor	7	A,B,C	Warmwater
Monroe	S-E44	UNT/ Dry Branch	190.4	Ephemeral	Open cut	Minor	4	A,B,C	Warmwater
Monroe	S-E43	UNT/ Dry Branch	190.4	Ephemeral	Open cut	Minor	7	A,B,C	Warmwater
Monroe	S-E39	UNT/ Dry Branch	190.7	Ephemeral	Open cut	Minor	4	A,B,C	Warmwater
Monroe	S-E40	Dry Creek	190.7	Perennial	Open cut	Minor	8	A,B,C	Warmwater
Monroe	S-E40	Dry Creek	190.7	Perennial	Open cut	Minor	8	A,B,C	Warmwater
Monroe	S-E41	UNT/ Dry Branch	190.7	Ephemeral	Open cut	Minor	2	A,B,C	Warmwater
Monroe	S-E41	UNT/ Dry Branch	190.7	Ephemeral	Open cut	Minor	2	A,B,C	Warmwater
Monroe	S-E42	UNT/ Dry Branch	190.7	Ephemeral	Open cut	Minor	4	A,B,C	Warmwater
Monroe	S-E41	UNT/ Dry Branch	190.7	Ephemeral	Open cut	Minor	2	A,B,C	Warmwater
Monroe	S-E41	UNT/ Dry Branch	190.7	Ephemeral	Open cut	Minor	2	A,B,C	Warmwater
Monroe	S-E42	UNT/ Dry Branch	190.7	Ephemeral	Open cut	Minor	4	A,B,C	Warmwater
Monroe	S-E42	UNT/ Dry Branch	190.7	Ephemeral	Open cut	Minor	4	A,B,C	Warmwater
Giles	S-G30	UNT/ Dry Branch	200.7	Ephemeral	Open cut	Minor	8	A,B,C	Warmwater
Giles	S-G29	UNT/ Dry Branch	200.7	Ephemeral	Open cut	Minor	4	A,B,C	Warmwater
Giles	S-G32	Dry Branch	201.0	Intermittent	Open cut	Minor	6	A,B,C	Warmwater
Giles	S-G31	UNT/ Dry Branch	201.0	Intermittent	Open cut	Minor	5	A,B,C	Warmwater
Giles	S-G33	UNT/ Dry Branch	201.3	Perennial	Open cut	Minor	8	A,B,C	Warmwater
Giles	S-G34	UNT/ Dry Branch	201.5	Ephemeral	Open cut	Minor	8	A,B,C	Warmwater
Giles	S-G35	UNT/ Little Stony Creek	202.1	Perennial	Open cut	Intermediate	25	A,B,C	Coldwater
Giles	S-A35	UNT/Doe Creek	203.5	Ephemeral	Open cut	Minor	3	A,B,C	Coldwater
Giles	S-A34	UNT/Doe Creek	203.7	Ephemeral	Open cut	Minor	7	A,B,C	Coldwater
Giles	S-A33	UNT/Doe Creek	203.8	Ephemeral	Open cut	Minor	3.5	A,B,C	Coldwater
Giles	S-A32	UNT/Doe Creek	204.2	Perennial	Open cut	Intermediate	16	A,B,C	Coldwater

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Table 2-A-3

Surveyed Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Virginia									
Montgomery	S-E38	Mill Creek	219.1	Perennial	Open cut	Intermediate	25	No data	Coldwater
Montgomery	S-E37	UNT/ North Fork Roanoke River	219.9	Ephemeral	Open cut	Minor	3	No data	No data
Montgomery	S-E36	UNT/ North Fork Roanoke River	220.2	Intermittent	Open cut	Minor	4	No data	No data
Montgomery	S-G37	UNT/ North Fork Roanoke River	220.4	Ephemeral	Open cut	Minor	10	No data	No data
Montgomery	S-G36	North Fork Roanoke River	220.8	Perennial	Open cut	Intermediate	20	AL,FC, R, W	No data
Montgomery	S-G38	UNT/ North Fork Roanoke River	221.0	Ephemeral	Open cut	Minor	3	No data	No data
Montgomery	S-G39	UNT/ North Fork Roanoke River	221.3	Perennial	Open cut	Minor	6	No data	No data
Montgomery	S-G40	UNT/ North Fork Roanoke River	221.4	Perennial	Open cut	Minor	6	No data	No data
Roanoke	S-B25	UNT/Mill Creek	238.1	Ephemeral	Open cut	Minor	5	No data	Coldwater
Roanoke	S-B22	UNT/Mill Creek	238.1	Perennial	Open cut	Minor	4	No data	Coldwater
Roanoke	S-B24	UNT/Mill Creek	238.1	Intermittent	Open cut	Minor	3	No data	Coldwater
Roanoke	S-B22	UNT/Mill Creek	238.1	Perennial	Open cut	Minor	4	No data	Coldwater
Roanoke	S-B22	UNT/Mill Creek	238.1	Perennial	Open cut	Minor	4	No data	Coldwater
Roanoke	S-B24	UNT/Mill Creek	238.1	Intermittent	Open cut	Minor	3	No data	Coldwater
Roanoke	S-B24	UNT/Mill Creek	238.1	Intermittent	Open cut	Minor	3	No data	Coldwater
Roanoke	S-B21	UNT/Mill Creek	238.2	Perennial	Open cut	Minor	4	No data	Coldwater
Franklin	S-G24	UNT/ Green Creek	238.8	Intermittent	Open cut	Minor	6	No data	No data
Franklin	S-H1	Green Creek	239.1	Perennial	Open cut	Minor	10	No data	Coldwater
Franklin	S-G26	UNT/ Green Creek	239.4	Intermittent	Open cut	Minor	7	No data	No data
Franklin	S-G27	UNT/ Green Creek	239.5	Perennial	Open cut	Minor	7	No data	No data
Franklin	S-D17	UNT/ North Fork Blackwater River	240.8	Intermittent	Open cut	Minor	7	No data	Coldwater
Franklin	S-D17	UNT/ North Fork Blackwater River	240.9	Intermittent	Open cut	Minor	7	No data	Coldwater
Franklin	S-D12	UNT/ North Fork Blackwater River	241.0	Intermittent	Open cut	Minor	6	No data	Coldwater
Franklin	S-D13	UNT/ North Fork Blackwater River	241.0	Intermittent	Open cut	Minor	4	No data	Coldwater
Franklin	S-D13	UNT/ North Fork Blackwater River	241.0	Intermittent	Open cut	Minor	4	No data	Coldwater
Franklin	S-D13	UNT/ North Fork Blackwater River	241.0	Intermittent	Open cut	Minor	4	No data	Coldwater
Franklin	S-D13	UNT/ North Fork Blackwater River	241.0	Intermittent	Open cut	Minor	4	No data	Coldwater
Franklin	S-D13	UNT/ North Fork Blackwater River	241.0	Intermittent	Open cut	Minor	4	No data	Coldwater
Franklin	S-D12	UNT/ North Fork Blackwater River	241.0	Intermittent	Open cut	Minor	6	No data	Coldwater
Franklin	S-D12	UNT/ North Fork Blackwater River	241.0	Intermittent	Open cut	Minor	6	No data	Coldwater
Franklin	S-D12	UNT/ North Fork Blackwater River	241.0	Intermittent	Open cut	Minor	6	No data	Coldwater
Franklin	S-D11	UNT/ North Fork Blackwater River	241.1	Perennial	Open cut	Minor	10	No data	Coldwater
Franklin	S-D10	UNT/ North Fork Blackwater River	241.6	Intermittent	Open cut	Minor	8	No data	Coldwater
Franklin	S-D9	UNT/ North Fork Blackwater River	241.6	Intermittent	Open cut	Minor	7	No data	Coldwater
Franklin	S-D8	North Fork Blackwater River	241.6	Perennial	Open cut	Intermediate	18	AL, FC, R, W	Coldwater
Franklin	S-B3	UNT/ North Fork Blackwater River	242.4	Intermittent	Open cut	Minor	6	No data	Coldwater
Franklin	S-B5	UNT/ North Fork Blackwater River	242.5	Perennial	Open cut	Intermediate	20	No data	Coldwater
Franklin	S-B4	UNT/ North Fork Blackwater River	242.6	Intermittent	Open cut	Minor	9	No data	Coldwater
Franklin	S-A25	UNT/Maggodee Creek	248.5	Perennial	Open cut	Minor	6	No data	Coldwater
Franklin	S-A26	UNT/ Teels Creek	249.3	Intermittent	Open cut	Minor	2	No data	No data

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Table 2-A-3

Surveyed Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Franklin	S-A27	UNT/ Teels Creek	249.4	Perennial	Open cut	Minor	7	No data	No data
Franklin	W-A30	UNT/ Teels Creek	249.7	Perennial	Open cut	Intermediate	25	No data	No data
Franklin	S-D23	UNT/ Teels Creek	252.3	Perennial	Open cut	Intermediate	20	AL, FC, R, W	No data
Franklin	S-D21	UNT/ Teels Creek	252.4	Ephemeral	Open cut	Minor	3	AL, FC, R, W	No data
Franklin	S-D22	UNT/ Teels Creek	252.4	Intermittent	Open cut	Minor	8	AL, FC, R, W	No data
Franklin	S-D19	UNT/ Teels Creek	252.6	Ephemeral	Open cut	Minor	3	AL, FC, R, W	No data
Franklin	S-D18	UNT/ Teels Creek	252.6	Ephemeral	Open cut	Minor	2	AL, FC, R, W	No data
Franklin	S-D19	UNT/ Teels Creek	252.6	Ephemeral	Open cut	Minor	3	AL, FC, R, W	No data
Franklin	S-D19	UNT/ Teels Creek	252.6	Ephemeral	Open cut	Minor	3	AL, FC, R, W	No data
Franklin	S-D18	UNT/ Teels Creek	252.6	Ephemeral	Open cut	Minor	2	AL, FC, R, W	No data
Franklin	S-D18	UNT/ Teels Creek	252.6	Ephemeral	Open cut	Minor	2	AL, FC, R, W	No data
Franklin	S-C12	UNT/ Teels Creek	252.8	Perennial	Open cut	Intermediate	35	AL, FC, R, W	No data
Franklin	S-C12	UNT/ Teels Creek	252.8	Perennial	Open cut	Intermediate	35	AL, FC, R, W	No data
Franklin	S-C12	UNT/ Teels Creek	252.8	Perennial	Open cut	Intermediate	35	AL, FC, R, W	No data
Franklin	S-C14	Teels Creek	253.1	Perennial	Open cut	Intermediate	50	AL, FC, R, W	No data
Franklin	S-C13	UNT/ Teels Creek	253.1	Perennial	Open cut	Intermediate	40	AL, FC, R, W	No data
Franklin	S-C16	UNT/ Little Creek	253.4	Perennial	Open cut	Intermediate	15	AL, FC, R, W	No data
Franklin	S-C17	Little Creek	253.7	Perennial	Open cut	Intermediate	50	AL, FC, R, W	No data
Franklin	S-D16	UNT/ Blackwater River	256.0	Intermittent	Open cut	Minor	6	No data	No data
Franklin	S-B14	UNT/ Blackwater River	258.1	Intermittent	Open cut	Minor	3	No data	No data
Franklin	S-B13	UNT/ Blackwater River	258.1	Intermittent	Open cut	Minor	3	No data	No data
Franklin	S-B15	UNT/ Blackwater River	258.1	Intermittent	Open cut	Minor	4	No data	No data
Franklin	S-B16	UNT/ Blackwater River	258.1	Intermittent	Open cut	Minor	1.5	No data	No data
Franklin	S-B13	UNT/ Blackwater River	258.1	Intermittent	Open cut	Minor	3	No data	No data
Franklin	S-B15	UNT/ Blackwater River	258.1	Intermittent	Open cut	Minor	4	No data	No data
Franklin	S-B15	UNT/ Blackwater River	258.1	Intermittent	Open cut	Minor	4	No data	No data
Franklin	S-B16	UNT/ Blackwater River	258.1	Intermittent	Open cut	Minor	1.5	No data	No data
Franklin	S-B17	UNT/ Blackwater River	258.2	Perennial	Open cut	Intermediate	20	No data	No data
Franklin	S-B15	UNT/ Blackwater River	258.2	Intermittent	Open cut	Minor	4	No data	No data
Franklin	S-B15	UNT/ Blackwater River	258.2	Intermittent	Open cut	Minor	4	No data	No data
Franklin	S-B17	UNT/ Blackwater River	258.2	Perennial	Open cut	Intermediate	20	No data	No data
Franklin	S-B15	UNT/ Blackwater River	258.2	Intermittent	Open cut	Minor	4	No data	No data
Franklin	S-B15	UNT/ Blackwater River	258.2	Intermittent	Open cut	Minor	4	No data	No data
Franklin	S-B15	UNT/ Blackwater River	258.2	Intermittent	Open cut	Minor	4	No data	No data
Franklin	S-C8	Blackwater River	258.6	Intermittent	Open cut	Minor	5	AL, FC, R, W, PWS	No data
Franklin	S-C8	Blackwater River	258.6	Intermittent	Open cut	Minor	5	AL, FC, R, W, PWS	No data
Franklin	S-C8	Blackwater River	258.6	Intermittent	Open cut	Minor	5	AL, FC, R, W, PWS	No data
Franklin	S-C10	UNT/Maggodee Creek	259.2	Ephemeral	Open cut	Minor	3	No data	Coldwater
Franklin	S-G23	UNT/ Poplar Camp Creek	265.1	Intermittent	Open cut	Minor	3	AL, FC, R, W, PWS	No data
Franklin	S-G21	UNT/ Poplar Camp Creek	265.1	Intermittent	Open cut	Minor	3	AL, FC, R, W, PWS	No data
Franklin	S-G22	UNT/ Poplar Camp Creek	265.1	Perennial	Open cut	Intermediate	12	AL, FC, R, W, PWS	No data

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Table 2-A-3

Surveyed Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Franklin	S-G23	UNT/ Poplar Camp Creek	265.1	Intermittent	Open cut	Minor	3	AL, FC, R, W, PWS	No data
Franklin	S-G22	UNT/ Poplar Camp Creek	265.1	Perennial	Open cut	Intermediate	12	AL, FC, R, W, PWS	No data
Franklin	S-G20	Poplar Camp Creek	265.3	Perennial	Open cut	Minor	10	AL, FC, R, W, PWS	No data
Franklin	S-G18	UNT/ Blackwater River	265.9	Intermittent	Open cut	Minor	2	No data	No data
Franklin	S-G17	UNT/ Blackwater River	266.2	Ephemeral	Open cut	Minor	5	No data	No data
Franklin	S-E18	UNT/ Blackwater River	266.6	Perennial	Open cut	Minor	7	No data	No data
Franklin	S-E17	UNT/ Blackwater River	266.9	Perennial	Open cut	Minor	8	No data	No data
Franklin	S-E14	UNT/ Blackwater River	267.4	Perennial	Open cut	Intermediate	12	No data	No data
Franklin	S-H26	UNT/ Jacks Creek	269.7	Ephemeral	Open cut	Minor	7	No data	No data
Franklin	S-H27	UNT/ Jacks Creek	270.1	Ephemeral	Open cut	Minor	10	No data	No data
Franklin	S-H28	UNT/ Jacks Creek	270.1	Ephemeral	Open cut	Minor	6	No data	No data
Franklin	S-H27	UNT/ Jacks Creek	270.1	Ephemeral	Open cut	Minor	10	No data	No data
Franklin	S-H28	UNT/ Jacks Creek	270.1	Ephemeral	Open cut	Minor	6	No data	No data
Franklin	BRAID-1.1-TO-S-H24	Little Jacks Creek	270.8	Perennial	Open cut	Minor	6	No data	No data
Franklin	S-H25	UNT/ Little Jacks Creek	270.8	Perennial	Open cut	Minor	7	No data	No data
Franklin	S-H24	UNT/ Little Jacks Creek	270.8	Perennial	Open cut	Minor	10	No data	No data
Franklin	S-H25	UNT/ Little Jacks Creek	270.8	Perennial	Open cut	Minor	7	No data	No data
Franklin	BRAID-1.1-TO-S-H24	Little Jacks Creek	270.8	Perennial	Open cut	Minor	6	No data	No data
Franklin	S-H25	UNT/ Little Jacks Creek	270.8	Perennial	Open cut	Minor	7	No data	No data
Franklin	S-H25	UNT/ Little Jacks Creek	270.8	Perennial	Open cut	Minor	7	No data	No data
Franklin	S-H24	Little Jacks Creek	270.8	Perennial	Open cut	Minor	10	No data	No data
Franklin	S-H24	Little Jacks Creek	270.8	Perennial	Open cut	Minor	10	No data	No data
Franklin	S-H24	Little Jacks Creek	270.9	Perennial	Open cut	Minor	10	No data	No data
Franklin	S-H23	UNT/Turkey Creek	271.1	Ephemeral	Open cut	Minor	3	No data	No data
Franklin	S-A14	UNT/Turkey Creek	271.2	Ephemeral	Open cut	Minor	4	No data	No data
Franklin	S-A13	UNT/Turkey Creek	271.5	Perennial	Open cut	Minor	8	No data	No data
Franklin	S-H21	Turkey Creek	271.5	Perennial	Open cut	Minor	6	No data	No data
Franklin	S-A13	UNT/Turkey Creek	271.5	Perennial	Open cut	Minor	8	No data	No data
Franklin	S-H21	Turkey Creek	271.5	Perennial	Open cut	Minor	6	No data	No data
Franklin	S-A11	UNT/Turkey Creek	271.6	Ephemeral	Open cut	Minor	3	No data	No data
Franklin	S-H17	Dinner Creek	272.0	Intermittent	Open cut	Minor	1.5	No data	No data
Franklin	S-H18	UNT/Dinner Creek	272.0	Ephemeral	Open cut	Minor	2	No data	No data
Franklin	S-A7	UNT/Dinner Creek	272.1	Intermittent	Open cut	Minor	6	No data	No data
Franklin	S-A7	UNT/Dinner Creek	272.1	Intermittent	Open cut	Minor	6	No data	No data
Franklin	S-G16	Strawfield Creek	273.2	Perennial	Open cut	Intermediate	30	No data	No data
Franklin	S-G15	UNT/Parrot Branch	273.5	Intermittent	Open cut	Minor	9	No data	No data
Franklin	S-G13	Parrot Branch	273.9	Perennial	Open cut	Minor	8	No data	No data
Franklin	S-D7	UNT/ Jonnikin Creek	274.6	Intermittent	Open cut	Minor	8	No data	No data
Pittsylvania	S-D3	UNT/ Jonnikin Creek	275.3	Perennial	Open cut	Minor	10	No data	No data
Pittsylvania	S-D4	UNT/ Jonnikin Creek	275.3	Intermittent	Open cut	Minor	6	No data	No data
Pittsylvania	S-D2	Jonnikin Creek	275.7	Perennial	Open cut	Intermediate	18	No data	No data

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Table 2-A-3

Surveyed Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Pittsylvania	S-D1	UNT/ Jonnikin Creek	275.9	Intermittent	Open cut	Minor	3	No data	No data
Pittsylvania	S-G11	UNT/Piggs River	276.2	Intermittent	Open cut	Minor	6	No data	No data
Pittsylvania	S-G12	UNT/Piggs River	276.2	Intermittent	Open cut	Minor	6	No data	No data
Pittsylvania	S-G9	UNT/Piggs River	276.6	Intermittent	Open cut	Minor	4	No data	No data
Pittsylvania	S-G8	UNT/Piggs River	276.8	Intermittent	Open cut	Minor	4	No data	No data
Pittsylvania	S-A5	UNT/Piggs River	277.1	Ephemeral	Open cut	Minor	8	No data	No data
Pittsylvania	S-A6	UNT/Piggs River	277.2	Perennial	Open cut	Minor	5	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.4	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-H10	UNT/Piggs River	277.5	Ephemeral	Open cut	Minor	2	No data	No data
Pittsylvania	S-H11	UNT/Piggs River	277.5	Ephemeral	Open cut	Minor	3	No data	No data
Pittsylvania	S-C6	UNT/Piggs River	277.8	Ephemeral	Open cut	Minor	4	No data	No data
Pittsylvania	S-C7	UNT/Piggs River	278.0	Perennial	Open cut	Minor	20	No data	No data
Pittsylvania	S-E11	Pigg River	280.1	Perennial	Open cut	Major	100	AL, FC, R, W	No data
Pittsylvania	S-H8	UNT/Piggs River	280.3	Ephemeral	Open cut	Minor	6	No data	No data
Pittsylvania	S-A4	UNT/Piggs River	280.4	Perennial	Open cut	Minor	8	No data	No data
Pittsylvania	S-H7	UNT/Piggs River	280.4	Intermittent	Open cut	Intermediate	15	No data	No data
Pittsylvania	S-A4	UNT/Piggs River	280.4	Perennial	Open cut	Minor	8	No data	No data
Pittsylvania	S-H7	UNT/Piggs River	280.4	Intermittent	Open cut	Intermediate	15	No data	No data
Pittsylvania	S-C3	Harpen Creek	280.8	Perennial	Open cut	Intermediate	18	AL, FC, R, W	No data
Pittsylvania	S-C4	UNT/ Harpen Creek	280.8	Perennial	Open cut	Minor	4	No data	No data
Pittsylvania	S-H16	UNT/ Harpen Creek	281.0	Intermittent	Open cut	Intermediate	12	No data	No data
Pittsylvania	S-H15	UNT/ Harpen Creek	281.0	Intermittent	Open cut	Minor	7	No data	No data
Pittsylvania	S-H13	Harpen Creek	281.4	Perennial	Open cut	Intermediate	20	No data	No data
Pittsylvania	S-G6	UNT/ Harpen Creek	282.1	Intermittent	Open cut	Minor	6	No data	No data
Pittsylvania	S-G5	UNT/ Harpen Creek	282.7	Ephemeral	Open cut	Minor	6	No data	No data
Pittsylvania	S-G4	Harpen Creek	282.9	Perennial	Open cut	Intermediate	30	No data	No data
Pittsylvania	S-G4	Harpen Creek	282.9	Perennial	Open cut	Intermediate	30	No data	No data

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Table 2-A-3

Surveyed Waterbodies Crossed by the MVP Project a/

State/County	Waterbody ID	Waterbody Name	Milepost	Flow type	Crossing Method b/	FERC Classification	Approximate Crossing Length (feet)	Classification c/, d/	Fishery Type e/
Pittsylvania	S-G3	UNT/ Harpen Creek	283.1	Perennial	Open cut	Minor	6	No data	No data
Pittsylvania	S-B6	UNT/ Pole Bridge Branch	288.0	Ephemeral	Open cut	Minor	10	AL, FC, R, W, PWS	No data
Pittsylvania	S-B8	UNT/ Pole Bridge Branch	288.2	Ephemeral	Open cut	Minor	4	AL, FC, R, W, PWS	No data
Pittsylvania	S-B9	UNT/ Pole Bridge Branch	288.3	Perennial	Open cut	Minor	7	AL, FC, R, W, PWS	No data
Pittsylvania	S-B10	UNT/ Pole Bridge Branch	288.3	Intermittent	Open cut	Minor	7	AL, FC, R, W, PWS	No data
Pittsylvania	S-B11	UNT/ Pole Bridge Branch	288.4	Intermittent	Open cut	Minor	4	AL, FC, R, W, PWS	No data
Pittsylvania	S-B10	UNT/ Pole Bridge Branch	288.4	Intermittent	Open cut	Minor	7	AL, FC, R, W, PWS	No data
Pittsylvania	S-C1	Mill Creek	289.8	Intermittent	Open cut	Minor	6	AL, FC, R, W, PWS	No data
Pittsylvania	S-G2	Little Cherrystone Creek	290.9	Intermittent	Open cut	Minor	3.5	AL, FC, R, W	No data
Pittsylvania	S-B2A	UNT/ Little Cherrystone Creek	291.4	Ephemeral	Open cut	Minor	5	No data	No data
Pittsylvania	S-H54	UNT/Cherrystone Creek	292.2	Perennial	Open cut	Intermediate	12	No data	No data
Pittsylvania	S-H51	UNT/ Little Cherrystone Creek	292.4	Perennial	Open cut	Minor	3	No data	No data
Pittsylvania	S-H50	UNT/ Little Cherrystone Creek	292.5	Ephemeral	Open cut	Minor	6	No data	No data
Pittsylvania	S-H3	UNT/ Little Cherrystone Creek	292.8	Intermittent	Open cut	Minor	6	No data	No data
Pittsylvania	S-H4	Little Cherrystone Creek	292.8	Perennial	Open cut	Intermediate	30	AL, FC, R, W	No data
Pittsylvania	S-H4	Little Cherrystone Creek	292.8	Perennial	Open cut	Intermediate	30	AL, FC, R, W	No data
Pittsylvania	S-H5	UNT/ Little Cherrystone Creek	292.9	Perennial	Open cut	Minor	8	No data	No data
Pittsylvania	S-H4	Little Cherrystone Creek	293.0	Perennial	Open cut	Intermediate	0	AL, FC, R, W	No data
Pittsylvania	S-H6	UNT/ Little Cherrystone Creek	293.4	Perennial	Open cut	Intermediate	15	No data	No data

Definitions

UNT – Unnamed Tributary

a/ Locations of the proposed route where access has been granted and where field survey completed as of April 28, 2015. Table to be updated and finalized with field verified data in Resource Report 2 filed with MVP's application to the FERC.

b/ Crossing method to be finalized in Resource Report 2 filed with MVP's application to the FERC.

c/ West Virginia State Water Classifications: (Source: WVDEP)

A= Public water

B = Propagation and Maintenance of fish and other aquatic life includes: warm water fishery, trout waters, and wetlands

C = Water Contact Recreation

D = Irrigation, Wildlife, Livestock watering

E = Water transport, Cooling water, Power production, Industrial

d/ Virginia State Water Classifications: (Source: VDEQ)

AL= Propagation and Maintenance of fish and other aquatic life

FC = Production of edible and marketable natural resources including fish and shellfish

R = Water Contact Recreation, including swimming and boating

W = Wildlife

PWS = Public Water Supply

No data = This stream has not been accessed by the VDEQ and there is no water quality classification.

e/ Fishery Type: (Source: WVDEP and VDGIF)

No data: No data was available in source documents.

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Appendix 2-B
Wetland Crossing Tables

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Table 2-B-1

NWI Wetlands Crossed by the MVP Project a/

State/County	Wetland ID	Milepost	NWI Classification b/	Length of Crossing	Operational Impacts c/	Construction Impacts d/
West Virginia						
Harrison	NWI-1	31.0	POW	88.50	--	0.15
Webster	NWI-2	87.6	R	101.53	0.07	0.17
Nicholas	NWI-3	118.9	R	110.52	0.08	0.19
Nicholas	NWI-4	118.9	R	109.72	0.08	0.19
Nicholas	NWI-5	118.9	R	169.46	0.12	0.29
Greenbrier	NWI-6	144.1	R	137.23	0.09	0.24
Summers	NWI-7	170.4	PF	145.67	0.10	0.25
Summers	NWI-8	170.5	R	285.36	0.20	0.49
Summers	NWI-9	170.5	R	285.36	0.20	0.49
Virginia						
Montgomery	NWI-10	222.4	POW	15.17	--	0.03
Montgomery	NWI-11	228.6	R	87.00	0.06	0.15
Roanoke	NWI-12	235.8	POW	123.12	--	0.21
Roanoke	NWI-13	236.0	PEM/SS	68.25	--	0.12
Franklin	NWI-14	252.1	PFO	82.75	0.06	0.14
Franklin	NWI-15	253.7	PFO	628.47	0.43	1.08
Franklin	NWI-16	258.2	PEM/SS	396.96	--	0.68
Franklin	NWI-17	263.3	PFO	390.52	0.27	0.67
Pittsylvania	NWI-18	275.7	PFO	99.34	0.07	0.17
Pittsylvania	NWI-19	280.1	R	62.99	0.04	0.11
Pittsylvania	NWI-20	280.8	PFO	305.73	0.21	0.53
Pittsylvania	NWI-21	292.4	POW	90.08	--	0.16
Total					**2.02**	**6.51**

Source USFWS 2009:

a/ Table based on National Wetland Inventory (NWI) data.

b/ Cowardin wetland classification
- PEM - Palustrine Emergent
- PSS - Palustrine Scrub/Shrub
- PFO - Palustrine Forested
- POW - Palustrine Open Water
- R - Riverine

c/ Forested Wetlands that are within the 30-foot-wide permanent ROW.

d/ Wetlands that are within the 75-foot-wide temporary construction ROW.

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Table 2-B-2

Surveyed Wetlands Crossed by the MVP Project a/

State/County	Wetland ID	Milepost	NWI Classification b/	Operational Impacts (acres) c/	Construction Impacts (acres) d/
West Virginia					
Nicholas	W-K23	111.3	PEM		0.08
Nicholas	W-K20	111.4	PEM		0.00
Nicholas	W-H55	113.4	PSS		0.04
Nicholas	W-H55	113.4	PEM		0.28
Nicholas	W-H52	115.7	PEM		0.05
Nicholas	W-H51	116.1	PEM		0.03
Nicholas	W-I7	117.3	PFO	0.02	0.06
Nicholas	W-J8	119.7	PFO	0.01	0.04
Nicholas	W-J7	122.3	PFO	0.04	0.09
Nicholas	W-N18	123.1	PEM		0.00
Nicholas	W-H40	131.1	PEM		0.01
Nicholas	W-H35-WP	131.4	PEM		0.02
Nicholas	W-H32-WP	131.4	PEM		0.01
Nicholas	W-H34-WP	131.4	PEM		0.08
Nicholas	W-H37	131.4	PSS		0.06
Nicholas	W-H31-WP	132.0	PEM		0.01
Greenbrier	W-TEAMJ-5	139.9	PSS		0.02
Greenbrier	W-I3	144.0	PEM		0.08
Greenbrier	W-K9	154.8	PEM		0.70
Greenbrier	W-K9	154.8	PEM		0.00
Greenbrier	W-K9	154.9	PEM		0.07
Summers	W-M2	159.0	PEM		0.08
Summers	W-G7	173.2	PEM		0.01
Monroe	W-G6	188.8	PEM		0.05
Monroe	W-G6	188.8	PEM		0.06
Monroe	W-E12	190.7	PEM		0.02
Virginia					
Montgomery	W-E11	219.0	PEM		0.00
Montgomery	W-G3	220.8	PEM		0.01
Montgomery	W-G4	221.0	PEM		0.01
Montgomery	W-G5	221.4	PEM		0.00
Roanoke	W-B25-PSS-1-OF-2	238.0	PSS		0.11
Roanoke	W-B25-PEM	238.1	PEM		0.90
Roanoke	W-B25-PSS-2-OF-2	238.1	PSS		0.22
Roanoke	W-B24	238.2	PSS		0.22

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Table 2-B-2

Surveyed Wetlands Crossed by the MVP Project a/

State/County	Wetland ID	Milepost	NWI Classification b/	Operational Impacts (acres) c/	Construction Impacts (acres) d/
Roanoke	W-B24-PEM	238.2	PEM		0.11
Franklin	W-G1	238.8	PEM		0.05
Franklin	W-D7	241.0	PEM		0.02
Franklin	W-D7	241.0	PEM		0.05
Franklin	W-D5	241.4	PFO	0.03	0.09
Franklin	W-B13	242.4	PFO	0.01	0.02
Franklin	W-B12	242.5	PEM		0.00
Franklin	W-C2	253.4	PFO	0.00	0.00
Franklin	W-B19	258.1	PSS		0.00
Franklin	W-B20	258.1	PSS		0.00
Franklin	W-B22	258.2	PEM		0.08
Franklin	W-B11	265.1	PEM		0.02
Franklin	W-B10	265.3	PEM		0.00
Franklin	W-B8	265.5	PEM		0.00
Franklin	W-H9	270.8	PEM		0.01
Franklin	W-H8	270.9	PEM		0.00
Franklin	W-H6	272.0	PEM		0.01
Franklin	W-H7	272.1	PEM		0.01
Pittsylvania	W-D3-WP1	275.7	PFO	0.01	0.03
Pittsylvania	W-B5	276.6	PEM		0.00
Pittsylvania	W-B4-PSS	276.8	PSS		0.01
Pittsylvania	W-A5	277.2	PFO	0.03	0.06
Pittsylvania	W-A4	280.1	PEM		0.02
Pittsylvania	W-A3	280.4	PSS		0.03
Pittsylvania	W-C1	280.8	PEM		0.06
Pittsylvania	W-H5	281.4	PEM		0.06
Pittsylvania	W-B15	288.3	PEM		0.01
Pittsylvania	W-B16	288.3	PEM		0.00
Pittsylvania	W-G2	290.9	PEM		0.14
Pittsylvania	W-H26	291.6	PFO	0.00	0.01
Pittsylvania	W-H25	292.2	PFO	0.01	0.01
Pittsylvania	W-H22	292.4	PSS		0.21
Pittsylvania	W-H22	292.4	PSS		0.00
Pittsylvania	W-H1	292.7	PEM		0.01
Pittsylvania	W-H2	292.8	PEM		0.40
Pittsylvania	W-H3-WP1	292.9	PEM		0.03
Pittsylvania	W-H2	292.9	PEM		0.11

Table 2-B-2

Surveyed Wetlands Crossed by the MVP Project a/

State/County	Wetland ID	Milepost	NWI Classification b/	Operational Impacts (acres) c/	Construction Impacts (acres) d/
Pittsylvania	W-D1-PSS	293.0	PSS		0.04
Pittsylvania	W-D2-PFO	293.4	PFO	0.05	0.13
Total				**0.21**	**5.31**

a/ Based on wetland delineations completed where access has been granted, and surveyed as of April 28, 2015. Table to be updated with additional field data completed during 2015 and will be include in Resource Report 2 filed with MVP's application to the FERC.

b/ Cowardin wetland classification
PEM - Palustrine Emergent
PSS - Palustrine Scrub/Shrub
PFO - Palustrine Forested

c/ Forested Wetlands that are within the 30-foot-wide permanent ROW.

d/ Wetlands that are within the 75-foot-wide temporary construction ROW.

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Appendix 2-C
Waterbody and Wetland Maps

Figure 2-C-1, Sheets 1-56, Wetland and Waterbodies Crossed by the MVP Project
Figure 2-C-2, Crossing of the Headwaters of Mill Creek to Bottom Creek
Figure 2-C-3, Red Sulphur Public Service District Watershed and the Zone of Critical Concern
Figure 2-C-4, Town of Boones Mill Water Source Treatment Plant and the Banister River Basin

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Appendix 2-C
Waterbody and Wetland Maps

Figure 2-C-1, Sheets 1-56, Wetland and Waterbodies Crossed by the MVP Project
Figure 2-C-2, Crossing of the Headwaters of Mill Creek to Bottom Creek
Figure 2-C-3, Red Sulphur Public Service District Watershed and the Zone of Critical Concern
Figure 2-C-4, Town of Boones Mill Water Source Treatment Plant and the Banister River Basin

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NHD-1

NHD-2

NHD-3

Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

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April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

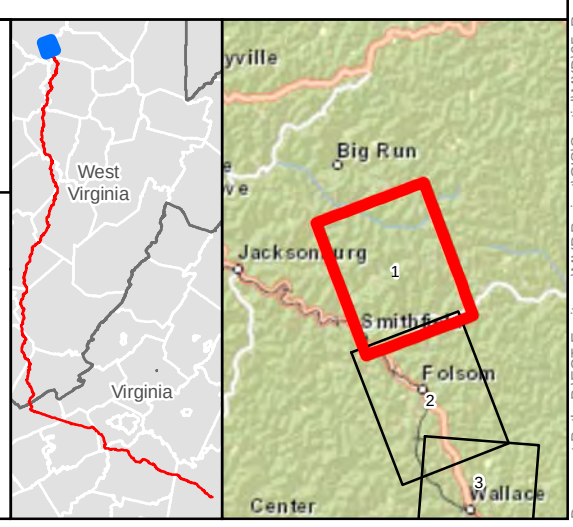
Legend

Preliminary Meter Station Location

- Mobley Interconnect receipt
- Proposed Route
- Existing Equitrans H-302 Line
- NWI Wetland
- NHD Waterbodies (within 1mi)

Preliminary Compressor Station Location

- Bradshaw Station



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NHD-4

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

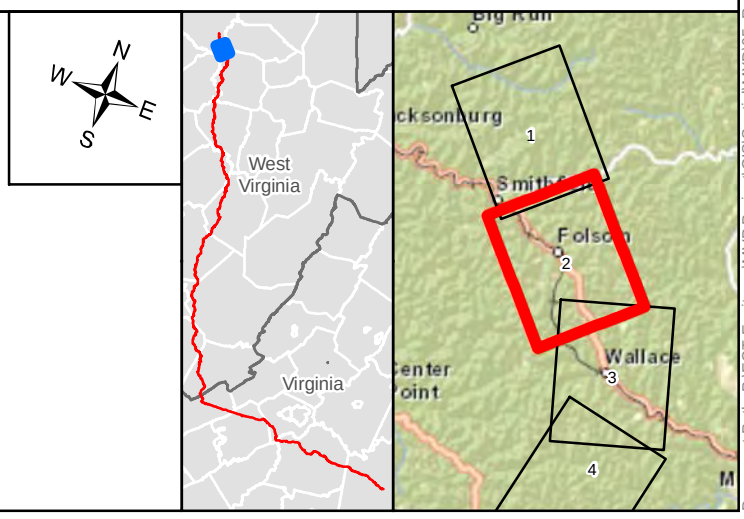
Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-8

NHD-9

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 3 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N W E S

West Virginia

Virginia

1 Smithfield 2 Folsom 3 Wallace 4 Meado Hep 5 Reynoldsville Salem

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NHD-10
NHD-11
NHD-12
NHD-13
NHD-14

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

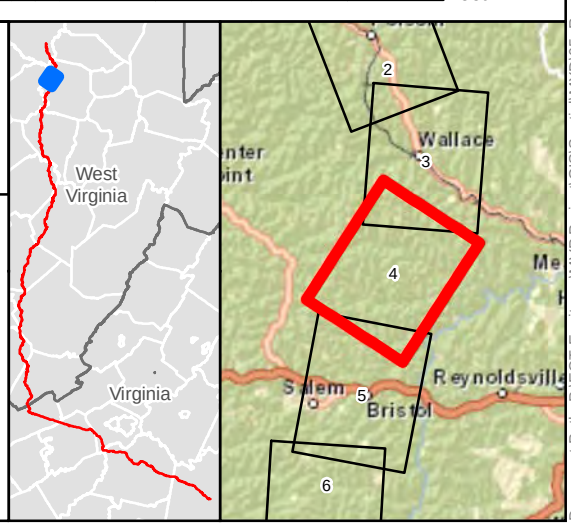
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April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-14

NHD-15

NHD-16

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

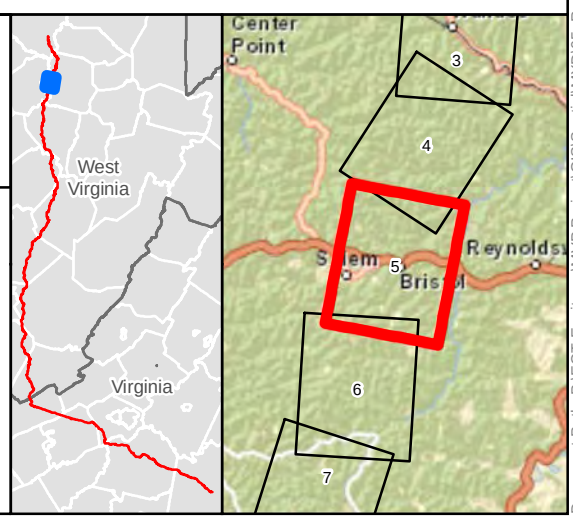
April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

Preliminary Meter Station Location

- MarkWest Interconnect receipt
- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N W E S

West Virginia

Virginia

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

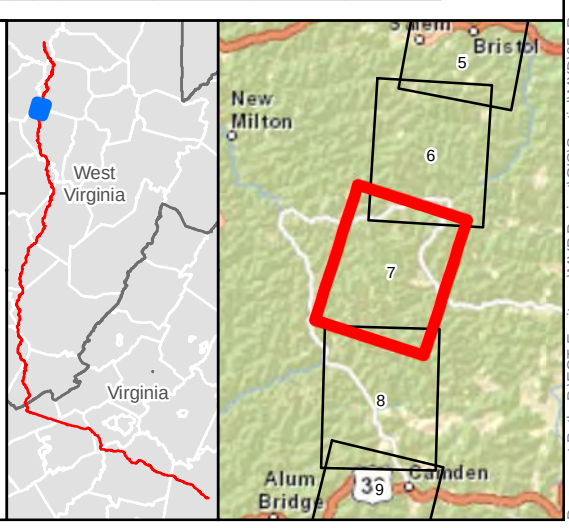
Page 7 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-25
NHD-26
NHD-27
NHD-28

41.1 41.2 41.3 41.4 41.5 41.6 41.7 41.8 41.9 42 42.1 42.2 42.3 42.4 42.5 42.6 42.7 42.8 42.9 43 43.1 43.2 43.3 43.4 43.5 43.6 43.7 43.8 43.9 44 44.1 44.2 44.3 44.4 44.5 44.6 44.7 44.8 44.9 45 45.1 45.2 45.3 45.4 45.5 45.6 45.7 45.8 45.9 46 46.1 46.2 46.3 46.4 46.5 46.6 46.7 46.8

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 8 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N W E S

West Virginia

Virginia

6 7 8 9 10

Alum Bridge

33

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

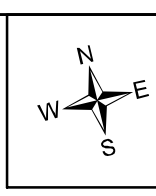
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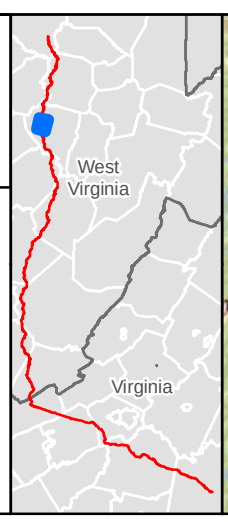
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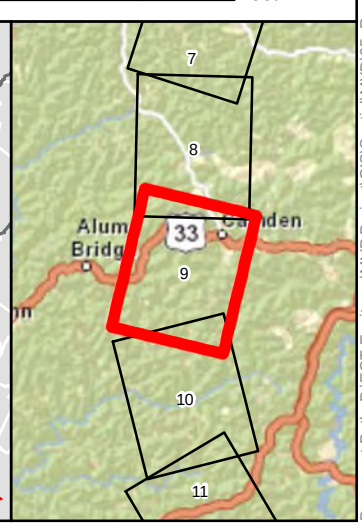
Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)







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NHD-32

NHD-33

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 10 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N W E S

West Virginia

Virginia

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NHD-34
NHD-35
NHD-36
NHD-37
NHD-38

Mountain Valley Pipeline Project

NAD 1983 UTM 17N 1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 11 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

West Virginia
Virginia

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

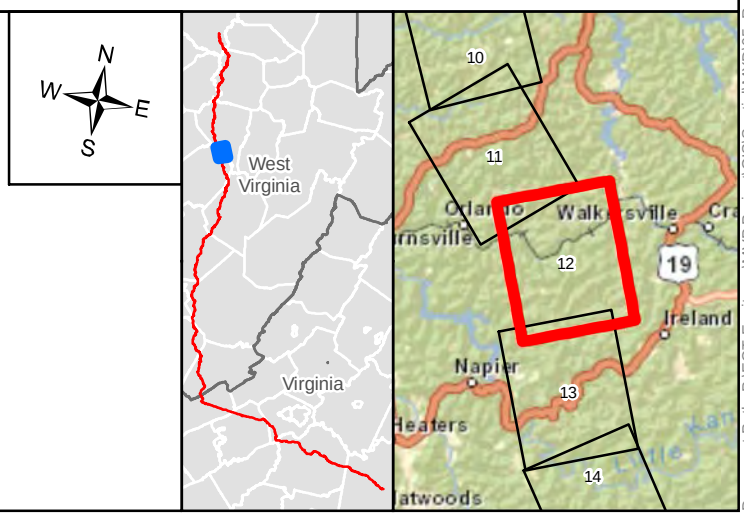
Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 13 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N W E S

West Virginia

Virginia

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NHD-46
NHD-47
NHD-48
NHD-49
NHD-50

Mountain Valley Pipeline Project

NAD 1983 UTM 17N 1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 14 of 56

April 2015

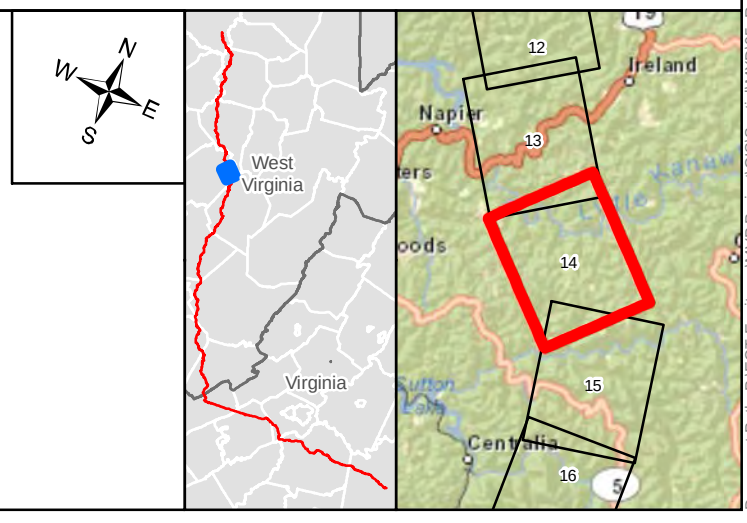
Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

Preliminary Meter Station Location
- WB Interconnect receipt
- Proposed Route

- NWI Wetland
- NHD Waterbodies (within 1mi)

Preliminary Compressor Station Location
- Harris Station



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

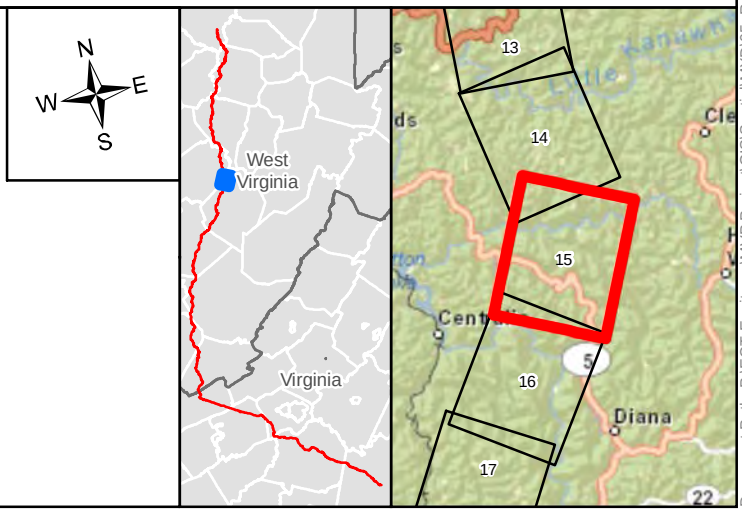
Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

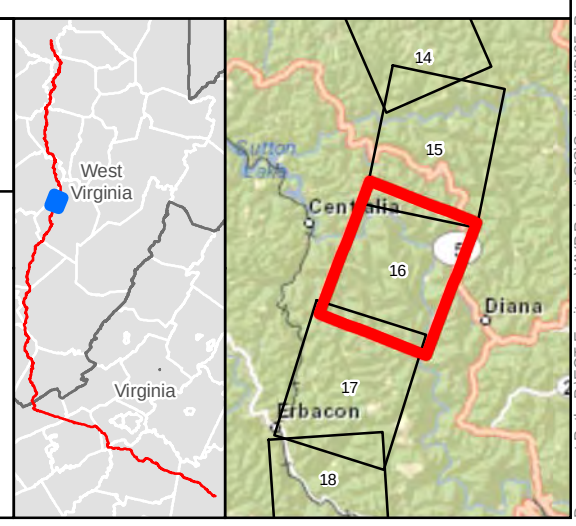
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Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

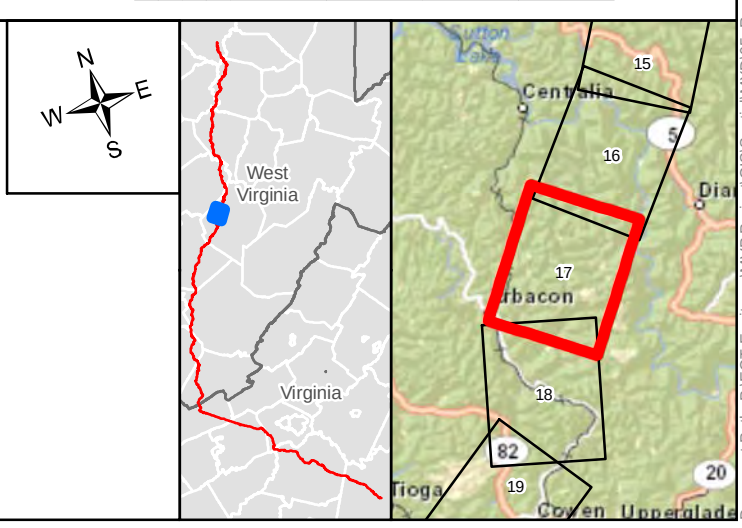
Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-62

NHD-63

NHD-64

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N W E S

West Virginia

Virginia

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

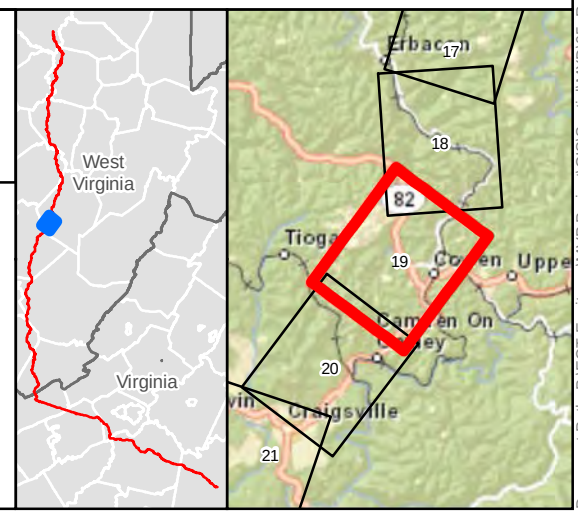
Page 19 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-68

NHD-69

NHD-70

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

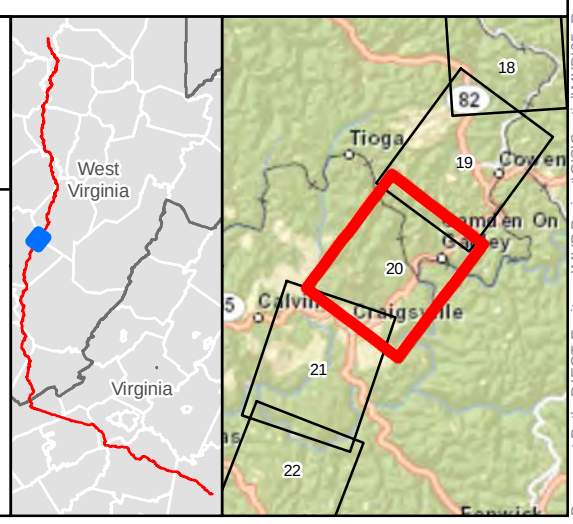
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April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-71
NHD-70
NHD-72
NHD-73
NHD-74
NHD-75
NHD-76
NHD-77
NHD-78

112.8 112.9 113 113.1 113.2 113.3 113.4 113.5 113.6 113.7 113.8 113.9 114 114.1 114.2 114.3 114.4 114.5 114.6 114.7 114.8 114.9 115 115.1 115.2 115.3 115.4 115.5 115.6 115.7 115.8 115.9 116 116.1 116.2 116.3 116.4 116.5 116.6 116.7 116.8 116.9 117 117.1 117.2 117.3 117.4 117.5 117.6 117.7 117.8 117.9 118 118.1 118.2 118.3 118.4 118.5 118.6

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 21 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N W E S

West Virginia
Virginia

Tioga 19 20 55 21 22 23 Canvas Nettie

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NHD-77
NHD-78
NHD-79
NWI-5
NWI-3
NWI-4
NHD-80
NHD-81
NHD-82

118.1 118.2 118.3 118.4 118.5 118.6 118.7 118.8 119 119.1 119.2 119.3 119.4 119.5 119.6 119.7 119.8 119.9 120 120.1 120.2 120.3 120.4 120.5 120.6 120.7 120.8 120.9 121 121.1 121.2 121.3 121.4 121.5 121.6 121.7 121.8 121.9 122 122.1 122.2 122.3 122.4 122.5 122.6 122.7 122.8 122.9 123 123.1 123.2 123.3 123.4 123.5 123.6

Mountain Valley Pipeline Project

NAD 1983 UTM 17N 1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

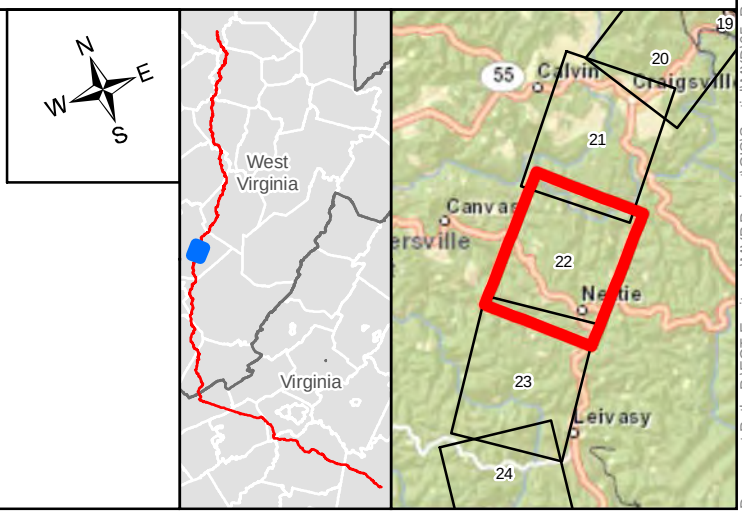
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April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

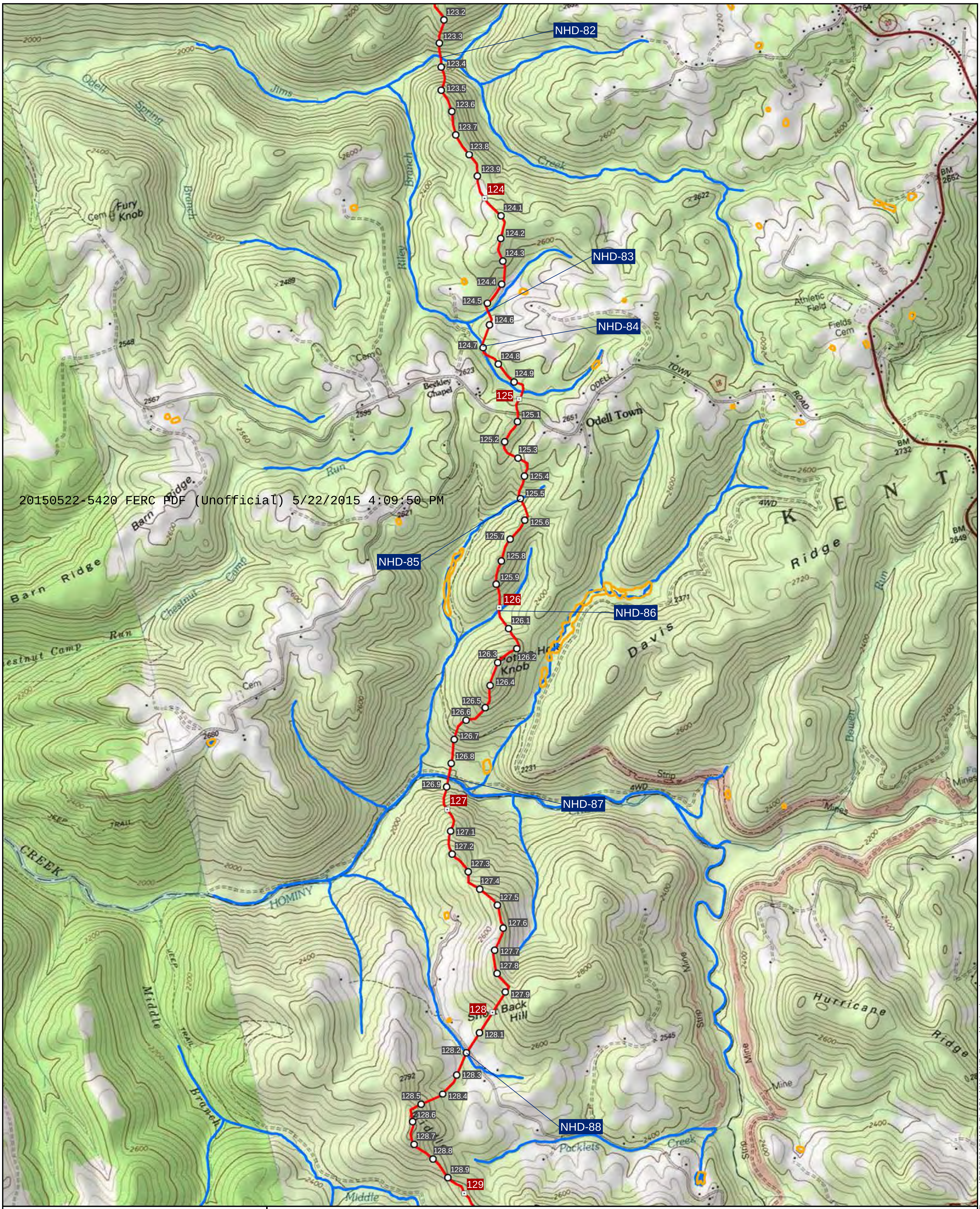
Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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Mountain Valley Pipeline Project	NAD 1983 UTM 17N	1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

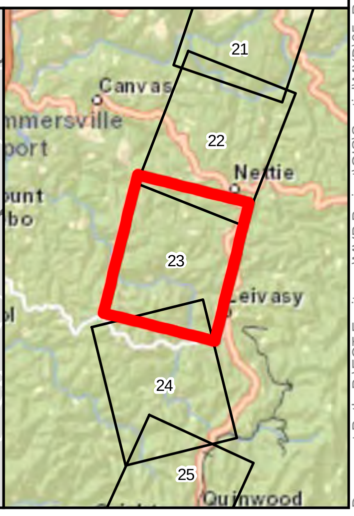
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April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend
- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)





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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

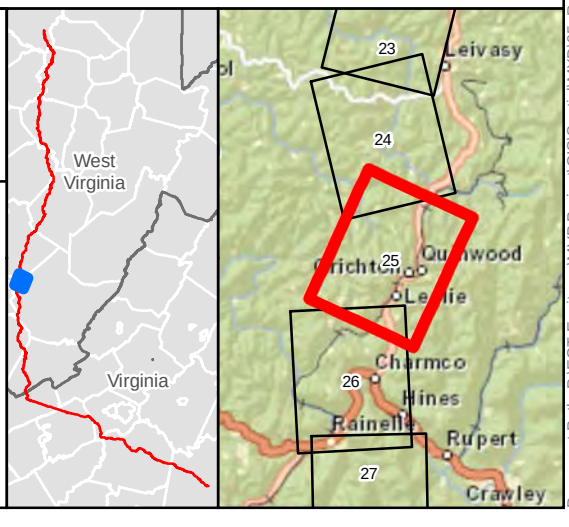
Page 25 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

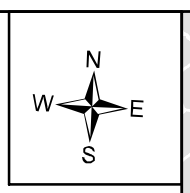
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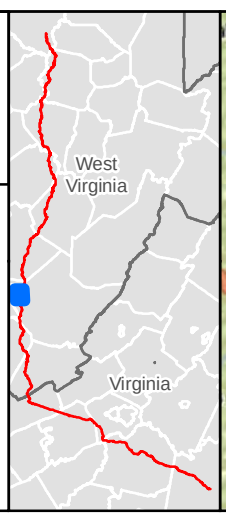
April 2015

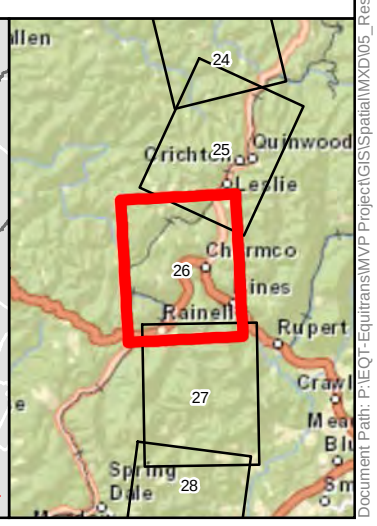
Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)







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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 27 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N W E S

West Virginia

Virginia

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

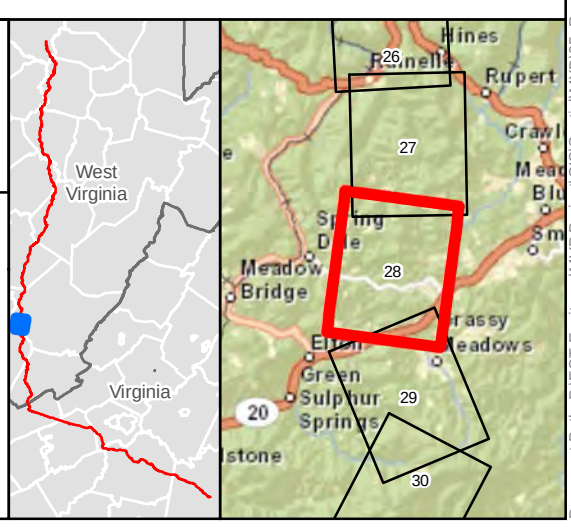
Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

Preliminary Compressor Station Location

- Stallworth Station



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NHD-98

NHD-99

Red Spring Mtn

Greenbrier Co.

Summers Co.

Red Spring Branch

Green Sulphur Mountain

Grassy Meadows

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

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April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

West Virginia

Virginia

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Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

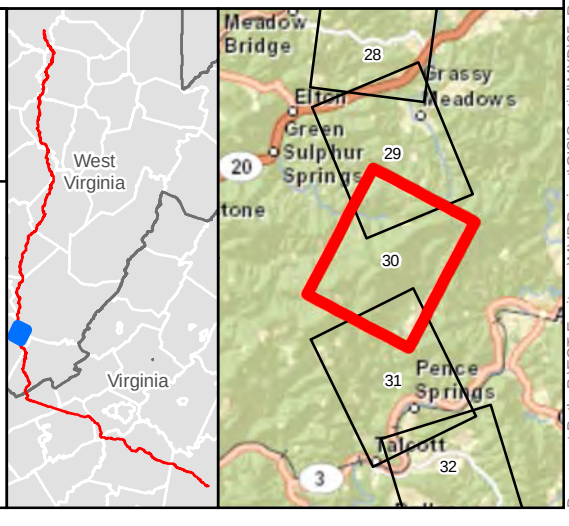
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April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-100
NHD-101
NHD-102
NHD-103
NWI-7
NWI-8
NWI-9

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

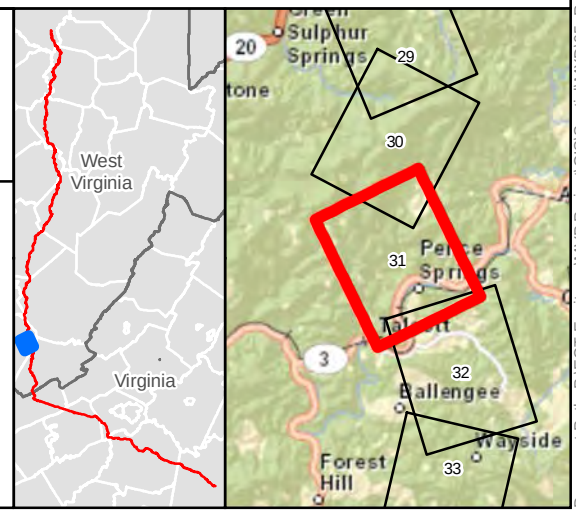
Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-103
NHD-104
NHD-105
NHD-106

171.6 171.7 171.8 172 171.9 172.1 172.2 172.3 172.4 172.5 172.6 172.7 172.8 172.9 173 173.1 173.2 173.3 173.4 173.5 173.6 173.7 173.8 173.9 174 174.1 174.2 174.3 174.4 174.5 174.6 174.7 174.8 174.9 175 175.1 175.2 175.3 175.4 175.5 175.6 175.7 175.8 175.9 176 176.1 176.2 176.3 176.4 176.5 176.6 176.7 176.8 176.9 177 177.1 177.2 177.3 177.4 177.5 177.6 177.7 177.8 177.9 178 178.1 178.2 178.3 178.4

Lowell
Cem
Keller Ch
Riverview Ch Cem
Sherwood
Kelly
Creamery
Flint
Creek
Stony
Wind
Creek
SUMMERS CO
MONROE CO
MOUNTAIN
WOLF CREEK
OHIO
AND
BM 1525
BM 1520
BM 1515
BM 1708
BM 1636
BM 1673
BM 2077
BM 2120
BM 1816
1580
1600
1903
1872
2109
2208
2261
2105
2082
2128
2097
2137
2069
2162
2177
2282
2161
2407
1946
1609
1611

Mountain Valley Pipeline Project

NAD 1983 UTM 17N 1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 32 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N W E S

West Virginia
Virginia

30 31 3 32 33 12 122 34
Alders
Pence Springs
Wolf Creek
Falcott
Fallengee
Wayside
Forest Hill
Greenville

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NHD-106
NHD-107
NHD-108
NHD-109
NHD-110
NHD-111
NHD-112

177.4 177.5 177.6 177.7 177.8 177.9 178 178.1 178.2 178.3 178.4 178.5 178.6 178.7 178.8 178.9 179 179.1 179.2 179.3 179.4 179.5 179.6 179.7 179.8 179.9 180 180.1 180.2 180.3 180.4 180.5 180.6 180.7 180.8 180.9 181 181.1 181.2 181.3 181.4 181.5 181.6 181.7 181.8 181.9 182 182.1 182.2 182.3 182.4 182.5 182.6 182.7 182.8 182.9 183 183.1 183.2

Creek
Stony Creek
Wayside
Wayside Ch
BM 2111
BM 1984
BM 1664
BM 1588
BM 1572
BM 1571
Top
PIPELINE
JEEP TRAIL
Branch
Symmes
Slate Run
Indian Draft
INDIAN CREEK
Hill
Ford
Cem
Greenville
Cooks
SPRING
Forest Hill
Ballengee
Ballard
Lindside
Falcott
Wolf Creek
Spring
West Virginia
Virginia

NAD 1983 UTM 17N 1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend
- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N W E S

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NHD-112
NHD-111
NHD-113
NHD-114
NHD-115
NHD-116

182.2 182.3 182.4 182.5 182.6 182.7 182.8 182.9 183 183.1 183.2 183.3 183.4 183.5 183.6 183.7 183.8 183.9 184 184.1 184.2 184.3 184.4 184.5 184.6 184.7 184.8 184.9 185 185.1 185.2 185.3 185.4 185.5 185.6 185.7 185.8 185.9 186 186.1 186.2 186.3 186.4 186.5 186.6 186.7 186.8 186.9 187 187.1 187.2 187.3 187.4 187.5 187.6 187.7 187.8 187.9 188 188.1 188.2

Mountain Valley Pipeline Project	NAD 1983 UTM 17N	1:24,000	0 500 1,000 2,000 3,000 4,000 5,000 Feet

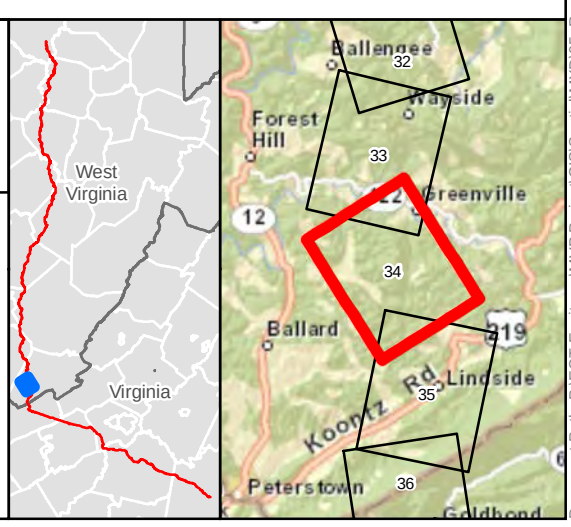
Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend
- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-116
NHD-117
NHD-118
NHD-119
NHD-120
NHD-121
NHD-122

187.6 187.7 187.8 187.9 188 188.1 188.2 188.3 188.4 188.5 188.6 188.7 188.8 188.9 189 189.1 189.2 189.3 189.4 189.5 189.6 189.7 189.8 189.9 190 190.1 190.2 190.3 190.4 190.5 190.6 190.7 190.8 190.9 191 191.1 191.2 191.3 191.4 191.5 191.6 191.7 191.8 191.9 192 192.1 192.2 192.3 192.4 192.5 192.6 192.7 192.8 192.9 193 193.1 193.2 193.3 193.4 193.5 193.6 193.7 193.8

Coulter Chapel
Lindside
Pine Grove Ch
Lindside Ch
Brickle Cem
Bradley Cem
Brick Ch Cem
Dickinson Gap
Creek
Run
Mud
Dry
Painter
Spruce
SPRINGFIELD MOUNTAIN
SULPHUR MOUNTAIN

Mountain Valley Pipeline Project

NAD 1983 UTM 17N 1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 35 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)
- Appalachian Trail

N W E S

West Virginia
Virginia
Greenville
Ballard
Lindside
Peterstown
Goldbond
Ripplemead
Pemboroke
33 34 35 36 37 38
219 635

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NHD-122
NHD-123
NHD-124
NHD-125
NHD-126
NHD-127
NHD-128
NHD-129
NHD-130

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)
- Appalachian Trail

N W E S

West Virginia

Virginia

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NHD-130
NHD-131
NHD-132
NHD-133
NHD-134
NHD-135
NHD-136

199.2 199.3 199.4 199.5 199.6 199.7 199.8 199.9 200 200.1 200.2 200.3 200.4 200.5 200.6 200.7 200.8 200.9 201 201.1 201.2 201.3 201.4 201.5 201.6 201.7 201.8 201.9 202 202.1 202.2 202.3 202.4 202.5 202.6 202.7 202.8 202.9 203 203.1 203.2 203.3 203.4 203.5 203.6 203.7 203.8 203.9 204 204.1 204.2

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

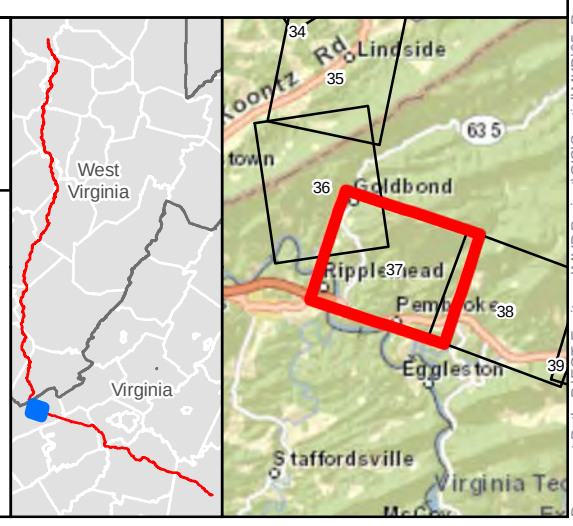
Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-135
NHD-136
NHD-137
NHD-138
NHD-139
NHD-140
NHD-141
NHD-142
NHD-143
NHD-144
NHD-145
NHD-146
NHD-147

203.8 203.9 204 204.1 204.2 204.3 204.4 204.5 204.6 204.7 204.8 204.9 205 205.1 205.2 205.3 205.4 205.5 205.6 205.7 205.8 205.9 206 206.1 206.2 206.3 206.4 206.5 206.6 206.7 206.8 206.9 207 207.1 207.2 207.3 207.4 207.5 207.6 207.7 207.8 207.9 208 208.1 208.2 208.3 208.4 208.5 208.6 208.7

Hoges Chapel
Doe
Mountain
Stony
Creek
Sinking
Maybrook
SALT
JOHNS
JEFFERSON
UNTAIN

Mountain Valley Pipeline Project

NAD 1983 UTM 17N 1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 38 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

Proposed Route

NWI Wetland

NHD Waterbodies (within 1mi)

N S E

West Virginia

Virginia

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

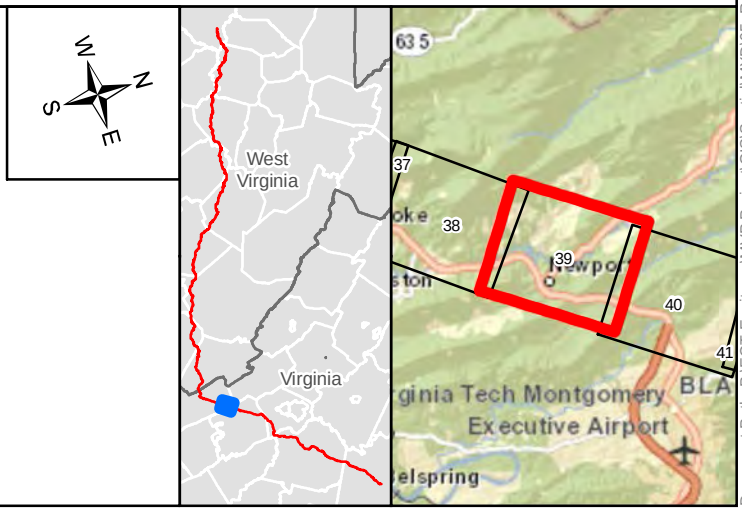
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April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-153
NHD-154
NHD-155
NHD-156
NHD-157
NHD-158
NHD-159

212.8 212.9 213 213.1 213.2 213.3 213.4 213.5 213.6 213.7 213.8 213.9 214 214.1 214.2 214.3 214.4 214.5 214.6 214.7 214.8 214.9 215 215.1 215.2 215.3 215.4 215.5 215.6 215.7 215.8 215.9 216 216.1 216.2 216.3 216.4 216.5 216.6 216.7 216.8 216.9 217 217.1 217.2 217.3 217.4 217.5 217.6 217.7 217.8 217.9

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 40 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

West Virginia
Virginia

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NHD-160
NHD-162
NHD-161
NHD-163
NHD-164
NHD-165
NHD-166
NWI-10
NHD-167

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

West Virginia
Virginia

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NWI-10
NHD-167
NHD-168
NHD-169
NHD-170
NHD-171
NHD-172
NHD-173

222 222.1 222.2 222.3 222.4 222.5 222.6 222.7 222.8 222.9 223 223.1 223.2 223.3 223.4 223.5 223.6 223.7 223.8 223.9 224 224.1 224.2 224.3 224.4 224.5 224.6 224.7 224.8 224.9 225 225.1 225.2 225.3 225.4 225.5 225.6 225.7 225.8 225.9 226 226.1 226.2 226.3 226.4 226.5 226.6 226.7 226.8 226.9 227 227.1 227.2 227.3 227.4

Flatwoods Branch
Flatwoods Branch
Bradshaw Creek
Bradshaw Creek
Bradshaw Creek
Half Acre of Rocks
Acre of Rocks
Rocky Branch
Pedlar River
Pedlar Hollow
NORTH FORK
NORFOLK AND WESTERN
TELEPHONE
PRIVATE
PRIVATE
Primey Grove Ch
Halls Ch
Ford
INTERCHANGE 38
MONTGOMERY CO
ROANOKE CO
Hills
Hollow
MOUNT

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

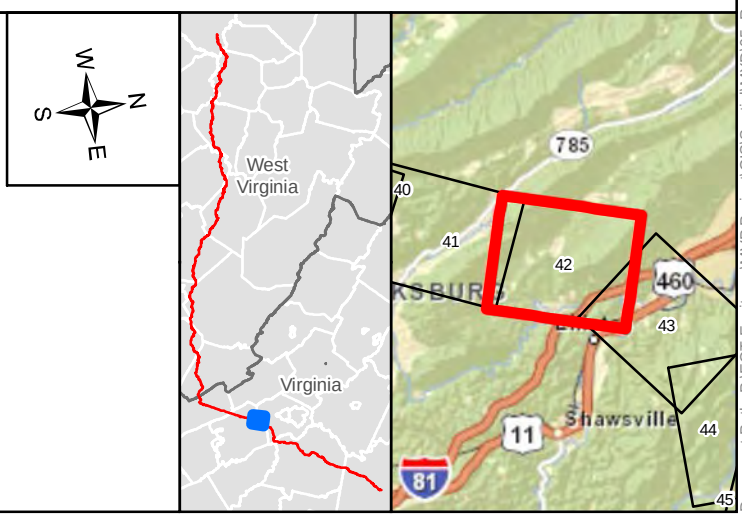
Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-174
NWI-11
NHD-175
NHD-176
NHD-177

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 43 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

West Virginia
Virginia

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NHD-182
NHD-183
NHD-184
NHD-185
NHD-186
NWI-12
NWI-13

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 44 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)
- Blue Ridge Parkway

N W E S

West Virginia

Virginia

42 460 43 44 45 46

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

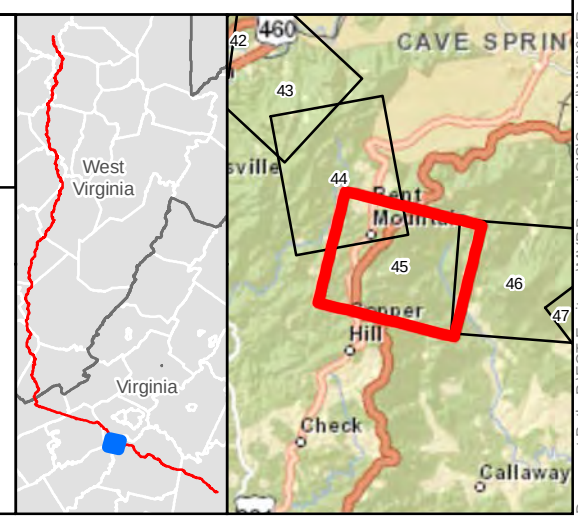
Page 45 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)
- Blue Ridge Parkway



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NHD-195
NHD-196
NHD-197
NHD-198

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Monte Vista Ch
Monte Vista Sch
Blackwater Ch
Wades Gap
Cahas Mountain
Bowman Cem.
Little Creek
Magoodee
South Fork

Mountain Valley Pipeline Project

NAD 1983 UTM 17N 1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 46 of 56

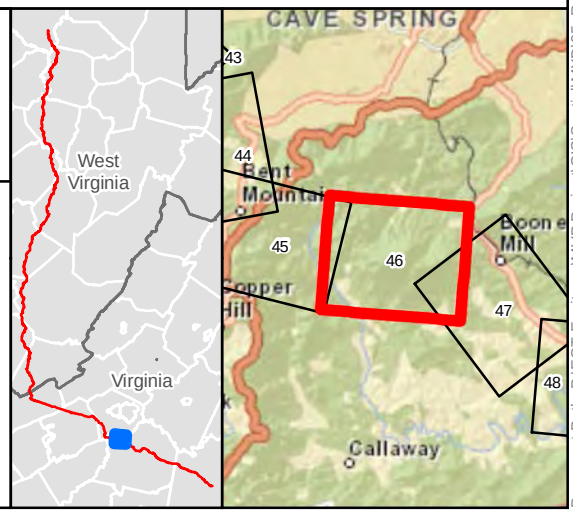
April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N S E



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR02\20150415_Fig2C1_NWI_NHD_Topo_Mapbook.mxd

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NHD-212
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NHD-214
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NHD-216
NHD-217
NWI-16
NHD-218
NHD-219

252.6 252.7 252.8 252.9 253 253.1 253.2 253.3 253.4 253.5 253.6 253.7 253.8 253.9 254 254.1 254.2 254.3 254.4 254.5 254.6 254.7 254.8 254.9 255 255.1 255.2 255.3 255.4 255.5 255.6 255.7 255.8 255.9 256 256.1 256.2 256.3 256.4 256.5 256.6 256.7 256.8 256.9 257 257.1 257.2 257.3 257.4 257.5 257.6 257.7 257.8 257.9 258 258.1 258.3 258.4 258.5 258.6 258.7 258.8 258.9 259 259.1 259.2 259.3 259.4 259.5 259.6

Goggins Ville
Overfelt Cem
Cem
Quarry
Trailer Park
Wirtz
Turnbull Cem
Frankie Marcotts Park
Clower Knob
Sandy Ridge Ch
Rehoboth Ch
Plant Hill Ch
Angle Cem
Gate
PRIVATE
BLACKWATER
RIVER
WESTERN
AND
NORFOLK

Mountain Valley Pipeline Project

NAD 1983 UTM 17N 1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 48 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

N E S W

West Virginia
Virginia
Boones Mill
T Washington
Red
46 47 48 49 50

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

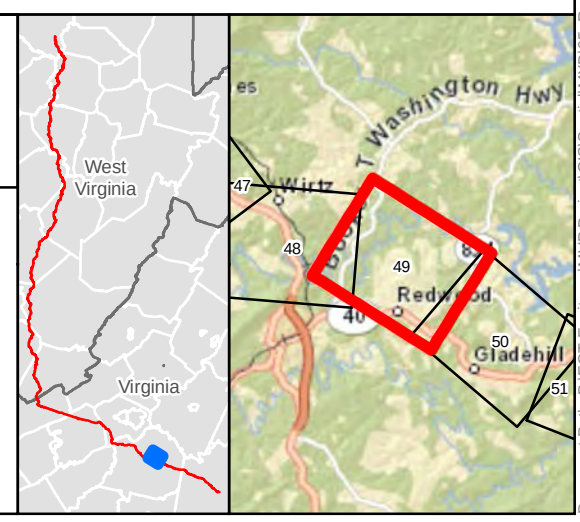
Page 49 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

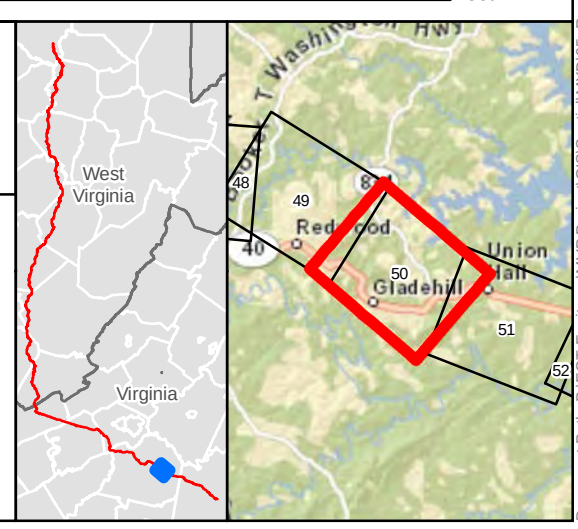
Page 50 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-245

268.7 268.8 268.9 269 269.1 269.2 269.3 269.4 269.5 269.6 269.7 269.8 269.9 270 270.1 270.2 270.3 270.4 270.5 270.6 270.7 270.8 270.9 271 271.1 271.2 271.3 271.4 271.5 271.6 271.7 271.8 271.9 272 272.1 272.2 272.3 272.4 272.5 272.6 272.7 272.8 272.9 273 273.1 273.2 273.3 273.4 273.5 273.6 273.7 273.8 273.9

Standiford Ck
Jack's Creek
Tanyard Branch
Little Jacks Creek
Turkey Creek
Northfield Cem
Union Hall
Union Hall Ch
Bull Run
Smith Mountain Lake
Novelty Cem
Strawfield Creek
Penhook
Dimner
RIVER

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NHD-245
NHD-246
NWI-18
NHD-247
NHD-249
NHD-248
NHD-250
NHD-251

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

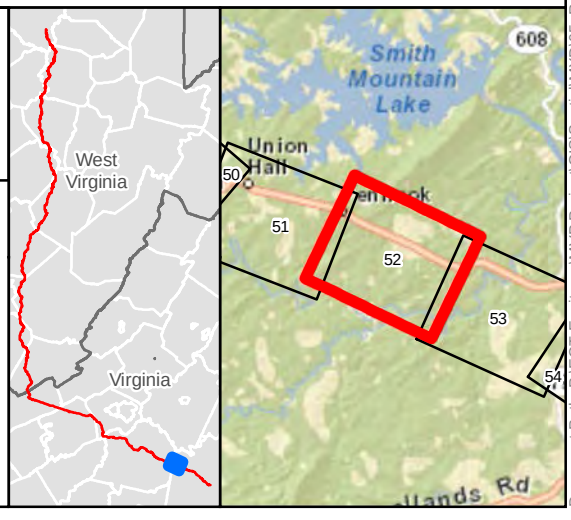
Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

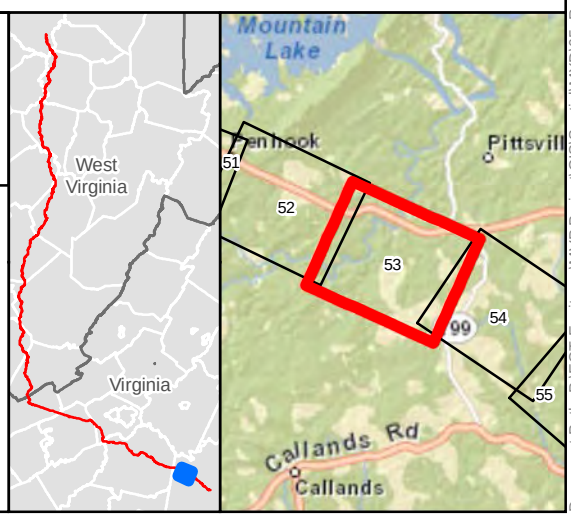
Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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NHD-257
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NHD-263
NHD-264

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Climax
Redeye
Walkers Well
Cherrystone
Creek
Branch
Pole Bridge
The Cedars Country Club
Pittsville
West Virginia
Virginia

Mountain Valley Pipeline Project

NAD 1983 UTM 17N 1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 54 of 56

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)

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NHD-267
NHD-268
NHD-269
NWI-21

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

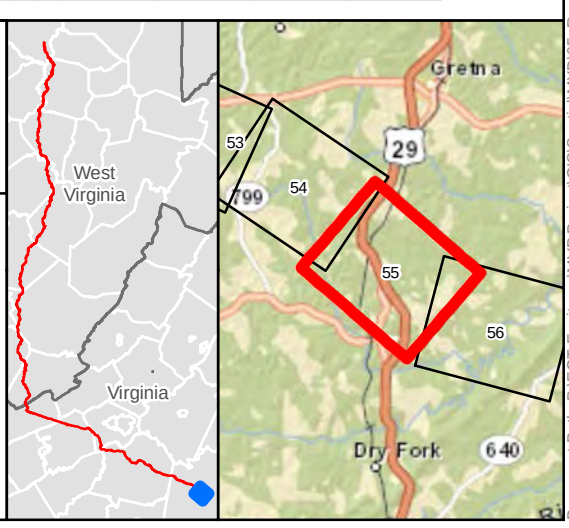
Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

Legend

- Proposed Route
- NWI Wetland
- NHD Waterbodies (within 1mi)



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294.1

NHD-268
NHD-269
NHD-270
NHD-271

Cherrystone PIPELINES
Creek
Village
Motleys Mill
Cedar Hill
Cem
Ridge Tower
Pump Sta
Atkinson Cem
BR 528
BANISTER
M O U N T A I N
River

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Figure 2-C-1
Wetland and Waterbodies Crossed by the MVP Project

Page 56 of 56

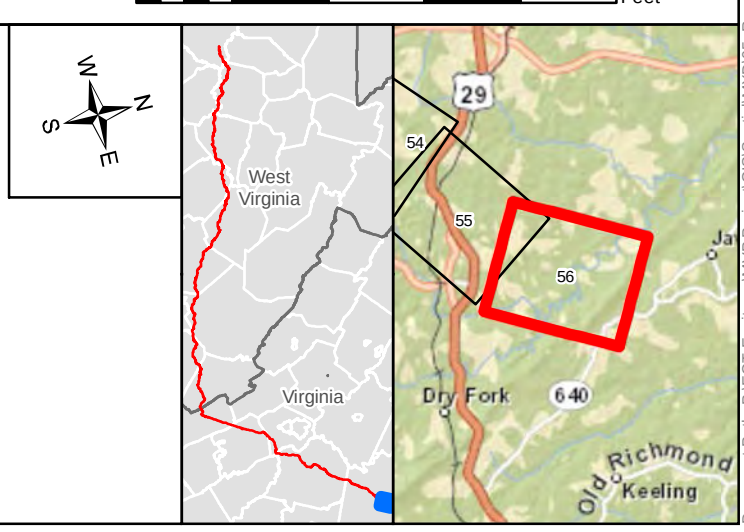
April 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, National Wetlands Inventory 2014, NHD

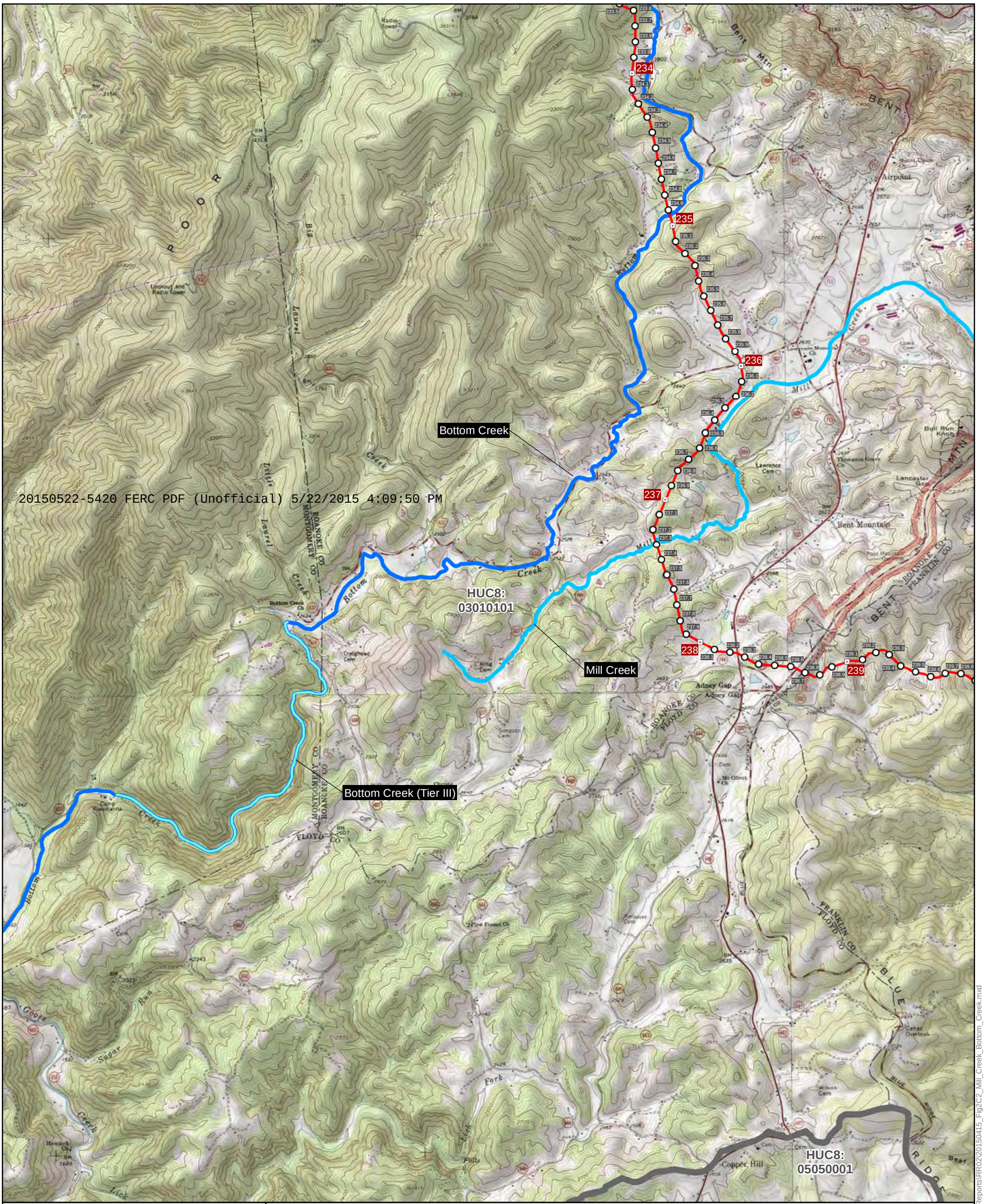
Legend

Preliminary Meter Station Location

- Transco Interconnect receipt
- Proposed Route
- Existing Transco Pipeline
- NWI Wetland
- NHD Waterbodies (within 1mi)



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 0.5 1 Miles

Mountain Valley PIPELINE

Figure 2-C-2
Crossing of the headwaters
Mill Creek to Bottom Creek

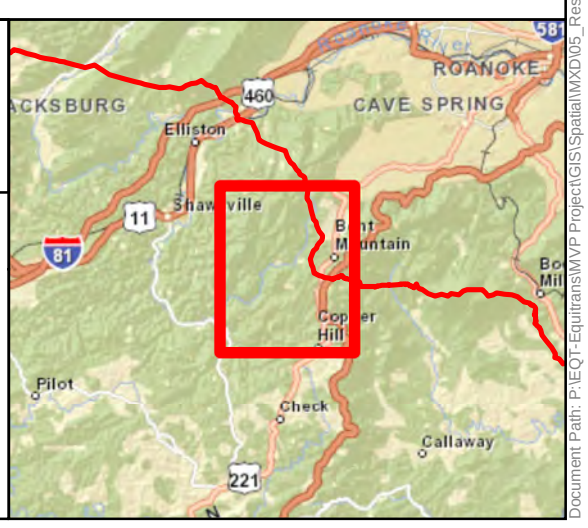
May 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, USGS, Ventyx

Legend

- Milepost
- Tenth-Milepost
- Proposed Route
- Mill Creek
- Bottom Creek
- Bottom Creek (Tier III)

N W E S



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N 1:55,000

0 0.5 1 2 Miles

Mountain Valley PIPELINE

Figure 2-C-3
Red Sulphur Public Service District Watershed and the Zone of Critical Concern

May 2015

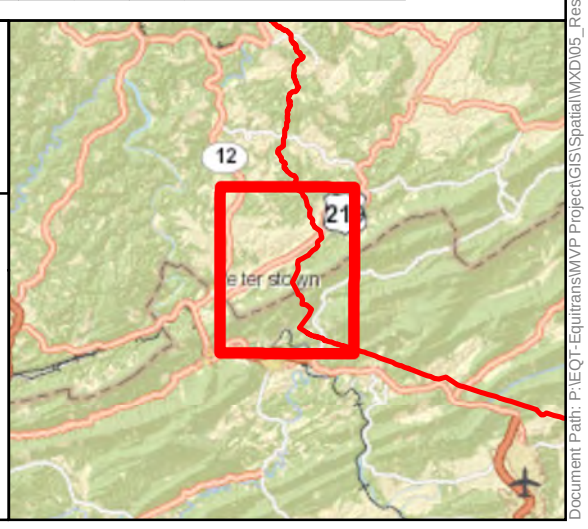
Data Sources: ESRI Streaming Data, 2014, ESRI, USGS

Legend

- Milepost
- Tenth-Milepost
- Proposed Route*
- Red Sulfur Zone of Critical Concern
- Red Sulfur PSD Watershed Delineation Area

N W E S

**Approximately 5.4 miles of the Proposed Route is within the Red Sulfur PSD Watershed Delineation Area*



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Town of Boones Mill

Boones Mill Water Source and Treatment Plant

HUC8: 03010101

HUC8: 03010102

HUC8: 03010103

HUC8: 03010104

HUC8: 03010105

BANISTER RIVER BASIN (CHERRY STONE HEADWATERS)

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:270,000

0 1 2 4 6 8 10 Miles

Mountain Valley PIPELINE

Figure 2-C-4
Town of Boones Mill Water source and Treatment Plant and the Banister River Basin (Cherry Stone headwaters)

May 2015

Data Sources: ESRI Streaming Data, 2014, ESRI, USGS, Ventyx

Legend

- Milepost
- Proposed Route*
- Existing Transco Pipeline
- Town of Boones Mill
- Boones Mill Water Treatment Plant
- HUC8 Watershed Boundary
- Banister River Basin

Approximately 9.9 miles of the Proposed Route is within the Banister River Basin

N W E S

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Mountain Valley Pipeline Project

Docket No. PF15-3

Resource Report 6 – Geologic Resources

Draft

May 2015

20150522-5420 FERC PDF (Unofficial) 5/22/2015 4:09:50 PM

Mountain Valley Pipeline Project
Resource Report 6 – Geologic Resources

Resource Report 6 Filing Requirements	
Information	**Location in Resource Report**
Minimum Filing Requirements	
1. Identify the location (by milepost) of mineral resources and any planned or active surface mines crossed by the proposed facilities. (§380.12 (h) (1 & 2)). Describe hazards to the facilities from mining activities, including subsidence, blasting, slumping or landsliding or other ground failure.	Sections 6.3, 6.3.1, 6.3.2, 6.3.3, and 6.3.4
2. Identify any geologic hazards to the proposed facilities. (§380.12 (h) (2)) For the offshore, this information is needed on a mile-by-mile basis and will require completion of geophysical and other surveys before filing.	Section 6.4
3. Discuss the need for and locations where blasting may be necessary in order to construct the proposed facilities. (§380.12 (h) (3))	Section 6.2
4. For LNG Projects in seismic areas, the materials required by "Data Requirements for the Seismic Review of LNG Facilities," NBSIR84-2833. (§380.12 (h) (5))	Not Applicable (not an LNG project)
5. For underground storage facilities, how drilling activity by others within or adjacent to the facilities would be monitored, and how old wells would be located and monitored within the facility boundaries. (§380.12 (h) (6))	Not Applicable (no underground storage proposed)
6. Identify any sensitive paleontological resource areas crossed by the proposed facilities. (Usually only if raised in scoping or required by land-managing agency.)	Section 6.5
7. Briefly summarize the physiography and bedrock geology of the project area	Sections 6.1.1 and 6.1.2
8. If application is for underground storage facilities: • Describe monitoring of potential effects of the operation of adjacent storage or production facilities on the proposed facility, and vice versa; • Describe measures taken to locate and determine the condition of old oil wells within the field and buffer zone and how the applicant would reduce risk from failure of known and undiscovered wells; and • Identify and discuss safety and environmental safeguards required by state and Federal drilling requirements	Not Applicable (no underground storage proposed)

FERC Environmental Information Request for Resource Report 6 Dated March 13, 2015	
Request	**Location in Resource Report**
1. Include a discussion of the Saint Clair fault line. Indicate what impacts the fault may have on the pipeline. Outline measures that would be implemented to avoid, minimize, or mitigate impacts from this fault.	Section 6.4.1.3, p. 6-16; Section 6.6.1.3, p.6-28
2. List, by MPs, areas along the pipeline route that have the potential for landslides. Outline the measures Mountain Valley would implement to avoid, minimize impacts, or mitigate impacts related to landslides.	Section 6.4.3, p.6-22; Table 6.4-4, p. 6-24; Section 6.6.1.2, p. 6-28

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FERC Environmental Information Request for Resource Report 6 Dated March 13, 2015	
Request	**Location in Resource Report**
3. List, by MPs, areas along the pipeline route that have karst features or the potential for sinkhole development. Outline measures Mountain Valley would implement to avoid, minimize impacts, or mitigate impacts related to karst features or sinkholes. Document consultations with appropriate local, state, and federal resource agencies regarding karst features and sinkholes.	Section 6.4.2 and Table 6.4-2, p. 6-17; Section 6.6.1.5 p. 6-31
4. List, by MPs, any caves that would be crossed, or would be within 0.5-mile of the pipeline route. For each cave, provide its name (if known), distance (in feet) and direction from the pipeline centerline, depth of the cave, use for recreational purposes, and potential habitat for bats. Include site-specific information on caves identified by stakeholders in comments filed with the FERC, such as: Pig Hole Cave, Smoke Hole Cave, Tawney Cave, Mill Creek Nature Preserve Caves, and Cross Smokehole Cave. Outline measures Mountain Valley would implement to avoid, minimize impacts, or mitigate impacts related to the pipeline crossing or being near a cave. Document consultations with appropriate local, state, and federal resource agencies regarding caves.	Section 6.4.2.2, p. 6-19; Table 6.4-3 p. 6-21
5. List, by MPs, all oil or gas wells within 0.25-mile of the pipeline. The table should provide the name of the well, distance in feet and direction from centerline, and well depth. Also, illustrate the locations of the nearby oil and gas wells in relation to the pipeline route on 7.5-minute U.S. Geological Survey topographic quadrangle maps. Outline measures Mountain Valley would implement to avoid, minimize impacts, or mitigate impacts on those oil and gas wells.	Section 6.3.2 and Table 6.3-2, p.6-11; Appendix 6-C; Section 6.3.5, p. 6-13
6. List, by MPs, any active or abandoned mines, including coal mines and quarries, within 0.25-mile of the pipeline. The table should provide the name of the mine, its distance (in feet) and direction from centerline, type of mine, material quarried or removed, and indicate if the mine is active or abandoned. In particular, identify any underground mine workings that may be crossed. Outline measures Mountain Valley would implement to avoid, minimize impacts, or mitigate impacts on mines that would be crossed or near the pipeline.	Section 6.3 and Table 6.3-1, p. 6-9; Section 6.3.3, p. 6-13

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GEOLOGIC RESOURCES
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LIST OF ACRONYMS AND ABBREVIATIONS

API	American Petroleum Institute
asml	above mean sea level
CFR	Code of Federal Regulations
FERC	Federal Energy Regulatory Commission
GCSZ	Giles County Seismic Zone
MMI	Modified Mercalli Intensity
MP	milepost
MVP	Mountain Valley Pipeline, LLC
PFZ	Pembroke Fault Zone
PGD	permanent ground deformation
Plan	FERC's May 2013 version of the Upland Erosion Control, Revegetation, and Maintenance Plan
Procedures	FERC's May 2013 version of the Wetland and Waterbody Construction and Mitigation Procedures
Project	Mountain Valley Pipeline Project
RM	Richter Magnitude
Transco	Transcontinental Gas Pipe Line Company, LLC
USDOT	U.S. Department of Transportation
USGS	U.S. Geological Society
Virginia DMME	Virginia Department of Mines, Minerals, and Energy
WVDEP	West Virginia Department of Environmental Protection
WVGES	West Virginia Geologic and Economic Survey

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RESOURCE REPORT 6
GEOLOGIC RESOURCES

Introduction

Mountain Valley Pipeline, LLC (MVP), a joint venture between affiliates of EQT Corporation, NextEra Energy, Inc., WGL Holdings, Inc. and Vega Energy Partners, Ltd., is seeking a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act authorizing it to construct and operate the proposed Mountain Valley Pipeline Project (Project) located in 16 counties in West Virginia and Virginia MVP plans to construct an approximately 294.1-mile, 42-inch-diameter natural gas pipeline to provide timely, cost-effective access to the growing demand for natural gas for use by local distribution companies, industrial users and power generation in the Mid-Atlantic and southeastern markets, as well as potential markets in the Appalachian region.

The proposed pipeline will extend from the existing Equitrans, L.P. transmission system in Wetzel County, West Virginia to Transcontinental Gas Pipe Line Company, LLC's (Transco) Zone 5 compressor station 165 in Pittsylvania County, Virginia. In addition to the pipeline, the Project will require approximately 217,200 horsepower of compression at approximately four compressor stations currently planned along the route, as well as measurement, regulation, and other ancillary facilities required for the safe operation of the pipeline. The pipeline is designed to transport up to 2.0 billion cubic feet per day of natural gas. Resource Report 1 provides a complete summary of the Project facilities (see Tables1.2-1and 1.2-2) and a general location map of the Project facilities (Figure 1.2-1).

Environmental Resource Report Organization

Resource Report 6 is prepared and organized according to the FERC *Guidance Manual for Environmental Report Preparation* (August 2002). This report is organized by Project components and describes the existing geologic setting and resources, potential impacts, and mitigation in relation to the four Project components. Section 6.1 describes the geologic setting; Section 6.2 describes locations along the pipeline with blasting potential; Section 6.3 describes mineral resources; Section 6.4 discusses geologic hazards; Section 6.5 discusses paleontological resources; Section 6.6 discusses impacts and mitigation; and Section 6.7 presents the list of references that formed the basis for Resource Report 6.

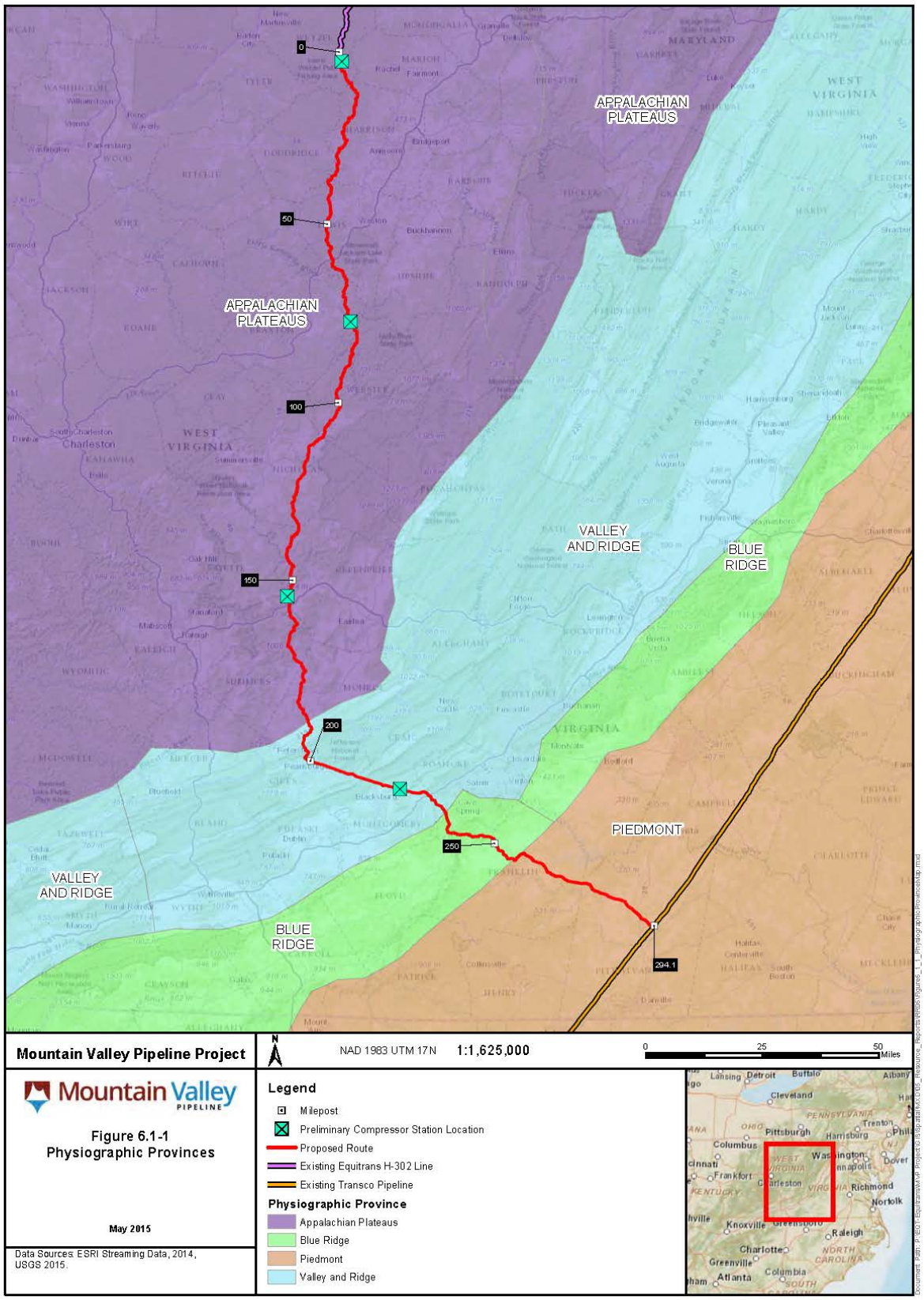
6.1 GEOLOGIC SETTING

The proposed pipeline route begins in Wetzel County, West Virginia; traverses Harrison, Doddridge, Lewis, Braxton, Webster, Nicholas, Greenbrier, Fayette, Summers, and Monroe counties in West Virginia; and Giles, Montgomery, Roanoke, Franklin, and Pittsylvania counties in Virginia. Along the proposed route, topography ranges from 612 to 3,805 feet above mean sea level (amsl).

6.1.1 Regional Physiographic Setting

The proposed pipeline route crosses four physiographic provinces including the Appalachian Plateaus, Valley and Ridge, Blue Ridge, and Piedmont provinces (Figure 6.1-1). Except for less than 10 miles of Monroe County, the Project in West Virginia is entirely located within the Appalachian Plateaus province. The Appalachian Plateaus province is a westward-tilting plateau that is a rugged, well-dissected landscape with a dendritic drainage pattern.

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The Kanawha Section of the Appalachian Plateaus province is on a dissected plateau that is underlain mainly by horizontally bedded sedimentary rocks. The narrow, level valleys and narrow, sloping ridgetops are separated by long, steep and very steep side slopes. This plateau is underlain mostly by horizontal layers of Pennsylvanian-age sandstone, siltstone, shale, coal, and some limestone (WVGES 2015a; USGS 1997).

The Valley and Ridge province is traversed by the Project in southern Monroe County, West Virginia and Giles, Montgomery, and Roanoke counties, Virginia. The Valley and Ridge province is a long belt of parallel mountain ridges and valleys trending in a northeast direction. Geologic forces squeezed the originally flat-lying sedimentary layers and folded them into a series of arches (anticlines) and troughs (synclines). Erosion of these folds over geologic time has produced a distinctive repeating landscape of ridges and valleys. Resistant sandstone or conglomerate forms the top of strike ridges and the mid-to-upper area of the dip slopes. In contrast, the lower flanks of the ridges are underlain by shale, and in some areas, by carbonate bedrock (limestone and dolomite). The valleys are underlain by shale and carbonate bedrock. Some limestone areas contain caves, sinkholes, and other karst features (William and Mary 2015a; USGS 1997; WVGES 2015a).

The Blue Ridge province is crossed by the Project route from Roanoke County to within Franklin County, Virginia. The province is characterized by the northeast-trending Blue Ridge Mountains that tower above the eastern border of the Valley and Ridge province (WVGES 2015a).

The Piedmont province is crossed within Franklin and Pittsylvania counties, Virginia. The Piedmont province consists of low, rounded hills with gentle slopes and a few isolated ridges.

6.1.2 Topography

Topography along the pipeline route varies from flat to slopes exceeding 45 percent. Elevation ranges are shown by county in Table 6.1-1. Elevation ranges from 613 feet amsl in Pittsylvania County, Virginia to 3,746 feet amsl in Roanoke County, Virginia. For topographic details along the proposed MVP route, see the U.S. Geological Society (USGS) 7.5-minute series topographic quadrangle excerpts located in Appendix 1-B of Resource Report 1.

Table 6.1-1

Minimum and Maximum Elevations by County

State / County	Minimum Elevation (feet amsl)	Maximum Elevation (feet amsl)
West Virginia		
Wetzel	862	1,654
Harrison	996	1,653
Doddridge	942	1,500
Lewis	796	1,632
Braxton	829	1,868
Webster	996	2,769
Nicholas	1,749	3,202
Greenbrier	2,388	3,478

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Table 6.1-1

Minimum and Maximum Elevations by County

State / County	Minimum Elevation (feet amsl)	Maximum Elevation (feet amsl)
Fayette	2,665	2,805
Summers	1,502	3,733
Monroe	1,567	3,333
Virginia		
Giles	1,644	3,330
Montgomery	1,177	2,947
Roanoke	1,218	3,746
Franklin	792	3,521
Pittsylvania	613	962

6.1.3 Regional Geology

The Project traverses geology of numerous timeframes and rock types as summarized in Table 6.1-2. A complete table, by milepost (MP), of the geology along the proposed MVP alignment, as well as, geologic mapping is available from West Virginia (West Virginia GIS Technical Center 2015a) and Virginia (Virginia DMME 2015a) and is provided in Appendix 6-A.

The Project area is underlain by rocks from the Pennsylvanian and Permian periods from approximate MP 0.0 to MP 23. The rocks include the Dunkard and Monongahela groups as mapped in West Virginia and predominantly consist of sandstone. During the Permian Period, the Appalachian mountain building episode occurred with folding and thrust-faulting of previously deposited strata. Several synclines and anticlines formed as a result of the deformation and erosion took place thereafter filling the subsiding terrestrial basin to the west in the Project area (WVGES 2015a). The Pennsylvanian Conemaugh group sandstone and shale formations, and Pottsville group sandstone formations are crossed by the Project from approximate MP 23 to MP 144. During the Pennsylvanian period, conditions were swampy, and thousands of feet of non-marine sandstone, shale, and coal were deposited.

The Mississippian Mauch Chunk, Greenbrier, and Pocono groups; and Pennsylvanian Pottsville group are crossed by the Project from approximate MP 144 to MP 191. The Mauch Chunk group formations are dominated by shale and sandstone rock, the Greenbrier group by limestone, and the Pocono group by limestone. A sea covered this area during in the Middle Mississippian Period (about 330 million years ago). During this time, the Greenbrier Group, composed mainly of limestone, was deposited. The sea retreated near the end of the Mississippian Period and the area became swampy (USGS 1997). Limestone from approximate MP 172.2 to MP 173.2, in Summers County, West Virginia, is characterized by karst terrain features as further discussed in Section 6.4.2.

Devonian, Ordovician, and Silurian age formations are crossed by the Project from MP 191 to MP 213. Formations include the Ordovician limestones, shale, and sandstone, Lower Devonian and Silurian undivided sandstone and limestone, Ordovician shale and mudstone, and the Cambrian-Ordovician Knox group dolostone and limestone. Mountain-building episodes formed mountains to the east that were a source of sediments during the Ordovician, Silurian, and early Devonian periods. Highlands to the

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northeast formed during a subsequent mountain building episode and were the source of clastic sediments in the Middle and Late Devonian Period. Ordovician limestone formations, crossed by the Project from approximate MP 193.5 to MP 194.4, are characterized by karst terrain as further discussed in Section 6.4.2. The Knox group and undivided limestone, crossed by the Project from approximate MP 193.4 to MP 194.5, in Monroe County, West Virginia, and in segments from MP 197.9 to MP 212, in Giles County, Virginia, is characterized by karst terrain as further discussed in Section 6.4.2.

Later, a marine sea deposited marine limestones, shales, siltstones, and sandstones in the Project area during the Cambrian and Ordovician periods (WVGES 2015a). Devonian shale formations, Cambrian dolostone and limestone formations, Lower Ordovician and Upper Cambrian undivided limestone formations, and Ordovician shale and mudstone formations are crossed by the Project from MP 213 to MP 227. The Cambrian Elbrook dolostone, Pumpkin Valley shale and Rome Formation shale and siltstone, and the Chilhowee group quartzite and conglomerate are traversed from MP 227 to MP 233. Proterozoic and Cambrian granite, gneisses, and schists are traversed from MP 233 to MP 293. The Project endpoint at MP 294.1 is mapped as Upper Triassic sandstone. The Elbrook dolostone and limestone, and Knox group crossed in Montgomery County from approximate MP 216 to MP 221.1 is characterized by karst terrain as further discussed in Section 6.4.2.

By late Cambrian time, a shallow sea covered most of the Project area. Marine deposition took place throughout most of this and the succeeding Ordovician Period (USGS 1997).

The mountain building period near the end of Ordovician time formed a high mountainous area east of the Project area. These highlands formed the main source of sediments for the succeeding Silurian Period and part of the Devonian Period. Both clastics and carbonates were deposited in a mixed marine and nonmarine environment.

At the close of Mississippian time, about 310 million years ago, the Project area was essentially a land area, subject to erosion. Early in the succeeding Pennsylvanian Period, the area dropped to near sea level, and for more than 50 million years, continued to sink at about the same rate that deposition was taking place. Swamp conditions prevailed, resulting in the deposition of thousands of feet of nonmarine sandstone and shale and the many important coal seams that we know today.

Sometime during the Permian Period, roughly 270 to 225 million years ago, the Appalachian Orogeny began. West Virginia was uplifted, important deposition of sediments ceased, and erosion began taking place. Much folding and thrust faulting occurred, especially in the eastern part of the state. This orogeny played a major part in the formation of the Appalachian Mountains as we know them today.

Table 6.1-2

Geology by Project Milepost

County	Start MP	End MP	Length (miles)	Geologic Age	Geologic Unit ("Group" in West Virginia)	Geologic Unit ("Formation" in West Virginia)	Rock Type
West Virginia							
Wetzel, Harrison, Doddridge, Lewis	0.0	42.2	42.2	Pennsylvanian and Permian	Dunkard	Greene, Washington, Waynesburg	sandstone
Lewis	42.2	65.8	23.6		Monongahela	Uniontown, Pittsburgh	
				Pennsylvanian	Conemaugh a/	Casselman, Glenshaw	shale
Braxton	65.8	80.6	14.8	Pennsylvanian	Conemaugh b/	Allegeny, Casselman, Glenshaw	sandstone, shale
					Monongahela a/	Uniontown, Pittsburgh	sandstone
					Pottsville (MP 75) c/	Kanawha	
Webster	80.6	109.7	29.1		Conemaugh	Allegheny, Casselman, Glenshaw	sandstone, shale
					Pottsville	Kanawha, New River	sandstone
Nicholas	109.7	110.1	0.4				
Webster	110.2	110.8	0.6				
Nicholas	110.9	135.2	24.3				
Greenbrier	135.3	154.0	18.7			Kanawha, New River, Pocohontas	
				Mississippian	Mauch Chunk (MP 143.7)	Bluestone, Princeton	shale/sandstone
Fayette	154.1	154.5	0.4				
Greenbrier	154.6	156.8	2.2				
Summers	156.9	173.2	16.3	Pennsylvanian	Pottsville	Pocahontas	sandstone
				Mississippian	Mauch Chunk	Bluestone, Princeton, Hinton	shale/ sandstone, shale
Monroe	173.3	191.0	17.7			Hinton,Bluefield	shale
					Greenbrier		limestone
					Pocono	Maccrady	Shale
	191.0	193.4	2.4	Devonian	Chemung		
						Brallier	
	193.4	195.1	1.7	Ordovician	Beekmantown		limestone
					St. Paul		
					Trenton, Black River		
					Martinsburg		shale
					Juniata, Oswego		sandstone
Virginia							
Giles	195.1	195.1	<0.1	Silurian	Tuscarora Sandstone		sandstone
	195.1	196.6	1.5	Lower Devonian and Silurian	Lower Devonian and Silurian Formations - undivided		sandstone, limestone

Table 6.1-2

Geology by Project Milepost

County	Start MP	End MP	Length (miles)	Geologic Age	Geologic Unit ("Group" in West Virginia)	Geologic Unit ("Formation" in West Virginia)	Rock Type
	196.59	196.91	0.32	Ordovician	Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation		shale, mudstone
	196.91	199.68	2.76	Cambrian - Ordovician	Knox Group		dolostone (dolomite), limestone
	199.68	201.09	1.41	Ordovician	Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A		shale, mudstone
	204.70	205.16	0.46	Cambrian - Ordovician	Knox Group		dolostone (dolomite), limestone
	205.16	207.83	2.67	Ordovician	Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A		shale, mudstone
					Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation		
	207.83	208.58	0.75	Cambrian - Ordovician	Knox Group		dolostone (dolomite), limestone
	208.58	210.51	1.93	Ordovician	Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A		shale, mudstone
					Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation		
	210.51	210.89	0.38	Cambrian - Ordovician	Knox Group		dolostone (dolomite), limestone
	210.89	211.17	0.28	Cambrian	Nolichucky and Honaker Formation		shale, dolostone (dolomite)
	211.17	211.66	0.49	Cambrian - Ordovician	Knox Group		dolostone (dolomite), limestone
	211.66	212.32	0.66	Ordovician	Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A		shale, mudstone
					Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation		
Montgomery	212.32	212.92	0.61	Lower Devonian and Silurian	Lower Devonian and Silurian Formations - undivided		sandstone, limestone
	212.92	213.96	1.04	Devonian	Millboro Shale and Needmore Formation		black shale, shale
					Brallier Formation		shale, siltstone
					Chemung Formation		shale, sandstone
	213.96	215.81	1.85	Mississippian	Price Formation		sandstone, shale
	215.81	220.07	4.26	Cambrian, Upper Cambrian - Lower Ordovician	Elbrook Formation		dolostone (dolomite), limestone
					Lower Ordovician and Upper Cambrian Formations - undivided		limestone, dolostone (dolomite)
	220.07	221.52	1.45	Ordovician	Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A		shale, mudstone
					Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation		
	221.52	222.27	0.75	Lower Devonian and Silurian	Lower Devonian and Silurian Formations - undivided		sandstone, limestone

Table 6.1-2

Geology by Project Milepost

County	Start MP	End MP	Length (miles)	Geologic Age	Geologic Unit ("Group" in West Virginia)	Geologic Unit ("Formation" in West Virginia)	Rock Type
	222.27	227.22	4.95	Devonian	Millboro Shale and Needmore Formation		black shale, shale
					Brallier Formation		shale, siltstone
					Chemung Formation		shale, sandstone
	227.22	229.2	1.98	Cambrian	Elbrook Formation		dolostone (dolomite), limestone
					Pumpkin Valley Shale and Rome Formation		shale, siltstone
Roanoke	229.2	231.1	1.9				
	231.1	233.43	2.33		Chilhowee Group		quartzite, conglomerate
	233.43	238.6	5.17	Proterozoic Y	layered pyroxene granulite		granulite
					charnockite		granitic gneiss
					porphyritic leucocharnockite		granite
Franklin	238.6	250.64	12.04				
					layered biotite granulite and gneiss		gneiss, granulite
					porphyroblastic biotite-plagioclase augen gneiss		augen gneiss
					layered quartzofeldspathic augen gneiss and flaser gneiss		felsic gneiss, flaser gneiss
	250.64	251.59	0.95	Proterozoic Z	Ashe Formation - biotite gneiss		biotite gneiss
	251.59	252.75	1.16	Proterozoic Y	layered quartzofeldspathic augen gneiss and flaser gneiss		felsic gneiss, flaser gneiss
	252.75	266.15	13.4	Proterozoic Z, Proterozoic Z – Cambrian	Ashe Formation - biotite gneiss		biotite gneiss
					Alligator Back Formation - feldspathic metagraywacke		meta-argillite, schist
					Alligator Back Formation - actinolite schist		schist
	266.15	267.74	1.59	Proterozoic Z	Ashe Formation - biotite gneiss		biotite gneiss
	267.74	274.8	7.06	Proterozoic Z – Cambrian, Cambrian, Proterozoic Z	Alligator Back Formation - actinolite schist		schist
Pittsylvania	274.8	287.25	12.45				
					Alligator Back Formation - feldspathic metagraywacke		meta-argillite, schist
					Candler Formation - phyllite and schist		phyllite, schist
					Bassett Formation - amphibolite		amphibolite, gneiss
					Bassett Formation - biotite gneiss		biotite gneiss, gneiss
					Fork Mountain Formation		mica schist, gneiss
	287.25	293.71	6.46	Cambrian, Proterozoic Z - Cambrian	Leatherwood Granite		granite
					Fork Mountain Formation		mica schist, gneiss
	293.71	294.14	0.44	Upper Triassic	Newark Supergroup - sandstone, siltstone and shale, interbedded		sandstone, siltstone

a/ Occasional occurrences only
b/ Dominant occurrence in County
c/ Beginning occurrence at specified milepost

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6.2 SHALLOW BEDROCK

Areas where shallow bedrock may be encountered along the proposed pipeline route, based on attribute data provided in the state-level soil geographic databases (USDA 2015) for West Virginia and Virginia, are provided in a table and the map set included in Appendix 6-B. The table listing evaluates shallow bedrock at every milepost tenth to depths of 7 feet or less; and the map set shows shallow bedrock areas of 5 feet or less. This information, along with geology information provided in Appendix 6-A, provides preliminary information to assist in the identification of potential areas crossed by the proposed pipeline where bedrock could be encountered during excavation of the pipeline trench and where blasting or other methods of mechanical rock removal might be required. Based on this information, approximately 120 miles, or approximately 41 percent, of the proposed pipeline route are located in areas of bedrock with depths of less than 7 feet, and approximately 30 miles, or approximately 10 percent, of the proposed pipeline route, are located within areas of bedrock with depths of less than 5 feet. A Draft Blasting Plan is provided at the end of Appendix 6-B.

6.3 MINERAL RESOURCES

Exploitable and potentially exploitable mineral resources occur in the area affected by the Project, including economically significant coal, shale, and oil and gas resources. Mineral resources within 0.25 mile of the Project were identified from a review of topographic maps, USGS and state database searches (USGS 2015a, 2015b; Virginia DMME 2015b; West Virginia GIS Technical Center 2015b), and field studies (Draper Aden Associates 2015a). Table 6.3-1 lists the mineral resources identified. An inactive iron pit was identified at MP 278.9 in Franklin County, Virginia; and an active clay mine was identified at MP 228.7 in Montgomery County, Virginia. Otherwise, mineral resources identified in the Project area include oil and gas, coal, sand, gravel, and crushed rock.

Table 6.3-1

Mineral Resources Within 0.25 mile of the MVP Pipeline

State / County	Milepost	Mineral Resource / Name of Mine	Location	Status	Data Source
West Virginia					
Harrison	16.1	Quarry	0.25 mile east	unknown	f/
	16.8 – 17.9	American Mountaineer Mine	Permit area crossed	unknown	d/ (underground mining limits)
	19.1 – 25.4	American Mountaineer Mine	Permit area crossed	unknown	d/ (underground mining limits)
	28.1 – 28.6	Pittsburgh	Permit area crossed	unknown	d/ (underground mining limits)
Lewis	45.7	Strip mine area	0.25 mile east	unknown	f/
	47.1 – 47.4	Strip mine area	0.25 mile east	unknown	f/
	47.8 – 47.9	Strip mine area	Within 0.1 mile	unknown	f/
	48.5	Strip mine area	0.25 mile east	unknown	f/
	49.3	Strip mine area	0.25 mile east	unknown	f/

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Table 6.3-1

Mineral Resources Within 0.25 mile of the MVP Pipeline

State / County	Milepost	Mineral Resource / Name of Mine	Location	Status	Data Source
Webster	94.2 – 94.7	Strip mine area	0.35 mile east	unknown	f/
	95.0	Strip mine area	0.35 mile east	unknown	f/
	102.1 – 103.5	82 East Surface Mine	Permit area crossed	Unknown, permit expires 2017	d/
	103.46 – 103.51	ICG Eastern, LLC, Surface Coal Mining	Permit area crossed	Inactive, historic outfalls	d/
Nicholas	109.9 – 111.3	K & B Coal Co, surface coal mine	Permit area crossed	closed	d/
	118.21 – 118.22	Donegan 10 Plant, Falcon Land Co Inc	Permit area crossed	Closed, Phase 2 release, revegetated	d/
	118.2 – 118.3	Strip mine area	Area is crossed	unknown	f/
	118.5	Mining area	0.2 mile east	unknown	f/
	118.7 – 118.9	Mining area	Area is crossed at Gauley River crossing	unknown	f/
	122.16 – 126.24	Quinwood No. 7 Mine	Permit area crossed	unknown	d/ (underground mining limits)
	127.02 – 131.38	unknown	Permit area crossed	unknown	d/ (underground mining limits)
Greenbrier	136.7 – 136.71	Green Valley Coal Company, Alex Energy Inc	Permit area crossed	Active, reclaimed, numerous outfalls	d/
	138.6 – 138.62	Sewell Valley #1 Mine/ Surface Coal Mine, Green Valley Coal Company, Warrior Energy Resources LLC	Permit area crossed	Active, reclamation only, numerous outfalls,	d/
	145.95 – 146.10	unknown	Permit area crossed	unknown	d/
	146.34 – 146.35	Little Sewell No. 1 Deep Mine, underground coal mine (room and pillar)	Permit area crossed	one historic outfall	d/
	146.36 – 146.37	Double N Mining Co., INC	Permit area crossed	Closed, no coal removed	d/
Virginia					
Giles	199.2	Quarry	0.35 mile east	unknown	f/
	209	Roadside Quarry, limestone	<0.1 mile south	inactive	c/, e/
	209.6/209.7	Quarry (Limestone, crushed)	<0.1 mile west	Inactive quarry without water	c/, e/
Montgomery	228.74	Clay	<0.1	active	a/
Franklin	274.4	Iron pit	<0.1	inactive	c/
Pittsylvania	278.9	Underground mine	<0.1	inactive	c/
	292.3	Sand and gravel pit (granite)	<0.1	inactive	c/, b/

Sources: a/ USGS 2015a; b/ USGS 2015b; c/ Virginia DMME 2015b; d/ West Virginia GIS Technical Center 2015b; e/ Draper Aden Associates 2015a; f/ topographic map review

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6.3.1 Sand, Gravel, Clay, and Crushed Rock

Only one quarry that is likely associated with sand and gravel or crushed stone production was identified in West Virginia near MP 16.1 in Harrison County. In Virginia, a quarry was identified at MP 199.2, and two limestone quarries were identified near MP 209 in Giles County. All of these quarries are indicated to be historic and inactive. Another inactive sand and gravel pit was identified near MP 292.3 in Pittsylvania County.

6.3.2 Oil and Gas

Oil and gas well information was obtained from the West Virginia Geologic and Economic Survey (WVGES 2015b), the West Virginia Department of Environmental Protection (WVDEP 2015), and the Virginia Department of Mines, Minerals, and Energy (Virginia DMME) oil and gas well location database (Virginia DMME 2015c). A full listing of oil and gas wells and map set showing these well locations within 0.25 of the proposed pipeline alignment are included in Appendix 6-C. Table 6.3-2 provides a summary of this information. There are 407 oil and gas wells in West Virginia within 0.25 miles of the Project route according to the WVGES data source. No oil and gas wells were identified in the state of Virginia within this same search area.

Table 6.3-2

Oil and Gas Wells Within 0.25 mile of the MVP Pipeline

State / County	# of Wells (WVGES)	Well Types (WVGES)	# of Wells (WVDEP)
West Virginia			
Wetzel	51	Gas, oil and gas, other (primarily oil wells)	33
Harrison	111	Gas, oil, oil and gas (primarily gas)	87
Doddridge	42	Primarily gas with some oil and gas	25
Lewis	174	Primarily gas with some oil, oil and gas, and a few injection wells	145
Braxton	24	All gas with a few dry	7
Webster	1	All dry	2
Nicholas	0	None	4
Greenbrier	1	All dry	1
Virginia			
No oil and gas wells identified within 0.25 mile of proposed route in Virginia.			
Sources: WVGES 2015b; WVDEP 2015; Virginia DMME 2015			

The northern portion of the Project is within the Marcellus Shale Formation gas production area and additional exploration and production wells are likely to be installed or planned in this portion of the Project area. The potential impacts of the Project on the volume of gas available for exploration and production are minimal. The excavation area for the pipeline is limited to the upper strata, above the gas production zones. With modern drilling technology, including horizontal production wells, well pads can be situated outside the pipeline right-of-way and still successfully exploit any gas present at depths beneath the pipeline. As the reservoir is competent bedrock, removal of gas from the reservoir is not expected to affect the integrity of the pipeline.

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Wells currently in place were considered in the pipeline routing design and avoided. Land personnel will conduct title research and communicate with landowners, which should avoid conflicts between planned wells and pipeline construction. MVP will coordinate with landowners and negotiate compensation where applicable.

6.3.3 Coal

The Washington, Sewickley, Redstone, Uniontown and Pittsburgh seams of coal are present in geologic formations crossed by the Project from Wetzel to Lewis counties in West Virginia. The geologic formations that include the Elk Lick, Bakerstown, Freeport, and Pottsville group coal seams are crossed in Braxton, Webster, Nicholas, and Greenbrier counties, West Virginia. The Pocohontas Nos. 1-7 coal seams are crossed in a few areas of Summers County, West Virginia. Based on the review of coal mine information included in Table 6.3-1, permitted coal mining was identified in Harrison, Webster, Nicholas, and Greenbrier counties in West Virginia. The production potential, based on economic considerations and the thickness of the coal deposit, of these seams is apparently not significant through remaining portions of the Project area. Historic strip mining is indicated in Lewis, and parts of Webster and Nicholas counties in West Virginia. No coal mines were identified in the state of Virginia within this same search area.

The proposed pipeline alignment crosses four underground mining boundaries in West Virginia:

- American Mountaineer Mine: Located in Harrison, WV between MP 16.8 through MP 17.9 and MP 19.1 through MP 25.4;
- Pittsburgh Mine: Located in Harrison County, WV between MP 28.1 through MP 28.6;
- Quinwood No. 7 Mine: located in Nicholas County, WV between MP 122.2 through MP 126.2; and
- Mine (unknown name): located in Nicholas County, WV between MP 127.0 through MP 131.4.

Final Project design will include more specific identification of all mines (historic and active) in the vicinity of the Project. Mine operators will be contacted to coordinate the design of any necessary mitigation measures to be used during construction and operation of the Pipeline. In areas of historic strip mining, MVP will ensure handling of soils and excavated materials to protect water resources (see Resource Report 2) and adjacent soils.

6.3.4 Uranium

In West Virginia, uranium can be found in coal seams, however in these areas uranium concentrations are typically low (<2 parts per million) and similar to mean background concentration world-wide (Draper Aden Associates 2015b). Therefore, uranium is not anticipated to be encountered at above normal background concentrations in West Virginia.

In Virginia, uranium-enriched bedrock can be found in the Blue Ridge and Piedmont provinces. These formations typically include silica-rich meta-igneous rocks such as granite, alkali-rich plutonic rocks, and pegmatites. In the Valley and Ridge province, carbonaceous black shales often contain relatively elevated uranium content. Surface weathering of these rocks may provide sources for uranium to impact nearby soil and water resources. The only uranium deposits identified in the vicinity of the Project are located at Coles Hill, in Pittsylvania County, Virginia (Draper Aden Associates 2015b). These deposits are notable for relative enrichment above background (Virginia DMME 2015d). Two separate uranium mineral deposits

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have been delineated at the Coles Hill site: the South Coles Hill Deposit and North Coles Hill Deposit. The Coles Hill Uranium property was identified as a potential concern during scoping and contains two large uranium deposits. The north deposit is about 4 miles northeast and the south deposit is about 3.8 miles northeast, respectively, of the southern endpoint (MP 294) of the proposed pipeline alignment. Based on the significant distance from the Project, the uranium deposits are not anticipated to cause concerns. In addition, the proposed pipeline does not cross any known areas of uranium enriched bedrock, therefore it is not expected that uranium will be encountered or exposed during Project construction.

6.3.5 Impacts to Geologic Resources and Mitigation

Because of the narrow construction footprint of the pipeline, impacts to the recovery of aggregates and coal would be minimal. Because all Project facilities are surficial, the impacts on oil and gas resource recovery also will be minimal. Pipeline construction activities will be coordinated with oil and gas producers to avoid any adverse impacts on production and transportation of oil and gas.

6.4 GEOLOGIC HAZARDS

6.4.1 Seismic Hazards

6.4.1.1 Earthquakes

Seismic hazards are characterized in terms of magnitude and intensity. Earthquake magnitude is measured using the Richter Magnitude (RM) scale. RM is a logarithmic measure of ground shaking based on data collected by seismometers. The RM scale is based on ground motion and does not take into account distance from source and structural stability of the subsurface. RM is, therefore, not a representative measure of the intensity of the seismic event at a given location. The intensity of a seismic event is measured using the Modified Mercalli Intensity (MMI) scale. MMI provides a measure of the intensity of ground movement felt in a given area based on damage assessments and eyewitness reports. MMI ranges from an earthquake intensity value of I, in which the earthquake is not felt, to an intensity value of XII, in which damage is nearly total, large rock masses are displaced, and objects thrown about.

Earthquakes have occurred in the area of the Project alignment, largely due to trailing edge tectonics and residual stress release from past orogenic (i.e., mountain building) events. There have been five seismic events with magnitudes of 4 or greater having epicenters within a 100-mile radius of the Project route that have been recorded since 1976 (USGS 2015c), as shown in Table 6.4-1. The largest earthquake recorded for Virginia is a magnitude 5.8 earthquake that occurred on August 23, 2011 near Mineral, Virginia (CVSZ). This epicenter is greater than 100 miles from the Project area.

Previous to 1976, historical information was identified from USGS earthquake history information for West Virginia and Virginia (USGS 2015d). The largest earthquake recorded for West Virginia is an apparent (i.e., preceded modern seismic networks) magnitude 5.9 earthquake that occurred in 1897 in Giles County, Virginia. A strong earthquake (MM-V to MM-VI) in the Charles Town/Martinsburg, West Virginia area occurred on April 2, 1909. The total felt area included places in West Virginia, Virginia, Maryland, and Pennsylvania. The epicenter was near the convergence area of the four States' boundaries. An April 23, 1959, earthquake (MM-I to MM-IV) located along the Virginia - West Virginia border region caused minor damage in Giles County, Virginia. Probably the strongest, most widely felt earthquake in West Virginia's history occurred on November 19, 1969. However, only minor damage in areas of West Virginia and Virginia was sustained from the magnitude 4.3 shock. The earthquake was felt in areas of West Virginia,

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Virginia, Georgia, Kentucky, Maryland, North Carolina, Ohio, South Carolina, and Tennessee. Giles County, Virginia, was the center of a strong earthquake (MM-VIII) recorded on May 31, 1897; and a moderate disturbance on May 30, 1974 (MM-V).

Table 6.4-1

Earthquakes Epicenters (magnitude 4 and greater) within 100 miles of the MVP Pipeline Since 1976

State / Lat/Long (UTC)	Date and Time	Magnitude (RM)	Depth
West Virginia			
37.362°N 81.624°W	1976-06-19 05:54:13	4.7	5.0 km
Virginia			
37.238°N 81.987°W	1988-04-14 23:37:31	4.1	0.0 km
37.200°N 81.920°W	2006-11-02 17:53:02	4.3	1.0 km
37.157°N 81.975°W	2006-11-23 10:42:57	4.3	0.0 km
37.136°N 82.068°W	1989-04-10 18:12:16	4.3	0.0 km

Source: USGS 2015c
UTC = lat/long as based on universal time zone coordinated
km = kilometer

6.4.1.2 Seismicity

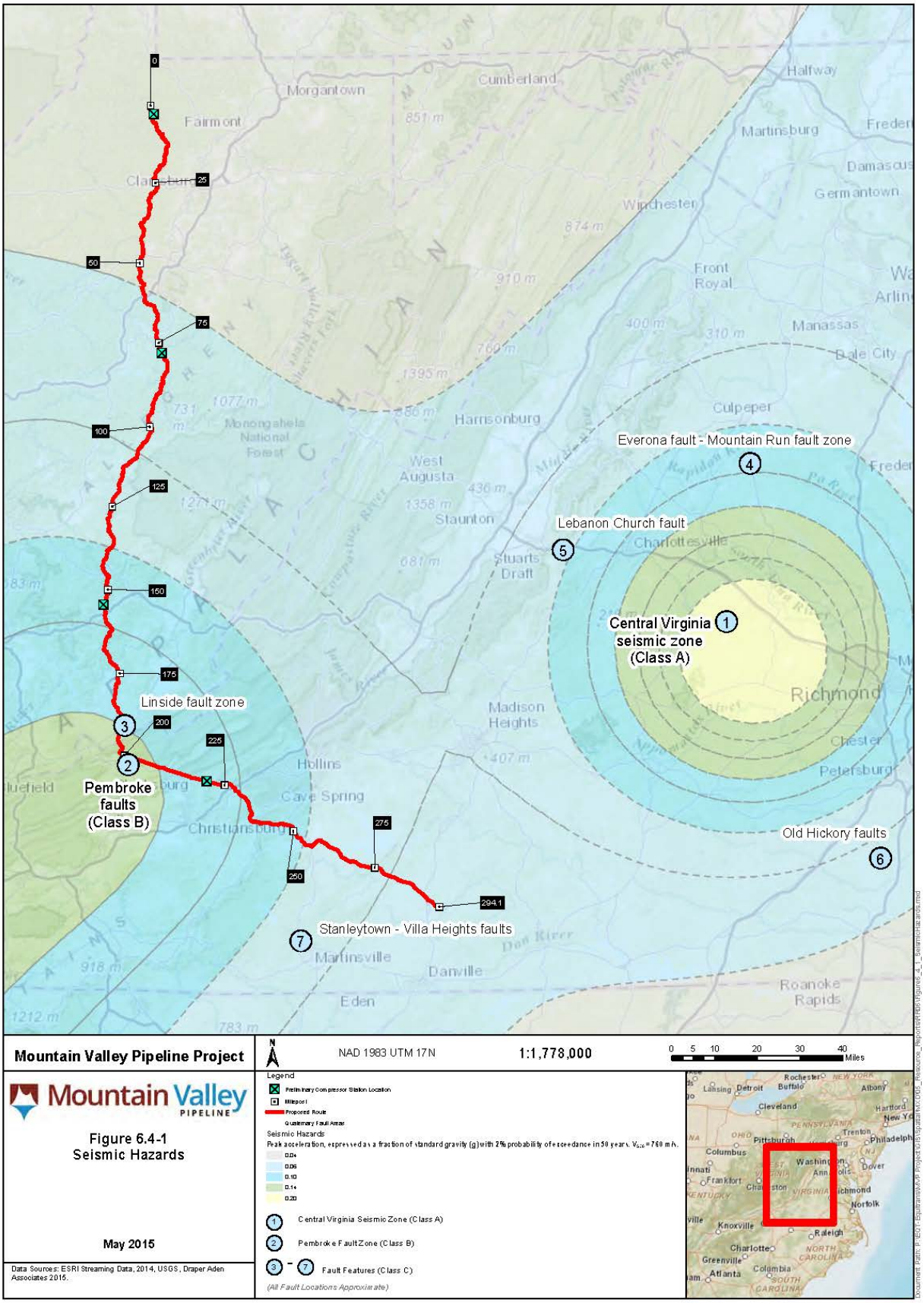
Figure 6.4-1 depicts the peak ground acceleration with a 2 percent probability of exceedance over a 50-year period. Peak ground acceleration estimates for the MVP alignment range from approximately 0.05 g to 0.16 g (i.e., expressed as a fraction of gravitational acceleration, g), with a 2% probability of occurring in 50 years (i.e., mean return period of approximately 2,500 years) (Draper Aden Associates 2015c).

The proposed MVP alignment crosses terrain in southern West Virginia and southwestern Virginia where estimates of probabilistic ground motion exceed 10% of gravity (>0.1 g). This area generally corresponds to the Giles County Seismic Zone (GCSZ), described in more detail below. The GCSZ is a geographically defined area in Giles County, Virginia associated with a relatively high density of earthquake epicenters. The GCSZ is primarily known for being the epicenter of a strong May 31, 1897 earthquake that was subsequently characterized under modern standards of MM-VIII, magnitude 5.8. Modern earthquake hazard analysis no longer refers to GCSZ, and instead identifies the Pembroke Fault Zone (PFZ) as the focal point of this seismic area.

Another recognized seismic zone in the region of the MVP alignment is the Central Virginia Seismic Zone (see Figure 6.4-1), located more than 100 miles east of the MVP alignment, and due to this distance it is not considered a factor in relation to the Project.

Federal regulations for natural gas pipelines do not contain explicit requirements for seismic design. However, 49 Code of Federal Regulations (CFR) Subpart C Section 192.103 requires natural gas transmission pipelines to withstand anticipated external pressures and loads after installation.

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6.4.1.3 Active Faults

The MVP alignment was evaluated for the presence of Quaternary age faulting and the potential for ground movement and failure (Draper Aden Associates 2015c). Activation of faults (i.e., fractures in rock where there has been displacement) can cause seismic events. Faults that demonstrate evidence of movement within the Quaternary age (1.8 million years ago to present), and particularly faults showing movement in the Holocene Epoch (11,500 years to present), are generally considered to present a potential risk for seismic hazards to structures including natural gas pipelines.

The USGS (2006) compiled geological information on Quaternary faults throughout the United States. The faults have been categorized into four classes (Class A, B, C, and D) based on what is known about the feature's Quaternary activity. The proposed MVP alignment does not traverse any Class A feature (where there is convincing evidence of Quaternary activity). The proposed MVP alignment is located within 5 miles of one Class B feature (requires further study in order to confidently define their potential as possible sources of earthquake-induced ground motion). The remaining features considered by USGS either lack convincing geologic evidence of Quaternary tectonic faulting or have been studied carefully enough to determine that they do not pose a significant seismic hazard (Classes C and D).

The Linside fault zone is located along northwest edge of the PFZ and is crossed by the Project alignment in southern Monroe County, West Virginia. However, no recent/Quaternary movement of the fault zone has been demonstrated and the fault zone was dismissed as a potential concern in regard to the Project. The PFZ was identified by the USGS (2006) and is considered a Class B fault zone because the origin is not clearly identified as crustal faulting or subsurface karst collapse. Thrust faults associated with the Allegheny structural front, PFZ, and Valley and Ridge province include the St. Clair fault, the Narrows fault, the Pulaski fault, and the Blue Ridge fault. These faults generally fall within the area of the PFZ which has recently been studied by the USGS (2014a). The proposed MVP alignment traverses the Valley and Ridge province (encompassing the ancient inactive thrust faults) from approximately MP 195 to MP 238 in Monroe County, West Virginia, and Giles and Montgomery counties, Virginia. The St. Clair fault at approximately MP 195 corresponds to the Alleghenian Orogeny structural front that transitions from the Appalachian Plateau geologic province (located northwest of the fault) to the Valley and Ridge province located to the southeast. The St. Clair fault strikes in a northeasterly fashion through Giles County in Virginia, and Monroe County in West Virginia in the Project area. The observed thrust faults in the Valley and Ridge province are low-angle reverse faults that are no longer active because the tectonic regime that formed the thrust faults is no longer active, nor of particular concern to the Project. The Project alignment does not traverse known faults with recent (Quaternary) movement, such that risk to the pipeline by permanent ground deformation (PGD) from fault rupture is negligible. Therefore, avoidance of the PFZ and Project-specific mitigation is not considered necessary. As discussed in Section 6.6.1.3, the Project would be designed to meet ground motion guidelines for the PFZ.

6.4.1.4 Soil Liquefaction

Soil liquefaction is a phenomenon often associated with seismic activity in which saturated, non-cohesive soils temporarily lose their strength and liquefy (i.e., behave like viscous liquid) when subjected to forces such as intense and prolonged ground shaking. Areas susceptible to liquefaction may include soils that are generally sandy or silty and are generally located along rivers, streams, lakes, and shorelines or in areas with shallow groundwater. There have been no documented occurrences of soil liquefaction from

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seismicity in the proposed MVP alignment and alternatives, and due to low-to-moderate seismic risk, soil liquefaction is not anticipated to affect pipeline construction or operation (Draper Aden Associates 2015c).

The FERC-defined seismic threshold of horizontal ground accelerations of 10 g or more with 10 percent probability of exceedance in 50 years is not crossed on the proposed pipeline route (USGS 2014b). Therefore, based on the FERC-defined criteria described above, soil liquefaction is not considered a potential hazard in the vicinity of the Project.

The inherent design of modern pipeline systems affords protection for all but the most severe earthquake hazards, particularly liquefaction. Newer pipelines exhibit elastic behavior and are significantly less vulnerable to earthquake effects, including liquefaction, differential settlement, violent shaking, and ground strain, than the older types of pipe installed over 50 years ago. Today's pipe has greater ability to conform to ground movements both from vibration and slippage.

The proposed pipeline will be constructed of carbon steel pipe, manufactured in accordance with American Petroleum Institute (API) specifications for welded steel line pipe for use in conveying gas in the natural gas industries (API 5L). The pipe will be protected from corrosion by an external fusion-bonded epoxy coating in combination with an impressed current cathodic protection system.

Modern pipelines are made of ductile steel with full penetration welds, resulting in a system with substantial inherent ductility. Because of this ductile behavior, buried pipelines can withstand considerable soil distortion or differential displacement in cohesive or granular soils without rupture. Toughness (strength and ductility) and flexibility of both pipes and joints are the two governing factors related to the seismic performance of buried pipelines. Modern steels have good post-yield characteristics in axial tension. A pipeline that is properly oriented in its trench can accommodate ground movement by means of combined axial tension and bending. Modern steel pipelines have performed well under liquefaction-induced lateral spreading.

The best construction practices used to mitigate the effects of possible seismic liquefaction are the same as those used to minimize the potential buoyancy effect of the pipeline during construction. MVP will evaluate soil texture class, presence of high water tables, surface hydrology, and floodplain information throughout the Project Area to determine where concrete coating, concrete weights or gravel-filled blankets may be required.

6.4.2 Karst Potential / Ground Subsidence

The proposed pipeline route crosses karst terrain characterized by dissolution of the soluble rock formations, such as limestone and dolostone, to form sinkholes, caves, and underground waterways. Karst terrain areas are crossed in Summers and Monroe counties in West Virginia, and Giles and Montgomery counties in Virginia.

6.4.2.1 Sinkholes

MVP has identified sinkholes located with 1,000 feet of the proposed pipeline (Draper Aden Associates 2015a). Identified sinkholes are listed in Table 6.4.2.

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Table 6.4-2
Identified Sinkholes Within 1,000 feet of the MVP Pipeline

State / County	Milepost	Direction / Distance (feet)	Notes
West Virginia			
Summers	172.3	Northeast / 400	none
Summers	172.6	Southwest / 400	none
Summers	172.7	Southwest / 800	none
Summers	172.8	Northwest / 500	none
Summers	173	East / adjacent	none
Monroe	193.7	West / 400	none
Monroe	193.8	Northwest / 200; northwest / 500	2 sinkholes
Monroe	193.9	East / 348	none
Monroe	194	Southeast / 100	open throat sinkhole near alignment
Monroe	194 - 194.1	East / 500 - 1,000	3 sinkholes
Monroe	194.3	West / 100	none
Monroe	194.3	West / 700	none
Virginia			
Giles	198.9	Northeast / 1,000	none
Giles	199.2	West / 200	none
Giles	199.9	South/ 1,000	none
Giles	200 – 200.2	South / 800	none
Giles	200.2 – 200.4	North / 50 - 600	very large sinkhole area
Giles	200.4	West / In alignment	none
Giles	200.4 – 200.5	West / 300 - 400	3 sinkholes
Giles	203.9	North / 200	none
Giles	203.9	North / 400	sink cave (Conklin Sink Cave)
Giles	205.1	West / 900	none
Giles	207.2	West / 1,000	none
Giles	207.3	West / 800	none
Giles	207.5	South / in alignment	none
Giles	207.5	North / 400	none
Giles	207.6	South / 400	none
Giles	208.4	South / 400	none
Giles	208.4 – 208.5	In alignment	none
Giles	208.5 – 208.6	In alignment	none
Giles	209.3	Northwest / 289	none
Giles	209.4	North / 455	none
Giles	209.5 -209.7	Northeast / 595 – 1,000	numerous sinkholes
Montgomery	211.8 – 211.9	West / 100 - 200	3 sinkholes
Montgomery	211.9	East / 1,000	2 sinkholes

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Table 6.4-2 Identified Sinkholes Within 1,000 feet of the MVP Pipeline			
State / County	**Milepost**	**Direction / Distance (feet)**	**Notes**
Montgomery	216.2 – 217.5	crosses	Mount Tabor Sinkhole Plain, numerous sinkholes
Montgomery	218.0 – 218.1	West/ 700 - 800	2 sinkholes
Montgomery	218.7	crosses	sinkhole in alignment
Montgomery	218.7	South / 200 - 300	2 sinkholes
Montgomery	219.6 – 219.7	adjacent	none
Montgomery	219.7 – 219.8	South / 100 - 200	2 sinkholes
Montgomery	219.8 – 220.3	North and south / 100 - 900	13 sinkholes
Montgomery	220.7 – 220.9	South / 400 - 600	3 sinkholes
Source: Draper Aden Associates 2015a			

6.4.2.2 Caves

Caves identified within approximately one half mile of the proposed pipeline alignment are listed in Table 6.4-3. Named caves are described below. MVP has consulted with the Virginia Cave Board regarding the Project. Specific impacts to caves and specific measures to avoid and mitigate impacts will be provided in future FERC filings. A description of continuing research of karst areas in the vicinity of the proposed pipeline alignment is included in Section 6.6.1.5.

Bobcat Cave. The location of the cave entrance is unknown but is thought to be near MP 193.9. The cave is described as a small room located in a large sink hole.

Rich Creek Cave. At the closest point, at about MP 194, the pipeline would be about 1,000 feet northeast. The cave has not been surveyed or mapped. Rich Creek Spring daylights from the cave and the underground stream can be followed along a walking-sized passage for several hundred yards to the northeast.

Lhoist Cave. At the closest point, at about MP 199.6, the pipeline would be about 400 feet north. Lhoist Cave is 72 feet long and 8 feet deep.

Crooks Crevice. At the closest point, at about MP 200.8, the pipeline would be about 700 feet north. Crooks Crevice is approximately 50 feet long and 50 feet deep.

Williams Contact Shaft. The cave entrance is approximately 140 feet west of MP 203.4 and is 75 feet deep. It is formed at the contact between the Moccasin formation and undivided limestone.

Mahaffey Trash Cave. At the closest point, at about MP 203.4, the pipeline would be about 800 feet east. The cave entrance is filled with trash.

High Voltage Cave. At the closest point, at about MP 203.6, the pipeline would be adjacent to the west; the cave is within the electric line right-of-way.

Conklin Sink Cave. Specific information on the size of the cave is not available. The cave is formed in a sinkhole and is located about 440 feet northeast of MP 203.9.

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Porterfields Cave. At the closest point, at about MP 207.4, the pipeline would be about 1,400 feet southwest. The cave is about 55 feet long and 36 feet deep.

Pig Hole Cave Area. Pig Hole Cave is 6,230 feet long and 428 feet deep and is characterized by extensive vertical development intersecting horizontal passages formed along strike at multiple levels. At the closest point, at about MP 207.5 the pipeline would be about 260 feet south of the main entrance to Pig Hole Cave. There are also several smaller caves and a number of sinkholes in the area surrounding the main cave. Additionally three swallets (locations where surface water sinks into the ground) were observed in the area. The geologic setting is within undivided Middle Ordovician limestone. The cave is considered significant by the Virginia Cave Board and the Virginia Speleological Survey in the categories of geology, hydrology, length, depth, paleontology, recreation, and esthetics (Draper Aden Associates 2015a).

Tawneys Cave. Tawneys Cave has two entrances located south and within 150 feet of MP 209.1. The pipeline route would cross the cave extent from MP 209.0 to MP 209.2. This cave is characterized as a large horizontal set of passages that likely represent a paleo flow route for waters which now resurge just upstream at Smokehole. A sinkhole entrance likely cause a separation from Smokehole cave. Tawneys Cave is considered significant by the Virginia Cave Board and the Virginia Speleological Survey in the categories of geology, hydrology, biology, history, recreation, and esthetics.

Smokehole Cave. The hillside entrance of Smokehole Cave is located in the pipeline alignment near MP 209.4; and the pipeline crosses the cave extent from MP 209.3 to MP 209.5. The geologic setting is Middle Ordovician limestones at the lower end of Clover Holler and immediately uphill of an extremely significant karst water resurgence known as Smokehole Spring. Nearly all surface water quickly sinks into a well-documented karst flow system. Smokehole cave lies just behind Smokehole Spring and is reported at 9,354 feet long with a vertical extent of 112 feet. Smokehole Cave is considered significant by the Virginia Cave Board and the Virginia Speleological Survey in the categories of geology, hydrology, biology, length, and esthetics (Draper Aden Associates 2015a).

Mount Tabor Sinkhole Plain and Caves area. This karst area is located between MP 216.3 and MP 217.5. Just north of the town of Blacksburg between Brush Mountain and Paris Mountain lies a rolling karst valley that forms the headwaters of the North Fork and the Roanoke River. The valley is made up of Lower Ordovician and Upper Cambrian limestones and dolostones. The area around Mt. Tabor Road is highly karstified with an abundance of sinkholes forming a small sinkhole plain. Numerous small caves are present, a few in the 1000-foot range and one approaching a mile long. Waters of the Mt. Tabor sinkhole plain flow easterly collecting in the mile long Slussers Chapel Cave. The cave is located over 4,000 feet north of MP 217.4. Slussers Chapel Cave is owned by the Cave Conservancy of the Virginias to protect rare species; and is considered significant by the Virginia Cave Board and the Virginia Speleological Survey in the categories of geology, hydrology, biology, length, and esthetics (Draper Aden Associates 2015a). The stream from Slussers Chapel reappears in Mill Creek Cave from which emerges a large spring. Mill Creek Cave is a 1323 foot long stream and spring cave located about 1,400 feet north of MP 218.2. Mill Creek Cave is owned by the Nature Conservancy; and Virginia DCR and is part of a Natural Area Preserve for unique habitat protection. It is considered significant by the Virginia Cave Board and the Virginia Speleological Survey in the categories of geology, hydrology, and esthetics (Draper Aden Associates 2015a). Old Mill Cave is a 1,100 foot long base level stream cave emerging as a spring at the foot of the hill and is located over 1,600 feet south of MP 219.4. Old Mill Cave is considered significant by the Virginia Cave Board and the Virginia Speleological Survey in the categories of geology, hydrology, biology, and esthetics (Draper Aden Associates 2015a). Johnsons Cave is near the north fork of the

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Roanoke River and carries a small stream. Johnsons Cave is located about 300 feet south of MP 220.7 and carries a small stream toward MP 221.

Underwoods Cave No. 1 is located approximately 500 feet south of MP 216.2 and is about 30 feet long and 25 feet deep. Fred Bulls Cave is located over 2,000 feet northeast of MP 216.2 and is noted as having subsurface flow under the proposed alignment. Longs Cave No. 2 is located approximately 2,000 feet north of MP 217.3 and is about 80 feet long and 20 feet deep. Red Hawk Cave and Bob Henderson Cave are mapped approximately 1,600 and 1,200 feet, respectively north of MP 218.8 and MP 219.2, respectively. Thompsons Cave is located approximately 800 feet south of MP 220; and Barkers Cave is located over 5,000 feet north of MP 220.8.

Table 6.4-3
Identified Caves within 0.5 mile of the MVP Pipeline

State / County	Milepost	Direction / Distance (feet)	Cave Name
West Virginia			
Monroe	193.9	Unknown cave extent, location uncertain	Bobcat Cave
Monroe	194	Unknown cave extent, entry located 1,000 feet southwest	Rich Creek Cave
Virginia			
Giles	199.6	South / 400	Lhoist Cave
Giles	200.8	South / adjacent	Possible cave (no name)
Giles	200.8	South / 700	Crooks Crevice
Giles	203.4	West / 140	Williams Contact Shaft
Giles	203.4	West / 800	Mahaffey Trash Cave
Giles	203.6	East / adjacent	High Voltage Cave
Giles	203.9	North / 440	Conklin Sink Cave
Giles	207.4	North / 1,400	Porterfields Cave
Giles	207.5	North / 400	Pighole Cave
Giles	209 – 209.2	crosses	Tawneys Cave
Giles	209.3 – 209.4	crosses	Smokehole Cave
Giles	209.5	South / 500	Small Room Cave (exact location unknown)
Montgomery	216.4	South / 500	Underwoods Cave No. 1
Montgomery	216.2	Northeast / 2,000+	Fred Bulls Cave
Montgomery	216.3	North / 2,000	Longs Cave No. 2
Montgomery	217.4	North / 4,000+	Slussers Chapel Cave
Montgomery	218.2	North / 2,400+	Mill Creek Cave
Montgomery	218.8	North / 1,500	Red Hawk Cave
Montgomery	219.2	North / 1,300	Bob Henderson Cave
Montgomery	219.4	South / 1,600+	Old Mill Cave
Montgomery	220	South / 800	Thompsons Cave
Montgomery	220	North / 350	Possible cave entrance (no name)

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Table 6.4-3 Identified Caves within 0.5 mile of the MVP Pipeline			
State / County	**Milepost**	**Direction / Distance (feet)**	**Cave Name**
Montgomery	220.7	South / 300	Johnsons cave
Montgomery	220.8	North / 5,000+	Barkers Cave
Source: Draper Aden Associates 2015a			

6.4.3 Landslides

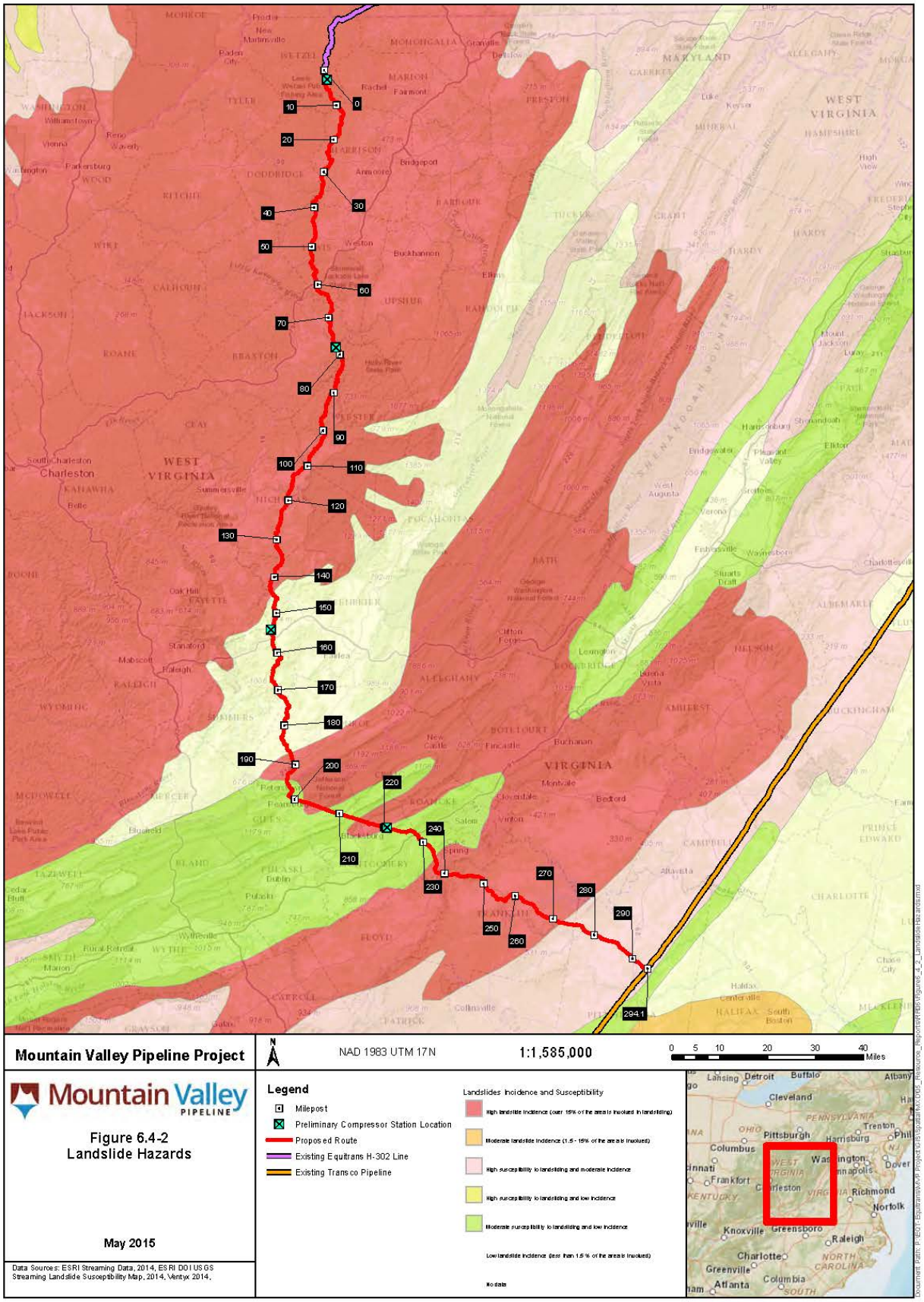
The proposed pipeline route is in an area of susceptibility for landsliding as shown in Figure 6.4-2. Landslides in the Project area occur primarily in weathered bedrock or colluvial (loose) soil and within old landslide debris located on steep slopes. Numerous landslides on the Appalachian Plateau have developed in soils derived from Pennsylvanian and Permian sedimentary rocks (Watt 1982). Shale, especially red beds and shale-limestone sequences, disintegrate rapidly into clayey soil upon exposure. Most landslides involving soil and weathered bedrock consist of smooth, integrated, thin earth-flow slabs that may be many square meters in area but generally are less than about 8 feet thick. Commonly, the slabs move no faster than about 3 feet or 6 feet per year and are normally underlain by material containing water with a hydrostatic head of as much as 7 feet. In both the folded Appalachians and the Blue Ridge Mountains, numerous slow-moving debris slides form in colluvial soil and scree that are particularly abundant on slopes underlain by sandstone and metamorphic rocks. Urban and rural land development is increasing the number of landslides in the Project area. Large excavations and fills located in mountainous areas creates the potential for many landslides.

The greatest damage and loss of life are caused by debris flows and avalanches when persistent rainfall is followed by a sudden heavy downpour. A single such storm, though often confined to a single small drainage basin, can cause from 100 to more than 1,500 landslides. In 1969, Hurricane Camille caused 1,584 debris flows and avalanches in an area of 98 kilometers in the Spring Creek watershed in eastern West Virginia (Watt 1982). On the basis of landslide areas observed since 1949 and of storm frequency, geologists of the USGS (Watt 1982) estimate that more than 10,000 debris flows and avalanches have occurred in the Appalachians during the 20th century. Heavy rainfall events have continued to cause localized landslide hazards in West Virginia.

Rockfalls are also a potential hazard below bedrock outcroppings at or near the top of steep slopes associated with the cliff-forming formations such as sandstones, granite, and gneiss. These outcrops may be weathered by wind or rainfall and become loosened, leading to a violent cascade downhill, often triggering a larger landslide.

MVP has performed a preliminary inventory of potential areas of landslide or rockfall concern along the proposed pipeline alignment. Areas where the alignment crosses steep hill slopes are identified in Table 6.4-4, and Appendix 6-D includes a map set depicting these areas. Additional concerns in these areas include the presence of drainage features and ground that has been cleared or developed. These areas would require additional evaluation to ensure design considerations would address specific slope and geologic conditions to ensure stability of the pipeline as further discussed in Section 6.6.1.2. Steep hill slopes also have the potential to be avoided by adjusting the alignment to ridgelines in some of these areas. Based on review of available historic aerial photographs the following areas have indications of potential landslide hazards. Field observations of these areas will be conducted and additional information will be provided in Resource Report 6 filed with MVP's application to FERC.

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MP 41.5 to MP 41.6. Although historic imagery shows no signs of recent movement, there appears to be evidence of an existing landslide based on field observations. However, the landslide appears to be stable at this time.

MP 42.5 to MP 42.6. Although historic imagery shows no signs of recent movement, there appears to be evidence of an existing landslide based on field observations. However, the landslide appears to be stable at this time.

MP 46.3 to MP 46.4. An active landslide located upslope of the alignment within past twenty years based on historical imagery. The alignment in this area intersects at least one natural drainage and possibly two based on topographic maps.

MP 124.4 to MP 124.5. Historical imagery shows possible signs of recent movement directly below the alignment in small cleared area. A stream runs along the bottom of the slope.

MP 144.6 to MP 146.1. Intersects at least three natural drainages, probably more, including smaller ones considering the extent of this side hill. The pipeline would require two 90 degree turns in this area that presents a concern in terms of the potential to cause slope movement.

MP 181.5 to MP 181.6. Historical imagery shows movement within the past twenty years that appears to be a ground fracture encompassing an area approximately 250 feet by 130 feet, about 70 feet east of the alignment.

MP 232.5 to MP 233.2. This area of the alignment follows an existing transmission line right-of-way. A possible washout spot is located near ending MP 233.2.

MP 253.7 to MP 254.1. Historical imagery shows a meandering creek at toe of the northern slope where the alignment crosses. Within the past twenty years the first bend of this creek cut into the hillside where the pipeline alignment is located. The creek is now in a different location. No other signs of earth movement are indicated. The alignment intersects at least three natural drainages in this hill slope area and is downslope of at least two.

MP 257.5 to 257.7. Historical imagery potentially shows some movement after a transmission power line was installed at the toe of this slope. A possible scarp or vertical shear face is located directly beneath the proposed pipeline alignment. There is also a road that wraps around the toe of the slope.

Table 6.4-4

Areas of Potential Landslide Concern Crossed by the MVP Pipeline

Beginning MP	Ending MP	Length of Feature Crossed by the Alignment (feet)	Slope	Signs of Recent Movement
3.3	3.8	2,153	33%	No
11.3	11.4	329	34%	No
24.7	24.9	680	45%	No
26.1	26.2	169	34%	No
28.1	28.4	964	29%	No
29.9	30.1	391	36%	No
32.1	32.3	743	32%	No

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Table 6.4-4

Areas of Potential Landslide Concern Crossed by the MVP Pipeline

Beginning MP	Ending MP	Length of Feature Crossed by the Alignment (feet)	Slope	Signs of Recent Movement
33.2	33.4	569	42%	No
33.9	34	377	28%	No
34.1	34.3	899	28%	No
34.9	35.1	863	40%	No
37.2	37.5	1,322	20%	No
38.7	38.8	340	45%	No
41.5	41.6	444	50%	Yes
42.5	42.6	356	40%	Yes
43.1	43.2	580	30%	No
46.3	46.4	441	36%	Yes
52.7	52.9	867	22%	No
54.7	54.8	225	35%	No
57.1	57.2	806	40%	No
82.2	82.4	1,125	38%	No
82.8	82.9	598	45%	No
117.1	117.2	505	15%	No
123.1	123.2	360	22%	No
124.4	124.5	648	20%	Yes
131.9	132.1	644	25%	No
144.6	146.1	8,000	35%	No*
150.4	150.7	1,410	25%	No
156.1	156.2	506	32%	No
164.4	164.8	2,103	50%	No
181.5	181.6	808	21%	Yes
187.8	188	830	60%	No
191.4	191.5	553	45%	No
192.2	192.4	865	40%	No
193.2	193.4	913	35%	No
202.7		325	6%	No
209.3	209.4	500	30%	No
232.5	233.2	3,421	35%	Yes
250.4	250.7	1,156	45%	No
253.7	254.1	2,274	55%	Yes
257.5	257.7	714	30%	Yes
262	262.1	376	5%	No
291.1	291.2	560	5%	No

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6.5 PALEONTOLOGICAL RESOURCES

Areas where fossils might be encountered along the proposed alignment include shallow areas of sedimentary rock (see Table 6.1-2 in Section 6.1 and discussion of shallow bedrock in Section 6.2). Sedimentary rock is generally present from MP 0.0 to the northern boundary of Franklin County, Virginia, near about MP 231. Metamorphic rocks including granite, gneiss, and schist are present in Franklin and Pittsylvania counties. However, these rocks are not expected to contain fossils.

The proposed pipeline route will cross sedimentary rocks and less-commonly Quaternary deposits containing various marine and terrestrial fossils. A gap in the local rock record spans from the Permian to the end of the Cenozoic. There are no Triassic, Jurassic, or Cretaceous rocks present in the Project area. As such, no dinosaur fossils have ever been discovered in the Project area (William and Mary 2015b). Fossils are present in the Cambrian, Ordovician, Silurian, and Devonian sedimentary rocks that crop out in the Valley and Ridge and Appalachian Plateau provinces. These rocks preserve abundant marine fossils that are an indication of the presence of extensive, shallow seas. Cambrian and Ordovician seas were home to creatures including corals, eurypterids, graptolites, nautiloids, trilobites, stromatolites, and worms. Silurian evaporites left by extremely salty seawater during a dry climate preserved eurypterids. Other Silurian life forms included nautiloids with straight shells and an abundance of ostracods. Corals were present during the transition from the Silurian to Early Devonian. By the Carboniferous (i.e., 350 million years ago) (includes Mississippian and Pennsylvanian rocks), the Project area was covered in lush, dense forests of "scale trees" (lycophytes), horsetails, and ferns. The accumulation of organic material in these large coastal swamps eventually produced coal seams (Cardwell 1977). In the Piedmont province, fossils of dinosaur footprints, freshwater fish, and insects are found in rift basin deposits of the Triassic (William and Mary 2015b). However, Triassic deposits are not present in the vicinity of the Project.

The Project area was never the site of glacial activity during the Ice Age, but was home to creatures like mammoths, mastodons, and giant ground sloths. The remains of these creatures are sometimes discovered in local caves. In 1993, two pieces of an extinct giant ground sloth shoulder blade were found in Haynes Cave of Monroe County, West Virginia (Grady 1997).

The Antiquities Act of 1906 protects "objects of antiquity" on federal lands. The Paleontological Resources Preservation Act of 2009 applies to federal lands, including the Bureau of Land Management and National Forest Service lands, as well as "Indian" lands, but does not apply to private land. Paleontological resources on federal lands are regulated, as outlined in 36 CFR Ch. 11 261.9 (i). The Project crosses the Jefferson National Forest (Forest) from MP 195.2 to MP 196.5, and from MP 212.7 to MP 214.3. Geology in the area of MP 195.2 to MP 196.5 is mapped as Silurian sandstone and limestone. Geology in the area of MP 212.7 to MP 214.3 is mapped as Devonian and Silurian sandstone, limestone, shale, and siltstone. The Mississippian Price Formation composed of sandstone and shale is also crossed for about 0.4 mile within the Forest. MVP will consult with the Forest Service to determine if these formations are known to contain potentially significant fossils.

Although significant paleontological resources are not anticipated in the Project area, Environmental Inspectors will be trained regarding response if suspected paleontological resources are identified during site preparation or trench excavation. MVP will temporarily suspend work and coordinate with the Forest Service in the event that a suspected paleontological find is identified in the Forest boundaries.

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6.6 IMPACTS AND MITIGATION

6.6.1 Construction Impacts and Mitigation

The proposed pipeline will be designed and installed in accordance with the U.S. Department of Transportation (USDOT) standards found in 49 CFR Part 192. The proposed pipeline will be designed and constructed to provide adequate protection from washouts, floods, unstable soils, landslides, or other geological hazards that may cause the pipe to move or to sustain abnormal loads.

6.6.1.1 Blasting

Blasting may be required in certain areas of shallow bedrock. Where consolidated rock is encountered during construction, MVP's preferred procedure will be to fracture and excavate the bedrock using standard construction equipment. Blasting of bedrock may be required in areas where hard, massive bedrock is not easily removed by conventional excavation methods.

An evaluation of shallow bedrock for rippability may be conducted at selected locations where blasting is anticipated. Areas where blasting may be required will be surveyed for features such as structures and utilities. The pre-construction condition of structures and utilities will be documented. If blasting is conducted within 150 feet of an active water well or spring, as necessary, MVP will implement measures to protect the water supply (see Resource Report 2). To ensure responsiveness to the concerns of affected landowners, MVP will evaluate landowner complaints or damage associated with blasting to wells, homes, or outbuildings. If damage is substantiated, MVP will negotiate a settlement with the landowner that may include repair or replacement.

Where unrippable subsurface rock is encountered, approved alternative methods of excavation will be explored including: rock trenching machines, rock saws, hydraulic rams, jack hammers, or blasting. The alternative method to be used will be dependent on the proximity to: structures, pipelines, wells, utilities, water resources, etc., and the capabilities of the alternative excavation method. Should blasting for ditch excavation be necessary, care will be taken to prevent damage to underground structures (e.g., cables, conduits, and pipelines) or to springs, water wells, or other water sources. Blasting mats or padding will be used as necessary to prevent the scattering of fly rock. All blasting will be conducted during daylight hours and will not begin until occupants of nearby buildings, stores, residences, places of business, and farms have been notified. Where competent bedrock occurs in the stream bed, blasting may be used to reduce bedrock so that the trench can be excavated. All blasting will be in accordance with the MVP Blasting Plan. Pre- and post- blasting structural surveys will be conducted structures and water supply wells within 150-feet of the blasting as necessary.

The Contractor shall prepare a detailed Blasting Plan for each distinct blasting area and submit it to MVP for approval prior to commencing any blasting activities. The contractor will also be required to apply for and comply with any state or local permitting regulations. No blasting shall be done without prior approval of MVP and proper permitting. In no event shall explosives be used where, in the opinion of MVP, such use will endanger existing facilities.

If blasting is conducted within 150 feet of an active water well, as necessary, MVP will conduct a pre-construction evaluation of the well. The well will be tested for yield and water quality. Upon request by a landowner who had a pre-construction test, a post-construction test will be performed. Landowners will be contacted by an MVP representative and a qualified independent contractor will conduct the testing.

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MVP will evaluate, on a timely basis, landowner complaints regarding damage resulting from blasting to wells or structures. If the damage is substantiated, MVP will negotiate a settlement with the landowner that may include repair or replacement.

6.6.1.2 Slope Failure, Landsliding, and Subsidence

The overall effects of construction and operation of the proposed Project facilities on topography and geology will be minor. Primary impacts will be limited to construction activities and will include temporary disturbance to slopes within the construction right-of-way resulting from grading and trenching operations.

MVP will minimize impacts by returning contours to pre-construction conditions to the maximum extent practicable, in accordance with the FERC's May 2013 version of the Upland Erosion Control, Revegetation, and Maintenance Plan (Plan) and FERC's May 2013 version of the Wetland and Waterbody Construction and Mitigation Procedures (Procedures). This may not be the case at the compressor stations and other associated aboveground facilities, where grading and filling may be required to create a safe and stable land surface to support the permanent aboveground facility.

The pipeline route has been sited to avoid steep sidehill slopes to the extent possible. Minor route adjustments may also be made during final design if needed to further minimize sidehill construction, and thereby minimize the likelihood of landslides. Where sidehill construction cannot be avoided, alternate construction methods may be utilized. Measures could involve the use of drainage controls. Drainage control can include, but is not limited to, frequent slope and trench breakers, subsurface gravel or cobble drains, and culverts and drainage ditches to divert water away from the right-of-way. MVP will install permanent trench breakers and permanent slope breakers in areas of steep slopes. Trench breakers are designed to prevent preferential water flow along the pipeline trench by diverting subsurface water flow. Used in combination with slope breakers, these structures prevent subsurface erosion of soils that can lead to slope instability and failure. These techniques and other best management practices are outlined in the typical construction drawings included in Appendix 1-D, Typical Construction Drawings, of Resource Report 1.

It is possible that ground subsidence could occur as a result of underground mining. Measures are in place in West Virginia and Virginia that are designed to protect the integrity and service of pipelines in areas where mining takes place. Surface and strip mine operators are required by State and Federal regulations to ensure protection of pipelines during mining activities via notification of activities planned to affected pipeline operators. This notice shall include information such as the location of the mining operation, the mining company contact information, including all relevant engineering and operations personnel and proposed dates of operations. Each company may have a different method of notifying pipeline operators, but all are required to file long-term plans with the appropriate government entity. WVDEP- Division of Mining and Reclamation and Virginia DMME houses the information provided by mine operators for the states of West Virginia and Virginia, respectively. In all cases, the best method of information gathering and activity notification occurs when a relationship exists between the mining company and the pipeline operator.

6.6.1.3 Earthquakes and Liquefaction

Overall, compared to more seismically active regions of the United States, the relative risk to pipeline construction and operation presented by earthquake-induced ground motion in the Project area is moderate to low. There is no practical avoidance method for the proposed Project alignment, and based on risk,

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mitigation measures through pipeline design are sufficient to ensure pipeline integrity. The proposed pipeline alignment does not cross a known or inferred Class A fault or fault zone with evidence of tectonic origin and Quaternary movement. Therefore, avoidance considerations are not required. The Class B Pembroke faults are mapped within the general vicinity of the Project, but these features are questionable as to whether they are fault-related, or subsidence related, and in any case they appear to present negligible risk to Project construction and operation. Inactive ancient thrust faults in the Valley and Ridge province (e.g., St. Clair fault) do not pose a specific hazard to the pipeline alignment.

Buried natural gas pipelines typically span large areas and are subject to a relative degree of seismic risk depending upon the regional tectonic regime. It is generally considered that buried pipelines may be affected by ground movement relative to the surrounding overburden or bedrock, with the primary risk for damage being PGD and less-so transient seismic wave propagation (Yokel and Mathey 1992; O'Rourke and Liu 1999).

The Project alignment does not traverse known faults with recent (Quaternary) movement, such that risk to the pipeline by PGD from fault rupture is negligible. PGD (including fault rupture, settlement, landslides, soil liquefaction) due to intense seismic wave propagation also appears to carry negligible risk to the pipeline, as discussed below.

The largest earthquakes recorded for Virginia and West Virginia include (1) an apparent (i.e., preceded modern seismic networks) magnitude 5.9 earthquake that occurred in 1897 in Giles County, Virginia and (2) a magnitude 5.8 earthquake that occurred on August 23, 2011 near Mineral, Virginia. No characteristics of PGD were observed in association with these earthquakes. Historically, most earthquakes recorded in Virginia and West Virginia range from approximately magnitude 2 to 4 (Draper Aden Associates 2015c).

The effects of the 2011 magnitude 5.8 earthquake near Mineral, Virginia are being widely studied due to the proximity of the North Anna nuclear power station. The USGS estimated that the 2011 earthquake produced a peak ground acceleration of 0.26 g at the NAPS site. No PGD was observed. As noted above, peak seismic loading for the Project alignment in Virginia and West Virginia was estimated to be 0.28 g or less (USGS 2014a). The earthquake epicenter is over 100 miles from the Project area. In addition, considering observations and empirical data from the magnitude 5.8 Mineral, Virginia earthquake, it is concluded that there is negligible risk for PGD and related damage to the Project from a seismic event.

There are no recorded incidents of damage to a natural gas transmission pipeline in Virginia or West Virginia related to fault rupture, transient seismic energy propagation, or other earthquake- related effects. Based on the assessed seismic-related risks in West Virginia and Virginia (i.e., no known active faults at surface; probable peak ground acceleration of 0.28 g) it is anticipated that PGD hazards to the Project alignment will remain low.

In general, earthquake-induced seismic hazards presented to Project construction and operation are considered to be moderate to low, based on probabilistic estimates of ground motion. Pipeline design and construction should incorporate earthquake-induced seismic loading criteria listed in Table 6.6-1.

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Table 6.6-1

Summary of Earthquake-induced Seismic Loading Design Criteria

Milepost	Ground Motion 5-Hz	Ground Motion 1-Hz
153 to 226	0.28 g	0.1 g
0 to 153; 226 to south terminus	0.12 g	0.1 g
Source: Draper Aden Associates 2015c		

Further pipeline design criteria would be followed as specified in USDOT Title 49 CFR Part 192, "Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards," as well as other industry standards (American Society of Civil Engineers, American Society for Mechanical Engineers, American National Standards Institute, etc.) and applicable codes typically employed for the design of buried pipe.

Beyond inertial forces caused by ground acceleration, relative ground displacement (distortions and strains noted above as PGD) caused by fault rupture, soil liquefaction, settlement, and landslides presents risk to pipeline damage. The proposed Project alignment does not cross a known or inferred fault or fault zone with evidence of Quaternary movement. Therefore, fault rupture mitigation considerations are not required. There have been no documented occurrences of soil liquefaction from seismicity in the proposed Project alignment, and due to low-to-moderate seismic risk, soil liquefaction is not anticipated to affect pipeline construction or operation.

MVP is developing risk management, avoidance, minimization, and mitigation for potential geologic hazards, including ground disturbance due to settlement, steep topography, and susceptibility for landslides. The results will be included with Resource Report 6 included with MVP's application to the FERC.

Based on the low probability of localized earth movements or geological hazards in the vicinity of the proposed Project, MVP does not anticipate any problems attributable to such movements or hazards along the majority of the pipeline or associated with proposed aboveground facilities. The intensity, frequency, and duration of impacts resulting from the potential hazard of minor earthquakes cannot be accurately quantified. However, maintained pipelines constructed using modern arc-welding techniques have performed well in seismically active areas of the United States, such as California (O'Rourke and Liu 1999). Only large, abrupt ground displacements have caused serious impacts to pipeline facilities. Due to the limited potential for large, seismically-induced ground movements in the proposed Project area, there is limited risk of earthquake-related impacts on the pipeline and other proposed Project facilities.

Seismic wave propagation generally does not have serious effects on welded buried pipelines in good condition. Some situations where the wave propagation results in serious damage to a pipeline system include transition between very stiff and very soft soils. There have been no specific locations identified in the proposed Project area where seismicity is considered a hazard. Other areas where wave propagation may result in damage to a pipeline system include locations where there is penetration of pipe located at or near compressor stations, branch-connections, pipe fittings and valves, etc. Special care has been taken in designing the pipeline system in the above situations. Valve spacing would follow USDOT requirements to localize the effects of a pipeline failure/rupture and consequent hazard.

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The effect of wave propagation on pipelines can be mitigated by minimizing the interaction force at soil-pipe interfaces with suitable pipe coating. The hard and smooth fusion-bonded epoxy coating used on the pipeline exterior will reduce the coefficient of friction between pipeline and soil.

Buoyancy effects are probably of greatest concern in areas such as floodplains and river bottoms where liquefaction could take place in a large earthquake. To minimize the buoyancy effect upon the pipeline due to liquefaction in those areas, the pipeline will be designed with concrete coating, concrete weights or gravel-filled blankets, as applicable.

6.6.1.4 Rock Disposal

Shallow bedrock is expected along a portion of the pipeline. In these areas, after placing the pipeline in the excavated trench and backfilling, some excess rock may be generated that may require disposal. Disposal of excess rock debris will be within the approved construction right-of-way in areas approved by the individual landowners in accordance with regulatory requirements, or in off-site areas where disposal is not possible within the right-of-way. Where MVP will dispose of excess rock outside of the approved right-of-way, an approved landfill or alternative upland area will be utilized.

6.6.1.5 Karst and Sinkholes

Sinkholes may pose a stability challenge for pipeline construction. In addition, sinkhole areas are of concern for discovery of previously unknown subsidence and sinkhole concerns that might not be discovered until construction is in progress. These highly karstified areas crossed by the pipeline present long-term stability challenges both during construction and operation of the Project. Many of the karst and cave features are poorly documented.

The proposed pipeline crosses two cave passages (Tawneys Cave and Smokehole Cave) in Giles County presenting constructability issues of concern. In addition, the route crosses the "smokehole" entrance of Smokehole Cave, and the additional proximity of two abandoned quarry headwalls also present stability issues.

MVP would complete extensive and careful field review and additional geotechnical evaluation (including geophysical studies in some cases), as necessary, in karst areas crossed by the proposed Project. Route variations would be considered to avoid sinkholes and caves, and to minimize impacts to the karst hydraulic system. Most specifically, MVP would consider route variations to avoid crossing cave passages and entrances.

6.6.2 Operational Impacts and Mitigation

Operational impacts on geologic resources are expected to be minimal. Inspection of pipeline facilities will be conducted in accordance with USDOT requirements in 49 CFR Part 192, whenever earthquakes or other natural hazards occur. Mitigation of damage caused by geologic hazards will be completed in a timely fashion in accordance with USDOT requirements.

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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 6

Appendix 6-A
Geology by Milepost
(Table and Map Set)

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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 6

Appendix 6-B
Depth to Bedrock by Milepost
(Table and Map Set)
and
Draft Blasting Plan

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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 6

Appendix 6-C
Oil and Gas Wells Within 0.25 Mile of the MVP Project (Tables and Map Set)

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Mountain Valley Pipeline Project

Docket No. PF15-3

Resource Report 6

Appendix 6-D
Steep Hill Slopes Crossed by the MVP Project
(Map Set)

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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 6

Appendix 6-A
Geology by Milepost
(Table and Map Set)

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Wetzel, Harrison, Doddridge, Lewis	0.00	42.27	42.27	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	42.27	42.52	0.26	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	42.52	42.78	0.25	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	42.78	42.88	0.10	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	42.88	43.73	0.85	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	43.73	44.80	1.07	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	44.80	44.95	0.15	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	44.95	46.28	1.33	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	46.28	46.35	0.07	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	46.35	47.60	1.25	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	47.60	47.93	0.33	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Lewis	47.93	48.36	0.43	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	48.36	48.39	0.03	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	48.39	48.40	0.01	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Lewis	48.40	48.40	0.00	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	48.40	48.53	0.12	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	48.53	48.61	0.09	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	48.61	48.75	0.14	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	48.75	48.86	0.10	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	48.86	49.13	0.27	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	49.13	49.27	0.14	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	49.27	49.53	0.26	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	49.53	49.82	0.29	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	49.82	49.91	0.09	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	49.91	50.45	0.54	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	50.45	51.09	0.63	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	51.09	51.67	0.58	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Lewis	51.67	52.09	0.43	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	52.09	54.50	2.40	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	54.50	55.17	0.67	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	55.17	56.01	0.84	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	56.01	56.40	0.39	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	56.40	56.78	0.38	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	56.78	56.98	0.21	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	56.98	57.26	0.28	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	57.26	57.59	0.32	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	57.59	57.97	0.39	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	57.97	58.32	0.35	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	58.32	58.34	0.02	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Lewis	58.34	61.95	3.61	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	61.95	62.41	0.46	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Lewis	62.41	63.20	0.80	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	63.20	63.50	0.30	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis	63.50	63.80	0.29	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Lewis	63.80	63.90	0.10	Pennsylvanian	Permian	Dunkard	Greene, Washington, Waynesburg	sandstone		Washington
Lewis, Braxton	63.90	65.61	1.72	Pennsylvanian	Permian	Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Braxton	65.61	66.09	0.47	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Braxton	66.09	66.27	0.19	Pennsylvanian		Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Braxton	66.27	67.02	0.74	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Braxton	67.02	67.17	0.16	Pennsylvanian		Monongahela	Uniontown, Pittsburgh	sandstone		Waynesburg, Uniontown, Sewickley, Redstone, Pittsburgh
Braxton	67.17	72.71	5.54	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Braxton	72.71	73.15	0.44	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion
Braxton	73.15	73.71	0.55	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Braxton	73.71	74.05	0.35	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Braxton	74.05	74.26	0.21	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Braxton	74.26	75.14	0.88	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion
Braxton	75.14	75.65	0.51	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Braxton	75.65	76.25	0.60	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion
Braxton	76.25	76.32	0.07	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Braxton	76.32	76.61	0.29	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion
Braxton	76.61	76.75	0.13	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Braxton	76.75	76.98	0.23	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion
Braxton	76.98	77.34	0.36	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Braxton	77.34	77.65	0.30	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Braxton	77.65	77.73	0.09	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Braxton	77.73	78.09	0.36	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion
Braxton	78.09	78.50	0.41	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Braxton	78.50	78.63	0.12	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion
Braxton	78.63	79.19	0.57	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Webster	79.19	79.40	0.21	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	79.40	79.54	0.14	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Webster	79.54	79.89	0.36	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	79.89	80.41	0.52	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	80.41	81.78	1.36	Pennsylvanian		Conemaugh	Allegheny	sandstone		Freeport, Kittanning, Clarion

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Webster	81.78	83.17	1.39	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	83.17	83.40	0.23	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	83.40	83.67	0.27	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Webster	83.67	83.98	0.30	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	83.98	84.93	0.96	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	84.93	85.40	0.46	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	85.40	85.55	0.16	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Webster	85.55	86.81	1.26	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	86.81	86.91	0.09	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Webster	86.91	87.04	0.14	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Webster	87.04	87.42	0.37	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	87.42	87.68	0.26	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Webster	87.68	87.78	0.10	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	87.78	88.09	0.31	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Webster	88.09	88.47	0.39	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	88.47	88.69	0.22	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion

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Table 6-A-1 Geology Crossed by the MVP Pipeline										
County	**Start MP**	**End MP**	**Length (miles)**	**Geologic Age (Period 1 WV)**	**PERIOD2 (WV only)**	**GROUP (WV only)**	**Geologic Unit (Formation WV)**	**Rock Type**	**Rock Type 2 (Virginia only)**	**Coal Formations (WV only)**
Webster	88.69	88.81	0.12	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Webster	88.81	88.85	0.04	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	88.85	89.31	0.46	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Webster	89.31	89.55	0.24	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	89.55	90.52	0.97	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Webster	90.52	90.72	0.20	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	90.72	91.20	0.48	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	91.20	91.70	0.50	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	91.70	92.23	0.52	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Webster	92.23	92.46	0.23	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion

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Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Webster	92.46	92.88	0.42	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	92.88	92.97	0.09	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	92.97	93.08	0.11	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Webster	93.08	93.18	0.10	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	93.18	93.82	0.64	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	93.82	94.06	0.24	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	94.06	94.42	0.36	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	94.42	94.91	0.48	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion

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County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Webster	94.91	94.96	0.05	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	94.96	96.45	1.49	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	96.45	96.68	0.23	Pennsylvanian		Conemaugh	Casselman, Glenshaw	shale		Elk Lick, Bakerstown, Mahoning
Webster	96.68	97.59	0.91	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	97.59	98.23	0.63	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	98.23	98.60	0.38	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	98.60	99.67	1.06	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	99.67	100.74	1.07	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion

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Webster	100.74	100.94	0.20	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	100.94	101.28	0.34	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	101.28	101.35	0.07	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	101.35	101.69	0.34	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	101.69	102.44	0.75	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	102.44	102.76	0.32	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion

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County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Webster	102.76	102.78	0.02	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	102.78	102.81	0.03	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster	102.81	107.40	4.59	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Webster	107.40	107.59	0.18	Pennsylvanian			Allegheny	sandstone		Freeport, Kittanning, Clarion
Webster, Nicholas	107.59	115.89	8.31	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Nicholas	115.89	116.20	0.31	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9

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County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Nicholas	116.20	118.23	2.03	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Nicholas	118.23	118.36	0.13	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Nicholas	118.36	118.51	0.15	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Nicholas	118.51	119.03	0.52	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Nicholas	119.03	119.61	0.59	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas

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County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Nicholas	119.61	119.96	0.34	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Nicholas	119.96	120.01	0.05	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Nicholas	120.01	120.70	0.69	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Nicholas	120.70	123.20	2.49	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Nicholas	123.20	123.66	0.47	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9

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County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Nicholas	123.66	124.55	0.89	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Nicholas	124.55	124.65	0.10	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Nicholas	124.65	125.28	0.63	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Nicholas	125.28	127.37	2.08	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Nicholas	127.37	127.59	0.22	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas

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County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Nicholas	127.59	127.59	0.00	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Nicholas	127.59	128.00	0.41	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Nicholas	128.00	128.48	0.49	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Nicholas	128.48	128.72	0.23	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Nicholas	128.72	129.23	0.51	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9

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County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Nicholas	129.23	129.33	0.11	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Nicholas	129.33	129.71	0.38	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Nicholas	129.71	129.88	0.17	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Nicholas	129.88	130.68	0.81	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Nicholas	130.68	130.86	0.17	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas

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County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Nicholas, Greenbrier	130.86	136.05	5.20	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Greenbrier	136.05	136.12	0.07	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Greenbrier	136.12	136.34	0.22	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Greenbrier	136.34	136.59	0.25	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Greenbrier	136.59	136.92	0.33	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9

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Greenbrier	136.92	137.06	0.14	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Greenbrier	137.06	137.94	0.88	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Greenbrier	137.94	138.12	0.18	Pennsylvanian		Pottsville	Kanawha	sandstone		Stockton, Coalburg, Winifrede, Chilton, Williamson, Cedar Grove, Alma, Peerless, Campbell Creek, Powellton, Eagle, Gilbert, Douglas
Greenbrier	138.12	143.54	5.43	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Greenbrier	143.54	143.74	0.20	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7
Greenbrier	143.74	144.24	0.50	Mississippian		Mauch Chunk	Bluestone, Princeton	shale/ss		
Greenbrier	144.24	144.64	0.40	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7

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Greenbrier	144.64	144.84	0.20	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Greenbrier	144.84	144.95	0.12	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7
Greenbrier	144.95	146.77	1.81	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Greenbrier	146.77	146.95	0.18	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7
Greenbrier	146.95	147.40	0.45	Mississippian		Mauch Chunk	Bluestone, Princeton	shale/ss		
Greenbrier	147.40	147.56	0.16	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7
Greenbrier	147.56	147.70	0.14	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Greenbrier	147.70	147.87	0.17	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7
Greenbrier	147.87	148.31	0.44	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Greenbrier	148.31	148.40	0.09	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7

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Greenbrier, Fayette	148.40	148.83	0.44	Pennsylvanian		Pottsville	New River	sandstone		Iaeger, Sewell, Welch, Raleigh, Beckley, Fire Creek, Pocahontas Nos. 8 and 9
Fayette	148.83	149.04	0.21	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7
Greenbrier	149.04	150.29	1.25	Mississippian		Mauch Chunk	Bluestone, Princeton	shale/ss		
Greenbrier	150.29	150.90	0.61	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7
Greenbrier, Summers	150.90	151.62	0.72	Mississippian		Mauch Chunk	Bluestone, Princeton	shale/ss		
Summers	151.62	153.40	1.78	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7
Summers	153.40	155.57	2.16	Mississippian		Mauch Chunk	Bluestone, Princeton	shale/ss		
Summers	155.57	155.75	0.19	Mississippian		Mauch Chunk	Hinton	shale		
Summers	155.75	157.91	2.16	Mississippian		Mauch Chunk	Bluestone, Princeton	shale/ss		
Summers	157.91	158.19	0.28	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7
Summers	158.19	159.31	1.12	Mississippian		Mauch Chunk	Bluestone, Princeton	shale/ss		
Summers	159.31	159.53	0.22	Mississippian		Mauch Chunk	Hinton	shale		

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Summers	159.53	161.16	1.63	Mississippian		Mauch Chunk	Bluestone, Princeton	shale/ss		
Summers	161.16	161.91	0.75	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7
Summers	161.91	162.30	0.39	Mississippian		Mauch Chunk	Bluestone, Princeton	shale/ss		
Summers	162.30	162.76	0.46	Mississippian		Mauch Chunk	Hinton	shale		
Summers	162.76	164.11	1.35	Mississippian		Mauch Chunk	Bluestone, Princeton	shale/ss		
Summers	164.11	164.82	0.71	Pennsylvanian		Pottsville	Pocahontas	sandstone		Pocahontas Nos. 1-7
Summers	164.82	166.95	2.13	Mississippian		Mauch Chunk	Bluestone, Princeton	shale/ss		
Summers, Monroe	166.95	167.89	0.95	Mississippian		Mauch Chunk	Hinton	shale		
Monroe	167.89	175.95	8.06	Mississippian		Mauch Chunk	Bluefield	shale		
Monroe	175.95	176.30	0.35	Mississippian		Mauch Chunk	Hinton	shale		
Monroe	176.30	176.68	0.38	Mississippian		Mauch Chunk	Bluefield	shale		
Monroe	176.68	177.17	0.49	Mississippian		Mauch Chunk	Hinton	shale		
Monroe	177.17	180.07	2.90	Mississippian		Mauch Chunk	Bluefield	shale		
Monroe	180.07	180.28	0.21	Mississippian		Mauch Chunk	Hinton	shale		

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Monroe	180.28	188.06	7.78	Mississippian		Mauch Chunk	Bluefield	shale		
Monroe	188.06	188.16	0.10	Mississippian		Mauch Chunk	Hinton	shale		
Monroe	188.16	188.28	0.12	Mississippian		Mauch Chunk	Bluefield	shale		
Monroe, Giles	188.28	188.73	0.45	Mississippian		Mauch Chunk	Hinton	shale		
Giles	188.73	189.02	0.29	Mississippian		Mauch Chunk	Bluefield	shale		
Giles	189.02	189.79	0.77	Mississippian		Mauch Chunk	Hinton	shale		
Giles	189.79	190.27	0.48	Mississippian		Mauch Chunk	Bluefield	shale		
Giles	190.27	190.82	0.55	Mississippian		Greenbrier		limestone		
Giles	190.82	191.02	0.21	Mississippian		Pocono	Maccrady	shale		
Giles	191.02	192.73	1.71	Devonian		Chemung		shale		
Giles	192.73	192.90	0.18	Mississippian		Pocono	Maccrady	shale		
Giles	192.90	193.19	0.29	Devonian		Chemung		shale		
Giles	193.19	193.40	0.21	Devonian			Brallier	shale		
Giles	193.40	193.96	0.56	Ordovician		Beekmantown		limestone		

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Giles	193.96	194.27	0.31	Ordovician		St. Paul		limestone		
Giles	194.27	194.50	0.23	Ordovician		Trenton, Black River		limestone		
Giles	194.50	194.86	0.36	Ordovician			Martinsburg	shale		
Giles	194.86	195.05	0.19	Ordovician			Juniata, Oswego	sandstone		
Giles	195.05	195.13	0.08	Silurian			Tuscarora Sandstone	sandstone		
Giles	195.05	196.59	1.55	Lower Devonian and Silurian			Lower Devonian and Silurian Formations - undivided	sandstone	limestone	
Giles	196.59	196.91	0.32	Ordovician			Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation	shale	mudstone	
Giles	196.91	199.68	2.76	Cambrian - Ordovician			Knox Group	dolostone (dolomite)	limestone	
Giles	199.68	201.09	1.41	Ordovician			Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A	shale	mudstone	
Giles	201.09	203.45	2.36	Ordovician			Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation	shale	mudstone	

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Table 6-A-1 Geology Crossed by the MVP Pipeline										
County	**Start MP**	**End MP**	**Length (miles)**	**Geologic Age (Period 1 WV)**	**PERIOD2 (WV only)**	**GROUP (WV only)**	**Geologic Unit (Formation WV)**	**Rock Type**	**Rock Type 2 (Virginia only)**	**Coal Formations (WV only)**
Giles	203.45	204.20	0.75	Ordovician			Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A	shale	mudstone	
Giles	204.20	204.37	0.16	Cambrian - Ordovician			Knox Group	dolostone (dolomite)	limestone	
Giles	204.37	204.70	0.34	Ordovician			Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A	shale	mudstone	
Giles	204.70	205.16	0.46	Cambrian - Ordovician			Knox Group	dolostone (dolomite)	limestone	
Giles, Montgomery	205.16	205.92	0.76	Ordovician			Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A	shale	mudstone	
Montgomery	205.92	206.79	0.87	Ordovician			Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation	shale	mudstone	
Montgomery	206.79	207.83	1.04	Ordovician			Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A	shale	mudstone	
Montgomery	207.83	208.58	0.75	Cambrian - Ordovician			Knox Group	dolostone (dolomite)	limestone	

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Montgomery	208.58	209.49	0.90	Ordovician			Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A	shale	mudstone	
Montgomery	209.49	210.51	1.02	Ordovician			Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation	shale	mudstone	
Montgomery	210.51	210.89	0.38	Cambrian - Ordovician			Knox Group	dolostone (dolomite)	limestone	
Montgomery	210.89	211.17	0.28	Cambrian			Nolichucky and Honaker Formation	shale	dolostone (dolomite)	
Montgomery	211.17	211.66	0.49	Cambrian - Ordovician			Knox Group	dolostone (dolomite)	limestone	
Montgomery	211.66	211.93	0.27	Ordovician			Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A	shale	mudstone	
Montgomery	211.93	212.32	0.38	Ordovician			Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation	shale	mudstone	
Montgomery	212.32	212.92	0.61	Lower Devonian and Silurian			Lower Devonian and Silurian Formations - undivided	sandstone	limestone	
Montgomery	212.92	213.23	0.31	Devonian			Millboro Shale and Needmore Formation	black shale	shale	
Montgomery	213.23	213.55	0.32	Devonian			Brallier Formation	shale	siltstone	

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Montgomery	213.55	213.96	0.41	Devonian			Chemung Formation	shale	sandstone	
Montgomery	213.96	215.81	1.85	Mississippian			Price Formation	sandstone	shale	
Montgomery	215.81	217.37	1.56	Cambrian			Elbrook Formation	dolostone (dolomite)	limestone	
Montgomery	217.37	217.75	0.37	Upper Cambrian - Lower Ordovician			Lower Ordovician and Upper Cambrian Formations - unvdivided	limestone	dolostone (dolomite)	
Montgomery	217.75	218.28	0.54	Cambrian			Elbrook Formation	dolostone (dolomite)	limestone	
Montgomery	218.28	220.07	1.79	Upper Cambrian - Lower Ordovician			Lower Ordovician and Upper Cambrian Formations - unvdivided	limestone	dolostone (dolomite)	
Montgomery	220.07	221.20	1.13	Ordovician			Mocassin Formation, Bays Formation, Unit C, Unit B, Unit A	shale	mudstone	
Montgomery	221.20	221.52	0.32	Ordovician			Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation	shale	mudstone	
Montgomery, Roanoke	221.52	222.27	0.75	Lower Devonian and Silurian			Lower Devonian and Silurian Formations - undivided	sandstone	limestone	
Roanoke	222.27	222.96	0.69	Devonian			Millboro Shale and Needmore Formation	black shale	shale	
Roanoke	222.96	224.63	1.67	Devonian			Brallier Formation	shale	siltstone	
Roanoke	224.63	227.22	2.60	Devonian			Chemung Formation	shale	sandstone	

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Roanoke	227.22	228.41	1.18	Cambrian			Elbrook Formation	dolostone (dolomite)	limestone	
Roanoke	228.41	231.10	2.69	Cambrian			Pumpkin Valley Shale and Rome Formation	shale	siltstone	
Roanoke, Franklin	231.10	233.43	2.33	Cambrian			Chilhowee Group	quartzite	conglomerate	
Franklin	233.43	236.28	2.85	Proterozoic Y			layered pyroxene granulite	granulite		
Franklin	236.28	238.13	1.85	Proterozoic Y			charnockite	granitic gneiss		
Franklin	238.13	239.61	1.49	Proterozoic Y			porphyritic leucocharnockite	granite		
Franklin	239.61	247.40	7.78	Proterozoic Y			layered biotite granulite and gneiss	gneiss	granulite	
Franklin	247.40	249.85	2.45	Proterozoic Y			porphyroblastic biotite-plagioclase augen gneiss	augen gneiss		
Franklin	249.85	250.64	0.79	Proterozoic Y			layered quartzofeldspathic augen gneiss and flaser gneiss	felsic gneiss	flaser gneiss	
Franklin	250.64	251.59	0.95	Proterozoic Z			Ashe Formation - biotite gneiss	biotite gneiss		
Franklin	251.59	252.75	1.16	Proterozoic Y			layered quartzofeldspathic augen gneiss and flaser gneiss	felsic gneiss	flaser gneiss	
Franklin	252.75	255.34	2.59	Proterozoic Z			Ashe Formation - biotite gneiss	biotite gneiss		
Franklin	255.34	256.18	0.84	Proterozoic Z - Cambrian			Alligator Back Formation - feldspathic metagraywacke	meta-argillite	schist	

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Franklin	256.18	264.63	8.44	Proterozoic Z			Ashe Formation - biotite gneiss	biotite gneiss		
Franklin	264.63	264.98	0.35	Proterozoic Z - Cambrian			Alligator Back Formation - actinolite schist	schist		
Franklin	264.98	265.33	0.35	Proterozoic Z - Cambrian			Alligator Back Formation - feldspathic metagraywacke	meta-argillite	schist	
Franklin	265.33	265.66	0.33	Proterozoic Z - Cambrian			Alligator Back Formation - actinolite schist	schist		
Franklin	265.66	265.81	0.15	Proterozoic Z - Cambrian			Alligator Back Formation - feldspathic metagraywacke	meta-argillite	schist	
Franklin	265.81	266.15	0.34	Proterozoic Z - Cambrian			Alligator Back Formation - actinolite schist	schist		
Franklin, Pittsylvania	266.15	267.74	1.59	Proterozoic Z			Ashe Formation - biotite gneiss	biotite gneiss		
Pittsylvania	267.74	267.91	0.18	Proterozoic Z - Cambrian			Alligator Back Formation - actinolite schist	schist		
Pittsylvania	267.91	268.50	0.59	Proterozoic Z - Cambrian			Alligator Back Formation - feldspathic metagraywacke	meta-argillite	schist	
Pittsylvania	268.50	269.53	1.03	Proterozoic Z - Cambrian			Alligator Back Formation - actinolite schist	schist		
Pittsylvania	269.53	269.79	0.27	Proterozoic Z - Cambrian			Alligator Back Formation - feldspathic metagraywacke	meta-argillite	schist	
Pittsylvania	269.79	270.48	0.69	Proterozoic Z - Cambrian			Alligator Back Formation - actinolite schist	schist		

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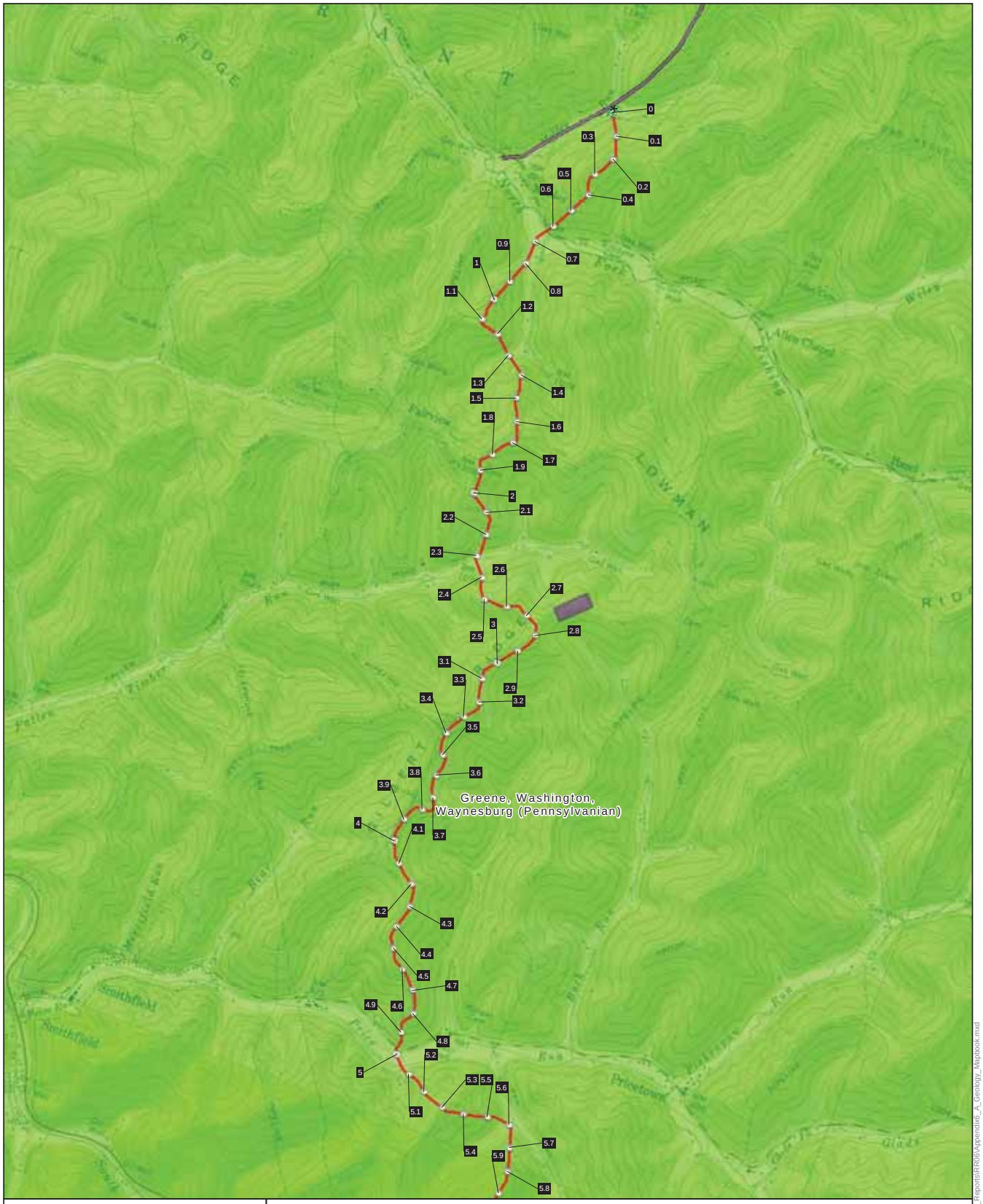
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Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
Pittsylvania	270.48	272.93	2.44	Proterozoic Z - Cambrian			Alligator Back Formation - feldspathic metagraywacke	meta-argillite	schist	
Pittsylvania	272.93	273.36	0.43	Cambrian			Candler Formation - phyllite and schist	phyllite	schist	
Pittsylvania	273.36	274.16	0.80	Proterozoic Z - Cambrian			Alligator Back Formation - feldspathic metagraywacke	meta-argillite	schist	
Pittsylvania	274.16	275.01	0.85	Proterozoic Z - Cambrian			Bassett Formation - amphibolite	amphibolite	gneiss	
Pittsylvania	275.01	275.45	0.45	Proterozoic Z			Bassett Formation - biotite gneiss	biotite gneiss	granitic gneiss	
Pittsylvania	275.45	276.50	1.05	Proterozoic Z			Bassett Formation - biotite gneiss	biotite gneiss	granitic gneiss	
Pittsylvania	276.50	276.74	0.24	Proterozoic Z - Cambrian			Bassett Formation - amphibolite	amphibolite	gneiss	
Pittsylvania	276.74	276.90	0.16	Proterozoic Z - Cambrian			Alligator Back Formation - feldspathic metagraywacke	meta-argillite	schist	
Pittsylvania	276.90	277.04	0.15	Proterozoic Z - Cambrian			Bassett Formation - amphibolite	amphibolite	gneiss	
Pittsylvania	277.04	277.27	0.22	Proterozoic Z - Cambrian			Alligator Back Formation - feldspathic metagraywacke	meta-argillite	schist	
Pittsylvania	277.27	277.65	0.38	Proterozoic Z - Cambrian			Alligator Back Formation - feldspathic metagraywacke	meta-argillite	schist	
Pittsylvania	277.65	278.83	1.18	Proterozoic Z - Cambrian			Fork Mountain Formation	mica schist	gneiss	
Pittsylvania	278.83	279.43	0.60	Proterozoic Z - Cambrian			Alligator Back Formation -	meta-argillite	schist	

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Table 6-A-1
Geology Crossed by the MVP Pipeline

County	Start MP	End MP	Length (miles)	Geologic Age (Period 1 WV)	PERIOD2 (WV only)	GROUP (WV only)	Geologic Unit (Formation WV)	Rock Type	Rock Type 2 (Virginia only)	Coal Formations (WV only)
							feldspathic metagraywacke			
Pittsylvania	279.43	280.96	1.53	Proterozoic Z - Cambrian			Fork Mountain Formation	mica schist	gneiss	
Pittsylvania	280.96	281.27	0.30	Proterozoic Z - Cambrian			Bassett Formation - amphibolite	amphibolite	gneiss	
Pittsylvania	281.27	281.63	0.37	Proterozoic Z			Bassett Formation - biotite gneiss	biotite gneiss	granitic gneiss	
Pittsylvania	281.63	281.94	0.31	Proterozoic Z - Cambrian			Bassett Formation - amphibolite	amphibolite	gneiss	
Pittsylvania	281.94	283.82	1.88	Proterozoic Z			Bassett Formation - biotite gneiss	biotite gneiss	granitic gneiss	
Pittsylvania	283.82	284.30	0.48	Proterozoic Z - Cambrian			Fork Mountain Formation	mica schist	gneiss	
Pittsylvania	284.30	284.65	0.35	Proterozoic Z			Bassett Formation - biotite gneiss	biotite gneiss	granitic gneiss	
Pittsylvania	284.65	285.44	0.79	Proterozoic Z - Cambrian			Fork Mountain Formation	mica schist	gneiss	
Pittsylvania	285.44	285.79	0.35	Proterozoic Z			Bassett Formation - biotite gneiss	biotite gneiss	granitic gneiss	
Pittsylvania	285.79	287.25	1.46	Proterozoic Z - Cambrian			Fork Mountain Formation	mica schist	gneiss	
Pittsylvania	287.25	287.90	0.65	Cambrian			Leatherwood Granite	granite		
Pittsylvania	287.90	291.59	3.70	Proterozoic Z - Cambrian			Fork Mountain Formation	mica schist	gneiss	
Pittsylvania	291.59	292.24	0.64	Cambrian			Leatherwood Granite	granite		
Pittsylvania	292.24	293.71	1.47	Proterozoic Z - Cambrian			Fork Mountain Formation	mica schist	gneiss	
Pittsylvania	293.71	294.14	0.44	Upper Triassic			Newark Supergroup - sandstone, siltstone and shale, interbedded	sandstone	siltstone	



Mountain Valley Pipeline Project

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Data Sources: ESRI Streaming Topo Layer, 2014, WV Geological and Economic Survey 1968, VA Department of Mines, Minerals, and Energy 1993.

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Preliminary Meter Station Location

Mobley Interconnect receipt

Proposed Route

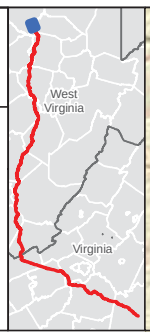
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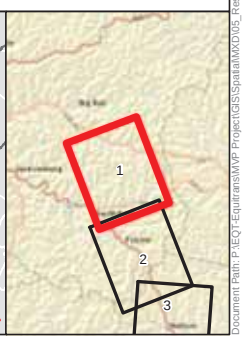
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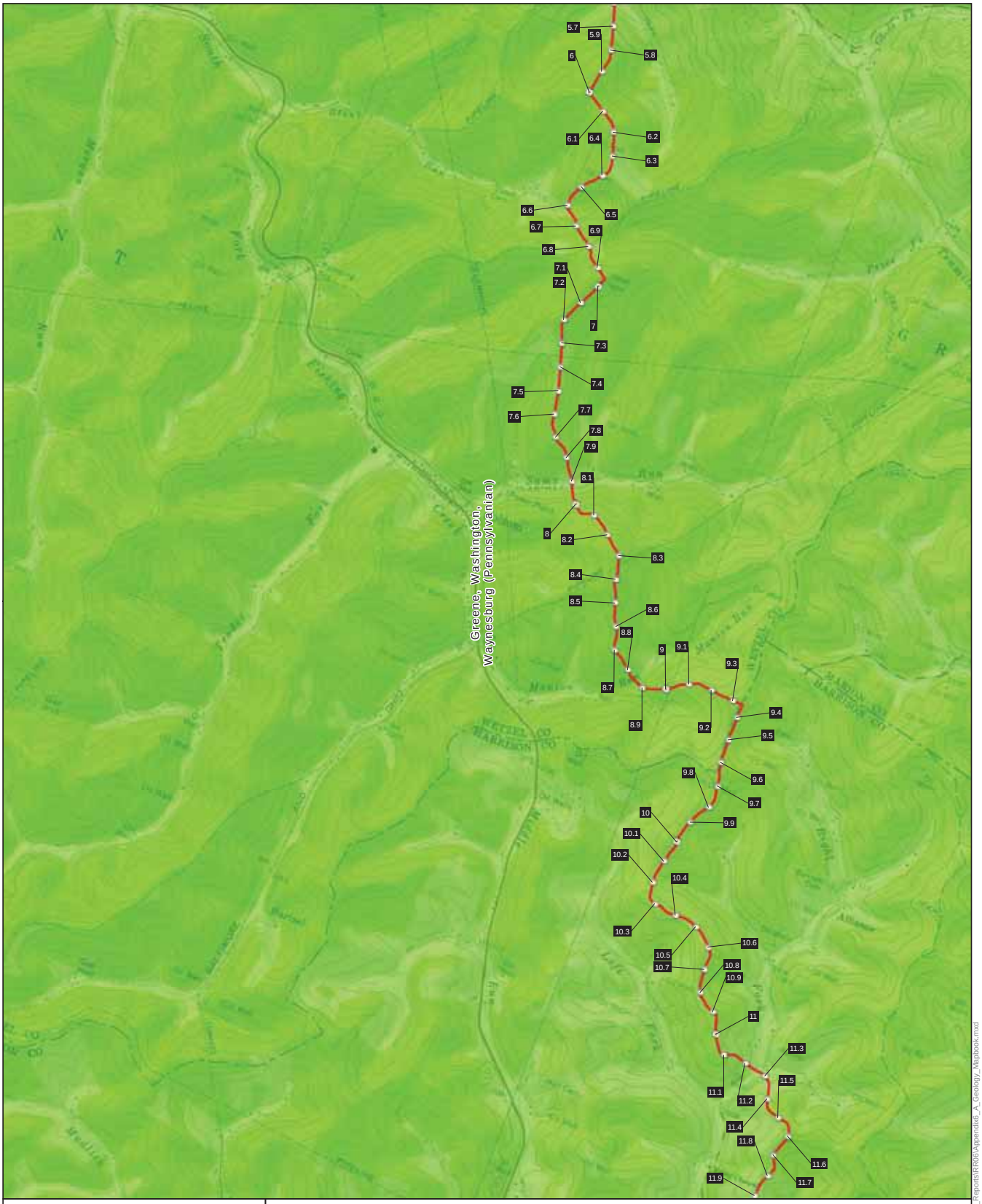
Formation (& Period) (WVGES)

Greene, Washington, Waynesburg





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Mountain Valley Pipeline Project

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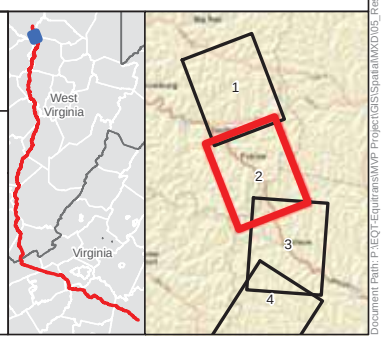
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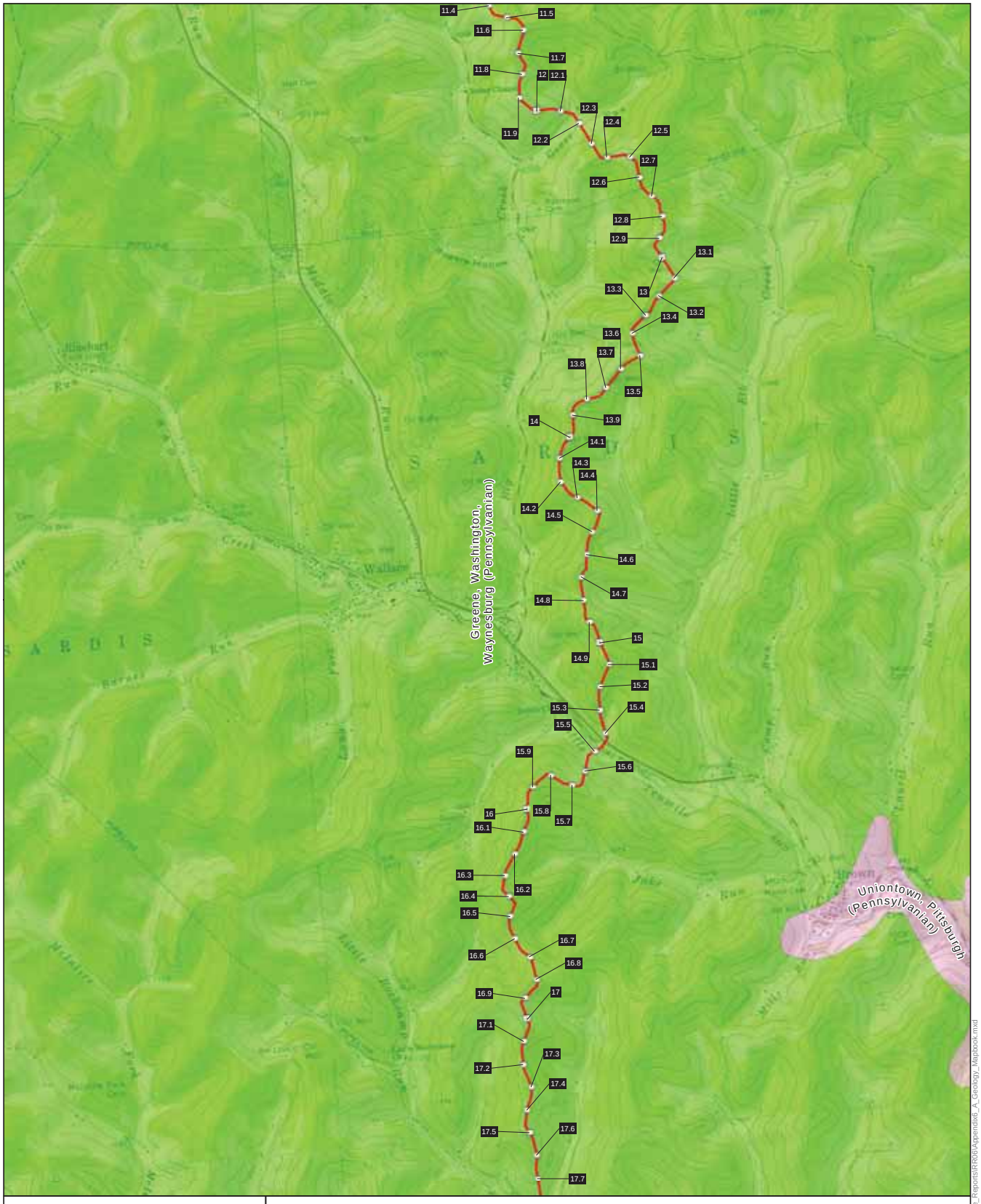
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- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Greene, Washington, Waynesburg



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Mountain Valley Pipeline Project

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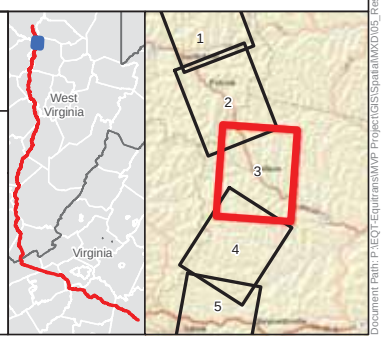
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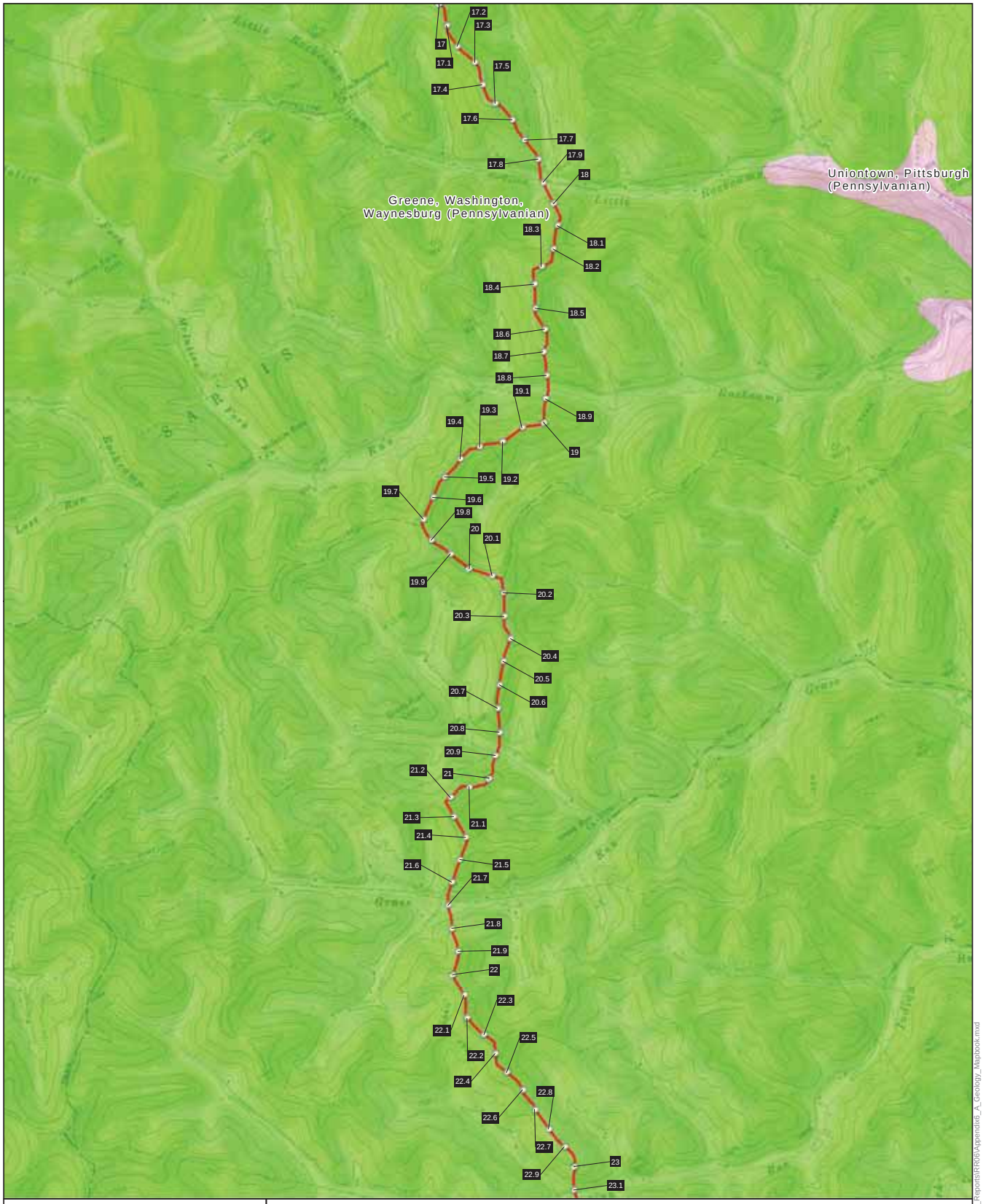
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- Proposed Route

Formation (& Period) (WVGES)

- Greene, Washington, Waynesburg
- Uniontown, Pittsburgh



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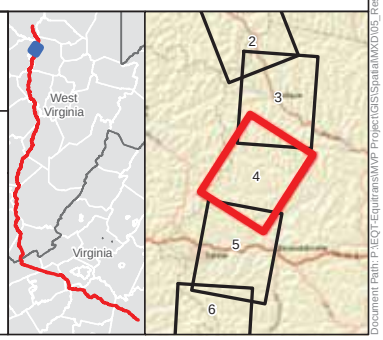
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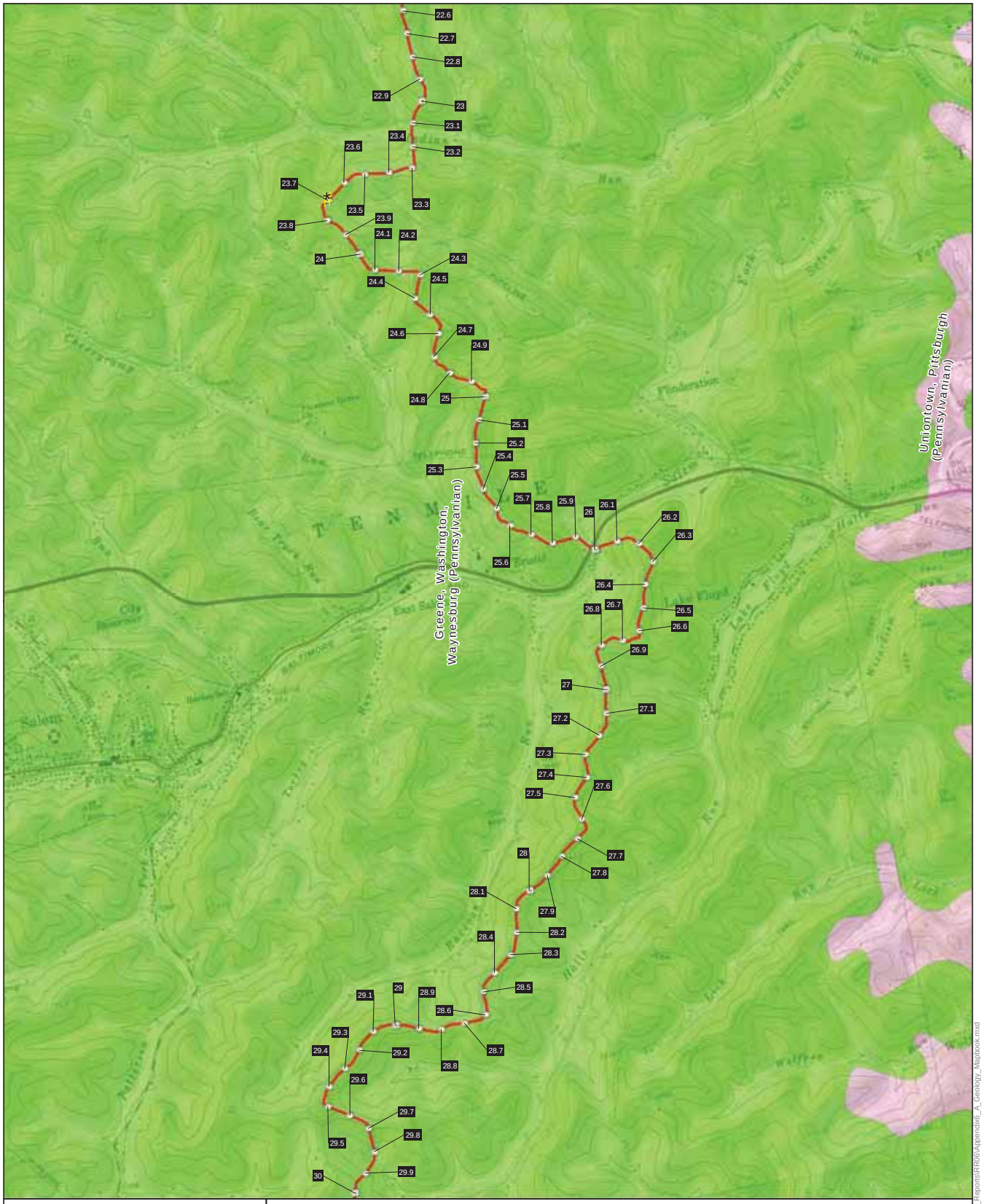
- Milepost
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- Proposed Route

Formation (& Period) (WVGES)

- Greene, Washington, Waynesburg
- Uniontown, Pittsburgh



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Preliminary Meter Station Location

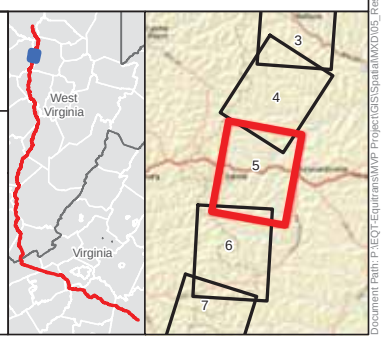
MarkWest Interconnect receipt

Proposed Route

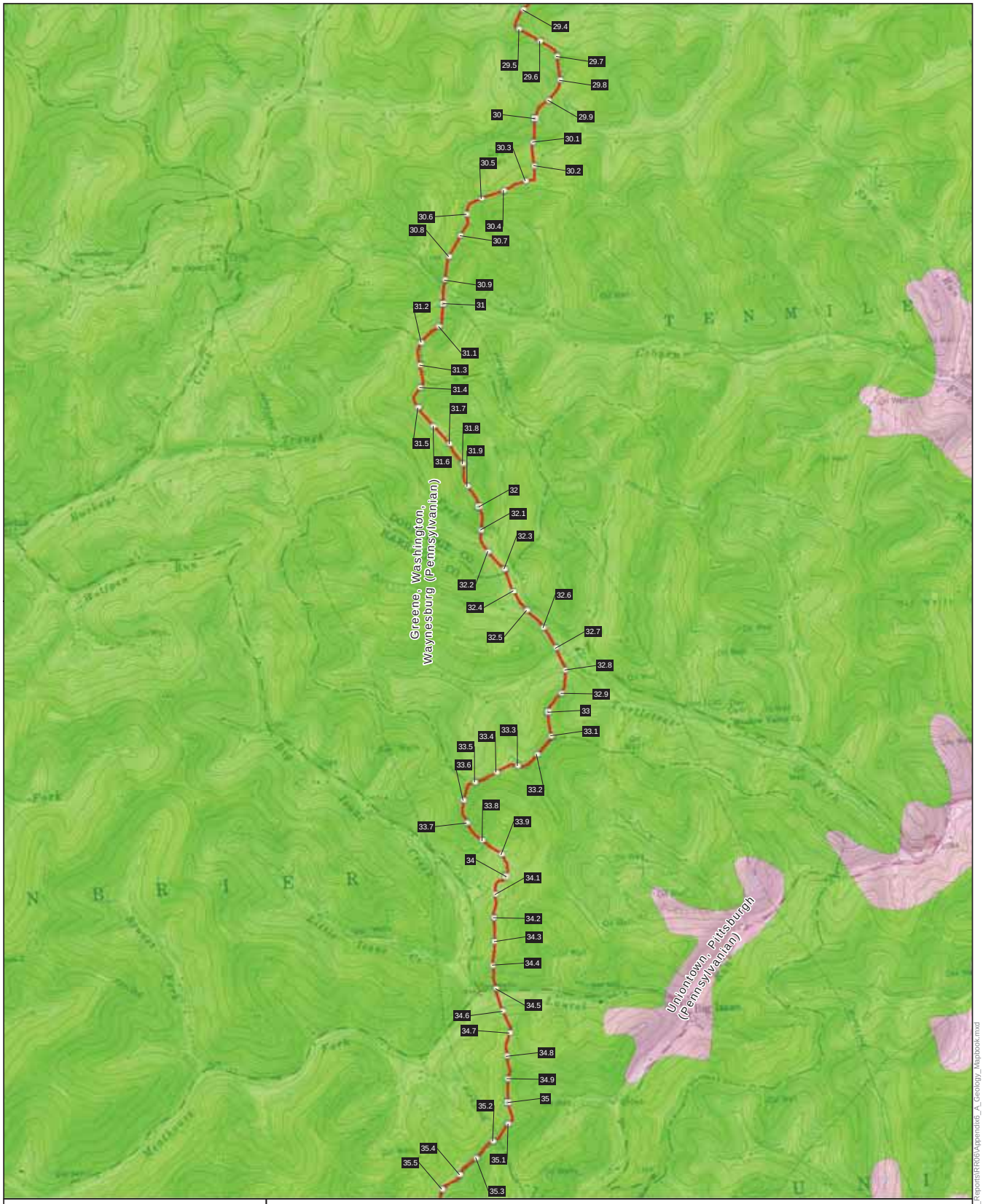
Formation (& Period) (WVGES)

Greene, Washington, Waynesburg

Uniontown, Pittsburgh



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Mountain Valley Pipeline Project

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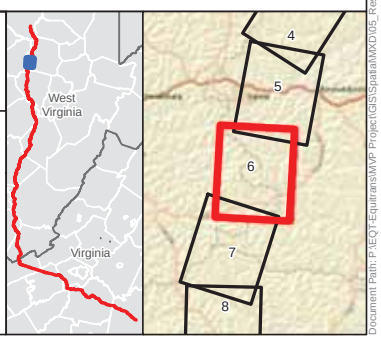
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Proposed Route

Formation (& Period) (WVGES)

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Uniontown, Pittsburgh



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Mountain Valley Pipeline Project

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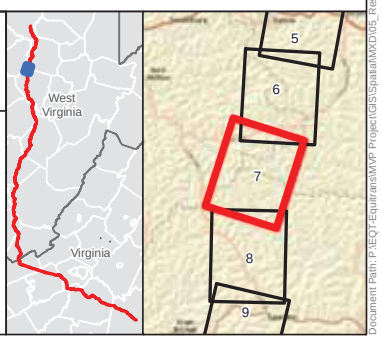
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Legend

- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Greene, Washington, Waynesburg
- Uniontown, Pittsburgh



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

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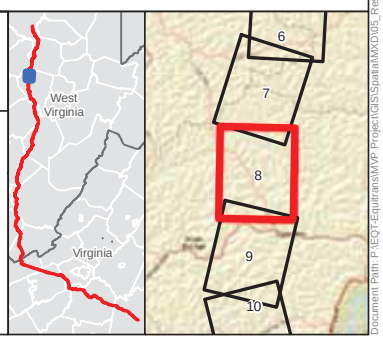
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Legend

- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Casselman, Glenshaw
- Greene, Washington, Waynesburg
- Uniontown, Pittsburgh



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

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Geology

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May 2015

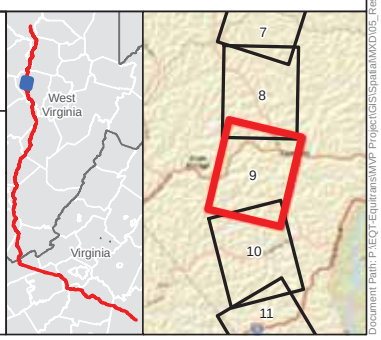
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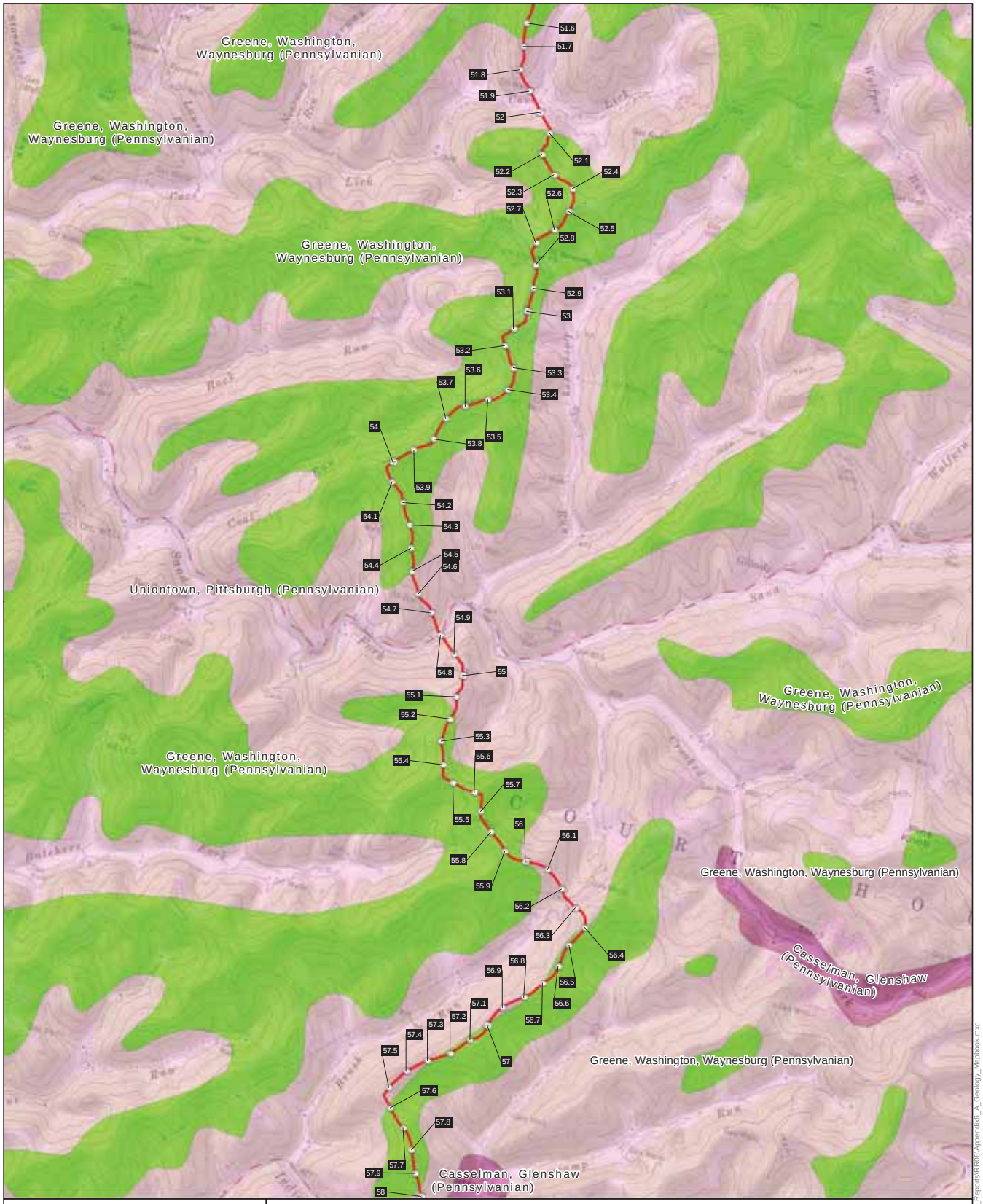
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Casselman, Glenshaw
- Greene, Washington, Waynesburg
- Uniontown, Pittsburgh



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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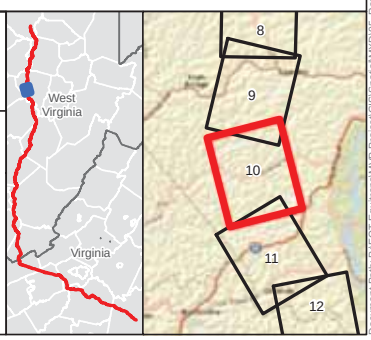
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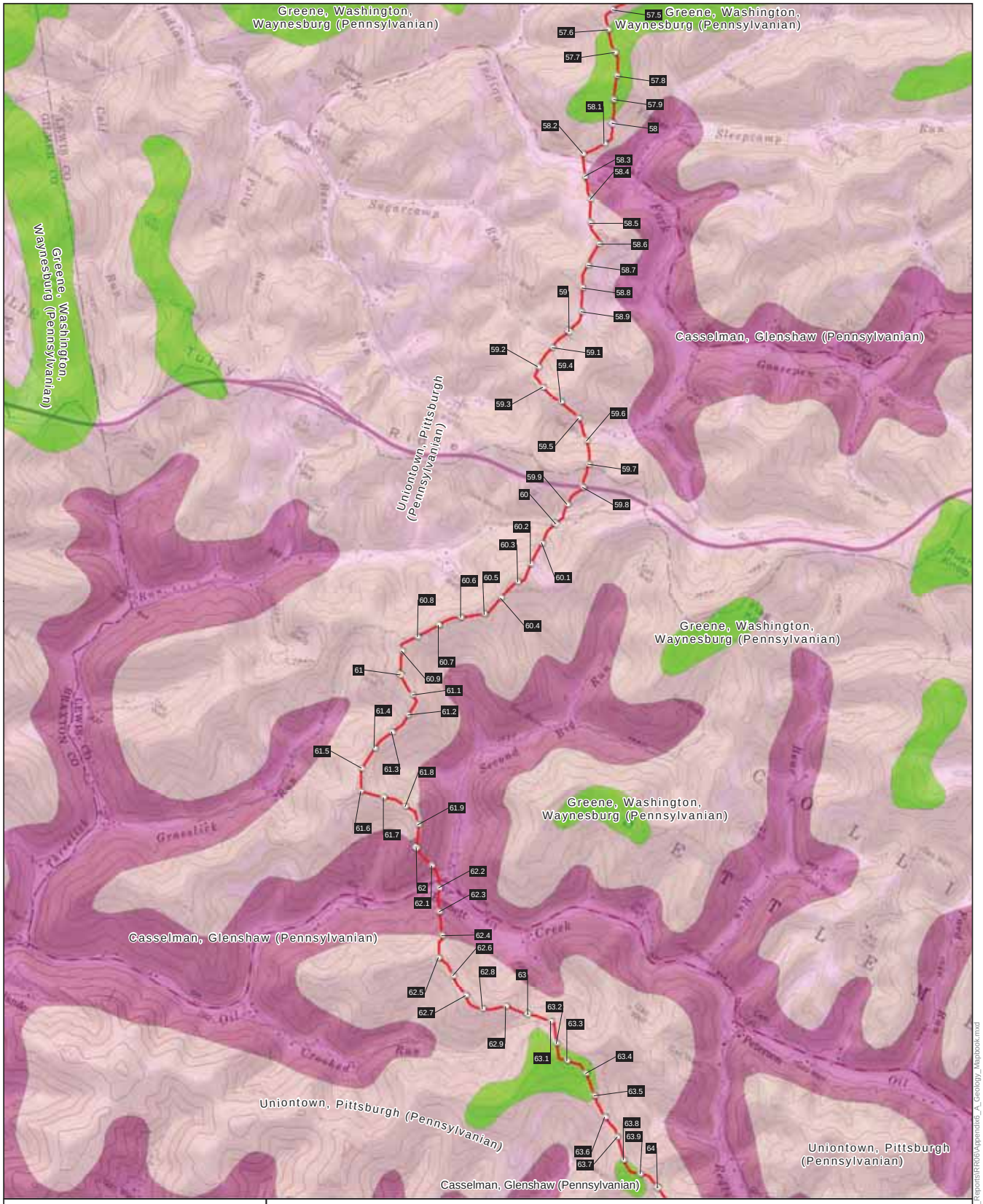
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Casselman, Glenshaw
- Greene, Washington, Waynesburg
- Uniontown, Pittsburgh



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

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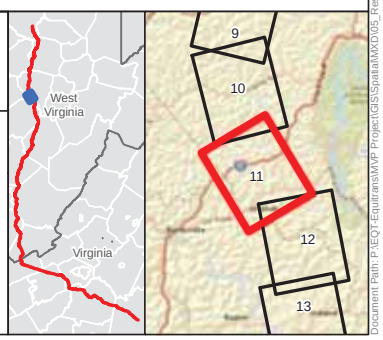
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Legend

- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Casselman, Glenshaw
- Greene, Washington, Waynesburg
- Uniontown, Pittsburgh



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

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Geology

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May 2015

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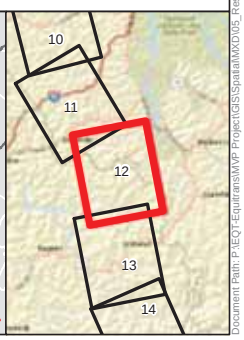
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/ Milepost
(Tenth-Mile
Proposed Route

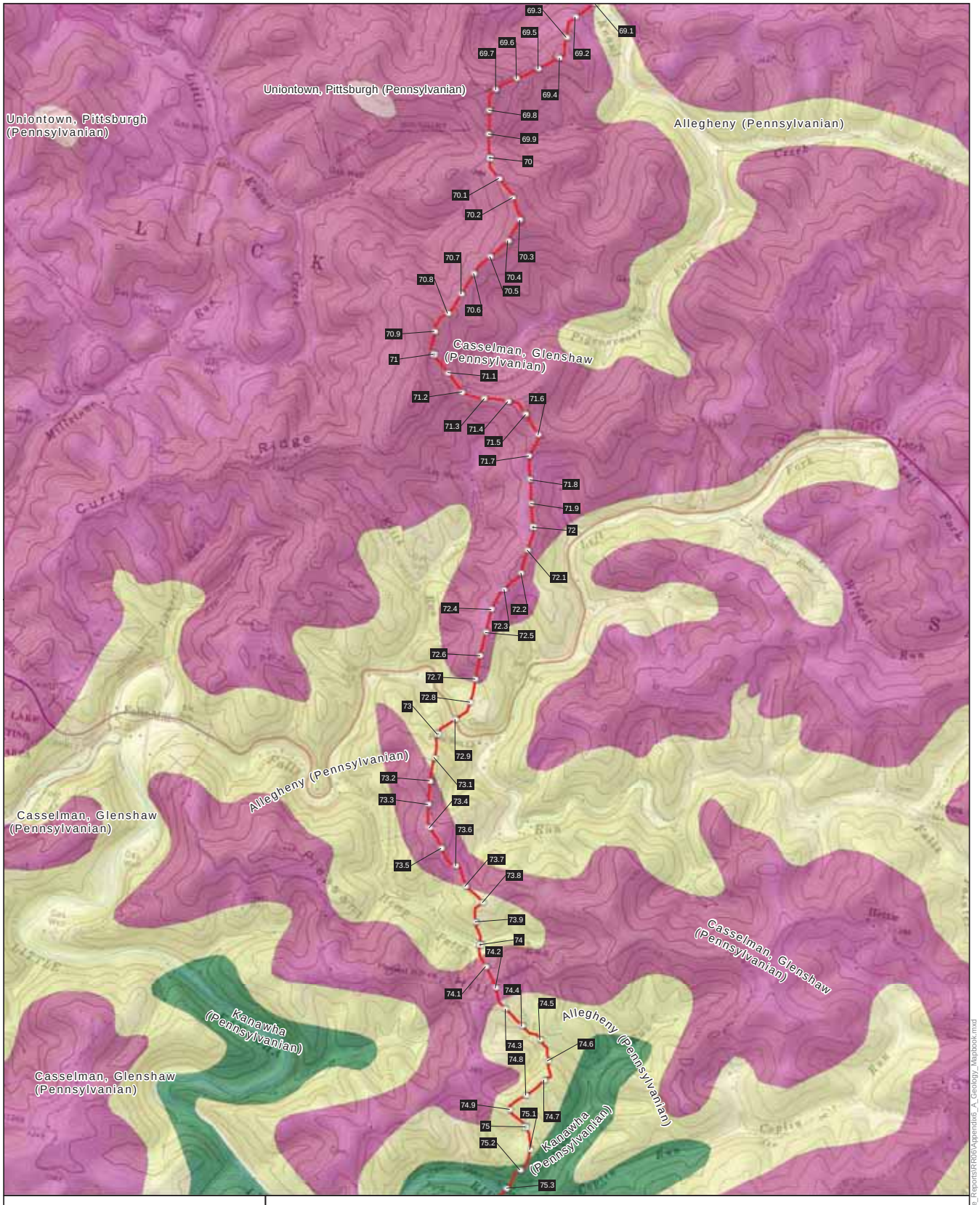
Formation (& Period) (WVGES)

Allegheny
Casselman, Glenshaw
Greene, Washington, Waynesburg
Uniontown, Pittsburgh





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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

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Mountain Valley PIPELINE

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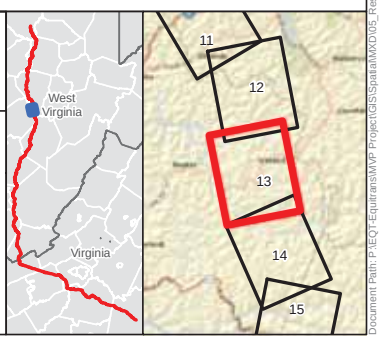
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Legend

- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Allegheny
- Casselman, Glenshaw
- Kanawha
- Uniontown, Pittsburgh



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

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Mountain Valley PIPELINE

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Data Sources: ESRI Streaming Topo Layer, 2014, WV Geological and Economic Survey 1968, VA Department of Mines, Minerals, and Energy 1993.

Legend

- Milepost
- Tenth-Mile

Preliminary Meter Station Location

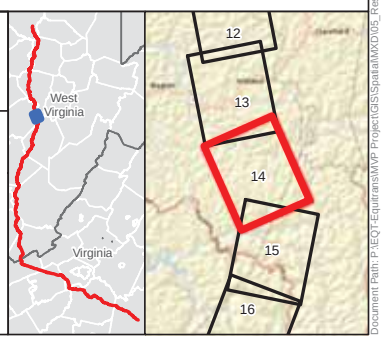
- WB Interconnect receipt
- Proposed Route

Preliminary Compressor Station Location

- Harris Station

Formation (& Period) (WVGES)

- Allegheny
- Casselman, Glenshaw
- Kanawha



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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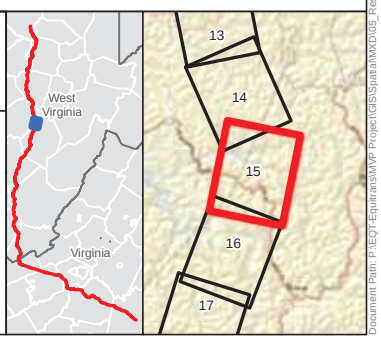
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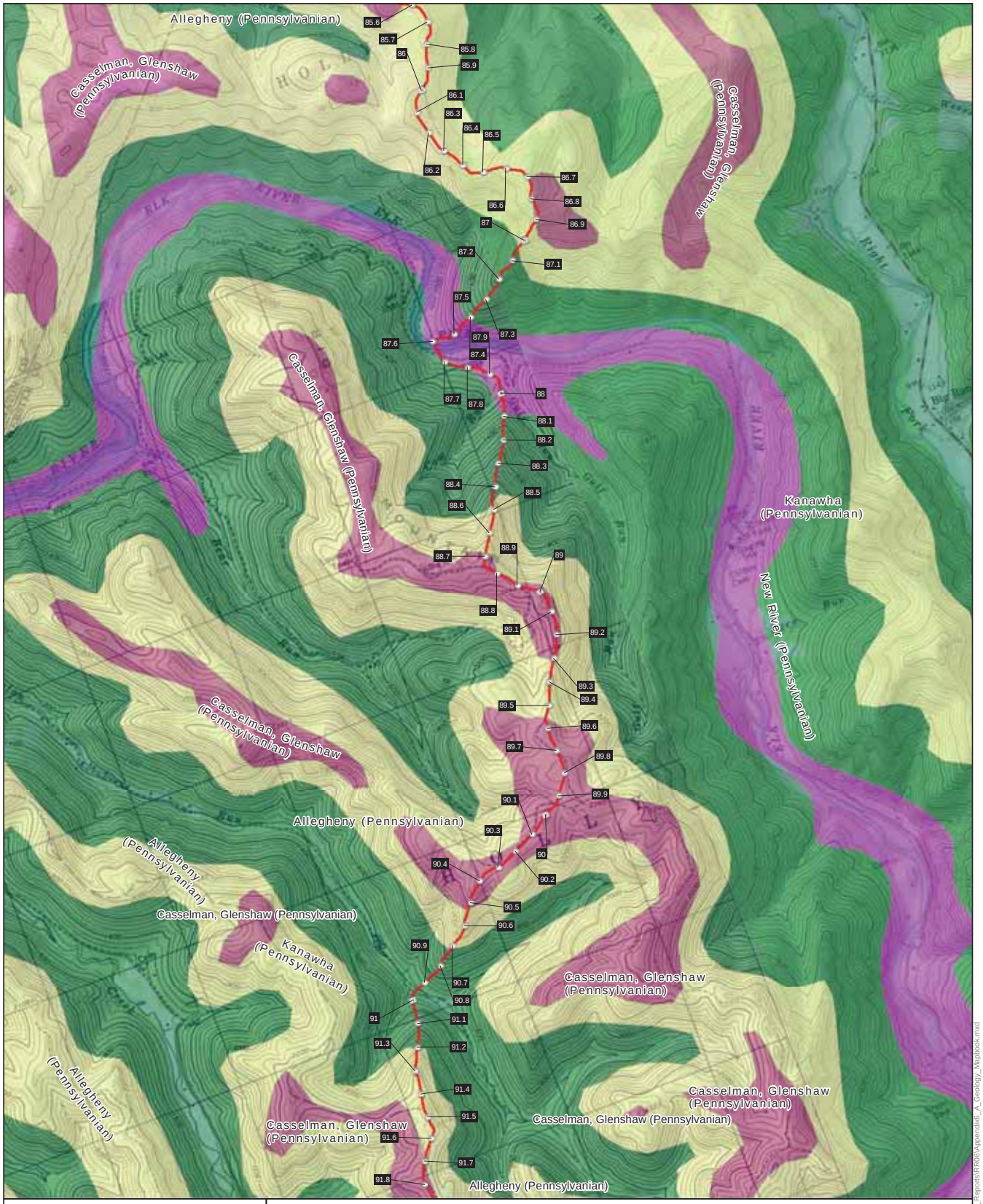
- / Milepost
- (Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Allegheny
- Casselman, Glenshaw
- Kanawha
- New River



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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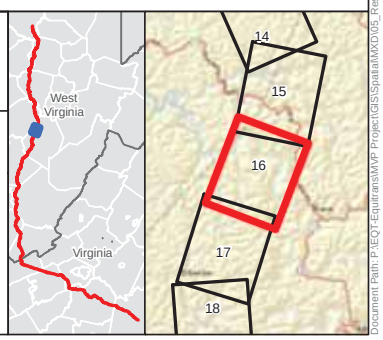
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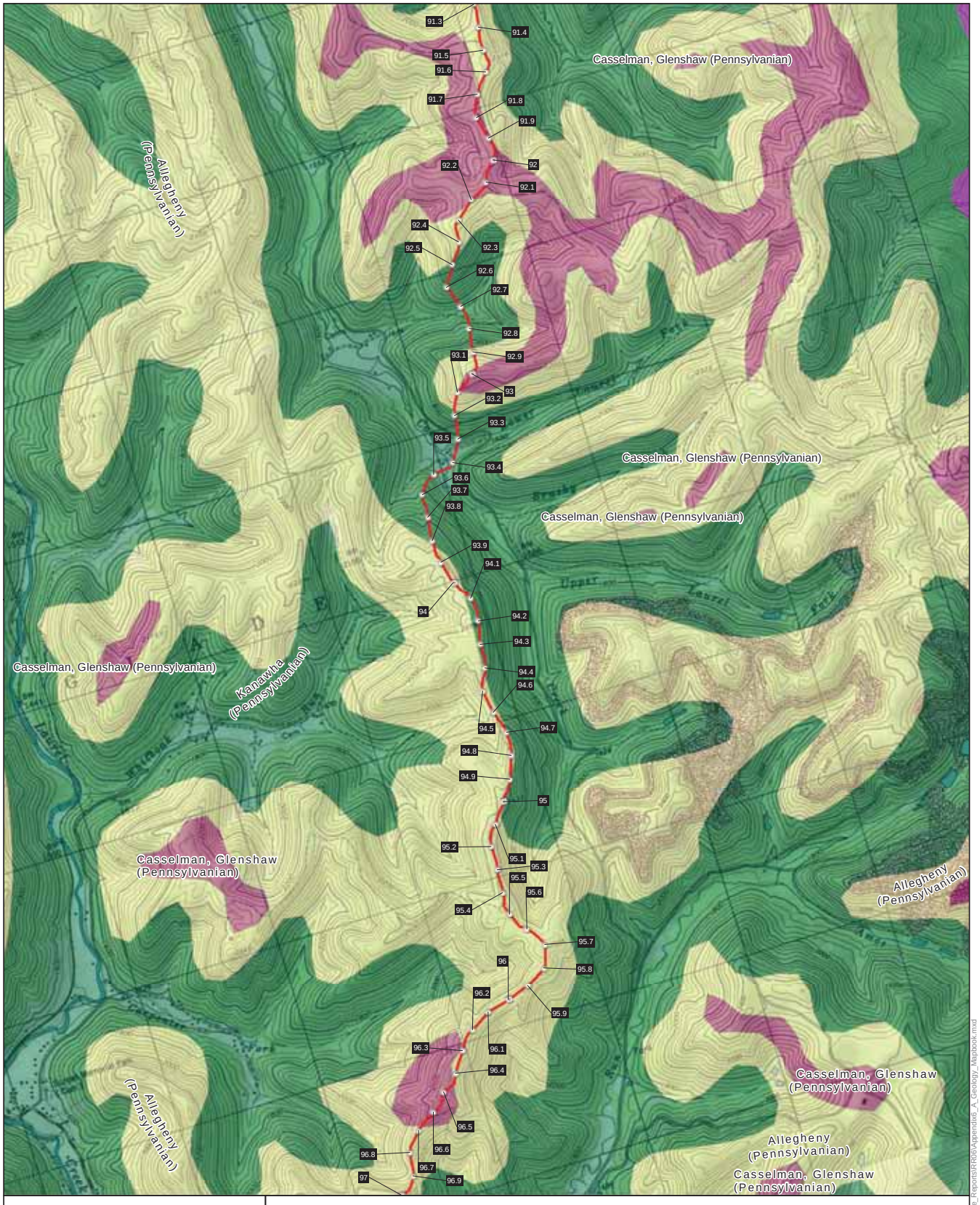
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Allegheny
- Casselman, Glenshaw
- Kanawha
- New River



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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Geology

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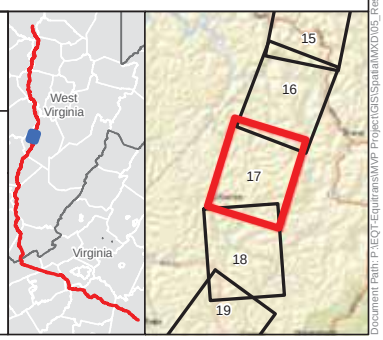
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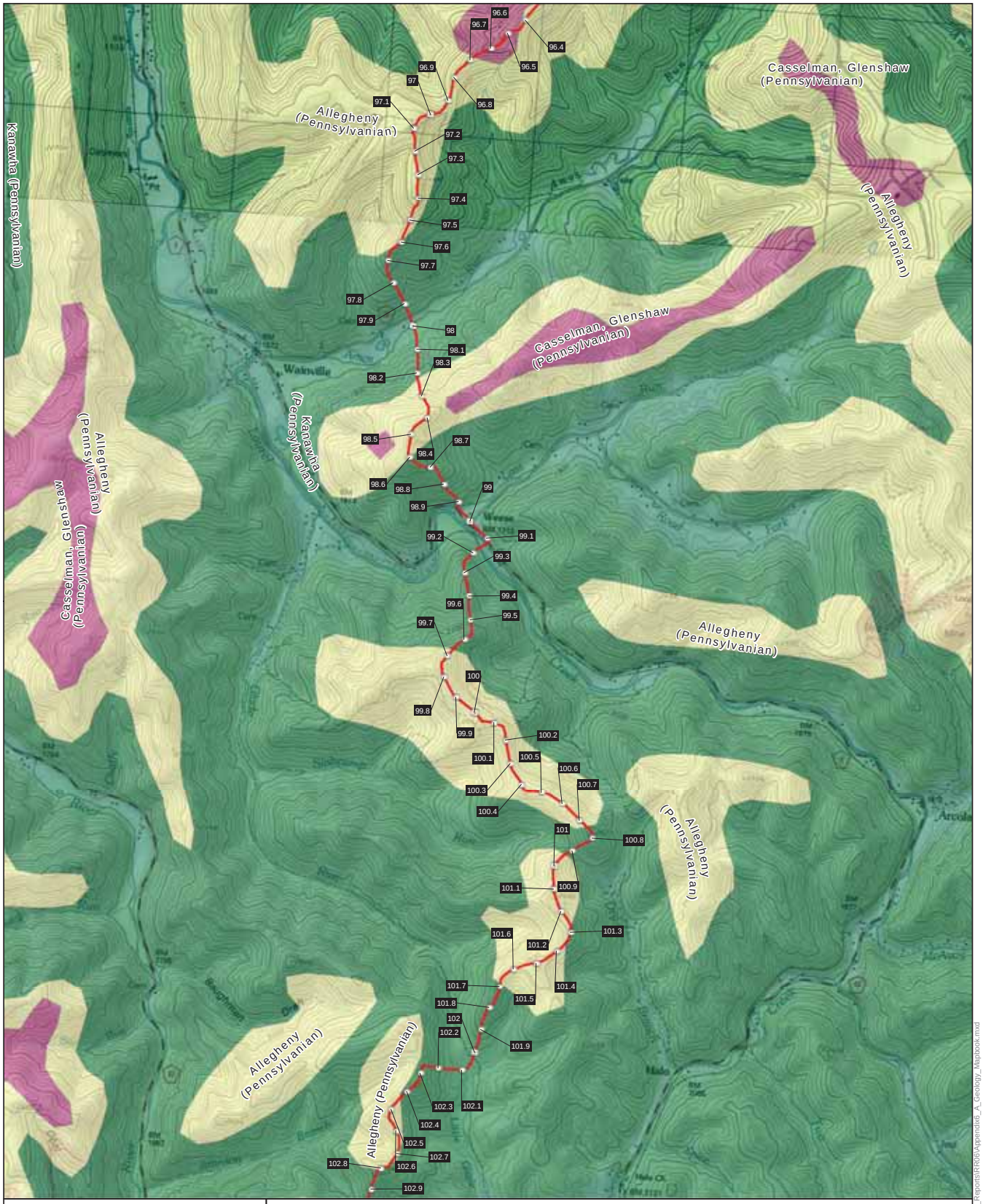
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Allegheny
- Casselman, Glenshaw
- Kanawha
- New River



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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Geology

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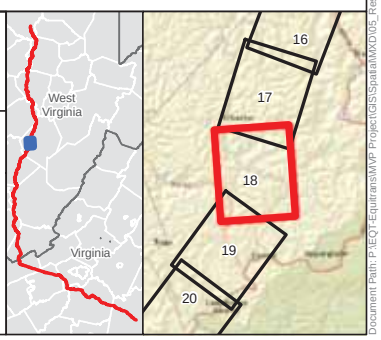
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Legend

- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Allegheny
- Casselman, Glenshaw
- Kanawha



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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Geology

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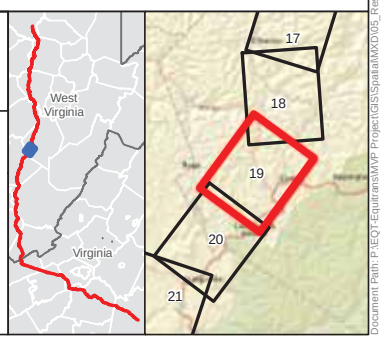
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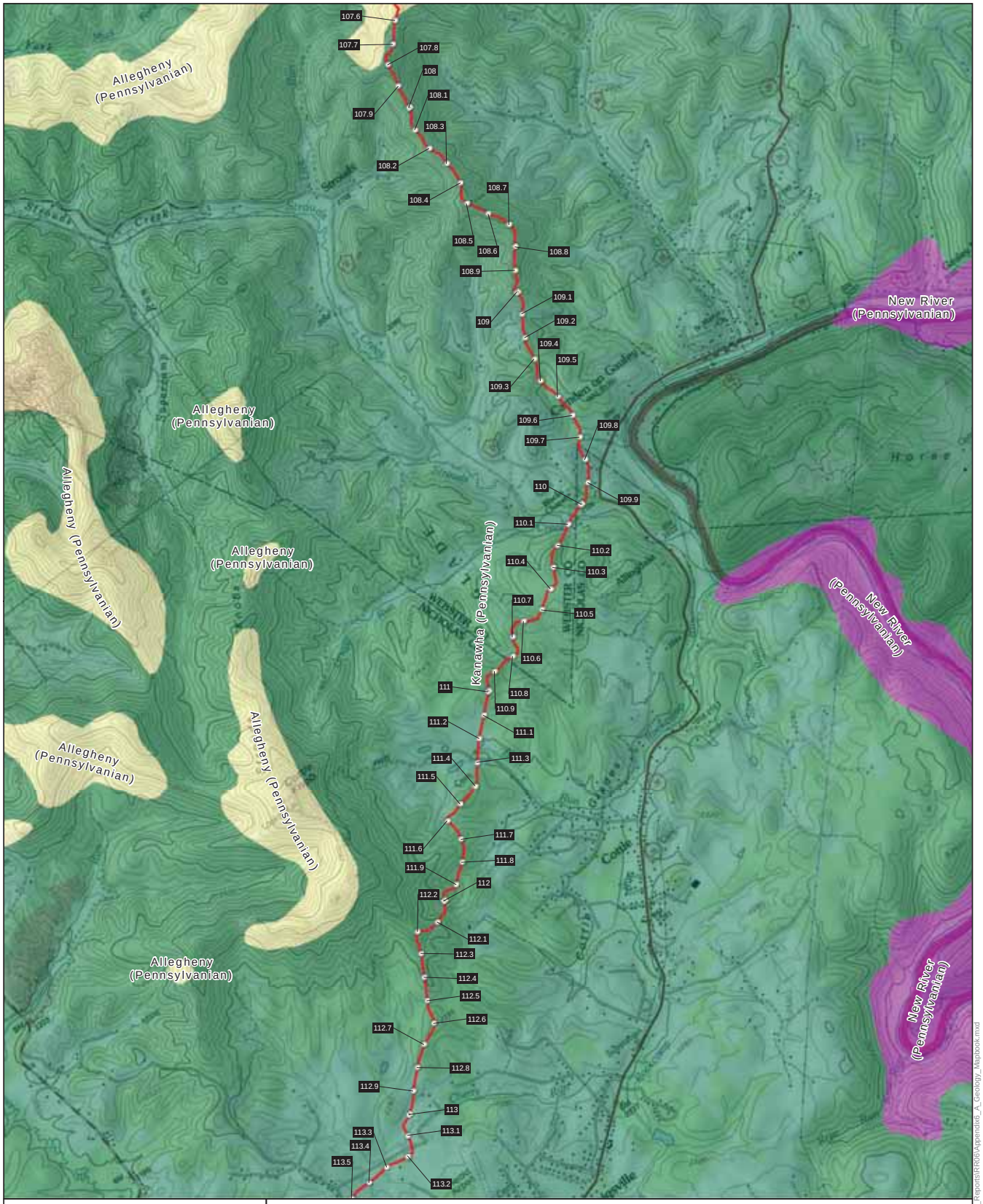
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Allegheny
- Casselman, Glenshaw
- Kanawha



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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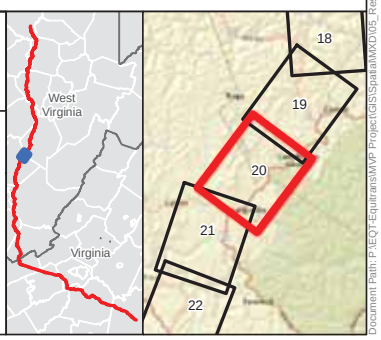
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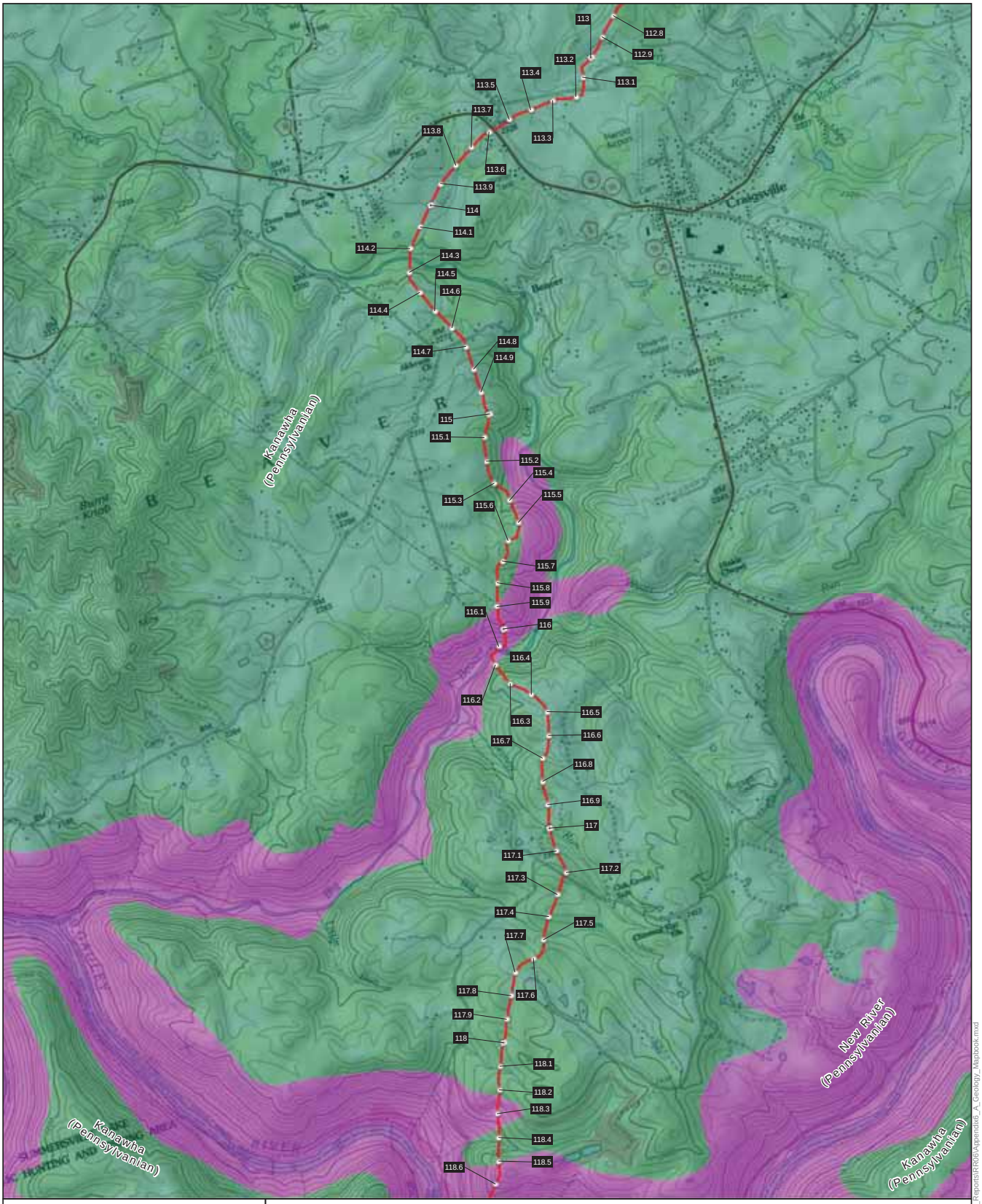
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Allegheny
- Kanawha
- New River



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-A
Geology

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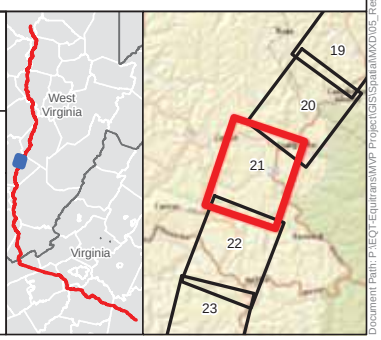
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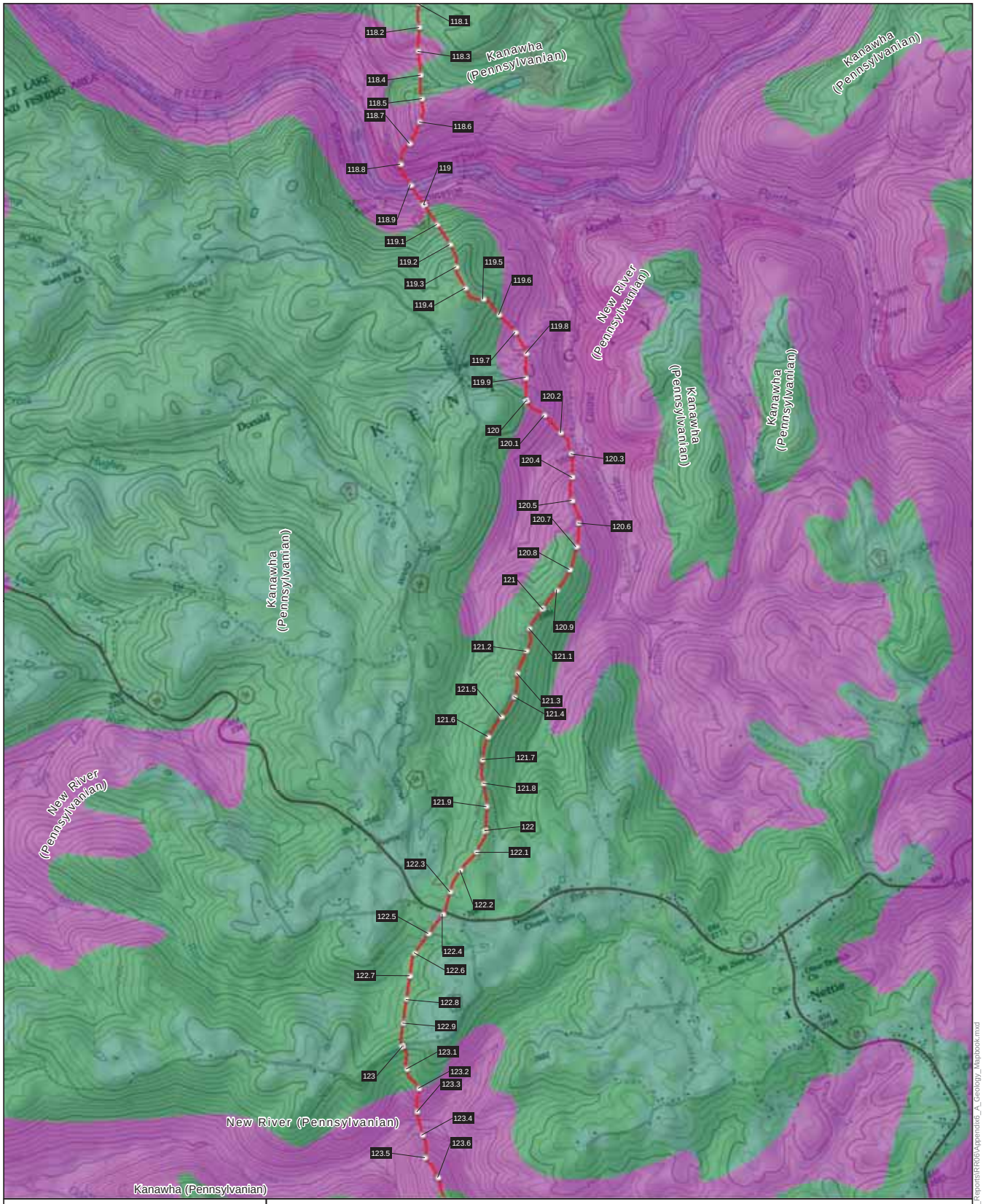
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Kanawha
- New River



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-A
Geology

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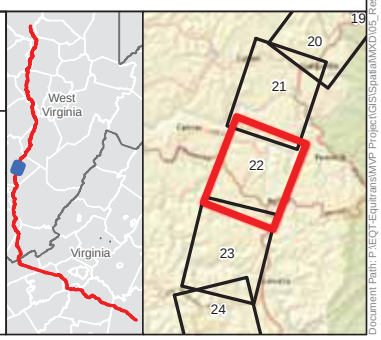
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Legend

- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Kanawha
- New River



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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Geology

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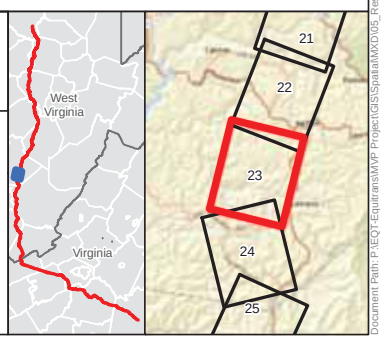
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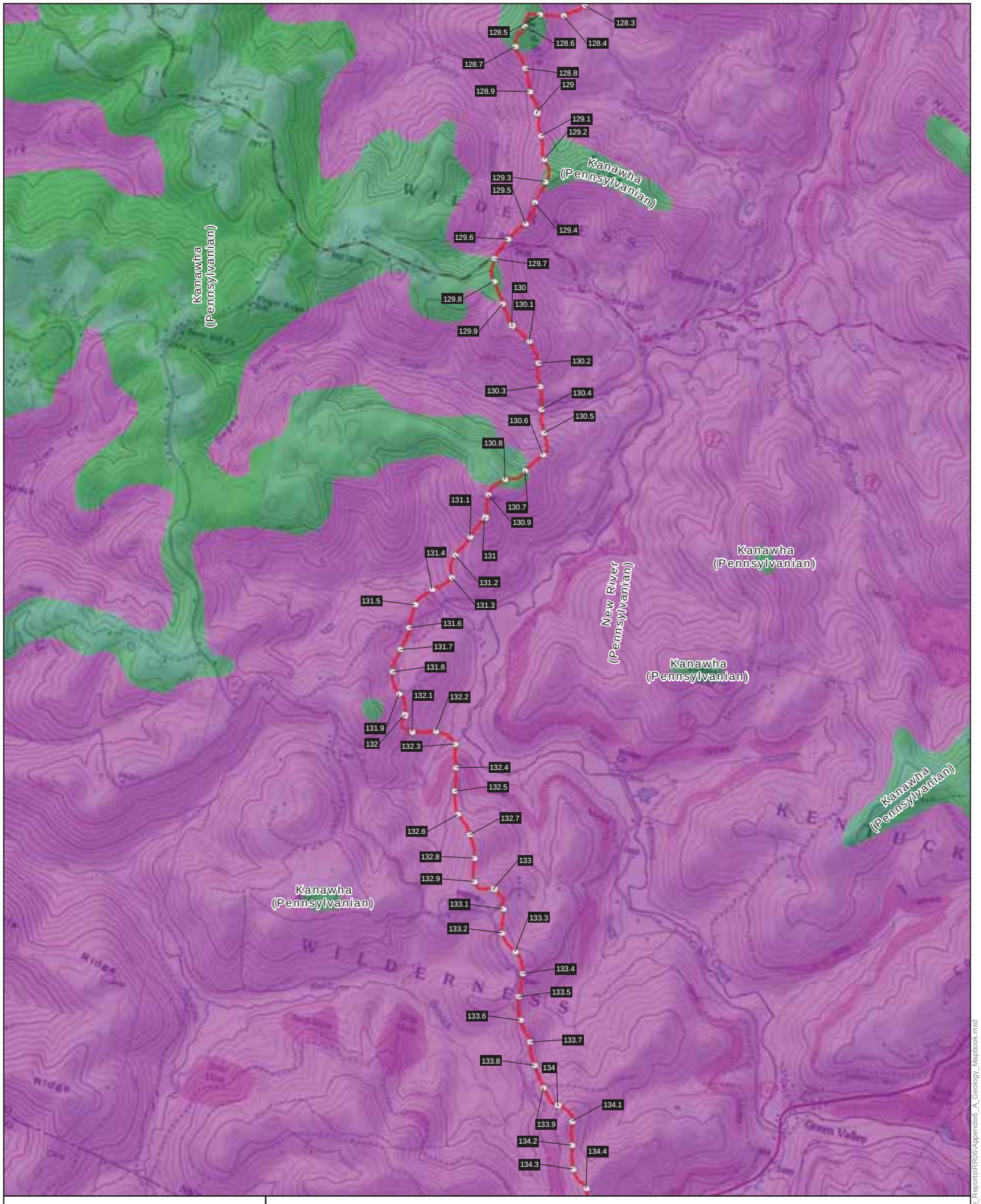
- / Milepost
- (Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Kanawha
- New River



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

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Mountain Valley PIPELINE

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Geology

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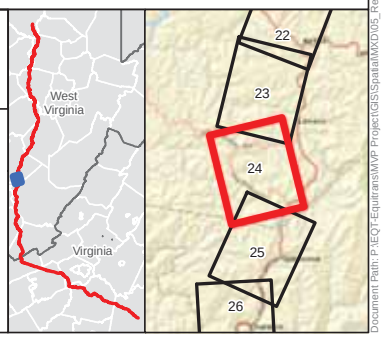
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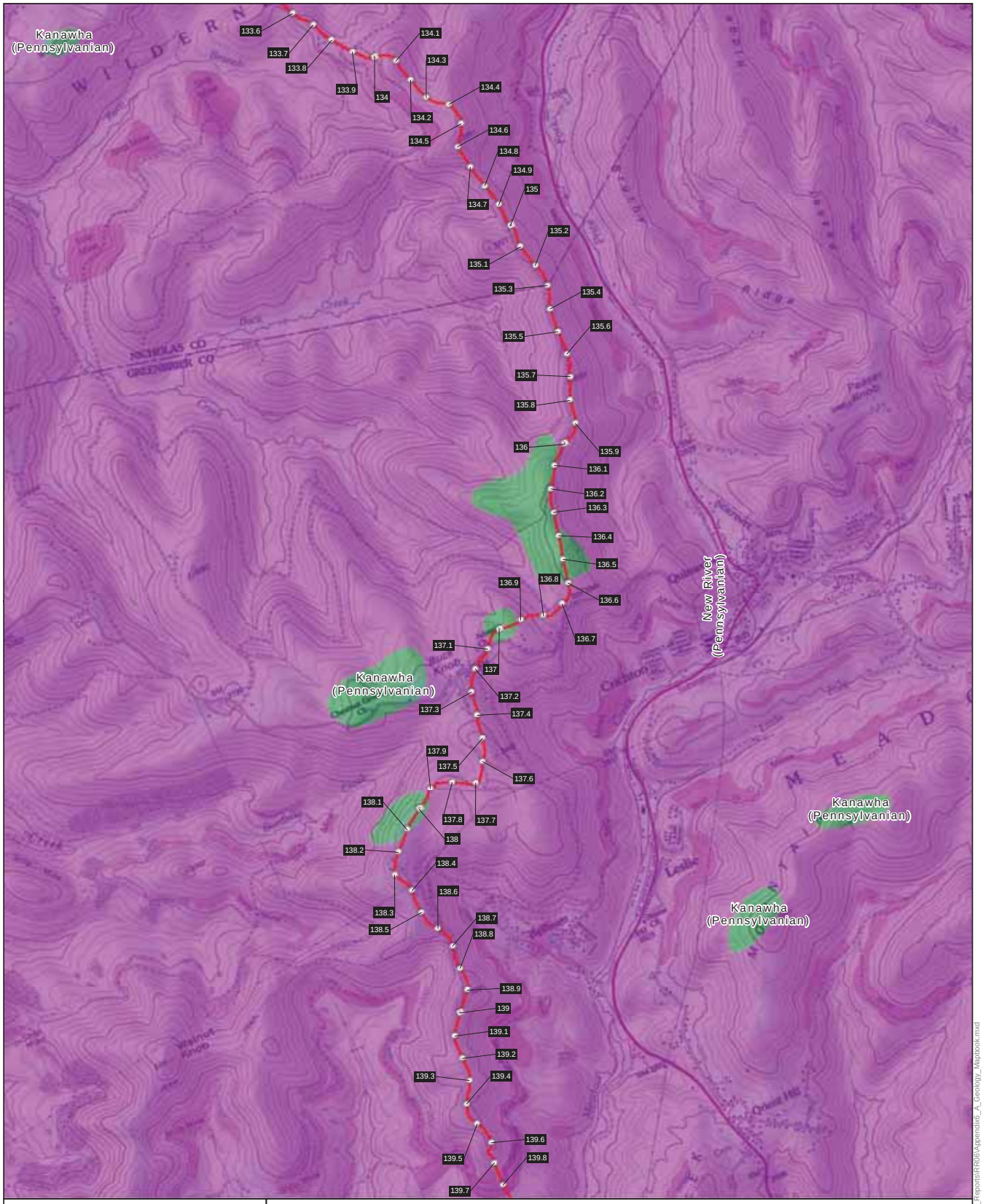
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Kanawha
- New River



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

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Geology

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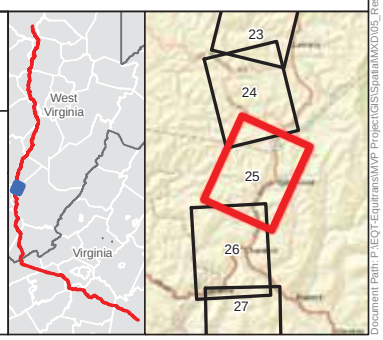
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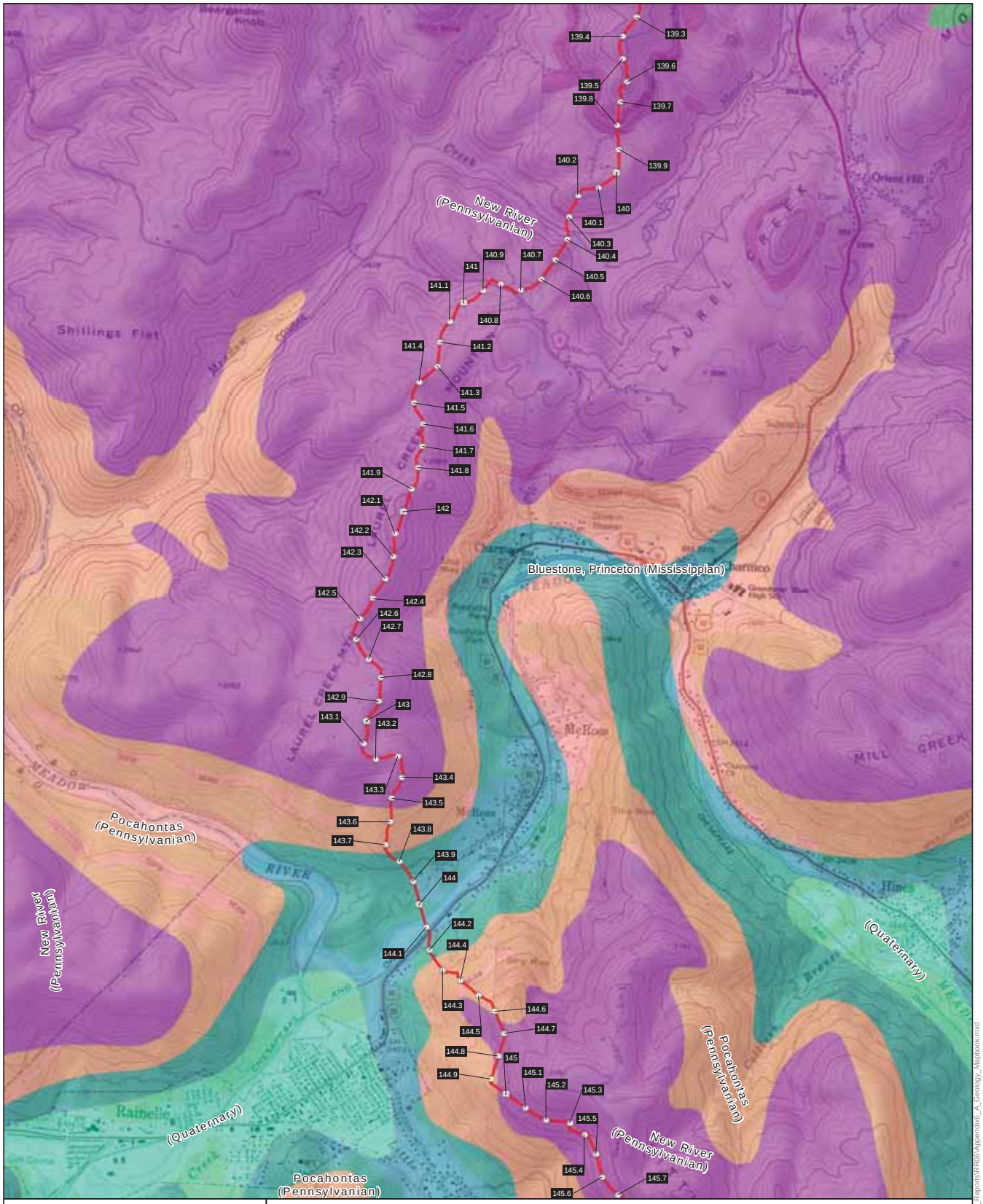
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Kanawha
- New River



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

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Mountain Valley PIPELINE

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Geology

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May 2015

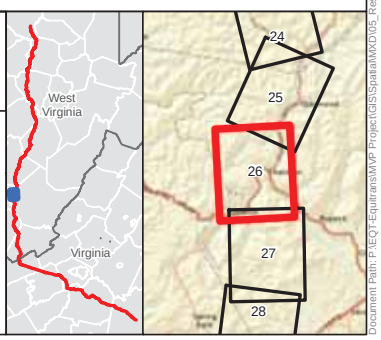
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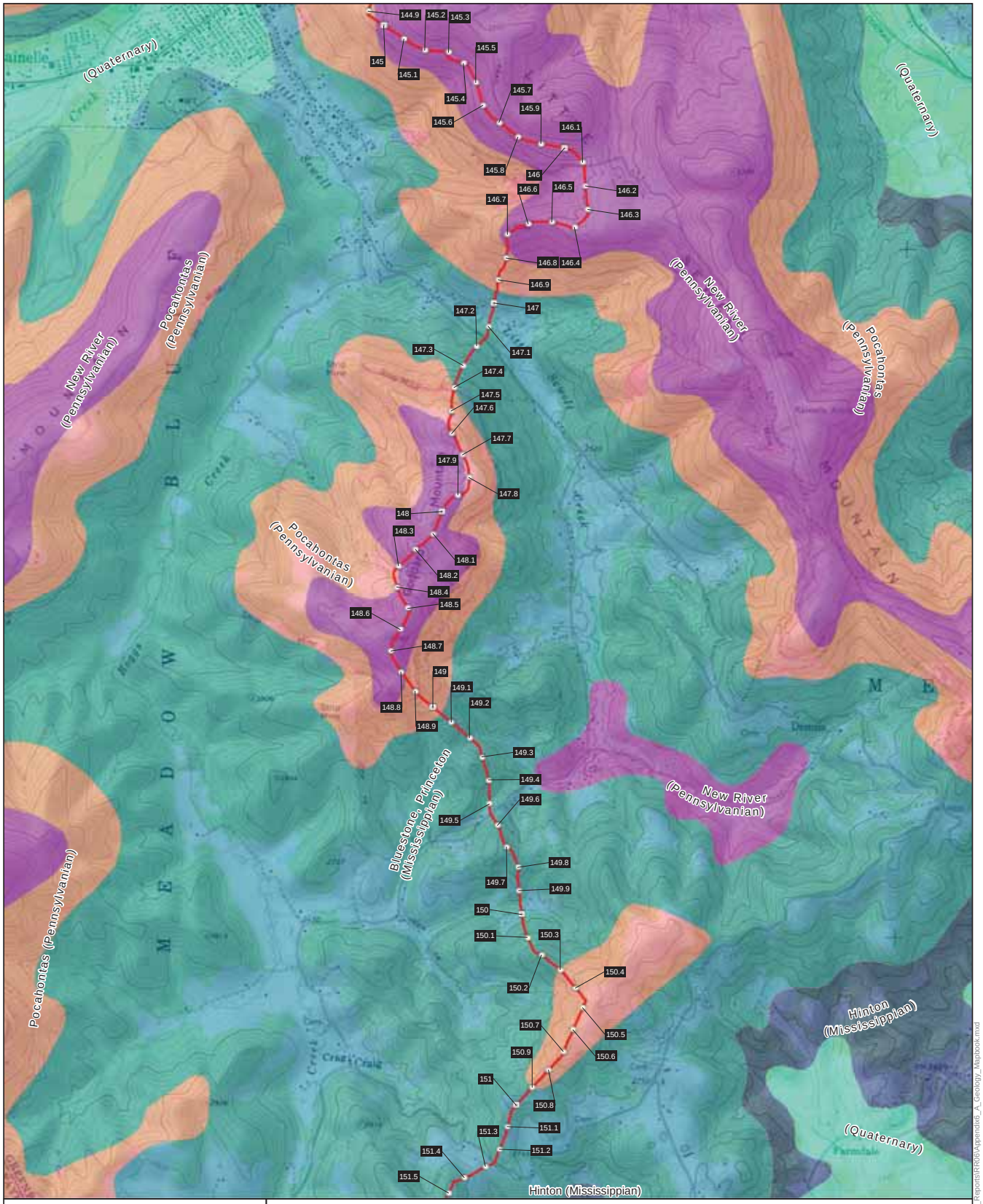
- / Milepost
- (Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Bluestone, Princeton
- Kanawha
- New River
- Pocahontas
- Not Classified



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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May 2015

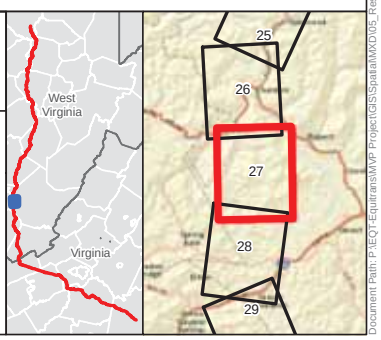
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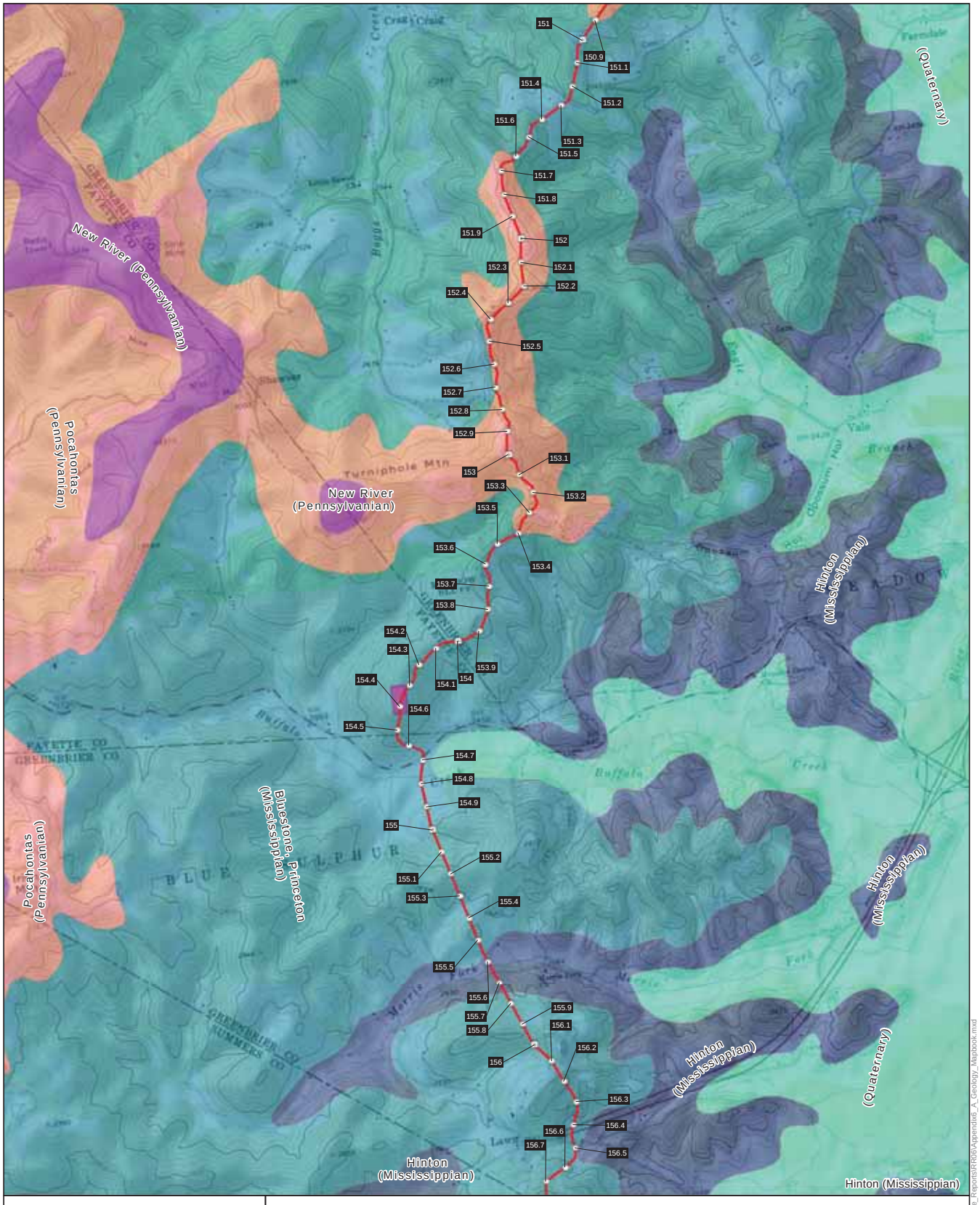
- / Milepost
- (Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Bluestone, Princeton
- Hinton
- New River
- Pocahontas
- Not Classified



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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May 2015

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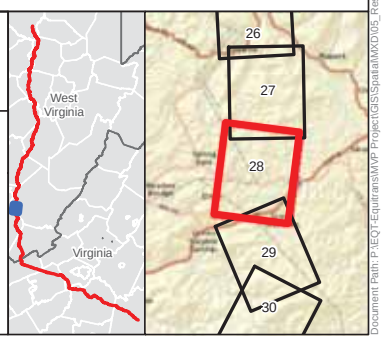
- / Milepost
- (Tenth-Mile
- Proposed Route

Preliminary Compressor Station Location

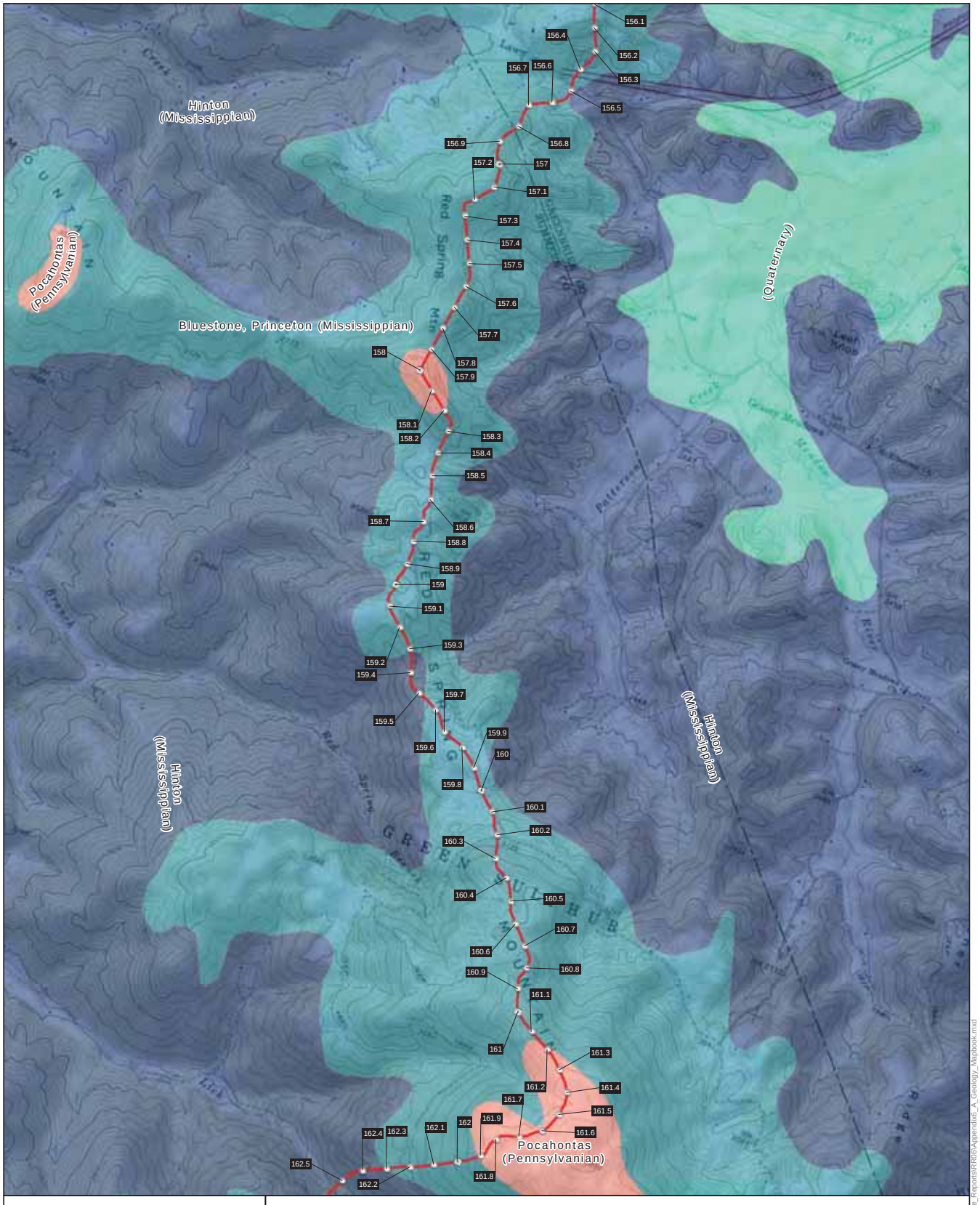
- Stallworth Station

Formation (& Period) (WVGES)

- Bluestone, Princeton
- Hinton
- New River
- Pocahontas
- Not Classified



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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May 2015

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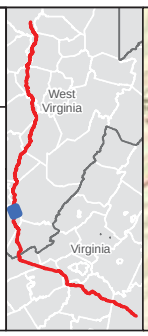
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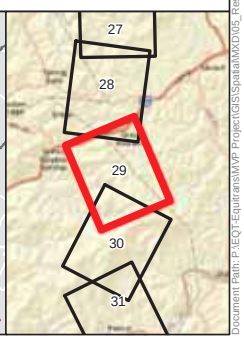
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Proposed Route

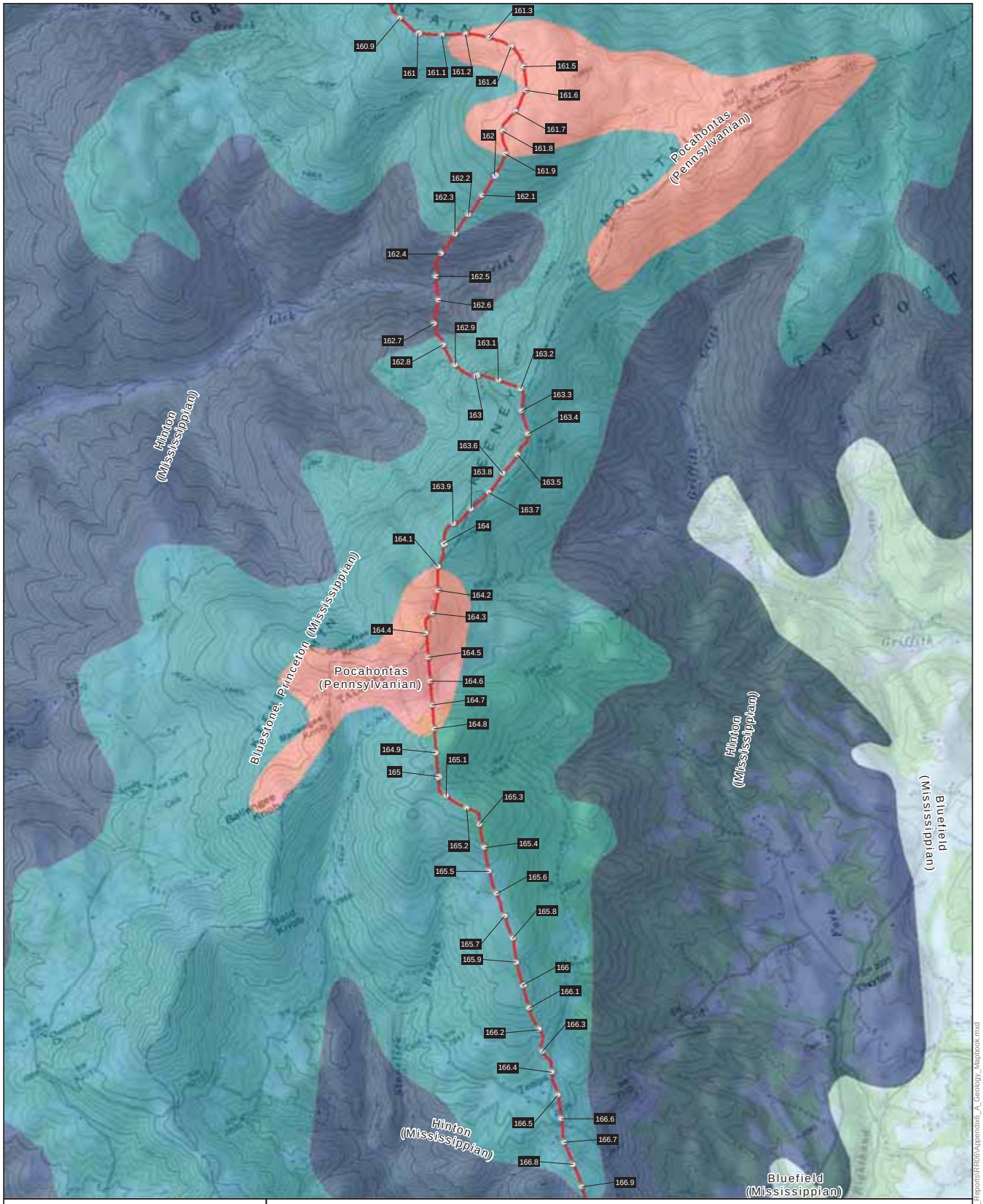
Formation (& Period) (WVGES)

- Bluestone, Princeton
- Hinton
- Pocahontas
- Not Classified





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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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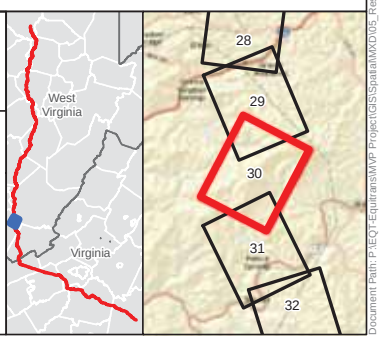
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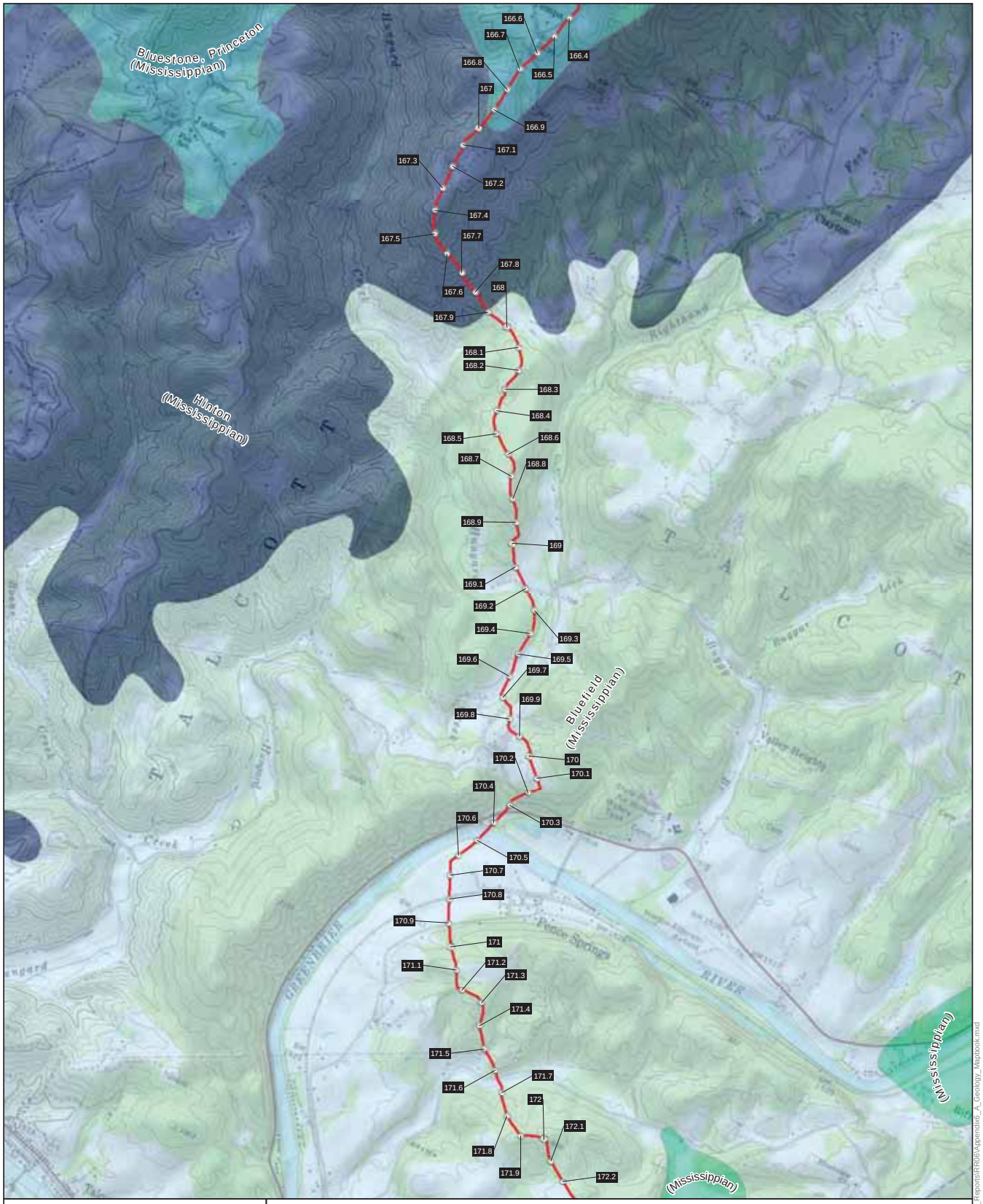
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Bluefield
- Bluestone, Princeton
- Hinton
- Pocahontas



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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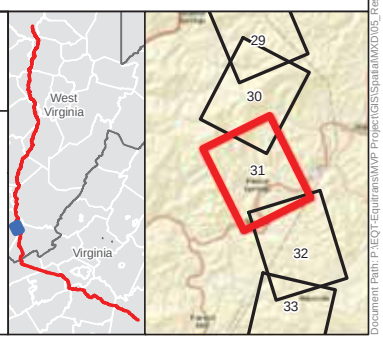
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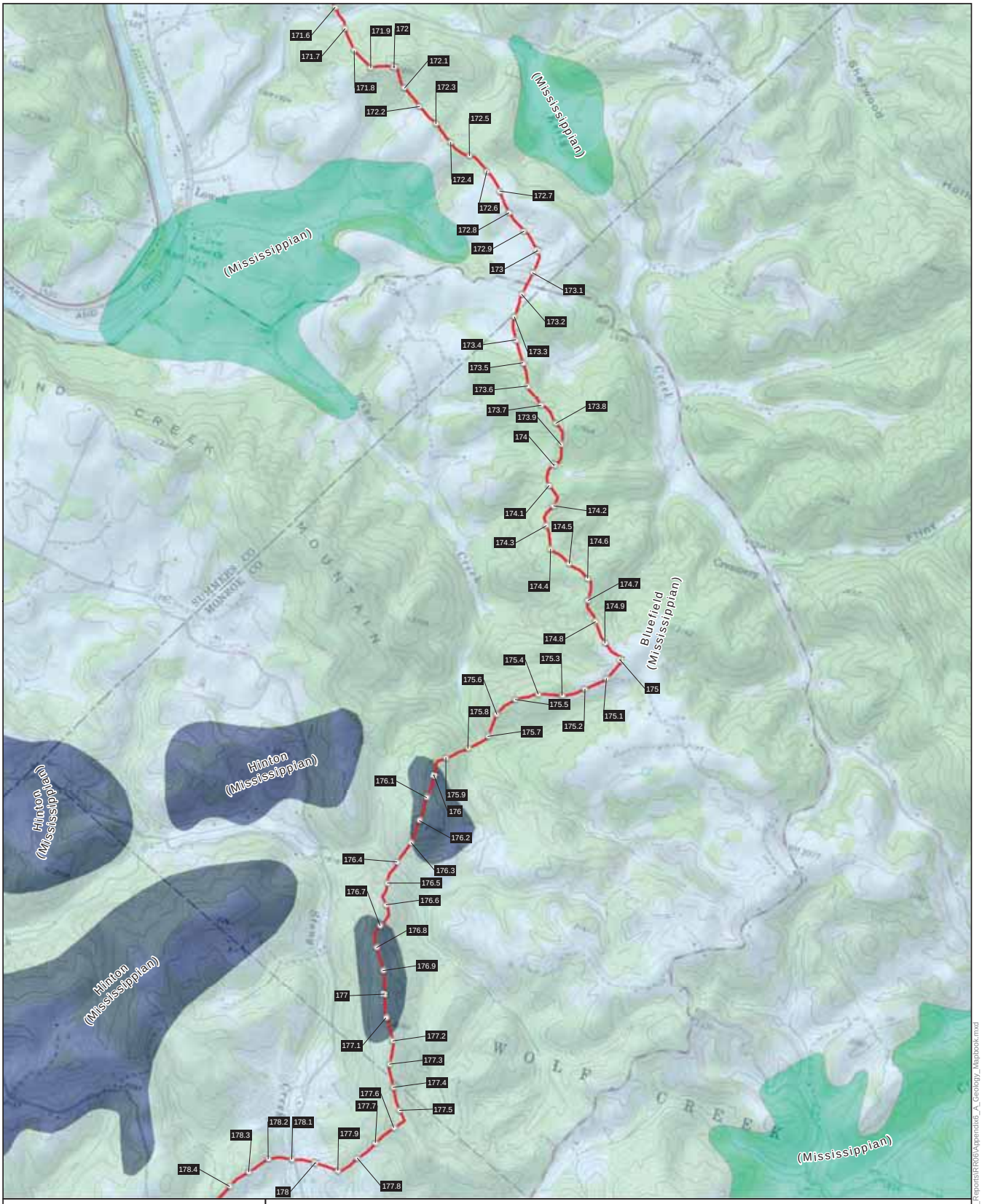
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Bluefield
- Bluestone, Princeton
- Hinton
- Not Classified



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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May 2015

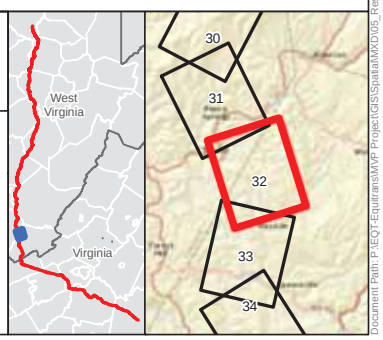
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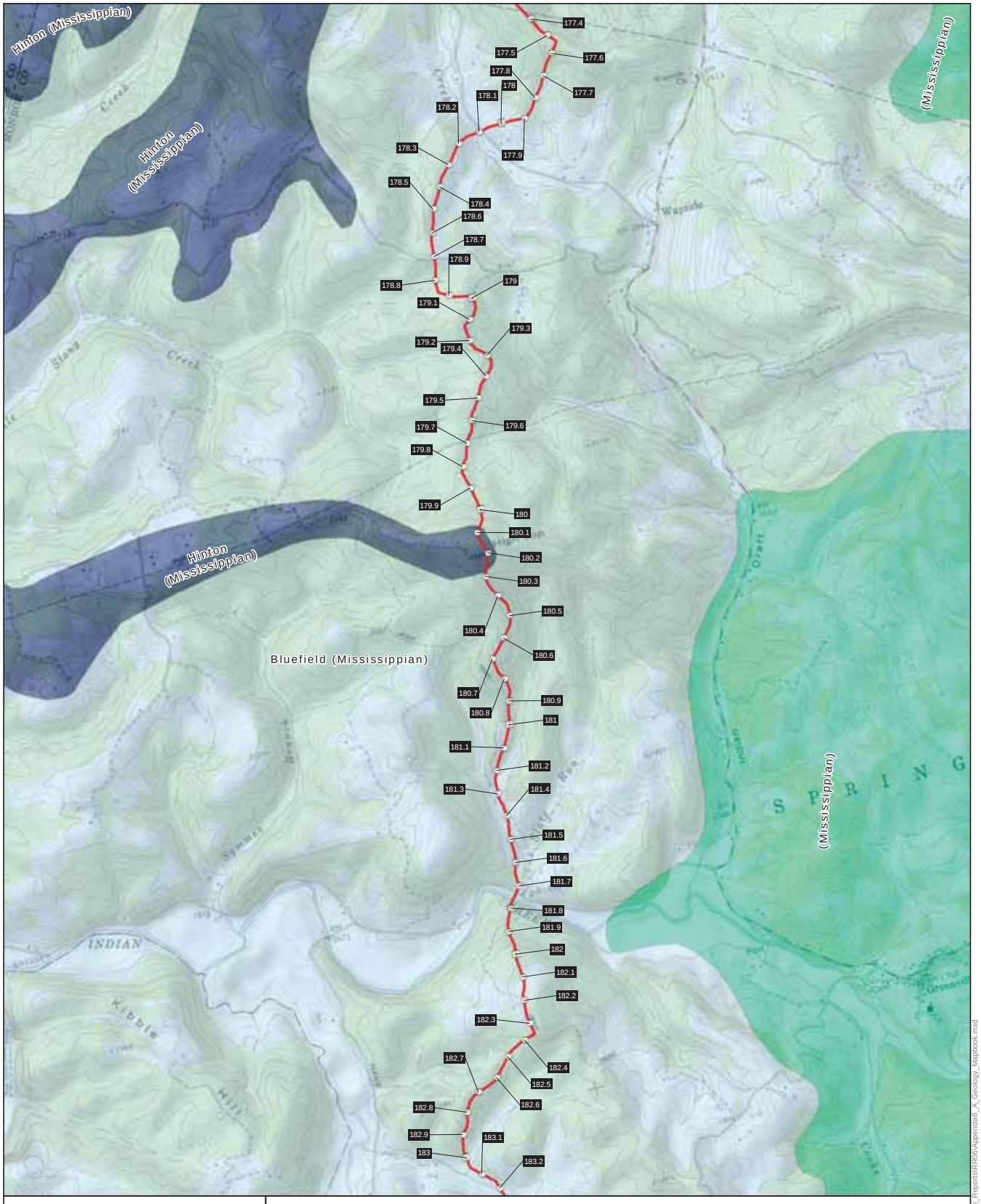
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Bluefield
- Hinton
- Not Classified



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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Geology

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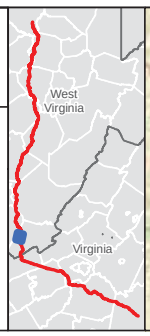
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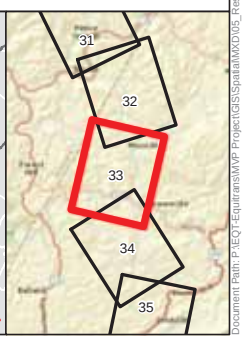
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- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Bluefield
- Hinton
- Not Classified





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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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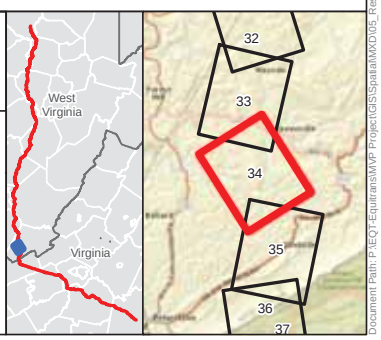
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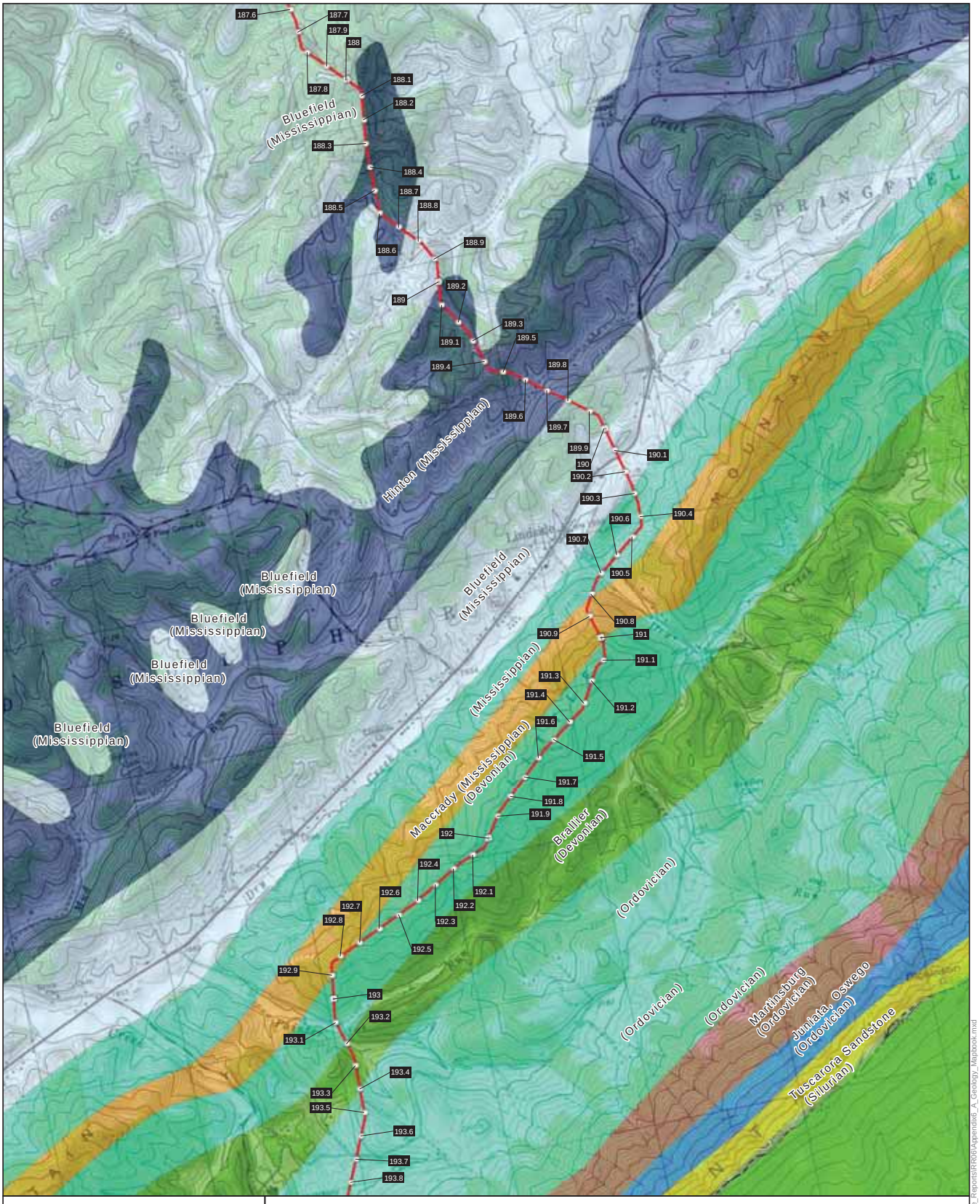
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

- Bluefield
- Hinton
- Not Classified



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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Geology

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May 2015

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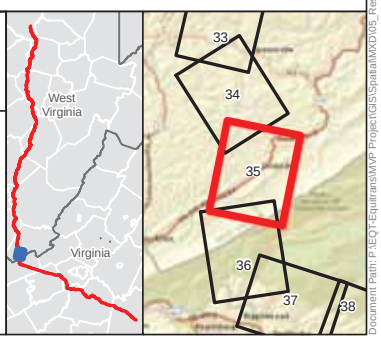
- / Milepost
- (Tenth-Mile
- Proposed Route

Formation (& Period) (WVGES)

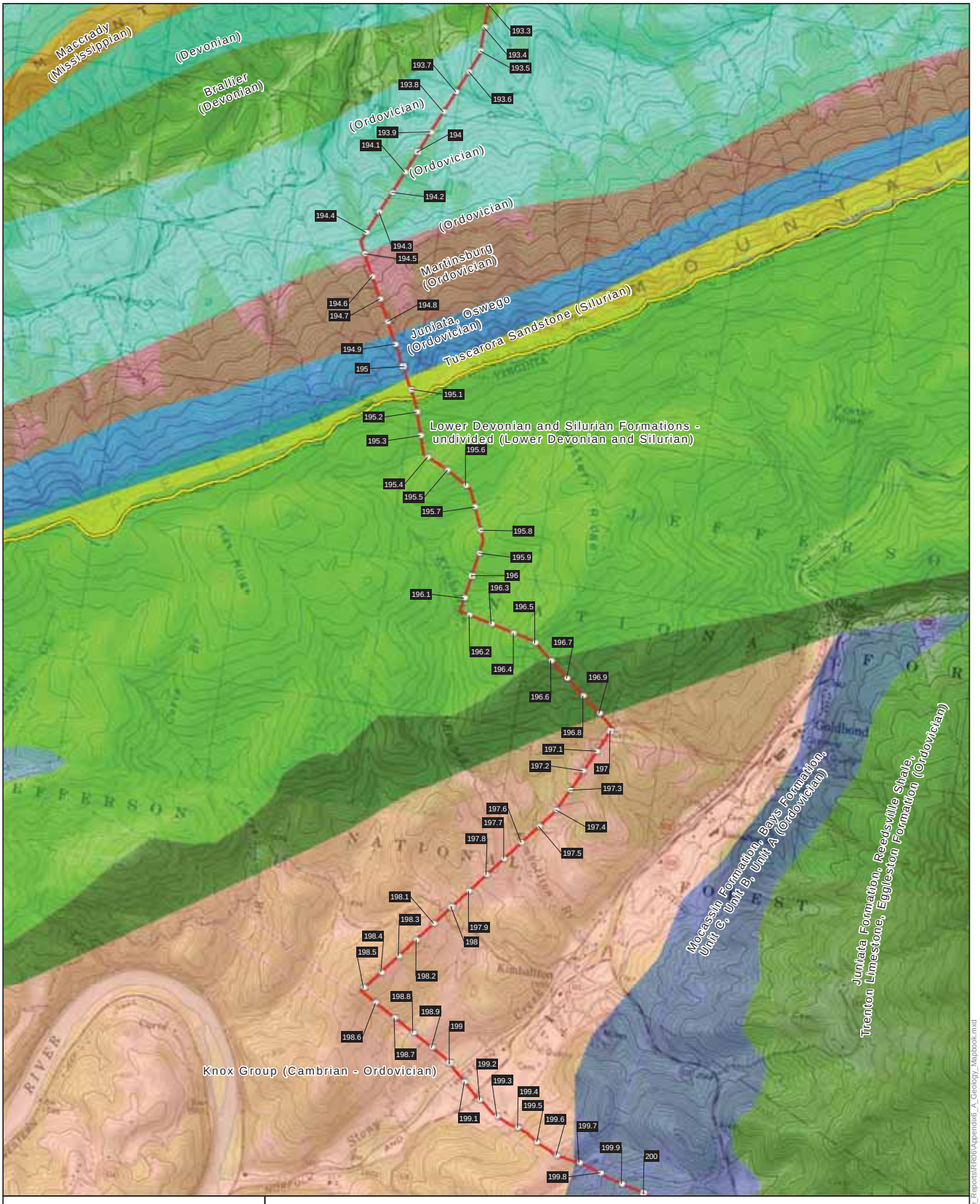
- Bluefield
- Brallier
- Hinton
- Juniata, Oswego
- Maccrady
- Martinsburg
- Tuscarora Sandstone
- Not Classified

Formation (& Period) (VA DMME)

- Lower Devonian and Silurian Formations



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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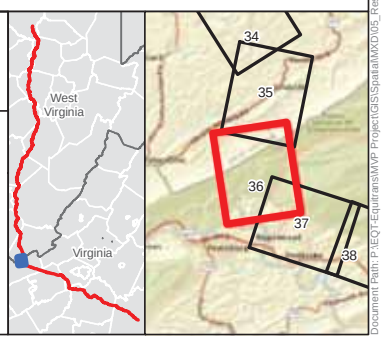
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- (Tenth-Mile
- Proposed Route
- Appalachian Trail

Formation (& Period) (WVGES)

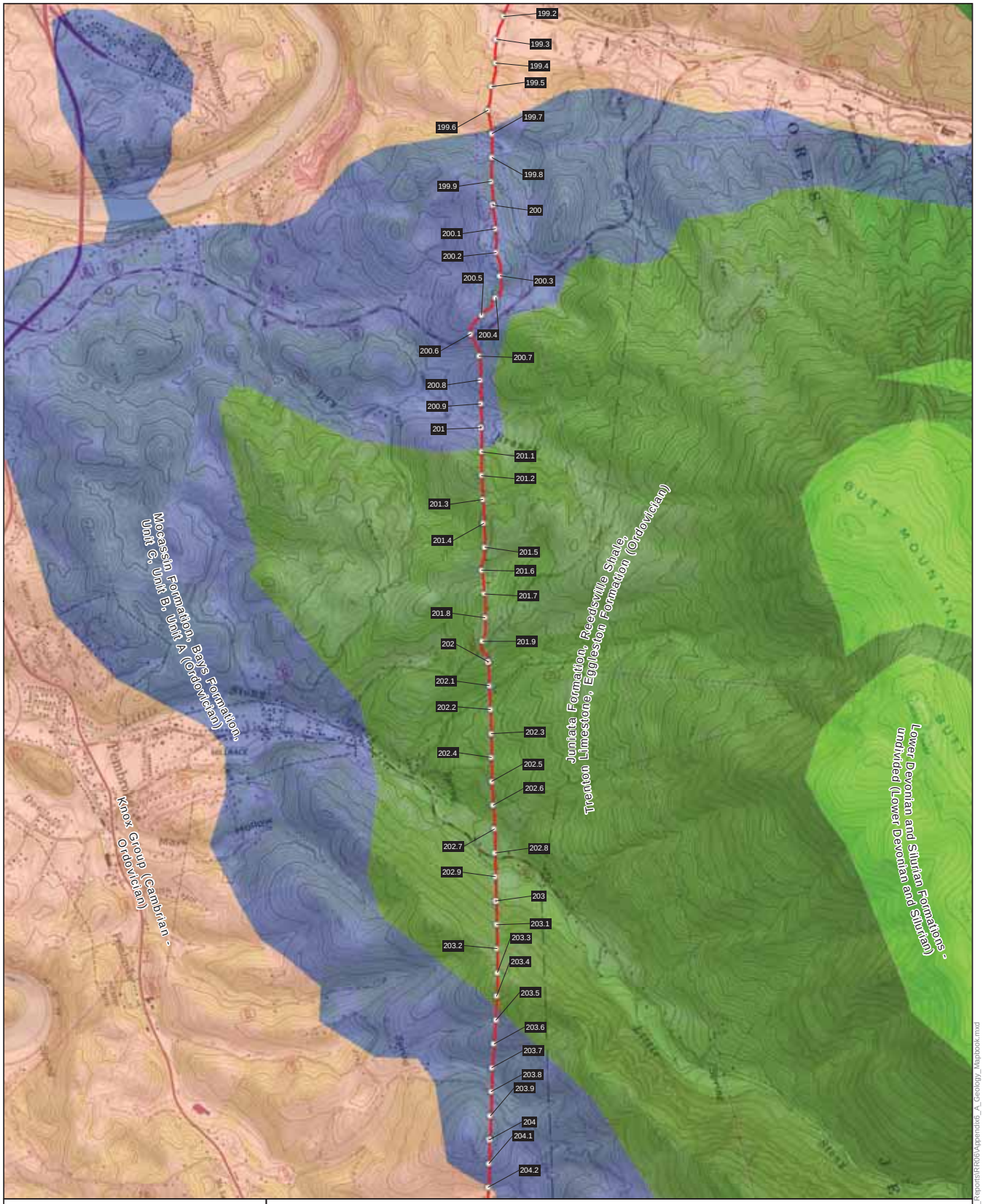
- Brallier
- Juniata, Oswego
- Maccrady
- Martinsburg
- Tuscarora Sandstone
- Not Classified

Formation (& Period) (VA DMME)

- Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation
- Knox Group
- Lower Devonian and Silurian Formations
- Millboro Shale and Needmore Formation
- Mocassin Formation, Bays Formation



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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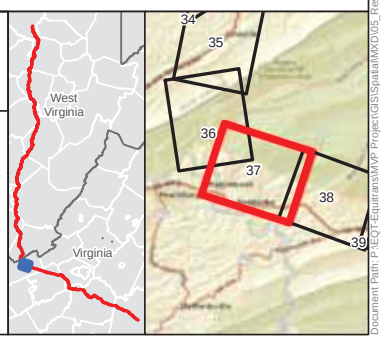
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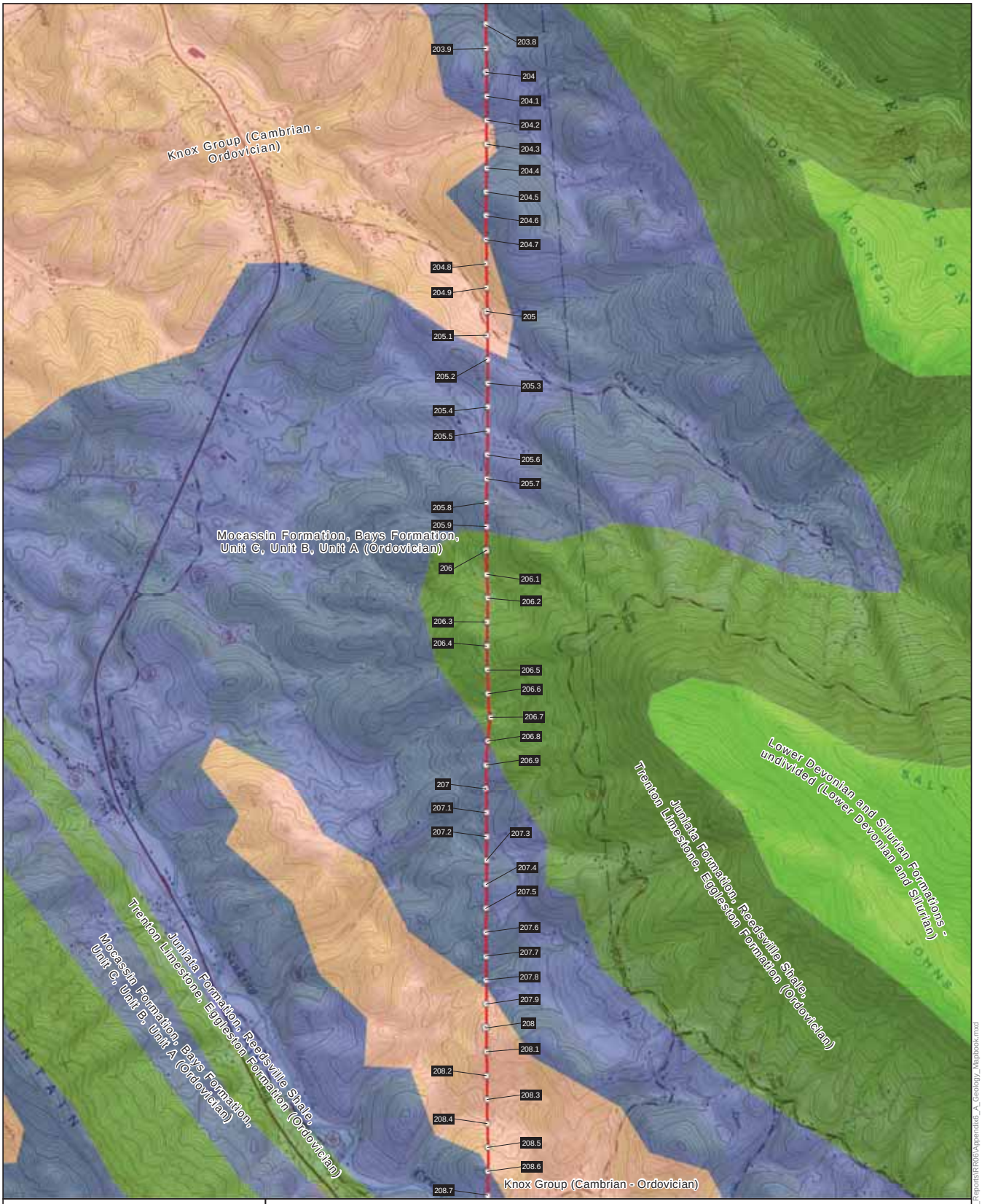
/ Milepost
(Tenth-Mile
Proposed Route

Formation (& Period) (VA DMME)

Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation
Knox Group
Lower Devonian and Silurian Formations
Mocassin Formation, Bays Formation



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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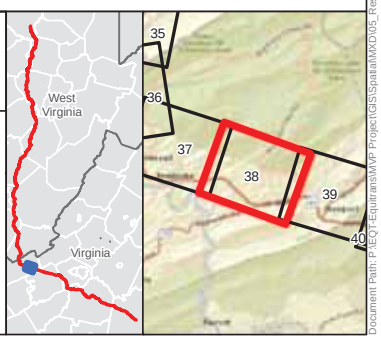
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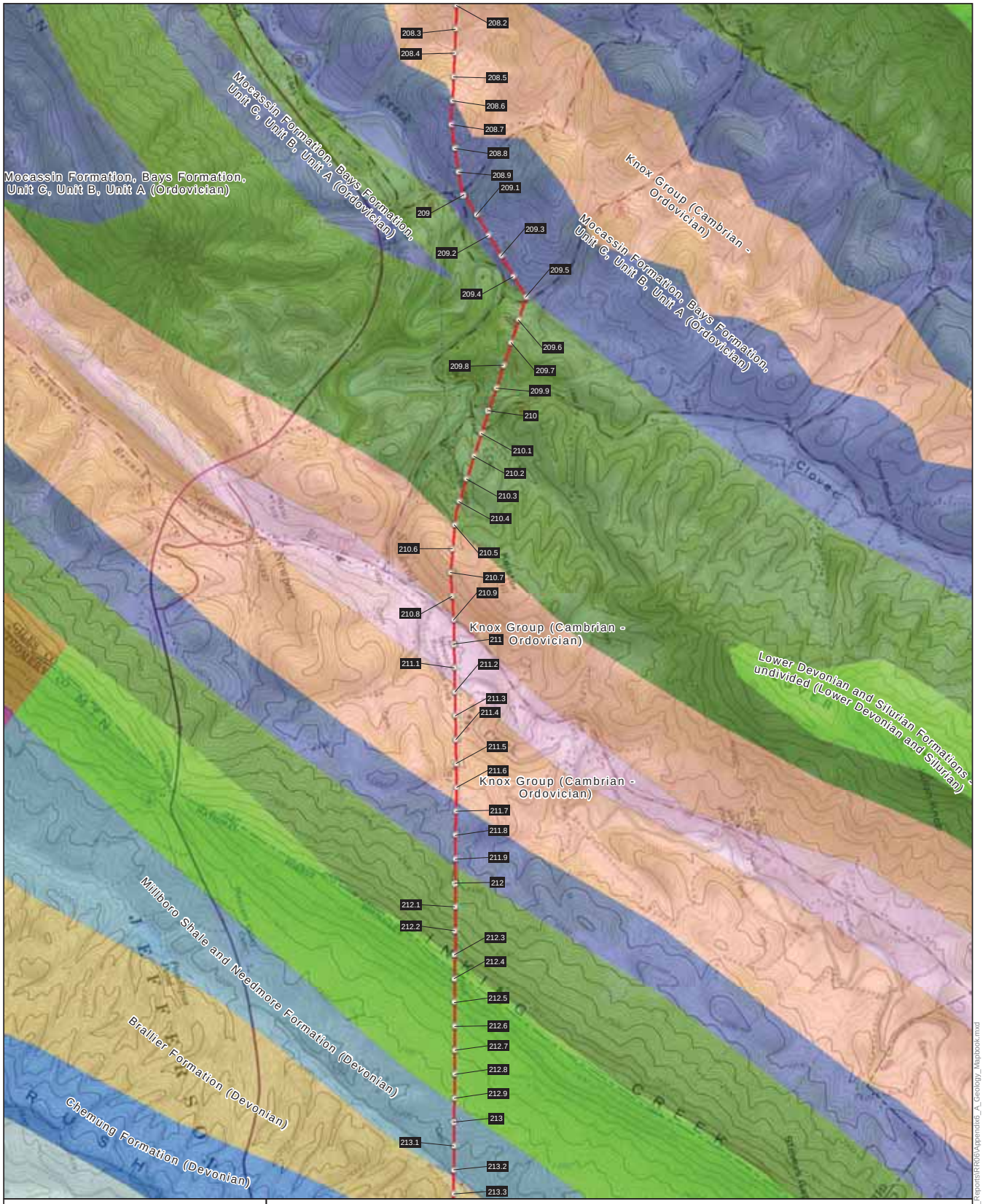
/ Milepost
(Tenth-Mile
Proposed Route

Formation (& Period) (VA DMME)

Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation
Knox Group
Lower Devonian and Silurian Formations
Mocassin Formation, Bays Formation



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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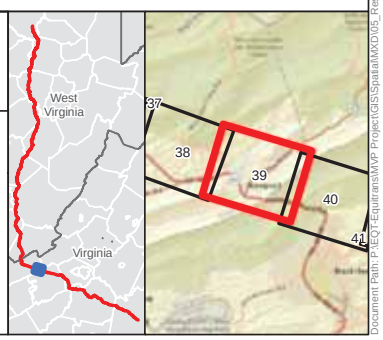
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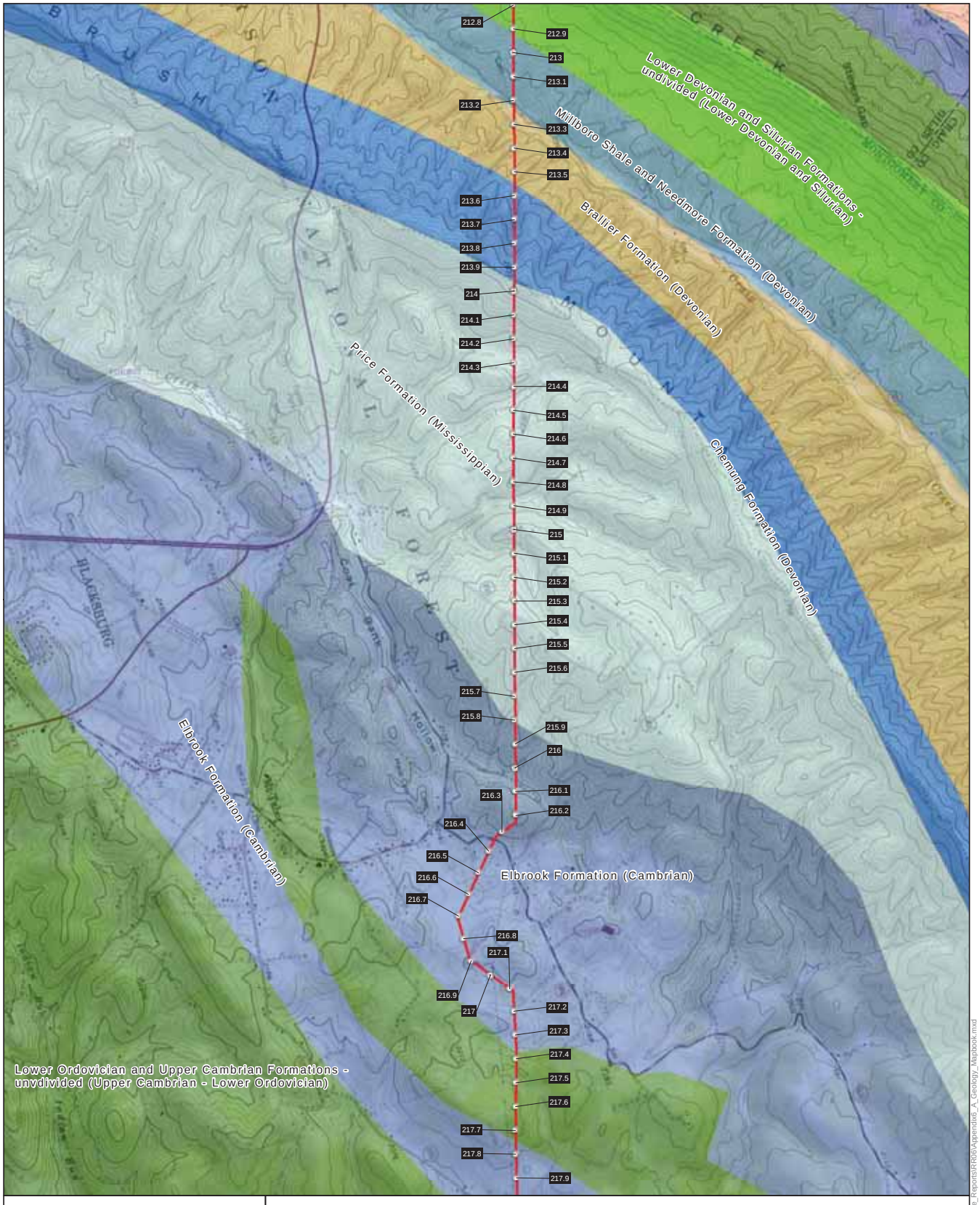
- / Milepost
- (Tenth-Mile
- Proposed Route

Formation (& Period) (VA DMME)

- Brallier Formation
- Chemung Formation
- Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation
- Knox Group
- Lower Devonian and Silurian Formations
- Millboro Shale and Needmore Formation
- Millboro Shale, Huntersville Chert, and Rocky Gap Sandstone
- Mocassin Formation, Bays Formation
- Nolichucky and Honaker Formation
- Price Formation
- Silurian Formations - undivided



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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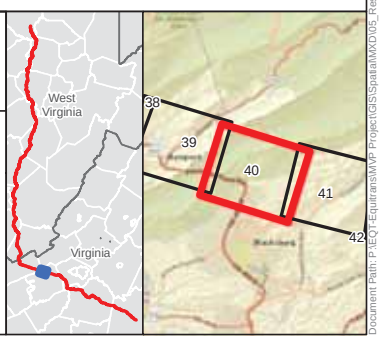
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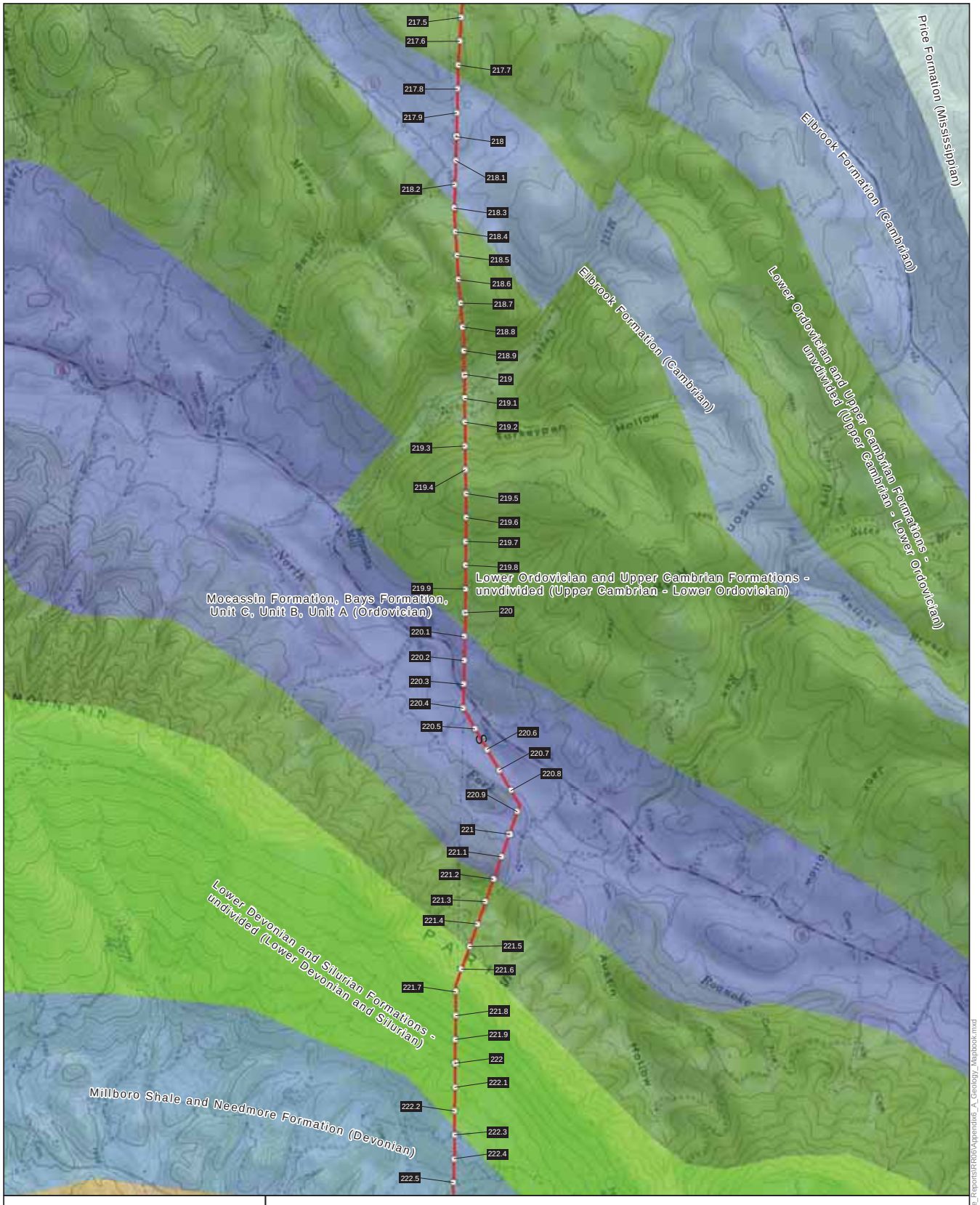
/ Milepost
(Tenth-Mile
Proposed Route

Formation (& Period) (VA DMME)

Brallier Formation
Chemung Formation
Elbrook Formation
Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation
Knox Group
Lower Devonian and Silurian Formations
Lower Ordovician & Upper Cambrian Formations
Millboro Shale and Needmore Formation
Mocassin Formation, Bays Formation
Price Formation



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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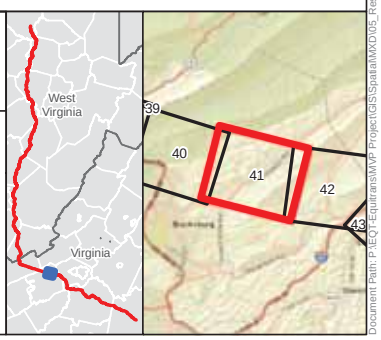
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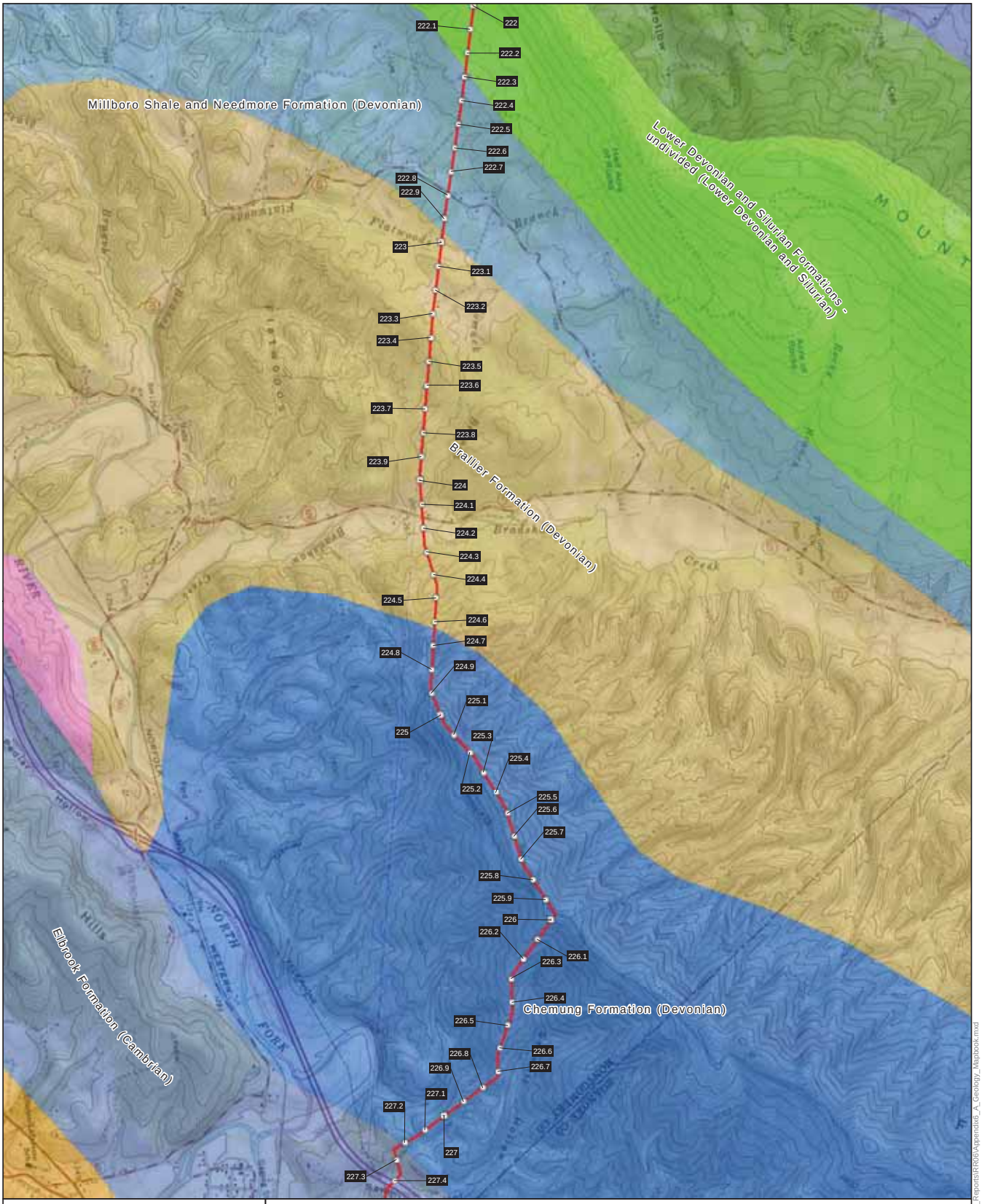
- / Milepost
- (Tenth-Mile
- S Target Milepost for Swann Station
- Proposed Route

Formation (& Period) (VA DMME)

- Brallier Formation
- Elbrook Formation
- Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation
- Lower Devonian and Silurian Formations
- Lower Ordovician & Upper Cambrian Formations
- Millboro Shale and Needmore Formation
- Mocassin Formation, Bays Formation
- Price Formation



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

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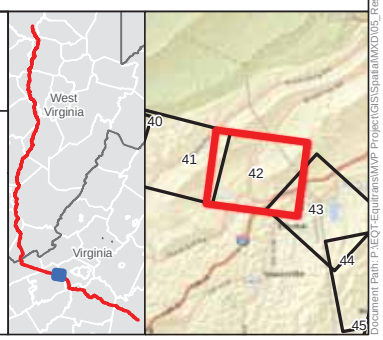
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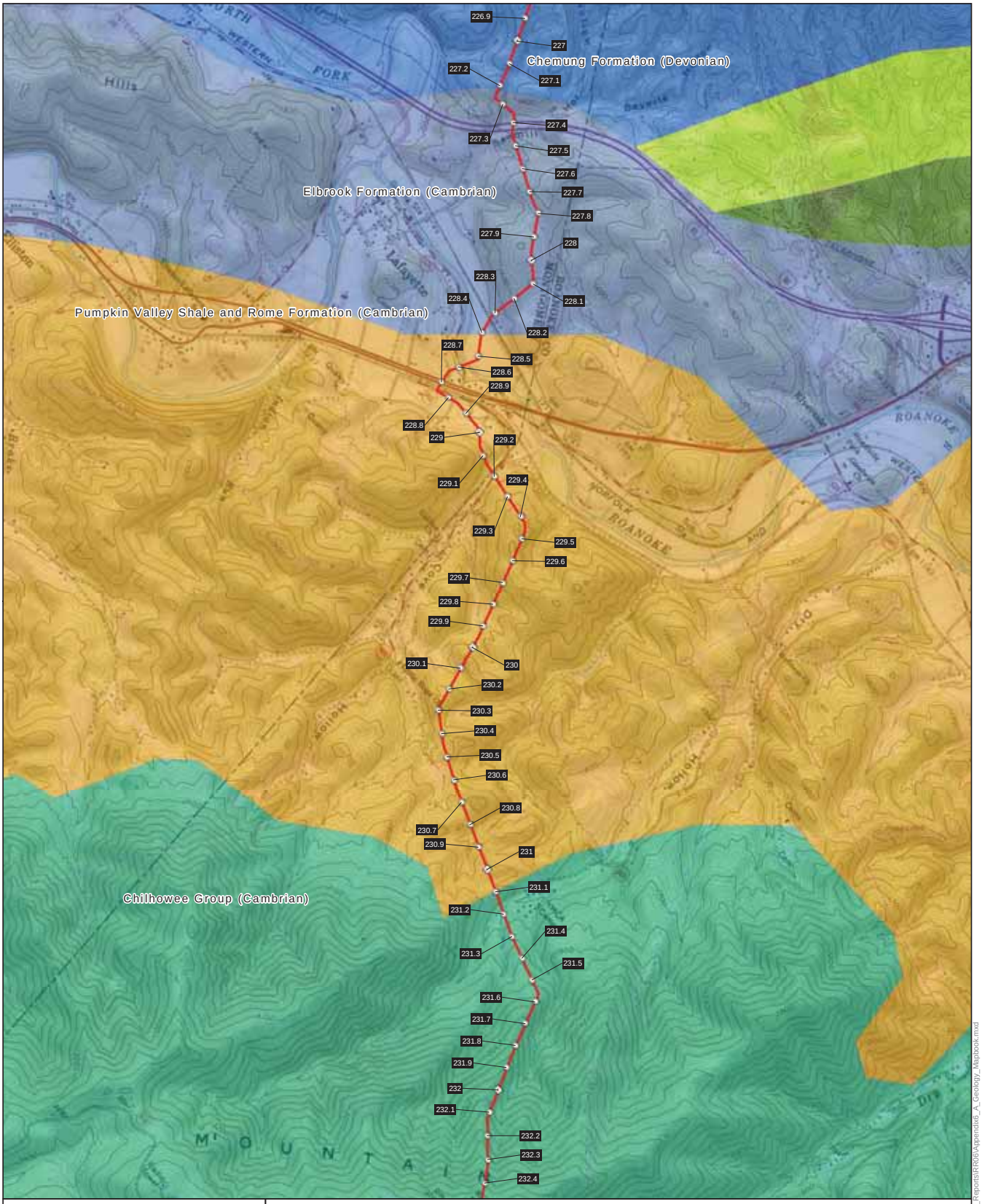
- / Milepost
- (Tenth-Mile
- Proposed Route

Formation (& Period) (VA DMME)

- Brallier Formation
- Chemung Formation
- Elbrook Formation
- Juniata Formation, Reedsville Shale, Trenton Limestone, Eggleston Formation
- Lower Devonian and Silurian Formations
- Millboro Shale and Needmore Formation
- Mocassin Formation, Bays Formation
- Pumpkin Valley Shale and Rome Formation
- Silurian & Upper Ordovician Formations - undivided



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

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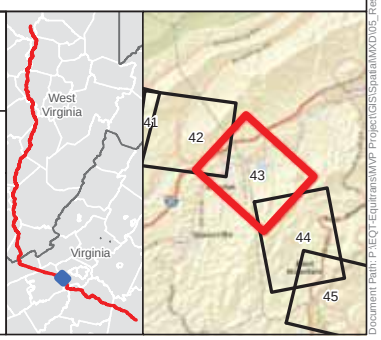
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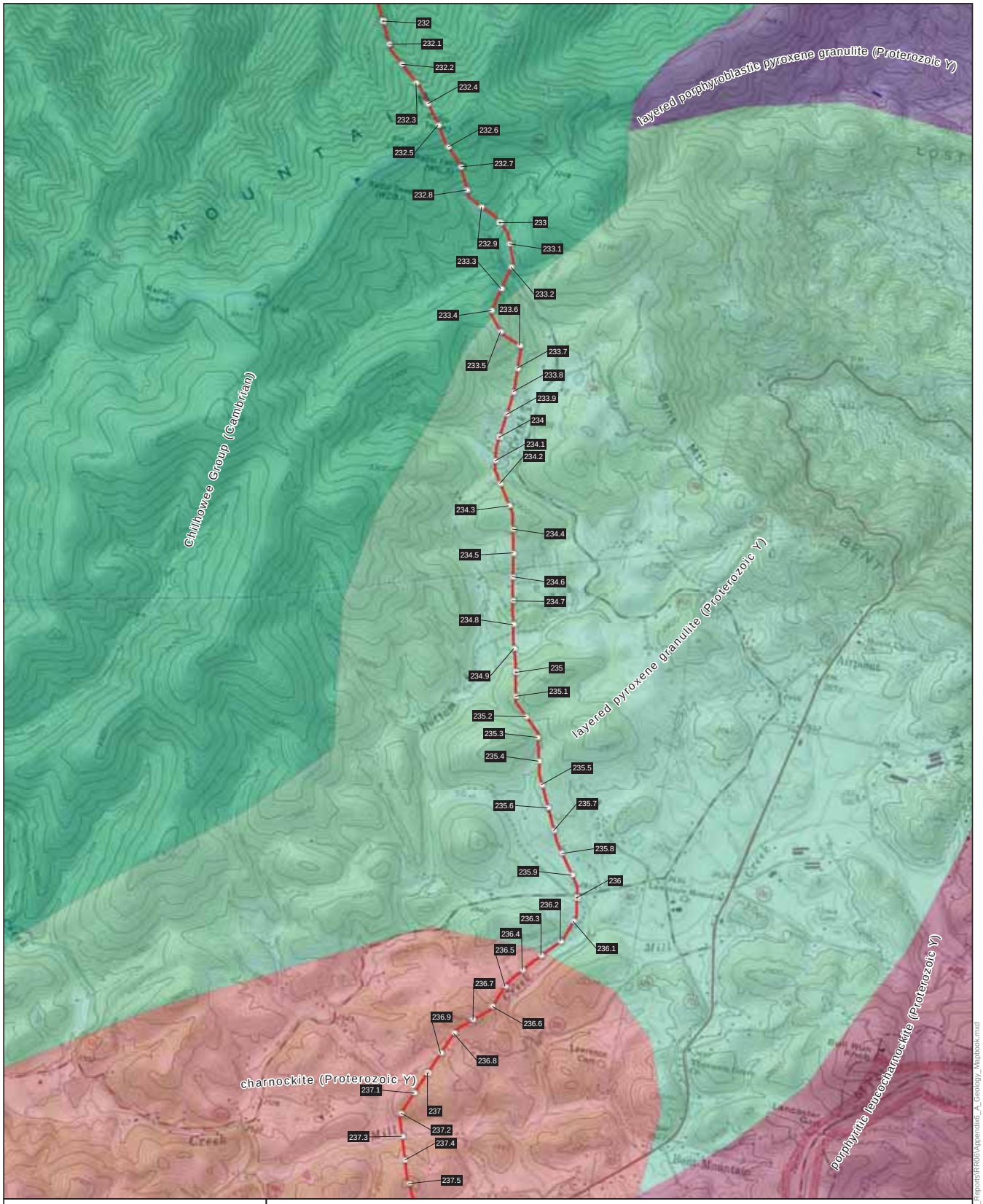
- / Milepost
- (Tenth-Mile
- Proposed Route

Formation (& Period) (VA DMME)

- Chemung Formation
- Chilhowee Group
- Elbrook Formation
- Lower Devonian, Silurian, and Upper Ordovician
- Lower Ordovician & Upper Cambrian Formations
- Pumpkin Valley Shale and Rome Formation



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Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

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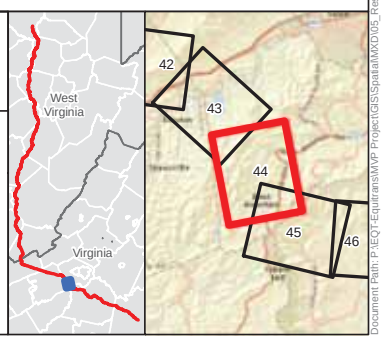
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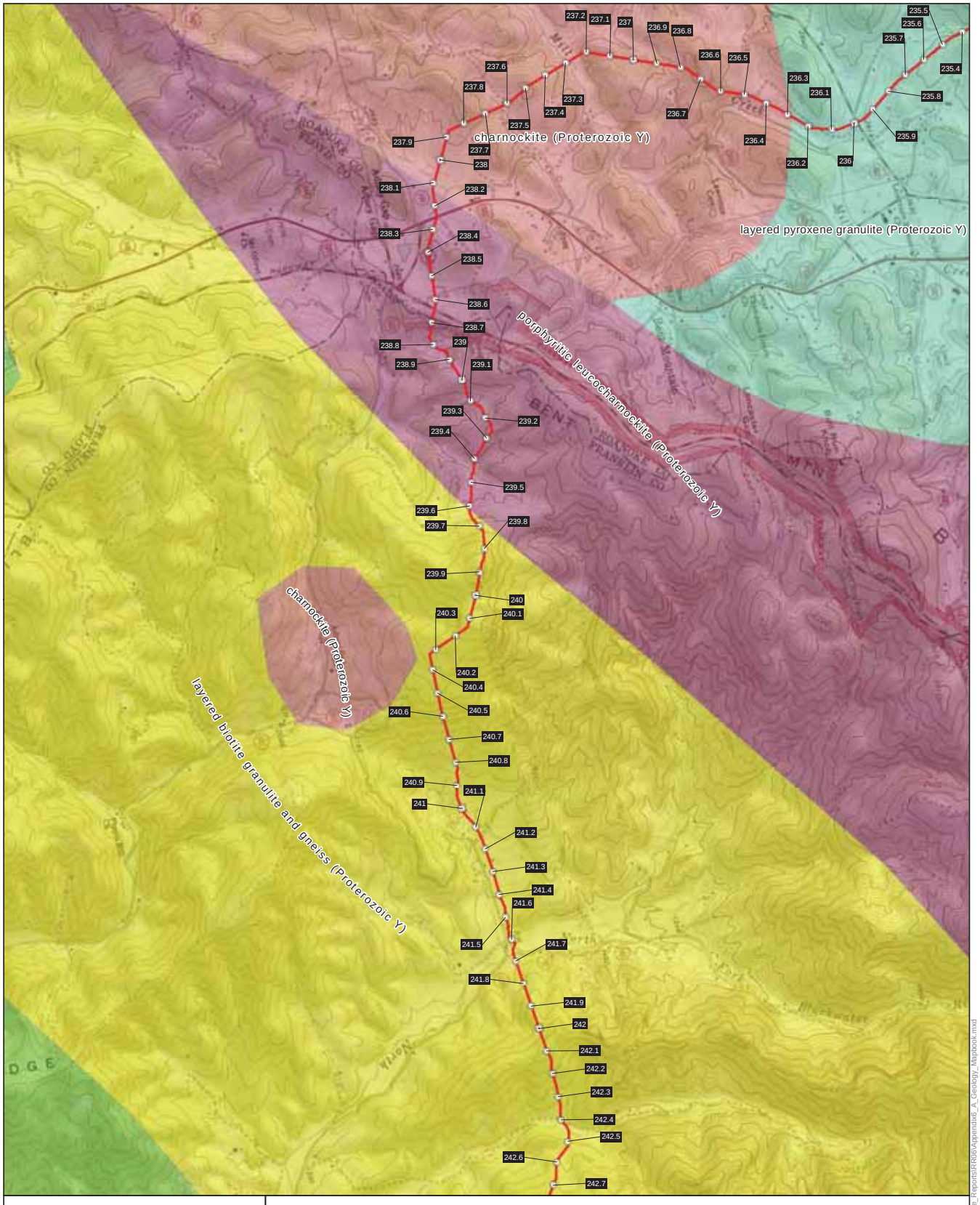
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(Tenth-Mile
Proposed Route

Formation (& Period) (VA DMME)

Chilhowee Group
Charnockite
Layered porphyroblastic pyroxene granulite
Layered pyroxene granulite
Porphyritic leucocharnockite



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Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

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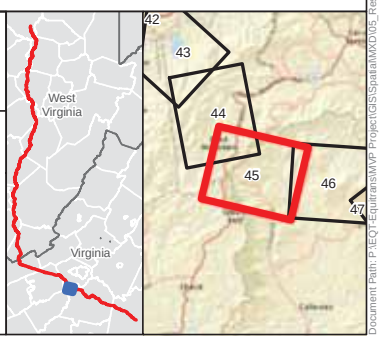
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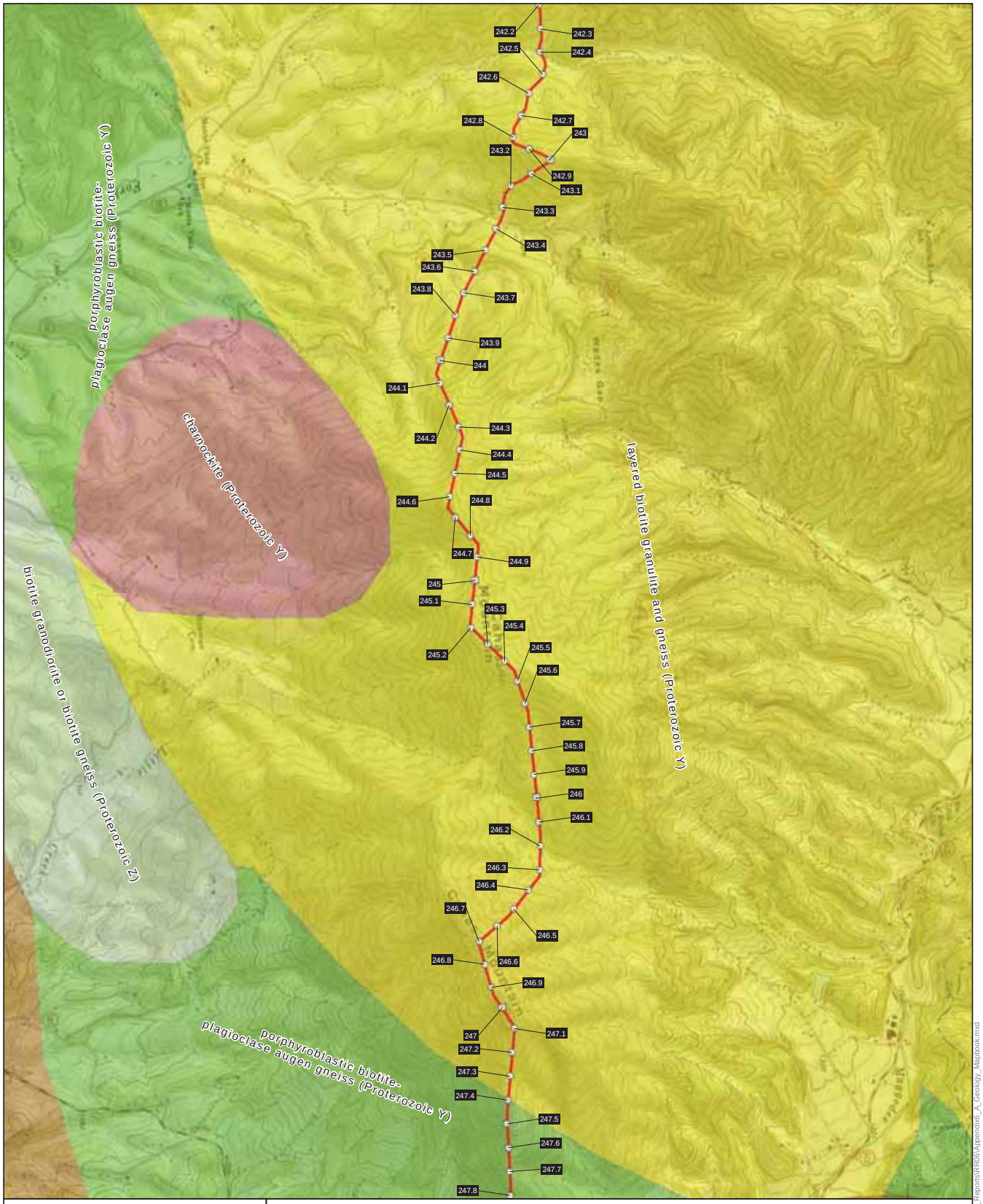
- / Milepost
- (Tenth-Mile
- Proposed Route

Formation (& Period) (VA DMME)

- Charnockite
- Layered biotite granulite and gneiss
- Layered pyroxene granulite
- Porphyritic leucocharnockite
- Porphyroblastic biotite-plagioclase augen gneiss



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Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

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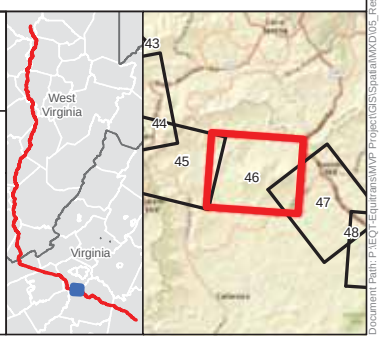
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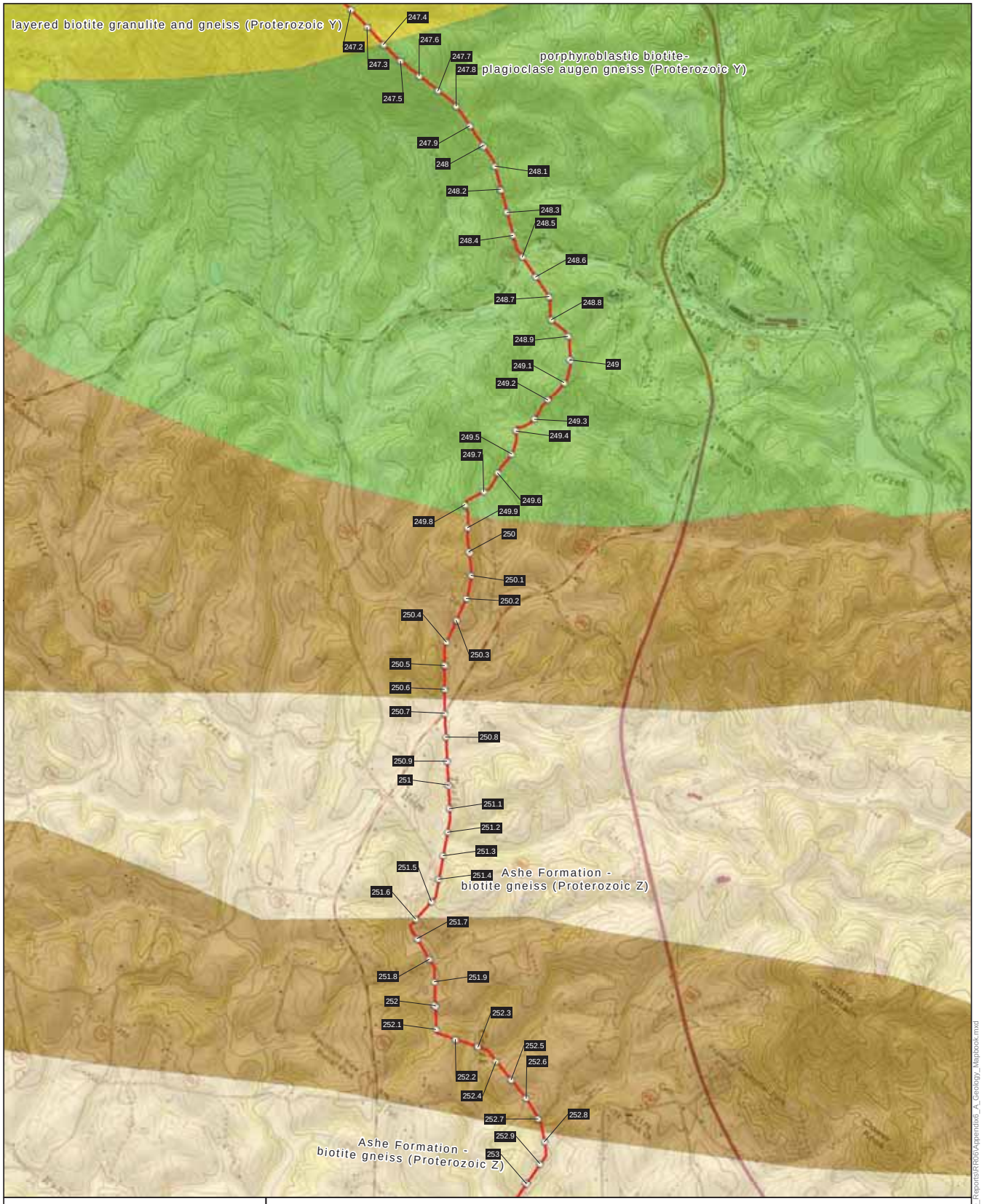
/ Milepost
(Tenth-Mile
Proposed Route

Formation (& Period) (VA DMME)

- Biotite granodiorite or biotite gneiss
- Charnockite
- Layered biotite granulite and gneiss
- Layered quartzofeldspathic augen gneiss & flaser gneiss
- Porphyroblastic biotite-plagioclase augen gneiss



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

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Data Sources: ESRI Streaming Topo Layer, 2014, WV Geological and Economic Survey 1968, VA Department of Mines, Minerals, and Energy 1993.

Legend

/ Milepost

(Tenth-Mile

Proposed Route

Formation (& Period) (VA DMME)

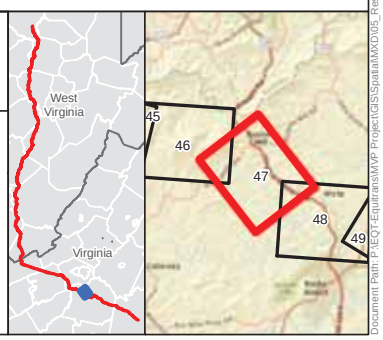
Ashe Formation

Biotite granodiorite or biotite gneiss

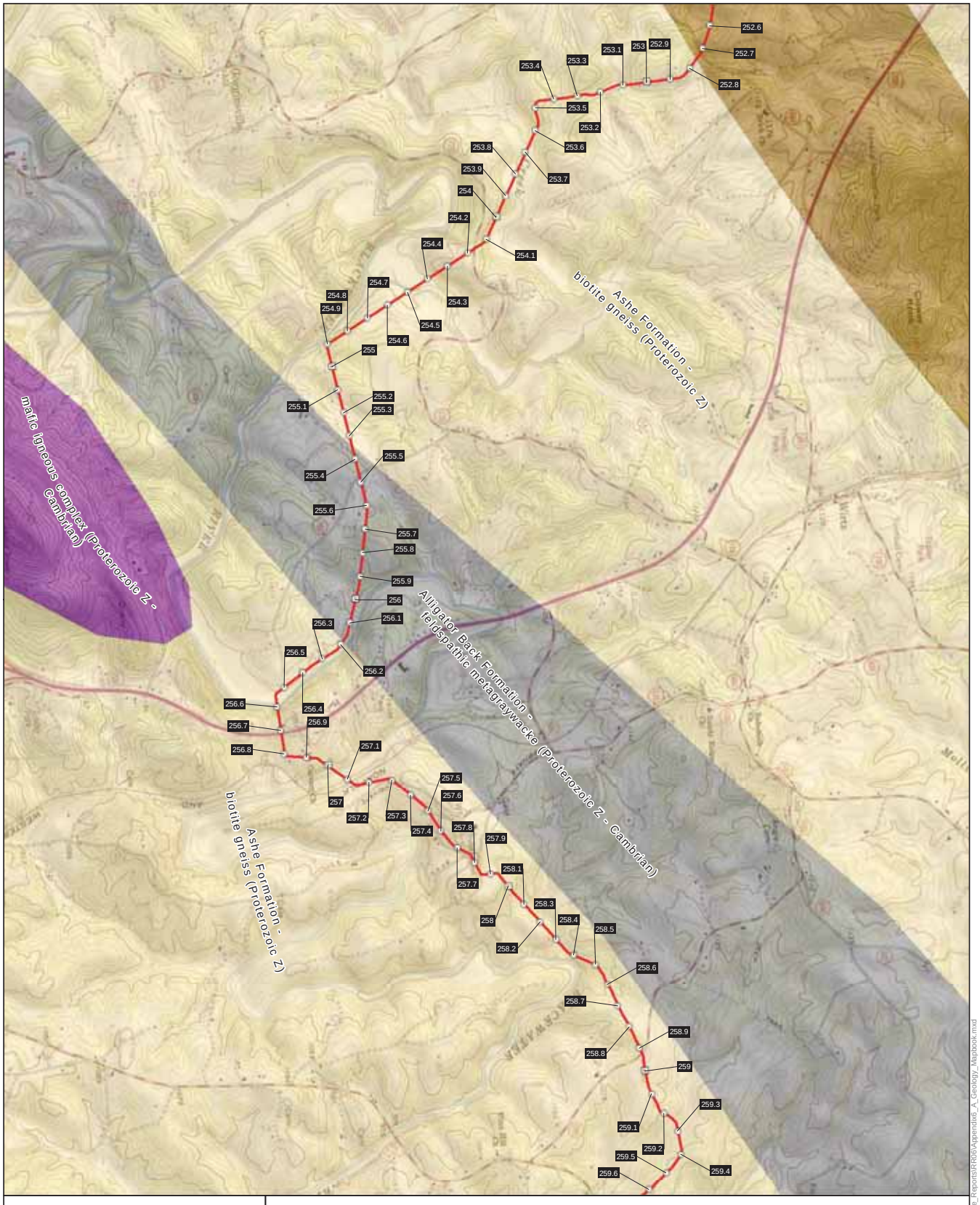
Layered biotite granulite and gneiss

Layered quartzofeldspathic augen gneiss & flaser gneiss

Porphyroblastic biotite-plagioclase augen gneiss



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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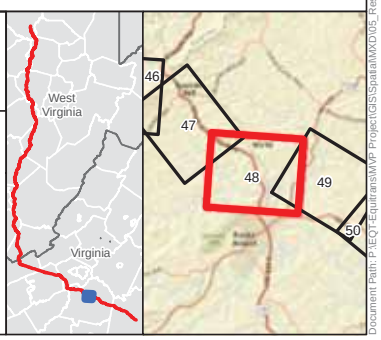
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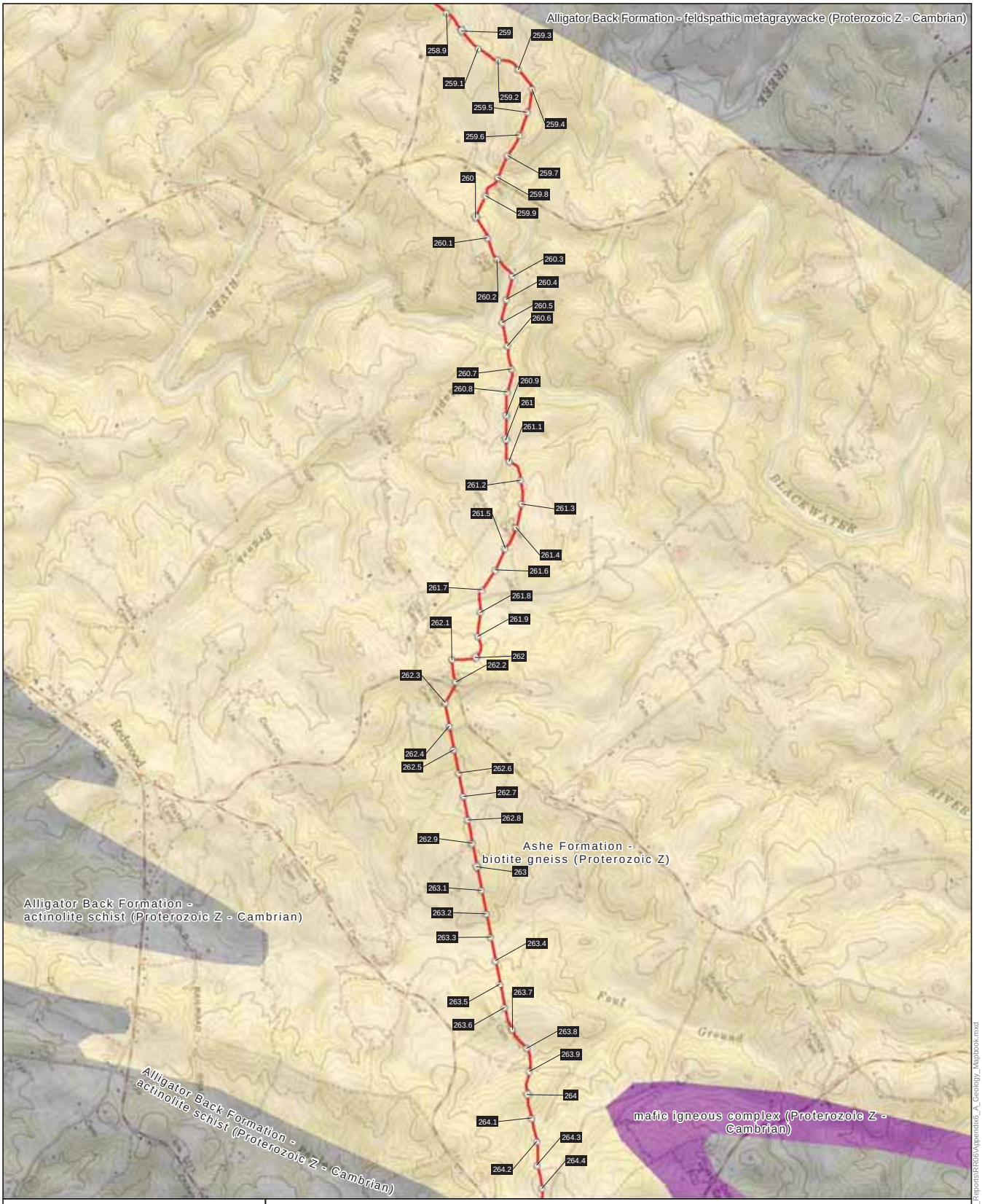
/ Milepost
(Tenth-Mile
Proposed Route

Formation (& Period) (VA DMME)

Alligator Back Formation
Ashe Formation
Layered quartzofeldspathic augen gneiss & flaser gneiss
Mafic igneous complex



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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May 2015

Data Sources: ESRI Streaming Topo Layer, 2014, WV Geological and Economic Survey 1968, VA Department of Mines, Minerals, and Energy 1993.

Legend

/ Milepost

(Tenth-Mile

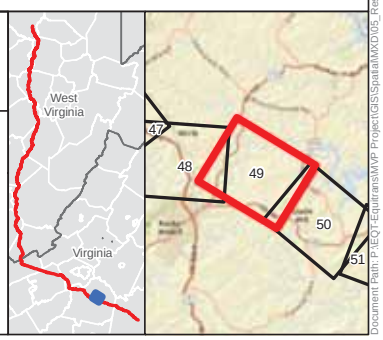
Proposed Route

Formation (& Period) (VA DMME)

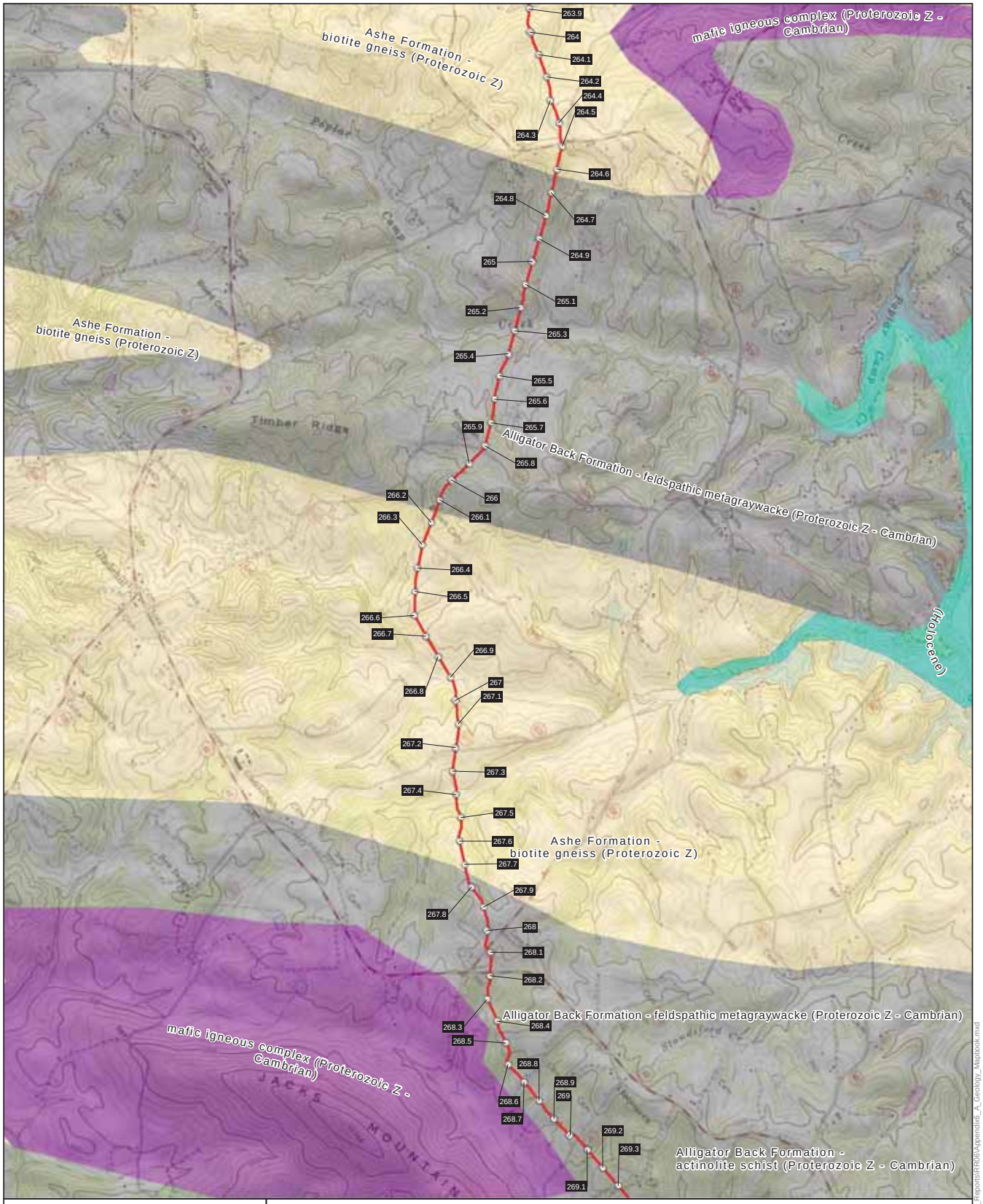
Alligator Back Formation

Ashe Formation

Mafic igneous complex



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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May 2015

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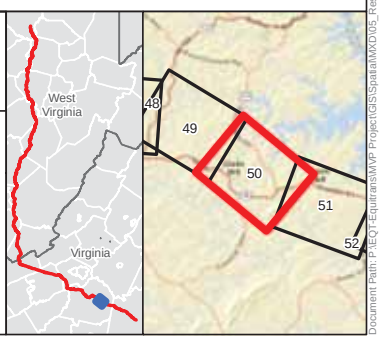
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(Tenth-Mile

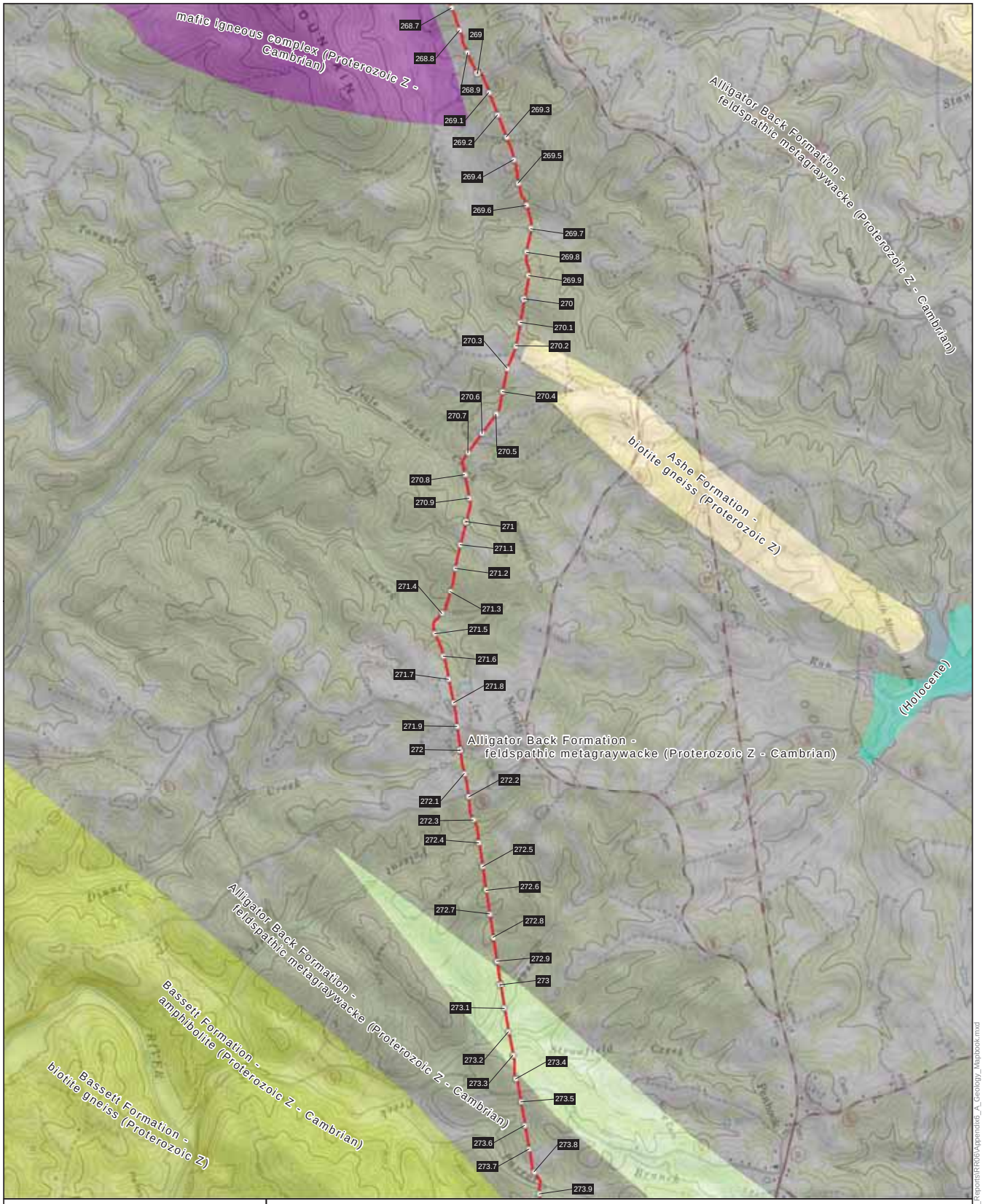
Proposed Route

Formation (& Period) (VA DMME)

- Alligator Back Formation
- Ashe Formation
- Mafic igneous complex
- Not Classified



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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May 2015

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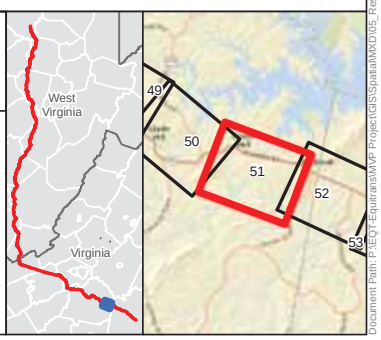
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- / Milepost
- (Tenth-Mile
- Proposed Route

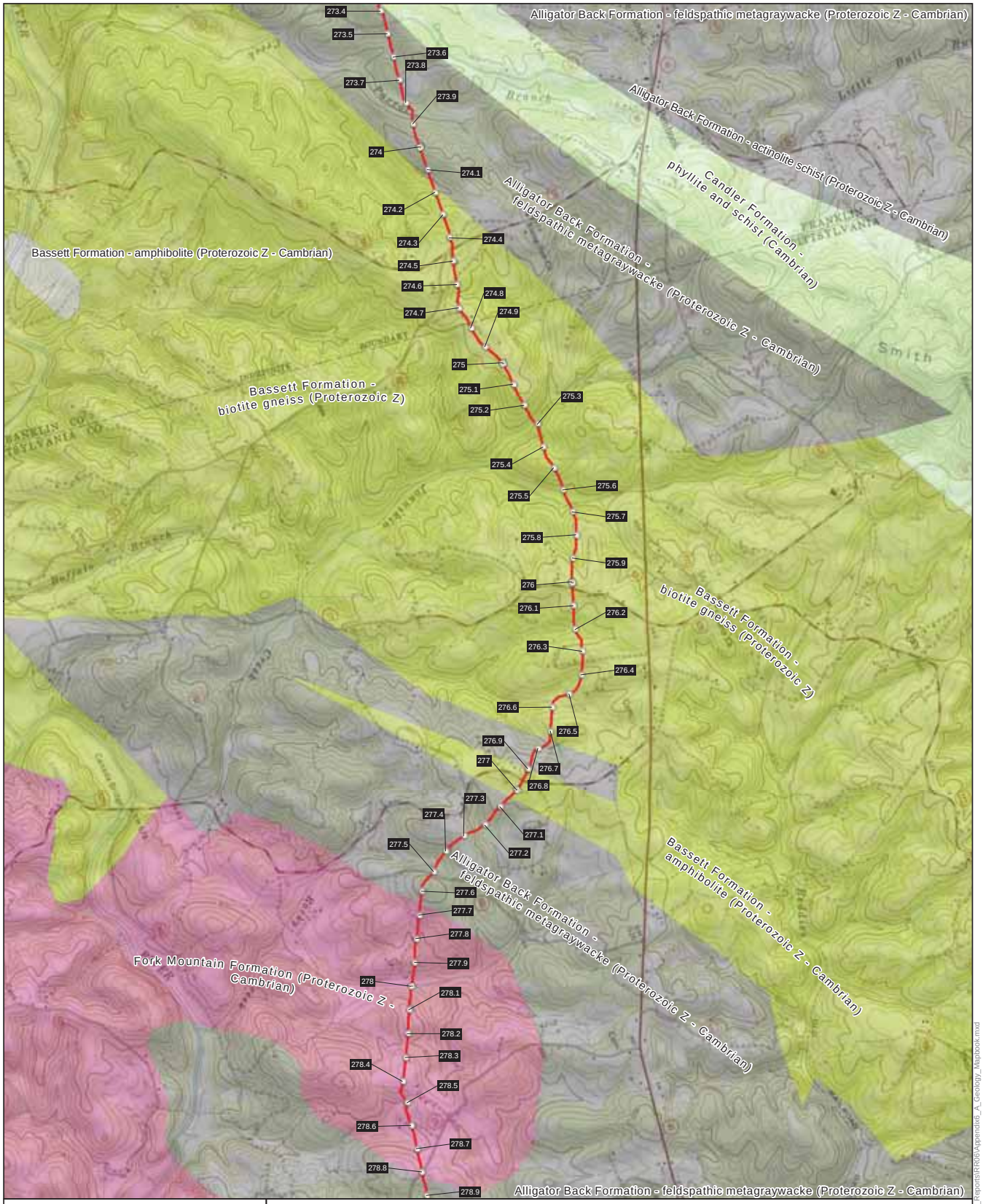
- Mafic igneous complex
- Not Classified

Formation (& Period) (VA DMME)

- Alligator Back Formation
- Ashe Formation
- Bassett Formation
- Candler Formation



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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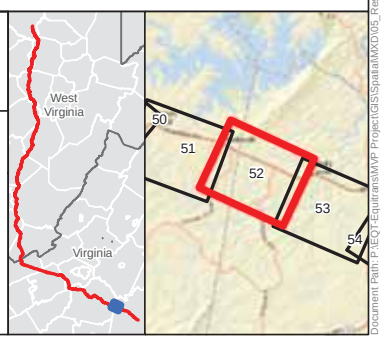
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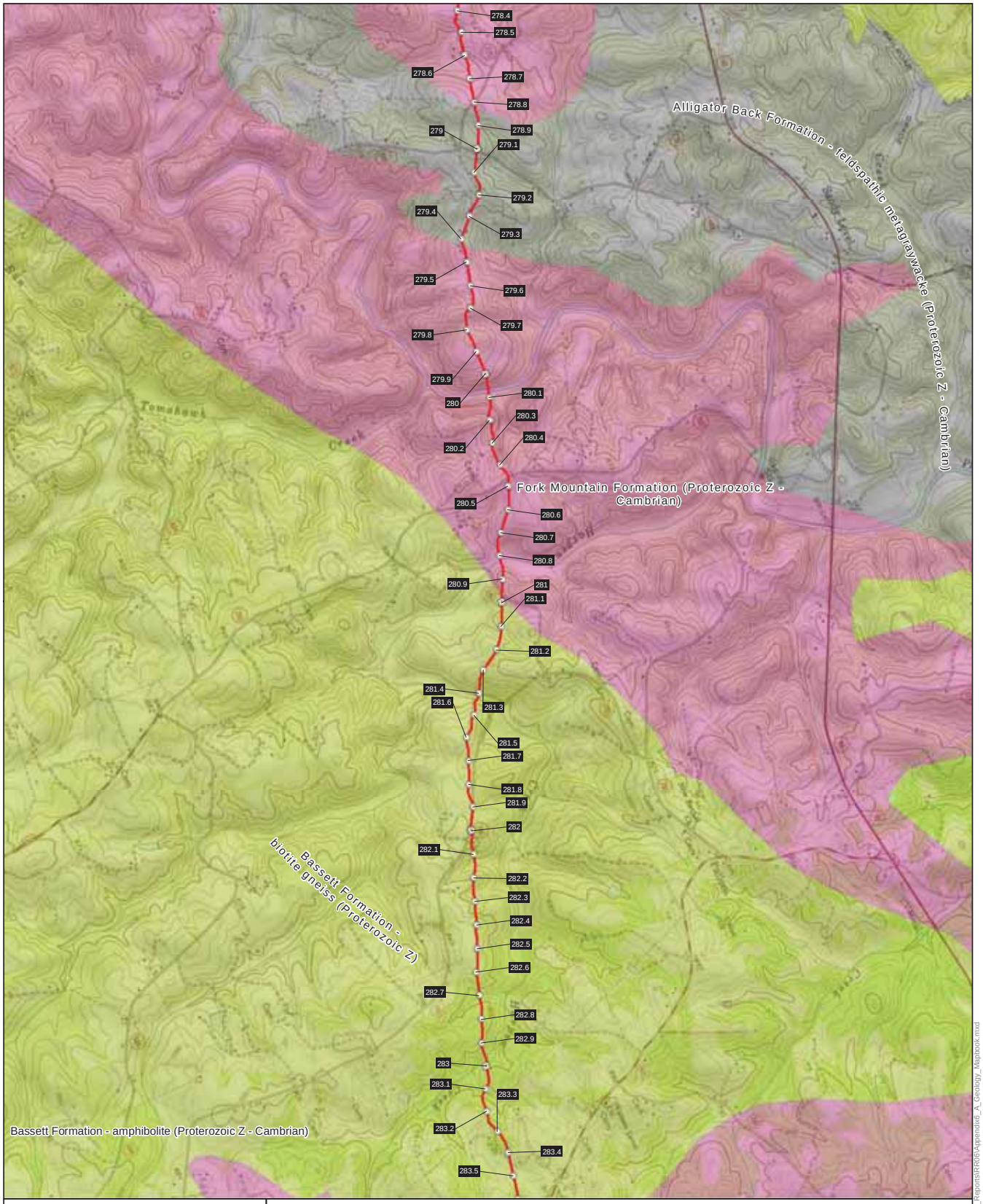
- / Milepost
- (Tenth-Mile
- Proposed Route

Formation (& Period) (VA DMME)

- Alligator Back Formation
- Bassett Formation
- Candler Formation
- Fork Mountain Formation
- Ultramafic rocks



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Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

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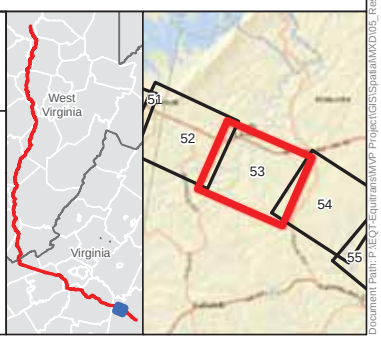
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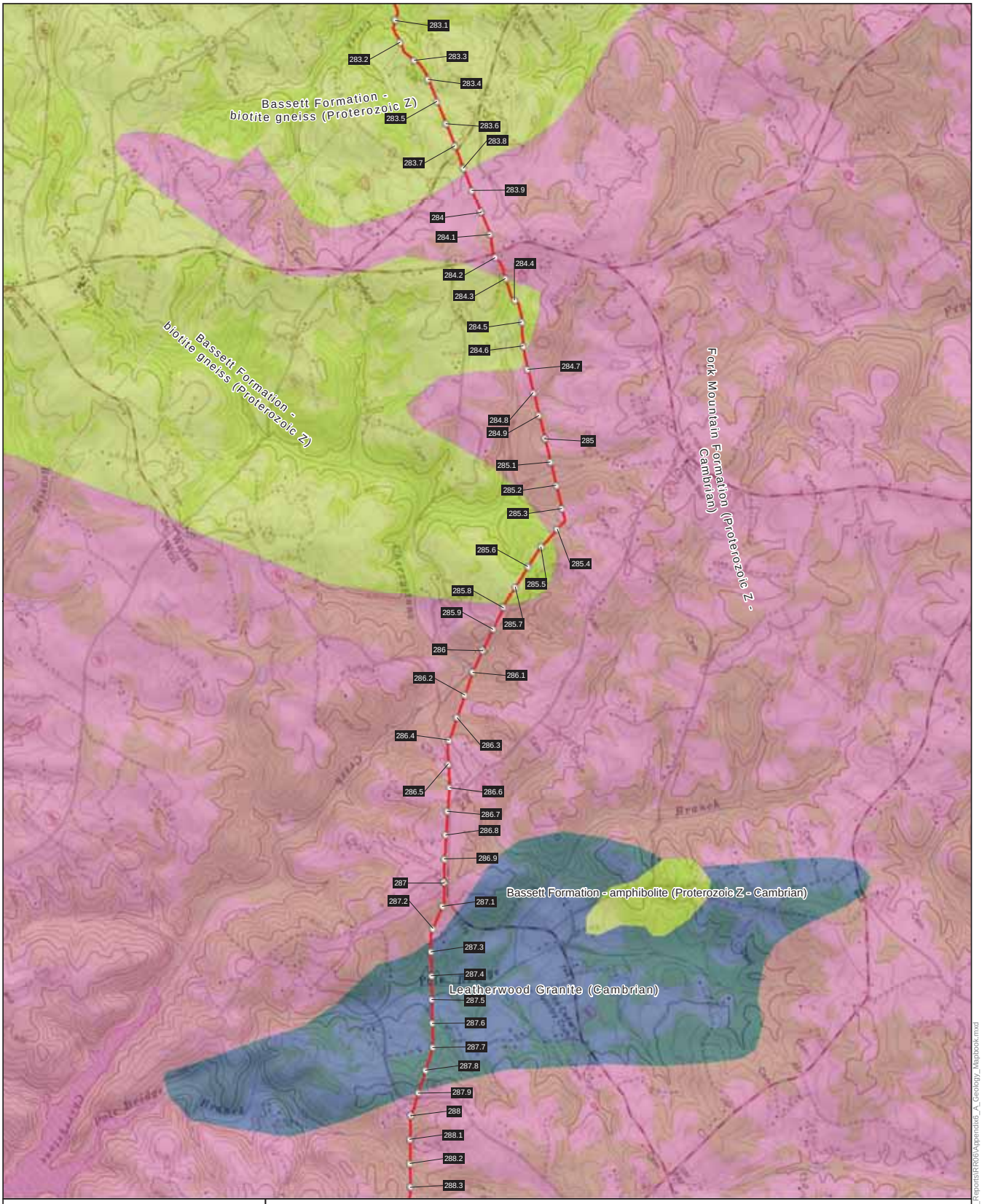
- / Milepost
- (Tenth-Mile
- Proposed Route

Formation (& Period) (VA DMME)

- Alligator Back Formation
- Bassett Formation
- Fork Mountain Formation



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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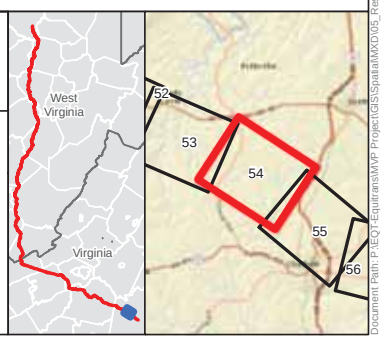
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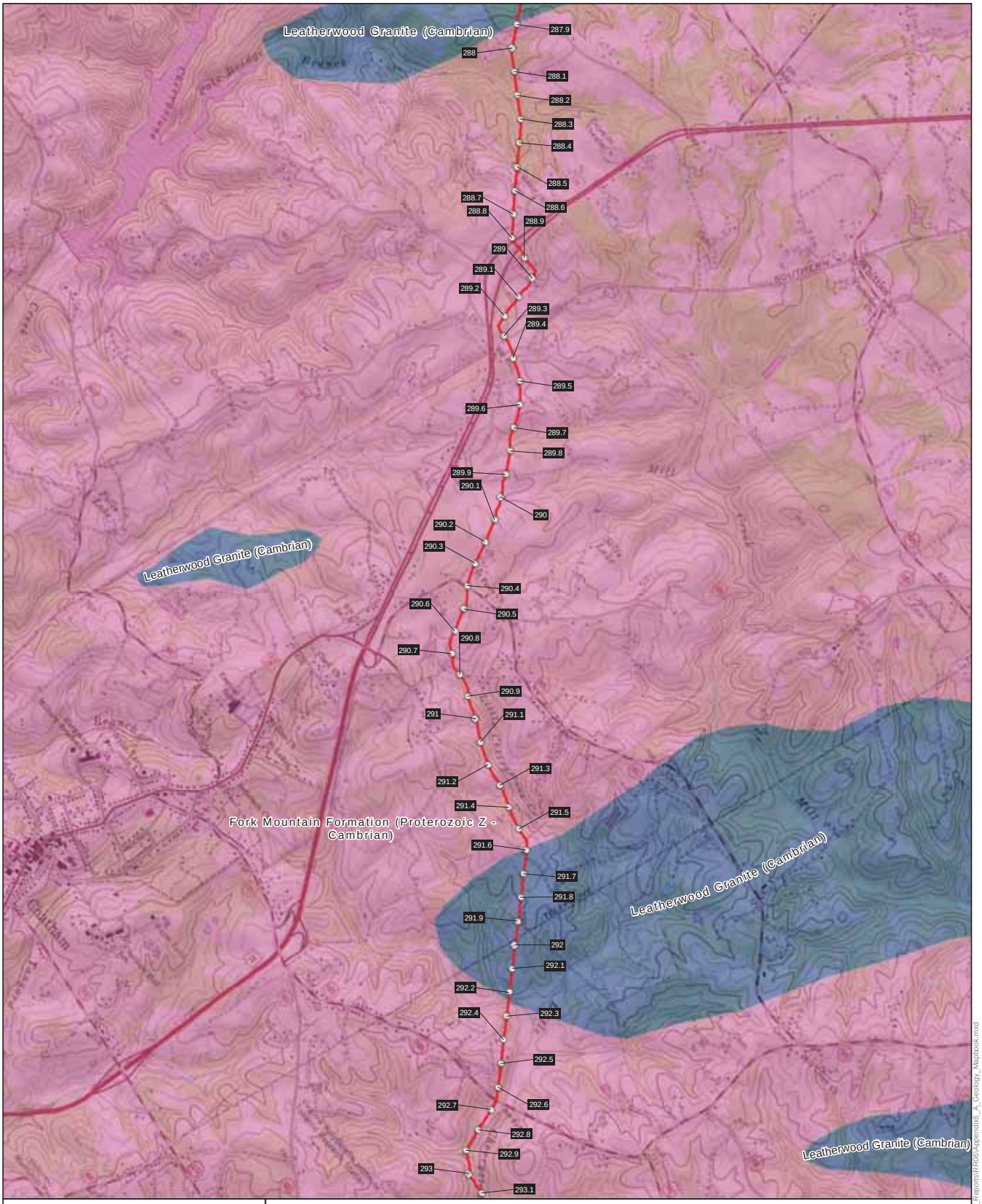
- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (VA DMME)

- Bassett Formation
- Fork Mountain Formation
- Leatherwood Granite



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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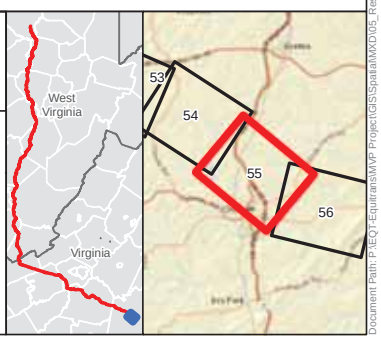
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Legend

- Milepost
- Tenth-Mile
- Proposed Route

Formation (& Period) (VA DMME)

- Fork Mountain Formation
- Leatherwood Granite



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

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Data Sources: ESRI Streaming Topo Layer, 2014, WV Geological and Economic Survey 1968, VA Department of Mines, Minerals, and Energy 1993.

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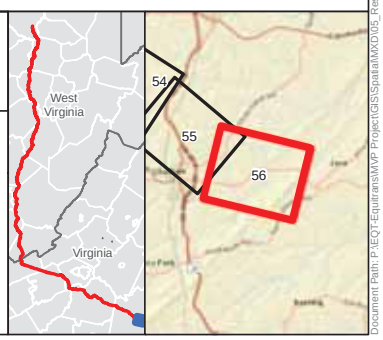
/ Milepost
(Tenth-Mile

Preliminary Meter Station Location

Transco Interconnect receipt
Proposed Route
Existing Transco Pipeline

Formation (& Period) (VA DMME)

Fork Mountain Formation
Interlayered mafic & felsic metavolcanic rocks
Leatherwood Granite
Newark Supergroup



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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 6

Appendix 6-B
Depth to Bedrock by Milepost
(Table and Map Set)
and
Draft Blasting Plan

Table 6-B-1
Depth to Bedrock, by Milepost, MVP Pipeline

State	County	MP	Bedrock Depth (inches)	Bedrock Depth (feet)
West Virginia	Wetzel	0.0	More than 84"	More than 7'
West Virginia	Wetzel	0.1	69	5.8
West Virginia	Wetzel	0.2	69	5.8
West Virginia	Wetzel	0.3	69	5.8
West Virginia	Wetzel	0.4	69	5.8
West Virginia	Wetzel	0.5	69	5.8
West Virginia	Wetzel	0.6	More than 84"	More than 7'
West Virginia	Wetzel	0.7	More than 84"	More than 7'
West Virginia	Wetzel	0.8	More than 84"	More than 7'
West Virginia	Wetzel	0.9	69	5.8
West Virginia	Wetzel	1.0	69	5.8
West Virginia	Wetzel	1.1	69	5.8
West Virginia	Wetzel	1.2	69	5.8
West Virginia	Wetzel	1.3	More than 84"	More than 7'
West Virginia	Wetzel	1.4	69	5.8
West Virginia	Wetzel	1.5	69	5.8
West Virginia	Wetzel	1.6	69	5.8
West Virginia	Wetzel	1.7	69	5.8
West Virginia	Wetzel	1.8	69	5.8
West Virginia	Wetzel	1.9	69	5.8
West Virginia	Wetzel	2.0	69	5.8
West Virginia	Wetzel	2.1	69	5.8
West Virginia	Wetzel	2.2	69	5.8
West Virginia	Wetzel	2.3	More than 84"	More than 7'
West Virginia	Wetzel	2.4	69	5.8
West Virginia	Wetzel	2.5	69	5.8
West Virginia	Wetzel	2.6	69	5.8
West Virginia	Wetzel	2.7	69	5.8
West Virginia	Wetzel	2.8	69	5.8
West Virginia	Wetzel	2.9	69	5.8
West Virginia	Wetzel	3.0	69	5.8
West Virginia	Wetzel	3.1	69	5.8
West Virginia	Wetzel	3.2	69	5.8
West Virginia	Wetzel	3.3	69	5.8
West Virginia	Wetzel	3.4	69	5.8
West Virginia	Wetzel	3.5	69	5.8
West Virginia	Wetzel	3.6	69	5.8
West Virginia	Wetzel	3.7	69	5.8
West Virginia	Wetzel	3.8	69	5.8
West Virginia	Wetzel	3.9	69	5.8
West Virginia	Wetzel	4.0	69	5.8
West Virginia	Wetzel	4.1	69	5.8
West Virginia	Wetzel	4.2	69	5.8
West Virginia	Wetzel	4.3	69	5.8
West Virginia	Wetzel	4.4	69	5.8
West Virginia	Wetzel	4.5	69	5.8

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Wetzel	4.6	69	5.8
West Virginia	Wetzel	4.7	69	5.8
West Virginia	Wetzel	4.8	69	5.8
West Virginia	Wetzel	4.9	69	5.8
West Virginia	Wetzel	5.0	More than 84"	More than 7'
West Virginia	Wetzel	5.1	69	5.8
West Virginia	Wetzel	5.2	69	5.8
West Virginia	Wetzel	5.3	69	5.8
West Virginia	Wetzel	5.4	69	5.8
West Virginia	Wetzel	5.5	69	5.8
West Virginia	Wetzel	5.6	More than 84"	More than 7'
West Virginia	Wetzel	5.7	69	5.8
West Virginia	Wetzel	5.8	69	5.8
West Virginia	Wetzel	5.9	69	5.8
West Virginia	Wetzel	6.0	69	5.8
West Virginia	Wetzel	6.1	69	5.8
West Virginia	Wetzel	6.2	69	5.8
West Virginia	Wetzel	6.3	69	5.8
West Virginia	Wetzel	6.4	69	5.8
West Virginia	Wetzel	6.5	69	5.8
West Virginia	Wetzel	6.6	More than 84"	More than 7'
West Virginia	Wetzel	6.7	69	5.8
West Virginia	Wetzel	6.8	69	5.8
West Virginia	Wetzel	6.9	69	5.8
West Virginia	Wetzel	7.0	69	5.8
West Virginia	Wetzel	7.1	69	5.8
West Virginia	Wetzel	7.2	69	5.8
West Virginia	Wetzel	7.3	69	5.8
West Virginia	Wetzel	7.4	69	5.8
West Virginia	Wetzel	7.5	69	5.8
West Virginia	Wetzel	7.6	69	5.8
West Virginia	Wetzel	7.7	69	5.8
West Virginia	Wetzel	7.8	69	5.8
West Virginia	Wetzel	7.9	69	5.8
West Virginia	Wetzel	8.0	69	5.8
West Virginia	Wetzel	8.1	69	5.8
West Virginia	Wetzel	8.2	69	5.8
West Virginia	Wetzel	8.3	69	5.8
West Virginia	Wetzel	8.4	69	5.8
West Virginia	Wetzel	8.5	69	5.8
West Virginia	Wetzel	8.6	69	5.8
West Virginia	Wetzel	8.7	69	5.8
West Virginia	Wetzel	8.8	69	5.8
West Virginia	Wetzel	8.9	More than 84"	More than 7'
West Virginia	Wetzel	9.0	69	5.8
West Virginia	Wetzel	9.1	69	5.8
West Virginia	Wetzel	9.2	69	5.8

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Wetzel	9.3	69	5.8
West Virginia	Wetzel	9.4	81	6.8
West Virginia	Wetzel	9.5	81	6.8
West Virginia	Wetzel	9.6	81	6.8
West Virginia	Harrison	9.7	81	6.8
West Virginia	Harrison	9.8	81	6.8
West Virginia	Harrison	9.9	81	6.8
West Virginia	Harrison	10.0	81	6.8
West Virginia	Harrison	10.1	76	6.3
West Virginia	Harrison	10.2	81	6.8
West Virginia	Harrison	10.3	81	6.8
West Virginia	Harrison	10.4	81	6.8
West Virginia	Harrison	10.5	81	6.8
West Virginia	Harrison	10.6	81	6.8
West Virginia	Harrison	10.7	76	6.3
West Virginia	Harrison	10.8	76	6.3
West Virginia	Harrison	10.9	76	6.3
West Virginia	Harrison	11.0	81	6.8
West Virginia	Harrison	11.1	81	6.8
West Virginia	Harrison	11.2	81	6.8
West Virginia	Harrison	11.3	More than 84"	More than 7'
West Virginia	Harrison	11.4	81	6.8
West Virginia	Harrison	11.5	81	6.8
West Virginia	Harrison	11.6	81	6.8
West Virginia	Harrison	11.7	81	6.8
West Virginia	Harrison	11.8	81	6.8
West Virginia	Harrison	11.9	81	6.8
West Virginia	Harrison	12.0	81	6.8
West Virginia	Harrison	12.1	81	6.8
West Virginia	Harrison	12.2	More than 84"	More than 7'
West Virginia	Harrison	12.3	81	6.8
West Virginia	Harrison	12.4	81	6.8
West Virginia	Harrison	12.5	81	6.8
West Virginia	Harrison	12.6	81	6.8
West Virginia	Harrison	12.7	81	6.8
West Virginia	Harrison	12.8	81	6.8
West Virginia	Harrison	12.9	81	6.8
West Virginia	Harrison	13.0	81	6.8
West Virginia	Harrison	13.1	81	6.8
West Virginia	Harrison	13.2	81	6.8
West Virginia	Harrison	13.3	81	6.8
West Virginia	Harrison	13.4	81	6.8
West Virginia	Harrison	13.5	81	6.8
West Virginia	Harrison	13.6	81	6.8
West Virginia	Harrison	13.7	81	6.8
West Virginia	Harrison	13.8	81	6.8
West Virginia	Harrison	13.9	81	6.8

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Harrison	14.0	81	6.8
West Virginia	Harrison	14.1	81	6.8
West Virginia	Harrison	14.2	81	6.8
West Virginia	Harrison	14.3	81	6.8
West Virginia	Harrison	14.4	81	6.8
West Virginia	Harrison	14.5	81	6.8
West Virginia	Harrison	14.6	81	6.8
West Virginia	Harrison	14.7	81	6.8
West Virginia	Harrison	14.8	81	6.8
West Virginia	Harrison	14.9	76	6.3
West Virginia	Harrison	15.0	76	6.3
West Virginia	Harrison	15.1	81	6.8
West Virginia	Harrison	15.2	81	6.8
West Virginia	Harrison	15.3	81	6.8
West Virginia	Harrison	15.4	More than 84"	More than 7'
West Virginia	Harrison	15.5	More than 84"	More than 7'
West Virginia	Harrison	15.6	81	6.8
West Virginia	Harrison	15.7	81	6.8
West Virginia	Harrison	15.8	81	6.8
West Virginia	Harrison	15.9	81	6.8
West Virginia	Harrison	16.0	81	6.8
West Virginia	Harrison	16.1	81	6.8
West Virginia	Harrison	16.2	81	6.8
West Virginia	Harrison	16.3	81	6.8
West Virginia	Harrison	16.4	81	6.8
West Virginia	Harrison	16.5	81	6.8
West Virginia	Harrison	16.6	76	6.3
West Virginia	Harrison	16.7	81	6.8
West Virginia	Harrison	16.8	81	6.8
West Virginia	Harrison	16.9	81	6.8
West Virginia	Harrison	17.0	81	6.8
West Virginia	Harrison	17.1	76	6.3
West Virginia	Harrison	17.2	76	6.3
West Virginia	Harrison	17.3	76	6.3
West Virginia	Harrison	17.4	76	6.3
West Virginia	Harrison	17.5	76	6.3
West Virginia	Harrison	17.6	81	6.8
West Virginia	Harrison	17.7	81	6.8
West Virginia	Harrison	17.8	81	6.8
West Virginia	Harrison	17.9	More than 84"	More than 7'
West Virginia	Harrison	18.0	81	6.8
West Virginia	Harrison	18.1	81	6.8
West Virginia	Harrison	18.2	81	6.8
West Virginia	Harrison	18.3	81	6.8
West Virginia	Harrison	18.4	76	6.3
West Virginia	Harrison	18.5	76	6.3
West Virginia	Harrison	18.6	81	6.8

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Harrison	18.7	81	6.8
West Virginia	Harrison	18.8	81	6.8
West Virginia	Harrison	18.9	81	6.8
West Virginia	Harrison	19.0	81	6.8
West Virginia	Harrison	19.1	81	6.8
West Virginia	Harrison	19.2	81	6.8
West Virginia	Harrison	19.3	81	6.8
West Virginia	Harrison	19.4	81	6.8
West Virginia	Harrison	19.5	81	6.8
West Virginia	Harrison	19.6	81	6.8
West Virginia	Harrison	19.7	81	6.8
West Virginia	Harrison	19.8	81	6.8
West Virginia	Harrison	19.9	81	6.8
West Virginia	Harrison	20.0	81	6.8
West Virginia	Harrison	20.1	81	6.8
West Virginia	Harrison	20.2	81	6.8
West Virginia	Harrison	20.3	81	6.8
West Virginia	Harrison	20.4	81	6.8
West Virginia	Harrison	20.5	81	6.8
West Virginia	Harrison	20.6	81	6.8
West Virginia	Harrison	20.7	81	6.8
West Virginia	Harrison	20.8	81	6.8
West Virginia	Harrison	20.9	81	6.8
West Virginia	Harrison	21.0	81	6.8
West Virginia	Harrison	21.1	81	6.8
West Virginia	Harrison	21.2	81	6.8
West Virginia	Harrison	21.3	81	6.8
West Virginia	Harrison	21.4	81	6.8
West Virginia	Harrison	21.5	81	6.8
West Virginia	Harrison	21.6	81	6.8
West Virginia	Harrison	21.7	More than 84"	More than 7'
West Virginia	Harrison	21.8	More than 84"	More than 7'
West Virginia	Harrison	21.9	81	6.8
West Virginia	Harrison	22.0	81	6.8
West Virginia	Harrison	22.1	81	6.8
West Virginia	Harrison	22.2	81	6.8
West Virginia	Harrison	22.3	81	6.8
West Virginia	Harrison	22.4	81	6.8
West Virginia	Harrison	22.5	81	6.8
West Virginia	Harrison	22.6	81	6.8
West Virginia	Harrison	22.7	81	6.8
West Virginia	Harrison	22.8	81	6.8
West Virginia	Harrison	22.9	81	6.8
West Virginia	Harrison	23.0	81	6.8
West Virginia	Harrison	23.1	More than 84"	More than 7'
West Virginia	Harrison	23.2	81	6.8
West Virginia	Harrison	23.3	81	6.8

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Harrison	23.4	81	6.8
West Virginia	Harrison	23.5	81	6.8
West Virginia	Harrison	23.6	81	6.8
West Virginia	Harrison	23.7	81	6.8
West Virginia	Harrison	23.8	81	6.8
West Virginia	Harrison	23.9	81	6.8
West Virginia	Harrison	24.0	81	6.8
West Virginia	Harrison	24.1	81	6.8
West Virginia	Harrison	24.2	81	6.8
West Virginia	Harrison	24.3	81	6.8
West Virginia	Harrison	24.4	81	6.8
West Virginia	Harrison	24.5	81	6.8
West Virginia	Harrison	24.6	81	6.8
West Virginia	Harrison	24.7	More than 84"	More than 7'
West Virginia	Harrison	24.8	More than 84"	More than 7'
West Virginia	Harrison	24.9	More than 84"	More than 7'
West Virginia	Harrison	25.0	More than 84"	More than 7'
West Virginia	Harrison	25.1	81	6.8
West Virginia	Harrison	25.2	81	6.8
West Virginia	Harrison	25.3	81	6.8
West Virginia	Harrison	25.4	81	6.8
West Virginia	Harrison	25.5	81	6.8
West Virginia	Harrison	25.6	81	6.8
West Virginia	Harrison	25.7	81	6.8
West Virginia	Harrison	25.8	81	6.8
West Virginia	Harrison	25.9	More than 84"	More than 7'
West Virginia	Harrison	26.0	More than 84"	More than 7'
West Virginia	Harrison	26.1	76	6.3
West Virginia	Harrison	26.2	76	6.3
West Virginia	Harrison	26.3	76	6.3
West Virginia	Harrison	26.4	76	6.3
West Virginia	Harrison	26.5	76	6.3
West Virginia	Harrison	26.6	76	6.3
West Virginia	Harrison	26.7	76	6.3
West Virginia	Harrison	26.8	81	6.8
West Virginia	Harrison	26.9	81	6.8
West Virginia	Harrison	27.0	81	6.8
West Virginia	Harrison	27.1	81	6.8
West Virginia	Harrison	27.2	81	6.8
West Virginia	Harrison	27.3	81	6.8
West Virginia	Harrison	27.4	81	6.8
West Virginia	Harrison	27.5	81	6.8
West Virginia	Harrison	27.6	81	6.8
West Virginia	Harrison	27.7	81	6.8
West Virginia	Harrison	27.8	81	6.8
West Virginia	Harrison	27.9	81	6.8
West Virginia	Harrison	28.0	81	6.8

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Harrison	28.1	81	6.8
West Virginia	Harrison	28.2	81	6.8
West Virginia	Harrison	28.3	81	6.8
West Virginia	Harrison	28.4	81	6.8
West Virginia	Harrison	28.5	81	6.8
West Virginia	Harrison	28.6	81	6.8
West Virginia	Harrison	28.7	81	6.8
West Virginia	Harrison	28.8	81	6.8
West Virginia	Harrison	28.9	81	6.8
West Virginia	Harrison	29.0	81	6.8
West Virginia	Harrison	29.1	81	6.8
West Virginia	Harrison	29.2	81	6.8
West Virginia	Harrison	29.3	81	6.8
West Virginia	Harrison	29.4	81	6.8
West Virginia	Harrison	29.5	81	6.8
West Virginia	Harrison	29.6	81	6.8
West Virginia	Harrison	29.7	81	6.8
West Virginia	Harrison	29.8	81	6.8
West Virginia	Harrison	29.9	81	6.8
West Virginia	Harrison	30.0	81	6.8
West Virginia	Harrison	30.1	81	6.8
West Virginia	Harrison	30.2	81	6.8
West Virginia	Harrison	30.3	81	6.8
West Virginia	Harrison	30.4	81	6.8
West Virginia	Harrison	30.5	81	6.8
West Virginia	Harrison	30.6	81	6.8
West Virginia	Harrison	30.7	81	6.8
West Virginia	Harrison	30.8	81	6.8
West Virginia	Harrison	30.9	81	6.8
West Virginia	Harrison	31.0	More than 84"	More than 7'
West Virginia	Harrison	31.1	81	6.8
West Virginia	Harrison	31.2	76	6.3
West Virginia	Doddridge	31.3	76	6.3
West Virginia	Doddridge	31.4	76	6.3
West Virginia	Doddridge	31.5	69	5.8
West Virginia	Doddridge	31.6	76	6.3
West Virginia	Doddridge	31.7	76	6.3
West Virginia	Doddridge	31.8	76	6.3
West Virginia	Doddridge	31.9	76	6.3
West Virginia	Doddridge	32.0	69	5.8
West Virginia	Doddridge	32.1	69	5.8
West Virginia	Doddridge	32.2	69	5.8
West Virginia	Doddridge	32.3	More than 84"	More than 7'
West Virginia	Harrison	32.4	More than 84"	More than 7'
West Virginia	Harrison	32.5	More than 84"	More than 7'
West Virginia	Harrison	32.6	More than 84"	More than 7'
West Virginia	Harrison	32.7	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Harrison	32.8	81	6.8
West Virginia	Harrison	32.9	81	6.8
West Virginia	Harrison	33.0	81	6.8
West Virginia	Harrison	33.1	76	6.3
West Virginia	Harrison	33.2	69	5.8
West Virginia	Harrison	33.3	76	6.3
West Virginia	Doddridge	33.4	76	6.3
West Virginia	Doddridge	33.5	69	5.8
West Virginia	Doddridge	33.6	69	5.8
West Virginia	Doddridge	33.7	69	5.8
West Virginia	Doddridge	33.8	69	5.8
West Virginia	Doddridge	33.9	69	5.8
West Virginia	Doddridge	34.0	69	5.8
West Virginia	Doddridge	34.1	69	5.8
West Virginia	Doddridge	34.2	69	5.8
West Virginia	Doddridge	34.3	69	5.8
West Virginia	Doddridge	34.4	69	5.8
West Virginia	Doddridge	34.5	More than 84"	More than 7'
West Virginia	Doddridge	34.6	69	5.8
West Virginia	Doddridge	34.7	76	6.3
West Virginia	Doddridge	34.8	69	5.8
West Virginia	Doddridge	34.9	69	5.8
West Virginia	Doddridge	35.0	69	5.8
West Virginia	Doddridge	35.1	69	5.8
West Virginia	Doddridge	35.2	69	5.8
West Virginia	Doddridge	35.3	69	5.8
West Virginia	Doddridge	35.4	69	5.8
West Virginia	Doddridge	35.5	69	5.8
West Virginia	Doddridge	35.6	69	5.8
West Virginia	Doddridge	35.7	69	5.8
West Virginia	Doddridge	35.8	69	5.8
West Virginia	Doddridge	35.9	69	5.8
West Virginia	Doddridge	36.0	69	5.8
West Virginia	Doddridge	36.1	69	5.8
West Virginia	Doddridge	36.2	69	5.8
West Virginia	Doddridge	36.3	69	5.8
West Virginia	Doddridge	36.4	69	5.8
West Virginia	Doddridge	36.5	69	5.8
West Virginia	Doddridge	36.6	69	5.8
West Virginia	Doddridge	36.7	69	5.8
West Virginia	Doddridge	36.8	69	5.8
West Virginia	Doddridge	36.9	69	5.8
West Virginia	Doddridge	37.0	69	5.8
West Virginia	Doddridge	37.1	69	5.8
West Virginia	Harrison	37.2	76	6.3
West Virginia	Harrison	37.3	81	6.8
West Virginia	Harrison	37.4	81	6.8

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Harrison	37.5	81	6.8
West Virginia	Harrison	37.6	81	6.8
West Virginia	Harrison	37.7	81	6.8
West Virginia	Lewis	37.8	76	6.3
West Virginia	Lewis	37.9	76	6.3
West Virginia	Lewis	38.0	76	6.3
West Virginia	Lewis	38.1	76	6.3
West Virginia	Lewis	38.2	76	6.3
West Virginia	Lewis	38.3	76	6.3
West Virginia	Lewis	38.4	76	6.3
West Virginia	Lewis	38.5	76	6.3
West Virginia	Lewis	38.6	76	6.3
West Virginia	Lewis	38.7	76	6.3
West Virginia	Lewis	38.8	76	6.3
West Virginia	Lewis	38.9	76	6.3
West Virginia	Lewis	39.0	76	6.3
West Virginia	Lewis	39.1	76	6.3
West Virginia	Lewis	39.2	76	6.3
West Virginia	Lewis	39.3	76	6.3
West Virginia	Lewis	39.4	76	6.3
West Virginia	Lewis	39.5	76	6.3
West Virginia	Lewis	39.6	76	6.3
West Virginia	Lewis	39.7	76	6.3
West Virginia	Lewis	39.8	76	6.3
West Virginia	Lewis	39.9	76	6.3
West Virginia	Lewis	40.0	76	6.3
West Virginia	Lewis	40.1	76	6.3
West Virginia	Lewis	40.2	76	6.3
West Virginia	Lewis	40.3	76	6.3
West Virginia	Lewis	40.4	76	6.3
West Virginia	Lewis	40.5	76	6.3
West Virginia	Lewis	40.6	76	6.3
West Virginia	Lewis	40.7	76	6.3
West Virginia	Lewis	40.8	76	6.3
West Virginia	Lewis	40.9	More than 84"	More than 7'
West Virginia	Lewis	41.0	76	6.3
West Virginia	Lewis	41.1	76	6.3
West Virginia	Lewis	41.2	76	6.3
West Virginia	Lewis	41.3	76	6.3
West Virginia	Lewis	41.4	76	6.3
West Virginia	Lewis	41.5	76	6.3
West Virginia	Lewis	41.6	76	6.3
West Virginia	Lewis	41.7	76	6.3
West Virginia	Lewis	41.8	76	6.3
West Virginia	Lewis	41.9	76	6.3
West Virginia	Lewis	42.0	76	6.3
West Virginia	Lewis	42.1	76	6.3

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Lewis	42.2	76	6.3
West Virginia	Lewis	42.3	76	6.3
West Virginia	Lewis	42.4	76	6.3
West Virginia	Lewis	42.5	76	6.3
West Virginia	Lewis	42.6	76	6.3
West Virginia	Lewis	42.7	76	6.3
West Virginia	Lewis	42.8	More than 84"	More than 7'
West Virginia	Lewis	42.9	76	6.3
West Virginia	Lewis	43.0	76	6.3
West Virginia	Lewis	43.1	76	6.3
West Virginia	Lewis	43.2	76	6.3
West Virginia	Lewis	43.3	76	6.3
West Virginia	Lewis	43.4	76	6.3
West Virginia	Lewis	43.5	76	6.3
West Virginia	Lewis	43.6	76	6.3
West Virginia	Lewis	43.7	76	6.3
West Virginia	Lewis	43.8	76	6.3
West Virginia	Lewis	43.9	76	6.3
West Virginia	Lewis	44.0	76	6.3
West Virginia	Lewis	44.1	76	6.3
West Virginia	Lewis	44.2	76	6.3
West Virginia	Lewis	44.3	76	6.3
West Virginia	Lewis	44.4	More than 84"	More than 7'
West Virginia	Lewis	44.5	More than 84"	More than 7'
West Virginia	Lewis	44.6	76	6.3
West Virginia	Lewis	44.7	76	6.3
West Virginia	Lewis	44.8	76	6.3
West Virginia	Lewis	44.9	76	6.3
West Virginia	Lewis	45.0	76	6.3
West Virginia	Lewis	45.1	76	6.3
West Virginia	Lewis	45.2	76	6.3
West Virginia	Lewis	45.3	76	6.3
West Virginia	Lewis	45.4	76	6.3
West Virginia	Lewis	45.5	More than 84"	More than 7'
West Virginia	Lewis	45.6	More than 84"	More than 7'
West Virginia	Lewis	45.7	More than 84"	More than 7'
West Virginia	Lewis	45.8	More than 84"	More than 7'
West Virginia	Lewis	45.9	More than 84"	More than 7'
West Virginia	Lewis	46.0	76	6.3
West Virginia	Lewis	46.1	76	6.3
West Virginia	Lewis	46.2	76	6.3
West Virginia	Lewis	46.3	76	6.3
West Virginia	Lewis	46.4	76	6.3
West Virginia	Lewis	46.5	76	6.3
West Virginia	Lewis	46.6	76	6.3
West Virginia	Lewis	46.7	76	6.3
West Virginia	Lewis	46.8	76	6.3

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Lewis	46.9	76	6.3
West Virginia	Lewis	47.0	76	6.3
West Virginia	Lewis	47.1	76	6.3
West Virginia	Lewis	47.2	76	6.3
West Virginia	Lewis	47.3	76	6.3
West Virginia	Lewis	47.4	76	6.3
West Virginia	Lewis	47.5	76	6.3
West Virginia	Lewis	47.6	76	6.3
West Virginia	Lewis	47.7	More than 84"	More than 7'
West Virginia	Lewis	47.8	More than 84"	More than 7'
West Virginia	Lewis	47.9	76	6.3
West Virginia	Lewis	48.0	76	6.3
West Virginia	Lewis	48.1	76	6.3
West Virginia	Lewis	48.2	76	6.3
West Virginia	Lewis	48.3	76	6.3
West Virginia	Lewis	48.4	76	6.3
West Virginia	Lewis	48.5	76	6.3
West Virginia	Lewis	48.6	76	6.3
West Virginia	Lewis	48.7	76	6.3
West Virginia	Lewis	48.8	76	6.3
West Virginia	Lewis	48.9	76	6.3
West Virginia	Lewis	49.0	76	6.3
West Virginia	Lewis	49.1	76	6.3
West Virginia	Lewis	49.2	76	6.3
West Virginia	Lewis	49.3	76	6.3
West Virginia	Lewis	49.4	76	6.3
West Virginia	Lewis	49.5	76	6.3
West Virginia	Lewis	49.6	76	6.3
West Virginia	Lewis	49.7	76	6.3
West Virginia	Lewis	49.8	76	6.3
West Virginia	Lewis	49.9	76	6.3
West Virginia	Lewis	50.0	76	6.3
West Virginia	Lewis	50.1	76	6.3
West Virginia	Lewis	50.2	76	6.3
West Virginia	Lewis	50.3	76	6.3
West Virginia	Lewis	50.4	76	6.3
West Virginia	Lewis	50.5	76	6.3
West Virginia	Lewis	50.6	76	6.3
West Virginia	Lewis	50.7	76	6.3
West Virginia	Lewis	50.8	More than 84"	More than 7'
West Virginia	Lewis	50.9	76	6.3
West Virginia	Lewis	51.0	76	6.3
West Virginia	Lewis	51.1	76	6.3
West Virginia	Lewis	51.2	76	6.3
West Virginia	Lewis	51.3	76	6.3
West Virginia	Lewis	51.4	76	6.3
West Virginia	Lewis	51.5	76	6.3

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Lewis	51.6	76	6.3
West Virginia	Lewis	51.7	76	6.3
West Virginia	Lewis	51.8	76	6.3
West Virginia	Lewis	51.9	76	6.3
West Virginia	Lewis	52.0	76	6.3
West Virginia	Lewis	52.1	76	6.3
West Virginia	Lewis	52.2	76	6.3
West Virginia	Lewis	52.3	76	6.3
West Virginia	Lewis	52.4	76	6.3
West Virginia	Lewis	52.5	76	6.3
West Virginia	Lewis	52.6	76	6.3
West Virginia	Lewis	52.7	76	6.3
West Virginia	Lewis	52.8	76	6.3
West Virginia	Lewis	52.9	76	6.3
West Virginia	Lewis	53.0	76	6.3
West Virginia	Lewis	53.1	76	6.3
West Virginia	Lewis	53.2	76	6.3
West Virginia	Lewis	53.3	76	6.3
West Virginia	Lewis	53.4	76	6.3
West Virginia	Lewis	53.5	76	6.3
West Virginia	Lewis	53.6	76	6.3
West Virginia	Lewis	53.7	76	6.3
West Virginia	Lewis	53.8	76	6.3
West Virginia	Lewis	53.9	76	6.3
West Virginia	Lewis	54.0	76	6.3
West Virginia	Lewis	54.1	76	6.3
West Virginia	Lewis	54.2	76	6.3
West Virginia	Lewis	54.3	76	6.3
West Virginia	Lewis	54.4	76	6.3
West Virginia	Lewis	54.5	76	6.3
West Virginia	Lewis	54.6	76	6.3
West Virginia	Lewis	54.7	76	6.3
West Virginia	Lewis	54.8	More than 84"	More than 7'
West Virginia	Lewis	54.9	76	6.3
West Virginia	Lewis	55.0	76	6.3
West Virginia	Lewis	55.1	76	6.3
West Virginia	Lewis	55.2	76	6.3
West Virginia	Lewis	55.3	76	6.3
West Virginia	Lewis	55.4	76	6.3
West Virginia	Lewis	55.5	76	6.3
West Virginia	Lewis	55.6	76	6.3
West Virginia	Lewis	55.7	76	6.3
West Virginia	Lewis	55.8	76	6.3
West Virginia	Lewis	55.9	76	6.3
West Virginia	Lewis	56.0	76	6.3
West Virginia	Lewis	56.1	76	6.3
West Virginia	Lewis	56.2	76	6.3

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Lewis	56.3	76	6.3
West Virginia	Lewis	56.4	76	6.3
West Virginia	Lewis	56.5	76	6.3
West Virginia	Lewis	56.6	76	6.3
West Virginia	Lewis	56.7	76	6.3
West Virginia	Lewis	56.8	76	6.3
West Virginia	Lewis	56.9	76	6.3
West Virginia	Lewis	57.0	76	6.3
West Virginia	Lewis	57.1	76	6.3
West Virginia	Lewis	57.2	76	6.3
West Virginia	Lewis	57.3	76	6.3
West Virginia	Lewis	57.4	76	6.3
West Virginia	Lewis	57.5	76	6.3
West Virginia	Lewis	57.6	76	6.3
West Virginia	Lewis	57.7	76	6.3
West Virginia	Lewis	57.8	76	6.3
West Virginia	Lewis	57.9	76	6.3
West Virginia	Lewis	58.0	76	6.3
West Virginia	Lewis	58.1	76	6.3
West Virginia	Lewis	58.2	More than 84"	More than 7'
West Virginia	Lewis	58.3	More than 84"	More than 7'
West Virginia	Lewis	58.4	76	6.3
West Virginia	Lewis	58.5	76	6.3
West Virginia	Lewis	58.6	76	6.3
West Virginia	Lewis	58.7	76	6.3
West Virginia	Lewis	58.8	76	6.3
West Virginia	Lewis	58.9	76	6.3
West Virginia	Lewis	59.0	76	6.3
West Virginia	Lewis	59.1	76	6.3
West Virginia	Lewis	59.2	76	6.3
West Virginia	Lewis	59.3	76	6.3
West Virginia	Lewis	59.4	76	6.3
West Virginia	Lewis	59.5	76	6.3
West Virginia	Lewis	59.6	76	6.3
West Virginia	Lewis	59.7	76	6.3
West Virginia	Lewis	59.8	More than 84"	More than 7'
West Virginia	Lewis	59.9	76	6.3
West Virginia	Lewis	60.0	More than 84"	More than 7'
West Virginia	Lewis	60.1	76	6.3
West Virginia	Lewis	60.2	76	6.3
West Virginia	Lewis	60.3	76	6.3
West Virginia	Lewis	60.4	76	6.3
West Virginia	Lewis	60.5	76	6.3
West Virginia	Lewis	60.6	76	6.3
West Virginia	Lewis	60.7	76	6.3
West Virginia	Lewis	60.8	76	6.3
West Virginia	Lewis	60.9	76	6.3

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Lewis	61.0	76	6.3
West Virginia	Lewis	61.1	76	6.3
West Virginia	Lewis	61.2	76	6.3
West Virginia	Lewis	61.3	76	6.3
West Virginia	Lewis	61.4	76	6.3
West Virginia	Lewis	61.5	76	6.3
West Virginia	Lewis	61.6	76	6.3
West Virginia	Lewis	61.7	76	6.3
West Virginia	Lewis	61.8	76	6.3
West Virginia	Lewis	61.9	76	6.3
West Virginia	Lewis	62.0	76	6.3
West Virginia	Lewis	62.1	76	6.3
West Virginia	Lewis	62.2	More than 84"	More than 7'
West Virginia	Lewis	62.3	76	6.3
West Virginia	Lewis	62.4	76	6.3
West Virginia	Lewis	62.5	76	6.3
West Virginia	Lewis	62.6	76	6.3
West Virginia	Lewis	62.7	76	6.3
West Virginia	Lewis	62.8	76	6.3
West Virginia	Lewis	62.9	76	6.3
West Virginia	Lewis	63.0	76	6.3
West Virginia	Lewis	63.1	76	6.3
West Virginia	Lewis	63.2	76	6.3
West Virginia	Lewis	63.3	76	6.3
West Virginia	Lewis	63.4	76	6.3
West Virginia	Lewis	63.5	76	6.3
West Virginia	Lewis	63.6	76	6.3
West Virginia	Lewis	63.7	76	6.3
West Virginia	Lewis	63.8	76	6.3
West Virginia	Lewis	63.9	76	6.3
West Virginia	Lewis	64.0	76	6.3
West Virginia	Lewis	64.1	76	6.3
West Virginia	Lewis	64.2	76	6.3
West Virginia	Lewis	64.3	76	6.3
West Virginia	Lewis	64.4	76	6.3
West Virginia	Lewis	64.5	76	6.3
West Virginia	Lewis	64.6	76	6.3
West Virginia	Lewis	64.7	76	6.3
West Virginia	Lewis	64.8	76	6.3
West Virginia	Lewis	64.9	76	6.3
West Virginia	Lewis	65.0	76	6.3
West Virginia	Lewis	65.1	76	6.3
West Virginia	Lewis	65.2	76	6.3
West Virginia	Lewis	65.3	76	6.3
West Virginia	Lewis	65.4	76	6.3
West Virginia	Lewis	65.5	76	6.3
West Virginia	Lewis	65.6	76	6.3

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Lewis	65.7	76	6.3
West Virginia	Lewis	65.8	More than 84"	More than 7'
West Virginia	Braxton	65.9	More than 84"	More than 7'
West Virginia	Braxton	66.0	More than 84"	More than 7'
West Virginia	Braxton	66.1	More than 84"	More than 7'
West Virginia	Braxton	66.2	More than 84"	More than 7'
West Virginia	Braxton	66.3	More than 84"	More than 7'
West Virginia	Braxton	66.4	More than 84"	More than 7'
West Virginia	Braxton	66.5	More than 84"	More than 7'
West Virginia	Braxton	66.6	More than 84"	More than 7'
West Virginia	Braxton	66.7	More than 84"	More than 7'
West Virginia	Braxton	66.8	More than 84"	More than 7'
West Virginia	Braxton	66.9	More than 84"	More than 7'
West Virginia	Braxton	67.0	More than 84"	More than 7'
West Virginia	Braxton	67.1	More than 84"	More than 7'
West Virginia	Braxton	67.2	More than 84"	More than 7'
West Virginia	Braxton	67.3	More than 84"	More than 7'
West Virginia	Braxton	67.4	More than 84"	More than 7'
West Virginia	Braxton	67.5	More than 84"	More than 7'
West Virginia	Braxton	67.6	More than 84"	More than 7'
West Virginia	Braxton	67.7	More than 84"	More than 7'
West Virginia	Braxton	67.8	More than 84"	More than 7'
West Virginia	Braxton	67.9	More than 84"	More than 7'
West Virginia	Braxton	68.0	More than 84"	More than 7'
West Virginia	Braxton	68.1	More than 84"	More than 7'
West Virginia	Braxton	68.2	More than 84"	More than 7'
West Virginia	Braxton	68.3	More than 84"	More than 7'
West Virginia	Braxton	68.4	More than 84"	More than 7'
West Virginia	Braxton	68.5	More than 84"	More than 7'
West Virginia	Braxton	68.6	More than 84"	More than 7'
West Virginia	Braxton	68.7	More than 84"	More than 7'
West Virginia	Braxton	68.8	More than 84"	More than 7'
West Virginia	Braxton	68.9	69	5.8
West Virginia	Braxton	69.0	More than 84"	More than 7'
West Virginia	Braxton	69.1	More than 84"	More than 7'
West Virginia	Braxton	69.2	More than 84"	More than 7'
West Virginia	Braxton	69.3	More than 84"	More than 7'
West Virginia	Braxton	69.4	More than 84"	More than 7'
West Virginia	Braxton	69.5	More than 84"	More than 7'
West Virginia	Braxton	69.6	More than 84"	More than 7'
West Virginia	Braxton	69.7	More than 84"	More than 7'
West Virginia	Braxton	69.8	More than 84"	More than 7'
West Virginia	Braxton	69.9	More than 84"	More than 7'
West Virginia	Braxton	70.0	More than 84"	More than 7'
West Virginia	Braxton	70.1	More than 84"	More than 7'
West Virginia	Braxton	70.2	More than 84"	More than 7'
West Virginia	Braxton	70.3	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Braxton	70.4	More than 84"	More than 7'
West Virginia	Braxton	70.5	More than 84"	More than 7'
West Virginia	Braxton	70.6	More than 84"	More than 7'
West Virginia	Braxton	70.7	More than 84"	More than 7'
West Virginia	Braxton	70.8	More than 84"	More than 7'
West Virginia	Braxton	70.9	More than 84"	More than 7'
West Virginia	Braxton	71.0	More than 84"	More than 7'
West Virginia	Braxton	71.1	More than 84"	More than 7'
West Virginia	Braxton	71.2	More than 84"	More than 7'
West Virginia	Braxton	71.3	More than 84"	More than 7'
West Virginia	Braxton	71.4	More than 84"	More than 7'
West Virginia	Braxton	71.5	More than 84"	More than 7'
West Virginia	Braxton	71.6	More than 84"	More than 7'
West Virginia	Braxton	71.7	More than 84"	More than 7'
West Virginia	Braxton	71.8	More than 84"	More than 7'
West Virginia	Braxton	71.9	More than 84"	More than 7'
West Virginia	Braxton	72.0	More than 84"	More than 7'
West Virginia	Braxton	72.1	More than 84"	More than 7'
West Virginia	Braxton	72.2	More than 84"	More than 7'
West Virginia	Braxton	72.3	69	5.8
West Virginia	Braxton	72.4	69	5.8
West Virginia	Braxton	72.5	69	5.8
West Virginia	Braxton	72.6	69	5.8
West Virginia	Braxton	72.7	More than 84"	More than 7'
West Virginia	Braxton	72.8	69	5.8
West Virginia	Braxton	72.9	More than 84"	More than 7'
West Virginia	Braxton	73.0	More than 84"	More than 7'
West Virginia	Braxton	73.1	69	5.8
West Virginia	Braxton	73.2	69	5.8
West Virginia	Braxton	73.3	69	5.8
West Virginia	Braxton	73.4	69	5.8
West Virginia	Braxton	73.5	69	5.8
West Virginia	Braxton	73.6	69	5.8
West Virginia	Braxton	73.7	69	5.8
West Virginia	Braxton	73.8	69	5.8
West Virginia	Braxton	73.9	More than 84"	More than 7'
West Virginia	Braxton	74.0	More than 84"	More than 7'
West Virginia	Braxton	74.1	More than 84"	More than 7'
West Virginia	Braxton	74.2	69	5.8
West Virginia	Braxton	74.3	69	5.8
West Virginia	Braxton	74.4	More than 84"	More than 7'
West Virginia	Braxton	74.5	More than 84"	More than 7'
West Virginia	Braxton	74.6	More than 84"	More than 7'
West Virginia	Braxton	74.7	69	5.8
West Virginia	Braxton	74.8	69	5.8
West Virginia	Braxton	74.9	69	5.8
West Virginia	Braxton	75.0	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Braxton	75.1	More than 84"	More than 7'
West Virginia	Braxton	75.2	More than 84"	More than 7'
West Virginia	Braxton	75.3	More than 84"	More than 7'
West Virginia	Braxton	75.4	More than 84"	More than 7'
West Virginia	Braxton	75.5	More than 84"	More than 7'
West Virginia	Braxton	75.6	69	5.8
West Virginia	Braxton	75.7	69	5.8
West Virginia	Braxton	75.8	69	5.8
West Virginia	Braxton	75.9	69	5.8
West Virginia	Braxton	76.0	69	5.8
West Virginia	Braxton	76.1	69	5.8
West Virginia	Braxton	76.2	69	5.8
West Virginia	Braxton	76.3	69	5.8
West Virginia	Braxton	76.4	69	5.8
West Virginia	Braxton	76.5	69	5.8
West Virginia	Braxton	76.6	69	5.8
West Virginia	Braxton	76.7	69	5.8
West Virginia	Braxton	76.8	69	5.8
West Virginia	Braxton	76.9	69	5.8
West Virginia	Braxton	77.0	69	5.8
West Virginia	Braxton	77.1	More than 84"	More than 7'
West Virginia	Braxton	77.2	More than 84"	More than 7'
West Virginia	Braxton	77.3	More than 84"	More than 7'
West Virginia	Braxton	77.4	69	5.8
West Virginia	Braxton	77.5	69	5.8
West Virginia	Braxton	77.6	69	5.8
West Virginia	Braxton	77.7	69	5.8
West Virginia	Braxton	77.8	69	5.8
West Virginia	Braxton	77.9	69	5.8
West Virginia	Braxton	78.0	69	5.8
West Virginia	Braxton	78.1	More than 84"	More than 7'
West Virginia	Braxton	78.2	More than 84"	More than 7'
West Virginia	Braxton	78.3	69	5.8
West Virginia	Braxton	78.4	More than 84"	More than 7'
West Virginia	Braxton	78.5	More than 84"	More than 7'
West Virginia	Braxton	78.6	More than 84"	More than 7'
West Virginia	Braxton	78.7	More than 84"	More than 7'
West Virginia	Braxton	78.8	69	5.8
West Virginia	Braxton	78.9	69	5.8
West Virginia	Braxton	79.0	69	5.8
West Virginia	Braxton	79.1	69	5.8
West Virginia	Braxton	79.2	69	5.8
West Virginia	Braxton	79.3	69	5.8
West Virginia	Braxton	79.4	More than 84"	More than 7'
West Virginia	Braxton	79.5	69	5.8
West Virginia	Braxton	79.6	More than 84"	More than 7'
West Virginia	Braxton	79.7	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Braxton	79.8	69	5.8
West Virginia	Braxton	79.9	69	5.8
West Virginia	Braxton	80.0	More than 84"	More than 7'
West Virginia	Braxton	80.1	More than 84"	More than 7'
West Virginia	Braxton	80.2	More than 84"	More than 7'
West Virginia	Braxton	80.3	More than 84"	More than 7'
West Virginia	Braxton	80.4	69	5.8
West Virginia	Braxton	80.5	69	5.8
West Virginia	Braxton	80.6	69	5.8
West Virginia	Webster	80.7	More than 84"	More than 7'
West Virginia	Webster	80.8	More than 84"	More than 7'
West Virginia	Webster	80.9	More than 84"	More than 7'
West Virginia	Webster	81.0	More than 84"	More than 7'
West Virginia	Webster	81.1	More than 84"	More than 7'
West Virginia	Webster	81.2	More than 84"	More than 7'
West Virginia	Webster	81.3	More than 84"	More than 7'
West Virginia	Webster	81.4	More than 84"	More than 7'
West Virginia	Webster	81.5	More than 84"	More than 7'
West Virginia	Webster	81.6	More than 84"	More than 7'
West Virginia	Webster	81.7	More than 84"	More than 7'
West Virginia	Webster	81.8	More than 84"	More than 7'
West Virginia	Webster	81.9	More than 84"	More than 7'
West Virginia	Webster	82.0	More than 84"	More than 7'
West Virginia	Webster	82.1	More than 84"	More than 7'
West Virginia	Webster	82.2	More than 84"	More than 7'
West Virginia	Webster	82.3	More than 84"	More than 7'
West Virginia	Webster	82.4	More than 84"	More than 7'
West Virginia	Webster	82.5	More than 84"	More than 7'
West Virginia	Webster	82.6	More than 84"	More than 7'
West Virginia	Webster	82.7	More than 84"	More than 7'
West Virginia	Webster	82.8	More than 84"	More than 7'
West Virginia	Webster	82.9	More than 84"	More than 7'
West Virginia	Webster	83.0	More than 84"	More than 7'
West Virginia	Webster	83.1	More than 84"	More than 7'
West Virginia	Webster	83.2	More than 84"	More than 7'
West Virginia	Webster	83.3	More than 84"	More than 7'
West Virginia	Webster	83.4	More than 84"	More than 7'
West Virginia	Webster	83.5	More than 84"	More than 7'
West Virginia	Webster	83.6	More than 84"	More than 7'
West Virginia	Webster	83.7	More than 84"	More than 7'
West Virginia	Webster	83.8	More than 84"	More than 7'
West Virginia	Webster	83.9	More than 84"	More than 7'
West Virginia	Webster	84.0	More than 84"	More than 7'
West Virginia	Webster	84.1	More than 84"	More than 7'
West Virginia	Webster	84.2	More than 84"	More than 7'
West Virginia	Webster	84.3	More than 84"	More than 7'
West Virginia	Webster	84.4	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Webster	84.5	More than 84"	More than 7'
West Virginia	Webster	84.6	More than 84"	More than 7'
West Virginia	Webster	84.7	More than 84"	More than 7'
West Virginia	Webster	84.8	More than 84"	More than 7'
West Virginia	Webster	84.9	More than 84"	More than 7'
West Virginia	Webster	85.0	More than 84"	More than 7'
West Virginia	Webster	85.1	More than 84"	More than 7'
West Virginia	Webster	85.2	More than 84"	More than 7'
West Virginia	Webster	85.3	More than 84"	More than 7'
West Virginia	Webster	85.4	More than 84"	More than 7'
West Virginia	Webster	85.5	More than 84"	More than 7'
West Virginia	Webster	85.6	More than 84"	More than 7'
West Virginia	Webster	85.7	More than 84"	More than 7'
West Virginia	Webster	85.8	More than 84"	More than 7'
West Virginia	Webster	85.9	More than 84"	More than 7'
West Virginia	Webster	86.0	More than 84"	More than 7'
West Virginia	Webster	86.1	More than 84"	More than 7'
West Virginia	Webster	86.2	More than 84"	More than 7'
West Virginia	Webster	86.3	More than 84"	More than 7'
West Virginia	Webster	86.4	More than 84"	More than 7'
West Virginia	Webster	86.5	More than 84"	More than 7'
West Virginia	Webster	86.6	More than 84"	More than 7'
West Virginia	Webster	86.7	More than 84"	More than 7'
West Virginia	Webster	86.8	More than 84"	More than 7'
West Virginia	Webster	86.9	More than 84"	More than 7'
West Virginia	Webster	87.0	More than 84"	More than 7'
West Virginia	Webster	87.1	More than 84"	More than 7'
West Virginia	Webster	87.2	More than 84"	More than 7'
West Virginia	Webster	87.3	More than 84"	More than 7'
West Virginia	Webster	87.4	More than 84"	More than 7'
West Virginia	Webster	87.5	More than 84"	More than 7'
West Virginia	Webster	87.6	More than 84"	More than 7'
West Virginia	Webster	87.7	More than 84"	More than 7'
West Virginia	Webster	87.8	More than 84"	More than 7'
West Virginia	Webster	87.9	More than 84"	More than 7'
West Virginia	Webster	88.0	More than 84"	More than 7'
West Virginia	Webster	88.1	More than 84"	More than 7'
West Virginia	Webster	88.2	More than 84"	More than 7'
West Virginia	Webster	88.3	More than 84"	More than 7'
West Virginia	Webster	88.4	More than 84"	More than 7'
West Virginia	Webster	88.5	More than 84"	More than 7'
West Virginia	Webster	88.6	More than 84"	More than 7'
West Virginia	Webster	88.7	More than 84"	More than 7'
West Virginia	Webster	88.8	More than 84"	More than 7'
West Virginia	Webster	88.9	More than 84"	More than 7'
West Virginia	Webster	89.0	More than 84"	More than 7'
West Virginia	Webster	89.1	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Webster	89.2	More than 84"	More than 7'
West Virginia	Webster	89.3	More than 84"	More than 7'
West Virginia	Webster	89.4	More than 84"	More than 7'
West Virginia	Webster	89.5	More than 84"	More than 7'
West Virginia	Webster	89.6	More than 84"	More than 7'
West Virginia	Webster	89.7	More than 84"	More than 7'
West Virginia	Webster	89.8	More than 84"	More than 7'
West Virginia	Webster	89.9	More than 84"	More than 7'
West Virginia	Webster	90.0	More than 84"	More than 7'
West Virginia	Webster	90.1	More than 84"	More than 7'
West Virginia	Webster	90.2	More than 84"	More than 7'
West Virginia	Webster	90.3	More than 84"	More than 7'
West Virginia	Webster	90.4	More than 84"	More than 7'
West Virginia	Webster	90.5	More than 84"	More than 7'
West Virginia	Webster	90.6	More than 84"	More than 7'
West Virginia	Webster	90.7	More than 84"	More than 7'
West Virginia	Webster	90.8	More than 84"	More than 7'
West Virginia	Webster	90.9	More than 84"	More than 7'
West Virginia	Webster	91.0	More than 84"	More than 7'
West Virginia	Webster	91.1	More than 84"	More than 7'
West Virginia	Webster	91.2	More than 84"	More than 7'
West Virginia	Webster	91.3	More than 84"	More than 7'
West Virginia	Webster	91.4	More than 84"	More than 7'
West Virginia	Webster	91.5	More than 84"	More than 7'
West Virginia	Webster	91.6	More than 84"	More than 7'
West Virginia	Webster	91.7	More than 84"	More than 7'
West Virginia	Webster	91.8	More than 84"	More than 7'
West Virginia	Webster	91.9	More than 84"	More than 7'
West Virginia	Webster	92.0	More than 84"	More than 7'
West Virginia	Webster	92.1	More than 84"	More than 7'
West Virginia	Webster	92.2	More than 84"	More than 7'
West Virginia	Webster	92.3	More than 84"	More than 7'
West Virginia	Webster	92.4	More than 84"	More than 7'
West Virginia	Webster	92.5	More than 84"	More than 7'
West Virginia	Webster	92.6	More than 84"	More than 7'
West Virginia	Webster	92.7	More than 84"	More than 7'
West Virginia	Webster	92.8	More than 84"	More than 7'
West Virginia	Webster	92.9	More than 84"	More than 7'
West Virginia	Webster	93.0	More than 84"	More than 7'
West Virginia	Webster	93.1	More than 84"	More than 7'
West Virginia	Webster	93.2	More than 84"	More than 7'
West Virginia	Webster	93.3	More than 84"	More than 7'
West Virginia	Webster	93.4	More than 84"	More than 7'
West Virginia	Webster	93.5	More than 84"	More than 7'
West Virginia	Webster	93.6	More than 84"	More than 7'
West Virginia	Webster	93.7	More than 84"	More than 7'
West Virginia	Webster	93.8	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Webster	93.9	More than 84"	More than 7'
West Virginia	Webster	94.0	More than 84"	More than 7'
West Virginia	Webster	94.1	More than 84"	More than 7'
West Virginia	Webster	94.2	More than 84"	More than 7'
West Virginia	Webster	94.3	More than 84"	More than 7'
West Virginia	Webster	94.4	More than 84"	More than 7'
West Virginia	Webster	94.5	More than 84"	More than 7'
West Virginia	Webster	94.6	More than 84"	More than 7'
West Virginia	Webster	94.7	More than 84"	More than 7'
West Virginia	Webster	94.8	More than 84"	More than 7'
West Virginia	Webster	94.9	More than 84"	More than 7'
West Virginia	Webster	95.0	More than 84"	More than 7'
West Virginia	Webster	95.1	More than 84"	More than 7'
West Virginia	Webster	95.2	More than 84"	More than 7'
West Virginia	Webster	95.3	More than 84"	More than 7'
West Virginia	Webster	95.4	More than 84"	More than 7'
West Virginia	Webster	95.5	More than 84"	More than 7'
West Virginia	Webster	95.6	More than 84"	More than 7'
West Virginia	Webster	95.7	More than 84"	More than 7'
West Virginia	Webster	95.8	More than 84"	More than 7'
West Virginia	Webster	95.9	More than 84"	More than 7'
West Virginia	Webster	96.0	More than 84"	More than 7'
West Virginia	Webster	96.1	More than 84"	More than 7'
West Virginia	Webster	96.2	More than 84"	More than 7'
West Virginia	Webster	96.3	More than 84"	More than 7'
West Virginia	Webster	96.4	More than 84"	More than 7'
West Virginia	Webster	96.5	More than 84"	More than 7'
West Virginia	Webster	96.6	More than 84"	More than 7'
West Virginia	Webster	96.7	More than 84"	More than 7'
West Virginia	Webster	96.8	More than 84"	More than 7'
West Virginia	Webster	96.9	More than 84"	More than 7'
West Virginia	Webster	97.0	More than 84"	More than 7'
West Virginia	Webster	97.1	More than 84"	More than 7'
West Virginia	Webster	97.2	More than 84"	More than 7'
West Virginia	Webster	97.3	More than 84"	More than 7'
West Virginia	Webster	97.4	More than 84"	More than 7'
West Virginia	Webster	97.5	More than 84"	More than 7'
West Virginia	Webster	97.6	More than 84"	More than 7'
West Virginia	Webster	97.7	More than 84"	More than 7'
West Virginia	Webster	97.8	More than 84"	More than 7'
West Virginia	Webster	97.9	More than 84"	More than 7'
West Virginia	Webster	98.0	More than 84"	More than 7'
West Virginia	Webster	98.1	More than 84"	More than 7'
West Virginia	Webster	98.2	More than 84"	More than 7'
West Virginia	Webster	98.3	More than 84"	More than 7'
West Virginia	Webster	98.4	More than 84"	More than 7'
West Virginia	Webster	98.5	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Webster	98.6	More than 84"	More than 7'
West Virginia	Webster	98.7	More than 84"	More than 7'
West Virginia	Webster	98.8	More than 84"	More than 7'
West Virginia	Webster	98.9	More than 84"	More than 7'
West Virginia	Webster	99.0	More than 84"	More than 7'
West Virginia	Webster	99.1	More than 84"	More than 7'
West Virginia	Webster	99.2	More than 84"	More than 7'
West Virginia	Webster	99.3	More than 84"	More than 7'
West Virginia	Webster	99.4	More than 84"	More than 7'
West Virginia	Webster	99.5	More than 84"	More than 7'
West Virginia	Webster	99.6	More than 84"	More than 7'
West Virginia	Webster	99.7	More than 84"	More than 7'
West Virginia	Webster	99.8	More than 84"	More than 7'
West Virginia	Webster	99.9	More than 84"	More than 7'
West Virginia	Webster	100.0	More than 84"	More than 7'
West Virginia	Webster	100.1	More than 84"	More than 7'
West Virginia	Webster	100.2	More than 84"	More than 7'
West Virginia	Webster	100.3	More than 84"	More than 7'
West Virginia	Webster	100.4	More than 84"	More than 7'
West Virginia	Webster	100.5	More than 84"	More than 7'
West Virginia	Webster	100.6	More than 84"	More than 7'
West Virginia	Webster	100.7	More than 84"	More than 7'
West Virginia	Webster	100.8	More than 84"	More than 7'
West Virginia	Webster	100.9	More than 84"	More than 7'
West Virginia	Webster	101.0	More than 84"	More than 7'
West Virginia	Webster	101.1	More than 84"	More than 7'
West Virginia	Webster	101.2	More than 84"	More than 7'
West Virginia	Webster	101.3	More than 84"	More than 7'
West Virginia	Webster	101.4	More than 84"	More than 7'
West Virginia	Webster	101.5	More than 84"	More than 7'
West Virginia	Webster	101.6	More than 84"	More than 7'
West Virginia	Webster	101.7	More than 84"	More than 7'
West Virginia	Webster	101.8	More than 84"	More than 7'
West Virginia	Webster	101.9	More than 84"	More than 7'
West Virginia	Webster	102.0	More than 84"	More than 7'
West Virginia	Webster	102.1	More than 84"	More than 7'
West Virginia	Webster	102.2	More than 84"	More than 7'
West Virginia	Webster	102.3	More than 84"	More than 7'
West Virginia	Webster	102.4	More than 84"	More than 7'
West Virginia	Webster	102.5	More than 84"	More than 7'
West Virginia	Webster	102.6	More than 84"	More than 7'
West Virginia	Webster	102.7	More than 84"	More than 7'
West Virginia	Webster	102.8	More than 84"	More than 7'
West Virginia	Webster	102.9	More than 84"	More than 7'
West Virginia	Webster	103.0	More than 84"	More than 7'
West Virginia	Webster	103.1	More than 84"	More than 7'
West Virginia	Webster	103.2	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Webster	103.3	More than 84"	More than 7'
West Virginia	Webster	103.4	More than 84"	More than 7'
West Virginia	Webster	103.5	More than 84"	More than 7'
West Virginia	Webster	103.6	More than 84"	More than 7'
West Virginia	Webster	103.7	More than 84"	More than 7'
West Virginia	Webster	103.8	More than 84"	More than 7'
West Virginia	Webster	103.9	More than 84"	More than 7'
West Virginia	Webster	104.0	More than 84"	More than 7'
West Virginia	Webster	104.1	More than 84"	More than 7'
West Virginia	Webster	104.2	More than 84"	More than 7'
West Virginia	Webster	104.3	More than 84"	More than 7'
West Virginia	Webster	104.4	More than 84"	More than 7'
West Virginia	Webster	104.5	More than 84"	More than 7'
West Virginia	Webster	104.6	More than 84"	More than 7'
West Virginia	Webster	104.7	More than 84"	More than 7'
West Virginia	Webster	104.8	More than 84"	More than 7'
West Virginia	Webster	104.9	More than 84"	More than 7'
West Virginia	Webster	105.0	More than 84"	More than 7'
West Virginia	Webster	105.1	More than 84"	More than 7'
West Virginia	Webster	105.2	More than 84"	More than 7'
West Virginia	Webster	105.3	More than 84"	More than 7'
West Virginia	Webster	105.4	More than 84"	More than 7'
West Virginia	Webster	105.5	More than 84"	More than 7'
West Virginia	Webster	105.6	More than 84"	More than 7'
West Virginia	Webster	105.7	More than 84"	More than 7'
West Virginia	Webster	105.8	More than 84"	More than 7'
West Virginia	Webster	105.9	More than 84"	More than 7'
West Virginia	Webster	106.0	More than 84"	More than 7'
West Virginia	Webster	106.1	More than 84"	More than 7'
West Virginia	Webster	106.2	More than 84"	More than 7'
West Virginia	Webster	106.3	More than 84"	More than 7'
West Virginia	Webster	106.4	More than 84"	More than 7'
West Virginia	Webster	106.5	More than 84"	More than 7'
West Virginia	Webster	106.6	More than 84"	More than 7'
West Virginia	Webster	106.7	More than 84"	More than 7'
West Virginia	Webster	106.8	More than 84"	More than 7'
West Virginia	Webster	106.9	More than 84"	More than 7'
West Virginia	Webster	107.0	More than 84"	More than 7'
West Virginia	Webster	107.1	More than 84"	More than 7'
West Virginia	Webster	107.2	More than 84"	More than 7'
West Virginia	Webster	107.3	More than 84"	More than 7'
West Virginia	Webster	107.4	More than 84"	More than 7'
West Virginia	Webster	107.5	More than 84"	More than 7'
West Virginia	Webster	107.6	More than 84"	More than 7'
West Virginia	Webster	107.7	More than 84"	More than 7'
West Virginia	Webster	107.8	More than 84"	More than 7'
West Virginia	Webster	107.9	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Webster	108.0	More than 84"	More than 7'
West Virginia	Webster	108.1	More than 84"	More than 7'
West Virginia	Webster	108.2	More than 84"	More than 7'
West Virginia	Webster	108.3	More than 84"	More than 7'
West Virginia	Webster	108.4	More than 84"	More than 7'
West Virginia	Webster	108.5	More than 84"	More than 7'
West Virginia	Webster	108.6	More than 84"	More than 7'
West Virginia	Webster	108.7	More than 84"	More than 7'
West Virginia	Webster	108.8	More than 84"	More than 7'
West Virginia	Webster	108.9	More than 84"	More than 7'
West Virginia	Webster	109.0	More than 84"	More than 7'
West Virginia	Webster	109.1	More than 84"	More than 7'
West Virginia	Webster	109.2	More than 84"	More than 7'
West Virginia	Webster	109.3	More than 84"	More than 7'
West Virginia	Webster	109.4	More than 84"	More than 7'
West Virginia	Webster	109.5	More than 84"	More than 7'
West Virginia	Webster	109.6	More than 84"	More than 7'
West Virginia	Webster	109.7	More than 84"	More than 7'
West Virginia	Nicholas	109.8	More than 84"	More than 7'
West Virginia	Nicholas	109.9	More than 84"	More than 7'
West Virginia	Nicholas	110.0	More than 84"	More than 7'
West Virginia	Webster	110.1	More than 84"	More than 7'
West Virginia	Webster	110.2	More than 84"	More than 7'
West Virginia	Webster	110.3	More than 84"	More than 7'
West Virginia	Webster	110.4	More than 84"	More than 7'
West Virginia	Webster	110.5	More than 84"	More than 7'
West Virginia	Webster	110.6	More than 84"	More than 7'
West Virginia	Webster	110.7	More than 84"	More than 7'
West Virginia	Webster	110.8	More than 84"	More than 7'
West Virginia	Nicholas	110.9	More than 84"	More than 7'
West Virginia	Nicholas	111.0	More than 84"	More than 7'
West Virginia	Nicholas	111.1	More than 84"	More than 7'
West Virginia	Nicholas	111.2	More than 84"	More than 7'
West Virginia	Nicholas	111.3	More than 84"	More than 7'
West Virginia	Nicholas	111.4	More than 84"	More than 7'
West Virginia	Nicholas	111.5	More than 84"	More than 7'
West Virginia	Nicholas	111.6	More than 84"	More than 7'
West Virginia	Nicholas	111.7	More than 84"	More than 7'
West Virginia	Nicholas	111.8	More than 84"	More than 7'
West Virginia	Nicholas	111.9	More than 84"	More than 7'
West Virginia	Nicholas	112.0	More than 84"	More than 7'
West Virginia	Nicholas	112.1	More than 84"	More than 7'
West Virginia	Nicholas	112.2	More than 84"	More than 7'
West Virginia	Nicholas	112.3	More than 84"	More than 7'
West Virginia	Nicholas	112.4	More than 84"	More than 7'
West Virginia	Nicholas	112.5	More than 84"	More than 7'
West Virginia	Nicholas	112.6	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Nicholas	112.7	More than 84"	More than 7'
West Virginia	Nicholas	112.8	More than 84"	More than 7'
West Virginia	Nicholas	112.9	More than 84"	More than 7'
West Virginia	Nicholas	113.0	More than 84"	More than 7'
West Virginia	Nicholas	113.1	More than 84"	More than 7'
West Virginia	Nicholas	113.2	More than 84"	More than 7'
West Virginia	Nicholas	113.3	More than 84"	More than 7'
West Virginia	Nicholas	113.4	More than 84"	More than 7'
West Virginia	Nicholas	113.5	More than 84"	More than 7'
West Virginia	Nicholas	113.6	More than 84"	More than 7'
West Virginia	Nicholas	113.7	More than 84"	More than 7'
West Virginia	Nicholas	113.8	More than 84"	More than 7'
West Virginia	Nicholas	113.9	More than 84"	More than 7'
West Virginia	Nicholas	114.0	More than 84"	More than 7'
West Virginia	Nicholas	114.1	More than 84"	More than 7'
West Virginia	Nicholas	114.2	56	4.7
West Virginia	Nicholas	114.3	56	4.7
West Virginia	Nicholas	114.4	56	4.7
West Virginia	Nicholas	114.5	56	4.7
West Virginia	Nicholas	114.6	72	6
West Virginia	Nicholas	114.7	72	6
West Virginia	Nicholas	114.8	72	6
West Virginia	Nicholas	114.9	72	6
West Virginia	Nicholas	115.0	72	6
West Virginia	Nicholas	115.1	56	4.7
West Virginia	Nicholas	115.2	56	4.7
West Virginia	Nicholas	115.3	More than 84"	More than 7'
West Virginia	Nicholas	115.4	56	4.7
West Virginia	Nicholas	115.5	72	6
West Virginia	Nicholas	115.6	72	6
West Virginia	Nicholas	115.7	56	4.7
West Virginia	Nicholas	115.8	56	4.7
West Virginia	Nicholas	115.9	72	6
West Virginia	Nicholas	116.0	More than 84"	More than 7'
West Virginia	Nicholas	116.1	More than 84"	More than 7'
West Virginia	Nicholas	116.2	More than 84"	More than 7'
West Virginia	Nicholas	116.3	56	4.7
West Virginia	Nicholas	116.4	More than 84"	More than 7'
West Virginia	Nicholas	116.5	56	4.7
West Virginia	Nicholas	116.6	56	4.7
West Virginia	Nicholas	116.7	56	4.7
West Virginia	Nicholas	116.8	56	4.7
West Virginia	Nicholas	116.9	More than 84"	More than 7'
West Virginia	Nicholas	117.0	More than 84"	More than 7'
West Virginia	Nicholas	117.1	More than 84"	More than 7'
West Virginia	Nicholas	117.2	More than 84"	More than 7'
West Virginia	Nicholas	117.3	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Nicholas	117.4	More than 84"	More than 7'
West Virginia	Nicholas	117.5	More than 84"	More than 7'
West Virginia	Nicholas	117.6	More than 84"	More than 7'
West Virginia	Nicholas	117.7	More than 84"	More than 7'
West Virginia	Nicholas	117.8	More than 84"	More than 7'
West Virginia	Nicholas	117.9	More than 84"	More than 7'
West Virginia	Nicholas	118.0	More than 84"	More than 7'
West Virginia	Nicholas	118.1	More than 84"	More than 7'
West Virginia	Nicholas	118.2	More than 84"	More than 7'
West Virginia	Nicholas	118.3	More than 84"	More than 7'
West Virginia	Nicholas	118.4	More than 84"	More than 7'
West Virginia	Nicholas	118.5	56	4.7
West Virginia	Nicholas	118.6	56	4.7
West Virginia	Nicholas	118.7	56	4.7
West Virginia	Nicholas	118.8	More than 84"	More than 7'
West Virginia	Nicholas	118.9	More than 84"	More than 7'
West Virginia	Nicholas	119.0	More than 84"	More than 7'
West Virginia	Nicholas	119.1	More than 84"	More than 7'
West Virginia	Nicholas	119.2	More than 84"	More than 7'
West Virginia	Nicholas	119.3	More than 84"	More than 7'
West Virginia	Nicholas	119.4	More than 84"	More than 7'
West Virginia	Nicholas	119.5	More than 84"	More than 7'
West Virginia	Nicholas	119.6	More than 84"	More than 7'
West Virginia	Nicholas	119.7	More than 84"	More than 7'
West Virginia	Nicholas	119.8	More than 84"	More than 7'
West Virginia	Nicholas	119.9	More than 84"	More than 7'
West Virginia	Nicholas	120.0	More than 84"	More than 7'
West Virginia	Nicholas	120.1	More than 84"	More than 7'
West Virginia	Nicholas	120.2	More than 84"	More than 7'
West Virginia	Nicholas	120.3	More than 84"	More than 7'
West Virginia	Nicholas	120.4	More than 84"	More than 7'
West Virginia	Nicholas	120.5	More than 84"	More than 7'
West Virginia	Nicholas	120.6	More than 84"	More than 7'
West Virginia	Nicholas	120.7	More than 84"	More than 7'
West Virginia	Nicholas	120.8	More than 84"	More than 7'
West Virginia	Nicholas	120.9	More than 84"	More than 7'
West Virginia	Nicholas	121.0	More than 84"	More than 7'
West Virginia	Nicholas	121.1	More than 84"	More than 7'
West Virginia	Nicholas	121.2	More than 84"	More than 7'
West Virginia	Nicholas	121.3	More than 84"	More than 7'
West Virginia	Nicholas	121.4	More than 84"	More than 7'
West Virginia	Nicholas	121.5	More than 84"	More than 7'
West Virginia	Nicholas	121.6	More than 84"	More than 7'
West Virginia	Nicholas	121.7	More than 84"	More than 7'
West Virginia	Nicholas	121.8	More than 84"	More than 7'
West Virginia	Nicholas	121.9	More than 84"	More than 7'
West Virginia	Nicholas	122.0	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Nicholas	122.1	More than 84"	More than 7'
West Virginia	Nicholas	122.2	More than 84"	More than 7'
West Virginia	Nicholas	122.3	More than 84"	More than 7'
West Virginia	Nicholas	122.4	More than 84"	More than 7'
West Virginia	Nicholas	122.5	56	4.7
West Virginia	Nicholas	122.6	More than 84"	More than 7'
West Virginia	Nicholas	122.7	56	4.7
West Virginia	Nicholas	122.8	56	4.7
West Virginia	Nicholas	122.9	56	4.7
West Virginia	Nicholas	123.0	More than 84"	More than 7'
West Virginia	Nicholas	123.1	More than 84"	More than 7'
West Virginia	Nicholas	123.2	More than 84"	More than 7'
West Virginia	Nicholas	123.3	More than 84"	More than 7'
West Virginia	Nicholas	123.4	More than 84"	More than 7'
West Virginia	Nicholas	123.5	More than 84"	More than 7'
West Virginia	Nicholas	123.6	More than 84"	More than 7'
West Virginia	Nicholas	123.7	More than 84"	More than 7'
West Virginia	Nicholas	123.8	More than 84"	More than 7'
West Virginia	Nicholas	123.9	More than 84"	More than 7'
West Virginia	Nicholas	124.0	More than 84"	More than 7'
West Virginia	Nicholas	124.1	More than 84"	More than 7'
West Virginia	Nicholas	124.2	More than 84"	More than 7'
West Virginia	Nicholas	124.3	More than 84"	More than 7'
West Virginia	Nicholas	124.4	More than 84"	More than 7'
West Virginia	Nicholas	124.5	More than 84"	More than 7'
West Virginia	Nicholas	124.6	More than 84"	More than 7'
West Virginia	Nicholas	124.7	More than 84"	More than 7'
West Virginia	Nicholas	124.8	More than 84"	More than 7'
West Virginia	Nicholas	124.9	More than 84"	More than 7'
West Virginia	Nicholas	125.0	More than 84"	More than 7'
West Virginia	Nicholas	125.1	More than 84"	More than 7'
West Virginia	Nicholas	125.2	More than 84"	More than 7'
West Virginia	Nicholas	125.3	More than 84"	More than 7'
West Virginia	Nicholas	125.4	More than 84"	More than 7'
West Virginia	Nicholas	125.5	More than 84"	More than 7'
West Virginia	Nicholas	125.6	More than 84"	More than 7'
West Virginia	Nicholas	125.7	More than 84"	More than 7'
West Virginia	Nicholas	125.8	More than 84"	More than 7'
West Virginia	Nicholas	125.9	More than 84"	More than 7'
West Virginia	Nicholas	126.0	More than 84"	More than 7'
West Virginia	Nicholas	126.1	More than 84"	More than 7'
West Virginia	Nicholas	126.2	More than 84"	More than 7'
West Virginia	Nicholas	126.3	More than 84"	More than 7'
West Virginia	Nicholas	126.4	More than 84"	More than 7'
West Virginia	Nicholas	126.5	More than 84"	More than 7'
West Virginia	Nicholas	126.6	More than 84"	More than 7'
West Virginia	Nicholas	126.7	56	4.7

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Nicholas	126.8	More than 84"	More than 7'
West Virginia	Nicholas	126.9	More than 84"	More than 7'
West Virginia	Nicholas	127.0	More than 84"	More than 7'
West Virginia	Nicholas	127.1	More than 84"	More than 7'
West Virginia	Nicholas	127.2	More than 84"	More than 7'
West Virginia	Nicholas	127.3	More than 84"	More than 7'
West Virginia	Nicholas	127.4	More than 84"	More than 7'
West Virginia	Nicholas	127.5	More than 84"	More than 7'
West Virginia	Nicholas	127.6	More than 84"	More than 7'
West Virginia	Nicholas	127.7	56	4.7
West Virginia	Nicholas	127.8	56	4.7
West Virginia	Nicholas	127.9	More than 84"	More than 7'
West Virginia	Nicholas	128.0	More than 84"	More than 7'
West Virginia	Nicholas	128.1	More than 84"	More than 7'
West Virginia	Nicholas	128.2	More than 84"	More than 7'
West Virginia	Nicholas	128.3	More than 84"	More than 7'
West Virginia	Nicholas	128.4	More than 84"	More than 7'
West Virginia	Nicholas	128.5	56	4.7
West Virginia	Nicholas	128.6	56	4.7
West Virginia	Nicholas	128.7	56	4.7
West Virginia	Nicholas	128.8	More than 84"	More than 7'
West Virginia	Nicholas	128.9	More than 84"	More than 7'
West Virginia	Nicholas	129.0	More than 84"	More than 7'
West Virginia	Nicholas	129.1	More than 84"	More than 7'
West Virginia	Nicholas	129.2	56	4.7
West Virginia	Nicholas	129.3	56	4.7
West Virginia	Nicholas	129.4	56	4.7
West Virginia	Nicholas	129.5	56	4.7
West Virginia	Nicholas	129.6	More than 84"	More than 7'
West Virginia	Nicholas	129.7	56	4.7
West Virginia	Nicholas	129.8	56	4.7
West Virginia	Nicholas	129.9	56	4.7
West Virginia	Nicholas	130.0	56	4.7
West Virginia	Nicholas	130.1	More than 84"	More than 7'
West Virginia	Nicholas	130.2	More than 84"	More than 7'
West Virginia	Nicholas	130.3	More than 84"	More than 7'
West Virginia	Nicholas	130.4	More than 84"	More than 7'
West Virginia	Nicholas	130.5	More than 84"	More than 7'
West Virginia	Nicholas	130.6	More than 84"	More than 7'
West Virginia	Nicholas	130.7	56	4.7
West Virginia	Nicholas	130.8	56	4.7
West Virginia	Nicholas	130.9	56	4.7
West Virginia	Nicholas	131.0	56	4.7
West Virginia	Nicholas	131.1	More than 84"	More than 7'
West Virginia	Nicholas	131.2	More than 84"	More than 7'
West Virginia	Nicholas	131.3	More than 84"	More than 7'
West Virginia	Nicholas	131.4	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Nicholas	131.5	More than 84"	More than 7'
West Virginia	Nicholas	131.6	More than 84"	More than 7'
West Virginia	Nicholas	131.7	More than 84"	More than 7'
West Virginia	Nicholas	131.8	More than 84"	More than 7'
West Virginia	Nicholas	131.9	More than 84"	More than 7'
West Virginia	Nicholas	132.0	More than 84"	More than 7'
West Virginia	Nicholas	132.1	More than 84"	More than 7'
West Virginia	Nicholas	132.2	More than 84"	More than 7'
West Virginia	Nicholas	132.3	More than 84"	More than 7'
West Virginia	Nicholas	132.4	More than 84"	More than 7'
West Virginia	Nicholas	132.5	More than 84"	More than 7'
West Virginia	Nicholas	132.6	More than 84"	More than 7'
West Virginia	Nicholas	132.7	More than 84"	More than 7'
West Virginia	Nicholas	132.8	More than 84"	More than 7'
West Virginia	Nicholas	132.9	More than 84"	More than 7'
West Virginia	Nicholas	133.0	More than 84"	More than 7'
West Virginia	Nicholas	133.1	More than 84"	More than 7'
West Virginia	Nicholas	133.2	More than 84"	More than 7'
West Virginia	Nicholas	133.3	More than 84"	More than 7'
West Virginia	Nicholas	133.4	More than 84"	More than 7'
West Virginia	Nicholas	133.5	More than 84"	More than 7'
West Virginia	Nicholas	133.6	More than 84"	More than 7'
West Virginia	Nicholas	133.7	More than 84"	More than 7'
West Virginia	Nicholas	133.8	More than 84"	More than 7'
West Virginia	Nicholas	133.9	More than 84"	More than 7'
West Virginia	Nicholas	134.0	More than 84"	More than 7'
West Virginia	Nicholas	134.1	More than 84"	More than 7'
West Virginia	Nicholas	134.2	More than 84"	More than 7'
West Virginia	Nicholas	134.3	More than 84"	More than 7'
West Virginia	Nicholas	134.4	56	4.7
West Virginia	Nicholas	134.5	56	4.7
West Virginia	Nicholas	134.6	56	4.7
West Virginia	Nicholas	134.7	More than 84"	More than 7'
West Virginia	Nicholas	134.8	More than 84"	More than 7'
West Virginia	Nicholas	134.9	More than 84"	More than 7'
West Virginia	Nicholas	135.0	More than 84"	More than 7'
West Virginia	Nicholas	135.1	More than 84"	More than 7'
West Virginia	Nicholas	135.2	More than 84"	More than 7'
West Virginia	Greenbrier	135.3	More than 84"	More than 7'
West Virginia	Greenbrier	135.4	More than 84"	More than 7'
West Virginia	Greenbrier	135.5	More than 84"	More than 7'
West Virginia	Greenbrier	135.6	More than 84"	More than 7'
West Virginia	Greenbrier	135.7	More than 84"	More than 7'
West Virginia	Greenbrier	135.8	More than 84"	More than 7'
West Virginia	Greenbrier	135.9	More than 84"	More than 7'
West Virginia	Greenbrier	136.0	More than 84"	More than 7'
West Virginia	Greenbrier	136.1	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Greenbrier	136.2	More than 84"	More than 7'
West Virginia	Greenbrier	136.3	More than 84"	More than 7'
West Virginia	Greenbrier	136.4	More than 84"	More than 7'
West Virginia	Greenbrier	136.5	More than 84"	More than 7'
West Virginia	Greenbrier	136.6	More than 84"	More than 7'
West Virginia	Greenbrier	136.7	More than 84"	More than 7'
West Virginia	Greenbrier	136.8	More than 84"	More than 7'
West Virginia	Greenbrier	136.9	More than 84"	More than 7'
West Virginia	Greenbrier	137.0	More than 84"	More than 7'
West Virginia	Greenbrier	137.1	More than 84"	More than 7'
West Virginia	Greenbrier	137.2	80	6.7
West Virginia	Greenbrier	137.3	80	6.7
West Virginia	Greenbrier	137.4	80	6.7
West Virginia	Greenbrier	137.5	More than 84"	More than 7'
West Virginia	Greenbrier	137.6	More than 84"	More than 7'
West Virginia	Greenbrier	137.7	More than 84"	More than 7'
West Virginia	Greenbrier	137.8	More than 84"	More than 7'
West Virginia	Greenbrier	137.9	More than 84"	More than 7'
West Virginia	Greenbrier	138.0	80	6.7
West Virginia	Greenbrier	138.1	80	6.7
West Virginia	Greenbrier	138.2	80	6.7
West Virginia	Greenbrier	138.3	80	6.7
West Virginia	Greenbrier	138.4	80	6.7
West Virginia	Greenbrier	138.5	80	6.7
West Virginia	Greenbrier	138.6	More than 84"	More than 7'
West Virginia	Greenbrier	138.7	More than 84"	More than 7'
West Virginia	Greenbrier	138.8	More than 84"	More than 7'
West Virginia	Greenbrier	138.9	More than 84"	More than 7'
West Virginia	Greenbrier	139.0	More than 84"	More than 7'
West Virginia	Greenbrier	139.1	More than 84"	More than 7'
West Virginia	Greenbrier	139.2	More than 84"	More than 7'
West Virginia	Greenbrier	139.3	More than 84"	More than 7'
West Virginia	Greenbrier	139.4	More than 84"	More than 7'
West Virginia	Greenbrier	139.5	More than 84"	More than 7'
West Virginia	Greenbrier	139.6	More than 84"	More than 7'
West Virginia	Greenbrier	139.7	More than 84"	More than 7'
West Virginia	Greenbrier	139.8	More than 84"	More than 7'
West Virginia	Greenbrier	139.9	More than 84"	More than 7'
West Virginia	Greenbrier	140.0	More than 84"	More than 7'
West Virginia	Greenbrier	140.1	More than 84"	More than 7'
West Virginia	Greenbrier	140.2	More than 84"	More than 7'
West Virginia	Greenbrier	140.3	More than 84"	More than 7'
West Virginia	Greenbrier	140.4	More than 84"	More than 7'
West Virginia	Greenbrier	140.5	More than 84"	More than 7'
West Virginia	Greenbrier	140.6	More than 84"	More than 7'
West Virginia	Greenbrier	140.7	More than 84"	More than 7'
West Virginia	Greenbrier	140.8	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Greenbrier	140.9	More than 84"	More than 7'
West Virginia	Greenbrier	141.0	More than 84"	More than 7'
West Virginia	Greenbrier	141.1	More than 84"	More than 7'
West Virginia	Greenbrier	141.2	More than 84"	More than 7'
West Virginia	Greenbrier	141.3	More than 84"	More than 7'
West Virginia	Greenbrier	141.4	More than 84"	More than 7'
West Virginia	Greenbrier	141.5	More than 84"	More than 7'
West Virginia	Greenbrier	141.6	More than 84"	More than 7'
West Virginia	Greenbrier	141.7	More than 84"	More than 7'
West Virginia	Greenbrier	141.8	More than 84"	More than 7'
West Virginia	Greenbrier	141.9	More than 84"	More than 7'
West Virginia	Greenbrier	142.0	More than 84"	More than 7'
West Virginia	Greenbrier	142.1	More than 84"	More than 7'
West Virginia	Greenbrier	142.2	More than 84"	More than 7'
West Virginia	Greenbrier	142.3	More than 84"	More than 7'
West Virginia	Greenbrier	142.4	More than 84"	More than 7'
West Virginia	Greenbrier	142.5	More than 84"	More than 7'
West Virginia	Greenbrier	142.6	More than 84"	More than 7'
West Virginia	Greenbrier	142.7	More than 84"	More than 7'
West Virginia	Greenbrier	142.8	More than 84"	More than 7'
West Virginia	Greenbrier	142.9	More than 84"	More than 7'
West Virginia	Greenbrier	143.0	More than 84"	More than 7'
West Virginia	Greenbrier	143.1	More than 84"	More than 7'
West Virginia	Greenbrier	143.2	More than 84"	More than 7'
West Virginia	Greenbrier	143.3	More than 84"	More than 7'
West Virginia	Greenbrier	143.4	More than 84"	More than 7'
West Virginia	Greenbrier	143.5	More than 84"	More than 7'
West Virginia	Greenbrier	143.6	More than 84"	More than 7'
West Virginia	Greenbrier	143.7	More than 84"	More than 7'
West Virginia	Greenbrier	143.8	More than 84"	More than 7'
West Virginia	Greenbrier	143.9	More than 84"	More than 7'
West Virginia	Greenbrier	144.0	More than 84"	More than 7'
West Virginia	Greenbrier	144.1	More than 84"	More than 7'
West Virginia	Greenbrier	144.2	More than 84"	More than 7'
West Virginia	Greenbrier	144.3	More than 84"	More than 7'
West Virginia	Greenbrier	144.4	0	0
West Virginia	Greenbrier	144.5	More than 84"	More than 7'
West Virginia	Greenbrier	144.6	More than 84"	More than 7'
West Virginia	Greenbrier	144.7	More than 84"	More than 7'
West Virginia	Greenbrier	144.8	More than 84"	More than 7'
West Virginia	Greenbrier	144.9	More than 84"	More than 7'
West Virginia	Greenbrier	145.0	More than 84"	More than 7'
West Virginia	Greenbrier	145.1	More than 84"	More than 7'
West Virginia	Greenbrier	145.2	More than 84"	More than 7'
West Virginia	Greenbrier	145.3	More than 84"	More than 7'
West Virginia	Greenbrier	145.4	More than 84"	More than 7'
West Virginia	Greenbrier	145.5	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Greenbrier	145.6	More than 84"	More than 7'
West Virginia	Greenbrier	145.7	More than 84"	More than 7'
West Virginia	Greenbrier	145.8	More than 84"	More than 7'
West Virginia	Greenbrier	145.9	More than 84"	More than 7'
West Virginia	Greenbrier	146.0	More than 84"	More than 7'
West Virginia	Greenbrier	146.1	80	6.7
West Virginia	Greenbrier	146.2	80	6.7
West Virginia	Greenbrier	146.3	80	6.7
West Virginia	Greenbrier	146.4	80	6.7
West Virginia	Greenbrier	146.5	More than 84"	More than 7'
West Virginia	Greenbrier	146.6	More than 84"	More than 7'
West Virginia	Greenbrier	146.7	More than 84"	More than 7'
West Virginia	Greenbrier	146.8	More than 84"	More than 7'
West Virginia	Greenbrier	146.9	More than 84"	More than 7'
West Virginia	Greenbrier	147.0	More than 84"	More than 7'
West Virginia	Greenbrier	147.1	More than 84"	More than 7'
West Virginia	Greenbrier	147.2	More than 84"	More than 7'
West Virginia	Greenbrier	147.3	More than 84"	More than 7'
West Virginia	Greenbrier	147.4	0	0
West Virginia	Greenbrier	147.5	84	7
West Virginia	Greenbrier	147.6	84	7
West Virginia	Greenbrier	147.7	84	7
West Virginia	Greenbrier	147.8	84	7
West Virginia	Greenbrier	147.9	84	7
West Virginia	Greenbrier	148.0	84	7
West Virginia	Greenbrier	148.1	84	7
West Virginia	Greenbrier	148.2	More than 84"	More than 7'
West Virginia	Greenbrier	148.3	More than 84"	More than 7'
West Virginia	Greenbrier	148.4	84	7
West Virginia	Greenbrier	148.5	84	7
West Virginia	Greenbrier	148.6	84	7
West Virginia	Greenbrier	148.7	84	7
West Virginia	Greenbrier	148.8	84	7
West Virginia	Greenbrier	148.9	0	0
West Virginia	Greenbrier	149.0	More than 84"	More than 7'
West Virginia	Greenbrier	149.1	More than 84"	More than 7'
West Virginia	Greenbrier	149.2	More than 84"	More than 7'
West Virginia	Greenbrier	149.3	More than 84"	More than 7'
West Virginia	Greenbrier	149.4	More than 84"	More than 7'
West Virginia	Greenbrier	149.5	More than 84"	More than 7'
West Virginia	Greenbrier	149.6	More than 84"	More than 7'
West Virginia	Greenbrier	149.7	More than 84"	More than 7'
West Virginia	Greenbrier	149.8	More than 84"	More than 7'
West Virginia	Greenbrier	149.9	More than 84"	More than 7'
West Virginia	Greenbrier	150.0	More than 84"	More than 7'
West Virginia	Greenbrier	150.1	More than 84"	More than 7'
West Virginia	Greenbrier	150.2	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Greenbrier	150.3	More than 84"	More than 7'
West Virginia	Greenbrier	150.4	More than 84"	More than 7'
West Virginia	Greenbrier	150.5	80	6.7
West Virginia	Greenbrier	150.6	More than 84"	More than 7'
West Virginia	Greenbrier	150.7	More than 84"	More than 7'
West Virginia	Greenbrier	150.8	More than 84"	More than 7'
West Virginia	Greenbrier	150.9	More than 84"	More than 7'
West Virginia	Greenbrier	151.0	More than 84"	More than 7'
West Virginia	Greenbrier	151.1	More than 84"	More than 7'
West Virginia	Greenbrier	151.2	More than 84"	More than 7'
West Virginia	Greenbrier	151.3	More than 84"	More than 7'
West Virginia	Greenbrier	151.4	More than 84"	More than 7'
West Virginia	Greenbrier	151.5	More than 84"	More than 7'
West Virginia	Greenbrier	151.6	More than 84"	More than 7'
West Virginia	Greenbrier	151.7	80	6.7
West Virginia	Greenbrier	151.8	80	6.7
West Virginia	Greenbrier	151.9	80	6.7
West Virginia	Greenbrier	152.0	80	6.7
West Virginia	Greenbrier	152.1	More than 84"	More than 7'
West Virginia	Greenbrier	152.2	More than 84"	More than 7'
West Virginia	Greenbrier	152.3	More than 84"	More than 7'
West Virginia	Greenbrier	152.4	More than 84"	More than 7'
West Virginia	Greenbrier	152.5	More than 84"	More than 7'
West Virginia	Greenbrier	152.6	More than 84"	More than 7'
West Virginia	Greenbrier	152.7	More than 84"	More than 7'
West Virginia	Greenbrier	152.8	More than 84"	More than 7'
West Virginia	Greenbrier	152.9	More than 84"	More than 7'
West Virginia	Greenbrier	153.0	More than 84"	More than 7'
West Virginia	Greenbrier	153.1	More than 84"	More than 7'
West Virginia	Greenbrier	153.2	More than 84"	More than 7'
West Virginia	Greenbrier	153.3	More than 84"	More than 7'
West Virginia	Greenbrier	153.4	More than 84"	More than 7'
West Virginia	Greenbrier	153.5	More than 84"	More than 7'
West Virginia	Greenbrier	153.6	More than 84"	More than 7'
West Virginia	Greenbrier	153.7	More than 84"	More than 7'
West Virginia	Greenbrier	153.8	More than 84"	More than 7'
West Virginia	Greenbrier	153.9	More than 84"	More than 7'
West Virginia	Greenbrier	154.0	More than 84"	More than 7'
West Virginia	Fayette	154.1	More than 84"	More than 7'
West Virginia	Fayette	154.2	More than 84"	More than 7'
West Virginia	Fayette	154.3	More than 84"	More than 7'
West Virginia	Fayette	154.4	More than 84"	More than 7'
West Virginia	Fayette	154.5	More than 84"	More than 7'
West Virginia	Greenbrier	154.6	More than 84"	More than 7'
West Virginia	Greenbrier	154.7	More than 84"	More than 7'
West Virginia	Greenbrier	154.8	More than 84"	More than 7'
West Virginia	Greenbrier	154.9	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Greenbrier	155.0	More than 84"	More than 7'
West Virginia	Greenbrier	155.1	More than 84"	More than 7'
West Virginia	Greenbrier	155.2	More than 84"	More than 7'
West Virginia	Greenbrier	155.3	More than 84"	More than 7'
West Virginia	Greenbrier	155.4	More than 84"	More than 7'
West Virginia	Greenbrier	155.5	More than 84"	More than 7'
West Virginia	Greenbrier	155.6	More than 84"	More than 7'
West Virginia	Greenbrier	155.7	More than 84"	More than 7'
West Virginia	Greenbrier	155.8	More than 84"	More than 7'
West Virginia	Greenbrier	155.9	More than 84"	More than 7'
West Virginia	Greenbrier	156.0	More than 84"	More than 7'
West Virginia	Greenbrier	156.1	More than 84"	More than 7'
West Virginia	Greenbrier	156.2	More than 84"	More than 7'
West Virginia	Greenbrier	156.3	More than 84"	More than 7'
West Virginia	Greenbrier	156.4	0	0
West Virginia	Greenbrier	156.5	More than 84"	More than 7'
West Virginia	Greenbrier	156.6	More than 84"	More than 7'
West Virginia	Greenbrier	156.7	More than 84"	More than 7'
West Virginia	Greenbrier	156.8	More than 84"	More than 7'
West Virginia	Summers	156.9	More than 84"	More than 7'
West Virginia	Summers	157.0	More than 84"	More than 7'
West Virginia	Summers	157.1	More than 84"	More than 7'
West Virginia	Summers	157.2	More than 84"	More than 7'
West Virginia	Summers	157.3	More than 84"	More than 7'
West Virginia	Summers	157.4	More than 84"	More than 7'
West Virginia	Summers	157.5	More than 84"	More than 7'
West Virginia	Summers	157.6	More than 84"	More than 7'
West Virginia	Summers	157.7	More than 84"	More than 7'
West Virginia	Summers	157.8	More than 84"	More than 7'
West Virginia	Summers	157.9	More than 84"	More than 7'
West Virginia	Summers	158.0	More than 84"	More than 7'
West Virginia	Summers	158.1	More than 84"	More than 7'
West Virginia	Summers	158.2	More than 84"	More than 7'
West Virginia	Summers	158.3	More than 84"	More than 7'
West Virginia	Summers	158.4	More than 84"	More than 7'
West Virginia	Summers	158.5	More than 84"	More than 7'
West Virginia	Summers	158.6	More than 84"	More than 7'
West Virginia	Summers	158.7	More than 84"	More than 7'
West Virginia	Summers	158.8	More than 84"	More than 7'
West Virginia	Summers	158.9	More than 84"	More than 7'
West Virginia	Summers	159.0	More than 84"	More than 7'
West Virginia	Summers	159.1	76	6.3
West Virginia	Summers	159.2	76	6.3
West Virginia	Summers	159.3	76	6.3
West Virginia	Summers	159.4	76	6.3
West Virginia	Summers	159.5	71	5.9
West Virginia	Summers	159.6	76	6.3

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Summers	159.7	71	5.9
West Virginia	Summers	159.8	79	6.6
West Virginia	Summers	159.9	79	6.6
West Virginia	Summers	160.0	More than 84"	More than 7'
West Virginia	Summers	160.1	More than 84"	More than 7'
West Virginia	Summers	160.2	More than 84"	More than 7'
West Virginia	Summers	160.3	More than 84"	More than 7'
West Virginia	Summers	160.4	76	6.3
West Virginia	Summers	160.5	76	6.3
West Virginia	Summers	160.6	More than 84"	More than 7'
West Virginia	Summers	160.7	71	5.9
West Virginia	Summers	160.8	71	5.9
West Virginia	Summers	160.9	71	5.9
West Virginia	Summers	161.0	76	6.3
West Virginia	Summers	161.1	71	5.9
West Virginia	Summers	161.2	71	5.9
West Virginia	Summers	161.3	76	6.3
West Virginia	Summers	161.4	76	6.3
West Virginia	Summers	161.5	76	6.3
West Virginia	Summers	161.6	76	6.3
West Virginia	Summers	161.7	76	6.3
West Virginia	Summers	161.8	76	6.3
West Virginia	Summers	161.9	76	6.3
West Virginia	Summers	162.0	More than 84"	More than 7'
West Virginia	Summers	162.1	More than 84"	More than 7'
West Virginia	Summers	162.2	More than 84"	More than 7'
West Virginia	Summers	162.3	More than 84"	More than 7'
West Virginia	Summers	162.4	More than 84"	More than 7'
West Virginia	Summers	162.5	More than 84"	More than 7'
West Virginia	Summers	162.6	More than 84"	More than 7'
West Virginia	Summers	162.7	More than 84"	More than 7'
West Virginia	Summers	162.8	More than 84"	More than 7'
West Virginia	Summers	162.9	More than 84"	More than 7'
West Virginia	Summers	163.0	More than 84"	More than 7'
West Virginia	Summers	163.1	More than 84"	More than 7'
West Virginia	Summers	163.2	More than 84"	More than 7'
West Virginia	Summers	163.3	More than 84"	More than 7'
West Virginia	Summers	163.4	71	5.9
West Virginia	Summers	163.5	71	5.9
West Virginia	Summers	163.6	71	5.9
West Virginia	Summers	163.7	More than 84"	More than 7'
West Virginia	Summers	163.8	More than 84"	More than 7'
West Virginia	Summers	163.9	More than 84"	More than 7'
West Virginia	Summers	164.0	More than 84"	More than 7'
West Virginia	Summers	164.1	More than 84"	More than 7'
West Virginia	Summers	164.2	More than 84"	More than 7'
West Virginia	Summers	164.3	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Summers	164.4	More than 84"	More than 7'
West Virginia	Summers	164.5	More than 84"	More than 7'
West Virginia	Summers	164.6	More than 84"	More than 7'
West Virginia	Summers	164.7	More than 84"	More than 7'
West Virginia	Summers	164.8	More than 84"	More than 7'
West Virginia	Summers	164.9	More than 84"	More than 7'
West Virginia	Summers	165.0	More than 84"	More than 7'
West Virginia	Summers	165.1	More than 84"	More than 7'
West Virginia	Summers	165.2	More than 84"	More than 7'
West Virginia	Summers	165.3	More than 84"	More than 7'
West Virginia	Summers	165.4	More than 84"	More than 7'
West Virginia	Summers	165.5	More than 84"	More than 7'
West Virginia	Summers	165.6	More than 84"	More than 7'
West Virginia	Summers	165.7	71	5.9
West Virginia	Summers	165.8	71	5.9
West Virginia	Summers	165.9	71	5.9
West Virginia	Summers	166.0	More than 84"	More than 7'
West Virginia	Summers	166.1	More than 84"	More than 7'
West Virginia	Summers	166.2	More than 84"	More than 7'
West Virginia	Summers	166.3	More than 84"	More than 7'
West Virginia	Summers	166.4	79	6.6
West Virginia	Summers	166.5	79	6.6
West Virginia	Summers	166.6	76	6.3
West Virginia	Summers	166.7	More than 84"	More than 7'
West Virginia	Summers	166.8	More than 84"	More than 7'
West Virginia	Summers	166.9	More than 84"	More than 7'
West Virginia	Summers	167.0	More than 84"	More than 7'
West Virginia	Summers	167.1	More than 84"	More than 7'
West Virginia	Summers	167.2	More than 84"	More than 7'
West Virginia	Summers	167.3	More than 84"	More than 7'
West Virginia	Summers	167.4	71	5.9
West Virginia	Summers	167.5	More than 84"	More than 7'
West Virginia	Summers	167.6	More than 84"	More than 7'
West Virginia	Summers	167.7	More than 84"	More than 7'
West Virginia	Summers	167.8	More than 84"	More than 7'
West Virginia	Summers	167.9	More than 84"	More than 7'
West Virginia	Summers	168.0	More than 84"	More than 7'
West Virginia	Summers	168.1	More than 84"	More than 7'
West Virginia	Summers	168.2	More than 84"	More than 7'
West Virginia	Summers	168.3	More than 84"	More than 7'
West Virginia	Summers	168.4	More than 84"	More than 7'
West Virginia	Summers	168.5	More than 84"	More than 7'
West Virginia	Summers	168.6	More than 84"	More than 7'
West Virginia	Summers	168.7	More than 84"	More than 7'
West Virginia	Summers	168.8	More than 84"	More than 7'
West Virginia	Summers	168.9	More than 84"	More than 7'
West Virginia	Summers	169.0	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Summers	169.1	More than 84"	More than 7'
West Virginia	Summers	169.2	More than 84"	More than 7'
West Virginia	Summers	169.3	More than 84"	More than 7'
West Virginia	Summers	169.4	More than 84"	More than 7'
West Virginia	Summers	169.5	More than 84"	More than 7'
West Virginia	Summers	169.6	More than 84"	More than 7'
West Virginia	Summers	169.7	More than 84"	More than 7'
West Virginia	Summers	169.8	More than 84"	More than 7'
West Virginia	Summers	169.9	More than 84"	More than 7'
West Virginia	Summers	170.0	More than 84"	More than 7'
West Virginia	Summers	170.1	More than 84"	More than 7'
West Virginia	Summers	170.2	More than 84"	More than 7'
West Virginia	Summers	170.3	More than 84"	More than 7'
West Virginia	Summers	170.4	More than 84"	More than 7'
West Virginia	Summers	170.5	More than 84"	More than 7'
West Virginia	Summers	170.6	More than 84"	More than 7'
West Virginia	Summers	170.7	More than 84"	More than 7'
West Virginia	Summers	170.8	More than 84"	More than 7'
West Virginia	Summers	170.9	More than 84"	More than 7'
West Virginia	Summers	171.0	More than 84"	More than 7'
West Virginia	Summers	171.1	More than 84"	More than 7'
West Virginia	Summers	171.2	More than 84"	More than 7'
West Virginia	Summers	171.3	More than 84"	More than 7'
West Virginia	Summers	171.4	More than 84"	More than 7'
West Virginia	Summers	171.5	74	6.2
West Virginia	Summers	171.6	74	6.2
West Virginia	Summers	171.7	More than 84"	More than 7'
West Virginia	Summers	171.8	More than 84"	More than 7'
West Virginia	Summers	171.9	76	6.3
West Virginia	Summers	172.0	76	6.3
West Virginia	Summers	172.1	More than 84"	More than 7'
West Virginia	Summers	172.2	More than 84"	More than 7'
West Virginia	Summers	172.3	More than 84"	More than 7'
West Virginia	Summers	172.4	More than 84"	More than 7'
West Virginia	Summers	172.5	More than 84"	More than 7'
West Virginia	Summers	172.6	More than 84"	More than 7'
West Virginia	Summers	172.7	More than 84"	More than 7'
West Virginia	Summers	172.8	More than 84"	More than 7'
West Virginia	Summers	172.9	More than 84"	More than 7'
West Virginia	Summers	173.0	More than 84"	More than 7'
West Virginia	Summers	173.1	More than 84"	More than 7'
West Virginia	Summers	173.2	More than 84"	More than 7'
West Virginia	Monroe	173.3	More than 84"	More than 7'
West Virginia	Monroe	173.4	More than 84"	More than 7'
West Virginia	Monroe	173.5	18	1.5
West Virginia	Monroe	173.6	More than 84"	More than 7'
West Virginia	Monroe	173.7	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Monroe	173.8	More than 84"	More than 7'
West Virginia	Monroe	173.9	More than 84"	More than 7'
West Virginia	Monroe	174.0	More than 84"	More than 7'
West Virginia	Monroe	174.1	More than 84"	More than 7'
West Virginia	Monroe	174.2	More than 84"	More than 7'
West Virginia	Monroe	174.3	More than 84"	More than 7'
West Virginia	Monroe	174.4	More than 84"	More than 7'
West Virginia	Monroe	174.5	More than 84"	More than 7'
West Virginia	Monroe	174.6	More than 84"	More than 7'
West Virginia	Monroe	174.7	More than 84"	More than 7'
West Virginia	Monroe	174.8	More than 84"	More than 7'
West Virginia	Monroe	174.9	More than 84"	More than 7'
West Virginia	Monroe	175.0	More than 84"	More than 7'
West Virginia	Monroe	175.1	More than 84"	More than 7'
West Virginia	Monroe	175.2	More than 84"	More than 7'
West Virginia	Monroe	175.3	More than 84"	More than 7'
West Virginia	Monroe	175.4	More than 84"	More than 7'
West Virginia	Monroe	175.5	More than 84"	More than 7'
West Virginia	Monroe	175.6	More than 84"	More than 7'
West Virginia	Monroe	175.7	More than 84"	More than 7'
West Virginia	Monroe	175.8	More than 84"	More than 7'
West Virginia	Monroe	175.9	More than 84"	More than 7'
West Virginia	Monroe	176.0	More than 84"	More than 7'
West Virginia	Monroe	176.1	More than 84"	More than 7'
West Virginia	Monroe	176.2	More than 84"	More than 7'
West Virginia	Monroe	176.3	More than 84"	More than 7'
West Virginia	Monroe	176.4	More than 84"	More than 7'
West Virginia	Monroe	176.5	More than 84"	More than 7'
West Virginia	Monroe	176.6	More than 84"	More than 7'
West Virginia	Monroe	176.7	More than 84"	More than 7'
West Virginia	Monroe	176.8	More than 84"	More than 7'
West Virginia	Monroe	176.9	More than 84"	More than 7'
West Virginia	Monroe	177.0	More than 84"	More than 7'
West Virginia	Monroe	177.1	More than 84"	More than 7'
West Virginia	Monroe	177.2	More than 84"	More than 7'
West Virginia	Monroe	177.3	More than 84"	More than 7'
West Virginia	Monroe	177.4	More than 84"	More than 7'
West Virginia	Monroe	177.5	More than 84"	More than 7'
West Virginia	Monroe	177.6	More than 84"	More than 7'
West Virginia	Monroe	177.7	More than 84"	More than 7'
West Virginia	Monroe	177.8	More than 84"	More than 7'
West Virginia	Monroe	177.9	More than 84"	More than 7'
West Virginia	Monroe	178.0	More than 84"	More than 7'
West Virginia	Monroe	178.1	More than 84"	More than 7'
West Virginia	Monroe	178.2	More than 84"	More than 7'
West Virginia	Monroe	178.3	More than 84"	More than 7'
West Virginia	Monroe	178.4	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Monroe	178.5	More than 84"	More than 7'
West Virginia	Monroe	178.6	More than 84"	More than 7'
West Virginia	Monroe	178.7	More than 84"	More than 7'
West Virginia	Monroe	178.8	18	1.5
West Virginia	Monroe	178.9	18	1.5
West Virginia	Monroe	179.0	18	1.5
West Virginia	Monroe	179.1	More than 84"	More than 7'
West Virginia	Monroe	179.2	More than 84"	More than 7'
West Virginia	Monroe	179.3	More than 84"	More than 7'
West Virginia	Monroe	179.4	More than 84"	More than 7'
West Virginia	Monroe	179.5	More than 84"	More than 7'
West Virginia	Monroe	179.6	18	1.5
West Virginia	Monroe	179.7	More than 84"	More than 7'
West Virginia	Monroe	179.8	More than 84"	More than 7'
West Virginia	Monroe	179.9	More than 84"	More than 7'
West Virginia	Monroe	180.0	More than 84"	More than 7'
West Virginia	Monroe	180.1	83	6.9
West Virginia	Monroe	180.2	More than 84"	More than 7'
West Virginia	Monroe	180.3	More than 84"	More than 7'
West Virginia	Monroe	180.4	More than 84"	More than 7'
West Virginia	Monroe	180.5	More than 84"	More than 7'
West Virginia	Monroe	180.6	More than 84"	More than 7'
West Virginia	Monroe	180.7	More than 84"	More than 7'
West Virginia	Monroe	180.8	More than 84"	More than 7'
West Virginia	Monroe	180.9	More than 84"	More than 7'
West Virginia	Monroe	181.0	41	3.4
West Virginia	Monroe	181.1	More than 84"	More than 7'
West Virginia	Monroe	181.2	41	3.4
West Virginia	Monroe	181.3	More than 84"	More than 7'
West Virginia	Monroe	181.4	More than 84"	More than 7'
West Virginia	Monroe	181.5	41	3.4
West Virginia	Monroe	181.6	41	3.4
West Virginia	Monroe	181.7	41	3.4
West Virginia	Monroe	181.8	41	3.4
West Virginia	Monroe	181.9	41	3.4
West Virginia	Monroe	182.0	77	6.4
West Virginia	Monroe	182.1	41	3.4
West Virginia	Monroe	182.2	41	3.4
West Virginia	Monroe	182.3	41	3.4
West Virginia	Monroe	182.4	41	3.4
West Virginia	Monroe	182.5	41	3.4
West Virginia	Monroe	182.6	41	3.4
West Virginia	Monroe	182.7	41	3.4
West Virginia	Monroe	182.8	41	3.4
West Virginia	Monroe	182.9	41	3.4
West Virginia	Monroe	183.0	41	3.4
West Virginia	Monroe	183.1	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Monroe	183.2	More than 84"	More than 7'
West Virginia	Monroe	183.3	41	3.4
West Virginia	Monroe	183.4	41	3.4
West Virginia	Monroe	183.5	41	3.4
West Virginia	Monroe	183.6	41	3.4
West Virginia	Monroe	183.7	18	1.5
West Virginia	Monroe	183.8	18	1.5
West Virginia	Monroe	183.9	41	3.4
West Virginia	Monroe	184.0	41	3.4
West Virginia	Monroe	184.1	18	1.5
West Virginia	Monroe	184.2	41	3.4
West Virginia	Monroe	184.3	41	3.4
West Virginia	Monroe	184.4	18	1.5
West Virginia	Monroe	184.5	41	3.4
West Virginia	Monroe	184.6	41	3.4
West Virginia	Monroe	184.7	41	3.4
West Virginia	Monroe	184.8	41	3.4
West Virginia	Monroe	184.9	41	3.4
West Virginia	Monroe	185.0	41	3.4
West Virginia	Monroe	185.1	77	6.4
West Virginia	Monroe	185.2	77	6.4
West Virginia	Monroe	185.3	83	6.9
West Virginia	Monroe	185.4	83	6.9
West Virginia	Monroe	185.5	83	6.9
West Virginia	Monroe	185.6	83	6.9
West Virginia	Monroe	185.7	83	6.9
West Virginia	Monroe	185.8	83	6.9
West Virginia	Monroe	185.9	83	6.9
West Virginia	Monroe	186.0	83	6.9
West Virginia	Monroe	186.1	83	6.9
West Virginia	Monroe	186.2	83	6.9
West Virginia	Monroe	186.3	83	6.9
West Virginia	Monroe	186.4	77	6.4
West Virginia	Monroe	186.5	More than 84"	More than 7'
West Virginia	Monroe	186.6	More than 84"	More than 7'
West Virginia	Monroe	186.7	More than 84"	More than 7'
West Virginia	Monroe	186.8	More than 84"	More than 7'
West Virginia	Monroe	186.9	More than 84"	More than 7'
West Virginia	Monroe	187.0	More than 84"	More than 7'
West Virginia	Monroe	187.1	More than 84"	More than 7'
West Virginia	Monroe	187.2	More than 84"	More than 7'
West Virginia	Monroe	187.3	More than 84"	More than 7'
West Virginia	Monroe	187.4	18	1.5
West Virginia	Monroe	187.5	More than 84"	More than 7'
West Virginia	Monroe	187.6	More than 84"	More than 7'
West Virginia	Monroe	187.7	More than 84"	More than 7'
West Virginia	Monroe	187.8	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
West Virginia	Monroe	187.9	More than 84"	More than 7'
West Virginia	Monroe	188.0	More than 84"	More than 7'
West Virginia	Monroe	188.1	More than 84"	More than 7'
West Virginia	Monroe	188.2	More than 84"	More than 7'
West Virginia	Monroe	188.3	More than 84"	More than 7'
West Virginia	Monroe	188.4	More than 84"	More than 7'
West Virginia	Monroe	188.5	More than 84"	More than 7'
West Virginia	Monroe	188.6	More than 84"	More than 7'
West Virginia	Monroe	188.7	More than 84"	More than 7'
West Virginia	Monroe	188.8	More than 84"	More than 7'
West Virginia	Monroe	188.9	More than 84"	More than 7'
West Virginia	Monroe	189.0	More than 84"	More than 7'
West Virginia	Monroe	189.1	More than 84"	More than 7'
West Virginia	Monroe	189.2	More than 84"	More than 7'
West Virginia	Monroe	189.3	More than 84"	More than 7'
West Virginia	Monroe	189.4	More than 84"	More than 7'
West Virginia	Monroe	189.5	More than 84"	More than 7'
West Virginia	Monroe	189.6	More than 84"	More than 7'
West Virginia	Monroe	189.7	More than 84"	More than 7'
West Virginia	Monroe	189.8	More than 84"	More than 7'
West Virginia	Monroe	189.9	More than 84"	More than 7'
West Virginia	Monroe	190.0	41	3.4
West Virginia	Monroe	190.1	41	3.4
West Virginia	Monroe	190.2	41	3.4
West Virginia	Monroe	190.3	41	3.4
West Virginia	Monroe	190.4	More than 84"	More than 7'
West Virginia	Monroe	190.5	More than 84"	More than 7'
West Virginia	Monroe	190.6	More than 84"	More than 7'
West Virginia	Monroe	190.7	More than 84"	More than 7'
West Virginia	Monroe	190.8	More than 84"	More than 7'
West Virginia	Monroe	190.9	More than 84"	More than 7'
West Virginia	Monroe	191.0	77	6.4
West Virginia	Monroe	191.1	77	6.4
West Virginia	Monroe	191.2	77	6.4
West Virginia	Monroe	191.3	77	6.4
West Virginia	Monroe	191.4	77	6.4
West Virginia	Monroe	191.5	77	6.4
West Virginia	Monroe	191.6	77	6.4
West Virginia	Monroe	191.7	41	3.4
West Virginia	Monroe	191.8	77	6.4
West Virginia	Monroe	191.9	41	3.4
West Virginia	Monroe	192.0	41	3.4
West Virginia	Monroe	192.1	41	3.4
West Virginia	Monroe	192.2	41	3.4
West Virginia	Monroe	192.3	77	6.4
West Virginia	Monroe	192.4	77	6.4
West Virginia	Monroe	192.5	77	6.4

Table 6-B-1
Depth to Bedrock, by Milepost, MVP Pipeline

West Virginia	Monroe	192.6	77	6.4
West Virginia	Monroe	192.7	77	6.4
West Virginia	Monroe	192.8	41	3.4
West Virginia	Monroe	192.9	41	3.4
West Virginia	Monroe	193.0	41	3.4
West Virginia	Monroe	193.1	41	3.4
West Virginia	Monroe	193.2	More than 84"	More than 7'
West Virginia	Monroe	193.3	41	3.4
West Virginia	Monroe	193.4	41	3.4
West Virginia	Monroe	193.5	More than 84"	More than 7'
West Virginia	Monroe	193.6	More than 84"	More than 7'
West Virginia	Monroe	193.7	More than 84"	More than 7'
West Virginia	Monroe	193.8	More than 84"	More than 7'
West Virginia	Monroe	193.9	More than 84"	More than 7'
West Virginia	Monroe	194.0	More than 84"	More than 7'
West Virginia	Monroe	194.1	More than 84"	More than 7'
West Virginia	Monroe	194.2	More than 84"	More than 7'
West Virginia	Monroe	194.3	More than 84"	More than 7'
West Virginia	Monroe	194.4	More than 84"	More than 7'
West Virginia	Monroe	194.5	More than 84"	More than 7'
West Virginia	Monroe	194.6	More than 84"	More than 7'
West Virginia	Monroe	194.7	More than 84"	More than 7'
West Virginia	Monroe	194.8	More than 84"	More than 7'
West Virginia	Monroe	194.9	77	6.4
West Virginia	Monroe	195.0	77	6.4
West Virginia	Monroe	195.1	77	6.4
Virginia	Giles	195.2	79	6.6
Virginia	Giles	195.3	More than 84"	More than 7'
Virginia	Giles	195.4	More than 84"	More than 7'
Virginia	Giles	195.5	More than 84"	More than 7'
Virginia	Giles	195.6	More than 84"	More than 7'
Virginia	Giles	195.7	More than 84"	More than 7'
Virginia	Giles	195.8	More than 84"	More than 7'
Virginia	Giles	195.9	More than 84"	More than 7'
Virginia	Giles	196.0	More than 84"	More than 7'
Virginia	Giles	196.1	More than 84"	More than 7'
Virginia	Giles	196.2	More than 84"	More than 7'
Virginia	Giles	196.3	More than 84"	More than 7'
Virginia	Giles	196.4	More than 84"	More than 7'
Virginia	Giles	196.5	More than 84"	More than 7'
Virginia	Giles	196.6	More than 84"	More than 7'
Virginia	Giles	196.7	More than 84"	More than 7'
Virginia	Giles	196.8	More than 84"	More than 7'
Virginia	Giles	196.9	More than 84"	More than 7'
Virginia	Giles	197.0	More than 84"	More than 7'
Virginia	Giles	197.1	More than 84"	More than 7'
Virginia	Giles	197.2	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Giles	197.3	More than 84"	More than 7'
Virginia	Giles	197.4	More than 84"	More than 7'
Virginia	Giles	197.5	More than 84"	More than 7'
Virginia	Giles	197.6	More than 84"	More than 7'
Virginia	Giles	197.7	More than 84"	More than 7'
Virginia	Giles	197.8	More than 84"	More than 7'
Virginia	Giles	197.9	More than 84"	More than 7'
Virginia	Giles	198.0	More than 84"	More than 7'
Virginia	Giles	198.1	More than 84"	More than 7'
Virginia	Giles	198.2	More than 84"	More than 7'
Virginia	Giles	198.3	More than 84"	More than 7'
Virginia	Giles	198.4	More than 84"	More than 7'
Virginia	Giles	198.5	More than 84"	More than 7'
Virginia	Giles	198.6	More than 84"	More than 7'
Virginia	Giles	198.7	More than 84"	More than 7'
Virginia	Giles	198.8	More than 84"	More than 7'
Virginia	Giles	198.9	More than 84"	More than 7'
Virginia	Giles	199.0	More than 84"	More than 7'
Virginia	Giles	199.1	More than 84"	More than 7'
Virginia	Giles	199.2	More than 84"	More than 7'
Virginia	Giles	199.3	More than 84"	More than 7'
Virginia	Giles	199.4	0	0
Virginia	Giles	199.5	0	0
Virginia	Giles	199.6	More than 84"	More than 7'
Virginia	Giles	199.7	More than 84"	More than 7'
Virginia	Giles	199.8	More than 84"	More than 7'
Virginia	Giles	199.9	More than 84"	More than 7'
Virginia	Giles	200.0	More than 84"	More than 7'
Virginia	Giles	200.1	More than 84"	More than 7'
Virginia	Giles	200.2	More than 84"	More than 7'
Virginia	Giles	200.3	More than 84"	More than 7'
Virginia	Giles	200.4	0	0
Virginia	Giles	200.5	64	5.3
Virginia	Giles	200.6	64	5.3
Virginia	Giles	200.7	0	0
Virginia	Giles	200.8	0	0
Virginia	Giles	200.9	64	5.3
Virginia	Giles	201.0	More than 84"	More than 7'
Virginia	Giles	201.1	0	0
Virginia	Giles	201.2	More than 84"	More than 7'
Virginia	Giles	201.3	More than 84"	More than 7'
Virginia	Giles	201.4	More than 84"	More than 7'
Virginia	Giles	201.5	More than 84"	More than 7'
Virginia	Giles	201.6	More than 84"	More than 7'
Virginia	Giles	201.7	More than 84"	More than 7'
Virginia	Giles	201.8	More than 84"	More than 7'
Virginia	Giles	201.9	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Giles	202.0	More than 84"	More than 7'
Virginia	Giles	202.1	More than 84"	More than 7'
Virginia	Giles	202.2	More than 84"	More than 7'
Virginia	Giles	202.3	More than 84"	More than 7'
Virginia	Giles	202.4	More than 84"	More than 7'
Virginia	Giles	202.5	More than 84"	More than 7'
Virginia	Giles	202.6	More than 84"	More than 7'
Virginia	Giles	202.7	More than 84"	More than 7'
Virginia	Giles	202.8	More than 84"	More than 7'
Virginia	Giles	202.9	More than 84"	More than 7'
Virginia	Giles	203.0	More than 84"	More than 7'
Virginia	Giles	203.1	More than 84"	More than 7'
Virginia	Giles	203.2	More than 84"	More than 7'
Virginia	Giles	203.3	0	0
Virginia	Giles	203.4	0	0
Virginia	Giles	203.5	0	0
Virginia	Giles	203.6	0	0
Virginia	Giles	203.7	0	0
Virginia	Giles	203.8	0	0
Virginia	Giles	203.9	More than 84"	More than 7'
Virginia	Giles	204.0	More than 84"	More than 7'
Virginia	Giles	204.1	More than 84"	More than 7'
Virginia	Giles	204.2	More than 84"	More than 7'
Virginia	Giles	204.3	More than 84"	More than 7'
Virginia	Giles	204.4	More than 84"	More than 7'
Virginia	Giles	204.5	More than 84"	More than 7'
Virginia	Giles	204.6	More than 84"	More than 7'
Virginia	Giles	204.7	More than 84"	More than 7'
Virginia	Giles	204.8	0	0
Virginia	Giles	204.9	0	0
Virginia	Giles	205.0	More than 84"	More than 7'
Virginia	Giles	205.1	64	5.3
Virginia	Giles	205.2	64	5.3
Virginia	Giles	205.3	More than 84"	More than 7'
Virginia	Giles	205.4	More than 84"	More than 7'
Virginia	Giles	205.5	More than 84"	More than 7'
Virginia	Giles	205.6	0	0
Virginia	Giles	205.7	0	0
Virginia	Giles	205.8	0	0
Virginia	Giles	205.9	0	0
Virginia	Giles	206.0	0	0
Virginia	Giles	206.1	More than 84"	More than 7'
Virginia	Giles	206.2	More than 84"	More than 7'
Virginia	Giles	206.3	More than 84"	More than 7'
Virginia	Giles	206.4	More than 84"	More than 7'
Virginia	Giles	206.5	81	6.8
Virginia	Giles	206.6	81	6.8

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Giles	206.7	More than 84"	More than 7'
Virginia	Giles	206.8	0	0
Virginia	Giles	206.9	64	5.3
Virginia	Giles	207.0	64	5.3
Virginia	Giles	207.1	64	5.3
Virginia	Giles	207.2	0	0
Virginia	Giles	207.3	More than 84"	More than 7'
Virginia	Giles	207.4	More than 84"	More than 7'
Virginia	Giles	207.5	More than 84"	More than 7'
Virginia	Giles	207.6	More than 84"	More than 7'
Virginia	Giles	207.7	More than 84"	More than 7'
Virginia	Giles	207.8	More than 84"	More than 7'
Virginia	Giles	207.9	More than 84"	More than 7'
Virginia	Giles	208.0	More than 84"	More than 7'
Virginia	Giles	208.1	More than 84"	More than 7'
Virginia	Giles	208.2	More than 84"	More than 7'
Virginia	Giles	208.3	More than 84"	More than 7'
Virginia	Giles	208.4	More than 84"	More than 7'
Virginia	Giles	208.5	More than 84"	More than 7'
Virginia	Giles	208.6	More than 84"	More than 7'
Virginia	Giles	208.7	More than 84"	More than 7'
Virginia	Giles	208.8	More than 84"	More than 7'
Virginia	Giles	208.9	64	5.3
Virginia	Giles	209.0	64	5.3
Virginia	Giles	209.1	64	5.3
Virginia	Giles	209.2	More than 84"	More than 7'
Virginia	Giles	209.3	More than 84"	More than 7'
Virginia	Giles	209.4	More than 84"	More than 7'
Virginia	Giles	209.5	64	5.3
Virginia	Giles	209.6	0	0
Virginia	Giles	209.7	64	5.3
Virginia	Giles	209.8	58	4.8
Virginia	Giles	209.9	58	4.8
Virginia	Giles	210.0	64	5.3
Virginia	Giles	210.1	81	6.8
Virginia	Giles	210.2	81	6.8
Virginia	Giles	210.3	81	6.8
Virginia	Giles	210.4	More than 84"	More than 7'
Virginia	Giles	210.5	More than 84"	More than 7'
Virginia	Giles	210.6	More than 84"	More than 7'
Virginia	Giles	210.7	0	0
Virginia	Giles	210.8	0	0
Virginia	Giles	210.9	0	0
Virginia	Giles	211.0	More than 84"	More than 7'
Virginia	Giles	211.1	More than 84"	More than 7'
Virginia	Giles	211.2	0	0
Virginia	Giles	211.3	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Giles	211.4	More than 84"	More than 7'
Virginia	Giles	211.5	More than 84"	More than 7'
Virginia	Giles	211.6	More than 84"	More than 7'
Virginia	Giles	211.7	More than 84"	More than 7'
Virginia	Giles	211.8	More than 84"	More than 7'
Virginia	Giles	211.9	More than 84"	More than 7'
Virginia	Giles	212.0	More than 84"	More than 7'
Virginia	Giles	212.1	More than 84"	More than 7'
Virginia	Giles	212.2	More than 84"	More than 7'
Virginia	Giles	212.3	79	6.6
Virginia	Montgome	212.4	84	7
Virginia	Montgome	212.5	More than 84"	More than 7'
Virginia	Montgome	212.6	More than 84"	More than 7'
Virginia	Montgome	212.7	More than 84"	More than 7'
Virginia	Montgome	212.8	More than 84"	More than 7'
Virginia	Montgome	212.9	More than 84"	More than 7'
Virginia	Montgome	213.0	84	7
Virginia	Montgome	213.1	More than 84"	More than 7'
Virginia	Montgome	213.2	More than 84"	More than 7'
Virginia	Montgome	213.3	More than 84"	More than 7'
Virginia	Montgome	213.4	33	2.8
Virginia	Montgome	213.5	33	2.8
Virginia	Montgome	213.6	33	2.8
Virginia	Montgome	213.7	33	2.8
Virginia	Montgome	213.8	33	2.8
Virginia	Montgome	213.9	84	7
Virginia	Montgome	214.0	84	7
Virginia	Montgome	214.1	More than 84"	More than 7'
Virginia	Montgome	214.2	33	2.8
Virginia	Montgome	214.3	33	2.8
Virginia	Montgome	214.4	33	2.8
Virginia	Montgome	214.5	33	2.8
Virginia	Montgome	214.6	84	7
Virginia	Montgome	214.7	84	7
Virginia	Montgome	214.8	84	7
Virginia	Montgome	214.9	More than 84"	More than 7'
Virginia	Montgome	215.0	33	2.8
Virginia	Montgome	215.1	84	7
Virginia	Montgome	215.2	33	2.8
Virginia	Montgome	215.3	84	7
Virginia	Montgome	215.4	33	2.8
Virginia	Montgome	215.5	33	2.8
Virginia	Montgome	215.6	33	2.8
Virginia	Montgome	215.7	33	2.8
Virginia	Montgome	215.8	33	2.8
Virginia	Montgome	215.9	84	7

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Montgome	216.0	More than 84"	More than 7'
Virginia	Montgome	216.1	33	2.8
Virginia	Montgome	216.2	33	2.8
Virginia	Montgome	216.3	33	2.8
Virginia	Montgome	216.4	More than 84"	More than 7'
Virginia	Montgome	216.5	More than 84"	More than 7'
Virginia	Montgome	216.6	More than 84"	More than 7'
Virginia	Montgome	216.7	More than 84"	More than 7'
Virginia	Montgome	216.8	More than 84"	More than 7'
Virginia	Montgome	216.9	More than 84"	More than 7'
Virginia	Montgome	217.0	More than 84"	More than 7'
Virginia	Montgome	217.1	More than 84"	More than 7'
Virginia	Montgome	217.2	More than 84"	More than 7'
Virginia	Montgome	217.3	More than 84"	More than 7'
Virginia	Montgome	217.4	More than 84"	More than 7'
Virginia	Montgome	217.5	More than 84"	More than 7'
Virginia	Montgome	217.6	More than 84"	More than 7'
Virginia	Montgome	217.7	More than 84"	More than 7'
Virginia	Montgome	217.8	More than 84"	More than 7'
Virginia	Montgome	217.9	More than 84"	More than 7'
Virginia	Montgome	218.0	More than 84"	More than 7'
Virginia	Montgome	218.1	More than 84"	More than 7'
Virginia	Montgome	218.2	38	3.2
Virginia	Montgome	218.3	More than 84"	More than 7'
Virginia	Montgome	218.4	More than 84"	More than 7'
Virginia	Montgome	218.5	More than 84"	More than 7'
Virginia	Montgome	218.6	38	3.2
Virginia	Montgome	218.7	38	3.2
Virginia	Montgome	218.8	38	3.2
Virginia	Montgome	218.9	38	3.2
Virginia	Montgome	219.0	38	3.2
Virginia	Montgome	219.1	More than 84"	More than 7'
Virginia	Montgome	219.2	38	3.2
Virginia	Montgome	219.3	38	3.2
Virginia	Montgome	219.4	38	3.2
Virginia	Montgome	219.5	38	3.2
Virginia	Montgome	219.6	More than 84"	More than 7'
Virginia	Montgome	219.7	More than 84"	More than 7'
Virginia	Montgome	219.8	More than 84"	More than 7'
Virginia	Montgome	219.9	38	3.2
Virginia	Montgome	220.0	38	3.2
Virginia	Montgome	220.1	38	3.2
Virginia	Montgome	220.2	81	6.8
Virginia	Montgome	220.3	76	6.3
Virginia	Montgome	220.4	More than 84"	More than 7'
Virginia	Montgome	220.5	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Montgome	220.6	More than 84"	More than 7'
Virginia	Montgome	220.7	More than 84"	More than 7'
Virginia	Montgome	220.8	More than 84"	More than 7'
Virginia	Montgome	220.9	38	3.2
Virginia	Montgome	221.0	38	3.2
Virginia	Montgome	221.1	38	3.2
Virginia	Montgome	221.2	38	3.2
Virginia	Montgome	221.3	84	7
Virginia	Montgome	221.4	81	6.8
Virginia	Montgome	221.5	81	6.8
Virginia	Montgome	221.6	33	2.8
Virginia	Montgome	221.7	More than 84"	More than 7'
Virginia	Montgome	221.8	More than 84"	More than 7'
Virginia	Montgome	221.9	33	2.8
Virginia	Montgome	222.0	More than 84"	More than 7'
Virginia	Montgome	222.1	More than 84"	More than 7'
Virginia	Montgome	222.2	More than 84"	More than 7'
Virginia	Montgome	222.3	More than 84"	More than 7'
Virginia	Montgome	222.4	33	2.8
Virginia	Montgome	222.5	33	2.8
Virginia	Montgome	222.6	33	2.8
Virginia	Montgome	222.7	33	2.8
Virginia	Montgome	222.8	84	7
Virginia	Montgome	222.9	More than 84"	More than 7'
Virginia	Montgome	223.0	84	7
Virginia	Montgome	223.1	33	2.8
Virginia	Montgome	223.2	84	7
Virginia	Montgome	223.3	33	2.8
Virginia	Montgome	223.4	84	7
Virginia	Montgome	223.5	33	2.8
Virginia	Montgome	223.6	33	2.8
Virginia	Montgome	223.7	33	2.8
Virginia	Montgome	223.8	84	7
Virginia	Montgome	223.9	84	7
Virginia	Montgome	224.0	More than 84"	More than 7'
Virginia	Montgome	224.1	More than 84"	More than 7'
Virginia	Montgome	224.2	More than 84"	More than 7'
Virginia	Montgome	224.3	33	2.8
Virginia	Montgome	224.4	33	2.8
Virginia	Montgome	224.5	33	2.8
Virginia	Montgome	224.6	33	2.8
Virginia	Montgome	224.7	33	2.8
Virginia	Montgome	224.8	33	2.8
Virginia	Montgome	224.9	33	2.8
Virginia	Montgome	225.0	33	2.8
Virginia	Montgome	225.1	33	2.8

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Montgome	225.2	33	2.8
Virginia	Montgome	225.3	33	2.8
Virginia	Montgome	225.4	33	2.8
Virginia	Montgome	225.5	33	2.8
Virginia	Montgome	225.6	33	2.8
Virginia	Montgome	225.7	33	2.8
Virginia	Montgome	225.8	33	2.8
Virginia	Montgome	225.9	33	2.8
Virginia	Montgome	226.0	33	2.8
Virginia	Montgome	226.1	33	2.8
Virginia	Montgome	226.2	33	2.8
Virginia	Montgome	226.3	33	2.8
Virginia	Montgome	226.4	33	2.8
Virginia	Montgome	226.5	33	2.8
Virginia	Montgome	226.6	33	2.8
Virginia	Montgome	226.7	33	2.8
Virginia	Montgome	226.8	33	2.8
Virginia	Montgome	226.9	33	2.8
Virginia	Montgome	227.0	33	2.8
Virginia	Montgome	227.1	33	2.8
Virginia	Montgome	227.2	33	2.8
Virginia	Montgome	227.3	33	2.8
Virginia	Montgome	227.4	More than 84"	More than 7'
Virginia	Montgome	227.5	More than 84"	More than 7'
Virginia	Montgome	227.6	38	3.2
Virginia	Montgome	227.7	38	3.2
Virginia	Montgome	227.8	More than 84"	More than 7'
Virginia	Montgome	227.9	More than 84"	More than 7'
Virginia	Montgome	228.0	More than 84"	More than 7'
Virginia	Montgome	228.1	More than 84"	More than 7'
Virginia	Montgome	228.2	More than 84"	More than 7'
Virginia	Montgome	228.3	38	3.2
Virginia	Montgome	228.4	More than 84"	More than 7'
Virginia	Montgome	228.5	More than 84"	More than 7'
Virginia	Montgome	228.6	More than 84"	More than 7'
Virginia	Montgome	228.7	More than 84"	More than 7'
Virginia	Montgome	228.8	More than 84"	More than 7'
Virginia	Montgome	228.9	More than 84"	More than 7'
Virginia	Montgome	229.0	38	3.2
Virginia	Montgome	229.1	38	3.2
Virginia	Roanoke	229.2	38	3.2
Virginia	Roanoke	229.3	38	3.2
Virginia	Roanoke	229.4	38	3.2
Virginia	Roanoke	229.5	38	3.2
Virginia	Roanoke	229.6	38	3.2
Virginia	Roanoke	229.7	38	3.2
Virginia	Roanoke	229.8	38	3.2

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Roanoke	229.9	38	3.2
Virginia	Roanoke	230.0	38	3.2
Virginia	Roanoke	230.1	38	3.2
Virginia	Roanoke	230.2	38	3.2
Virginia	Roanoke	230.3	38	3.2
Virginia	Roanoke	230.4	38	3.2
Virginia	Roanoke	230.5	38	3.2
Virginia	Roanoke	230.6	38	3.2
Virginia	Roanoke	230.7	38	3.2
Virginia	Roanoke	230.8	38	3.2
Virginia	Roanoke	230.9	38	3.2
Virginia	Roanoke	231.0	38	3.2
Virginia	Roanoke	231.1	38	3.2
Virginia	Roanoke	231.2	More than 84"	More than 7'
Virginia	Roanoke	231.3	38	3.2
Virginia	Roanoke	231.4	38	3.2
Virginia	Roanoke	231.5	38	3.2
Virginia	Roanoke	231.6	76	6.3
Virginia	Roanoke	231.7	0	0
Virginia	Roanoke	231.8	0	0
Virginia	Roanoke	231.9	0	0
Virginia	Roanoke	232.0	0	0
Virginia	Roanoke	232.1	0	0
Virginia	Roanoke	232.2	0	0
Virginia	Roanoke	232.3	0	0
Virginia	Roanoke	232.4	0	0
Virginia	Roanoke	232.5	0	0
Virginia	Roanoke	232.6	38	3.2
Virginia	Roanoke	232.7	38	3.2
Virginia	Roanoke	232.8	38	3.2
Virginia	Roanoke	232.9	38	3.2
Virginia	Roanoke	233.0	0	0
Virginia	Roanoke	233.1	76	6.3
Virginia	Roanoke	233.2	76	6.3
Virginia	Roanoke	233.3	0	0
Virginia	Roanoke	233.4	76	6.3
Virginia	Roanoke	233.5	76	6.3
Virginia	Roanoke	233.6	More than 84"	More than 7'
Virginia	Roanoke	233.7	More than 84"	More than 7'
Virginia	Roanoke	233.8	More than 84"	More than 7'
Virginia	Roanoke	233.9	More than 84"	More than 7'
Virginia	Roanoke	234.0	More than 84"	More than 7'
Virginia	Roanoke	234.1	More than 84"	More than 7'
Virginia	Roanoke	234.2	More than 84"	More than 7'
Virginia	Roanoke	234.3	More than 84"	More than 7'
Virginia	Roanoke	234.4	More than 84"	More than 7'
Virginia	Roanoke	234.5	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Roanoke	234.6	More than 84"	More than 7'
Virginia	Roanoke	234.7	More than 84"	More than 7'
Virginia	Roanoke	234.8	More than 84"	More than 7'
Virginia	Roanoke	234.9	More than 84"	More than 7'
Virginia	Roanoke	235.0	More than 84"	More than 7'
Virginia	Roanoke	235.1	76	6.3
Virginia	Roanoke	235.2	More than 84"	More than 7'
Virginia	Roanoke	235.3	76	6.3
Virginia	Roanoke	235.4	More than 84"	More than 7'
Virginia	Roanoke	235.5	More than 84"	More than 7'
Virginia	Roanoke	235.6	More than 84"	More than 7'
Virginia	Roanoke	235.7	More than 84"	More than 7'
Virginia	Roanoke	235.8	More than 84"	More than 7'
Virginia	Roanoke	235.9	More than 84"	More than 7'
Virginia	Roanoke	236.0	More than 84"	More than 7'
Virginia	Roanoke	236.1	More than 84"	More than 7'
Virginia	Roanoke	236.2	More than 84"	More than 7'
Virginia	Roanoke	236.3	More than 84"	More than 7'
Virginia	Roanoke	236.4	More than 84"	More than 7'
Virginia	Roanoke	236.5	More than 84"	More than 7'
Virginia	Roanoke	236.6	More than 84"	More than 7'
Virginia	Roanoke	236.7	More than 84"	More than 7'
Virginia	Roanoke	236.8	More than 84"	More than 7'
Virginia	Roanoke	236.9	More than 84"	More than 7'
Virginia	Roanoke	237.0	More than 84"	More than 7'
Virginia	Roanoke	237.1	More than 84"	More than 7'
Virginia	Roanoke	237.2	More than 84"	More than 7'
Virginia	Roanoke	237.3	More than 84"	More than 7'
Virginia	Roanoke	237.4	More than 84"	More than 7'
Virginia	Roanoke	237.5	More than 84"	More than 7'
Virginia	Roanoke	237.6	More than 84"	More than 7'
Virginia	Roanoke	237.7	More than 84"	More than 7'
Virginia	Roanoke	237.8	More than 84"	More than 7'
Virginia	Roanoke	237.9	More than 84"	More than 7'
Virginia	Roanoke	238.0	More than 84"	More than 7'
Virginia	Roanoke	238.1	More than 84"	More than 7'
Virginia	Roanoke	238.2	More than 84"	More than 7'
Virginia	Roanoke	238.3	More than 84"	More than 7'
Virginia	Roanoke	238.4	More than 84"	More than 7'
Virginia	Roanoke	238.5	More than 84"	More than 7'
Virginia	Roanoke	238.6	More than 84"	More than 7'
Virginia	Franklin	238.7	66	5.5
Virginia	Franklin	238.8	66	5.5
Virginia	Franklin	238.9	66	5.5
Virginia	Franklin	239.0	66	5.5
Virginia	Franklin	239.1	More than 84"	More than 7'
Virginia	Franklin	239.2	66	5.5

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Franklin	239.3	66	5.5
Virginia	Franklin	239.4	66	5.5
Virginia	Franklin	239.5	More than 84"	More than 7'
Virginia	Franklin	239.6	64	5.3
Virginia	Franklin	239.7	64	5.3
Virginia	Franklin	239.8	64	5.3
Virginia	Franklin	239.9	64	5.3
Virginia	Franklin	240.0	64	5.3
Virginia	Franklin	240.1	64	5.3
Virginia	Franklin	240.2	64	5.3
Virginia	Franklin	240.3	64	5.3
Virginia	Franklin	240.4	64	5.3
Virginia	Franklin	240.5	64	5.3
Virginia	Franklin	240.6	64	5.3
Virginia	Franklin	240.7	64	5.3
Virginia	Franklin	240.8	More than 84"	More than 7'
Virginia	Franklin	240.9	More than 84"	More than 7'
Virginia	Franklin	241.0	More than 84"	More than 7'
Virginia	Franklin	241.1	More than 84"	More than 7'
Virginia	Franklin	241.2	More than 84"	More than 7'
Virginia	Franklin	241.3	More than 84"	More than 7'
Virginia	Franklin	241.4	More than 84"	More than 7'
Virginia	Franklin	241.5	More than 84"	More than 7'
Virginia	Franklin	241.6	More than 84"	More than 7'
Virginia	Franklin	241.7	66	5.5
Virginia	Franklin	241.8	64	5.3
Virginia	Franklin	241.9	64	5.3
Virginia	Franklin	242.0	64	5.3
Virginia	Franklin	242.1	64	5.3
Virginia	Franklin	242.2	64	5.3
Virginia	Franklin	242.3	64	5.3
Virginia	Franklin	242.4	64	5.3
Virginia	Franklin	242.5	64	5.3
Virginia	Franklin	242.6	64	5.3
Virginia	Franklin	242.7	64	5.3
Virginia	Franklin	242.8	64	5.3
Virginia	Franklin	242.9	64	5.3
Virginia	Franklin	243.0	64	5.3
Virginia	Franklin	243.1	64	5.3
Virginia	Franklin	243.2	64	5.3
Virginia	Franklin	243.3	More than 84"	More than 7'
Virginia	Franklin	243.4	More than 84"	More than 7'
Virginia	Franklin	243.5	More than 84"	More than 7'
Virginia	Franklin	243.6	More than 84"	More than 7'
Virginia	Franklin	243.7	More than 84"	More than 7'
Virginia	Franklin	243.8	58	4.8
Virginia	Franklin	243.9	66	5.5

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Franklin	244.0	66	5.5
Virginia	Franklin	244.1	More than 84"	More than 7'
Virginia	Franklin	244.2	64	5.3
Virginia	Franklin	244.3	64	5.3
Virginia	Franklin	244.4	64	5.3
Virginia	Franklin	244.5	64	5.3
Virginia	Franklin	244.6	64	5.3
Virginia	Franklin	244.7	64	5.3
Virginia	Franklin	244.8	64	5.3
Virginia	Franklin	244.9	64	5.3
Virginia	Franklin	245.0	64	5.3
Virginia	Franklin	245.1	64	5.3
Virginia	Franklin	245.2	64	5.3
Virginia	Franklin	245.3	64	5.3
Virginia	Franklin	245.4	64	5.3
Virginia	Franklin	245.5	64	5.3
Virginia	Franklin	245.6	64	5.3
Virginia	Franklin	245.7	64	5.3
Virginia	Franklin	245.8	64	5.3
Virginia	Franklin	245.9	64	5.3
Virginia	Franklin	246.0	66	5.5
Virginia	Franklin	246.1	66	5.5
Virginia	Franklin	246.2	More than 84"	More than 7'
Virginia	Franklin	246.3	64	5.3
Virginia	Franklin	246.4	64	5.3
Virginia	Franklin	246.5	64	5.3
Virginia	Franklin	246.6	64	5.3
Virginia	Franklin	246.7	64	5.3
Virginia	Franklin	246.8	64	5.3
Virginia	Franklin	246.9	64	5.3
Virginia	Franklin	247.0	64	5.3
Virginia	Franklin	247.1	64	5.3
Virginia	Franklin	247.2	64	5.3
Virginia	Franklin	247.3	66	5.5
Virginia	Franklin	247.4	66	5.5
Virginia	Franklin	247.5	66	5.5
Virginia	Franklin	247.6	66	5.5
Virginia	Franklin	247.7	66	5.5
Virginia	Franklin	247.8	More than 84"	More than 7'
Virginia	Franklin	247.9	More than 84"	More than 7'
Virginia	Franklin	248.0	More than 84"	More than 7'
Virginia	Franklin	248.1	More than 84"	More than 7'
Virginia	Franklin	248.2	More than 84"	More than 7'
Virginia	Franklin	248.3	More than 84"	More than 7'
Virginia	Franklin	248.4	58	4.8
Virginia	Franklin	248.5	58	4.8
Virginia	Franklin	248.6	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Franklin	248.7	More than 84"	More than 7'
Virginia	Franklin	248.8	58	4.8
Virginia	Franklin	248.9	More than 84"	More than 7'
Virginia	Franklin	249.0	More than 84"	More than 7'
Virginia	Franklin	249.1	More than 84"	More than 7'
Virginia	Franklin	249.2	58	4.8
Virginia	Franklin	249.3	58	4.8
Virginia	Franklin	249.4	58	4.8
Virginia	Franklin	249.5	More than 84"	More than 7'
Virginia	Franklin	249.6	More than 84"	More than 7'
Virginia	Franklin	249.7	More than 84"	More than 7'
Virginia	Franklin	249.8	More than 84"	More than 7'
Virginia	Franklin	249.9	More than 84"	More than 7'
Virginia	Franklin	250.0	More than 84"	More than 7'
Virginia	Franklin	250.1	More than 84"	More than 7'
Virginia	Franklin	250.2	More than 84"	More than 7'
Virginia	Franklin	250.3	More than 84"	More than 7'
Virginia	Franklin	250.4	More than 84"	More than 7'
Virginia	Franklin	250.5	58	4.8
Virginia	Franklin	250.6	More than 84"	More than 7'
Virginia	Franklin	250.7	More than 84"	More than 7'
Virginia	Franklin	250.8	More than 84"	More than 7'
Virginia	Franklin	250.9	More than 84"	More than 7'
Virginia	Franklin	251.0	More than 84"	More than 7'
Virginia	Franklin	251.1	More than 84"	More than 7'
Virginia	Franklin	251.2	More than 84"	More than 7'
Virginia	Franklin	251.3	More than 84"	More than 7'
Virginia	Franklin	251.4	More than 84"	More than 7'
Virginia	Franklin	251.5	More than 84"	More than 7'
Virginia	Franklin	251.6	More than 84"	More than 7'
Virginia	Franklin	251.7	More than 84"	More than 7'
Virginia	Franklin	251.8	More than 84"	More than 7'
Virginia	Franklin	251.9	More than 84"	More than 7'
Virginia	Franklin	252.0	More than 84"	More than 7'
Virginia	Franklin	252.1	More than 84"	More than 7'
Virginia	Franklin	252.2	More than 84"	More than 7'
Virginia	Franklin	252.3	More than 84"	More than 7'
Virginia	Franklin	252.4	More than 84"	More than 7'
Virginia	Franklin	252.5	More than 84"	More than 7'
Virginia	Franklin	252.6	58	4.8
Virginia	Franklin	252.7	More than 84"	More than 7'
Virginia	Franklin	252.8	58	4.8
Virginia	Franklin	252.9	More than 84"	More than 7'
Virginia	Franklin	253.0	More than 84"	More than 7'
Virginia	Franklin	253.1	58	4.8
Virginia	Franklin	253.2	58	4.8

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Franklin	253.3	58	4.8
Virginia	Franklin	253.4	58	4.8
Virginia	Franklin	253.5	More than 84"	More than 7'
Virginia	Franklin	253.6	58	4.8
Virginia	Franklin	253.7	More than 84"	More than 7'
Virginia	Franklin	253.8	More than 84"	More than 7'
Virginia	Franklin	253.9	58	4.8
Virginia	Franklin	254.0	58	4.8
Virginia	Franklin	254.1	More than 84"	More than 7'
Virginia	Franklin	254.2	More than 84"	More than 7'
Virginia	Franklin	254.3	More than 84"	More than 7'
Virginia	Franklin	254.4	More than 84"	More than 7'
Virginia	Franklin	254.5	More than 84"	More than 7'
Virginia	Franklin	254.6	More than 84"	More than 7'
Virginia	Franklin	254.7	More than 84"	More than 7'
Virginia	Franklin	254.8	More than 84"	More than 7'
Virginia	Franklin	254.9	More than 84"	More than 7'
Virginia	Franklin	255.0	More than 84"	More than 7'
Virginia	Franklin	255.1	More than 84"	More than 7'
Virginia	Franklin	255.2	More than 84"	More than 7'
Virginia	Franklin	255.3	More than 84"	More than 7'
Virginia	Franklin	255.4	More than 84"	More than 7'
Virginia	Franklin	255.5	More than 84"	More than 7'
Virginia	Franklin	255.6	More than 84"	More than 7'
Virginia	Franklin	255.7	More than 84"	More than 7'
Virginia	Franklin	255.8	More than 84"	More than 7'
Virginia	Franklin	255.9	More than 84"	More than 7'
Virginia	Franklin	256.0	58	4.8
Virginia	Franklin	256.1	More than 84"	More than 7'
Virginia	Franklin	256.2	More than 84"	More than 7'
Virginia	Franklin	256.3	More than 84"	More than 7'
Virginia	Franklin	256.4	More than 84"	More than 7'
Virginia	Franklin	256.5	More than 84"	More than 7'
Virginia	Franklin	256.6	58	4.8
Virginia	Franklin	256.7	More than 84"	More than 7'
Virginia	Franklin	256.8	More than 84"	More than 7'
Virginia	Franklin	256.9	More than 84"	More than 7'
Virginia	Franklin	257.0	More than 84"	More than 7'
Virginia	Franklin	257.1	58	4.8
Virginia	Franklin	257.2	58	4.8
Virginia	Franklin	257.3	More than 84"	More than 7'
Virginia	Franklin	257.4	More than 84"	More than 7'
Virginia	Franklin	257.5	58	4.8
Virginia	Franklin	257.6	More than 84"	More than 7'
Virginia	Franklin	257.7	More than 84"	More than 7'
Virginia	Franklin	257.8	58	4.8
Virginia	Franklin	257.9	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Franklin	258.0	58	4.8
Virginia	Franklin	258.1	58	4.8
Virginia	Franklin	258.2	More than 84"	More than 7'
Virginia	Franklin	258.3	More than 84"	More than 7'
Virginia	Franklin	258.4	More than 84"	More than 7'
Virginia	Franklin	258.5	More than 84"	More than 7'
Virginia	Franklin	258.6	More than 84"	More than 7'
Virginia	Franklin	258.7	More than 84"	More than 7'
Virginia	Franklin	258.8	More than 84"	More than 7'
Virginia	Franklin	258.9	More than 84"	More than 7'
Virginia	Franklin	259.0	More than 84"	More than 7'
Virginia	Franklin	259.1	More than 84"	More than 7'
Virginia	Franklin	259.2	58	4.8
Virginia	Franklin	259.3	More than 84"	More than 7'
Virginia	Franklin	259.4	More than 84"	More than 7'
Virginia	Franklin	259.5	More than 84"	More than 7'
Virginia	Franklin	259.6	More than 84"	More than 7'
Virginia	Franklin	259.7	More than 84"	More than 7'
Virginia	Franklin	259.8	58	4.8
Virginia	Franklin	259.9	58	4.8
Virginia	Franklin	260.0	58	4.8
Virginia	Franklin	260.1	More than 84"	More than 7'
Virginia	Franklin	260.2	58	4.8
Virginia	Franklin	260.3	More than 84"	More than 7'
Virginia	Franklin	260.4	More than 84"	More than 7'
Virginia	Franklin	260.5	More than 84"	More than 7'
Virginia	Franklin	260.6	58	4.8
Virginia	Franklin	260.7	More than 84"	More than 7'
Virginia	Franklin	260.8	More than 84"	More than 7'
Virginia	Franklin	260.9	More than 84"	More than 7'
Virginia	Franklin	261.0	More than 84"	More than 7'
Virginia	Franklin	261.1	More than 84"	More than 7'
Virginia	Franklin	261.2	More than 84"	More than 7'
Virginia	Franklin	261.3	More than 84"	More than 7'
Virginia	Franklin	261.4	More than 84"	More than 7'
Virginia	Franklin	261.5	More than 84"	More than 7'
Virginia	Franklin	261.6	More than 84"	More than 7'
Virginia	Franklin	261.7	More than 84"	More than 7'
Virginia	Franklin	261.8	More than 84"	More than 7'
Virginia	Franklin	261.9	More than 84"	More than 7'
Virginia	Franklin	262.0	More than 84"	More than 7'
Virginia	Franklin	262.1	More than 84"	More than 7'
Virginia	Franklin	262.2	More than 84"	More than 7'
Virginia	Franklin	262.3	More than 84"	More than 7'
Virginia	Franklin	262.4	More than 84"	More than 7'
Virginia	Franklin	262.5	More than 84"	More than 7'
Virginia	Franklin	262.6	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Franklin	262.7	More than 84"	More than 7'
Virginia	Franklin	262.8	More than 84"	More than 7'
Virginia	Franklin	262.9	More than 84"	More than 7'
Virginia	Franklin	263.0	More than 84"	More than 7'
Virginia	Franklin	263.1	More than 84"	More than 7'
Virginia	Franklin	263.2	More than 84"	More than 7'
Virginia	Franklin	263.3	More than 84"	More than 7'
Virginia	Franklin	263.4	More than 84"	More than 7'
Virginia	Franklin	263.5	More than 84"	More than 7'
Virginia	Franklin	263.6	More than 84"	More than 7'
Virginia	Franklin	263.7	More than 84"	More than 7'
Virginia	Franklin	263.8	More than 84"	More than 7'
Virginia	Franklin	263.9	More than 84"	More than 7'
Virginia	Franklin	264.0	More than 84"	More than 7'
Virginia	Franklin	264.1	More than 84"	More than 7'
Virginia	Franklin	264.2	More than 84"	More than 7'
Virginia	Franklin	264.3	More than 84"	More than 7'
Virginia	Franklin	264.4	More than 84"	More than 7'
Virginia	Franklin	264.5	58	4.8
Virginia	Franklin	264.6	More than 84"	More than 7'
Virginia	Franklin	264.7	More than 84"	More than 7'
Virginia	Franklin	264.8	More than 84"	More than 7'
Virginia	Franklin	264.9	58	4.8
Virginia	Franklin	265.0	More than 84"	More than 7'
Virginia	Franklin	265.1	58	4.8
Virginia	Franklin	265.2	More than 84"	More than 7'
Virginia	Franklin	265.3	More than 84"	More than 7'
Virginia	Franklin	265.4	More than 84"	More than 7'
Virginia	Franklin	265.5	More than 84"	More than 7'
Virginia	Franklin	265.6	More than 84"	More than 7'
Virginia	Franklin	265.7	More than 84"	More than 7'
Virginia	Franklin	265.8	More than 84"	More than 7'
Virginia	Franklin	265.9	More than 84"	More than 7'
Virginia	Franklin	266.0	More than 84"	More than 7'
Virginia	Franklin	266.1	More than 84"	More than 7'
Virginia	Franklin	266.2	More than 84"	More than 7'
Virginia	Franklin	266.3	More than 84"	More than 7'
Virginia	Franklin	266.4	More than 84"	More than 7'
Virginia	Franklin	266.5	More than 84"	More than 7'
Virginia	Franklin	266.6	More than 84"	More than 7'
Virginia	Franklin	266.7	More than 84"	More than 7'
Virginia	Franklin	266.8	More than 84"	More than 7'
Virginia	Franklin	266.9	More than 84"	More than 7'
Virginia	Franklin	267.0	More than 84"	More than 7'
Virginia	Franklin	267.1	More than 84"	More than 7'
Virginia	Franklin	267.2	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Franklin	267.3	More than 84"	More than 7'
Virginia	Franklin	267.4	More than 84"	More than 7'
Virginia	Franklin	267.5	76	6.3
Virginia	Franklin	267.6	76	6.3
Virginia	Franklin	267.7	More than 84"	More than 7'
Virginia	Franklin	267.8	More than 84"	More than 7'
Virginia	Franklin	267.9	More than 84"	More than 7'
Virginia	Franklin	268.0	More than 84"	More than 7'
Virginia	Franklin	268.1	More than 84"	More than 7'
Virginia	Franklin	268.2	More than 84"	More than 7'
Virginia	Franklin	268.3	58	4.8
Virginia	Franklin	268.4	More than 84"	More than 7'
Virginia	Franklin	268.5	More than 84"	More than 7'
Virginia	Franklin	268.6	58	4.8
Virginia	Franklin	268.7	More than 84"	More than 7'
Virginia	Franklin	268.8	More than 84"	More than 7'
Virginia	Franklin	268.9	58	4.8
Virginia	Franklin	269.0	More than 84"	More than 7'
Virginia	Franklin	269.1	More than 84"	More than 7'
Virginia	Franklin	269.2	More than 84"	More than 7'
Virginia	Franklin	269.3	More than 84"	More than 7'
Virginia	Franklin	269.4	More than 84"	More than 7'
Virginia	Franklin	269.5	More than 84"	More than 7'
Virginia	Franklin	269.6	More than 84"	More than 7'
Virginia	Franklin	269.7	58	4.8
Virginia	Franklin	269.8	More than 84"	More than 7'
Virginia	Franklin	269.9	More than 84"	More than 7'
Virginia	Franklin	270.0	More than 84"	More than 7'
Virginia	Franklin	270.1	More than 84"	More than 7'
Virginia	Franklin	270.2	76	6.3
Virginia	Franklin	270.3	76	6.3
Virginia	Franklin	270.4	More than 84"	More than 7'
Virginia	Franklin	270.5	61	5.1
Virginia	Franklin	270.6	76	6.3
Virginia	Franklin	270.7	76	6.3
Virginia	Franklin	270.8	76	6.3
Virginia	Franklin	270.9	More than 84"	More than 7'
Virginia	Franklin	271.0	58	4.8
Virginia	Franklin	271.1	More than 84"	More than 7'
Virginia	Franklin	271.2	More than 84"	More than 7'
Virginia	Franklin	271.3	More than 84"	More than 7'
Virginia	Franklin	271.4	More than 84"	More than 7'
Virginia	Franklin	271.5	58	4.8
Virginia	Franklin	271.6	More than 84"	More than 7'
Virginia	Franklin	271.7	58	4.8

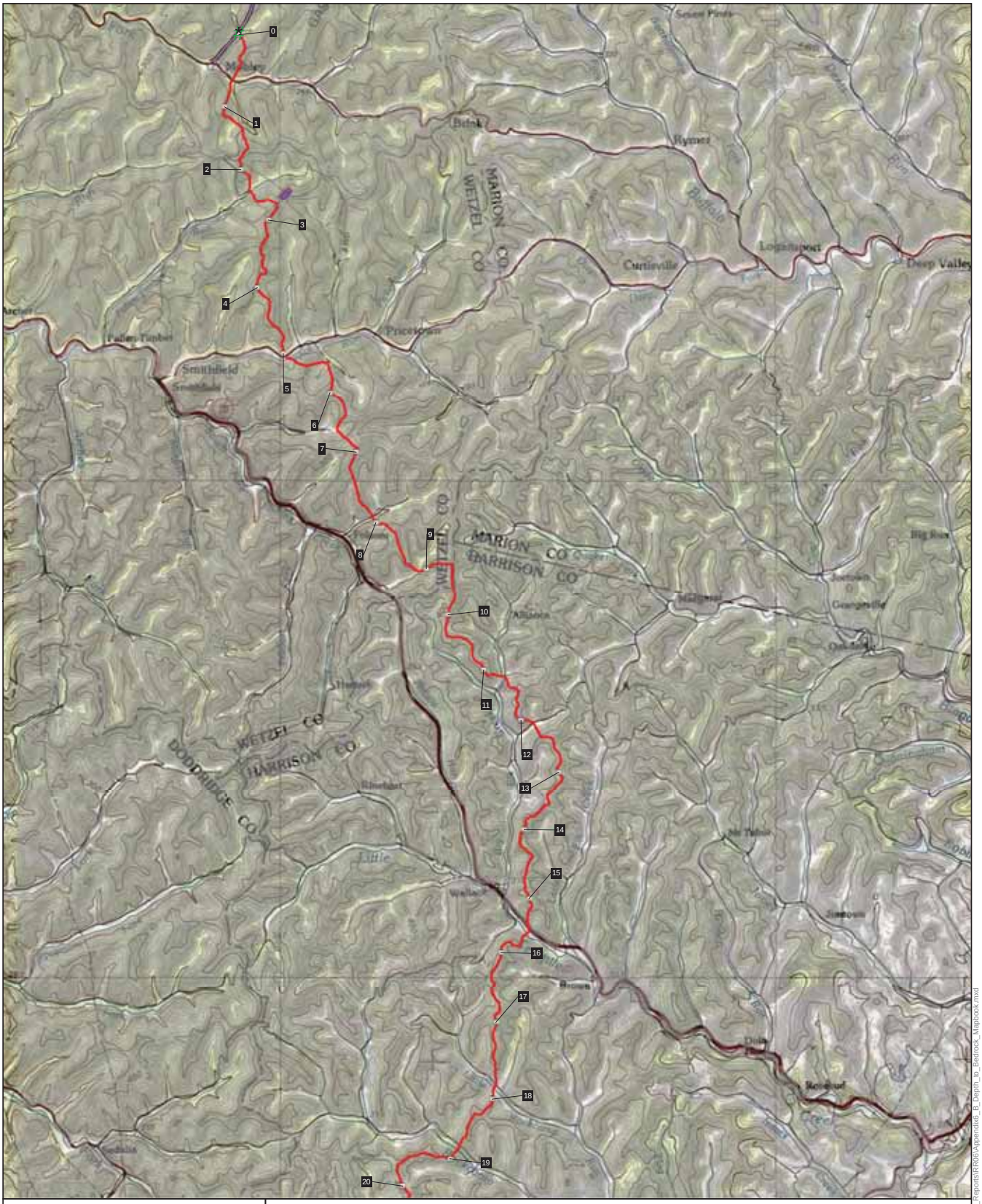
Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Franklin	271.8	58	4.8
Virginia	Franklin	271.9	More than 84"	More than 7'
Virginia	Franklin	272.0	More than 84"	More than 7'
Virginia	Franklin	272.1	More than 84"	More than 7'
Virginia	Franklin	272.2	More than 84"	More than 7'
Virginia	Franklin	272.3	58	4.8
Virginia	Franklin	272.4	More than 84"	More than 7'
Virginia	Franklin	272.5	More than 84"	More than 7'
Virginia	Franklin	272.6	More than 84"	More than 7'
Virginia	Franklin	272.7	58	4.8
Virginia	Franklin	272.8	More than 84"	More than 7'
Virginia	Franklin	272.9	58	4.8
Virginia	Franklin	273.0	58	4.8
Virginia	Franklin	273.1	58	4.8
Virginia	Franklin	273.2	More than 84"	More than 7'
Virginia	Franklin	273.3	More than 84"	More than 7'
Virginia	Franklin	273.4	56	4.7
Virginia	Franklin	273.5	56	4.7
Virginia	Franklin	273.6	56	4.7
Virginia	Franklin	273.7	56	4.7
Virginia	Franklin	273.8	56	4.7
Virginia	Franklin	273.9	More than 84"	More than 7'
Virginia	Franklin	274.0	56	4.7
Virginia	Franklin	274.1	56	4.7
Virginia	Franklin	274.2	56	4.7
Virginia	Franklin	274.3	56	4.7
Virginia	Franklin	274.4	More than 84"	More than 7'
Virginia	Franklin	274.5	More than 84"	More than 7'
Virginia	Franklin	274.6	More than 84"	More than 7'
Virginia	Franklin	274.7	76	6.3
Virginia	Pittsylvania	274.8	More than 84"	More than 7'
Virginia	Pittsylvania	274.9	More than 84"	More than 7'
Virginia	Pittsylvania	275.0	More than 84"	More than 7'
Virginia	Pittsylvania	275.1	More than 84"	More than 7'
Virginia	Pittsylvania	275.2	More than 84"	More than 7'
Virginia	Pittsylvania	275.3	More than 84"	More than 7'
Virginia	Pittsylvania	275.4	More than 84"	More than 7'
Virginia	Pittsylvania	275.5	More than 84"	More than 7'
Virginia	Pittsylvania	275.6	More than 84"	More than 7'
Virginia	Pittsylvania	275.7	More than 84"	More than 7'
Virginia	Pittsylvania	275.8	More than 84"	More than 7'
Virginia	Pittsylvania	275.9	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Pittsylvania	276.0	More than 84"	More than 7'
Virginia	Pittsylvania	276.1	More than 84"	More than 7'
Virginia	Pittsylvania	276.2	More than 84"	More than 7'
Virginia	Pittsylvania	276.3	More than 84"	More than 7'
Virginia	Pittsylvania	276.4	More than 84"	More than 7'
Virginia	Pittsylvania	276.5	More than 84"	More than 7'
Virginia	Pittsylvania	276.6	More than 84"	More than 7'
Virginia	Pittsylvania	276.7	More than 84"	More than 7'
Virginia	Pittsylvania	276.8	More than 84"	More than 7'
Virginia	Pittsylvania	276.9	More than 84"	More than 7'
Virginia	Pittsylvania	277.0	More than 84"	More than 7'
Virginia	Pittsylvania	277.1	More than 84"	More than 7'
Virginia	Pittsylvania	277.2	More than 84"	More than 7'
Virginia	Pittsylvania	277.3	More than 84"	More than 7'
Virginia	Pittsylvania	277.4	More than 84"	More than 7'
Virginia	Pittsylvania	277.5	More than 84"	More than 7'
Virginia	Pittsylvania	277.6	More than 84"	More than 7'
Virginia	Pittsylvania	277.7	More than 84"	More than 7'
Virginia	Pittsylvania	277.8	More than 84"	More than 7'
Virginia	Pittsylvania	277.9	More than 84"	More than 7'
Virginia	Pittsylvania	278.0	More than 84"	More than 7'
Virginia	Pittsylvania	278.1	More than 84"	More than 7'
Virginia	Pittsylvania	278.2	More than 84"	More than 7'
Virginia	Pittsylvania	278.3	More than 84"	More than 7'
Virginia	Pittsylvania	278.4	More than 84"	More than 7'
Virginia	Pittsylvania	278.5	More than 84"	More than 7'
Virginia	Pittsylvania	278.6	More than 84"	More than 7'
Virginia	Pittsylvania	278.7	More than 84"	More than 7'
Virginia	Pittsylvania	278.8	More than 84"	More than 7'
Virginia	Pittsylvania	278.9	More than 84"	More than 7'
Virginia	Pittsylvania	279.0	More than 84"	More than 7'
Virginia	Pittsylvania	279.1	More than 84"	More than 7'
Virginia	Pittsylvania	279.2	More than 84"	More than 7'
Virginia	Pittsylvania	279.3	More than 84"	More than 7'
Virginia	Pittsylvania	279.4	More than 84"	More than 7'
Virginia	Pittsylvania	279.5	More than 84"	More than 7'
Virginia	Pittsylvania	279.6	More than 84"	More than 7'
Virginia	Pittsylvania	279.7	More than 84"	More than 7'
Virginia	Pittsylvania	279.8	More than 84"	More than 7'
Virginia	Pittsylvania	279.9	More than 84"	More than 7'
Virginia	Pittsylvania	280.0	More than 84"	More than 7'
Virginia	Pittsylvania	280.1	More than 84"	More than 7'
Virginia	Pittsylvania	280.2	More than 84"	More than 7'
Virginia	Pittsylvania	280.3	More than 84"	More than 7'
Virginia	Pittsylvania	280.4	More than 84"	More than 7'
Virginia	Pittsylvania	280.5	More than 84"	More than 7'
Virginia	Pittsylvania	280.6	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Pittsylvania	280.7	More than 84"	More than 7'
Virginia	Pittsylvania	280.8	More than 84"	More than 7'
Virginia	Pittsylvania	280.9	More than 84"	More than 7'
Virginia	Pittsylvania	281.0	More than 84"	More than 7'
Virginia	Pittsylvania	281.1	More than 84"	More than 7'
Virginia	Pittsylvania	281.2	More than 84"	More than 7'
Virginia	Pittsylvania	281.3	More than 84"	More than 7'
Virginia	Pittsylvania	281.4	More than 84"	More than 7'
Virginia	Pittsylvania	281.5	More than 84"	More than 7'
Virginia	Pittsylvania	281.6	More than 84"	More than 7'
Virginia	Pittsylvania	281.7	More than 84"	More than 7'
Virginia	Pittsylvania	281.8	More than 84"	More than 7'
Virginia	Pittsylvania	281.9	More than 84"	More than 7'
Virginia	Pittsylvania	282.0	More than 84"	More than 7'
Virginia	Pittsylvania	282.1	More than 84"	More than 7'
Virginia	Pittsylvania	282.2	More than 84"	More than 7'
Virginia	Pittsylvania	282.3	More than 84"	More than 7'
Virginia	Pittsylvania	282.4	More than 84"	More than 7'
Virginia	Pittsylvania	282.5	More than 84"	More than 7'
Virginia	Pittsylvania	282.6	More than 84"	More than 7'
Virginia	Pittsylvania	282.7	More than 84"	More than 7'
Virginia	Pittsylvania	282.8	More than 84"	More than 7'
Virginia	Pittsylvania	282.9	More than 84"	More than 7'
Virginia	Pittsylvania	283.0	More than 84"	More than 7'
Virginia	Pittsylvania	283.1	More than 84"	More than 7'
Virginia	Pittsylvania	283.2	More than 84"	More than 7'
Virginia	Pittsylvania	283.3	More than 84"	More than 7'
Virginia	Pittsylvania	283.4	More than 84"	More than 7'
Virginia	Pittsylvania	283.5	More than 84"	More than 7'
Virginia	Pittsylvania	283.6	More than 84"	More than 7'
Virginia	Pittsylvania	283.7	More than 84"	More than 7'
Virginia	Pittsylvania	283.8	More than 84"	More than 7'
Virginia	Pittsylvania	283.9	More than 84"	More than 7'
Virginia	Pittsylvania	284.0	More than 84"	More than 7'
Virginia	Pittsylvania	284.1	More than 84"	More than 7'
Virginia	Pittsylvania	284.2	More than 84"	More than 7'
Virginia	Pittsylvania	284.3	More than 84"	More than 7'
Virginia	Pittsylvania	284.4	More than 84"	More than 7'
Virginia	Pittsylvania	284.5	More than 84"	More than 7'
Virginia	Pittsylvania	284.6	More than 84"	More than 7'
Virginia	Pittsylvania	284.7	More than 84"	More than 7'
Virginia	Pittsylvania	284.8	More than 84"	More than 7'
Virginia	Pittsylvania	284.9	More than 84"	More than 7'
Virginia	Pittsylvania	285.0	More than 84"	More than 7'
Virginia	Pittsylvania	285.1	More than 84"	More than 7'
Virginia	Pittsylvania	285.2	More than 84"	More than 7'
Virginia	Pittsylvania	285.3	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Pittsylvania	285.4	More than 84"	More than 7'
Virginia	Pittsylvania	285.5	More than 84"	More than 7'
Virginia	Pittsylvania	285.6	More than 84"	More than 7'
Virginia	Pittsylvania	285.7	More than 84"	More than 7'
Virginia	Pittsylvania	285.8	More than 84"	More than 7'
Virginia	Pittsylvania	285.9	More than 84"	More than 7'
Virginia	Pittsylvania	286.0	More than 84"	More than 7'
Virginia	Pittsylvania	286.1	More than 84"	More than 7'
Virginia	Pittsylvania	286.2	More than 84"	More than 7'
Virginia	Pittsylvania	286.3	More than 84"	More than 7'
Virginia	Pittsylvania	286.4	More than 84"	More than 7'
Virginia	Pittsylvania	286.5	More than 84"	More than 7'
Virginia	Pittsylvania	286.6	More than 84"	More than 7'
Virginia	Pittsylvania	286.7	More than 84"	More than 7'
Virginia	Pittsylvania	286.8	More than 84"	More than 7'
Virginia	Pittsylvania	286.9	More than 84"	More than 7'
Virginia	Pittsylvania	287.0	More than 84"	More than 7'
Virginia	Pittsylvania	287.1	More than 84"	More than 7'
Virginia	Pittsylvania	287.2	More than 84"	More than 7'
Virginia	Pittsylvania	287.3	More than 84"	More than 7'
Virginia	Pittsylvania	287.4	More than 84"	More than 7'
Virginia	Pittsylvania	287.5	More than 84"	More than 7'
Virginia	Pittsylvania	287.6	More than 84"	More than 7'
Virginia	Pittsylvania	287.7	More than 84"	More than 7'
Virginia	Pittsylvania	287.8	More than 84"	More than 7'
Virginia	Pittsylvania	287.9	More than 84"	More than 7'
Virginia	Pittsylvania	288.0	More than 84"	More than 7'
Virginia	Pittsylvania	288.1	More than 84"	More than 7'
Virginia	Pittsylvania	288.2	More than 84"	More than 7'
Virginia	Pittsylvania	288.3	More than 84"	More than 7'
Virginia	Pittsylvania	288.4	More than 84"	More than 7'
Virginia	Pittsylvania	288.5	More than 84"	More than 7'
Virginia	Pittsylvania	288.6	More than 84"	More than 7'
Virginia	Pittsylvania	288.7	More than 84"	More than 7'
Virginia	Pittsylvania	288.8	More than 84"	More than 7'
Virginia	Pittsylvania	288.9	More than 84"	More than 7'
Virginia	Pittsylvania	289.0	More than 84"	More than 7'
Virginia	Pittsylvania	289.1	More than 84"	More than 7'
Virginia	Pittsylvania	289.2	More than 84"	More than 7'
Virginia	Pittsylvania	289.3	More than 84"	More than 7'
Virginia	Pittsylvania	289.4	More than 84"	More than 7'
Virginia	Pittsylvania	289.5	More than 84"	More than 7'
Virginia	Pittsylvania	289.6	More than 84"	More than 7'
Virginia	Pittsylvania	289.7	More than 84"	More than 7'
Virginia	Pittsylvania	289.8	More than 84"	More than 7'
Virginia	Pittsylvania	289.9	More than 84"	More than 7'
Virginia	Pittsylvania	290.0	More than 84"	More than 7'

Table 6-B-1 Depth to Bedrock, by Milepost, MVP Pipeline				
Virginia	Pittsylvania	290.1	More than 84"	More than 7'
Virginia	Pittsylvania	290.2	More than 84"	More than 7'
Virginia	Pittsylvania	290.3	More than 84"	More than 7'
Virginia	Pittsylvania	290.4	More than 84"	More than 7'
Virginia	Pittsylvania	290.5	More than 84"	More than 7'
Virginia	Pittsylvania	290.6	More than 84"	More than 7'
Virginia	Pittsylvania	290.7	More than 84"	More than 7'
Virginia	Pittsylvania	290.8	More than 84"	More than 7'
Virginia	Pittsylvania	290.9	More than 84"	More than 7'
Virginia	Pittsylvania	291.0	More than 84"	More than 7'
Virginia	Pittsylvania	291.1	More than 84"	More than 7'
Virginia	Pittsylvania	291.2	More than 84"	More than 7'
Virginia	Pittsylvania	291.3	More than 84"	More than 7'
Virginia	Pittsylvania	291.4	More than 84"	More than 7'
Virginia	Pittsylvania	291.5	More than 84"	More than 7'
Virginia	Pittsylvania	291.6	More than 84"	More than 7'
Virginia	Pittsylvania	291.7	More than 84"	More than 7'
Virginia	Pittsylvania	291.8	More than 84"	More than 7'
Virginia	Pittsylvania	291.9	More than 84"	More than 7'
Virginia	Pittsylvania	292.0	More than 84"	More than 7'
Virginia	Pittsylvania	292.1	More than 84"	More than 7'
Virginia	Pittsylvania	292.2	More than 84"	More than 7'
Virginia	Pittsylvania	292.3	More than 84"	More than 7'
Virginia	Pittsylvania	292.4	More than 84"	More than 7'
Virginia	Pittsylvania	292.5	More than 84"	More than 7'
Virginia	Pittsylvania	292.6	More than 84"	More than 7'
Virginia	Pittsylvania	292.7	More than 84"	More than 7'
Virginia	Pittsylvania	292.8	More than 84"	More than 7'
Virginia	Pittsylvania	292.9	More than 84"	More than 7'
Virginia	Pittsylvania	293.0	More than 84"	More than 7'
Virginia	Pittsylvania	293.1	More than 84"	More than 7'
Virginia	Pittsylvania	293.2	More than 84"	More than 7'
Virginia	Pittsylvania	293.3	More than 84"	More than 7'
Virginia	Pittsylvania	293.4	More than 84"	More than 7'
Virginia	Pittsylvania	293.5	More than 84"	More than 7'
Virginia	Pittsylvania	293.6	More than 84"	More than 7'
Virginia	Pittsylvania	293.7	More than 84"	More than 7'
Virginia	Pittsylvania	293.8	More than 84"	More than 7'
Virginia	Pittsylvania	293.9	More than 84"	More than 7'
Virginia	Pittsylvania	294.0	More than 84"	More than 7'
Virginia	Pittsylvania	294.1	More than 84"	More than 7'
Virginia	Pittsylvania	294.1	More than 84"	More than 7'



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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May 2015

Data Sources: ESRI, Ventyx, NRCS

- Milepost
- Proposed Route
- Existing Equitrans H-302 Line

Preliminary Meter Station Location

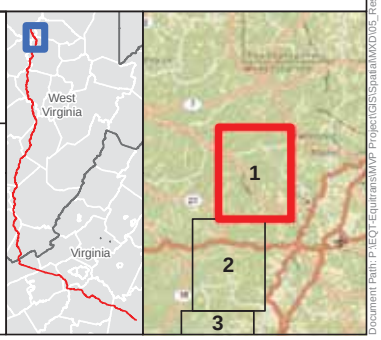
- # Mobley Interconnect receipt

Preliminary Compressor Station Location

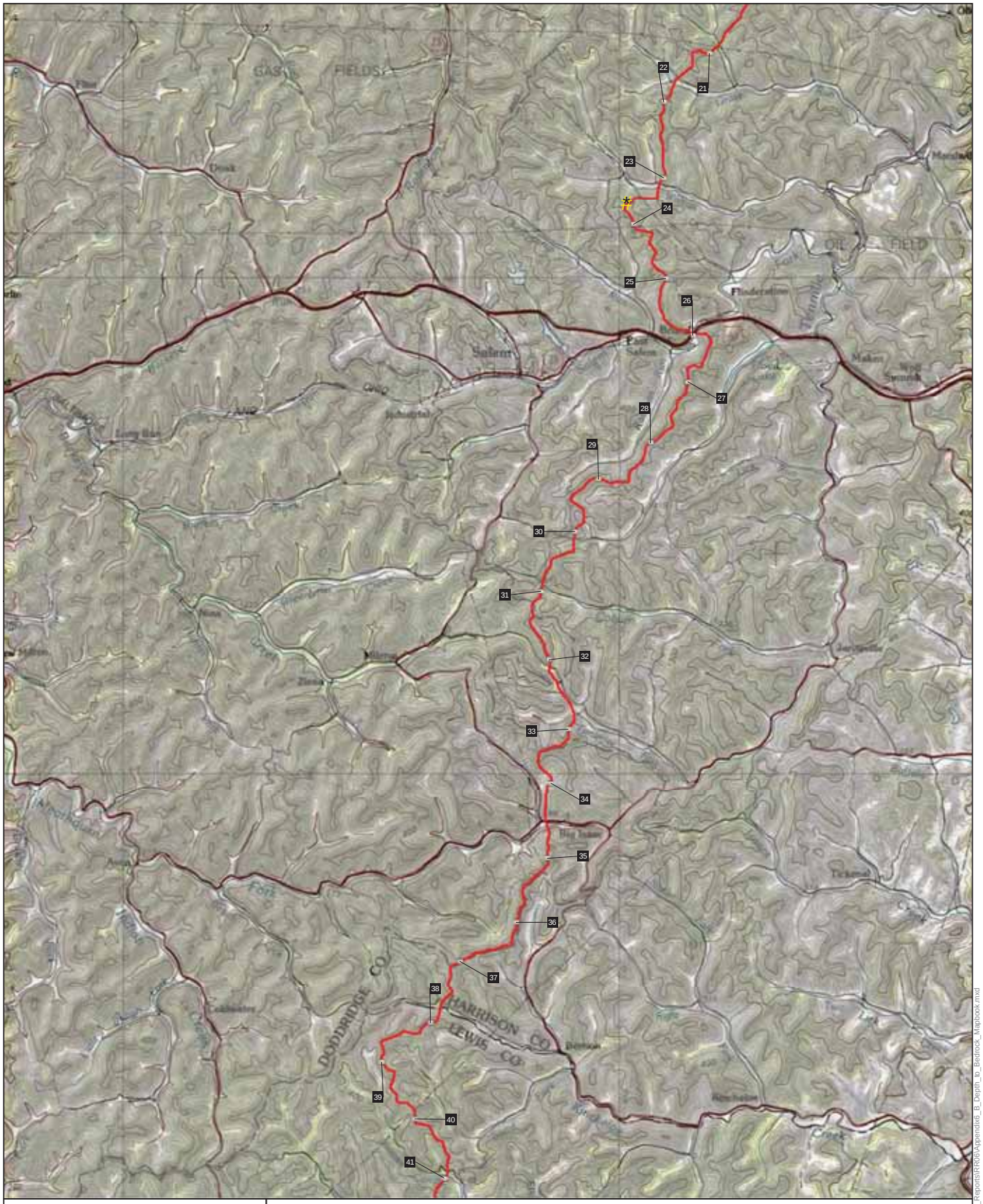
- Bradshaw Station

Bedrock Depth - Minimum

- 5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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May 2015

Data Sources: ESRI, Ventyx, NRCS

Milepost

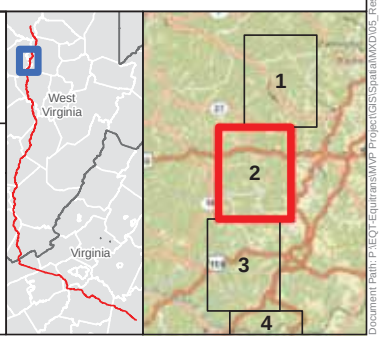
Proposed Route

Preliminary Meter Station Location

MarkWest Interconnect receipt

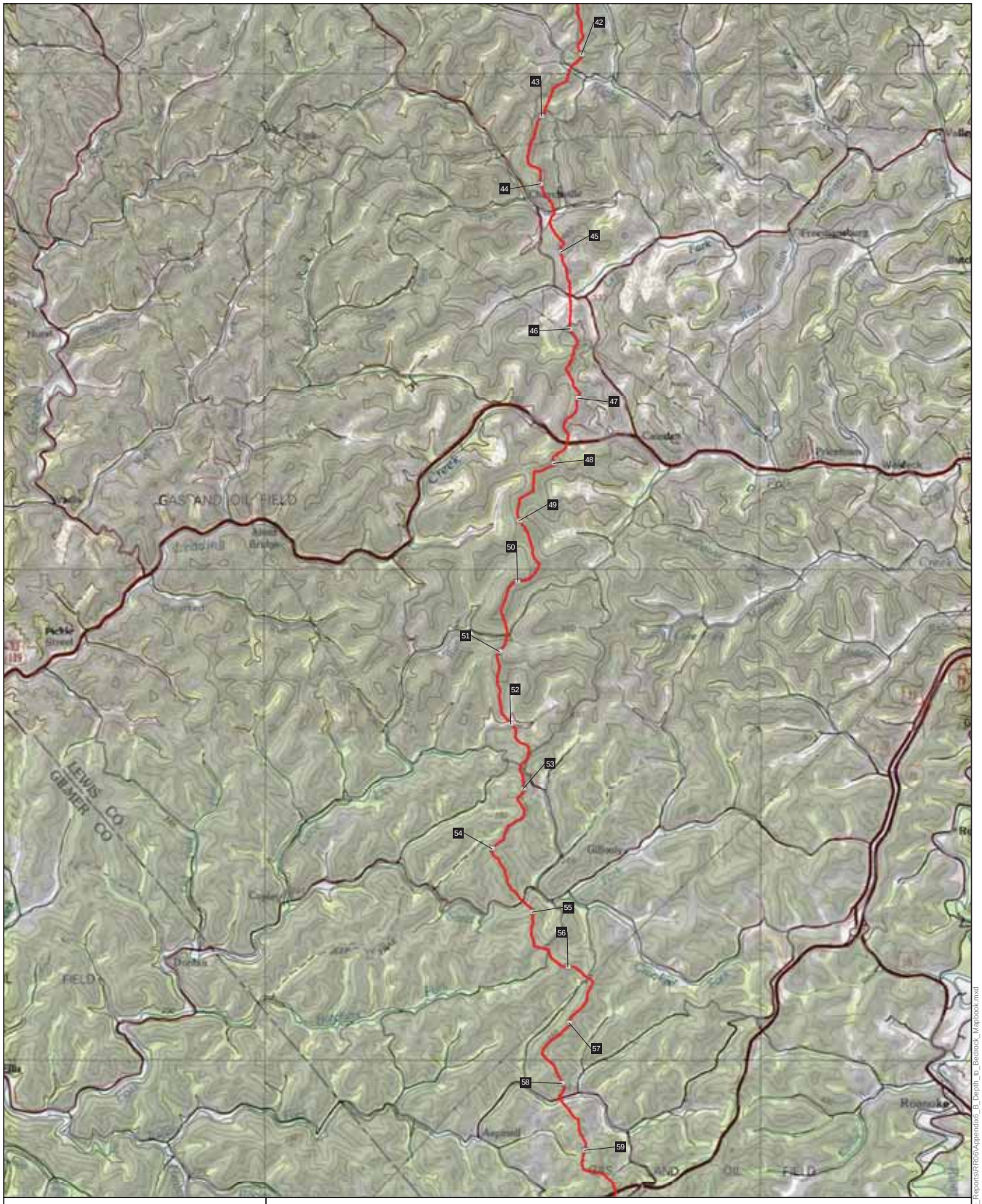
Bedrock Depth - Minimum

5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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May 2015

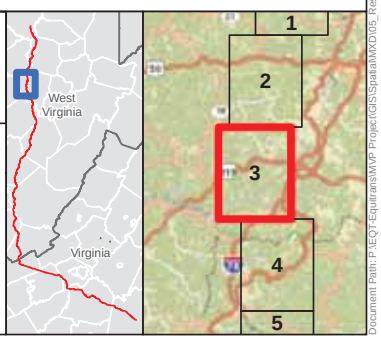
Data Sources: ESRI, Ventyx, NRCS

Milepost

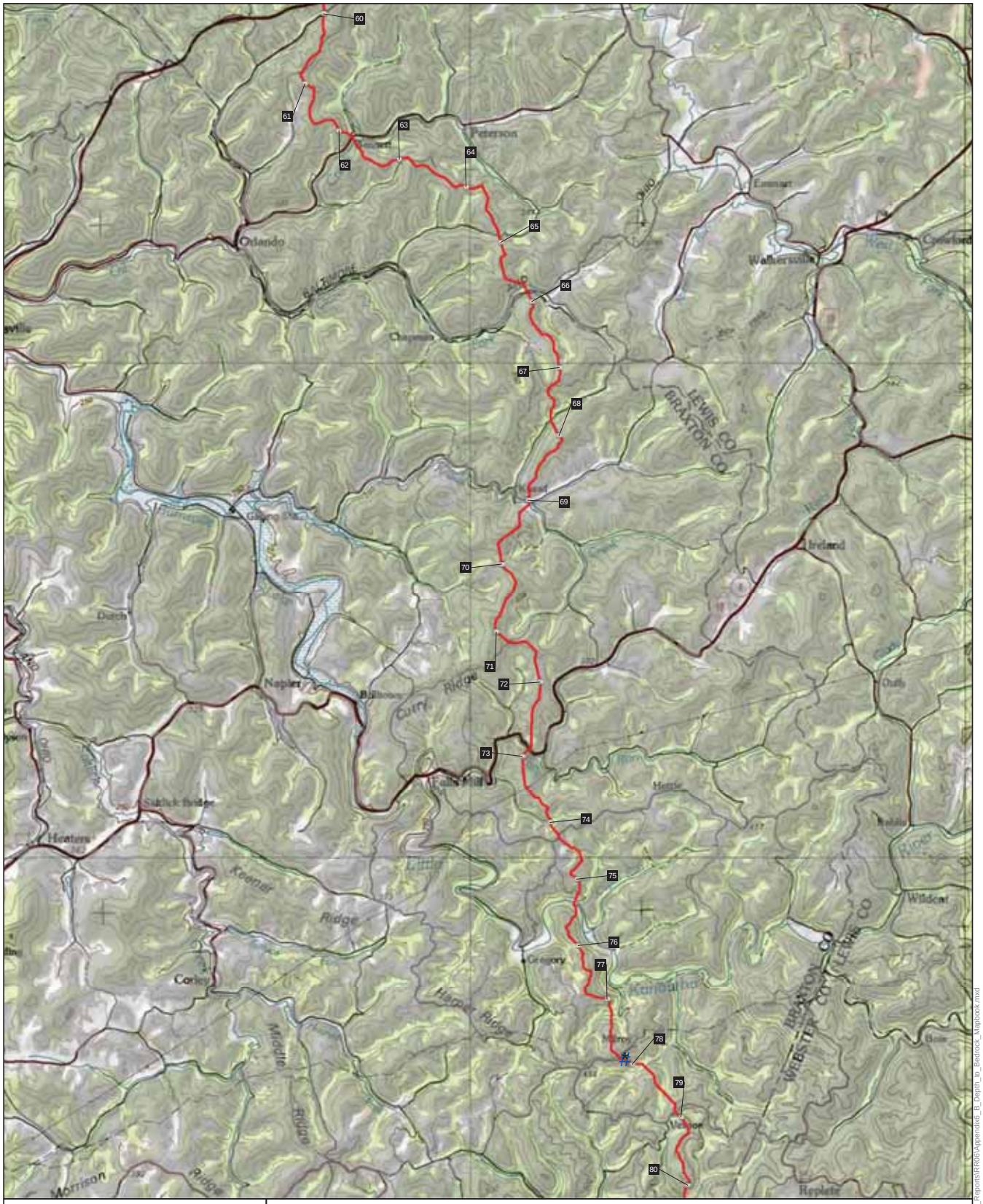
Proposed Route

Bedrock Depth - Minimum

5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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May 2015

Data Sources: ESRI, Ventyx, NRCS

Milepost

Proposed Route

Preliminary Meter Station Location

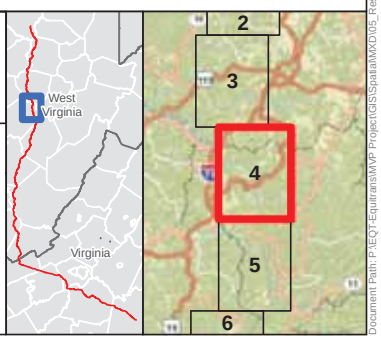
WB Interconnect receipt

Preliminary Compressor Station Location

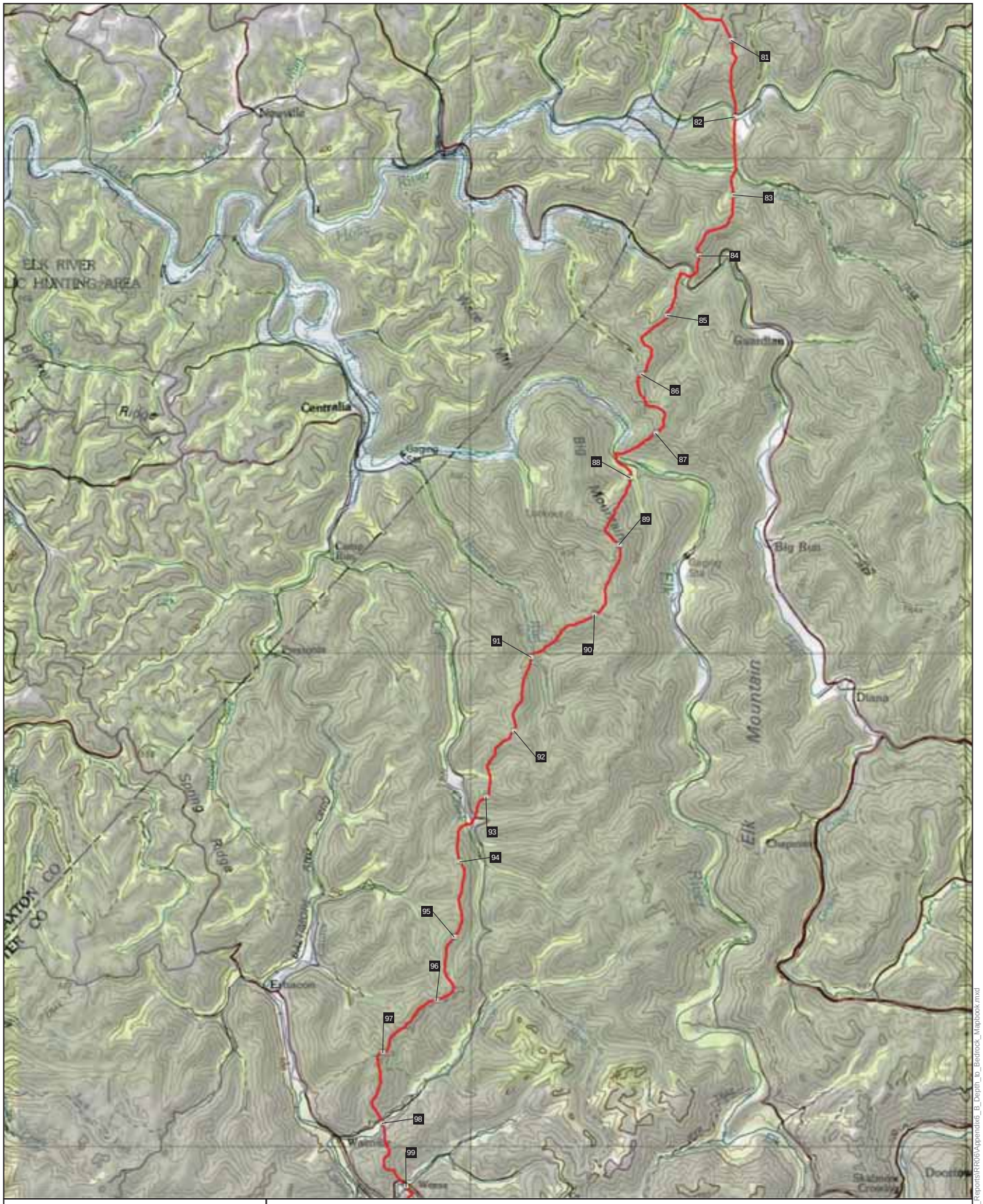
Harris Station

Bedrock Depth - Minimum

5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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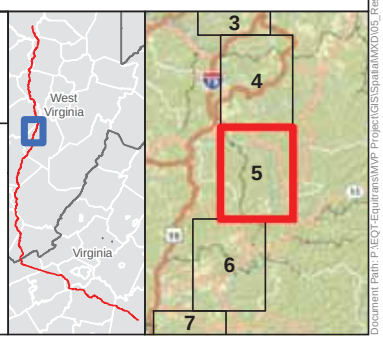
Data Sources: ESRI, Ventyx, NRCS

Milepost

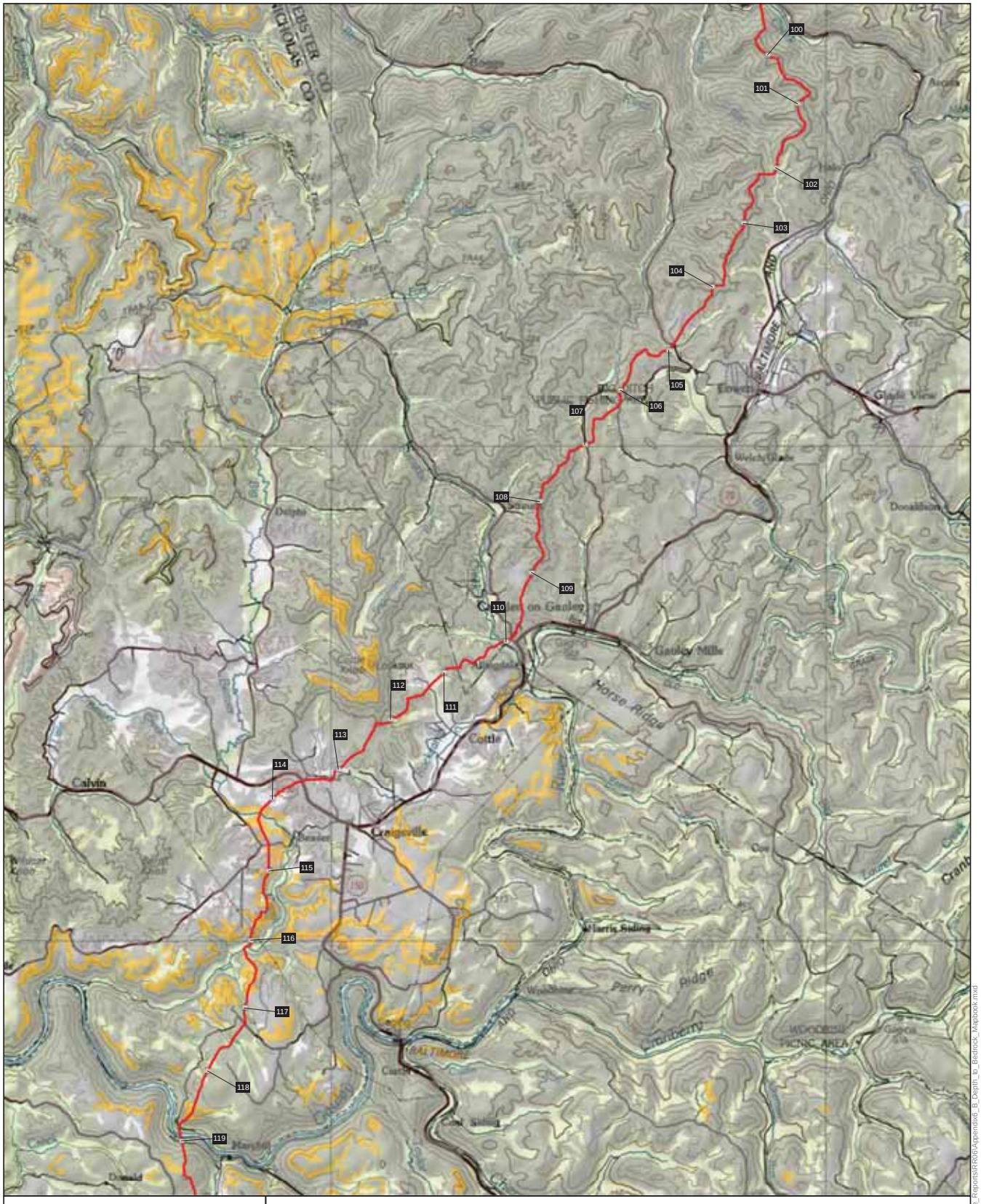
Proposed Route

Bedrock Depth - Minimum

5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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May 2015

Data Sources: ESRI, Ventyx, NRCS

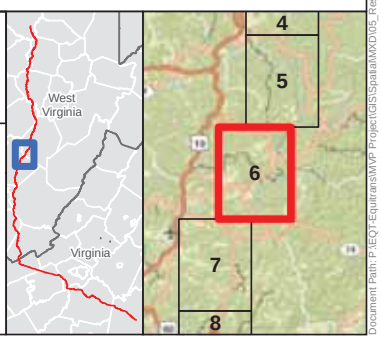
Milepost

Proposed Route

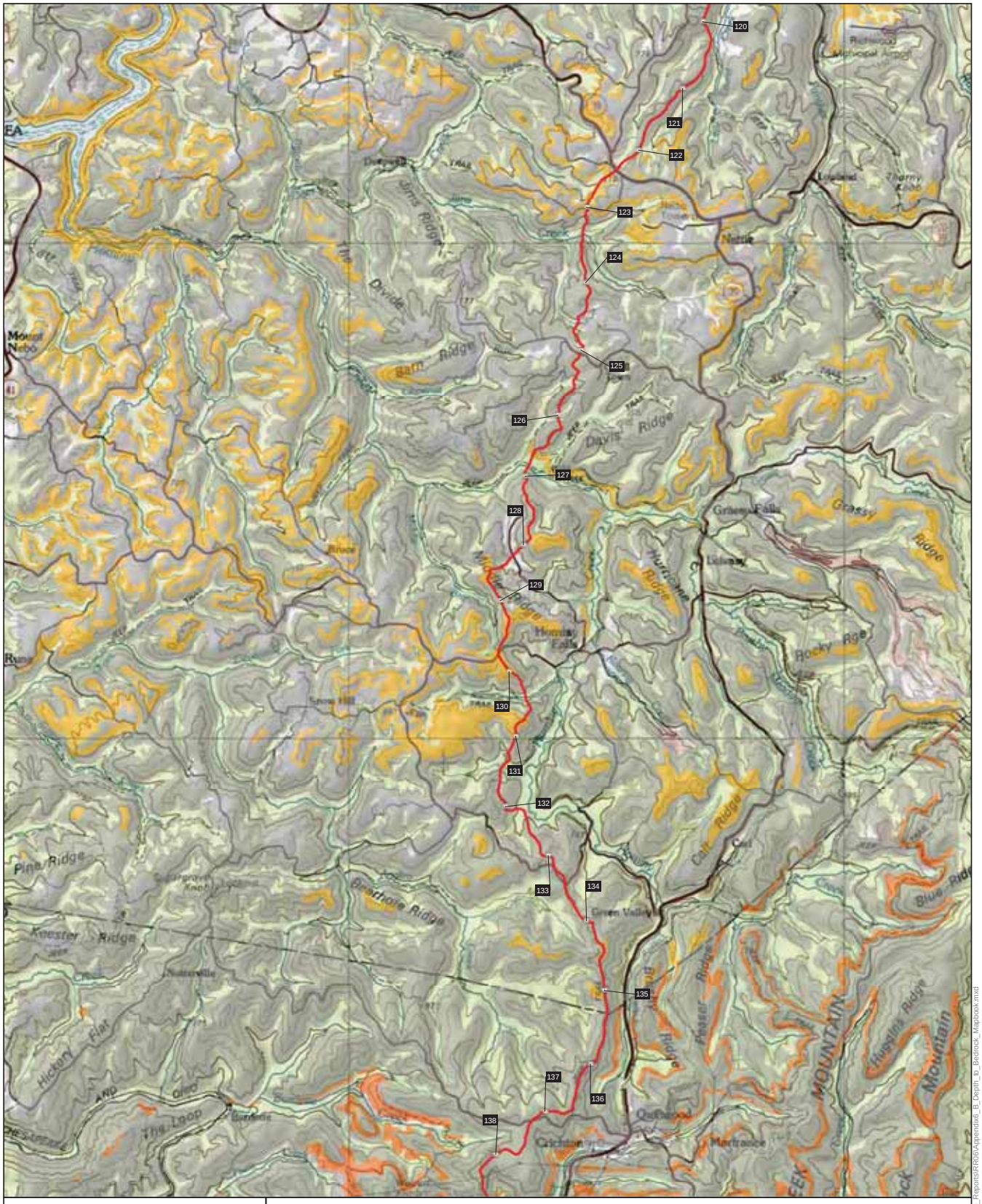
Bedrock Depth - Minimum

2 to 5 feet

5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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May 2015

Data Sources: ESRI, Ventyx, NRCS

Milepost

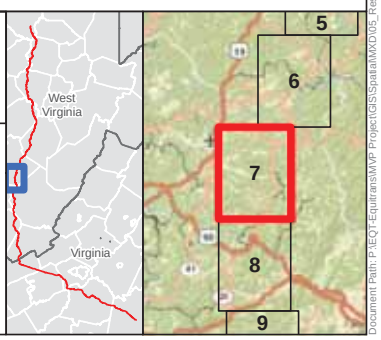
Proposed Route

Bedrock Depth - Minimum

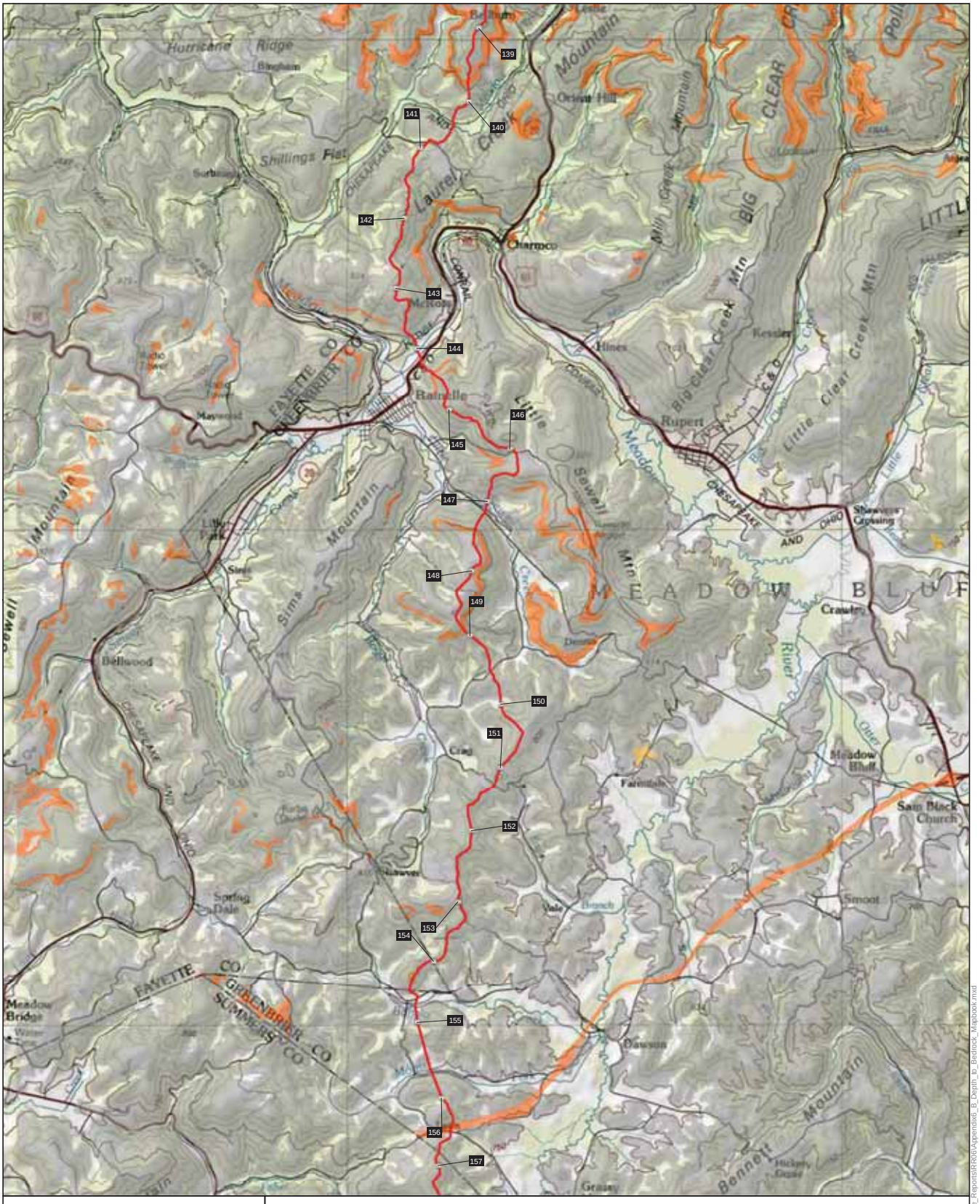
Surface to 2 feet

2 to 5 feet

5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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May 2015

Data Sources: ESRI, Ventyx, NRCS

Milepost

Proposed Route

Preliminary Compressor Station Location

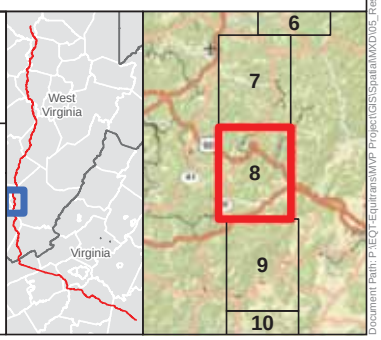
Stallworth Station

Bedrock Depth - Minimum

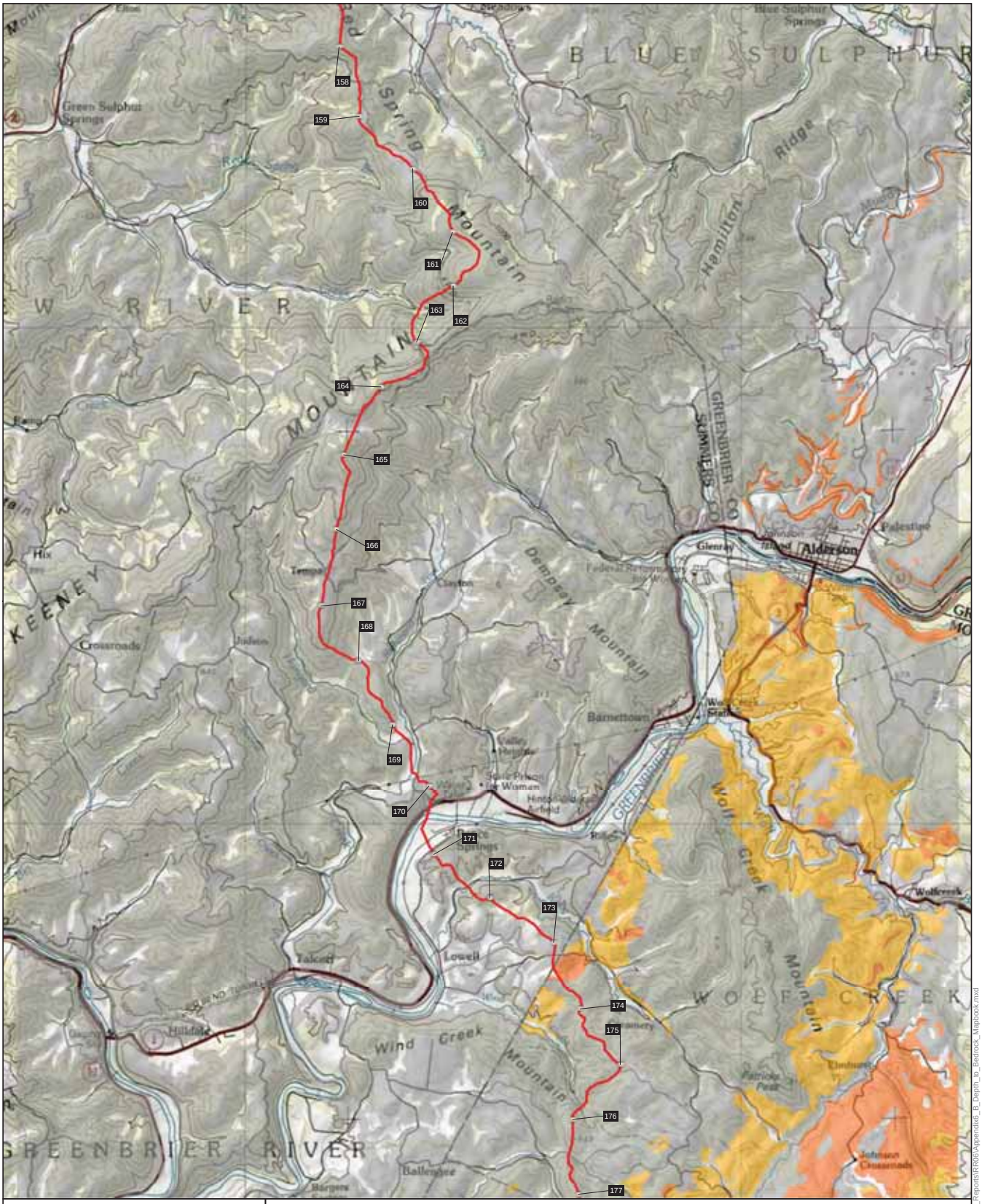
Surface to 2 feet

2 to 5 feet

5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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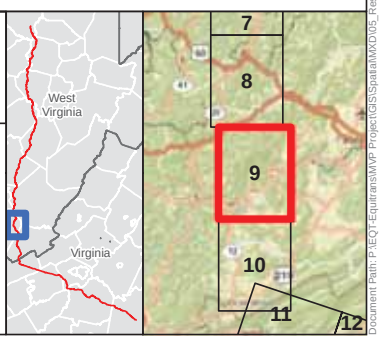
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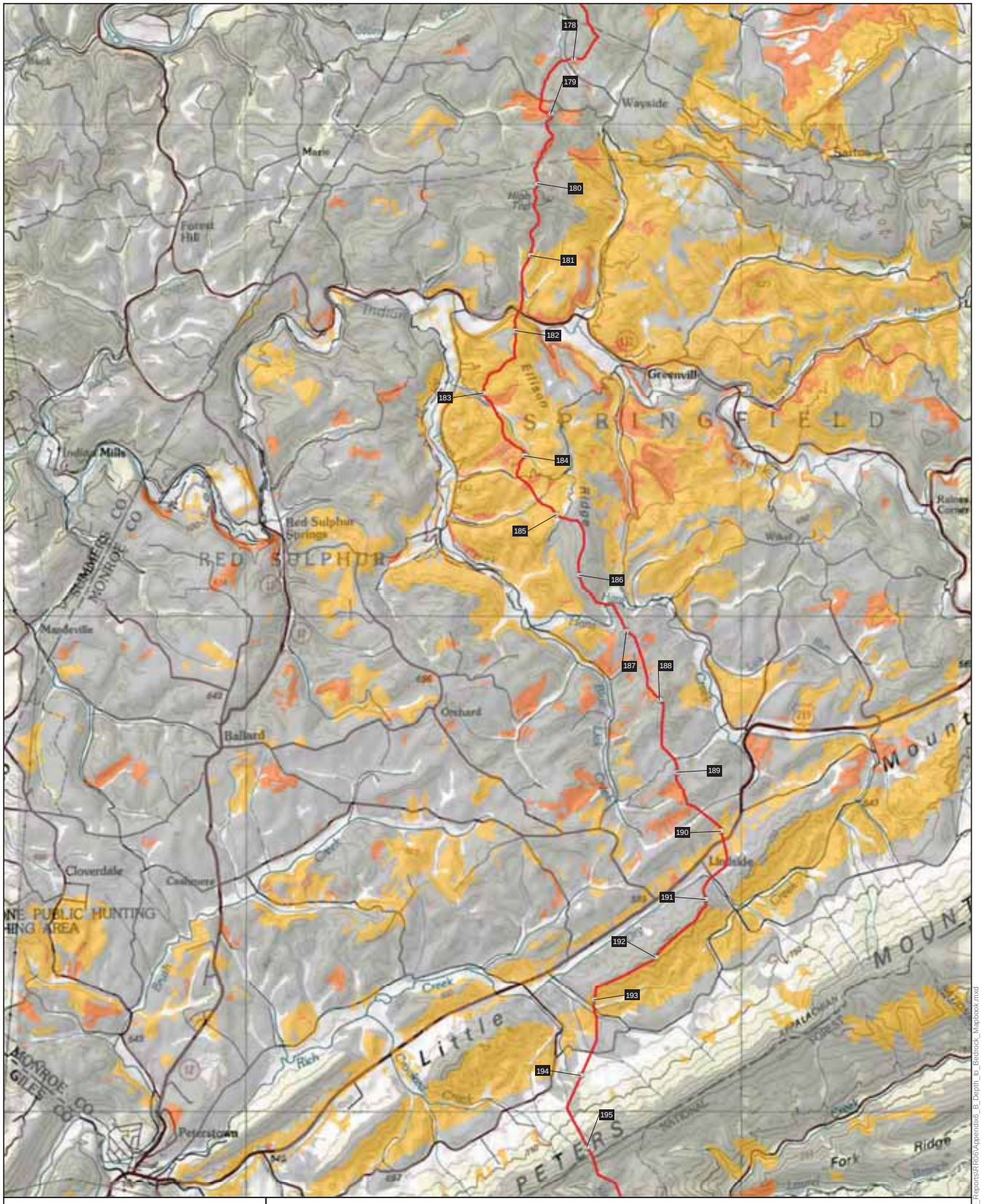
Proposed Route

Bedrock Depth - Minimum

- Surface to 2 feet
- 2 to 5 feet
- 5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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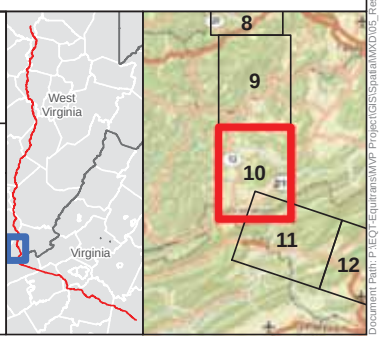
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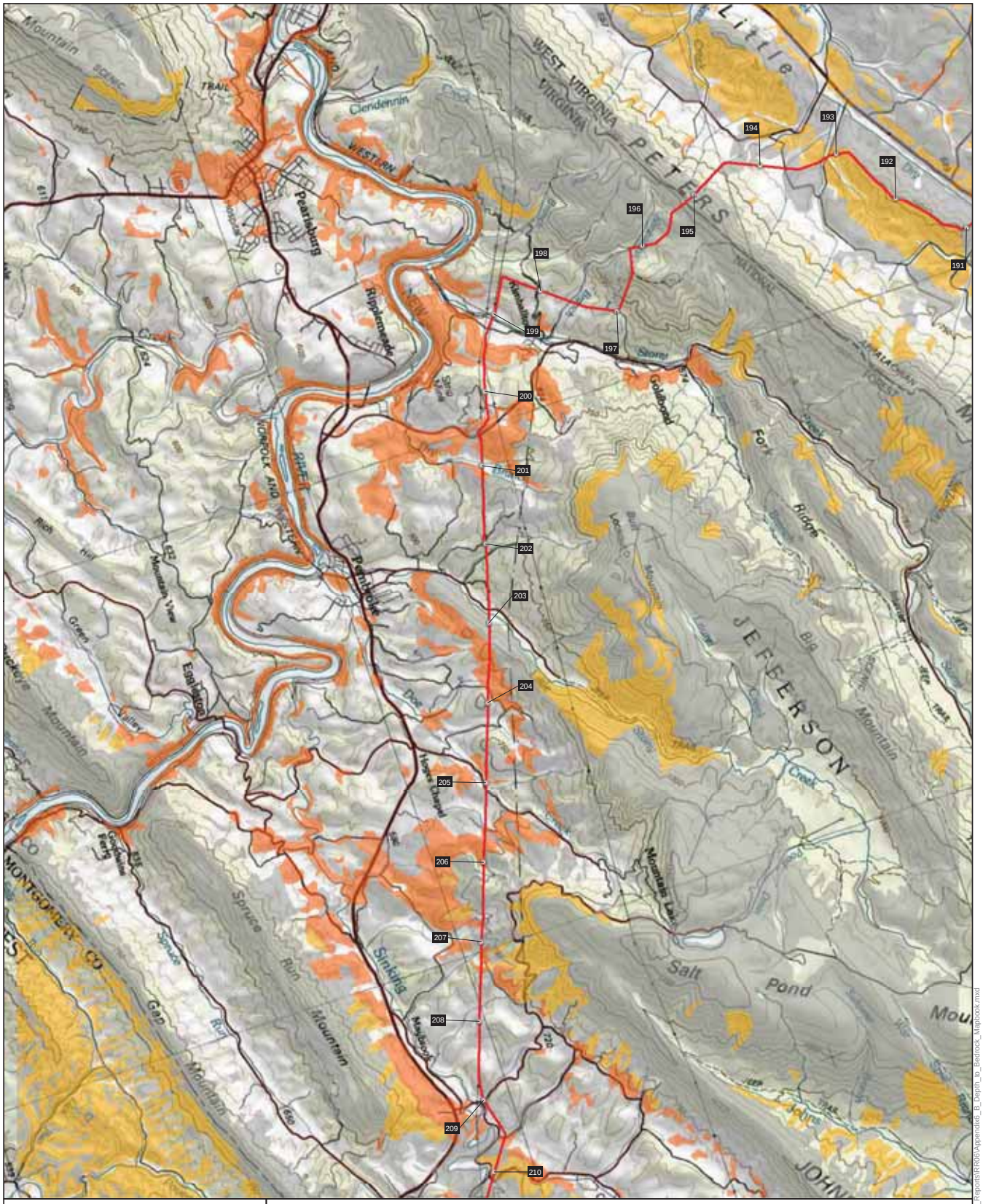
Proposed Route

Bedrock Depth - Minimum

- Surface to 2 feet
- 2 to 5 feet
- 5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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May 2015

Data Sources: ESRI, Ventyx, NRCS

Milepost

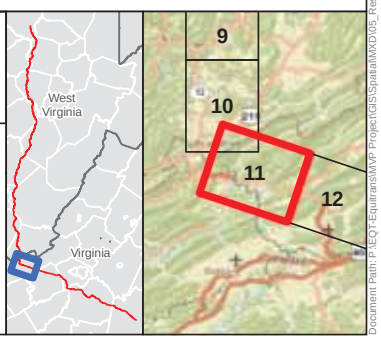
Proposed Route

Bedrock Depth - Minimum

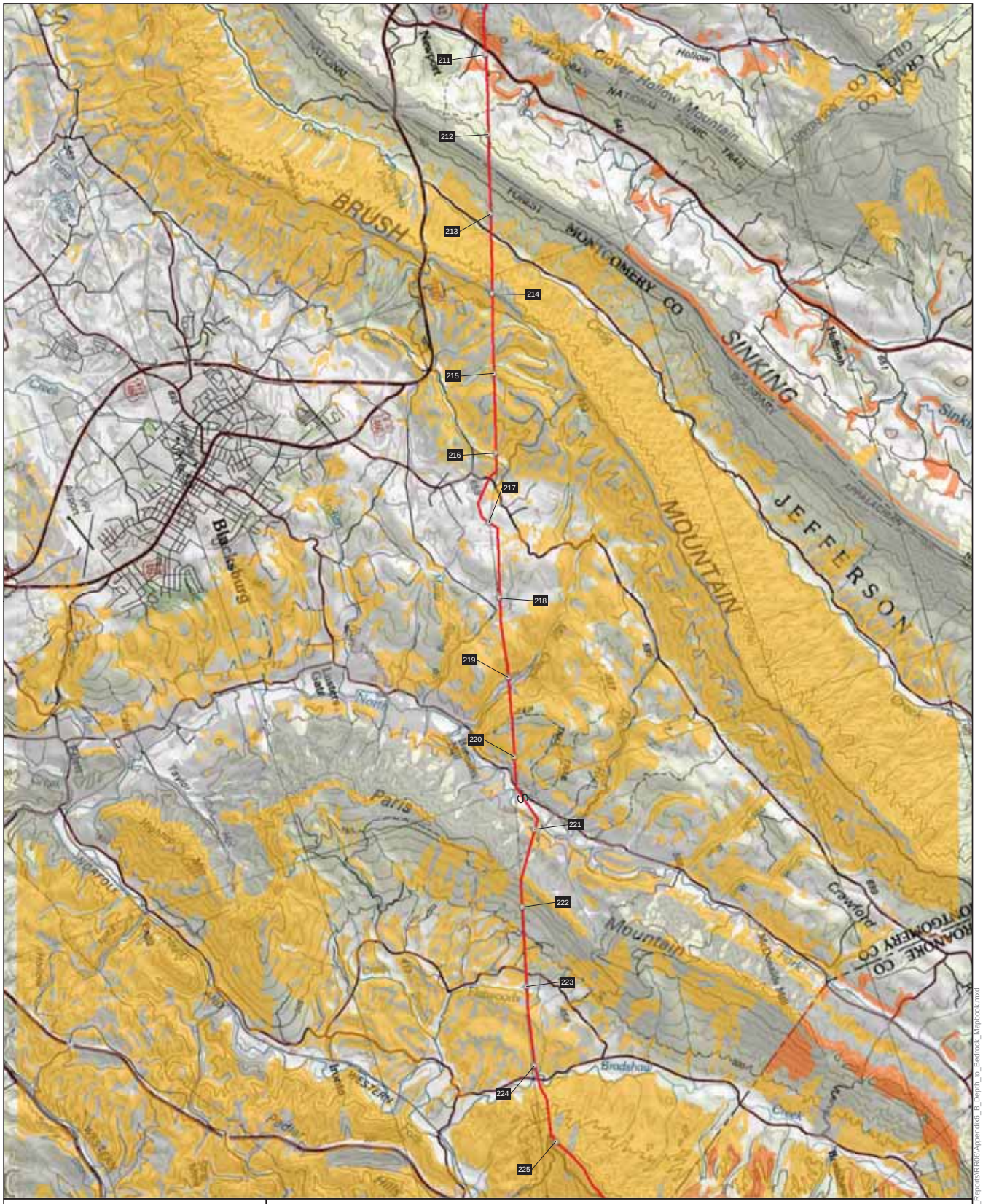
Surface to 2 feet

2 to 5 feet

5 feet or greater



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Mountain Valley Pipeline Project | NAD 1983 UTM 17N | 1:72,000 | 0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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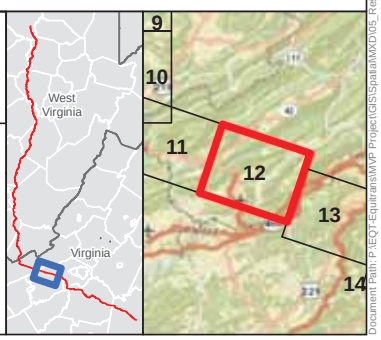
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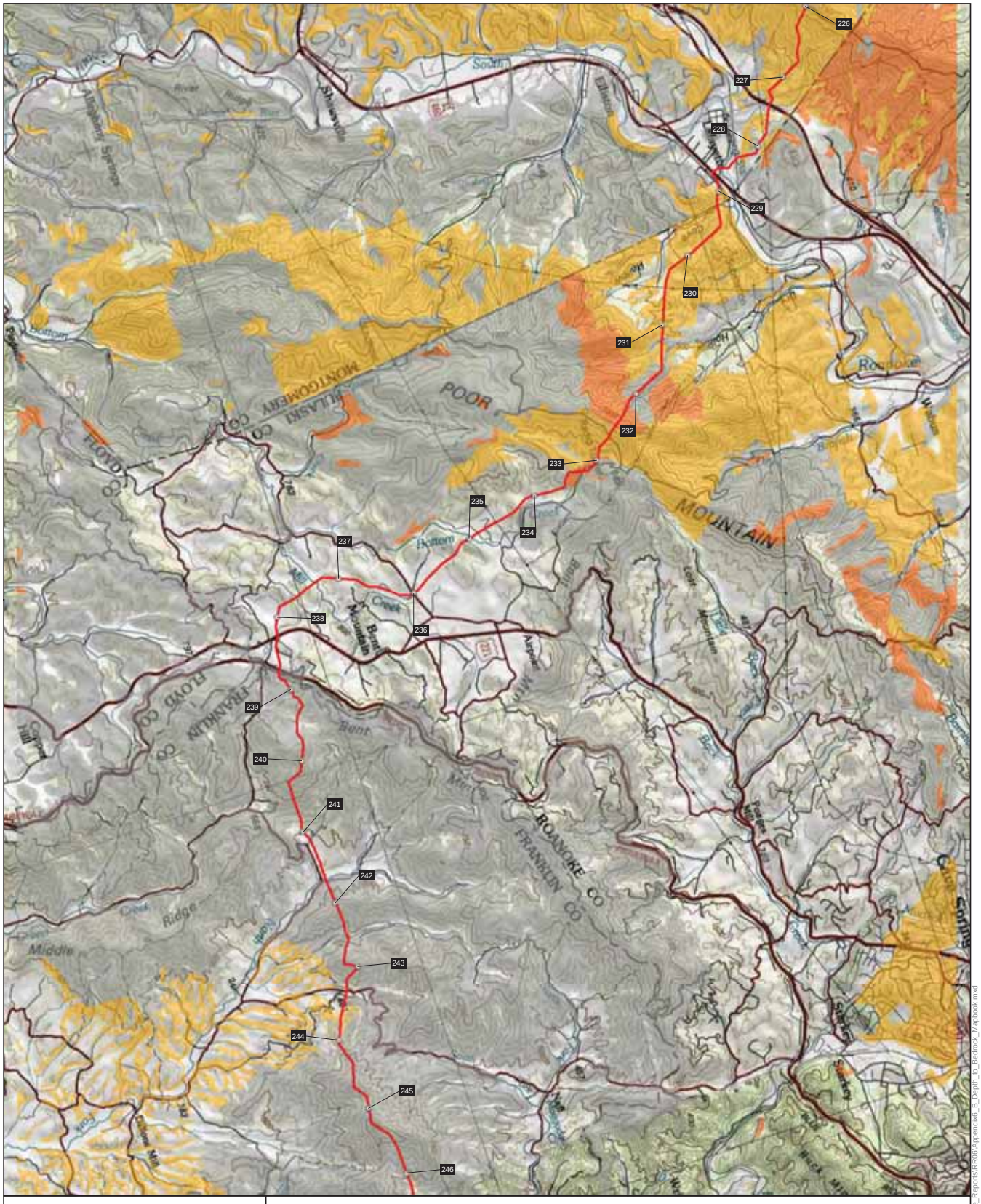
Milepost
S Target Milepost for Swann Station
Proposed Route

Bedrock Depth - Minimum

- Surface to 2 feet
- 2 to 5 feet
- 5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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May 2015

Data Sources: ESRI, Ventyx, NRCS

Milepost

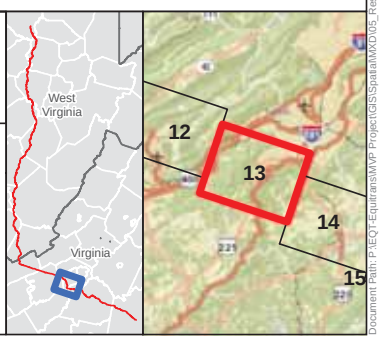
Proposed Route

Bedrock Depth - Minimum

Surface to 2 feet

2 to 5 feet

5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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Data Sources: ESRI, Ventyx, NRCS

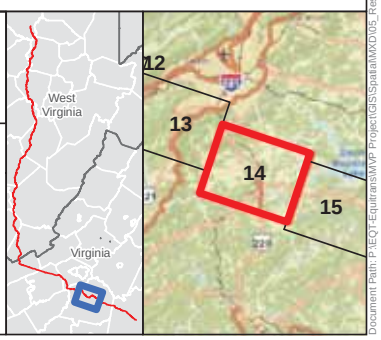
Milepost

Proposed Route

Bedrock Depth - Minimum

2 to 5 feet

5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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Data Sources: ESRI, Ventyx, NRCS

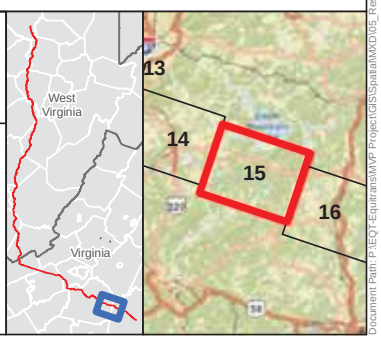
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Proposed Route

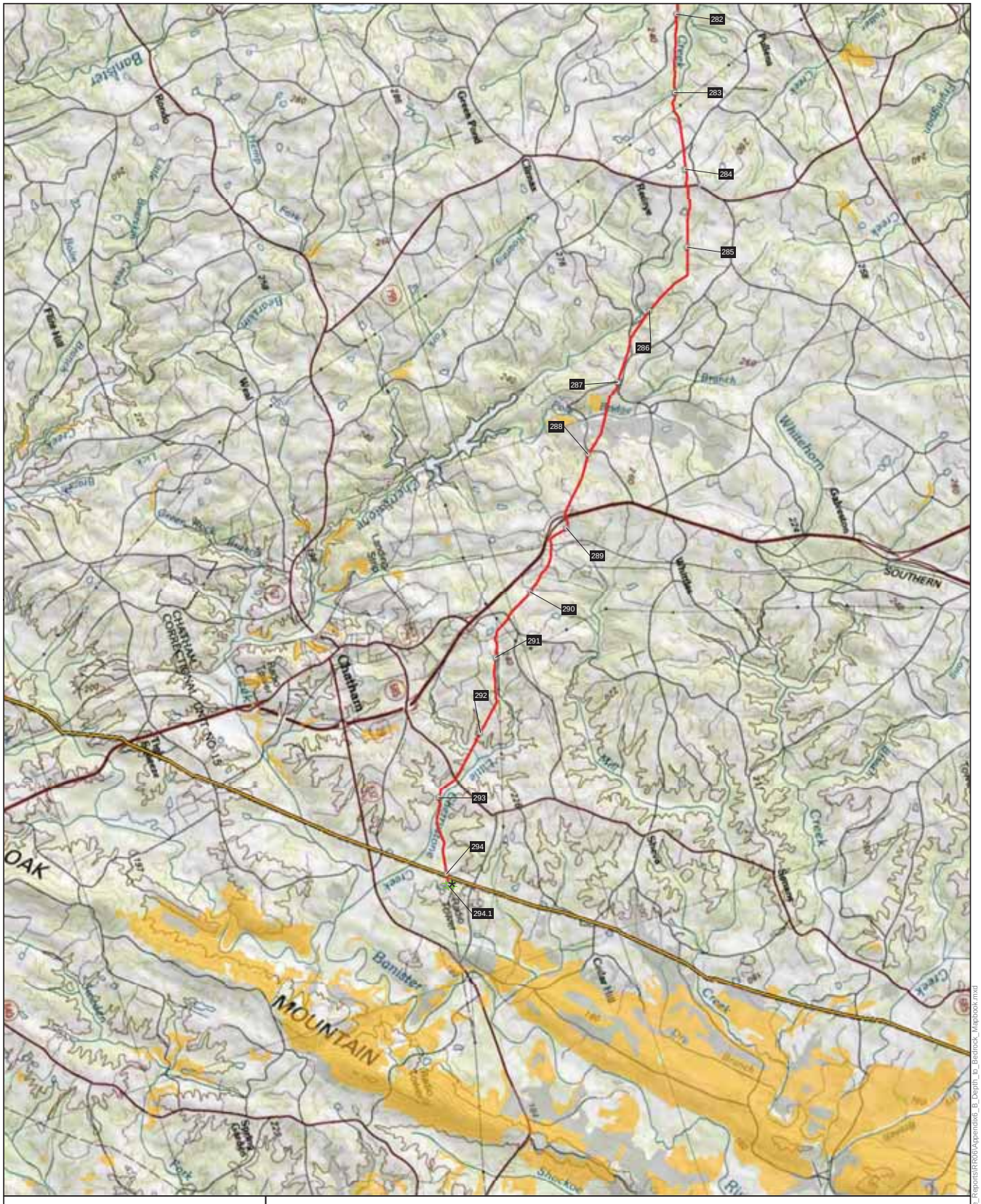
Bedrock Depth - Minimum

2 to 5 feet

5 feet or greater



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:72,000

0 1.5 3 Miles

Mountain Valley PIPELINE

Appendix 6-B
Depth to Bedrock

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Data Sources: ESRI, Ventyx, NRCS

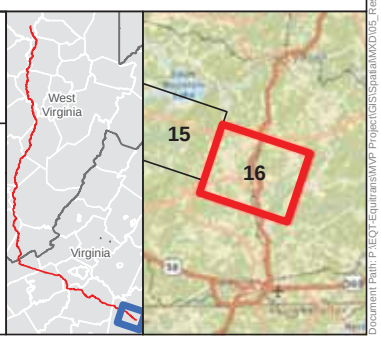
Milepost
Proposed Route
Existing Transco Pipeline

Preliminary Meter Station Location

Transco Interconnect receipt

Bedrock Depth - Minimum

2 to 5 feet
5 feet or greater



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DRAFT BLASTING PLAN

Mountain Valley Pipeline Project

Docket No. PF15-3

May 2015

20150522-5420 FERC PDF (Unofficial) 5/22/2015 4:09:50 PM

General Blasting Requirements

Site-specific blasting plans will be developed for any area blasting is required prior to the initiation of construction activities. General blasting requirements for the proposed Project are as follows:

- The Contractor shall be familiar with blasting and use of explosives and agrees that it is relying upon no statement, representation, or advice of MVP in regard to the propriety or manner of such use.
- The Contractor shall obtain all permits for, and comply with all legal requirements in connection with the use of explosives and shall enforce all safety rules in their use. Such permits shall include use, transportation and storage of explosives. The Contractor shall provide MVP with copies of all permits and licenses obtained for blasting work.
- The use of ammonium nitrate is prohibited. The contractor is responsible for supplying explosives and blasting materials that are perchlorate-free.
- Contractor shall furnish all drilling tools, explosives, and other materials and equipment required for excavation by means of blasting.
- All blasting shall be performed in accordance with 29 CFR 1926 Subpart U – Blasting and the Use of Explosives.
- The Contractor shall prepare a detailed Blasting Plan for each distinct blasting area and submit it to MVP for approval prior to commencing any blasting activities.
- The Contractor shall employ a blasting contractor licensed in the state in which the work is being carried out. Only workmen thoroughly experienced in handling explosives shall be permitted to supervise, handle, haul, load or shoot explosives. Copies of all current licenses will be provided to MVP for review and approval prior to commencing any blasting activities.
- All explosives shall be accounted for at all times. Explosives not being used shall be stored in a locked magazine in accordance with requirements of the U.S. Bureau of Alcohol, Tobacco and Firearms, 27 CFR Part 55, Commerce in Explosives. Detonating caps shall not be stored with explosives, but shall be stored in a separate place in accordance with 27 CFR Part 55. A record of inventory shall be maintained noting quantities of primer cord, caps, and explosives stored, used and disposed of throughout the course of the proposed Project such that all parts and types of explosive materials are accounted for. All of the above shall be done by the qualified person responsible for supervising blasting operations.
- Proper disposal must be made of any and all refuse from dynamite containers and cartridges. These materials shall not be disposed of in the backfill of the trench.
- All damages, claims or liabilities resulting from the use of explosives on or off the right-of-way shall be the responsibility of the Contractor.
- Matting or spoil dirt covering shall be used when necessary to prevent damage to adjacent facilities or property.
- The Contractor is not allowed off of the construction right-of-way.
- The Contractor shall perform pre-construction and post-construction surveys of structures within 150 feet of the right-of-way in areas where blasting is performed in order to prevent liability issues.

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- With the landowners' permission (as acquired by MVP), MVP will conduct pre-water and post-water quality and quantity tests of wells and water sources within 150 feet of the construction work area where blasting is required. These tests may include a pump inspection, flow rate, and bacteriological cultures. MVP shall acquire and provide for the appropriate parameters for well water and water source analyses.
- Appropriate slope stabilization methods shall be employed prior to blasting to protect the area from landslide events during blasting and during long term pipeline utilization. Potential stabilization methods include: reduction of the slope angle of the hillside, placing additional support material at the toe of the slope, or reducing the load on the slope by removing material where MVP has access to the right-of-way.
- The use of mats placed over the blast area and other possible precautions shall be taken to prevent damage to property and to prevent any inconvenience to the property owner or tenant during blasting operation. Any rock scattered outside the right-of-way by blasting operations shall immediately be hauled off or returned to the right-of-way by the Contractor at the discretion of MVP.
- The Contractor shall conduct all blasting operations in a safe manner which will not cause harm to the existing pipelines in the vicinity, including uncoupling of pipe, fracture of weld or damage to coating. MVP shall have the opportunity to witness all rock excavations or other use of explosives.
- MVP shall reserve the right to prohibit blasting operations if any state, federal or local government regulations, or MVP Procedures, are violated.
- In the event of an emergency, Contractor shall notify MVP immediately to enact an Emergency Shut Down plan.
- If blasting must be done in close proximity to existing in-service pipelines, the Contractor shall adhere to the criteria provided by the MVP Design Engineering Department prior to blasting. Close proximity is defined as less than 200 feet in distance and/or as defined by MVP. In cases where the existing in-service line belongs to a third party, the Contractor must adhere to the criteria provided by that company and the guidance provided by MVP Design Engineering Department.
- The Contractor's blaster shall maintain and provide MVP a Blasting Report documenting blast and atmospheric conditions for each blast. At sites monitored by seismographs, a Seismograph Report will be provided to MVP.

Restrictions

The following blasting restrictions apply:

- Blasting shall not be permitted if any part of the live line lies within the perimeter of the crater zone, regardless of size of the shot. (Crater zone shall be defined as a circle created by turning a radius along the ground surface equal in length to the depth below the surface where the shot is placed.)
- Live pipelines shall not be exposed to peak particle velocities greater than four inches per second for underground, welded, stell pipeline and two inches per second for underground, coupled, steel pipeline; aboveground and underground structures; or water wells. A maximum amplitude of the

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elastic wave exceeding 0.0636 inches, unless approved in writing by MVP Design Engineering Department.

- No loaded holes shall be left unattended or unprotected. The use of lightning detectors is mandatory. Explosives shall not be primed or fused until immediately before use. After each blasting sequence, the Contractor shall inspect the site for cut-offs and misfires. All explosives or blasting agents shall be verified as discharged prior to excavation.
- Blasting should not be done within or near stream channels without prior consultation and approval from appropriate federal and/or state conservation authorities having jurisdiction to determine what protective measures must be taken to minimize damage to the environment. At the minimum, a five day notice must be provided to the authority.
- Blasting operations must be conducted during daylight hours except if a special exemption is acquired by MVP.
- Blaster must provide owner of pipelines, wells, and other structures within 150 feet at least 24 hour notice prior to blasting.

Safety

Warning signs, indicating a blast area, shall be maintained at all approaches to the blast area. The warning sign lettering shall not be less than four inches high on a contrasting background as per 29 CFR1926. Flagmen shall be safely stationed on all roadways which pass through the danger zone so as to stop traffic during blasting operations.

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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 6

Appendix 6-C
Oil and Gas Wells Within 0.25 Mile of the MVP Project (Tables and Map Set)

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Table 6-C-1

Oil and Gas Wells in Vicinity of the MVP Project

MP	Distance from centerline (- is left of center)	County	Permit	Operator Name	Elev	Field Name	Well Type	Status
0.4	334	Wetzel	30242	Tennant, V.	908	Fallen Timber	Gas	Completed
0.4	334	Wetzel	30242	Tennant, V.	908	Fallen Timber	Gas	Completed
0.4	334	Wetzel	30242	Tennant, V.	908	Fallen Timber	Gas	Completed
3.8	282	Wetzel	1037	Pennzoil Company	1126	Smithfield	not available	Completed
3.8	282	Wetzel	1037	Pennzoil Company	1126	Smithfield	not available	Completed
3.8	282	Wetzel	1037	Pennzoil Company	1126	Smithfield	not available	Completed
3.8	282	Wetzel	1037	Pennzoil Company	1126	Smithfield	not available	Completed
3.8	282	Wetzel	1037	Pennzoil Company	1126	Smithfield	not available	Completed
4.3	175	Wetzel	30665	Interstate Pipe & Supply	1312	Smithfield	Oil	Completed
4.3	175	Wetzel	30665	---------- unknown ----------	1312	Smithfield	Oil	unknown
4.3	175	Wetzel	30665	Interstate Pipe & Supply	1312	Smithfield	Oil	Completed
4.3	175	Wetzel	30665	---------- unknown ----------	1312	Smithfield	Oil	unknown
4.3	175	Wetzel	30665	Interstate Pipe & Supply	1312	Smithfield	Oil	Completed
4.3	175	Wetzel	30665	---------- unknown ----------	1312	Smithfield	Oil	unknown
4.5	73	Wetzel	30425	---------- unknown ----------	1457	Smithfield	Oil	unknown
4.5	73	Wetzel	30425	---------- unknown ----------	1457	Smithfield	Oil	unknown
4.5	73	Wetzel	30425	---------- unknown ----------	1457	Smithfield	Oil	unknown
4.5	73	Wetzel	30425	---------- unknown ----------	1457	Smithfield	Oil	unknown
4.5	73	Wetzel	30425	---------- unknown ----------	1457	Smithfield	Oil	unknown
4.5	73	Wetzel	30425	---------- unknown ----------	1457	Smithfield	Oil	unknown
4.5	73	Wetzel	30425	---------- unknown ----------	1457	Smithfield	Oil	unknown
4.5	73	Wetzel	30425	---------- unknown ----------	1457	Smithfield	Oil	unknown
4.6	-29	Wetzel	1036	---------- unknown ----------	0	Smithfield	not available	unknown
4.6	-29	Wetzel	1036	---------- unknown ----------	0	Smithfield	not available	unknown
4.6	-29	Wetzel	1036	---------- unknown ----------	0	Smithfield	Oil and Gas	unknown
4.6	-29	Wetzel	1036	---------- unknown ----------	0	Smithfield	Oil and Gas	unknown
4.6	-29	Wetzel	1036	---------- unknown ----------	0	Smithfield	Oil and Gas	unknown
4.6	-29	Wetzel	1036	---------- unknown ----------	0	Smithfield	Oil and Gas	unknown
4.7	225	Wetzel	1569	---------- unknown ----------	0	Smithfield	Oil	unknown
4.7	225	Wetzel	1569	---------- unknown ----------	0	Smithfield	Oil	unknown
4.7	225	Wetzel	1569	---------- unknown ----------	0	Smithfield	Oil	unknown
4.9	-87	Wetzel	1170	Pennzoil Company	953	Smithfield	Other	Completed
4.9	-87	Wetzel	1170	Pennzoil Company	953	Smithfield	Other	Completed
5.0	-115	Wetzel	1571	---------- unknown ----------	0	Smithfield	Oil	unknown
5.0	-115	Wetzel	1571	---------- unknown ----------	0	Smithfield	Oil	unknown
5.0	-115	Wetzel	1571	---------- unknown ----------	0	Smithfield	Oil	unknown
5.2	-282	Wetzel	30610	Oper in Min.owner fld,no code assgn(Orphan well proj)	1146	Smithfield	Oil	Completed
5.2	-282	Wetzel	30610	Oper in Min.owner fld,no code assgn(Orphan well proj)	1146	Smithfield	Oil	Completed
5.4	-184	Wetzel	70233	Johns Gas Co.	0	Smithfield	Oil and Gas	Completed
5.4	-184	Wetzel	70233	Johns Gas Co.	0	Smithfield	Oil and Gas	Completed
5.4	-184	Wetzel	70233	Johns Gas Co.	0	Smithfield	Oil and Gas	Completed
5.6	290	Wetzel	30694	Interstate Pipe & Supply	967	Smithfield	Oil w/ Gas Show	Completed
5.6	290	Wetzel	30694	---------- unknown ----------	967	Smithfield	Oil w/ Gas Show	unknown
5.6	290	Wetzel	30694	---------- unknown ----------	967	Smithfield	Oil w/ Gas Show	unknown
5.6	277	Wetzel	30433	South Penn Oil (S. Penn Nat. Gas)	1137	Smithfield	Oil w/ Gas Show	Completed
5.6	277	Wetzel	30433	---------- unknown ----------	1137	Smithfield	Oil w/ Gas Show	unknown
5.6	277	Wetzel	30433	---------- unknown ----------	1137	Smithfield	Oil w/ Gas Show	unknown
5.6	277	Wetzel	30433	---------- unknown ----------	1137	Smithfield	Oil w/ Gas Show	unknown
5.6	277	Wetzel	30433	---------- unknown ----------	1137	Smithfield	Oil w/ Gas Show	unknown
5.6	290	Wetzel	30694	Interstate Pipe & Supply	967	Smithfield	Oil w/ Gas Show	Completed
5.6	290	Wetzel	30694	---------- unknown ----------	967	Smithfield	Oil w/ Gas Show	unknown
5.6	290	Wetzel	30694	---------- unknown ----------	967	Smithfield	Oil w/ Gas Show	unknown
5.6	277	Wetzel	30433	South Penn Oil (S. Penn Nat. Gas)	1137	Smithfield	Oil w/ Gas Show	Completed
5.6	277	Wetzel	30433	---------- unknown ----------	1137	Smithfield	Oil w/ Gas Show	unknown
5.6	277	Wetzel	30433	---------- unknown ----------	1137	Smithfield	Oil w/ Gas Show	unknown
5.6	277	Wetzel	30433	---------- unknown ----------	1137	Smithfield	Oil w/ Gas Show	unknown
5.6	277	Wetzel	30433	---------- unknown ----------	1137	Smithfield	Oil w/ Gas Show	unknown
5.6	277	Wetzel	30433	South Penn Oil (S. Penn Nat. Gas)	1137	Smithfield	Oil w/ Gas Show	Completed
5.6	277	Wetzel	30433	South Penn Oil (S. Penn Nat. Gas)	1137	Smithfield	Oil w/ Gas Show	Completed
5.6	290	Wetzel	30694	Interstate Pipe & Supply	967	Smithfield	Oil w/ Gas Show	Completed
5.7	126	Wetzel	30814	Oper in Min.owner fld,no code assgn(Orphan well proj)	1160	Smithfield	Oil	Completed
5.7	126	Wetzel	30814	Oper in Min.owner fld,no code assgn(Orphan well proj)	1160	Smithfield	Oil	Completed
5.7	126	Wetzel	30814	Oper in Min.owner fld,no code assgn(Orphan well proj)	1160	Smithfield	Oil	Completed
6.2	363	Wetzel	1483	Perkins Oil and Gas, Inc.	1093	Smithfield	Oil	Completed
6.2	363	Wetzel	1483	Perkins Oil and Gas, Inc.	1093	Smithfield	Oil	Completed
6.2	48	Wetzel	1484	Perkins Oil and Gas, Inc.	1421	Smithfield	Oil	Completed
6.2	48	Wetzel	1484	Perkins Oil and Gas, Inc.	1421	Smithfield	Oil	Completed
6.6	-155	Wetzel	30061	Oper in Min.owner fld,no code assgn(Orphan well proj)	1040	Wallace-Folsom	Oil	Completed

Table 6-C-1

Oil and Gas Wells in Vicinity of the MVP Project

6.6	-155	Wetzel	30061	Oper in Min.owner fld,no code assgn(Orphan well proj)	1040	Wallace-Folsom	Oil	Completed
6.6	-155	Wetzel	30061	Oper in Min.owner fld,no code assgn(Orphan well proj)	1040	Wallace-Folsom	Oil	Completed
6.6	-155	Wetzel	30061	Oper in Min.owner fld,no code assgn(Orphan well proj)	1040	Wallace-Folsom	Oil	Completed
6.6	-155	Wetzel	30061	Oper in Min.owner fld,no code assgn(Orphan well proj)	1040	Wallace-Folsom	Oil	Completed
6.6	-155	Wetzel	30061	Oper in Min.owner fld,no code assgn(Orphan well proj)	1040	Wallace-Folsom	Oil	Completed
6.6	-309	Wetzel	30529	Raad Supply Company	1012	Smithfield	Oil w/ Gas Show	Completed
6.6	-309	Wetzel	30529	Raad Supply Company	1012	Smithfield	Oil w/ Gas Show	Completed
6.6	-309	Wetzel	30529	Raad Supply Company	1012	Smithfield	Oil w/ Gas Show	Completed
6.6	-309	Wetzel	30529	Raad Supply Company	1012	Smithfield	Oil w/ Gas Show	Completed
7.4	-364	Wetzel	30370	South Penn Oil (S. Penn Nat. Gas)	1357	Wallace-Folsom	Oil	Completed
7.4	-364	Wetzel	30370	---------- unknown ----------	1357	Wallace-Folsom	Oil	unknown
7.4	-364	Wetzel	30370	South Penn Oil (S. Penn Nat. Gas)	1357	Wallace-Folsom	Oil	Completed
7.4	-364	Wetzel	30370	---------- unknown ----------	1357	Wallace-Folsom	Oil	unknown
7.4	-364	Wetzel	30370	South Penn Oil (S. Penn Nat. Gas)	1357	Wallace-Folsom	Oil	Completed
7.4	-364	Wetzel	30370	South Penn Oil (S. Penn Nat. Gas)	1357	Wallace-Folsom	Oil	Completed
7.6	-331	Wetzel	30367	South Penn Oil (S. Penn Nat. Gas)	1338	Wallace-Folsom	Oil	Completed
7.6	-331	Wetzel	30367	South Penn Oil (S. Penn Nat. Gas)	1338	Wallace-Folsom	Oil	Completed
7.6	-331	Wetzel	30367	South Penn Oil (S. Penn Nat. Gas)	1338	Wallace-Folsom	Oil	Completed
7.6	-331	Wetzel	30367	South Penn Oil (S. Penn Nat. Gas)	1338	Wallace-Folsom	Oil	Completed
7.6	-331	Wetzel	30367	South Penn Oil (S. Penn Nat. Gas)	1338	Wallace-Folsom	Oil	Completed
7.6	-331	Wetzel	30367	South Penn Oil (S. Penn Nat. Gas)	1338	Wallace-Folsom	Oil	Completed
7.6	-331	Wetzel	30367	South Penn Oil (S. Penn Nat. Gas)	1338	Wallace-Folsom	Oil	Completed
7.6	-331	Wetzel	30367	South Penn Oil (S. Penn Nat. Gas)	1338	Wallace-Folsom	Oil	Completed
7.6	-143	Wetzel	30371	South Penn Oil (S. Penn Nat. Gas)	1359	Wallace-Folsom	Oil	Completed
7.6	-143	Wetzel	30371	---------- unknown ----------	1359	Wallace-Folsom	Oil	unknown
7.6	-143	Wetzel	30371	South Penn Oil (S. Penn Nat. Gas)	1359	Wallace-Folsom	Oil	Completed
7.6	-143	Wetzel	30371	---------- unknown ----------	1359	Wallace-Folsom	Oil	unknown
7.6	-143	Wetzel	30371	South Penn Oil (S. Penn Nat. Gas)	1359	Wallace-Folsom	Oil	Completed
7.6	-143	Wetzel	30371	South Penn Oil (S. Penn Nat. Gas)	1359	Wallace-Folsom	Oil	Completed
8.0	-238	Wetzel	30041	South Penn Oil (S. Penn Nat. Gas)	1224	Wallace-Folsom	Oil	Completed
8.0	-238	Wetzel	30041	South Penn Oil (S. Penn Nat. Gas)	1224	Wallace-Folsom	Oil	Completed
8.0	-238	Wetzel	30041	South Penn Oil (S. Penn Nat. Gas)	1224	Wallace-Folsom	Oil	Completed
8.0	-238	Wetzel	30041	South Penn Oil (S. Penn Nat. Gas)	1224	Wallace-Folsom	Oil	Completed
8.1	325	Wetzel	30379	South Penn Oil (S. Penn Nat. Gas)	1042	Wallace-Folsom	Oil	Completed
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	South Penn Oil (S. Penn Nat. Gas)	1042	Wallace-Folsom	Oil	Completed
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	---------- unknown ----------	1042	Wallace-Folsom	Oil	unknown
8.1	325	Wetzel	30379	South Penn Oil (S. Penn Nat. Gas)	1042	Wallace-Folsom	Oil	Completed
8.1	325	Wetzel	30379	South Penn Oil (S. Penn Nat. Gas)	1042	Wallace-Folsom	Oil	Completed
8.2	207	Wetzel	30366	South Penn Oil (S. Penn Nat. Gas)	1229	Wallace-Folsom	Oil	Completed
8.2	207	Wetzel	30366	---------- unknown ----------	1229	Wallace-Folsom	Oil	unknown
8.2	207	Wetzel	30366	---------- unknown ----------	1229	Wallace-Folsom	Oil	unknown
8.2	207	Wetzel	30366	---------- unknown ----------	1229	Wallace-Folsom	Oil	unknown
8.2	207	Wetzel	30366	South Penn Oil (S. Penn Nat. Gas)	1229	Wallace-Folsom	Oil	Completed
8.2	207	Wetzel	30366	---------- unknown ----------	1229	Wallace-Folsom	Oil	unknown
8.2	207	Wetzel	30366	---------- unknown ----------	1229	Wallace-Folsom	Oil	unknown
8.2	207	Wetzel	30366	---------- unknown ----------	1229	Wallace-Folsom	Oil	unknown
8.2	207	Wetzel	30366	South Penn Oil (S. Penn Nat. Gas)	1229	Wallace-Folsom	Oil	Completed
8.3	401	Wetzel	30390	South Penn Oil (S. Penn Nat. Gas)	1350	Wallace-Folsom	Oil	Completed
8.3	401	Wetzel	30390	---------- unknown ----------	1350	Wallace-Folsom	Oil	unknown
8.3	401	Wetzel	30390	---------- unknown ----------	1350	Wallace-Folsom	Oil	unknown
8.3	401	Wetzel	30390	---------- unknown ----------	1350	Wallace-Folsom	Oil	unknown
8.3	401	Wetzel	30390	South Penn Oil (S. Penn Nat. Gas)	1350	Wallace-Folsom	Oil	Completed
8.3	401	Wetzel	30390	---------- unknown ----------	1350	Wallace-Folsom	Oil	unknown
8.3	401	Wetzel	30390	---------- unknown ----------	1350	Wallace-Folsom	Oil	unknown
8.3	401	Wetzel	30390	---------- unknown ----------	1350	Wallace-Folsom	Oil	unknown
8.3	401	Wetzel	30390	South Penn Oil (S. Penn Nat. Gas)	1350	Wallace-Folsom	Oil	Completed
8.4	296	Wetzel	30732	Oper in Min.owner fld,no code assgn(Orphan well proj)	1358	Wallace-Folsom	Oil	Completed
8.4	296	Wetzel	30732	Oper in Min.owner fld,no code assgn(Orphan well proj)	1358	Wallace-Folsom	Oil	Completed
8.8	-133	Wetzel	30602	Interstate Pipe & Supply	1257	Wallace-Folsom	Oil	Completed
8.8	-133	Wetzel	30602	---------- unknown ----------	1257	Wallace-Folsom	Oil	unknown

Table 6-C-1

Oil and Gas Wells in Vicinity of the MVP Project

8.8	-133	Wetzel	30602	Interstate Pipe & Supply	1257	Wallace-Folsom	Oil	Completed
8.8	-133	Wetzel	30602	---------- unknown ----------	1257	Wallace-Folsom	Oil	unknown
8.8	-366	Wetzel	30387	South Penn Oil (S. Penn Nat. Gas)	1284	Wallace-Folsom	Oil	Completed
8.8	-366	Wetzel	30387	South Penn Oil (S. Penn Nat. Gas)	1284	Wallace-Folsom	Oil	Completed
8.8	-366	Wetzel	30387	South Penn Oil (S. Penn Nat. Gas)	1284	Wallace-Folsom	Oil	Completed
8.9	-168	Wetzel	30392	South Penn Oil (S. Penn Nat. Gas)	1086	Wallace-Folsom	Oil	Completed
8.9	-168	Wetzel	30392	---------- unknown ----------	1086	Wallace-Folsom	Oil	unknown
8.9	-168	Wetzel	30392	South Penn Oil (S. Penn Nat. Gas)	1086	Wallace-Folsom	Oil	Completed
8.9	-168	Wetzel	30392	---------- unknown ----------	1086	Wallace-Folsom	Oil	unknown
8.9	-168	Wetzel	30392	South Penn Oil (S. Penn Nat. Gas)	1086	Wallace-Folsom	Oil	Completed
8.9	-168	Wetzel	30392	South Penn Oil (S. Penn Nat. Gas)	1086	Wallace-Folsom	Oil	Completed
9.1	308	Wetzel	30144	South Penn Oil (S. Penn Nat. Gas)	1240	Wallace-Folsom	Oil	Completed
9.1	308	Wetzel	30144	South Penn Oil (S. Penn Nat. Gas)	1240	Wallace-Folsom	Oil	Completed
9.1	308	Wetzel	30144	South Penn Oil (S. Penn Nat. Gas)	1240	Wallace-Folsom	Oil	Completed
9.1	272	Wetzel	30218	Oper in Min.owner fld,no code assgn(Orphan well proj)	1116	Wallace-Folsom	not available	Completed
9.1	272	Wetzel	30218	Oper in Min.owner fld,no code assgn(Orphan well proj)	1116	Wallace-Folsom	not available	Completed
9.7	-265	Harrison	31130	Interstate Pipe & Supply	1423	Wallace-Folsom	Oil	Completed
9.7	-265	Harrison	31130	Interstate Pipe & Supply	1423	Wallace-Folsom	Oil	Completed
9.7	-265	Harrison	31130	Interstate Pipe & Supply	1423	Wallace-Folsom	Oil	Completed
9.7	-265	Harrison	31130	Interstate Pipe & Supply	1423	Wallace-Folsom	Oil	Completed
9.7	-265	Harrison	31130	Interstate Pipe & Supply	1423	Wallace-Folsom	Oil	Completed
9.9	-398	Harrison	31133	Interstate Pipe & Supply	1376	Wallace-Folsom	Oil	Completed
9.9	-398	Harrison	31133	---------- unknown ----------	1376	Wallace-Folsom	Oil	unknown
9.9	-398	Harrison	31133	---------- unknown ----------	1376	Wallace-Folsom	Oil	unknown
9.9	-398	Harrison	31133	---------- unknown ----------	1376	Wallace-Folsom	Oil	unknown
9.9	-398	Harrison	31133	Interstate Pipe & Supply	1376	Wallace-Folsom	Oil	Completed
9.9	-398	Harrison	31133	---------- unknown ----------	1376	Wallace-Folsom	Oil	unknown
9.9	-398	Harrison	31133	---------- unknown ----------	1376	Wallace-Folsom	Oil	unknown
9.9	-398	Harrison	31133	---------- unknown ----------	1376	Wallace-Folsom	Oil	unknown
9.9	-398	Harrison	31133	Interstate Pipe & Supply	1376	Wallace-Folsom	Oil	Completed
10.2	-350	Harrison	30677	South Penn Oil (S. Penn Nat. Gas)	1175	Wallace-Folsom	Oil and Gas	Completed
10.2	-350	Harrison	30677	---------- unknown ----------	1175	Wallace-Folsom	Oil and Gas	unknown
10.2	-350	Harrison	30677	South Penn Oil (S. Penn Nat. Gas)	1175	Wallace-Folsom	Oil and Gas	Completed
10.2	-350	Harrison	30677	---------- unknown ----------	1175	Wallace-Folsom	Oil and Gas	unknown
10.2	-350	Harrison	30677	South Penn Oil (S. Penn Nat. Gas)	1175	Wallace-Folsom	Oil and Gas	Completed
10.2	-350	Harrison	30677	South Penn Oil (S. Penn Nat. Gas)	1175	Wallace-Folsom	Oil and Gas	Completed
10.2	-350	Harrison	30677	South Penn Oil (S. Penn Nat. Gas)	1175	Wallace-Folsom	Oil and Gas	Completed
10.2	-350	Harrison	30677	---------- unknown ----------	1175	Wallace-Folsom	Oil and Gas	unknown
10.2	-350	Harrison	30677	---------- unknown ----------	1175	Wallace-Folsom	Oil and Gas	unknown
10.5	393	Harrison	31256	Oper in Min.owner fld,no code assgn(Orphan well proj)	1263	Wallace-Folsom	Oil	Completed
10.5	393	Harrison	31256	Oper in Min.owner fld,no code assgn(Orphan well proj)	1263	Wallace-Folsom	Oil	Completed
10.8	-356	Harrison	31240	Oper in Min.owner fld,no code assgn(Orphan well proj)	1251	Wallace-Folsom	Oil	Completed
10.8	-356	Harrison	31240	Oper in Min.owner fld,no code assgn(Orphan well proj)	1251	Wallace-Folsom	Oil	Completed
10.8	-322	Harrison	31239	Oper in Min.owner fld,no code assgn(Orphan well proj)	1221	Wallace-Folsom	not available	Completed
10.8	-322	Harrison	31239	Oper in Min.owner fld,no code assgn(Orphan well proj)	1221	Wallace-Folsom	not available	Completed
11.0	-52	Harrison	31268	Otis Eastern Service, Inc.	0	Wallace-Folsom	Oil	Completed
11.0	-52	Harrison	31268	---------- unknown ----------	0	Wallace-Folsom	Oil	unknown
11.0	-52	Harrison	31268	---------- unknown ----------	0	Wallace-Folsom	Oil	unknown
11.0	-52	Harrison	31268	Otis Eastern Service, Inc.	0	Wallace-Folsom	Oil	Completed
11.0	-52	Harrison	31268	---------- unknown ----------	0	Wallace-Folsom	Oil	unknown
11.0	-52	Harrison	31268	---------- unknown ----------	0	Wallace-Folsom	Oil	unknown
11.0	-52	Harrison	31268	Otis Eastern Service, Inc.	0	Wallace-Folsom	Oil	Completed
11.0	-52	Harrison	31268	---------- unknown ----------	0	Wallace-Folsom	Oil	unknown
11.0	-52	Harrison	31268	---------- unknown ----------	0	Wallace-Folsom	Oil	unknown
11.0	55	Harrison	31272	Otis Eastern Service, Inc.	1258	Wallace-Folsom	Oil	Completed
11.0	55	Harrison	31272	---------- unknown ----------	1258	Wallace-Folsom	Oil	unknown
11.0	55	Harrison	31272	---------- unknown ----------	1258	Wallace-Folsom	Oil	unknown
11.0	55	Harrison	31272	Otis Eastern Service, Inc.	1258	Wallace-Folsom	Oil	Completed
11.0	55	Harrison	31272	---------- unknown ----------	1258	Wallace-Folsom	Oil	unknown
11.0	55	Harrison	31272	---------- unknown ----------	1258	Wallace-Folsom	Oil	unknown
11.0	55	Harrison	31272	Otis Eastern Service, Inc.	1258	Wallace-Folsom	Oil	Completed
11.0	55	Harrison	31272	Otis Eastern Service, Inc.	1258	Wallace-Folsom	Oil	Completed
11.0	55	Harrison	31272	Otis Eastern Service, Inc.	1258	Wallace-Folsom	Oil	Completed
11.0	55	Harrison	31272	---------- unknown ----------	1258	Wallace-Folsom	Oil	unknown
11.0	55	Harrison	31272	---------- unknown ----------	1258	Wallace-Folsom	Oil	unknown
11.1	-275	Harrison	31251	Oper in Min.owner fld,no code assgn(Orphan well proj)	1203	Wallace-Folsom	Oil	Completed
11.1	-275	Harrison	31251	Oper in Min.owner fld,no code assgn(Orphan well proj)	1203	Wallace-Folsom	Oil	Completed
11.2	147	Harrison	30935	Raad Supply Company	1063	Wallace-Folsom	Oil	Completed
11.2	147	Harrison	30935	---------- unknown ----------	1063	Wallace-Folsom	Oil	unknown
11.2	147	Harrison	30935	Raad Supply Company	1063	Wallace-Folsom	Oil	Completed
11.2	147	Harrison	30935	---------- unknown ----------	1063	Wallace-Folsom	Oil	unknown

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11.2	147	Harrison	30935	Raad Supply Company	1063	Wallace-Folsom	Oil	Completed
11.2	147	Harrison	30935	---------- unknown ----------	1063	Wallace-Folsom	Oil	unknown
11.3	182	Harrison	31250	Oper in Min.owner fld,no code assgn(Orphan well proj)	1158	Wallace-Folsom	not available	Completed
11.3	182	Harrison	31250	Oper in Min.owner fld,no code assgn(Orphan well proj)	1158	Wallace-Folsom	not available	Completed
12.2	237	Harrison	50022	Consolidated Gas Supply Corp.	1378	Brwn-Lumberport	Dry w/ Gas Show	Completed
12.2	237	Harrison	50022	Consolidated Gas Supply Corp.	1378	Brwn-Lumberport	Dry w/ Gas Show	Completed
12.2	237	Harrison	50022	Consolidated Gas Supply Corp.	1378	Brwn-Lumberport	Dry w/ Gas Show	Completed
12.2	237	Harrison	50022	Consolidated Gas Supply Corp.	1378	Brwn-Lumberport	Dry w/ Gas Show	Completed
12.2	158	Harrison	2540	J & J Enterprises, Inc.	1230	Brwn-Lumberport	Gas	Completed
12.2	158	Harrison	2540	J & J Enterprises, Inc.	1230	Brwn-Lumberport	Gas	Completed
12.2	158	Harrison	2540	J & J Enterprises, Inc.	1230	Brwn-Lumberport	Gas	Completed
12.2	158	Harrison	2540	J & J Enterprises, Inc.	1230	Brwn-Lumberport	Gas	Completed
12.2	158	Harrison	2540	J & J Enterprises, Inc.	1230	Brwn-Lumberport	Gas	Completed
12.2	158	Harrison	2540	J & J Enterprises, Inc.	1230	Brwn-Lumberport	Gas	Completed
12.2	158	Harrison	2540	J & J Enterprises, Inc.	1230	Brwn-Lumberport	Gas	Completed
12.2	237	Harrison	50022	Consolidated Gas Supply Corp.	1378		not available	Completed
12.2	237	Harrison	50022	Consolidated Gas Supply Corp.	1378		not available	Completed
12.5	255	Harrison	2792	J & J Enterprises, Inc.	1390	Brwn-Lumberport	Gas	Completed
12.5	255	Harrison	2792	J & J Enterprises, Inc.	1390	Brwn-Lumberport	Gas	Completed
12.5	255	Harrison	2792	J & J Enterprises, Inc.	1390	Brwn-Lumberport	Gas	Completed
12.5	255	Harrison	2792	J & J Enterprises, Inc.	1390	Brwn-Lumberport	Gas	Completed
12.5	255	Harrison	2792	J & J Enterprises, Inc.	1390	Brwn-Lumberport	Gas	Completed
12.5	78	Harrison	31261	Oper in Min.owner fld,no code assgn(Orphan well proj)	1219	Wallace-Folsom	not available	Completed
12.5	78	Harrison	31261	Oper in Min.owner fld,no code assgn(Orphan well proj)	1219	Wallace-Folsom	not available	Completed
12.6	-77	Harrison	31264	Oper in Min.owner fld,no code assgn(Orphan well proj)	1374	Wallace-Folsom	not available	Completed
12.6	-77	Harrison	31264	Oper in Min.owner fld,no code assgn(Orphan well proj)	1374	Wallace-Folsom	not available	Completed
13.4	-207	Harrison	30374	Raad & Moses	1408	Wallace-Folsom	Oil and Gas	Completed
13.4	-207	Harrison	30374	Raad & Moses	1408	Wallace-Folsom	Oil and Gas	Completed
13.4	-207	Harrison	30374	Raad & Moses	1408	Wallace-Folsom	Oil and Gas	Completed
13.4	-207	Harrison	30374	Raad & Moses	1408	Wallace-Folsom	Oil and Gas	Completed
13.4	-207	Harrison	30374	Raad & Moses	1408	Wallace-Folsom	Oil and Gas	Completed
13.6	-319	Harrison	30927	Raad Supply Company	1248	Wallace-Folsom	Oil	Completed
13.6	-319	Harrison	30927	Raad Supply Company	1248	Wallace-Folsom	Oil	Completed
13.6	-319	Harrison	30927	Raad Supply Company	1248	Wallace-Folsom	Oil	Completed
13.7	-144	Harrison	31416	Moses, William	1320	Wallace-Folsom	Oil	Completed
13.7	-144	Harrison	31416	Moses, William	1320	Wallace-Folsom	Oil	Completed
14.7	-356	Harrison	31585	Quaker State Oil Refining Co.	1214	Wallace-Folsom	Oil	Completed
14.7	-356	Harrison	31585	Quaker State Oil Refining Co.	1214	Wallace-Folsom	Oil	Completed
14.7	-356	Harrison	31585	Quaker State Oil Refining Co.	1214	Wallace-Folsom	Oil	Completed
14.7	-356	Harrison	31585	Quaker State Oil Refining Co.	1214	Wallace-Folsom	Oil	Completed
14.7	-356	Harrison	31585	Quaker State Oil Refining Co.	1214	Wallace-Folsom	Oil	Completed
14.7	-356	Harrison	31585	Quaker State Oil Refining Co.	1214	Wallace-Folsom	Oil	Completed
15.7	186	Harrison	31125	Hope Natural Gas Company	1262	Brwn-Lumberport	Gas	Completed
15.7	186	Harrison	31125	Hope Natural Gas Company	1262	Brwn-Lumberport	Gas	Completed
15.7	186	Harrison	31125	Hope Natural Gas Company	1262	Brwn-Lumberport	Gas	Completed
16.8	305	Harrison	4350	Bowie, Inc.	1301	Brwn-Lumberport	Gas	Completed
16.8	305	Harrison	4350	Bowie, Inc.	1301	Brwn-Lumberport	Gas	Completed
16.8	305	Harrison	4350	Bowie, Inc.	1301	Brwn-Lumberport	Gas	Completed
16.8	305	Harrison	4350	Bowie, Inc.	1301	Brwn-Lumberport	Gas	Completed
16.8	305	Harrison	4350	Bowie, Inc.	1301	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Doran & Associates, Inc.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Doran & Associates, Inc.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Doran & Associates, Inc.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Doran & Associates, Inc.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Doran & Associates, Inc.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Doran & Associates, Inc.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Doran & Associates, Inc.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Doran & Associates, Inc.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Doran & Associates, Inc.	1382	Brwn-Lumberport	Gas	Completed

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16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Doran & Associates, Inc.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
16.9	-197	Harrison	2241	Pardee Gas Co.	1382	Brwn-Lumberport	Gas	Completed
17.2	13	Harrison	1348	Consolidated Gas Supply Corp.	1200	Brwn-Lumberport	Gas	Completed
17.2	13	Harrison	1348	Consolidated Gas Supply Corp.	1200	Brwn-Lumberport	Gas	Completed
17.2	13	Harrison	1348	Consolidated Gas Supply Corp.	1200	Brwn-Lumberport	Gas	Completed
17.2	13	Harrison	1348	Consolidated Gas Supply Corp.	1200	Brwn-Lumberport	Gas	Completed
17.7	176	Harrison	2693	Hydrocarbon Energies, Inc.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Hydrocarbon Energies, Inc.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Dominion Appalachian Development Co.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Hydrocarbon Energies, Inc.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Hydrocarbon Energies, Inc.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Dominion Appalachian Development Co.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Hydrocarbon Energies, Inc.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Hydrocarbon Energies, Inc.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Hydrocarbon Energies, Inc.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Dominion Appalachian Development Co.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Hydrocarbon Energies, Inc.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Dominion Appalachian Development Co.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Hydrocarbon Energies, Inc.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Dominion Appalachian Development Co.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Hydrocarbon Energies, Inc.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Dominion Appalachian Development Co.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Hydrocarbon Energies, Inc.	1102	Salem	Gas	Completed
17.7	176	Harrison	2693	Dominion Appalachian Development Co.	1102	Salem	Gas	Completed
17.9	167	Harrison	4516	Gassearch Corporation	1108	Brwn-Lumberport	Gas w/ Oil Show	Completed
17.9	167	Harrison	4516	Gassearch Corporation	1108	Brwn-Lumberport	Gas w/ Oil Show	Completed
17.9	167	Harrison	4516	Gassearch Corporation	1108	Brwn-Lumberport	Gas w/ Oil Show	Completed
17.9	167	Harrison	4516	Gassearch Corporation	1108	Brwn-Lumberport	Gas w/ Oil Show	Completed
17.9	167	Harrison	4516	Gassearch Corporation	1108	Brwn-Lumberport	Gas w/ Oil Show	Completed
17.9	167	Harrison	4516	Gassearch Corporation	1108	Brwn-Lumberport	Gas w/ Oil Show	Completed
19.1	-295	Harrison	31324	Rohe Casing Co.	1042	Salem	Oil	Completed
19.1	-295	Harrison	31324	---------- unknown ----------	1042	Salem	Oil	unknown
19.1	-295	Harrison	31324	Rohe Casing Co.	1042	Salem	Oil	Completed
19.1	-295	Harrison	31324	---------- unknown ----------	1042	Salem	Oil	unknown
19.1	-295	Harrison	31324	Rohe Casing Co.	1042	Salem	Oil	Completed
19.1	-295	Harrison	31324	---------- unknown ----------	1042	Salem	Oil	unknown
19.3	-230	Harrison	31156	Oper in Min.owner fld,no code assgn(Orphan well proj)	1156	Salem	Oil	Completed
19.3	-230	Harrison	31156	Oper in Min.owner fld,no code assgn(Orphan well proj)	1156	Salem	Oil	Completed
19.3	-230	Harrison	31156	Oper in Min.owner fld,no code assgn(Orphan well proj)	1156	Salem	Oil	Completed
19.5	-360	Harrison	30313	Bish, F. G.	1080	Salem	Oil	Completed
19.5	-360	Harrison	30313	Bish, F. G.	1080	Salem	Oil	Completed
19.5	-360	Harrison	30313	Bish, F. G.	1080	Salem	Oil	Completed
19.6	179	Harrison	3916	Mutual Oil & Gas	0	Salem	Oil	Completed
19.6	-281	Harrison	1859	Pennzoil Company	0	Salem	Oil	Completed
19.6	-281	Harrison	1859	Pennzoil Company	0	Salem	Oil	Completed
19.6	-281	Harrison	1859	Pennzoil Company	0	Salem	Oil	Completed
20.7	-397	Harrison	1742	Pennzoil Company	1156	Salem	Oil	Completed
20.7	-397	Harrison	1742	Pennzoil Company	1156	Salem	Oil	Completed
21.9	401	Harrison	30386	Raad & Moses	1188	Salem	Oil and Gas	Completed
21.9	401	Harrison	30386	Raad & Moses	1188	Salem	Oil and Gas	Completed
21.9	401	Harrison	30386	Raad & Moses	1188	Salem	Oil and Gas	Completed
21.9	401	Harrison	30386	Raad & Moses	1188	Salem	Oil and Gas	Completed
21.9	-100	Harrison	31142	Oper in Min.owner fld,no code assgn(Orphan well proj)	1272	Salem	Oil	Completed
21.9	-100	Harrison	31142	Oper in Min.owner fld,no code assgn(Orphan well proj)	1272	Salem	Oil	Completed
21.9	-100	Harrison	31142	Oper in Min.owner fld,no code assgn(Orphan well proj)	1272	Salem	Oil	Completed
21.9	-100	Harrison	31142	Oper in Min.owner fld,no code assgn(Orphan well proj)	1272	Salem	Oil	Completed
21.9	149	Harrison	3472	CNG Development Co.	1225	Salem	Gas	Completed
21.9	149	Harrison	3472	CNG Development Co.	1225	Salem	Gas	Completed
21.9	149	Harrison	3472	CNG Development Co.	1225	Salem	Gas	Completed
21.9	149	Harrison	3472	CNG Development Co.	1225	Salem	Gas	Completed
21.9	149	Harrison	3472	CNG Development Co.	1225	Salem	Gas	Completed
21.9	149	Harrison	3472	CNG Development Co.	1225	Salem	Gas	Completed
21.9	149	Harrison	3472	CNG Development Co.	1225	Salem	Gas	Completed
21.9	149	Harrison	3472	CNG Development Co.	1225	Salem	Gas	Completed
21.9	149	Harrison	3472	CNG Development Co.	1225	Salem	Gas	Completed
22.0	-205	Harrison	30658	South Penn Oil (S. Penn Nat. Gas)	1238	Salem	Oil and Gas	Completed
22.0	-205	Harrison	30658	South Penn Oil (S. Penn Nat. Gas)	1238	Salem	Oil and Gas	Completed
22.0	-205	Harrison	30658	South Penn Oil (S. Penn Nat. Gas)	1238	Salem	Oil and Gas	Completed

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22.0	-205	Harrison	30658	South Penn Oil (S. Penn Nat. Gas)	1238	Salem	Oil and Gas	Completed
22.0	-205	Harrison	30658	South Penn Oil (S. Penn Nat. Gas)	1238	Salem	Oil and Gas	Completed
22.1	396	Harrison	31473	Milliken, H. E., et al	1199	Salem	Oil	Completed
22.1	396	Harrison	31473	Milliken, H. E., et al	1199	Salem	Oil	Completed
22.1	396	Harrison	31473	Milliken, H. E., et al	1199	Salem	Oil	Completed
22.2	-367	Harrison	31440	Raad Supply Company	1316	Salem	Oil	Completed
22.2	-367	Harrison	31440	Raad Supply Company	1316	Salem	Oil	Completed
22.2	-367	Harrison	31440	Raad Supply Company	1316	Salem	Oil	Completed
22.2	-274	Harrison	31502	Valley Steel Products	1213	Salem	Oil	Completed
22.2	-274	Harrison	31502	Valley Steel Products	1213	Salem	Oil	Completed
22.4	-4	Harrison	3515	CNG Development Co.	1383	Salem	Gas	Completed
22.4	-4	Harrison	3515	CNG Development Co.	1383	Salem	Gas	Completed
22.4	-4	Harrison	3515	CNG Development Co.	1383	Salem	Gas	Completed
22.4	-4	Harrison	3515	CNG Development Co.	1383	Salem	Gas	Completed
22.4	-4	Harrison	3515	CNG Development Co.	1383	Salem	Gas	Completed
22.6	398	Harrison	2862	C & P Oil & Gas Co.	1276	Salem	Oil and Gas	Completed
22.6	398	Harrison	2862	C & P Oil & Gas Co.	1276	Salem	Oil and Gas	Completed
22.6	398	Harrison	2862	C & P Oil & Gas Co.	1276	Salem	Oil and Gas	Completed
22.6	398	Harrison	2862	C & P Oil & Gas Co.	1276	Salem	Oil and Gas	Completed
22.6	398	Harrison	2862	C & P Oil & Gas Co.	1276	Salem	Oil and Gas	Completed
22.6	398	Harrison	2862	C & P Oil & Gas Co.	1276	Salem	Oil and Gas	Completed
22.6	-188	Harrison	2738	C & P Oil & Gas Co.	1165	Salem	Gas	Completed
22.6	-188	Harrison	2738	C & P Oil & Gas Co.	1165	Salem	Gas	Completed
22.6	-188	Harrison	2738	C & P Oil & Gas Co.	1165	Salem	Gas	Completed
22.6	-188	Harrison	2738	C & P Oil & Gas Co.	1165	Salem	Gas	Completed
22.6	-188	Harrison	2738	C & P Oil & Gas Co.	1165	Salem	Gas	Completed
22.6	-188	Harrison	2738	C & P Oil & Gas Co.	1165	Salem	Gas	Completed
23.0	359	Harrison	30528	Oper in Min.owner fld,no code assgn(Orphan well proj)	1206	Salem	Oil	Completed
23.0	359	Harrison	30528	Oper in Min.owner fld,no code assgn(Orphan well proj)	1206	Salem	Oil	Completed
23.0	359	Harrison	30528	Oper in Min.owner fld,no code assgn(Orphan well proj)	1206	Salem	Oil	Completed
23.1	-112	Harrison	2715	C & P Oil & Gas Co.	1033	Salem	Oil and Gas	Completed
23.1	-112	Harrison	2715	C & P Oil & Gas Co.	1033	Salem	Oil and Gas	Completed
23.1	-112	Harrison	2715	C & P Oil & Gas Co.	1033	Salem	Oil and Gas	Completed
23.1	-112	Harrison	2715	C & P Oil & Gas Co.	1033	Salem	Oil and Gas	Completed
23.1	-112	Harrison	2715	C & P Oil & Gas Co.	1033	Salem	Oil and Gas	Completed
23.2	305	Harrison	31294	Pittsburgh Oil & Gas	1041	Salem	Oil	Completed
23.2	305	Harrison	31294	---------- unknown ----------	1041	Salem	Oil	unknown
23.2	305	Harrison	31294	---------- unknown ----------	1041	Salem	Oil	unknown
23.2	305	Harrison	31294	---------- unknown ----------	1041	Salem	Oil	unknown
23.2	305	Harrison	31294	---------- unknown ----------	1041	Salem	Oil	unknown
23.2	305	Harrison	31294	---------- unknown ----------	1041	Salem	Oil	unknown
23.2	305	Harrison	31294	Pittsburgh Oil & Gas	1041	Salem	Oil	Completed
23.2	305	Harrison	31294	---------- unknown ----------	1041	Salem	Oil	unknown
23.2	305	Harrison	31294	---------- unknown ----------	1041	Salem	Oil	unknown
23.2	305	Harrison	31294	---------- unknown ----------	1041	Salem	Oil	unknown
23.2	305	Harrison	31294	---------- unknown ----------	1041	Salem	Oil	unknown
23.2	305	Harrison	31294	---------- unknown ----------	1041	Salem	Oil	unknown
23.6	-361	Harrison	31501	Valley Steel Products	1028	Salem	Oil	Completed
23.6	-361	Harrison	31501	Valley Steel Products	1028	Salem	Oil	Completed
23.6	-266	Harrison	30899	Moses, William	1071	Salem	Oil	Completed
23.6	-266	Harrison	30899	Moses, William	1071	Salem	Oil	Completed
24.3	350	Harrison	31584	Raad Supply Company	1127	Salem	not available	Completed
24.3	350	Harrison	31584	Raad Supply Company	1127	Salem	not available	Completed
24.7	-142	Harrison	30045	South Penn Oil (S. Penn Nat. Gas)	1323	Salem	Oil	Completed
24.7	-142	Harrison	30045	South Penn Oil (S. Penn Nat. Gas)	1323	Salem	Oil	Completed
24.7	-142	Harrison	30045	South Penn Oil (S. Penn Nat. Gas)	1323	Salem	Oil	Completed
24.7	-142	Harrison	30045	South Penn Oil (S. Penn Nat. Gas)	1323	Salem	Oil	Completed
25.4	272	Harrison	30106	Oper in Min.owner fld,no code assgn(Orphan well proj)	1197	Salem	Oil	Completed
25.4	272	Harrison	30106	Oper in Min.owner fld,no code assgn(Orphan well proj)	1197	Salem	Oil	Completed
25.4	272	Harrison	30106	Oper in Min.owner fld,no code assgn(Orphan well proj)	1197	Salem	Oil	Completed
25.4	272	Harrison	30106	Oper in Min.owner fld,no code assgn(Orphan well proj)	1197	Salem	Oil	Completed
25.4	272	Harrison	30106	Oper in Min.owner fld,no code assgn(Orphan well proj)	1197	Salem	Oil	Completed
25.4	272	Harrison	30106	Oper in Min.owner fld,no code assgn(Orphan well proj)	1197	Salem	Oil	Completed
25.5	168	Harrison	31189	Oper in Min.owner fld,no code assgn(Orphan well proj)	1197	Salem	Oil	Completed
25.5	168	Harrison	31189	Oper in Min.owner fld,no code assgn(Orphan well proj)	1197	Salem	Oil	Completed
25.5	168	Harrison	31189	Oper in Min.owner fld,no code assgn(Orphan well proj)	1197	Salem	Oil	Completed
25.5	168	Harrison	31189	Oper in Min.owner fld,no code assgn(Orphan well proj)	1197	Salem	Oil	Completed
26.6	42	Harrison	30244	South Penn Oil (S. Penn Nat. Gas)	1314	Mthse Fk-Brstl	not available	Completed
26.6	42	Harrison	30244	South Penn Oil (S. Penn Nat. Gas)	1314	Mthse Fk-Brstl	not available	Completed
26.8	-391	Harrison	31574	Raad Supply Company	1073	Mthse Fk-Brstl	not available	Completed
26.8	-391	Harrison	31574	Raad Supply Company	1073	Mthse Fk-Brstl	not available	Completed

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Oil and Gas Wells in Vicinity of the MVP Project

27.1	247	Harrison	31761	Raad Supply Company	1287	Mthse Fk-Brstl	Gas	Completed
27.1	247	Harrison	31761	Raad Supply Company	1287	Mthse Fk-Brstl	Gas	Completed
27.3	-145	Harrison	70163	---------- unknown ----------	0	Wolf Summit	Dry	Completed
27.3	-145	Harrison	70163	---------- unknown ----------	0	Wolf Summit	Dry	Completed
27.3	-303	Harrison	31582	Raad Supply Company	1149	Mthse Fk-Brstl	not available	Completed
27.3	-303	Harrison	31582	Raad Supply Company	1149	Mthse Fk-Brstl	not available	Completed
27.5	-68	Harrison	31762	Raad Supply Company	1405	Mthse Fk-Brstl	Gas	Completed
27.5	-68	Harrison	31762	Raad Supply Company	1405	Mthse Fk-Brstl	Gas	Completed
27.5	-254	Harrison	31573	Raad Supply Company	1199	Mthse Fk-Brstl	not available	Completed
27.5	-254	Harrison	31573	Raad Supply Company	1199	Mthse Fk-Brstl	not available	Completed
27.9	-26	Harrison	31581	Raad Supply Company	1418	Wolf Summit	Oil	Completed
27.9	-26	Harrison	31581	Raad Supply Company	1418	Wolf Summit	Oil	Completed
28.2	21	Harrison	3630	CNG Development Co.	1363	Wolf Summit	Oil and Gas	Completed
28.2	21	Harrison	3630	CNG Development Co.	1363	Wolf Summit	Oil and Gas	Completed
28.2	21	Harrison	3630	CNG Development Co.	1363	Wolf Summit	Oil and Gas	Completed
28.2	21	Harrison	3630	CNG Development Co.	1363	Wolf Summit	Oil and Gas	Completed
28.2	21	Harrison	3630	CNG Development Co.	1363	Wolf Summit	Oil and Gas	Completed
28.2	21	Harrison	3630	CNG Development Co.	1363	Wolf Summit	Oil and Gas	Completed
28.2	21	Harrison	3630	CNG Development Co.	1363	Wolf Summit	Oil and Gas	Completed
28.2	21	Harrison	3630	CNG Development Co.	1363	Wolf Summit	Oil and Gas	Completed
28.2	21	Harrison	3630	CNG Development Co.	1363	Wolf Summit	Oil and Gas	Completed
28.2	21	Harrison	3630	CNG Development Co.	1363	Wolf Summit	Oil and Gas	Completed
28.2	21	Harrison	3630	CNG Development Co.	1363	Wolf Summit	Oil and Gas	Completed
28.2	21	Harrison	3630	Dominion Exploration & Production Inc	0			Permitted
28.2	21	Harrison	3630	Dominion Exploration & Production Inc	0			Permitted
28.2	21	Harrison	3630	Dominion Exploration & Production Inc	0			Permitted
28.2	21	Harrison	3630	Dominion Exploration & Production Inc	0			Permitted
28.3	145	Harrison	31787	Hope Natural Gas Company	1151	Wolf Summit	Gas	Completed
28.3	145	Harrison	31787	---------- unknown ----------	1151	Wolf Summit	Gas	unknown
28.3	145	Harrison	31787	Hope Natural Gas Company	1151	Wolf Summit	Gas	Completed
28.3	145	Harrison	31787	---------- unknown ----------	1151	Wolf Summit	Gas	unknown
28.3	145	Harrison	31787	Hope Natural Gas Company	1151	Wolf Summit	Gas	Completed
28.3	145	Harrison	31787	Hope Natural Gas Company	1151	Wolf Summit	Gas	Completed
28.4	-44	Harrison	31791	Jackson, Richard C.	1291	Wolf Summit	Oil	Completed
28.4	-44	Harrison	31791	Jackson, Richard C.	1291	Wolf Summit	Oil	Completed
28.4	-262	Harrison	70313	Trainer Brothers	1130	Wolf Summit	Oil	Completed
28.5	-234	Harrison	1436	Consolidated Gas Supply Corp.	1220	Mthse Fk-Brstl	Gas	Completed
28.5	-234	Harrison	1436	---------- unknown ----------	1220	Mthse Fk-Brstl	Gas	unknown
28.5	-234	Harrison	1436	Consolidated Gas Supply Corp.	1220	Mthse Fk-Brstl	Gas	Completed
28.5	-234	Harrison	1436	---------- unknown ----------	1220	Mthse Fk-Brstl	Gas	unknown
28.5	-234	Harrison	1436	---------- unknown ----------	1220	Mthse Fk-Brstl	Gas	unknown
28.5	-54	Harrison	70314	South Penn Oil (S. Penn Nat. Gas)	1105	Wolf Summit	Oil	Completed
28.6	324	Harrison	31104	Hope Natural Gas Company	1135	Mthse Fk-Brstl	Gas	Completed
28.6	324	Harrison	31104	Hope Natural Gas Company	1135	Mthse Fk-Brstl	Gas	Completed
28.8	179	Harrison	30588	Hope Construction & Refining	1190	Mthse Fk-Brstl	Gas	Completed
28.8	179	Harrison	30588	Hope Construction & Refining	1190	Mthse Fk-Brstl	Gas	Completed
28.8	179	Harrison	30588	Hope Construction & Refining	1190	Mthse Fk-Brstl	Gas	Completed
28.8	179	Harrison	30588	Hope Construction & Refining	1190	Mthse Fk-Brstl	Gas	Completed
29.0	-351	Harrison	4481	Interstate Production Company	1121	Mthse Fk-Brstl	Gas	Completed
29.0	-351	Harrison	4481	Interstate Production Company	1121	Mthse Fk-Brstl	Gas	Completed
29.0	-351	Harrison	4481	Interstate Production Company	1121	Mthse Fk-Brstl	Gas	Completed
29.0	-351	Harrison	4481	Interstate Production Company	1121	Mthse Fk-Brstl	Gas	Completed
29.0	-351	Harrison	4481	Interstate Production Company	1121	Mthse Fk-Brstl	Gas	Completed
29.0	-351	Harrison	4481	Interstate Production Company	1121	Mthse Fk-Brstl	Gas	Completed
29.0	-351	Harrison	4481	Interstate Production Company	1121	Mthse Fk-Brstl	Gas	Completed
29.5	-306	Harrison	2477	Stonewall Gas Co., Inc.	1370	Mthse Fk-Brstl	Gas	Completed
29.5	-306	Harrison	2477	Stonewall Gas Co., Inc.	1370	Mthse Fk-Brstl	Gas	Completed
29.5	-306	Harrison	2477	Stonewall Gas Co., Inc.	1370	Mthse Fk-Brstl	Gas	Completed
29.5	-306	Harrison	2477	Stonewall Gas Co., Inc.	1370	Mthse Fk-Brstl	Gas	Completed
29.5	-306	Harrison	2477	Stonewall Gas Co., Inc.	1370	Mthse Fk-Brstl	Gas	Completed
29.9	296	Harrison	3900	Interstate Drilling Co., Inc.	1266	Mthse Fk-Brstl	Gas	Completed
29.9	296	Harrison	3900	Interstate Drilling Co., Inc.	1266	Mthse Fk-Brstl	Gas	Completed
29.9	296	Harrison	3900	Interstate Drilling Co., Inc.	1266	Mthse Fk-Brstl	Gas	Completed
29.9	296	Harrison	3900	Interstate Drilling Co., Inc.	1266	Mthse Fk-Brstl	Gas	Completed
29.9	296	Harrison	3900	Interstate Drilling Co., Inc.	1266	Mthse Fk-Brstl	Gas	Completed
29.9	296	Harrison	3900	Interstate Drilling Co., Inc.	1266	Mthse Fk-Brstl	Gas	Completed
29.9	296	Harrison	3900	Interstate Drilling Co., Inc.	1266	Mthse Fk-Brstl	Gas	Completed
30.3	393	Harrison	4228	Interstate Energy, Inc.	1447	Mthse Fk-Brstl	Gas	Completed
30.3	393	Harrison	4228	Interstate Energy, Inc.	1447	Mthse Fk-Brstl	Gas	Completed
30.3	393	Harrison	4228	Interstate Energy, Inc.	1447	Mthse Fk-Brstl	Gas	Completed
30.3	393	Harrison	4228	Interstate Energy, Inc.	1447	Mthse Fk-Brstl	Gas	Completed

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Oil and Gas Wells in Vicinity of the MVP Project

30.4	24	Harrison	1941	J & J Enterprises, Inc.	1324	Mthse Fk-Brstl	Gas	Completed
30.4	24	Harrison	1941	J & J Enterprises, Inc.	1324	Mthse Fk-Brstl	Gas	Completed
30.4	24	Harrison	1941	J & J Enterprises, Inc.	1324	Mthse Fk-Brstl	Gas	Completed
30.4	24	Harrison	1941	J & J Enterprises, Inc.	1324	Mthse Fk-Brstl	Gas	Completed
30.4	24	Harrison	1941	J & J Enterprises, Inc.	1324	Mthse Fk-Brstl	Gas	Completed
30.4	24	Harrison	1941	J & J Enterprises, Inc.	1324	Mthse Fk-Brstl	Gas	Completed
30.4	-273	Harrison	2124	Hope Natural Gas Company	1267	Mthse Fk-Brstl	Gas	Completed
30.4	-273	Harrison	2124	Consolidated Gas Supply Corp.	1267	Mthse Fk-Brstl	Gas	Completed
30.4	-273	Harrison	2124	Hope Natural Gas Company	1267	Mthse Fk-Brstl	Gas	Completed
30.4	-273	Harrison	2124	Consolidated Gas Supply Corp.	1267	Mthse Fk-Brstl	Gas	Completed
30.4	-273	Harrison	2124	Hope Natural Gas Company	1267	Mthse Fk-Brstl	Gas	Completed
30.4	-273	Harrison	2124	Hope Natural Gas Company	1267	Mthse Fk-Brstl	Gas	Completed
30.4	-273	Harrison	2124	Consolidated Gas Supply Corp.	1267	Mthse Fk-Brstl	Gas	Completed
30.4	-273	Harrison	2124	Hope Natural Gas Company	1267	Mthse Fk-Brstl	Gas	Completed
30.4	-273	Harrison	2124	Consolidated Gas Supply Corp.	1267	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	CNG Development Co.	1258	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	Dominion Exploration & Production Inc	1252	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	CNG Development Co.	1258	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	Dominion Exploration & Production Inc	1252	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	CNG Development Co.	1258	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	Dominion Exploration & Production Inc	1252	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	CNG Development Co.	1258	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	Dominion Exploration & Production Inc	1252	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	CNG Development Co.	1258	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	Dominion Exploration & Production Inc	1252	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	Dominion Exploration & Production Inc	1252	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	CNG Development Co.	1258	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	Dominion Exploration & Production Inc	1252	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	CNG Development Co.	1258	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	Dominion Exploration & Production Inc	1252	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	CNG Development Co.	1258	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	Dominion Exploration & Production Inc	1252	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	CNG Development Co.	1258	Mthse Fk-Brstl	Gas	Completed
30.6	-348	Harrison	3088	Dominion Exploration & Production Inc	1252	Mthse Fk-Brstl	Gas	Completed
31.0	351	Harrison	4307	Berry Energy Consultants & Managers, Inc.	1148	Mthse Fk-Brstl	Gas	Completed
31.0	351	Harrison	4307	Berry Energy Consultants & Managers, Inc.	1148	Mthse Fk-Brstl	Gas	Completed
31.0	351	Harrison	4307	Berry Energy Consultants & Managers, Inc.	1148	Mthse Fk-Brstl	Gas	Completed
31.0	351	Harrison	4307	Berry Energy Consultants & Managers, Inc.	1148	Mthse Fk-Brstl	Gas	Completed
31.0	351	Harrison	4307	Berry Energy Consultants & Managers, Inc.	1148	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	CNG Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	CNG Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	CNG Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	CNG Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	CNG Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	CNG Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	CNG Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	CNG Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.2	-147	Doddridge	3267	Consolidated Gas Transmission Corp.	1227	Mthse Fk-Brstl	Gas	Completed
31.4	343	Doddridge	3694	Excel Energy	1406	Mthse Fk-Brstl	Gas	Completed
31.4	343	Doddridge	3694	Excel Energy	1406	Mthse Fk-Brstl	Gas	Completed
31.4	343	Doddridge	3694	Excel Energy	1406	Mthse Fk-Brstl	Gas	Completed
31.4	343	Doddridge	3694	Excel Energy	1406	Mthse Fk-Brstl	Gas	Completed
31.4	343	Doddridge	3694	Excel Energy	1406	Mthse Fk-Brstl	Gas	Completed
31.4	343	Doddridge	3694	Excel Energy	1406	Mthse Fk-Brstl	Gas	Completed
31.4	343	Doddridge	3694	Exploration Partners Producing Co.	1406		not available	Permitted
31.4	343	Doddridge	3694	Exploration Partners Producing Co.	1406		not available	Permitted
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed

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Oil and Gas Wells in Vicinity of the MVP Project

31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.5	-272	Doddridge	2996	Scott, James F.	1180	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Excel Energy	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Excel Energy	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Exploration Partners Producing Co.	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Excel Energy	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Excel Energy	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Exploration Partners Producing Co.	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Exploration Partners Producing Co.	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Exploration Partners Producing Co.	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Excel Energy	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Excel Energy	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Excel Energy	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Exploration Partners Producing Co.	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Excel Energy	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Exploration Partners Producing Co.	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Excel Energy	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Exploration Partners Producing Co.	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Excel Energy	1384	Mthse Fk-Brstl	Gas	Completed
31.6	88	Doddridge	3633	Exploration Partners Producing Co.	1384	Mthse Fk-Brstl	Gas	Completed
31.7	352	Doddridge	3108	J & J Enterprises, Inc.	1120	St Fk-Blstn Ck	Gas	Completed
31.7	352	Doddridge	3108	J & J Enterprises, Inc.	1120	St Fk-Blstn Ck	Gas	Completed
31.7	352	Doddridge	3108	J & J Enterprises, Inc.	1120	St Fk-Blstn Ck	Gas	Completed
31.7	352	Doddridge	3108	J & J Enterprises, Inc.	1120	St Fk-Blstn Ck	Gas	Completed
31.9	-332	Doddridge	30777	Hope Natural Gas Company	1176	Mthse Fk-Brstl	Gas	Completed
31.9	-332	Doddridge	30777	Hope Natural Gas Company	1176	Mthse Fk-Brstl	Gas	Completed
31.9	-332	Doddridge	30777	Hope Natural Gas Company	1176	Mthse Fk-Brstl	Gas	Completed
31.9	-332	Doddridge	30777	Hope Natural Gas Company	1176	Mthse Fk-Brstl	Gas	Completed
31.9	-387	Doddridge	3429	CNG Development Co.	1254	Mthse Fk-Brstl	Gas	Completed
31.9	-387	Doddridge	3429	CNG Development Co.	1254	Mthse Fk-Brstl	Gas	Completed
31.9	-387	Doddridge	3429	CNG Development Co.	1254	Mthse Fk-Brstl	Gas	Completed
31.9	-387	Doddridge	3429	CNG Development Co.	1254	Mthse Fk-Brstl	Gas	Completed
31.9	-387	Doddridge	3429	CNG Development Co.	1254	Mthse Fk-Brstl	Gas	Completed
31.9	-387	Doddridge	3429	CNG Development Co.	1254	Mthse Fk-Brstl	Gas	Completed
31.9	-387	Doddridge	3429	CNG Development Co.	1254	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.0	132	Doddridge	3492	CNG Development Co.	1240	Mthse Fk-Brstl	Gas	Completed
32.1	146	Doddridge	31104	Hope Natural Gas Company	1213	Mthse Fk-Brstl	Gas	Completed
32.1	146	Doddridge	31104	---------- unknown ----------	1213	Mthse Fk-Brstl	Gas	unknown
32.1	146	Doddridge	31104	Hope Natural Gas Company	1213	Mthse Fk-Brstl	Gas	Completed
32.1	146	Doddridge	31104	---------- unknown ----------	1213	Mthse Fk-Brstl	Gas	unknown
32.1	146	Doddridge	31104	Hope Natural Gas Company	1213	Mthse Fk-Brstl	Gas	Completed
32.1	146	Doddridge	31104	Hope Natural Gas Company	1213	Mthse Fk-Brstl	Gas	Completed
32.1	146	Doddridge	31104	---------- unknown ----------	1213	Mthse Fk-Brstl	Gas	unknown
32.3	193	Harrison	3171	CNG Development Co.	1355	Mthse Fk-Brstl	Gas	Completed
32.3	193	Harrison	3171	CNG Development Co.	1355	Mthse Fk-Brstl	Gas	Completed
32.3	193	Harrison	3171	CNG Development Co.	1355	Mthse Fk-Brstl	Gas	Completed
32.3	193	Harrison	3171	CNG Development Co.	1355	Mthse Fk-Brstl	Gas	Completed
32.3	193	Harrison	3171	CNG Development Co.	1355	Mthse Fk-Brstl	Gas	Completed
32.3	193	Harrison	3171	CNG Development Co.	1355	Mthse Fk-Brstl	Gas	Completed
32.3	193	Harrison	3171	CNG Development Co.	1355	Mthse Fk-Brstl	Gas	Completed
32.3	193	Harrison	3171	CNG Development Co.	1355	Mthse Fk-Brstl	Gas	Completed
32.3	193	Harrison	3171	CNG Development Co.	1355	Mthse Fk-Brstl	Gas	Completed

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32.3	193	Harrison	3171	CNG Development Co.	1355	Mthse Fk-Brstl	Gas	Completed
32.3	193	Harrison	3171	CNG Development Co.	1355	Mthse Fk-Brstl	Gas	Completed
32.3	193	Harrison	3171	CNG Producing Co.	1355		not available	Permitted
32.3	193	Harrison	3171	CNG Producing Co.	1355		not available	Permitted
32.3	193	Harrison	3171	CNG Producing Co.	1355		not available	Permitted
32.3	193	Harrison	3171	CNG Producing Co.	1355		not available	Permitted
32.4	-397	Harrison	2882	Scott, James F.	1197	Mthse Fk-Brstl	Gas	Completed
32.4	-397	Harrison	2882	Scott, James F.	1197	Mthse Fk-Brstl	Gas	Completed
32.4	-397	Harrison	2882	Scott, James F.	1197	Mthse Fk-Brstl	Gas	Completed
32.4	-397	Harrison	2882	Scott, James F.	1197	Mthse Fk-Brstl	Gas	Completed
32.4	-397	Harrison	2882	Scott, James F.	1197	Mthse Fk-Brstl	Gas	Completed
32.4	-397	Harrison	2882	Scott, James F.	1197	Mthse Fk-Brstl	Gas	Completed
32.4	-397	Harrison	2882	Scott, James F.	1197	Mthse Fk-Brstl	Gas	Completed
32.4	-397	Harrison	2882	Scott, James F.	1197	Mthse Fk-Brstl	Gas	Completed
32.4	-397	Harrison	2882	Scott, James F.	1197	Mthse Fk-Brstl	Gas	Completed
32.6	-76	Harrison	2169	Stonewall Gas Co., Inc.	1140	Mthse Fk-Brstl	Gas	Completed
32.6	-76	Harrison	2169	Stonewall Gas Co., Inc.	1140	Mthse Fk-Brstl	Gas	Completed
32.6	-76	Harrison	2169	Stonewall Gas Co., Inc.	1140	Mthse Fk-Brstl	Gas	Completed
32.6	-76	Harrison	2169	Stonewall Gas Co., Inc.	1140	Mthse Fk-Brstl	Gas	Completed
32.6	-76	Harrison	2169	Stonewall Gas Co., Inc.	1140	Mthse Fk-Brstl	Gas	Completed
32.6	-76	Harrison	2169	Stonewall Gas Co., Inc.	1140	Mthse Fk-Brstl	Gas	Completed
32.6	-76	Harrison	2169	Stonewall Gas Co., Inc.	1140	Mthse Fk-Brstl	Gas	Completed
32.6	-76	Harrison	2169	Stonewall Gas Co., Inc.	1140	Mthse Fk-Brstl	Gas	Completed
32.6	-76	Harrison	2169	Stonewall Gas Co., Inc.	1140	Mthse Fk-Brstl	Gas	Completed
32.6	-76	Harrison	2169	Stonewall Gas Co., Inc.	1140	Mthse Fk-Brstl	Gas	Completed
32.8	327	Harrison	2976	Scott, James F.	1265	Mthse Fk-Brstl	Gas	Completed
32.8	327	Harrison	2976	Scott, James F.	1265	Mthse Fk-Brstl	Gas	Completed
32.8	327	Harrison	2976	Scott, James F.	1265	Mthse Fk-Brstl	Gas	Completed
32.8	327	Harrison	2976	Scott, James F.	1265	Mthse Fk-Brstl	Gas	Completed
32.8	327	Harrison	2976	Scott, James F.	1265	Mthse Fk-Brstl	Gas	Completed
32.8	327	Harrison	2976	Scott, James F.	1265	Mthse Fk-Brstl	Gas	Completed
32.8	327	Harrison	2976	Scott, James F.	1265	Mthse Fk-Brstl	Gas	Completed
32.8	327	Harrison	2976	Scott, James F.	1265	Mthse Fk-Brstl	Gas	Completed
32.8	327	Harrison	2976	Scott, James F.	1265	Mthse Fk-Brstl	Gas	Completed
32.8	263	Harrison	30424	South Penn Oil (S. Penn Nat. Gas)	1271	Big Isaacs	Oil and Gas	Completed
32.8	347	Harrison	2901	Scott, James F.	1279	Big Isaacs	Oil and Gas	Completed
32.8	263	Harrison	30424	South Penn Oil (S. Penn Nat. Gas)	1271	Big Isaacs	Oil and Gas	Completed
32.8	347	Harrison	2901	Scott, James F.	1279	Big Isaacs	Oil and Gas	Completed
32.8	263	Harrison	30424	South Penn Oil (S. Penn Nat. Gas)	1271	Big Isaacs	Oil and Gas	Completed
32.8	263	Harrison	30424	South Penn Oil (S. Penn Nat. Gas)	1271	Big Isaacs	Oil and Gas	Completed
32.8	347	Harrison	2901	Scott, James F.	1279	Big Isaacs	Oil and Gas	Completed
32.8	347	Harrison	2901	Scott, James F.	1279	Big Isaacs	Oil and Gas	Completed
33.0	108	Harrison	2168	Stonewall Gas Co., Inc.	1300	Mthse Fk-Brstl	Gas	Completed
33.0	108	Harrison	2168	Stonewall Gas Co., Inc.	1300	Mthse Fk-Brstl	Gas	Completed
33.0	108	Harrison	2168	Stonewall Gas Co., Inc.	1300	Mthse Fk-Brstl	Gas	Completed
33.0	108	Harrison	2168	Stonewall Gas Co., Inc.	1300	Mthse Fk-Brstl	Gas	Completed
33.0	108	Harrison	2168	Stonewall Gas Co., Inc.	1300	Mthse Fk-Brstl	Gas	Completed
33.0	108	Harrison	2168	Stonewall Gas Co., Inc.	1300	Mthse Fk-Brstl	Gas	Completed
33.0	108	Harrison	2168	Stonewall Gas Co., Inc.	1300	Mthse Fk-Brstl	Gas	Completed
33.0	108	Harrison	2168	Stonewall Gas Co., Inc.	1300	Mthse Fk-Brstl	Gas	Completed
33.0	108	Harrison	2168	Stonewall Gas Co., Inc.	1300	Mthse Fk-Brstl	Gas	Completed
33.0	108	Harrison	2168	Stonewall Gas Co., Inc.	1300	Mthse Fk-Brstl	Gas	Completed
33.3	135	Doddridge	2923	NRM Petroleum Corp.	1390	Mthse Fk-Brstl	Gas	Completed
33.3	135	Doddridge	2923	Natural Resource Management Corp.	1390	Mthse Fk-Brstl	Gas	Completed
33.3	135	Doddridge	2923	NRM Petroleum Corp.	1390	Mthse Fk-Brstl	Gas	Completed
33.3	135	Doddridge	2923	Natural Resource Management Corp.	1390	Mthse Fk-Brstl	Gas	Completed
33.3	135	Doddridge	2923	NRM Petroleum Corp.	1390	Mthse Fk-Brstl	Gas	Completed
33.3	135	Doddridge	2923	Natural Resource Management Corp.	1390	Mthse Fk-Brstl	Gas	Completed
33.3	135	Doddridge	2923	NRM Petroleum Corp.	1390	Mthse Fk-Brstl	Gas	Completed
33.3	135	Doddridge	2923	Natural Resource Management Corp.	1390	Mthse Fk-Brstl	Gas	Completed
33.3	135	Doddridge	2923	NRM Petroleum Corp.	1390	Mthse Fk-Brstl	Gas	Completed
33.3	135	Doddridge	2923	Natural Resource Management Corp.	1390	Mthse Fk-Brstl	Gas	Completed
33.5	-277	Harrison	2668	Stonewall Gas Co., Inc.	1238	Mthse Fk-Brstl	Gas	Completed
33.5	-277	Harrison	2668	Stonewall Gas Co., Inc.	1238	Mthse Fk-Brstl	Gas	Completed
33.5	-277	Harrison	2668	Stonewall Gas Co., Inc.	1238	Mthse Fk-Brstl	Gas	Completed
33.5	-277	Harrison	2668	Stonewall Gas Co., Inc.	1238	Mthse Fk-Brstl	Gas	Completed
33.5	-277	Harrison	2668	Stonewall Gas Co., Inc.	1238	Mthse Fk-Brstl	Gas	Completed
33.5	-277	Harrison	2668	Stonewall Gas Co., Inc.	1238	Mthse Fk-Brstl	Gas	Completed
33.5	-277	Harrison	2668	Stonewall Gas Co., Inc.	1238	Mthse Fk-Brstl	Gas	Completed
33.5	-277	Harrison	2668	Stonewall Gas Co., Inc.	1238	Mthse Fk-Brstl	Gas	Completed
33.5	-277	Harrison	2668	Stonewall Gas Co., Inc.	1238	Mthse Fk-Brstl	Gas	Completed

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33.5	-277	Harrison	2668	Stonewall Gas Co., Inc.	1238	Mthse Fk-Brstl	Gas	Completed
33.7	-41	Doddridge	2482	Doran & Associates, Inc.	1245	Big Isaacs	Gas	Completed
33.7	-41	Doddridge	2482	Doran & Associates, Inc.	1245	Big Isaacs	Gas	Completed
33.7	-41	Doddridge	2482	Doran & Associates, Inc.	1245	Big Isaacs	Gas	Completed
33.7	-41	Doddridge	2482	Doran & Associates, Inc.	1245	Big Isaacs	Gas	Completed
33.7	-41	Doddridge	2482	Doran & Associates, Inc.	1245	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
33.9	58	Doddridge	2444	NRM Petroleum Corp.	1120	Big Isaacs	Gas	Completed
34.1	358	Doddridge	3241	Scott, James F.	1112	Big Isaacs	Gas	Completed
34.1	358	Doddridge	3241	Scott, James F.	1112	Big Isaacs	Gas	Completed
34.1	358	Doddridge	3241	Scott, James F.	1112	Big Isaacs	Gas	Completed
34.1	358	Doddridge	3241	Scott, James F.	1112	Big Isaacs	Gas	Completed
34.1	358	Doddridge	3241	Scott, James F.	1112	Big Isaacs	Gas	Completed
34.3	89	Doddridge	30828	Monroe, R. S.	1153	Big Isaacs	Oil	Completed
34.3	89	Doddridge	30828	Monroe, R. S.	1153	Big Isaacs	Oil	Completed
34.3	89	Doddridge	30828	Monroe, R. S.	1153	Big Isaacs	Oil	Completed
34.3	89	Doddridge	30828	Monroe, R. S.	1153	Big Isaacs	Oil	Completed
34.3	-47	Doddridge	3521	Scott Oil Company	1046	Mthse Fk-Brstl	Gas	Completed
34.3	-47	Doddridge	3521	Scott Oil Company	1046	Mthse Fk-Brstl	Gas	Completed
34.3	-47	Doddridge	3521	Scott Oil Company	1046	Mthse Fk-Brstl	Gas	Completed
34.3	-47	Doddridge	3521	Scott Oil Company	1046	Mthse Fk-Brstl	Gas	Completed
34.3	-47	Doddridge	3521	Scott Oil Company	1046	Mthse Fk-Brstl	Gas	Completed
34.3	-47	Doddridge	3521	Scott Oil Company	1046	Mthse Fk-Brstl	Gas	Completed
34.3	-47	Doddridge	3521	Scott Oil Company	1046	Mthse Fk-Brstl	Gas	Completed
34.3	-47	Doddridge	3521	Scott Oil Company	1046	Mthse Fk-Brstl	Gas	Completed
34.3	-47	Doddridge	3521	Scott Oil Company	1046	Mthse Fk-Brstl	Gas	Completed
34.3	-47	Doddridge	3521	Scott Oil Company	1046	Mthse Fk-Brstl	Gas	Completed
34.5	-156	Doddridge	3977	EMAX, Inc.	939	Mthse Fk-Brstl	Gas	Completed
34.5	-156	Doddridge	3977	EMAX, Inc.	939	Mthse Fk-Brstl	Gas	Completed
34.5	-156	Doddridge	3977	EMAX, Inc.	939	Mthse Fk-Brstl	Gas	Completed
34.5	-156	Doddridge	3977	EMAX, Inc.	939	Mthse Fk-Brstl	Gas	Completed
34.5	-156	Doddridge	3977	EMAX, Inc.	939	Mthse Fk-Brstl	Gas	Completed
34.5	-156	Doddridge	3977	EMAX, Inc.	939	Mthse Fk-Brstl	Gas	Completed
34.5	-156	Doddridge	3977	EMAX, Inc.	939	Mthse Fk-Brstl	Gas	Completed
34.5	-3	Doddridge	31149	South Penn Oil (S. Penn Nat. Gas)	944	Mthse Fk-Brstl	Gas	Completed
34.5	-3	Doddridge	31149	South Penn Oil (S. Penn Nat. Gas)	944	Mthse Fk-Brstl	Gas	Completed
34.5	-3	Doddridge	31149	South Penn Oil (S. Penn Nat. Gas)	944	Mthse Fk-Brstl	Gas	Completed
34.5	-3	Doddridge	31149	South Penn Oil (S. Penn Nat. Gas)	944	Mthse Fk-Brstl	Gas	Completed
34.5	-3	Doddridge	31149	Hope Natural Gas Company	944	Mthse Fk-Brstl	Gas w/ Oil Show	Completed
34.5	-3	Doddridge	31149	Hope Natural Gas Company	944	Mthse Fk-Brstl	Gas w/ Oil Show	Completed
34.5	-3	Doddridge	31149	Hope Natural Gas Company	944	Mthse Fk-Brstl	Gas w/ Oil Show	Completed
34.5	-3	Doddridge	31149	Hope Natural Gas Company	944	Mthse Fk-Brstl	Gas w/ Oil Show	Completed
34.6	133	Doddridge	1892	Adkins, Dale, Inc.	1051	Big Isaacs	Gas w/ Oil Show	Completed
34.6	133	Doddridge	1892	Adkins, Dale, Inc.	1051	Big Isaacs	Gas w/ Oil Show	Completed
34.6	133	Doddridge	1892	Adkins, Dale, Inc.	1051	Big Isaacs	Gas w/ Oil Show	Completed
34.6	133	Doddridge	1892	Adkins, Dale, Inc.	1051	Big Isaacs	Gas w/ Oil Show	Completed
34.6	133	Doddridge	1892	Adkins, Dale, Inc.	1051	Big Isaacs	Gas w/ Oil Show	Completed
34.6	133	Doddridge	1892	Adkins, Dale, Inc.	1051	Big Isaacs	Gas w/ Oil Show	Completed
34.6	133	Doddridge	1892	Adkins, Dale, Inc.	1051	Big Isaacs	Gas w/ Oil Show	Completed
34.6	133	Doddridge	1892	Adkins, Dale, Inc.	1051	Big Isaacs	Gas w/ Oil Show	Completed
34.6	133	Doddridge	1892	Adkins, Dale, Inc.	1051	Big Isaacs	Gas w/ Oil Show	Completed
34.7	260	Doddridge	30034	South Penn Oil (S. Penn Nat. Gas)	1169	Big Isaacs	Oil	Completed
34.7	260	Doddridge	30034	South Penn Oil (S. Penn Nat. Gas)	1169	Big Isaacs	Oil	Completed
34.7	260	Doddridge	30034	South Penn Oil (S. Penn Nat. Gas)	1169	Big Isaacs	Oil	Completed
34.7	169	Doddridge	30612	Oper in Min.owner fld,no code assgn(Orphan well proj)	961	Big Isaacs	Oil w/ Gas Show	Completed
34.7	169	Doddridge	30612	Oper in Min.owner fld,no code assgn(Orphan well proj)	961	Big Isaacs	Oil w/ Gas Show	Completed
34.7	169	Doddridge	30612	Oper in Min.owner fld,no code assgn(Orphan well proj)	961	Big Isaacs	Oil w/ Gas Show	Completed
34.8	76	Doddridge	30722	---------- unknown ----------	1115	Big Isaacs	Oil	unknown
34.8	76	Doddridge	30722	---------- unknown ----------	1115	Big Isaacs	Oil	unknown
34.8	76	Doddridge	30722	---------- unknown ----------	1115	Big Isaacs	Oil	unknown
34.8	76	Doddridge	30722	South Penn Oil (S. Penn Nat. Gas)	1115	Big Isaacs	Oil w/ Gas Show	Completed

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34.8	76	Doddridge	30722	South Penn Oil (S. Penn Nat. Gas)	1115	Big Isaacs	Oil w/ Gas Show	Completed
34.8	76	Doddridge	30722	South Penn Oil (S. Penn Nat. Gas)	1115	Big Isaacs	Oil w/ Gas Show	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Oil and Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Oil and Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Oil and Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Oil and Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Oil and Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Oil and Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Oil and Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Oil and Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Oil and Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Oil and Gas	Completed
34.8	-401	Doddridge	2443	Doran & Associates, Inc.	1061	Big Isaacs	Oil and Gas	Completed
34.9	74	Doddridge	30126	Raad & Moses	1289	Big Isaacs	Oil and Gas	Completed
34.9	74	Doddridge	30126	Raad & Moses	1289	Big Isaacs	Oil and Gas	Completed
34.9	74	Doddridge	30126	Raad & Moses	1289	Big Isaacs	Oil and Gas	Completed
35.0	204	Doddridge	30125	Raad & Moses	1163	Big Isaacs	Oil and Gas	Completed
35.0	204	Doddridge	30125	Raad & Moses	1163	Big Isaacs	Oil and Gas	Completed
35.0	204	Doddridge	30125	Raad & Moses	1163	Big Isaacs	Oil and Gas	Completed
35.0	204	Doddridge	30125	Raad & Moses	1163	Big Isaacs	Oil and Gas	Completed
35.0	204	Doddridge	30125	Raad & Moses	1163	Big Isaacs	Oil and Gas	Completed
35.0	204	Doddridge	30125	Raad & Moses	1163	Big Isaacs	Oil and Gas	Completed
35.0	281	Doddridge	2852	Stonewall Gas Co., Inc.	1171	Big Isaacs	Gas	Completed
35.0	281	Doddridge	2852	Stonewall Gas Co., Inc.	1171	Big Isaacs	Gas	Completed
35.0	281	Doddridge	2852	Stonewall Gas Co., Inc.	1171	Big Isaacs	Gas	Completed
35.0	281	Doddridge	2852	Stonewall Gas Co., Inc.	1171	Big Isaacs	Gas	Completed
35.0	281	Doddridge	2852	Stonewall Gas Co., Inc.	1171	Big Isaacs	Gas	Completed
35.0	281	Doddridge	2852	Stonewall Gas Co., Inc.	1171	Big Isaacs	Gas	Completed
35.0	281	Doddridge	2852	Stonewall Gas Co., Inc.	1171	Big Isaacs	Gas	Completed
35.0	281	Doddridge	2852	Stonewall Gas Co., Inc.	1171	Big Isaacs	Gas	Completed
35.0	281	Doddridge	2852	Stonewall Gas Co., Inc.	1171	Big Isaacs	Gas	Completed
35.0	281	Doddridge	2852	Stonewall Gas Co., Inc.	1171	Big Isaacs	Gas	Completed
35.1	230	Doddridge	30128	Raad & Moses	1295	Big Isaacs	Oil and Gas	Completed
35.1	349	Doddridge	30129	Raad & Moses	1069	Big Isaacs	Oil and Gas	Completed
35.1	230	Doddridge	30128	Raad & Moses	1295	Big Isaacs	Oil and Gas	Completed
35.1	349	Doddridge	30129	Raad & Moses	1069	Big Isaacs	Oil and Gas	Completed
35.1	230	Doddridge	30128	Raad & Moses	1295	Big Isaacs	Oil and Gas	Completed
35.1	230	Doddridge	30128	Raad & Moses	1295	Big Isaacs	Oil and Gas	Completed
35.1	349	Doddridge	30129	Raad & Moses	1069	Big Isaacs	Oil and Gas	Completed
35.1	349	Doddridge	30129	Raad & Moses	1069	Big Isaacs	Oil and Gas	Completed
35.1	349	Doddridge	30129	Raad & Moses	1069	Big Isaacs	Oil and Gas	Completed
35.1	349	Doddridge	30129	Raad & Moses	1069	Big Isaacs	Oil and Gas	Completed
35.1	349	Doddridge	30129	Raad & Moses	1069	Big Isaacs	Oil and Gas	Completed
35.1	-93	Doddridge	30127	Raad & Moses	1363	Big Isaacs	Oil and Gas	Completed
35.1	-93	Doddridge	30127	Raad & Moses	1363	Big Isaacs	Oil and Gas	Completed
35.1	-93	Doddridge	30127	Raad & Moses	1363	Big Isaacs	Oil and Gas	Completed
35.1	-93	Doddridge	30127	Raad & Moses	1363	Big Isaacs	Oil and Gas	Completed
35.1	-93	Doddridge	30127	Raad & Moses	1363	Big Isaacs	Oil and Gas	Completed
35.2	372	Doddridge	30615	Bradford Supply Co.	1171	Big Isaacs	Oil	Completed
35.2	372	Doddridge	30615	Bradford Supply Co.	1171	Big Isaacs	Oil	Completed
35.2	372	Doddridge	30615	Bradford Supply Co.	1171	Big Isaacs	Oil	Completed
35.4	-193	Doddridge	2492	Doran & Associates, Inc.	1281	Big Isaacs	Gas	Completed
35.4	-193	Doddridge	2492	Doran & Associates, Inc.	1281	Big Isaacs	Gas	Completed
35.4	-193	Doddridge	2492	Doran & Associates, Inc.	1281	Big Isaacs	Gas	Completed
35.4	-193	Doddridge	2492	Doran & Associates, Inc.	1281	Big Isaacs	Gas	Completed
35.4	-193	Doddridge	2492	Doran & Associates, Inc.	1281	Big Isaacs	Gas	Completed
35.4	-193	Doddridge	2492	Doran & Associates, Inc.	1281	Big Isaacs	Oil and Gas	Completed
35.4	-193	Doddridge	2492	Doran & Associates, Inc.	1281	Big Isaacs	Oil and Gas	Completed
35.4	-193	Doddridge	2492	Doran & Associates, Inc.	1281	Big Isaacs	Oil and Gas	Completed
35.4	-193	Doddridge	2492	Doran & Associates, Inc.	1281	Big Isaacs	Oil and Gas	Completed
35.4	-193	Doddridge	2492	Doran & Associates, Inc.	1281	Big Isaacs	Oil and Gas	Completed
35.4	-193	Doddridge	2492	Doran & Associates, Inc.	1281	Big Isaacs	Oil and Gas	Completed

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35.4	296	Harrison	31785	Cassady, William	1345	Big Isaacs	Oil	Completed
35.4	296	Harrison	31785	Cassady, William	1345	Big Isaacs	Oil	Completed
35.4	296	Harrison	31785	Cassady, William	1345	Big Isaacs	Oil	Completed
35.6	-48	Doddridge	3182	Lone Pine Operating Co.	1360	Big Isaacs	Gas	Completed
35.6	-48	Doddridge	3182	Lone Pine Operating Co.	1360	Big Isaacs	Gas	Completed
35.6	-48	Doddridge	3182	Lone Pine Operating Co.	1360	Big Isaacs	Gas	Completed
35.6	-48	Doddridge	3182	Lone Pine Operating Co.	1360	Big Isaacs	Gas	Completed
35.6	-48	Doddridge	3182	Lone Pine Operating Co.	1360	Big Isaacs	Gas	Completed
35.6	-48	Doddridge	3182	Lone Pine Operating Co.	1360	Big Isaacs	Gas	Completed
35.6	-48	Doddridge	3182	Lone Pine Operating Co.	1360	Big Isaacs	Gas	Completed
35.6	-48	Doddridge	3182	Lone Pine Operating Co.	1360	Big Isaacs	Gas	Completed
35.6	-48	Doddridge	3182	Lone Pine Operating Co.	1360	Big Isaacs	Gas	Completed
35.6	-48	Doddridge	3182	Lone Pine Operating Co.	1360	Big Isaacs	Gas	Completed
35.6	-48	Doddridge	3182	Kepco, Inc.	1360	Big Isaacs	Oil and Gas	Completed
35.6	-48	Doddridge	3182	Kepco, Inc.	1360	Big Isaacs	Oil and Gas	Completed
35.6	-48	Doddridge	3182	Kepco, Inc.	1360	Big Isaacs	Oil and Gas	Completed
35.6	-48	Doddridge	3182	Kepco, Inc.	1360	Big Isaacs	Oil and Gas	Completed
35.6	-48	Doddridge	3182	Kepco, Inc.	1360	Big Isaacs	Oil and Gas	Completed
35.6	-48	Doddridge	3182	Kepco, Inc.	1360	Big Isaacs	Oil and Gas	Completed
35.6	-48	Doddridge	3182	Kepco, Inc.	1360	Big Isaacs	Oil and Gas	Completed
35.6	-48	Doddridge	3182	Kepco, Inc.	1360	Big Isaacs	Oil and Gas	Completed
35.6	-48	Doddridge	3182	Kepco, Inc.	1360	Big Isaacs	Oil and Gas	Completed
35.6	-48	Doddridge	3182	Kepco, Inc.	1360	Big Isaacs	Oil and Gas	Completed
35.6	-48	Doddridge	3182	Kepco, Inc.	1360	Big Isaacs	Oil and Gas	Completed
35.6	-227	Doddridge	5183	Marshall Oil & Gas Company	1124	Big Isaacs	Gas	Completed
35.6	-227	Doddridge	5183	Marshall Oil & Gas Company	1124	Big Isaacs	Gas	Completed
35.6	-227	Doddridge	5183	Marshall Oil & Gas Company	1124	Big Isaacs	Gas	Completed
35.6	-227	Doddridge	5183	Marshall Oil & Gas Company	1124	Big Isaacs	Gas	Completed
36.0	-37	Doddridge	3211	Kepco, Inc.	1300	Big Isaacs	Gas	Completed
36.0	-37	Doddridge	3211	Kepco, Inc.	1300	Big Isaacs	Gas	Completed
36.0	-37	Doddridge	3211	Kepco, Inc.	1300	Big Isaacs	Gas	Completed
36.0	-37	Doddridge	3211	Kepco, Inc.	1300	Big Isaacs	Gas	Completed
36.0	-37	Doddridge	3211	Kepco, Inc.	1300	Big Isaacs	Gas	Completed
36.0	-37	Doddridge	3211	Kepco, Inc.	1300	Big Isaacs	Gas	Completed
36.0	-37	Doddridge	3211	Kepco, Inc.	1300	Big Isaacs	Gas	Completed
36.0	-37	Doddridge	3211	Kepco, Inc.	1300	Big Isaacs	Gas	Completed
36.0	-37	Doddridge	3211	Kepco, Inc.	1300	Big Isaacs	Gas	Completed
36.0	-37	Doddridge	3211	Kepco, Inc.	1300	Big Isaacs	Gas	Completed
36.0	157	Harrison	31378	South Penn Oil (S. Penn Nat. Gas)	1274	Mthse Fk-Brstl	Gas	Completed
36.0	157	Harrison	31378	South Penn Oil (S. Penn Nat. Gas)	1274	Mthse Fk-Brstl	Gas	Completed
36.2	338	Harrison	1800	Pennzoil Company	1122	Big Isaacs	Oil	Completed
36.2	338	Harrison	1800	---------- unknown ----------	1122	Big Isaacs	Oil	unknown
36.2	338	Harrison	1800	Pennzoil Company	1122	Big Isaacs	Oil	Completed
36.2	338	Harrison	1800	---------- unknown ----------	1122	Big Isaacs	Oil	unknown
36.2	338	Harrison	1800	Pennzoil Company	1122	Big Isaacs	Oil	Completed
36.3	307	Harrison	31260	DeLay, C. R.	1192	Big Isaacs	Gas	Completed
36.3	307	Harrison	31260	DeLay, C. R.	1192	Big Isaacs	Gas	Completed
36.3	307	Harrison	31260	DeLay, C. R.	1192	Big Isaacs	Gas	Completed
36.3	374	Harrison	30551	South Penn Oil (S. Penn Nat. Gas)	1168	Big Isaacs	Oil w/ Gas Show	Completed
36.3	374	Harrison	30551	South Penn Oil (S. Penn Nat. Gas)	1168	Big Isaacs	Oil w/ Gas Show	Completed
36.3	374	Harrison	30551	South Penn Oil (S. Penn Nat. Gas)	1168	Big Isaacs	Oil w/ Gas Show	Completed
36.3	374	Harrison	30551	South Penn Oil (S. Penn Nat. Gas)	1168	Big Isaacs	Oil w/ Gas Show	Completed
36.3	374	Harrison	30551	South Penn Oil (S. Penn Nat. Gas)	1168	Big Isaacs	Oil w/ Gas Show	Completed
36.3	374	Harrison	30551	South Penn Oil (S. Penn Nat. Gas)	1168	Big Isaacs	Oil w/ Gas Show	Completed
36.5	-25	Doddridge	2604	J & J Enterprises, Inc.	1360	Mthse Fk-Brstl	Gas	Completed
36.5	-25	Doddridge	2604	J & J Enterprises, Inc.	1360	Mthse Fk-Brstl	Gas	Completed
36.5	-25	Doddridge	2604	J & J Enterprises, Inc.	1360	Mthse Fk-Brstl	Gas	Completed
36.5	-25	Doddridge	2604	J & J Enterprises, Inc.	1360	Mthse Fk-Brstl	Gas	Completed
36.5	-25	Doddridge	2604	J & J Enterprises, Inc.	1360	Mthse Fk-Brstl	Gas	Completed
36.5	-25	Doddridge	2604	J & J Enterprises, Inc.	1360	Mthse Fk-Brstl	Gas	Completed
36.5	-25	Doddridge	2604	J & J Enterprises, Inc.	1360	Mthse Fk-Brstl	Gas	Completed
36.5	-25	Doddridge	2604	J & J Enterprises, Inc.	1360	Mthse Fk-Brstl	Gas	Completed
36.5	-25	Doddridge	2604	J & J Enterprises, Inc.	1360	Mthse Fk-Brstl	Gas	Completed
36.5	-25	Doddridge	2604	J & J Enterprises, Inc.	1360	Mthse Fk-Brstl	Gas	Completed
36.7	143	Harrison	192	Root & Arnold	1225	Mthse Fk-Brstl	Gas	Completed
36.7	143	Harrison	192	Root & Arnold	1225	Mthse Fk-Brstl	Gas	Completed
36.7	143	Harrison	192	Root & Arnold	1225	Mthse Fk-Brstl	Gas	Completed
36.9	278	Harrison	2836	C & P Oil & Gas Co.	1423	Big Isaacs	Oil and Gas	Completed
36.9	278	Harrison	2836	C & P Oil & Gas Co.	1423	Big Isaacs	Oil and Gas	Completed
36.9	278	Harrison	2836	C & P Oil & Gas Co.	1423	Big Isaacs	Oil and Gas	Completed
36.9	278	Harrison	2836	C & P Oil & Gas Co.	1423	Big Isaacs	Oil and Gas	Completed

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36.9	278	Harrison	2836	C & P Oil & Gas Co.	1423	Big Isaacs	Oil and Gas	Completed
36.9	278	Harrison	2836	C & P Oil & Gas Co.	1423	Big Isaacs	Oil and Gas	Completed
36.9	278	Harrison	2836	C & P Oil & Gas Co.	1423	Big Isaacs	Oil and Gas	Completed
36.9	278	Harrison	2836	C & P Oil & Gas Co.	1423	Big Isaacs	Oil and Gas	Completed
36.9	278	Harrison	2836	C & P Oil & Gas Co.	1423	Big Isaacs	Oil and Gas	Completed
36.9	278	Harrison	2836	C & P Oil & Gas Co.	1423	Big Isaacs	Oil and Gas	Completed
36.9	278	Harrison	2836	C & P Oil & Gas Co.	1423	Big Isaacs	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.2	-22	Harrison	2890	Kepco, Inc.	1510	Mthse Fk-Brstl	Oil and Gas	Completed
37.3	-76	Harrison	31548	Hope Natural Gas Company	1315	Mthse Fk-Brstl	Gas	Completed
37.3	-76	Harrison	31548	Hope Natural Gas Company	1315	Mthse Fk-Brstl	Gas	Completed
37.3	-76	Harrison	31548	Hope Natural Gas Company	1315	Mthse Fk-Brstl	Gas	Completed
37.3	-76	Harrison	31548	Hope Natural Gas Company	1315	Mthse Fk-Brstl	Gas	Completed
37.3	-76	Harrison	31548	Hope Natural Gas Company	1315	Mthse Fk-Brstl	Gas	Completed
37.5	295	Harrison	2755	C & P Oil & Gas Co.	1152	Mthse Fk-Brstl	Oil and Gas	Completed
37.5	295	Harrison	2755	C & P Oil & Gas Co.	1152	Mthse Fk-Brstl	Oil and Gas	Completed
37.5	295	Harrison	2755	C & P Oil & Gas Co.	1152	Mthse Fk-Brstl	Oil and Gas	Completed
37.5	295	Harrison	2755	C & P Oil & Gas Co.	1152	Mthse Fk-Brstl	Oil and Gas	Completed
37.5	295	Harrison	2755	C & P Oil & Gas Co.	1152	Mthse Fk-Brstl	Oil and Gas	Completed
37.5	295	Harrison	2755	C & P Oil & Gas Co.	1152	Mthse Fk-Brstl	Oil and Gas	Completed
37.7	121	Harrison	335	Pioneer Petroleum, Inc.	1122	Big Isaacs	Gas w/ Oil Show	Completed
37.7	121	Harrison	335	Pioneer Petroleum, Inc.	1122	Big Isaacs	Gas w/ Oil Show	Completed
37.7	121	Harrison	335	Pioneer Petroleum, Inc.	1122	Big Isaacs	Gas w/ Oil Show	Completed
37.7	-373	Harrison	2173	J & J Enterprises, Inc.	1124	Mthse Fk-Brstl	Gas	Completed
37.7	-373	Harrison	2173	J & J Enterprises, Inc.	1124	Mthse Fk-Brstl	Gas	Completed
37.7	-373	Harrison	2173	J & J Enterprises, Inc.	1124	Mthse Fk-Brstl	Gas	Completed
37.7	-373	Harrison	2173	J & J Enterprises, Inc.	1124	Mthse Fk-Brstl	Gas	Completed
37.7	-373	Harrison	2173	J & J Enterprises, Inc.	1124	Mthse Fk-Brstl	Gas	Completed
37.7	-373	Harrison	2173	J & J Enterprises, Inc.	1124	Mthse Fk-Brstl	Gas	Completed
37.7	-373	Harrison	2173	J & J Enterprises, Inc.	1124	Mthse Fk-Brstl	Gas	Completed
37.7	-373	Harrison	2173	J & J Enterprises, Inc.	1124	Mthse Fk-Brstl	Gas	Completed
37.7	-373	Harrison	2173	J & J Enterprises, Inc.	1124	Mthse Fk-Brstl	Gas	Completed
37.7	-373	Harrison	2173	J & J Enterprises, Inc.	1124	Mthse Fk-Brstl	Gas	Completed
37.7	306	Harrison	2754	C & P Oil & Gas Co.	1180	Mthse Fk-Brstl	Oil and Gas	Completed
37.7	306	Harrison	2754	C & P Oil & Gas Co.	1180	Mthse Fk-Brstl	Oil and Gas	Completed
37.7	306	Harrison	2754	C & P Oil & Gas Co.	1180	Mthse Fk-Brstl	Oil and Gas	Completed
37.7	306	Harrison	2754	C & P Oil & Gas Co.	1180	Mthse Fk-Brstl	Oil and Gas	Completed
37.7	306	Harrison	2754	C & P Oil & Gas Co.	1180	Mthse Fk-Brstl	Oil and Gas	Completed
37.7	306	Harrison	2754	C & P Oil & Gas Co.	1180	Mthse Fk-Brstl	Oil and Gas	Completed
37.7	306	Harrison	2754	C & P Oil & Gas Co.	1180	Mthse Fk-Brstl	Oil and Gas	Completed
37.7	306	Harrison	2754	C & P Oil & Gas Co.	1180	Mthse Fk-Brstl	Oil and Gas	Completed
37.7	306	Harrison	2754	C & P Oil & Gas Co.	1180	Mthse Fk-Brstl	Oil and Gas	Completed
37.7	306	Harrison	2754	C & P Oil & Gas Co.	1180	Mthse Fk-Brstl	Oil and Gas	Completed
37.7	306	Harrison	2754	C & P Oil & Gas Co.	1180	Mthse Fk-Brstl	Oil and Gas	Completed
37.8	37	Lewis	3343	Kepco, Inc.	1150	Mthse Fk-Brstl	Oil and Gas	Completed
37.8	37	Lewis	3343	Kepco, Inc.	1150	Mthse Fk-Brstl	Oil and Gas	Completed
37.8	37	Lewis	3343	Kepco, Inc.	1150	Mthse Fk-Brstl	Oil and Gas	Completed
37.8	37	Lewis	3343	Kepco, Inc.	1150	Mthse Fk-Brstl	Oil and Gas	Completed
37.8	37	Lewis	3343	Kepco, Inc.	1150	Mthse Fk-Brstl	Oil and Gas	Completed
37.8	37	Lewis	3343	Kepco, Inc.	1150	Mthse Fk-Brstl	Oil and Gas	Completed
37.8	37	Lewis	3343	Kepco, Inc.	1150	Mthse Fk-Brstl	Oil and Gas	Completed
37.8	37	Lewis	3343	Kepco, Inc.	1150	Mthse Fk-Brstl	Oil and Gas	Completed
37.8	37	Lewis	3343	Kepco, Inc.	1150	Mthse Fk-Brstl	Oil and Gas	Completed
37.8	37	Lewis	3343	Kepco, Inc.	1150	Mthse Fk-Brstl	Oil and Gas	Completed
37.8	37	Lewis	3343	Kepco, Inc.	1150	Mthse Fk-Brstl	Oil and Gas	Completed
38.4	-305	Lewis	1480	Consolidated Gas Supply Corp.	1307	Mthse Fk-Brstl	Oil and Gas	Completed
38.4	-305	Lewis	1480	Consolidated Gas Supply Corp.	1307	Mthse Fk-Brstl	Oil and Gas	Completed
38.4	-305	Lewis	1480	Consolidated Gas Supply Corp.	1307	Mthse Fk-Brstl	Oil and Gas	Completed
38.4	-305	Lewis	1480	Consolidated Gas Supply Corp.	1307	Mthse Fk-Brstl	Oil and Gas	Completed
38.4	-305	Lewis	1480	Consolidated Gas Supply Corp.	1307	Mthse Fk-Brstl	Oil and Gas	Completed

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38.4	-305	Lewis	1480	Consolidated Gas Supply Corp.	1307	Mthse Fk-Brstl	Oil and Gas	Completed
38.4	-305	Lewis	1480	Consolidated Gas Supply Corp.	1307	Mthse Fk-Brstl	Oil and Gas	Completed
38.4	-305	Lewis	1480	Consolidated Gas Supply Corp.	1307	Mthse Fk-Brstl	Oil and Gas	Completed
38.4	-305	Lewis	1480	Consolidated Gas Supply Corp.	1307	Mthse Fk-Brstl	Oil and Gas	Completed
38.4	-305	Lewis	1480	Consolidated Gas Supply Corp.	1307	Mthse Fk-Brstl	Oil and Gas	Completed
39.4	-202	Lewis	2214	---------- unknown ----------	0	Murphy Creek	Gas	unknown
39.6	-130	Lewis	30147	Hope Natural Gas Company	1295	Murphy Creek	Gas	Completed
39.6	-130	Lewis	30147	Hope Natural Gas Company	1295	Murphy Creek	Gas	Completed
39.6	-130	Lewis	30147	Hope Natural Gas Company	1295	Murphy Creek	Gas	Completed
39.9	154	Lewis	30049	Hope Natural Gas Company	1322	Murphy Creek	Gas	Completed
39.9	154	Lewis	30049	Hope Natural Gas Company	1322	Murphy Creek	Gas	Completed
40.3	-143	Lewis	70281	Pittsburgh & WV Gas	0	Unnamed	Dry	Completed
40.3	-143	Lewis	70281	Pittsburgh & WV Gas	0	Unnamed	Dry	Completed
41.1	-120	Lewis	70282	Pittsburgh & WV Gas	0	Unnamed	Dry	Completed
41.1	-120	Lewis	70282	Pittsburgh & WV Gas	0	Unnamed	Dry	Completed
41.3	-114	Lewis	196	Hope Natural Gas Company	1265	Murphy Creek	Storage	Completed
41.3	-114	Lewis	196	Hope Natural Gas Company	1266	Murphy Creek	Storage	Completed
41.3	-114	Lewis	196	Hope Natural Gas Company	1265	Murphy Creek	Storage	Completed
41.3	-114	Lewis	196	Hope Natural Gas Company	1266	Murphy Creek	Storage	Completed
41.8	214	Lewis	269	Hope Natural Gas Company	1176	Murphy Creek	Storage	Completed
41.8	214	Lewis	269	Hope Natural Gas Company	1176	Murphy Creek	Storage	Completed
42.1	-55	Lewis	1217	Hope Natural Gas Company	1263	Murphy Creek	Storage	Completed
42.1	-55	Lewis	1217	Hope Natural Gas Company	1263	Murphy Creek	Storage	Completed
42.2	-265	Lewis	524	Pittsburgh & WV Gas	1079	Murphy Creek	Gas	Completed
42.2	-265	Lewis	524	Pittsburgh & WV Gas	1079	Murphy Creek	Gas	Completed
42.2	-265	Lewis	524	Hope Natural Gas Company	1079	Murphy Creek	Storage	Completed
42.2	-265	Lewis	524	Hope Natural Gas Company	1079	Murphy Creek	Storage	Completed
42.6	-108	Lewis	1988	Consolidated Gas Supply Corp.	1350	Murphy Creek	Gas	Completed
42.6	-108	Lewis	1988	Consolidated Gas Supply Corp.	1350	Murphy Creek	Gas	Completed
42.6	-108	Lewis	1988	Consolidated Gas Supply Corp.	1350	Murphy Creek	Gas	Completed
42.6	-108	Lewis	1988	Consolidated Gas Supply Corp.	1350	Murphy Creek	Gas	Completed
42.6	-108	Lewis	1988	Consolidated Gas Supply Corp.	1350	Murphy Creek	Gas	Completed
42.6	-108	Lewis	1988	Consolidated Gas Supply Corp.	1350	Murphy Creek	Gas	Completed
42.6	-108	Lewis	1988	Consolidated Gas Supply Corp.	1350	Murphy Creek	Gas	Completed
42.6	-108	Lewis	1988	Consolidated Gas Supply Corp.	1350	Murphy Creek	Gas	Completed
42.6	-108	Lewis	1988	Consolidated Gas Supply Corp.	1350	Murphy Creek	Gas	Completed
42.6	-108	Lewis	1988	Consolidated Gas Supply Corp.	1350	Murphy Creek	Gas	Completed
42.7	0	Lewis	254	Pittsburgh & WV Gas	1137	Unnamed	Gas	Completed
42.7	0	Lewis	254	Pittsburgh & WV Gas	1137	Unnamed	Gas	Completed
42.7	0	Lewis	254	Pittsburgh & WV Gas	1137	Unnamed	Gas	Completed
42.7	0	Lewis	254	Hope Natural Gas Company	1137	Murphy Creek	Storage	Completed
42.7	0	Lewis	254	Hope Natural Gas Company	1137	Murphy Creek	Storage	Completed
42.8	236	Lewis	70918	Philadelphia Company, The	0	Unnamed	Gas	Completed
42.8	236	Lewis	70918	Philadelphia Company, The	0	Unnamed	Gas	Completed
42.8	236	Lewis	70918	Philadelphia Company, The	0	Unnamed	Gas	Completed
42.8	236	Lewis	70918	Philadelphia Company, The	0	Unnamed	Gas	Completed
43.0	371	Lewis	1862	Dominion Transmission Inc	1312	Murphy Creek	Gas	Completed
43.0	371	Lewis	1862	Consolidated Gas Supply Corp.	1319	Murphy Creek	Gas	Completed
43.0	371	Lewis	1862	Dominion Transmission Inc	1312	Murphy Creek	Gas	Completed
43.0	371	Lewis	1862	Consolidated Gas Supply Corp.	1319	Murphy Creek	Gas	Completed
43.0	371	Lewis	1862	Dominion Transmission Inc	1312	Murphy Creek	Gas	Completed
43.0	371	Lewis	1862	Consolidated Gas Supply Corp.	1319	Murphy Creek	Gas	Completed
43.0	371	Lewis	1862	Dominion Transmission Inc	1312	Murphy Creek	Gas	Completed
43.0	371	Lewis	1862	Dominion Transmission Inc	1312	Murphy Creek	Gas	Completed
43.0	-244	Lewis	71	Dominion Transmission Inc	0		not available	Permitted
43.0	-244	Lewis	71	Dominion Transmission Inc	0		not available	Permitted
43.0	-244	Lewis	71	Hope Natural Gas Company	1350	Murphy Creek	Storage	Completed
43.0	-244	Lewis	71	Hope Natural Gas Company	1350	Murphy Creek	Storage	Completed
43.0	-244	Lewis	71	Hope Natural Gas Company	1350	Murphy Creek	Storage	Completed
43.0	-244	Lewis	71	Hope Natural Gas Company	1350	Murphy Creek	Storage	Completed
43.2	-364	Lewis	2051	Consolidated Gas Supply Corp.	1081	Murphy Creek	Gas	Completed
43.2	-364	Lewis	2051	Consolidated Gas Supply Corp.	1081	Murphy Creek	Gas	Completed
43.2	-364	Lewis	2051	Consolidated Gas Supply Corp.	1081	Murphy Creek	Gas	Completed
43.2	-364	Lewis	2051	Consolidated Gas Supply Corp.	1081	Murphy Creek	Gas	Completed
43.2	-364	Lewis	2051	Consolidated Gas Supply Corp.	1081	Murphy Creek	Gas	Completed
43.2	-280	Lewis	186	Hope Natural Gas Company	1067	Murphy Creek	Storage	Completed
43.2	-280	Lewis	186	Hope Natural Gas Company	1067	Murphy Creek	Storage	Completed
43.4	-391	Lewis	253	Pittsburgh & WV Gas	1041	Unnamed	Gas	Completed
43.4	-391	Lewis	253	Pittsburgh & WV Gas	1041	Unnamed	Gas	Completed
43.4	-391	Lewis	253	Pittsburgh & WV Gas	1041	Unnamed	Gas	Completed
43.4	-391	Lewis	253	Hope Natural Gas Company	1041	Murphy Creek	Storage	Completed

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43.4	-391	Lewis	253	Hope Natural Gas Company	1041	Murphy Creek	Storage	Completed
43.6	-288	Lewis	1955	Consolidated Gas Supply Corp.	1109	Murphy Creek	Gas	Completed
43.6	-288	Lewis	1955	Consolidated Gas Supply Corp.	1109	Murphy Creek	Gas	Completed
43.6	-288	Lewis	1955	Dominion Transmission Inc	1105	Murphy Creek	Gas	Completed
43.6	-288	Lewis	1955	Consolidated Gas Supply Corp.	1109	Murphy Creek	Gas	Completed
43.6	-288	Lewis	1955	Consolidated Gas Supply Corp.	1109	Murphy Creek	Gas	Completed
43.6	-288	Lewis	1955	Dominion Transmission Inc	1105	Murphy Creek	Gas	Completed
43.6	-288	Lewis	1955	Dominion Transmission Inc	1105	Murphy Creek	Gas	Completed
43.6	-288	Lewis	1955	Consolidated Gas Supply Corp.	1109	Murphy Creek	Gas	Completed
43.6	-288	Lewis	1955	Dominion Transmission Inc	1105	Murphy Creek	Gas	Completed
43.6	-346	Lewis	1125	Hope Natural Gas Company	1017	Churchville	Storage	Completed
43.6	-346	Lewis	1125	Hope Natural Gas Company	1017	Churchville	Storage	Completed
43.6	-305	Lewis	1127	Hope Natural Gas Company	997	Churchville	Storage	Completed
43.6	-305	Lewis	1127	Hope Natural Gas Company	997	Churchville	Storage	Completed
43.8	385	Lewis	1824	Consolidated Gas Supply Corp.	1069	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	Consolidated Gas Supply Corp.	1069	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	CNG Transmission Corp.	1069	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	CNG Transmission Corp.	1096	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	Consolidated Gas Supply Corp.	1069	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	Consolidated Gas Supply Corp.	1069	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	CNG Transmission Corp.	1069	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	CNG Transmission Corp.	1096	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	CNG Transmission Corp.	1069	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	CNG Transmission Corp.	1069	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	Consolidated Gas Supply Corp.	1069	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	CNG Transmission Corp.	1069	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	CNG Transmission Corp.	1096	Murphy Creek	Gas	Completed
43.8	385	Lewis	1824	CNG Transmission Corp.	1096	Murphy Creek	Gas	Completed
43.9	-60	Lewis	5062	Dominion Exploration & Production Inc	1331	Murphy Creek	Gas	Completed
43.9	-60	Lewis	5062	Dominion Exploration & Production Inc	1331	Murphy Creek	Gas	Completed
43.9	-60	Lewis	5062	Dominion Exploration & Production Inc	1331	Murphy Creek	Gas	Completed
43.9	-60	Lewis	5062	Dominion Exploration & Production Inc	1331	Murphy Creek	Gas	Completed
43.9	-60	Lewis	5062	Dominion Exploration & Production Inc	1331	Murphy Creek	Gas	Completed
43.9	-60	Lewis	5062	Dominion Exploration & Production Inc	1331	Murphy Creek	Gas	Completed
43.9	-60	Lewis	5062	Dominion Exploration & Production Inc	1331	Murphy Creek	Gas	Completed
43.9	-60	Lewis	5062	Dominion Exploration & Production Inc	1331	Murphy Creek	Gas	Completed
43.9	-60	Lewis	5062	Dominion Exploration & Production Inc	1331	Murphy Creek	Gas	Completed
44.0	-321	Lewis	30260	South Penn Oil (S. Penn Nat. Gas)	1035	Murphy Creek	Oil and Gas	Completed
44.0	-321	Lewis	30260	---------- unknown ----------	1035	Murphy Creek	Oil and Gas	unknown
44.0	-321	Lewis	30260	South Penn Oil (S. Penn Nat. Gas)	1035	Murphy Creek	Oil and Gas	Completed
44.0	-321	Lewis	30260	---------- unknown ----------	1035	Murphy Creek	Oil and Gas	unknown
44.0	-321	Lewis	30260	South Penn Oil (S. Penn Nat. Gas)	1035	Murphy Creek	Oil and Gas	Completed
44.0	-321	Lewis	30260	South Penn Oil (S. Penn Nat. Gas)	1035	Murphy Creek	Oil and Gas	Completed
44.0	-321	Lewis	30260	South Penn Oil (S. Penn Nat. Gas)	1035	Murphy Creek	Oil and Gas	Completed
44.0	-321	Lewis	30260	South Penn Oil (S. Penn Nat. Gas)	1035	Murphy Creek	Oil and Gas	Completed
44.0	-321	Lewis	30260	---------- unknown ----------	1035	Murphy Creek	Oil and Gas	unknown
44.1	-65	Lewis	30101	Hope Natural Gas Company	1168	Murphy Creek	Gas	Completed
44.1	-65	Lewis	30101	Hope Natural Gas Company	1168	Murphy Creek	Gas	Completed
44.1	-65	Lewis	30101	Hope Natural Gas Company	1168	Murphy Creek	Gas	Completed
44.2	-311	Lewis	30662	Mason, Rex	934	Churchville	Oil	Completed
44.2	-311	Lewis	30662	Mason, Rex	934	Churchville	Oil	Completed
44.2	-77	Lewis	1858	Consolidated Gas Supply Corp.	1119	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	Consolidated Gas Supply Corp.	1119	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	CNG Transmission Corp.	1119	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	Dominion Transmission Inc	1118	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	Consolidated Gas Supply Corp.	1119	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	Consolidated Gas Supply Corp.	1119	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	CNG Transmission Corp.	1119	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	Dominion Transmission Inc	1118	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	CNG Transmission Corp.	1119	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	CNG Transmission Corp.	1119	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	CNG Transmission Corp.	1119	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	CNG Transmission Corp.	1119	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	Consolidated Gas Supply Corp.	1119	Murphy Creek	Gas	Completed
44.2	-77	Lewis	1858	Dominion Transmission Inc	1118	Murphy Creek	Gas	Completed
44.2	286	Lewis	3263	Pioneer Petroleum, Inc.	980	Murphy Creek	Oil w/ Gas Show	Completed
44.2	286	Lewis	3263	Pioneer Petroleum, Inc.	980	Murphy Creek	Oil w/ Gas Show	Completed
44.2	286	Lewis	3263	Pioneer Petroleum, Inc.	980	Murphy Creek	Oil w/ Gas Show	Completed
44.2	286	Lewis	3263	Pioneer Petroleum, Inc.	980	Murphy Creek	Oil w/ Gas Show	Completed
44.4	377	Lewis	4048	Scott Oil Company	1058	Murphy Creek	Gas	Completed
44.4	377	Lewis	4048	Scott Oil Company	1058	Murphy Creek	Gas	Completed

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44.4	377	Lewis	4048	Scott Oil Company	1058	Murphy Creek	Gas	Completed
44.4	377	Lewis	4048	Scott Oil Company	1058	Murphy Creek	Gas	Completed
44.4	377	Lewis	4048	Scott Oil Company	1058	Murphy Creek	Gas	Completed
44.4	377	Lewis	4048	Scott Oil Company	1058	Murphy Creek	Gas	Completed
44.4	377	Lewis	4048	Scott Oil Company	1058	Murphy Creek	Gas	Completed
44.4	213	Lewis	30688	Hope Natural Gas Company	1047	Murphy Creek	Gas w/ Oil Show	Completed
44.4	213	Lewis	30688	Hope Natural Gas Company	1047	Murphy Creek	Gas w/ Oil Show	Completed
44.4	213	Lewis	30688	---------- unknown ----------	1047	Murphy Creek	Gas w/ Oil Show	unknown
44.4	213	Lewis	30688	---------- unknown ----------	1047	Murphy Creek	Gas w/ Oil Show	unknown
44.4	213	Lewis	30688	Hope Natural Gas Company	1047	Murphy Creek	Gas w/ Oil Show	Completed
44.4	213	Lewis	30688	Hope Natural Gas Company	1047	Murphy Creek	Gas w/ Oil Show	Completed
44.4	213	Lewis	30688	---------- unknown ----------	1047	Murphy Creek	Gas w/ Oil Show	unknown
44.4	213	Lewis	30688	---------- unknown ----------	1047	Murphy Creek	Gas w/ Oil Show	unknown
44.4	213	Lewis	30688	Hope Natural Gas Company	1047	Murphy Creek	Gas w/ Oil Show	Completed
44.4	213	Lewis	30688	Hope Natural Gas Company	1047	Murphy Creek	Gas w/ Oil Show	Completed
44.4	213	Lewis	30688	Hope Natural Gas Company	1047	Murphy Creek	Gas w/ Oil Show	Completed
44.4	213	Lewis	30688	Hope Natural Gas Company	1047	Murphy Creek	Gas w/ Oil Show	Completed
44.4	213	Lewis	30688	---------- unknown ----------	1047	Murphy Creek	Gas w/ Oil Show	unknown
44.4	213	Lewis	30688	---------- unknown ----------	1047	Murphy Creek	Gas w/ Oil Show	unknown
44.5	43	Lewis	4509	Dominion Exploration & Production Inc	1004	Murphy Creek	Gas	Completed
44.5	43	Lewis	4509	Dominion Exploration & Production Inc	1004	Murphy Creek	Gas	Completed
44.5	43	Lewis	4509	Dominion Exploration & Production Inc	1004	Murphy Creek	Gas	Completed
44.5	43	Lewis	4509	Dominion Exploration & Production Inc	1004	Murphy Creek	Gas	Completed
44.5	43	Lewis	4509	Dominion Exploration & Production Inc	1004	Murphy Creek	Gas	Completed
44.5	43	Lewis	4509	Dominion Exploration & Production Inc	1004	Murphy Creek	Gas	Completed
44.5	43	Lewis	4509	Dominion Exploration & Production Inc	1004	Murphy Creek	Gas	Completed
44.5	43	Lewis	4509	Dominion Exploration & Production Inc	1004	Murphy Creek	Gas	Completed
44.7	-215	Lewis	2529	Scott Enterprises, Inc.	1074	Murphy Creek	Gas	Completed
44.7	-215	Lewis	2529	Scott Enterprises, Inc.	1074	Murphy Creek	Gas	Completed
44.7	-215	Lewis	2529	Scott Enterprises, Inc.	1074	Murphy Creek	Gas	Completed
44.7	-215	Lewis	2529	Scott Enterprises, Inc.	1074	Murphy Creek	Gas	Completed
44.7	-215	Lewis	2529	Scott Enterprises, Inc.	1074	Murphy Creek	Gas	Completed
44.7	-215	Lewis	2529	Scott Enterprises, Inc.	1074	Murphy Creek	Gas	Completed
44.7	-215	Lewis	2529	Scott Enterprises, Inc.	1074	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	Consolidated Gas Supply Corp.	1303	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	CNG Transmission Corp.	1394	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	Consolidated Gas Supply Corp.	1303	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	Consolidated Gas Supply Corp.	1303	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	CNG Transmission Corp.	1394	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	Consolidated Gas Supply Corp.	1303	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	CNG Transmission Corp.	1394	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	CNG Transmission Corp.	1394	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	Consolidated Gas Supply Corp.	1303	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	Consolidated Gas Supply Corp.	1303	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	CNG Transmission Corp.	1394	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	Consolidated Gas Supply Corp.	1303	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	CNG Transmission Corp.	1394	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	Consolidated Gas Supply Corp.	1303	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	CNG Transmission Corp.	1394	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	Consolidated Gas Supply Corp.	1303	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	CNG Transmission Corp.	1394	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	Consolidated Gas Supply Corp.	1303	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	CNG Transmission Corp.	1394	Murphy Creek	Gas	Completed
44.9	284	Lewis	1987	Dominion Transmission Inc	0		not available	Permitted
44.9	284	Lewis	1987	Dominion Transmission Inc	0		not available	Permitted
44.9	284	Lewis	1987	Dominion Transmission Inc	0		not available	Permitted
44.9	284	Lewis	1987	Dominion Transmission Inc	0		not available	Permitted
45.2	109	Lewis	30716	Hope Natural Gas Company	1295	Murphy Creek	Gas	Completed
45.2	109	Lewis	30716	Hope Natural Gas Company	1295	Murphy Creek	Gas	Completed
45.2	109	Lewis	30716	Hope Natural Gas Company	1295	Murphy Creek	Gas	Completed
45.2	109	Lewis	30716	Hope Natural Gas Company	1295	Murphy Creek	Gas	Completed
45.2	304	Lewis	3434	ALAMCO Inc	1236	Murphy Creek	Gas	Completed
45.2	304	Lewis	3434	ALAMCO Inc	1236	Murphy Creek	Gas	Completed
45.2	304	Lewis	3434	ALAMCO Inc	1236	Murphy Creek	Gas	Completed
45.2	304	Lewis	3434	ALAMCO Inc	1236	Murphy Creek	Gas	Completed
45.2	304	Lewis	3434	ALAMCO Inc	1236	Murphy Creek	Gas	Completed
45.2	304	Lewis	3434	ALAMCO Inc	1236	Murphy Creek	Gas	Completed
45.2	304	Lewis	3434	ALAMCO Inc	1236	Murphy Creek	Gas	Completed
45.2	304	Lewis	3434	ALAMCO Inc	1236	Murphy Creek	Gas	Completed
45.2	304	Lewis	3434	ALAMCO Inc	1236	Murphy Creek	Gas	Completed
45.2	304	Lewis	3434	ALAMCO Inc	1236	Murphy Creek	Gas	Completed

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45.2	304	Lewis	3434	ALAMCO Inc	1236	Murphy Creek	Gas	Completed
45.3	-127	Lewis	2528	Scott Enterprises, Inc.	1208	Murphy Creek	Gas	Completed
45.3	-127	Lewis	2528	Scott Enterprises, Inc.	1208	Murphy Creek	Gas	Completed
45.3	-127	Lewis	2528	Scott Enterprises, Inc.	1208	Murphy Creek	Gas	Completed
45.3	-127	Lewis	2528	Scott Enterprises, Inc.	1208	Murphy Creek	Gas	Completed
45.3	-127	Lewis	2528	Scott Enterprises, Inc.	1208	Murphy Creek	Gas	Completed
45.3	-127	Lewis	2528	Scott Enterprises, Inc.	1208	Murphy Creek	Gas	Completed
45.3	-127	Lewis	2528	Scott Enterprises, Inc.	1208	Murphy Creek	Gas	Completed
45.3	-127	Lewis	2528	Scott Enterprises, Inc.	1208	Murphy Creek	Gas	Completed
45.5	-75	Lewis	4883	Dominion Exploration & Production Inc	1136	Murphy Creek	Gas	Completed
45.5	-75	Lewis	4883	Dominion Exploration & Production Inc	1136	Murphy Creek	Gas	Completed
45.5	-75	Lewis	4883	Dominion Exploration & Production Inc	1136	Murphy Creek	Gas	Completed
45.5	-75	Lewis	4883	Dominion Exploration & Production Inc	1136	Murphy Creek	Gas	Completed
45.5	-75	Lewis	4883	Dominion Exploration & Production Inc	1136	Murphy Creek	Gas	Completed
45.5	-75	Lewis	4883	Dominion Exploration & Production Inc	1136	Murphy Creek	Gas	Completed
45.5	358	Lewis	3826	Dominion Exploration & Production Inc	1103	Murphy Creek	Gas	Completed
45.5	358	Lewis	3826	Dominion Exploration & Production Inc	1103	Murphy Creek	Gas	Completed
45.5	358	Lewis	3826	Dominion Exploration & Production Inc	1103	Murphy Creek	Gas	Completed
45.5	358	Lewis	3826	Dominion Exploration & Production Inc	1103	Murphy Creek	Gas	Completed
45.5	358	Lewis	3826	Dominion Exploration & Production Inc	1103	Murphy Creek	Gas	Completed
45.5	358	Lewis	3826	Dominion Exploration & Production Inc	1103	Murphy Creek	Gas	Completed
45.5	358	Lewis	3826	Dominion Exploration & Production Inc	1103	Murphy Creek	Gas	Completed
45.5	358	Lewis	3826	Dominion Exploration & Production Inc	1103	Murphy Creek	Gas	Completed
45.5	358	Lewis	3826	CNG Development Co.	1091	Murphy Creek	Oil and Gas	Completed
45.5	358	Lewis	3826	CNG Development Co.	1091	Murphy Creek	Oil and Gas	Completed
45.5	358	Lewis	3826	CNG Development Co.	1091	Murphy Creek	Oil and Gas	Completed
45.5	358	Lewis	3826	CNG Development Co.	1091	Murphy Creek	Oil and Gas	Completed
45.5	358	Lewis	3826	CNG Development Co.	1091	Murphy Creek	Oil and Gas	Completed
45.5	358	Lewis	3826	CNG Development Co.	1091	Murphy Creek	Oil and Gas	Completed
45.5	358	Lewis	3826	CNG Development Co.	1091	Murphy Creek	Oil and Gas	Completed
45.5	358	Lewis	3826	CNG Development Co.	1091	Murphy Creek	Oil and Gas	Completed
45.5	358	Lewis	3826	CNG Development Co.	1091	Murphy Creek	Oil and Gas	Completed
45.5	358	Lewis	3826	CNG Development Co.	1091	Murphy Creek	Oil and Gas	Completed
45.6	-399	Lewis	3784	CNG Development Co.	1243	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	Dominion Exploration & Production Inc	1247	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	CNG Development Co.	1243	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	Dominion Exploration & Production Inc	1247	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	CNG Development Co.	1243	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	Dominion Exploration & Production Inc	1247	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	CNG Development Co.	1243	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	CNG Development Co.	1243	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	CNG Development Co.	1243	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	Dominion Exploration & Production Inc	1247	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	Dominion Exploration & Production Inc	1247	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	CNG Development Co.	1243	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	Dominion Exploration & Production Inc	1247	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	CNG Development Co.	1243	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	Dominion Exploration & Production Inc	1247	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	CNG Development Co.	1243	Murphy Creek	Gas	Completed
45.6	-399	Lewis	3784	Dominion Exploration & Production Inc	1247	Murphy Creek	Gas	Completed
45.7	174	Lewis	4884	Dominion Exploration & Production Inc	1181	Murphy Creek	Gas	Completed
45.7	174	Lewis	4884	Dominion Exploration & Production Inc	1181	Murphy Creek	Gas	Completed
45.7	174	Lewis	4884	Dominion Exploration & Production Inc	1181	Murphy Creek	Gas	Completed
45.7	174	Lewis	4884	Dominion Exploration & Production Inc	1181	Murphy Creek	Gas	Completed
45.7	174	Lewis	4884	Dominion Exploration & Production Inc	1181	Murphy Creek	Gas	Completed
45.7	174	Lewis	4884	Dominion Exploration & Production Inc	1181	Murphy Creek	Gas	Completed
45.7	174	Lewis	4884	Dominion Exploration & Production Inc	1181	Murphy Creek	Gas	Completed
45.7	291	Lewis	42	Hope Natural Gas Company	1135	Murphy Creek	Gas	Completed
45.7	291	Lewis	42	Hope Natural Gas Company	1135	Murphy Creek	Gas	Completed
45.7	291	Lewis	42	Hope Natural Gas Company	1135	Murphy Creek	Gas	Completed
45.7	291	Lewis	42	Hope Natural Gas Company	1135	Murphy Creek	Gas	Completed
45.7	291	Lewis	42	Hope Natural Gas Company	1135	Murphy Creek	Gas	Completed
45.7	291	Lewis	42	Hope Natural Gas Company	1135	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	CNG Development Co.	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	Dominion Transmission Inc	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	CNG Development Co.	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	Dominion Transmission Inc	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	CNG Development Co.	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	Dominion Transmission Inc	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	CNG Development Co.	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	CNG Development Co.	1293	Murphy Creek	Gas	Completed

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45.9	-117	Lewis	3782	CNG Development Co.	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	CNG Development Co.	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	Dominion Transmission Inc	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	Dominion Transmission Inc	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	CNG Development Co.	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	Dominion Transmission Inc	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	CNG Development Co.	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	Dominion Transmission Inc	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	CNG Development Co.	1293	Murphy Creek	Gas	Completed
45.9	-117	Lewis	3782	Dominion Transmission Inc	1293	Murphy Creek	Gas	Completed
46.0	10	Lewis	2713	Consolidated Gas Supply Corp.	1401	Murphy Creek	Gas	Completed
46.0	10	Lewis	2713	Consolidated Gas Supply Corp.	1401	Murphy Creek	Gas	Completed
46.0	10	Lewis	2713	Consolidated Gas Supply Corp.	1401	Murphy Creek	Gas	Completed
46.0	10	Lewis	2713	Consolidated Gas Supply Corp.	1401	Murphy Creek	Gas	Completed
46.1	398	Lewis	4642	Dominion Exploration & Production Inc	1166	Murphy Creek	Gas	Completed
46.1	398	Lewis	4642	Dominion Exploration & Production Inc	1166	Murphy Creek	Gas	Completed
46.1	398	Lewis	4642	Dominion Exploration & Production Inc	1166	Murphy Creek	Gas	Completed
46.1	398	Lewis	4642	Dominion Exploration & Production Inc	1166	Murphy Creek	Gas	Completed
46.1	398	Lewis	4642	Dominion Exploration & Production Inc	1166	Murphy Creek	Gas	Completed
46.2	22	Lewis	4864	Petroleum Resources, Inc.	1421	Murphy Creek	Gas	Completed
46.2	22	Lewis	4864	Petroleum Resources, Inc.	1421	Murphy Creek	Gas	Completed
46.2	22	Lewis	4864	Petroleum Resources, Inc.	1421	Murphy Creek	Gas	Completed
46.2	22	Lewis	4864	Petroleum Resources, Inc.	1421	Murphy Creek	Gas	Completed
46.2	22	Lewis	4864	Petroleum Resources, Inc.	1421	Murphy Creek	Gas	Completed
46.2	22	Lewis	4864	Petroleum Resources, Inc.	1421	Murphy Creek	Gas	Completed
46.2	22	Lewis	4864	Petroleum Resources, Inc.	1421	Murphy Creek	Gas	Completed
46.3	-182	Lewis	4392	CNG Producing Co.	1222	Murphy Creek	Gas	Completed
46.3	-182	Lewis	4392	CNG Producing Co.	1222	Murphy Creek	Gas	Completed
46.3	-182	Lewis	4392	CNG Producing Co.	1222	Murphy Creek	Gas	Completed
46.3	-182	Lewis	4392	CNG Producing Co.	1222	Murphy Creek	Gas	Completed
46.3	-182	Lewis	4392	CNG Producing Co.	1222	Murphy Creek	Gas	Completed
46.3	-182	Lewis	4392	CNG Producing Co.	1222	Murphy Creek	Gas	Completed
46.5	91	Lewis	4603	Petroleum Resources, Inc.	1427	Murphy Creek	Gas	Completed
46.5	91	Lewis	4603	Petroleum Resources, Inc.	1427	Murphy Creek	Gas	Completed
46.5	91	Lewis	4603	Petroleum Resources, Inc.	1427	Murphy Creek	Gas	Completed
46.5	91	Lewis	4603	Petroleum Resources, Inc.	1427	Murphy Creek	Gas	Completed
46.5	91	Lewis	4603	Petroleum Resources, Inc.	1427	Murphy Creek	Gas	Completed
46.5	91	Lewis	4603	Petroleum Resources, Inc.	1427	Murphy Creek	Gas	Completed
46.6	-316	Lewis	4562	Dominion Exploration & Production Inc	1443	Murphy Creek	Gas	Completed
46.6	-316	Lewis	4562	Dominion Exploration & Production Inc	1443	Murphy Creek	Gas	Completed
46.6	-316	Lewis	4562	Dominion Exploration & Production Inc	1443	Murphy Creek	Gas	Completed
46.6	-316	Lewis	4562	Dominion Exploration & Production Inc	1443	Murphy Creek	Gas	Completed
46.6	-316	Lewis	4562	Dominion Exploration & Production Inc	1443	Murphy Creek	Gas	Completed
46.6	-316	Lewis	4562	Dominion Exploration & Production Inc	1443	Murphy Creek	Gas	Completed
46.7	-271	Lewis	4638	Dominion Exploration & Production Inc	1370	Murphy Creek	Gas	Completed
46.7	-271	Lewis	4638	Dominion Exploration & Production Inc	1370	Murphy Creek	Gas	Completed
46.7	-271	Lewis	4638	Dominion Exploration & Production Inc	1370	Murphy Creek	Gas	Completed
46.7	-271	Lewis	4638	Dominion Exploration & Production Inc	1370	Murphy Creek	Gas	Completed
46.7	-271	Lewis	4638	Dominion Exploration & Production Inc	1370	Murphy Creek	Gas	Completed
46.7	-271	Lewis	4638	Dominion Exploration & Production Inc	1370	Murphy Creek	Gas	Completed
46.7	-271	Lewis	4638	Dominion Exploration & Production Inc	1370	Murphy Creek	Gas	Completed
46.7	-30	Lewis	2371	Consolidated Gas Transmission Corp.	1421	Murphy Creek	Gas	Completed
46.7	-30	Lewis	2371	Consolidated Gas Transmission Corp.	1421	Murphy Creek	Gas	Completed
46.9	190	Lewis	4637	Dominion Exploration & Production Inc	1442	Murphy Creek	Gas	Completed
46.9	190	Lewis	4637	Dominion Exploration & Production Inc	1442	Murphy Creek	Gas	Completed
46.9	190	Lewis	4637	Dominion Exploration & Production Inc	1442	Murphy Creek	Gas	Completed
46.9	190	Lewis	4637	Dominion Exploration & Production Inc	1442	Murphy Creek	Gas	Completed
46.9	190	Lewis	4637	Dominion Exploration & Production Inc	1442	Murphy Creek	Gas	Completed
46.9	190	Lewis	4637	Dominion Exploration & Production Inc	1442	Murphy Creek	Gas	Completed
46.9	190	Lewis	4637	Dominion Exploration & Production Inc	1442	Murphy Creek	Gas	Completed
47.0	391	Lewis	4389	CNG Producing Co.	1367	Murphy Creek	Gas	Completed
47.0	391	Lewis	4389	CNG Producing Co.	1367	Murphy Creek	Gas	Completed
47.0	391	Lewis	4389	CNG Producing Co.	1367	Murphy Creek	Gas	Completed
47.0	391	Lewis	4389	CNG Producing Co.	1367	Murphy Creek	Gas	Completed
47.1	-249	Lewis	4528	Bowie, Inc.	1186	Murphy Creek	Gas	Completed
47.1	-249	Lewis	4528	Bowie, Inc.	1186	Murphy Creek	Gas	Completed
47.1	-249	Lewis	4528	Bowie, Inc.	1186	Murphy Creek	Gas	Completed
47.1	-249	Lewis	4528	Bowie, Inc.	1186	Murphy Creek	Gas	Completed
47.1	-249	Lewis	4528	Bowie, Inc.	1186	Murphy Creek	Gas	Completed
47.1	-249	Lewis	4528	Bowie, Inc.	1186	Murphy Creek	Gas	Completed
47.1	-4	Lewis	3451	United Petro, Ltd.	1475	Murphy Creek	Gas	Completed

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Oil and Gas Wells in Vicinity of the MVP Project

47.1	-4	Lewis	3451	United Petro, Ltd.	1475	Murphy Creek	Gas	Completed
47.1	-4	Lewis	3451	United Petro, Ltd.	1475	Murphy Creek	Gas	Completed
47.1	-4	Lewis	3451	United Petro, Ltd.	1475	Murphy Creek	Gas	Completed
47.1	-4	Lewis	3451	United Petro, Ltd.	1475	Murphy Creek	Gas	Completed
47.1	-4	Lewis	3451	United Petro, Ltd.	1475	Murphy Creek	Gas	Completed
47.1	-4	Lewis	3451	United Petro, Ltd.	1475	Murphy Creek	Gas	Completed
47.1	-4	Lewis	3451	United Petro, Ltd.	1475	Murphy Creek	Gas	Completed
47.4	-187	Lewis	4583	Bowie, Inc.	1180	Murphy Creek	Gas	Completed
47.4	-187	Lewis	4583	Bowie, Inc.	1180	Murphy Creek	Gas	Completed
47.4	-187	Lewis	4583	Bowie, Inc.	1180	Murphy Creek	Gas	Completed
47.4	-187	Lewis	4583	Bowie, Inc.	1180	Murphy Creek	Gas	Completed
47.4	-187	Lewis	4583	Bowie, Inc.	1180	Murphy Creek	Gas	Completed
47.4	-187	Lewis	4583	Bowie, Inc.	1180	Murphy Creek	Gas	Completed
47.5	73	Lewis	3175	Allegheny Land and Mineral Co.	1198	Murphy Creek	Gas	Completed
47.5	73	Lewis	3175	Allegheny Land and Mineral Co.	1198	Murphy Creek	Gas	Completed
47.5	73	Lewis	3175	Allegheny Land and Mineral Co.	1198	Murphy Creek	Gas	Completed
47.5	73	Lewis	3175	Allegheny Land and Mineral Co.	1198	Murphy Creek	Gas	Completed
47.5	73	Lewis	3175	Allegheny Land and Mineral Co.	1198	Murphy Creek	Gas	Completed
47.5	73	Lewis	3175	Allegheny Land and Mineral Co.	1198	Murphy Creek	Gas	Completed
47.5	73	Lewis	3175	Hawg Hauling & Disposal, Inc.	1198	Murphy Creek	Water Injection	Completed
47.5	73	Lewis	3175	Hawg Hauling & Disposal, Inc.	1198	Murphy Creek	Water Injection	Completed
47.5	73	Lewis	3175	Hawg Hauling & Disposal, Inc.	1198	Murphy Creek	Water Injection	Completed
47.5	73	Lewis	3175	Hawg Hauling & Disposal, Inc.	1198	Murphy Creek	Water Injection	Completed
47.6	234	Lewis	30113	Reserve Gas Co.	0	Murphy Creek	Gas	Completed
47.6	234	Lewis	30113	---------- unknown ----------	0	Murphy Creek	Gas	unknown
47.6	241	Lewis	2354	Consolidated Gas Supply Corp.	1201	Murphy Creek	Gas	Completed
47.6	241	Lewis	2354	Reserve Exploration Co.	1201	Murphy Creek	Gas	Completed
47.6	234	Lewis	30113	Reserve Gas Co.	0	Murphy Creek	Gas	Completed
47.6	234	Lewis	30113	---------- unknown ----------	0	Murphy Creek	Gas	unknown
47.6	241	Lewis	2354	Consolidated Gas Supply Corp.	1201	Murphy Creek	Gas	Completed
47.6	241	Lewis	2354	Reserve Exploration Co.	1201	Murphy Creek	Gas	Completed
47.6	234	Lewis	30113	Reserve Gas Co.	0	Murphy Creek	Gas	Completed
47.6	234	Lewis	30113	Reserve Gas Co.	0	Murphy Creek	Gas	Completed
47.6	234	Lewis	30113	Reserve Gas Co.	0	Murphy Creek	Gas	Completed
47.6	234	Lewis	30113	---------- unknown ----------	0	Murphy Creek	Gas	unknown
47.6	241	Lewis	2354	Reserve Exploration Co.	1201	Murphy Creek	Gas	Completed
47.6	241	Lewis	2354	Consolidated Gas Supply Corp.	1201	Murphy Creek	Gas	Completed
47.6	241	Lewis	2354	Reserve Exploration Co.	1201	Murphy Creek	Gas	Completed
47.6	241	Lewis	2354	Consolidated Gas Supply Corp.	1201	Murphy Creek	Gas	Completed
47.6	241	Lewis	2354	Reserve Exploration Co.	1201	Murphy Creek	Gas	Completed
47.7	-270	Lewis	30658	Hope Natural Gas Company	1018	Murphy Creek	Gas	Completed
47.7	-270	Lewis	30658	Hope Natural Gas Company	1018	Murphy Creek	Gas	Completed
47.7	-270	Lewis	30658	Hope Natural Gas Company	1018	Murphy Creek	Gas	Completed
47.7	-270	Lewis	30658	Hope Natural Gas Company	1018	Murphy Creek	Gas	Completed
47.7	-270	Lewis	30658	Hope Natural Gas Company	1018	Murphy Creek	Gas	Completed
47.7	271	Lewis	3414	ALAMCO Inc	1175	Murphy Creek	Gas	Completed
47.7	271	Lewis	3414	ALAMCO Inc	1175	Murphy Creek	Gas	Completed
47.7	271	Lewis	3414	ALAMCO Inc	1175	Murphy Creek	Gas	Completed
47.7	271	Lewis	3414	ALAMCO Inc	1175	Murphy Creek	Gas	Completed
47.7	271	Lewis	3414	ALAMCO Inc	1175	Murphy Creek	Gas	Completed
47.7	271	Lewis	3414	ALAMCO Inc	1175	Murphy Creek	Gas	Completed
47.7	271	Lewis	3414	ALAMCO Inc	1175	Murphy Creek	Gas	Completed
47.7	271	Lewis	3414	ALAMCO Inc	1175	Murphy Creek	Gas	Completed
47.7	271	Lewis	3414	ALAMCO Inc	1175	Murphy Creek	Gas	Completed
47.7	271	Lewis	3414	ALAMCO Inc	1175	Murphy Creek	Gas	Completed
47.9	-272	Lewis	1887	Halbert & Prough	1072	Murphy Creek	Gas	Completed
47.9	-272	Lewis	1887	Halbert & Prough	1072	Murphy Creek	Gas	Completed
48.1	376	Lewis	2171	Interstate Drilling Co., Inc.	1217	Unnamed	Gas	Completed
48.1	376	Lewis	2171	Interstate Drilling Co., Inc.	1217	Unnamed	Gas	Completed
48.1	376	Lewis	2171	Interstate Drilling Co., Inc.	1217	Unnamed	Gas	Completed
48.1	376	Lewis	2171	Interstate Drilling Co., Inc.	1217	Unnamed	Gas	Completed
48.1	376	Lewis	2171	Interstate Drilling Co., Inc.	1217	Unnamed	Gas	Completed
48.1	376	Lewis	2171	Interstate Drilling Co., Inc.	1217	Unnamed	Gas	Completed
48.2	-234	Lewis	4501	Interstate Energy, Inc.	1338	Murphy Creek	Gas	Completed
48.2	-234	Lewis	4501	Interstate Energy, Inc.	1338	Murphy Creek	Gas	Completed
48.2	-234	Lewis	4501	Interstate Energy, Inc.	1338	Murphy Creek	Gas	Completed
48.2	-234	Lewis	4501	Interstate Energy, Inc.	1338	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	CNG Development Co.	1380	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	Dominion Exploration & Production Inc	1385	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	CNG Development Co.	1380	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	Dominion Exploration & Production Inc	1385	Murphy Creek	Gas	Completed

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Oil and Gas Wells in Vicinity of the MVP Project

48.3	-381	Lewis	3683	CNG Development Co.	1380	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	Dominion Exploration & Production Inc	1385	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	CNG Development Co.	1380	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	CNG Development Co.	1380	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	CNG Development Co.	1380	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	Dominion Exploration & Production Inc	1385	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	Dominion Exploration & Production Inc	1385	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	CNG Development Co.	1380	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	Dominion Exploration & Production Inc	1385	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	CNG Development Co.	1380	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	Dominion Exploration & Production Inc	1385	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	CNG Development Co.	1380	Murphy Creek	Gas	Completed
48.3	-381	Lewis	3683	Dominion Exploration & Production Inc	1385	Murphy Creek	Gas	Completed
48.5	152	Lewis	4500	Interstate Energy, Inc.	1338	Murphy Creek	Gas	Completed
48.5	152	Lewis	4500	Interstate Energy, Inc.	1338	Murphy Creek	Gas	Completed
48.5	152	Lewis	4500	Interstate Energy, Inc.	1338	Murphy Creek	Gas	Completed
48.5	152	Lewis	4500	Interstate Energy, Inc.	1338	Murphy Creek	Gas	Completed
48.8	-181	Lewis	30696	Hope Natural Gas Company	1248	Murphy Creek	Gas w/ Oil Show	Completed
48.8	-181	Lewis	30696	Hope Natural Gas Company	1248	Murphy Creek	Gas w/ Oil Show	Completed
48.8	-181	Lewis	30696	Hope Natural Gas Company	1248	Murphy Creek	Gas w/ Oil Show	Completed
48.8	-181	Lewis	30696	Hope Natural Gas Company	1248	Murphy Creek	Gas w/ Oil Show	Completed
48.8	-181	Lewis	30696	Hope Natural Gas Company	1248	Murphy Creek	Gas w/ Oil Show	Completed
48.8	-181	Lewis	30696	Hope Natural Gas Company	1248	Murphy Creek	Gas w/ Oil Show	Completed
48.8	-181	Lewis	30696	Hope Natural Gas Company	1248	Murphy Creek	Gas w/ Oil Show	Completed
48.8	-181	Lewis	30696	Hope Natural Gas Company	1248	Murphy Creek	Gas w/ Oil Show	Completed
48.8	-181	Lewis	30696	Hope Natural Gas Company	1248	Murphy Creek	Gas w/ Oil Show	Completed
48.8	-181	Lewis	30696	Hope Natural Gas Company	1248	Murphy Creek	Gas w/ Oil Show	Completed
48.8	-141	Lewis	2040	CNG Transmission Corp.	1327	Murphy Creek	Gas	Completed
48.8	-141	Lewis	2040	Dominion Transmission Inc	1327	Murphy Creek	Gas	Completed
48.8	-141	Lewis	2040	CNG Transmission Corp.	1327	Murphy Creek	Gas	Completed
48.8	-141	Lewis	2040	Dominion Transmission Inc	1327	Murphy Creek	Gas	Completed
48.8	-141	Lewis	2040	CNG Transmission Corp.	1327	Murphy Creek	Gas	Completed
48.8	-141	Lewis	2040	CNG Transmission Corp.	1327	Murphy Creek	Gas	Completed
48.8	-141	Lewis	2040	Dominion Transmission Inc	1327	Murphy Creek	Gas	Completed
49.0	-302	Lewis	50019	Consolidated Gas Supply Corp.	1207	Murphy Creek	Gas	Completed
49.0	-302	Lewis	50019	Consolidated Gas Supply Corp.	1207	Murphy Creek	Gas	Completed
49.0	-302	Lewis	50019	Consolidated Gas Supply Corp.	1207	Murphy Creek	Gas	Completed
49.0	-302	Lewis	50019	Consolidated Gas Supply Corp.	1207	Murphy Creek	Gas	Completed
49.0	-333	Lewis	30510	Hope Natural Gas Company	1207	Murphy Creek	Gas	Completed
49.0	-333	Lewis	30510	Hope Natural Gas Company	1207	Murphy Creek	Gas	Completed
49.0	-333	Lewis	30510	Hope Natural Gas Company	1207	Murphy Creek	Gas	Completed
49.0	-333	Lewis	30510	Hope Natural Gas Company	1207	Murphy Creek	Gas	Completed
49.1	-200	Lewis	2042	CNG Transmission Corp.	1326	Murphy Creek	Gas	Completed
49.1	-200	Lewis	2042	CNG Transmission Corp.	1326	Murphy Creek	Gas	Completed
49.1	-200	Lewis	2042	CNG Transmission Corp.	1326	Murphy Creek	Gas	Completed
49.1	-200	Lewis	2042	CNG Transmission Corp.	1326	Murphy Creek	Gas	Completed
49.1	-200	Lewis	2042	CNG Transmission Corp.	1326	Murphy Creek	Gas	Completed
49.4	-314	Lewis	30204	Hope Natural Gas Company	1172	Murphy Creek	Gas	Completed
49.4	-314	Lewis	30204	Hope Natural Gas Company	1172	Murphy Creek	Gas	Completed
49.4	-314	Lewis	30204	Hope Natural Gas Company	1172	Murphy Creek	Gas	Completed
49.4	211	Lewis	30634	Hope Natural Gas Company	1257	Murphy Creek	Gas	Completed
49.4	211	Lewis	30634	Hope Natural Gas Company	1257	Murphy Creek	Gas	Completed
49.4	211	Lewis	30634	Hope Natural Gas Company	1257	Murphy Creek	Gas	Completed
49.4	211	Lewis	30634	Hope Natural Gas Company	1257	Murphy Creek	Gas	Completed
49.4	211	Lewis	30634	Hope Natural Gas Company	1257	Murphy Creek	Gas	Completed
49.4	357	Lewis	2111	Interstate Drilling Co., Inc.	1253	Murphy Creek	Dry	Completed
49.4	357	Lewis	2111	Interstate Drilling Co., Inc.	1253	Murphy Creek	Dry	Completed
49.6	399	Lewis	4693	Dominion Exploration & Production Inc	1573	Murphy Creek	Gas	Completed
49.6	399	Lewis	4693	Dominion Exploration & Production Inc	1573	Murphy Creek	Gas	Completed
49.6	399	Lewis	4693	Dominion Exploration & Production Inc	1573	Murphy Creek	Gas	Completed
49.6	399	Lewis	4693	Dominion Exploration & Production Inc	1573	Murphy Creek	Gas	Completed
49.6	399	Lewis	4693	Dominion Exploration & Production Inc	1573	Murphy Creek	Gas	Completed
49.6	355	Lewis	30673	Hope Natural Gas Company	1254	Murphy Creek	Gas	Completed
49.6	355	Lewis	30673	Hope Natural Gas Company	1254	Murphy Creek	Gas	Completed
49.6	355	Lewis	30673	Hope Natural Gas Company	1254	Murphy Creek	Gas	Completed
49.6	355	Lewis	30673	Hope Natural Gas Company	1254	Murphy Creek	Gas	Completed
49.6	355	Lewis	30673	Hope Natural Gas Company	1254	Murphy Creek	Gas	Completed
49.7	154	Lewis	4690	Dominion Exploration & Production Inc	1293	Murphy Creek	Gas	Completed
49.7	154	Lewis	4690	Dominion Exploration & Production Inc	1293	Murphy Creek	Gas	Completed
49.7	154	Lewis	4690	Dominion Exploration & Production Inc	1293	Murphy Creek	Gas	Completed
49.7	154	Lewis	4690	Dominion Exploration & Production Inc	1293	Murphy Creek	Gas	Completed

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Oil and Gas Wells in Vicinity of the MVP Project

49.8	-125	Lewis	2116	Interstate Drilling Co., Inc.	1317	Murphy Creek	Gas	Completed
49.8	-125	Lewis	2116	Interstate Drilling Co., Inc.	1317	Murphy Creek	Gas	Completed
49.8	-125	Lewis	2116	Interstate Drilling Co., Inc.	1317	Murphy Creek	Gas	Completed
49.9	67	Lewis	4932	Dominion Exploration & Production Inc	1298	Murphy Creek	Gas	Completed
49.9	67	Lewis	4932	Dominion Exploration & Production Inc	1298	Murphy Creek	Gas	Completed
49.9	67	Lewis	4932	Dominion Exploration & Production Inc	1298	Murphy Creek	Gas	Completed
49.9	67	Lewis	4932	Dominion Exploration & Production Inc	1298	Murphy Creek	Gas	Completed
49.9	67	Lewis	4932	Dominion Exploration & Production Inc	1298	Murphy Creek	Gas	Completed
49.9	207	Lewis	30667	Hope Natural Gas Company	1210	Murphy Creek	Gas w/ Oil Show	Completed
49.9	207	Lewis	30667	Hope Natural Gas Company	1210	Murphy Creek	Gas w/ Oil Show	Completed
49.9	207	Lewis	30667	Hope Natural Gas Company	1210	Murphy Creek	Gas w/ Oil Show	Completed
49.9	207	Lewis	30667	Hope Natural Gas Company	1210	Murphy Creek	Gas w/ Oil Show	Completed
49.9	207	Lewis	30667	Hope Natural Gas Company	1210	Murphy Creek	Gas w/ Oil Show	Completed
49.9	207	Lewis	30667	Hope Natural Gas Company	1210	Murphy Creek	Gas w/ Oil Show	Completed
50.1	-326	Lewis	30637	Hope Natural Gas Company	1215	Murphy Creek	Gas	Completed
50.1	-326	Lewis	30637	Hope Natural Gas Company	1215	Murphy Creek	Gas	Completed
50.1	-326	Lewis	30637	Hope Natural Gas Company	1215	Murphy Creek	Gas	Completed
50.1	-326	Lewis	30637	Hope Natural Gas Company	1215	Murphy Creek	Gas	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.5	-28	Lewis	4902	Key Oil Co.	1394	Murphy Creek	Gas w/ Oil Show	Completed
50.7	-360	Lewis	4825	Key Oil Co.	1080	Murphy Creek	Gas	Completed
50.7	-360	Lewis	4825	Key Oil Co.	1080	Murphy Creek	Gas	Completed
50.7	-360	Lewis	4825	Key Oil Co.	1080	Murphy Creek	Gas	Completed
50.7	-360	Lewis	4825	Key Oil Co.	1080	Murphy Creek	Gas	Completed
50.7	-360	Lewis	4825	Key Oil Co.	1080	Murphy Creek	Gas	Completed
50.7	-360	Lewis	4825	Key Oil Co.	1080	Murphy Creek	Gas	Completed
50.7	-360	Lewis	4825	Key Oil Co.	1080	Murphy Creek	Gas	Completed
50.7	-360	Lewis	4825	Key Oil Co.	1080	Murphy Creek	Gas	Completed
50.7	-360	Lewis	4825	Key Oil Co.	1080	Murphy Creek	Gas	Completed
50.7	-360	Lewis	4825	Key Oil Co.	1080	Murphy Creek	Gas	Completed
50.7	-360	Lewis	4825	Key Oil Co.	1080	Murphy Creek	Gas	Completed
50.7	-237	Lewis	30453	Hope Natural Gas Company	1070	Murphy Creek	Gas w/ Oil Show	Completed
50.7	-237	Lewis	30453	Hope Natural Gas Company	1070	Murphy Creek	Gas w/ Oil Show	Completed
50.7	-237	Lewis	30453	Hope Natural Gas Company	1070	Murphy Creek	Gas w/ Oil Show	Completed
50.7	-237	Lewis	30453	Hope Natural Gas Company	1070	Murphy Creek	Gas w/ Oil Show	Completed
50.7	-237	Lewis	30453	Hope Natural Gas Company	1070	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.7	85	Lewis	4826	Key Oil Co.	991	Murphy Creek	Gas w/ Oil Show	Completed
50.8	301	Lewis	30424	Hope Natural Gas Company	990	Murphy Creek	Gas	Completed
50.8	301	Lewis	30424	Hope Natural Gas Company	990	Murphy Creek	Gas	Completed
50.8	301	Lewis	30424	Hope Natural Gas Company	990	Murphy Creek	Gas	Completed
50.8	301	Lewis	30424	Hope Natural Gas Company	990	Murphy Creek	Gas	Completed
51.0	88	Lewis	30574	Hope Natural Gas Company	1134	Murphy Creek	Gas	Completed
51.0	88	Lewis	30574	Hope Natural Gas Company	1134	Murphy Creek	Gas	Completed
51.0	88	Lewis	30574	Hope Natural Gas Company	1134	Murphy Creek	Gas	Completed
51.0	88	Lewis	30574	Hope Natural Gas Company	1134	Murphy Creek	Gas	Completed
51.1	-327	Lewis	30683	Hope Natural Gas Company	1106	Murphy Creek	Gas	Completed
51.1	-327	Lewis	30683	Hope Natural Gas Company	1106	Murphy Creek	Gas	Completed
51.1	-327	Lewis	30683	Hope Natural Gas Company	1106	Murphy Creek	Gas	Completed
51.1	-327	Lewis	30683	Hope Natural Gas Company	1106	Murphy Creek	Gas	Completed
51.1	-327	Lewis	30683	Hope Natural Gas Company	1106	Murphy Creek	Gas	Completed

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Oil and Gas Wells in Vicinity of the MVP Project

51.3	-177	Lewis	30395	Pittsburgh & WV Gas	1113	Murphy Creek	Gas	Completed
51.3	-177	Lewis	30395	Pittsburgh & WV Gas	1113	Murphy Creek	Gas	Completed
51.3	-177	Lewis	30395	Pittsburgh & WV Gas	1113	Murphy Creek	Gas	Completed
51.3	-177	Lewis	30395	Pittsburgh & WV Gas	1113	Murphy Creek	Gas	Completed
51.7	293	Lewis	3127	Eastern American Energy Corp.	1069	Murphy Creek	Gas	Completed
51.7	293	Lewis	3127	Eastern American Energy Corp.	1069	Murphy Creek	Gas	Completed
51.7	293	Lewis	3127	Eastern American Energy Corp.	1069	Murphy Creek	Gas	Completed
51.7	293	Lewis	3127	Eastern American Energy Corp.	1069	Murphy Creek	Gas	Completed
51.7	293	Lewis	3127	Eastern American Energy Corp.	1069	Murphy Creek	Gas	Completed
51.7	293	Lewis	3127	Eastern American Energy Corp.	1069	Murphy Creek	Gas	Completed
51.8	-159	Lewis	4919	Stalnaker Energy Corp.	982	Murphy Creek	Gas w/ Oil Show	Completed
51.8	-159	Lewis	4919	Stalnaker Energy Corp.	982	Murphy Creek	Gas w/ Oil Show	Completed
51.8	-159	Lewis	4919	Stalnaker Energy Corp.	982	Murphy Creek	Gas w/ Oil Show	Completed
51.8	-159	Lewis	4919	Stalnaker Energy Corp.	982	Murphy Creek	Gas w/ Oil Show	Completed
51.8	-159	Lewis	4919	Stalnaker Energy Corp.	982	Murphy Creek	Gas w/ Oil Show	Completed
51.8	-159	Lewis	4919	Stalnaker Energy Corp.	982	Murphy Creek	Gas w/ Oil Show	Completed
51.8	-159	Lewis	4919	Stalnaker Energy Corp.	982	Murphy Creek	Gas w/ Oil Show	Completed
52.2	-19	Lewis	3122	Eastern American Energy Corp.	1227	Murphy Creek	Gas	Completed
52.2	-19	Lewis	3122	Eastern American Energy Corp.	1227	Murphy Creek	Gas	Completed
52.2	-19	Lewis	3122	Eastern American Energy Corp.	1227	Murphy Creek	Gas	Completed
52.2	-19	Lewis	3122	Eastern American Energy Corp.	1227	Murphy Creek	Gas	Completed
52.2	-19	Lewis	3122	Eastern American Energy Corp.	1227	Murphy Creek	Gas	Completed
52.2	-19	Lewis	3122	Eastern American Energy Corp.	1227	Murphy Creek	Gas	Completed
52.4	61	Lewis	4898	Stalnaker Energy Corp.	1346	Murphy Creek	Gas w/ Oil Show	Completed
52.4	61	Lewis	4898	Stalnaker Energy Corp.	1346	Murphy Creek	Gas w/ Oil Show	Completed
52.4	61	Lewis	4898	Stalnaker Energy Corp.	1346	Murphy Creek	Gas w/ Oil Show	Completed
52.4	61	Lewis	4898	Stalnaker Energy Corp.	1346	Murphy Creek	Gas w/ Oil Show	Completed
52.4	61	Lewis	4898	Stalnaker Energy Corp.	1346	Murphy Creek	Gas w/ Oil Show	Completed
52.4	61	Lewis	4898	Stalnaker Energy Corp.	1346	Murphy Creek	Gas w/ Oil Show	Completed
52.4	61	Lewis	4898	Stalnaker Energy Corp.	1346	Murphy Creek	Gas w/ Oil Show	Completed
52.7	-136	Lewis	3546	ALAMCO Inc	1214	Murphy Creek	Gas	Completed
52.7	-136	Lewis	3546	ALAMCO Inc	1214	Murphy Creek	Gas	Completed
52.7	-136	Lewis	3546	ALAMCO Inc	1214	Murphy Creek	Gas	Completed
52.7	-136	Lewis	3546	ALAMCO Inc	1214	Murphy Creek	Gas	Completed
52.7	-136	Lewis	3546	ALAMCO Inc	1214	Murphy Creek	Gas	Completed
52.7	-136	Lewis	3546	ALAMCO Inc	1214	Murphy Creek	Gas	Completed
52.7	-136	Lewis	3546	ALAMCO Inc	1214	Murphy Creek	Gas	Completed
52.7	-136	Lewis	3546	ALAMCO Inc	1214	Murphy Creek	Gas	Completed
52.7	-136	Lewis	3546	ALAMCO Inc	1214	Murphy Creek	Gas	Completed
52.8	397	Lewis	3833	Stonewall Gas Co., Inc.	960	Aspnl-Finster	Gas w/ Oil Show	Completed
52.8	397	Lewis	3833	Stonewall Gas Co., Inc.	960	Aspnl-Finster	Gas w/ Oil Show	Completed
52.8	397	Lewis	3833	Stonewall Gas Co., Inc.	960	Aspnl-Finster	Gas w/ Oil Show	Completed
52.8	397	Lewis	3833	Stonewall Gas Co., Inc.	960	Aspnl-Finster	Gas w/ Oil Show	Completed
52.8	397	Lewis	3833	Stonewall Gas Co., Inc.	960	Aspnl-Finster	Gas w/ Oil Show	Completed
52.8	397	Lewis	3833	Stonewall Gas Co., Inc.	960	Aspnl-Finster	Gas w/ Oil Show	Completed
52.9	45	Lewis	5248	DB Exploration LLC	1170	Burnwell	Gas	Completed
52.9	45	Lewis	5248	DB Exploration LLC	1170	Burnwell	Gas	Completed
52.9	45	Lewis	5248	DB Exploration LLC	1170	Burnwell	Gas	Completed
52.9	45	Lewis	5248	DB Exploration LLC	1170	Burnwell	Gas	Completed
53.0	323	Lewis	30495	Rubin, Joe, etal	985	Copley	Oil w/ Gas Show	Completed
53.0	323	Lewis	30495	Rubin, Joe, etal	985	Copley	Oil w/ Gas Show	Completed
53.0	323	Lewis	30495	Rubin, Joe, etal	985	Copley	Oil w/ Gas Show	Completed
53.0	323	Lewis	30495	Rubin, Joe, etal	985	Copley	Oil w/ Gas Show	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.1	-127	Lewis	3570	ALAMCO Inc	1167	Copley	Gas	Completed
53.3	271	Lewis	91	Hope Natural Gas Company	1004	Aspnl-Finster	Dry w/ O&G Show	Completed
53.3	271	Lewis	91	Hope Natural Gas Company	1004	Aspnl-Finster	Dry w/ O&G Show	Completed
53.4	270	Lewis	695	Hope Natural Gas Company	1005	Copley	Gas	Completed
53.4	270	Lewis	695	---------- unknown ----------	1005	Copley	Gas	unknown
53.4	270	Lewis	695	Hope Natural Gas Company	1005	Copley	Gas	Completed

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53.4	270	Lewis	695	---------- unknown ----------	1005	Copley	Gas	unknown
53.4	270	Lewis	695	Hope Natural Gas Company	1005	Copley	Gas	Completed
53.4	270	Lewis	695	Hope Natural Gas Company	1005	Copley	Gas	Completed
53.4	270	Lewis	695	---------- unknown ----------	1005	Copley	Gas	unknown
53.4	270	Lewis	695	---------- unknown ----------	1005	Copley	Gas	unknown
53.4	270	Lewis	695	Carr, A. T., and Collins, John, Drilling Co.	1005	Copley	Oil	Completed
53.4	270	Lewis	695	Carr, A. T., and Collins, John, Drilling Co.	1005	Copley	Oil	Completed
53.4	270	Lewis	695	Carr, A. T., and Collins, John, Drilling Co.	1005	Copley	Oil	Completed
53.6	347	Lewis	30590	Hope Natural Gas Company	1221	Aspnl-Finster	Gas	Completed
53.6	347	Lewis	30590	Hope Natural Gas Company	1221	Aspnl-Finster	Gas	Completed
53.6	347	Lewis	30590	Hope Natural Gas Company	1221	Aspnl-Finster	Gas	Completed
53.6	347	Lewis	30590	Hope Natural Gas Company	1221	Aspnl-Finster	Gas	Completed
54.0	-399	Lewis	4519	Rubin Resources Co.	1193	Aspnl-Finster	Gas	Completed
54.0	-399	Lewis	4519	Rubin Resources Co.	1193	Aspnl-Finster	Gas	Completed
54.0	-399	Lewis	4519	Rubin Resources Co.	1193	Aspnl-Finster	Gas	Completed
54.0	-399	Lewis	4519	Rubin Resources Co.	1193	Aspnl-Finster	Gas	Completed
54.4	-126	Lewis	1968	Consolidated Gas Supply Corp.	1178	Copley	Gas w/ Oil Show	Completed
54.4	-126	Lewis	1968	Consolidated Gas Supply Corp.	1178	Copley	Gas w/ Oil Show	Completed
54.4	-126	Lewis	1968	Consolidated Gas Supply Corp.	1178	Copley	Gas w/ Oil Show	Completed
54.4	-126	Lewis	1968	Consolidated Gas Supply Corp.	1178	Copley	Gas w/ Oil Show	Completed
54.4	-126	Lewis	1968	Consolidated Gas Supply Corp.	1178	Copley	Gas w/ Oil Show	Completed
54.4	-126	Lewis	1968	Consolidated Gas Supply Corp.	1178	Copley	Gas w/ Oil Show	Completed
54.4	-126	Lewis	1968	Consolidated Gas Supply Corp.	1178	Copley	Gas w/ Oil Show	Completed
54.4	-126	Lewis	1968	Consolidated Gas Supply Corp.	1178	Copley	Gas w/ Oil Show	Completed
54.4	-126	Lewis	1968	Consolidated Gas Supply Corp.	1178	Copley	Gas w/ Oil Show	Completed
54.4	-126	Lewis	1968	Dominion Transmission Inc	0		not available	Permitted
54.4	-126	Lewis	1968	Dominion Transmission Inc	0		not available	Permitted
54.4	-126	Lewis	1968	Dominion Transmission Inc	0		not available	Permitted
54.4	-126	Lewis	1968	Dominion Transmission Inc	0		not available	Permitted
54.5	-320	Lewis	30466	Glick, Martin	875	Aspnl-Finster	Gas	Completed
54.5	-320	Lewis	30466	Glick, Martin	875	Aspnl-Finster	Gas	Completed
54.8	-380	Lewis	5013	Dominion Exploration & Production Inc	847	Aspnl-Finster	Gas	Completed
54.8	-380	Lewis	5013	Dominion Exploration & Production Inc	847	Aspnl-Finster	Gas	Completed
54.8	-380	Lewis	5013	Dominion Exploration & Production Inc	847	Aspnl-Finster	Gas	Completed
54.8	-380	Lewis	5013	Dominion Exploration & Production Inc	847	Aspnl-Finster	Gas	Completed
54.8	-380	Lewis	5013	Dominion Exploration & Production Inc	847	Aspnl-Finster	Gas	Completed
54.8	-380	Lewis	5013	Dominion Exploration & Production Inc	847	Aspnl-Finster	Gas	Completed
54.8	393	Lewis	81	Hope Natural Gas Company	957	Aspnl-Finster	Gas w/ Oil Show	Completed
54.8	393	Lewis	81	Hope Natural Gas Company	957	Aspnl-Finster	Gas w/ Oil Show	Completed
54.8	393	Lewis	81	Hope Natural Gas Company	957	Aspnl-Finster	Gas w/ Oil Show	Completed
54.8	393	Lewis	81	Hope Natural Gas Company	957	Aspnl-Finster	Gas w/ Oil Show	Completed
54.8	393	Lewis	81	Hope Natural Gas Company	957	Aspnl-Finster	Oil	Completed
54.8	393	Lewis	81	Hope Natural Gas Company	957	Aspnl-Finster	Oil	Completed
54.8	393	Lewis	81	Hope Natural Gas Company	957	Aspnl-Finster	Oil	Completed
54.9	-107	Lewis	2193	Hope Natural Gas Company	0	Aspnl-Finster	Gas w/ Oil Show	Completed
54.9	-107	Lewis	2193	Hope Natural Gas Company	0	Aspnl-Finster	Gas w/ Oil Show	Completed
54.9	-107	Lewis	2193	Hope Natural Gas Company	0	Aspnl-Finster	Gas w/ Oil Show	Completed
54.9	-95	Lewis	1977	Consolidated Gas Supply Corp.	1007	Aspnl-Finster	Gas	Completed
54.9	-95	Lewis	1977	Consolidated Gas Supply Corp.	1007	Aspnl-Finster	Gas	Completed
54.9	-95	Lewis	1977	Consolidated Gas Supply Corp.	1007	Aspnl-Finster	Gas	Completed
54.9	-95	Lewis	1977	Consolidated Gas Supply Corp.	1007	Aspnl-Finster	Gas	Completed
54.9	-95	Lewis	1977	Consolidated Gas Supply Corp.	1007	Aspnl-Finster	Gas	Completed
54.9	-95	Lewis	1977	Consolidated Gas Supply Corp.	1007	Aspnl-Finster	Gas	Completed
54.9	-95	Lewis	1977	Consolidated Gas Supply Corp.	1007	Aspnl-Finster	Gas	Completed
54.9	-95	Lewis	1977	Consolidated Gas Supply Corp.	1007	Aspnl-Finster	Gas	Completed
54.9	-95	Lewis	1977	Consolidated Gas Supply Corp.	1007	Aspnl-Finster	Gas	Completed
54.9	-95	Lewis	1977	Dominion Transmission Inc	0		not available	Permitted
54.9	-95	Lewis	1977	Dominion Transmission Inc	0		not available	Permitted
54.9	-95	Lewis	1977	Dominion Transmission Inc	0		not available	Permitted
54.9	-95	Lewis	1977	Dominion Transmission Inc	0		not available	Permitted
55.0	378	Lewis	4241	Murvin Oil Corp.	875	Aspnl-Finster	Gas	Completed
55.0	378	Lewis	4241	Murvin Oil Corp.	875	Aspnl-Finster	Gas	Completed
55.0	378	Lewis	4241	Murvin Oil Corp.	875	Aspnl-Finster	Gas	Completed
55.0	378	Lewis	4241	Murvin Oil Corp.	875	Aspnl-Finster	Gas	Completed
55.0	378	Lewis	4241	Murvin Oil Corp.	875	Aspnl-Finster	Gas	Completed
55.0	378	Lewis	4241	Murvin Oil Corp.	875	Aspnl-Finster	Gas	Completed
55.0	378	Lewis	4241	Murvin Oil Corp.	875	Aspnl-Finster	Gas	Completed
55.3	45	Lewis	4256	Murvin Oil Corp.	1267	Aspnl-Finster	Gas	Completed
55.3	45	Lewis	4256	Murvin Oil Corp.	1267	Aspnl-Finster	Gas	Completed
55.3	45	Lewis	4256	Murvin Oil Corp.	1267	Aspnl-Finster	Gas	Completed
55.5	-116	Lewis	30595	Hope Natural Gas Company	1214	Aspnl-Finster	Gas	Completed

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55.5	-116	Lewis	30595	Hope Natural Gas Company	1214	Aspnl-Finster	Gas	Completed
55.5	-116	Lewis	30595	Hope Natural Gas Company	1214	Aspnl-Finster	Gas	Completed
55.6	-71	Lewis	2874	Stalnaker, Gene, Inc.	1277	Aspnl-Finster	Gas	Completed
55.6	-71	Lewis	2874	Stalnaker, Gene, Inc.	1277	Aspnl-Finster	Gas	Completed
55.6	-71	Lewis	2874	Stalnaker, Gene, Inc.	1277	Aspnl-Finster	Gas	Completed
55.6	-71	Lewis	2874	Stalnaker, Gene, Inc.	1277	Aspnl-Finster	Gas	Completed
55.6	-71	Lewis	2874	Stalnaker, Gene, Inc.	1277	Aspnl-Finster	Gas	Completed
55.6	-71	Lewis	2874	Stalnaker, Gene, Inc.	1277	Aspnl-Finster	Gas	Completed
55.6	-71	Lewis	2874	Stalnaker, Gene, Inc.	1277	Aspnl-Finster	Gas	Completed
55.6	-71	Lewis	2874	Stalnaker, Gene, Inc.	1277	Aspnl-Finster	Gas	Completed
55.6	-71	Lewis	2874	Stalnaker, Gene, Inc.	1277	Aspnl-Finster	Gas	Completed
55.7	-94	Lewis	1422	Gilco Gas, Inc.	1276	Aspnl-Finster	Oil and Gas	Completed
55.7	-94	Lewis	1422	Gilco Gas, Inc.	1276	Aspnl-Finster	Oil and Gas	Completed
55.7	-94	Lewis	1422	Gilco Gas, Inc.	1276	Aspnl-Finster	Oil and Gas	Completed
55.9	197	Lewis	2002	Artex Oil Co.	1317	Aspnl-Finster	Gas	Completed
55.9	197	Lewis	2002	Artex Oil Co.	1317	Aspnl-Finster	Gas	Completed
55.9	197	Lewis	2002	Artex Oil Co.	1317	Aspnl-Finster	Gas	Completed
55.9	197	Lewis	2002	Artex Oil Co.	1317	Aspnl-Finster	Gas	Completed
55.9	197	Lewis	2002	Artex Oil Co.	1317	Aspnl-Finster	Gas	Completed
56.2	-222	Lewis	551	Queen Gas Co.	960	Aspnl-Finster	Gas	Completed
56.2	-222	Lewis	551	Queen Gas Co.	960	Aspnl-Finster	Gas	Completed
56.2	-222	Lewis	551	Queen Gas Co.	960	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.4	386	Lewis	3062	Eastern American Energy Corp.	1283	Aspnl-Finster	Gas	Completed
56.5	78	Lewis	3063	Eastern American Energy Corp.	1258	Aspnl-Finster	Gas	Completed
56.5	78	Lewis	3063	Eastern American Energy Corp.	1258	Aspnl-Finster	Gas	Completed
56.5	78	Lewis	3063	Eastern American Energy Corp.	1258	Aspnl-Finster	Gas	Completed
56.5	78	Lewis	3063	Eastern American Energy Corp.	1258	Aspnl-Finster	Gas	Completed
56.5	78	Lewis	3063	Eastern American Energy Corp.	1258	Aspnl-Finster	Gas	Completed
56.5	78	Lewis	3063	Eastern American Energy Corp.	1258	Aspnl-Finster	Gas	Completed
56.5	78	Lewis	3063	Eastern American Energy Corp.	1258	Aspnl-Finster	Gas	Completed
56.5	78	Lewis	3063	Eastern American Energy Corp.	1258	Aspnl-Finster	Gas	Completed
56.5	78	Lewis	3063	Eastern American Energy Corp.	1258	Aspnl-Finster	Gas	Completed
56.8	315	Lewis	2009	Artex Oil Co.	1062	Aspnl-Finster	Gas	Completed
56.8	315	Lewis	2009	Artex Oil Co.	1062	Aspnl-Finster	Gas	Completed
56.8	315	Lewis	2009	Artex Oil Co.	1062	Aspnl-Finster	Gas	Completed
56.9	-214	Lewis	2001	Artex Oil Co.	1017	Aspnl-Finster	Gas	Completed
56.9	-214	Lewis	2001	Artex Oil Co.	1017	Aspnl-Finster	Gas	Completed
57.2	86	Lewis	3950	Sheldon & Associates	1320	Aspnl-Finster	Gas	Completed
57.2	86	Lewis	3950	Sheldon & Associates	1320	Aspnl-Finster	Gas	Completed
57.2	86	Lewis	3950	Sheldon & Associates	1320	Aspnl-Finster	Gas	Completed
57.2	86	Lewis	3950	Sheldon & Associates	1320	Aspnl-Finster	Gas	Completed
57.2	86	Lewis	3950	Sheldon & Associates	1320	Aspnl-Finster	Gas	Completed
57.2	86	Lewis	3950	Sheldon & Associates	1320	Aspnl-Finster	Gas	Completed
57.2	86	Lewis	3950	Sheldon & Associates	1320	Aspnl-Finster	Gas	Completed
57.2	86	Lewis	3950	Sheldon & Associates	1320	Aspnl-Finster	Gas	Completed
57.2	86	Lewis	3950	Sheldon & Associates	1320	Aspnl-Finster	Gas	Completed
57.2	86	Lewis	3950	Sheldon & Associates	1320	Aspnl-Finster	Gas	Completed
57.2	86	Lewis	3950	Sheldon & Associates	1320	Aspnl-Finster	Gas	Completed
57.2	-176	Lewis	71565	Pittsburgh & WV Gas	0	Unnamed	Dry	Prpty Map

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57.2	-176	Lewis	71565	Pittsburgh & WV Gas	0	Unnamed	Dry	Prpty Map
57.2	360	Lewis	30478	Pittsburgh & WV Gas	1090	Aspnl-Finster	Gas w/ Oil Show	Completed
57.2	360	Lewis	30478	Pittsburgh & WV Gas	1090	Aspnl-Finster	Gas w/ Oil Show	Completed
57.2	360	Lewis	30478	Pittsburgh & WV Gas	1090	Aspnl-Finster	Gas w/ Oil Show	Completed
57.2	360	Lewis	30478	Pittsburgh & WV Gas	1090	Aspnl-Finster	Gas w/ Oil Show	Completed
57.3	-368	Lewis	3009	Swift Energy	1078	Aspnl-Finster	Gas	Completed
57.3	-368	Lewis	3009	Swift Energy	1078	Aspnl-Finster	Gas	Completed
57.3	-368	Lewis	3009	Swift Energy	1078	Aspnl-Finster	Gas	Completed
57.3	-368	Lewis	3009	Swift Energy	1078	Aspnl-Finster	Gas	Completed
57.3	-368	Lewis	3009	Swift Energy	1078	Aspnl-Finster	Gas	Completed
57.3	-368	Lewis	3009	Swift Energy	1078	Aspnl-Finster	Gas	Completed
57.3	-368	Lewis	3009	Swift Energy	1078	Aspnl-Finster	Gas	Completed
57.3	-368	Lewis	3009	Swift Energy	1078	Aspnl-Finster	Gas	Completed
57.3	-368	Lewis	3009	Swift Energy	1078	Aspnl-Finster	Gas	Completed
57.3	-368	Lewis	3009	Swift Energy	1078	Aspnl-Finster	Gas	Completed
57.3	-368	Lewis	3009	Swift Energy	1078	Aspnl-Finster	Gas	Completed
57.4	-252	Lewis	71563	Philadelphia Company, The	0	Unnamed	Gas	Completed
57.4	-252	Lewis	71563	Philadelphia Company, The	0	Unnamed	Gas	Completed
57.4	-252	Lewis	71563	Philadelphia Company, The	0	Unnamed	Gas	Completed
57.4	136	Lewis	30114	Hope Natural Gas Company	1147	Aspnl-Finster	Gas	Completed
57.4	136	Lewis	30114	Hope Natural Gas Company	1147	Aspnl-Finster	Gas	Completed
57.4	136	Lewis	30114	Hope Natural Gas Company	1147	Aspnl-Finster	Gas	Completed
57.4	136	Lewis	30114	Hope Natural Gas Company	1147	Aspnl-Finster	Gas	Completed
57.7	184	Lewis	3098	Swift Energy	1116	Aspnl-Finster	Gas	Completed
57.7	184	Lewis	3098	Swift Energy	1116	Aspnl-Finster	Gas	Completed
57.7	184	Lewis	3098	Swift Energy	1116	Aspnl-Finster	Gas	Completed
57.7	184	Lewis	3098	Swift Energy	1116	Aspnl-Finster	Gas	Completed
57.7	184	Lewis	3098	Swift Energy	1116	Aspnl-Finster	Gas	Completed
57.7	184	Lewis	3098	Swift Energy	1116	Aspnl-Finster	Gas	Completed
57.7	184	Lewis	3098	Swift Energy	1116	Aspnl-Finster	Gas	Completed
57.7	184	Lewis	3098	Swift Energy	1116	Aspnl-Finster	Gas	Completed
57.7	184	Lewis	3098	Swift Energy	1116	Aspnl-Finster	Gas	Completed
57.7	184	Lewis	3098	Swift Energy	1116	Aspnl-Finster	Gas	Completed
58.2	-397	Lewis	66	Pittsburgh & WV Gas	925	Aspnl-Finster	Gas	Completed
58.2	-397	Lewis	66	Pittsburgh & WV Gas	925	Aspnl-Finster	Gas	Completed
58.2	-397	Lewis	66	Pittsburgh & WV Gas	925	Aspnl-Finster	Gas	Completed
58.2	-397	Lewis	66	Pittsburgh & WV Gas	925	Aspnl-Finster	Gas	Completed
58.2	-397	Lewis	66	Pittsburgh & WV Gas	925	Aspnl-Finster	Gas	Completed
58.2	-397	Lewis	66	Pittsburgh & WV Gas	925	Aspnl-Finster	Gas	Completed
58.3	269	Lewis	30422	Pittsburgh & WV Gas	941	Aspnl-Finster	Gas	Completed
58.3	269	Lewis	30422	Pittsburgh & WV Gas	941	Aspnl-Finster	Gas	Completed
58.3	269	Lewis	30422	Pittsburgh & WV Gas	941	Aspnl-Finster	Gas	Completed
58.3	269	Lewis	30422	Pittsburgh & WV Gas	941	Aspnl-Finster	Gas	Completed
58.7	-381	Lewis	3073	Swift Energy	1119	Aspnl-Finster	Gas	Completed
58.7	-381	Lewis	3073	Swift Energy	1119	Aspnl-Finster	Gas	Completed
58.7	-381	Lewis	3073	Swift Energy	1119	Aspnl-Finster	Gas	Completed
58.7	-381	Lewis	3073	Swift Energy	1119	Aspnl-Finster	Gas	Completed
58.7	-381	Lewis	3073	Swift Energy	1119	Aspnl-Finster	Gas	Completed
58.7	-381	Lewis	3073	Swift Energy	1119	Aspnl-Finster	Gas	Completed
58.7	-381	Lewis	3073	Swift Energy	1119	Aspnl-Finster	Gas	Completed
58.7	-381	Lewis	3073	Swift Energy	1119	Aspnl-Finster	Gas	Completed
58.7	-381	Lewis	3073	Swift Energy	1119	Aspnl-Finster	Gas	Completed
59.1	203	Lewis	71543	Philadelphia Company, The	0	Unnamed	Gas	Prpty Map
59.1	203	Lewis	71543	Philadelphia Company, The	0	Unnamed	Gas	Prpty Map
59.1	203	Lewis	71543	Philadelphia Company, The	0	Unnamed	Gas	Prpty Map
59.6	21	Lewis	819	Equitable Gas Co.	1072	Aspnl-Finster	Gas	Completed
59.6	21	Lewis	819	Equitrans, Inc.	1072	Aspnl-Finster	Gas	Completed
59.6	21	Lewis	819	Equitrans, Inc.	1072	Aspnl-Finster	Gas	Completed
59.6	21	Lewis	819	Equitable Gas Co.	1072	Aspnl-Finster	Gas	Completed
59.6	21	Lewis	819	Equitrans, Inc.	1072	Aspnl-Finster	Gas	Completed
59.6	21	Lewis	819	Equitrans, Inc.	1072	Aspnl-Finster	Gas	Completed
59.6	21	Lewis	819	Equitable Gas Co.	1072	Aspnl-Finster	Gas	Completed
59.6	21	Lewis	819	Equitrans, Inc.	1072	Aspnl-Finster	Gas	Completed
59.6	21	Lewis	819	Equitrans, Inc.	1072	Aspnl-Finster	Gas	Completed
59.6	21	Lewis	819	Equitrans, Inc.	1072	Aspnl-Finster	Gas	Completed
59.8	-13	Lewis	30713	Hope Natural Gas Company	1264	Aspnl-Finster	Gas	Completed
59.8	-13	Lewis	30713	Hope Natural Gas Company	1264	Aspnl-Finster	Gas	Completed
59.8	-13	Lewis	30713	Hope Natural Gas Company	1264	Aspnl-Finster	Gas	Completed
60.4	131	Lewis	2119	Consolidated Gas Supply Corp.	1288	Aspnl-Finster	Gas	Completed
60.4	131	Lewis	2119	Consolidated Gas Supply Corp.	1288	Aspnl-Finster	Gas	Completed
60.4	131	Lewis	2119	Consolidated Gas Supply Corp.	1288	Aspnl-Finster	Gas	Completed

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60.4	131	Lewis	2119	Consolidated Gas Supply Corp.	1288	Aspnl-Finster	Gas	Completed
60.4	131	Lewis	2119	Consolidated Gas Supply Corp.	1288	Aspnl-Finster	Gas	Completed
60.8	-227	Lewis	30605	Hope Natural Gas Company	1082	Aspnl-Finster	Gas	Completed
60.8	-227	Lewis	30605	Hope Natural Gas Company	1082	Aspnl-Finster	Gas	Completed
60.8	-227	Lewis	30605	Hope Natural Gas Company	1082	Aspnl-Finster	Gas	Completed
60.9	-103	Lewis	2695	Consolidated Gas Supply Corp.	1274	Aspnl-Finster	Gas	Completed
60.9	-103	Lewis	2695	Consolidated Gas Supply Corp.	1274	Aspnl-Finster	Gas	Completed
60.9	-103	Lewis	2695	Consolidated Gas Supply Corp.	1274	Aspnl-Finster	Gas	Completed
60.9	-103	Lewis	2695	Consolidated Gas Supply Corp.	1274	Aspnl-Finster	Gas	Completed
60.9	-103	Lewis	2695	Consolidated Gas Supply Corp.	1274	Aspnl-Finster	Gas	Completed
60.9	-103	Lewis	2695	Consolidated Gas Supply Corp.	1274	Aspnl-Finster	Gas	Completed
60.9	-103	Lewis	2695	Consolidated Gas Supply Corp.	1274	Aspnl-Finster	Gas	Completed
60.9	-103	Lewis	2695	Consolidated Gas Supply Corp.	1274	Aspnl-Finster	Gas	Completed
60.9	-103	Lewis	2695	Consolidated Gas Supply Corp.	1274	Aspnl-Finster	Gas	Completed
60.9	-103	Lewis	2695	Consolidated Gas Supply Corp.	1274	Aspnl-Finster	Gas	Completed
61.5	-207	Lewis	3747	Rockwell Petroleum Co.	1112	Aspnl-Finster	Gas	Completed
61.5	-207	Lewis	3747	Rockwell Petroleum Co.	1112	Aspnl-Finster	Gas	Completed
61.5	-207	Lewis	3747	Rockwell Petroleum Co.	1112	Aspnl-Finster	Gas	Completed
61.5	-207	Lewis	3747	Rockwell Petroleum Co.	1112	Aspnl-Finster	Gas	Completed
61.5	-207	Lewis	3747	Rockwell Petroleum Co.	1112	Aspnl-Finster	Gas	Completed
61.5	-207	Lewis	3747	Rockwell Petroleum Co.	1112	Aspnl-Finster	Gas	Completed
61.5	-207	Lewis	3747	Rockwell Petroleum Co.	1112	Aspnl-Finster	Gas	Completed
61.5	-207	Lewis	3747	Rockwell Petroleum Co.	1112	Aspnl-Finster	Gas	Completed
61.6	-110	Lewis	30741	Columbian Carbon Co.	1180	Aspnl-Finster	Gas	Completed
61.6	-110	Lewis	30741	Columbian Carbon Co.	1180	Aspnl-Finster	Gas	Completed
61.6	-110	Lewis	30741	Columbian Carbon Co.	1180	Aspnl-Finster	Gas	Completed
61.7	154	Lewis	1895	Consolidated Gas Supply Corp.	1048	Aspnl-Finster	Dry	Completed
61.7	154	Lewis	1895	Consolidated Gas Supply Corp.	1048	Aspnl-Finster	Dry	Completed
61.7	154	Lewis	1895	Consolidated Gas Supply Corp.	1048	Aspnl-Finster	Dry	Completed
61.7	154	Lewis	1895	Consolidated Gas Supply Corp.	1048	Aspnl-Finster	Dry	Completed
62.0	-365	Lewis	1896	Consolidated Gas Supply Corp.	920	Aspnl-Finster	Dry w/ Gas Show	Completed
62.0	-365	Lewis	1896	Consolidated Gas Supply Corp.	920	Aspnl-Finster	Dry w/ Gas Show	Completed
62.0	-365	Lewis	1896	Consolidated Gas Supply Corp.	920	Aspnl-Finster	Dry w/ Gas Show	Completed
62.0	-365	Lewis	1896	Consolidated Gas Supply Corp.	920	Aspnl-Finster	Dry w/ Gas Show	Completed
62.6	-212	Lewis	2143	Vanderbilt Resources	1182	Aspnl-Finster	Gas	Completed
62.6	-212	Lewis	2143	Vanderbilt Resources	1182	Aspnl-Finster	Gas	Completed
62.6	-212	Lewis	2143	Vanderbilt Resources	1182	Aspnl-Finster	Gas	Completed
62.8	-234	Lewis	1996	Consolidated Gas Supply Corp.	1184	Aspnl-Finster	Gas	Completed
62.8	-234	Lewis	1996	Consolidated Gas Supply Corp.	1184	Aspnl-Finster	Gas	Completed
62.8	-234	Lewis	1996	Consolidated Gas Supply Corp.	1184	Aspnl-Finster	Gas	Completed
62.8	-234	Lewis	1996	Consolidated Gas Supply Corp.	1184	Aspnl-Finster	Gas	Completed
62.8	-234	Lewis	1996	Consolidated Gas Supply Corp.	1184	Aspnl-Finster	Gas	Completed
62.9	298	Lewis	1441	Little Swiss Oil & Gas	977	Aspnl-Finster	Gas	Completed
62.9	298	Lewis	1441	Little Swiss Oil & Gas	977	Aspnl-Finster	Gas	Completed
63.0	334	Lewis	300	Hope Natural Gas Company	967	Aspnl-Finster	Dry w/ Gas Show	Completed
63.0	334	Lewis	300	Hope Natural Gas Company	967	Aspnl-Finster	Dry w/ Gas Show	Completed
63.1	203	Lewis	1723	Artex Oil Co.	1081	Aspnl-Finster	Gas w/ Oil Show	Completed
63.1	203	Lewis	1723	Artex Oil Co.	1081	Aspnl-Finster	Gas w/ Oil Show	Completed
63.1	203	Lewis	1723	Artex Oil Co.	1081	Aspnl-Finster	Gas w/ Oil Show	Completed
63.1	203	Lewis	1723	Artex Oil Co.	1081	Aspnl-Finster	Gas w/ Oil Show	Completed
63.1	203	Lewis	1723	Artex Oil Co.	1081	Aspnl-Finster	Gas w/ Oil Show	Completed
63.5	112	Lewis	2021	Consolidated Gas Supply Corp.	1272	Aspnl-Finster	Dry w/ Gas Show	Completed
63.5	112	Lewis	2021	Consolidated Gas Supply Corp.	1272	Aspnl-Finster	Dry w/ Gas Show	Completed
63.5	112	Lewis	2021	Consolidated Gas Supply Corp.	1272	Aspnl-Finster	Dry w/ Gas Show	Completed
63.5	112	Lewis	2021	Consolidated Gas Supply Corp.	1272	Aspnl-Finster	Dry w/ Gas Show	Completed
63.7	-314	Lewis	263	Hope Natural Gas Company	970	Aspnl-Finster	Gas	Completed
63.7	-314	Lewis	263	Little Swiss Oil & Gas	970	Aspnl-Finster	Gas	Completed
63.7	-314	Lewis	263	Hope Natural Gas Company	970	Aspnl-Finster	Gas	Completed
63.7	-314	Lewis	263	Little Swiss Oil & Gas	970	Aspnl-Finster	Gas	Completed
63.7	-314	Lewis	263	Hope Natural Gas Company	970	Aspnl-Finster	Gas	Completed
63.7	-314	Lewis	263	Little Swiss Oil & Gas	970	Aspnl-Finster	Gas	Completed
64.2	246	Lewis	1407	Little Swiss Oil & Gas	894	Aspnl-Finster	Gas	Completed
64.2	246	Lewis	1407	Little Swiss Oil & Gas	894	Aspnl-Finster	Gas	Completed
64.2	246	Lewis	1407	Little Swiss Oil & Gas	894	Aspnl-Finster	Gas	Completed
68.8	-169	Braxton	813	Ray Brothers Corp.	970	Falls Mill	Dry w/ Oil Show	Completed
68.8	-169	Braxton	813	Ray Brothers Corp.	970	Falls Mill	Dry w/ Oil Show	Completed
68.9	33	Braxton	722	Den-Mark Drilling Co., Inc.	1015	Falls Mill	Gas	Completed
68.9	33	Braxton	722	Den-Mark Drilling Co., Inc.	1015	Falls Mill	Gas	Completed
68.9	33	Braxton	722	Den-Mark Drilling Co., Inc.	1015	Falls Mill	Gas	Completed
68.9	33	Braxton	722	Den-Mark Drilling Co., Inc.	1015	Falls Mill	Gas	Completed
69.5	138	Braxton	724	Den-Mark Drilling Co., Inc.	1075	Falls Mill	Gas	Completed

Table 6-C-1

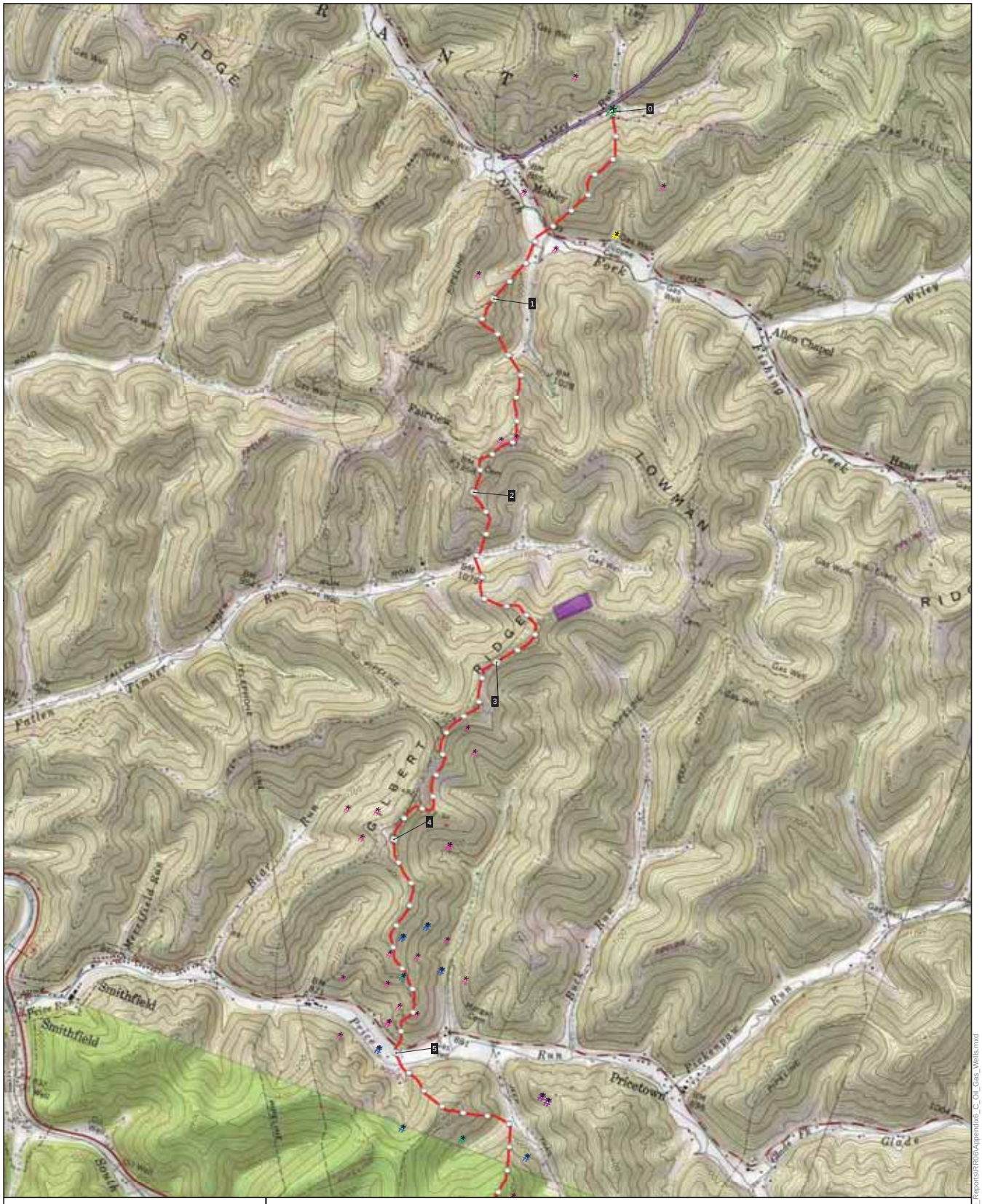
Oil and Gas Wells in Vicinity of the MVP Project

69.5	138	Braxton	724	Den-Mark Drilling Co., Inc.	1075	Falls Mill	Gas	Completed
69.5	138	Braxton	724	Den-Mark Drilling Co., Inc.	1075	Falls Mill	Gas	Completed
69.5	-226	Braxton	723	Den-Mark Drilling Co., Inc.	1000	Falls Mill	Gas	Completed
69.5	-226	Braxton	723	Den-Mark Drilling Co., Inc.	1000	Falls Mill	Gas	Completed
69.5	-226	Braxton	723	Den-Mark Drilling Co., Inc.	1000	Falls Mill	Gas	Completed
70.5	-374	Braxton	733	Baker, J. C., and Sons, Inc.	1025	Falls Mill	Gas	Completed
70.5	-374	Braxton	733	Baker, J. C., and Sons, Inc.	1025	Falls Mill	Gas	Completed
70.5	-374	Braxton	733	Baker, J. C., and Sons, Inc.	1025	Falls Mill	Gas	Completed
70.5	-374	Braxton	733	Baker, J. C., and Sons, Inc.	1025	Falls Mill	Gas	Completed
70.5	-374	Braxton	733	Baker, J. C., and Sons, Inc.	1025	Falls Mill	Gas	Completed
70.5	-374	Braxton	733	Baker, J. C., and Sons, Inc.	1025	Falls Mill	Gas	Completed
71.0	-257	Braxton	748	Den-Mark Drilling Co., Inc.	1410	Falls Mill	Gas	Completed
71.0	-257	Braxton	748	Den-Mark Drilling Co., Inc.	1410	Falls Mill	Gas	Completed
71.0	-257	Braxton	748	Den-Mark Drilling Co., Inc.	1410	Falls Mill	Gas	Completed
71.0	-353	Braxton	1400	Bow Valley Petroleum, Inc.	1488	Falls Mill	Gas	Completed
71.0	-353	Braxton	1400	Bow Valley Petroleum, Inc.	1488	Falls Mill	Gas	Completed
71.0	-353	Braxton	1400	Bow Valley Petroleum, Inc.	1488	Falls Mill	Gas	Completed
71.0	-353	Braxton	1400	Bow Valley Petroleum, Inc.	1488	Falls Mill	Gas	Completed
71.0	-353	Braxton	1400	Bow Valley Petroleum, Inc.	1488	Falls Mill	Gas	Completed
71.0	-353	Braxton	1400	Bow Valley Petroleum, Inc.	1488	Falls Mill	Gas	Completed
71.0	-353	Braxton	1400	Bow Valley Petroleum, Inc.	1488	Falls Mill	Gas	Completed
71.0	-353	Braxton	1400	Bow Valley Petroleum, Inc.	1488	Falls Mill	Gas	Completed
71.0	-353	Braxton	1400	Bow Valley Petroleum, Inc.	1488	Falls Mill	Gas	Completed
71.2	-55	Braxton	193	WV Gas Corp.	1356	Falls Mill	Dry w/ O&G Show	Completed
71.2	-55	Braxton	193	WV Gas Corp.	1356	Falls Mill	Dry w/ O&G Show	Completed
71.3	187	Braxton	700	Den-Mark Drilling Co., Inc.	1140	Falls Mill	Gas	Completed
71.3	187	Braxton	700	Den-Mark Drilling Co., Inc.	1140	Falls Mill	Gas	Completed
71.3	187	Braxton	700	Den-Mark Drilling Co., Inc.	1140	Falls Mill	Gas	Completed
71.6	91	Braxton	743	Den-Mark Drilling Co., Inc.	1380	Falls Mill	Gas	Completed
71.6	91	Braxton	743	Den-Mark Drilling Co., Inc.	1380	Falls Mill	Gas	Completed
71.6	91	Braxton	743	Den-Mark Drilling Co., Inc.	1380	Falls Mill	Gas	Completed
72.3	-150	Braxton	166	Pittsburgh & WV Gas	1246	Falls Mill	Dry w/ O&G Show	Completed
72.3	-150	Braxton	166	Pittsburgh & WV Gas	1246	Falls Mill	Dry w/ O&G Show	Completed
72.3	-150	Braxton	166	Baker, J. C., and Sons, Inc.	1246	Falls Mill	Gas	Completed
72.3	-150	Braxton	166	Baker, J. C., and Sons, Inc.	1246	Falls Mill	Gas	Completed
72.3	-150	Braxton	166	Baker, J. C., and Sons, Inc.	1246	Falls Mill	Gas	Completed
72.3	-150	Braxton	166	Baker, J. C., and Sons, Inc.	1246	Falls Mill	Gas	Completed
72.3	-150	Braxton	166	Baker, J. C., and Sons, Inc.	1246	Falls Mill	Gas	Completed
72.5	-199	Braxton	1804	Baker, J. C., and Sons, Inc.	914	Falls Mill	Gas	Completed
72.5	-199	Braxton	1804	Baker, J. C., and Sons, Inc.	914	Falls Mill	Gas	Completed
72.5	-199	Braxton	1804	Baker, J. C., and Sons, Inc.	914	Falls Mill	Gas	Completed
72.5	-199	Braxton	1804	Baker, J. C., and Sons, Inc.	914	Falls Mill	Gas	Completed
72.5	-199	Braxton	1804	Baker, J. C., and Sons, Inc.	914	Falls Mill	Gas	Completed
72.6	-58	Braxton	312	Watson Oil & Gas	1150	Falls Mill	Dry w/ Gas Show	Completed
72.6	-58	Braxton	312	Watson Oil & Gas	1150	Falls Mill	Dry w/ Gas Show	Completed
72.6	-58	Braxton	312	Baker, J. C., and Sons, Inc.	1150	Falls Mill	Gas	Completed
72.6	-58	Braxton	312	Baker, J. C., and Sons, Inc.	1150	Falls Mill	Gas	Completed
72.6	-58	Braxton	312	Baker, J. C., and Sons, Inc.	1150	Falls Mill	Gas	Completed
72.6	-58	Braxton	312	Baker, J. C., and Sons, Inc.	1150	Falls Mill	Gas	Completed
72.6	-58	Braxton	312	Baker, J. C., and Sons, Inc.	1150	Falls Mill	Gas	Completed
72.6	379	Braxton	1767	Baker, J. C., and Sons, Inc.	962	Falls Mill	Gas	Completed
72.6	379	Braxton	1767	Baker, J. C., and Sons, Inc.	962	Falls Mill	Gas	Completed
72.6	379	Braxton	1767	Baker, J. C., and Sons, Inc.	962	Falls Mill	Gas	Completed
72.6	379	Braxton	1767	Baker, J. C., and Sons, Inc.	962	Falls Mill	Gas	Completed
72.6	379	Braxton	1767	Baker, J. C., and Sons, Inc.	962	Falls Mill	Gas	Completed
72.6	379	Braxton	1767	Baker, J. C., and Sons, Inc.	962	Falls Mill	Gas	Completed
72.6	379	Braxton	1767	Baker, J. C., and Sons, Inc.	962	Falls Mill	Gas	Completed
72.6	379	Braxton	1767	Baker, J. C., and Sons, Inc.	962	Falls Mill	Gas	Completed
72.8	134	Braxton	536	Hurtt, William C., Drilling Co.	1145	Falls Mill	Gas w/ Oil Show	Completed
72.8	134	Braxton	536	Hurtt, William C., Drilling Co.	1145	Falls Mill	Gas w/ Oil Show	Completed
72.8	134	Braxton	536	Hurtt, William C., Drilling Co.	1145	Falls Mill	Gas w/ Oil Show	Completed
72.8	134	Braxton	536	Hurtt, William C., Drilling Co.	1145	Falls Mill	Gas w/ Oil Show	Completed
72.8	134	Braxton	536	Hurtt, William C., Drilling Co.	1145	Falls Mill	Gas w/ Oil Show	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Dry w/ Gas Show	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Dry w/ Gas Show	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Dry w/ Gas Show	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Dry w/ Gas Show	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Dry w/ Gas Show	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Dry w/ Gas Show	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Gas	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Gas	Completed

Table 6-C-1

Oil and Gas Wells in Vicinity of the MVP Project

72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Gas	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Gas	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Gas	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Gas	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Gas	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Gas	Completed
72.9	-168	Braxton	1856	Baker, J. C., and Sons, Inc.	944	Falls Mill	Gas	Completed
73.3	-319	Braxton	188	Pittsburgh & WV Gas	966	Unnamed	Dry w/ Gas Show	Completed
73.3	-319	Braxton	188	Pittsburgh & WV Gas	966	Unnamed	Dry w/ Gas Show	Completed
73.8	386	Braxton	1437	Baker, J. C., and Sons, Inc.	1163	Falls Mill	Gas	Completed
73.8	386	Braxton	1437	Baker, J. C., and Sons, Inc.	1163	Falls Mill	Gas	Completed
73.8	386	Braxton	1437	Baker, J. C., and Sons, Inc.	1163	Falls Mill	Gas	Completed
73.8	386	Braxton	1437	Baker, J. C., and Sons, Inc.	1163	Falls Mill	Gas	Completed
73.8	386	Braxton	1437	Baker, J. C., and Sons, Inc.	1163	Falls Mill	Gas	Completed
74.0	-260	Braxton	1948	Baker, J. C., and Sons, Inc.	1295	Falls Mill	Gas	Completed
74.0	-260	Braxton	1948	Baker, J. C., and Sons, Inc.	1295	Falls Mill	Gas	Completed
74.0	-260	Braxton	1948	Baker, J. C., and Sons, Inc.	1295	Falls Mill	Gas	Completed
74.0	-260	Braxton	1948	Baker, J. C., and Sons, Inc.	1295	Falls Mill	Gas	Completed
74.0	-260	Braxton	1948	Baker, J. C., and Sons, Inc.	1295	Falls Mill	Gas	Completed
74.0	-260	Braxton	1948	Baker, J. C., and Sons, Inc.	1295	Falls Mill	Gas	Completed
74.0	-260	Braxton	1948	Baker, J. C., and Sons, Inc.	1295	Falls Mill	Gas	Completed
74.0	-260	Braxton	1948	Baker, J. C., and Sons, Inc.	1295	Falls Mill	Gas	Completed
74.0	-260	Braxton	1948	Baker, J. C., and Sons, Inc.	1295	Falls Mill	Gas	Completed
74.3	323	Braxton	1999	Baker, J. C., and Sons, Inc.	1243	Falls Mill	Gas	Completed
74.3	323	Braxton	1999	Baker, J. C., and Sons, Inc.	1243	Falls Mill	Gas	Completed
74.3	323	Braxton	1999	Baker, J. C., and Sons, Inc.	1243	Falls Mill	Gas	Completed
74.3	323	Braxton	1999	Baker, J. C., and Sons, Inc.	1243	Falls Mill	Gas	Completed
74.3	323	Braxton	1999	Baker, J. C., and Sons, Inc.	1243	Falls Mill	Gas	Completed
74.3	323	Braxton	1999	Baker, J. C., and Sons, Inc.	1243	Falls Mill	Gas	Completed
74.3	323	Braxton	1999	Baker, J. C., and Sons, Inc.	1243	Falls Mill	Gas	Completed
74.3	323	Braxton	1999	Baker, J. C., and Sons, Inc.	1243	Falls Mill	Gas	Completed
74.3	323	Braxton	1999	Baker, J. C., and Sons, Inc.	1243	Falls Mill	Gas	Completed
74.3	323	Braxton	1999	Baker, J. C., and Sons, Inc.	1243	Falls Mill	Gas	Completed
74.9	-292	Braxton	2008	Baker, J. C., and Sons, Inc.	1355	Falls Mill	Gas	Completed
74.9	-292	Braxton	2008	Baker, J. C., and Sons, Inc.	1355	Falls Mill	Gas	Completed
74.9	-292	Braxton	2008	Baker, J. C., and Sons, Inc.	1355	Falls Mill	Gas	Completed
74.9	-292	Braxton	2008	Baker, J. C., and Sons, Inc.	1355	Falls Mill	Gas	Completed
74.9	-292	Braxton	2008	Baker, J. C., and Sons, Inc.	1355	Falls Mill	Gas	Completed
74.9	-292	Braxton	2008	Baker, J. C., and Sons, Inc.	1355	Falls Mill	Gas	Completed
74.9	-292	Braxton	2008	Baker, J. C., and Sons, Inc.	1355	Falls Mill	Gas	Completed
74.9	-292	Braxton	2008	Baker, J. C., and Sons, Inc.	1355	Falls Mill	Gas	Completed
74.9	-292	Braxton	2008	Baker, J. C., and Sons, Inc.	1355	Falls Mill	Gas	Completed
75.0	-61	Braxton	2031	Baker, J. C., and Sons, Inc.	1128	Falls Mill	Gas	Completed
75.0	-61	Braxton	2031	Baker, J. C., and Sons, Inc.	1128	Falls Mill	Gas	Completed
75.0	-61	Braxton	2031	Baker, J. C., and Sons, Inc.	1128	Falls Mill	Gas	Completed
90.3	84	Webster	68	Cabot Oil & Gas Corp.	2318	Unnamed	Dry	Completed
90.3	84	Webster	68	Cabot Oil & Gas Corp.	2318	Unnamed	Dry	Completed
90.3	84	Webster	68	Cabot Oil & Gas Corp.	2318	Unnamed	Dry	Completed
90.3	84	Webster	68	Cabot Oil & Gas Corp.	2318	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed
137.3	-309	Greenbrier	22	Columbia Gas Transmission Corp.	3462	Unnamed	Dry	Completed



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

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May 2015

Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

Legend

- / Milepost
- (Tenth-Mile

Well Type

- Other
- Gas
- Oil
- Oil and Gas
- Oil w/ Gas Show

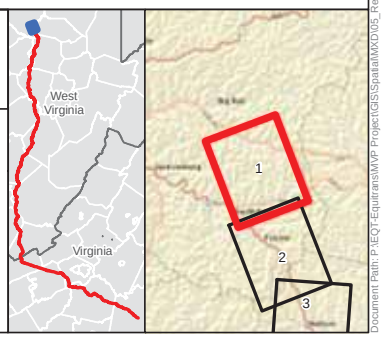
Preliminary Meter Station Location

- Mobley Interconnect receipt

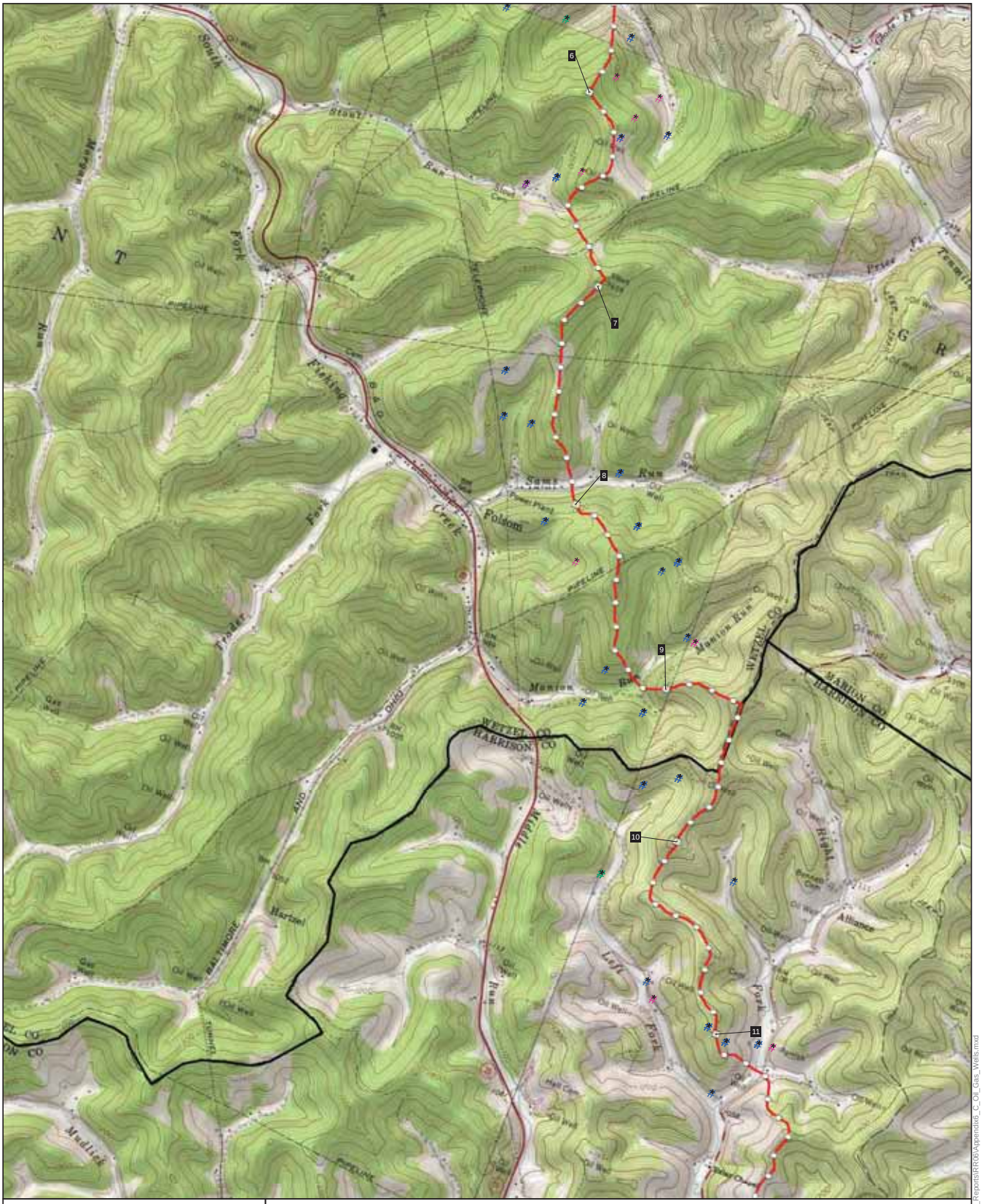
- Proposed Route
- Existing Equitrans H-302 Line

Preliminary Compressor Station Location

- Bradshaw Station



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

Page 2 of 41

May 2015

Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

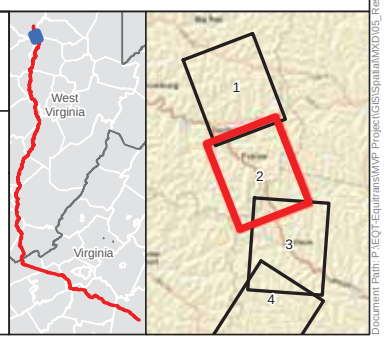
Legend

- Milepost
- Tenth-Mile

Well Type

- Other
- Oil
- Oil and Gas
- Oil w/ Gas Show

Proposed Route



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix_C_Oil_Gas_Wells.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

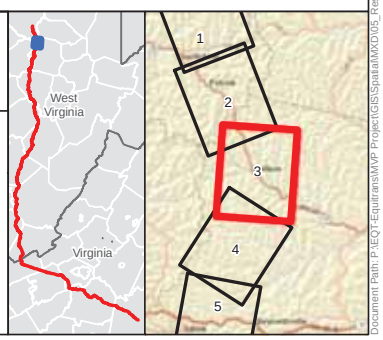
Legend

- / Milepost
- (Tenth-Mile

Well Type

- Other
- Dry w/ Gas Show
- Gas
- Oil
- Oil and Gas

Proposed Route



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_C_Oil_Gas_Wells.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

Page 4 of 41

May 2015

Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

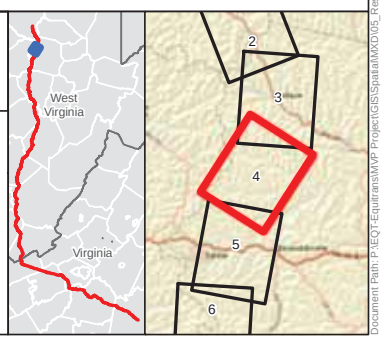
Legend

- Milepost
- Tenth-Mile

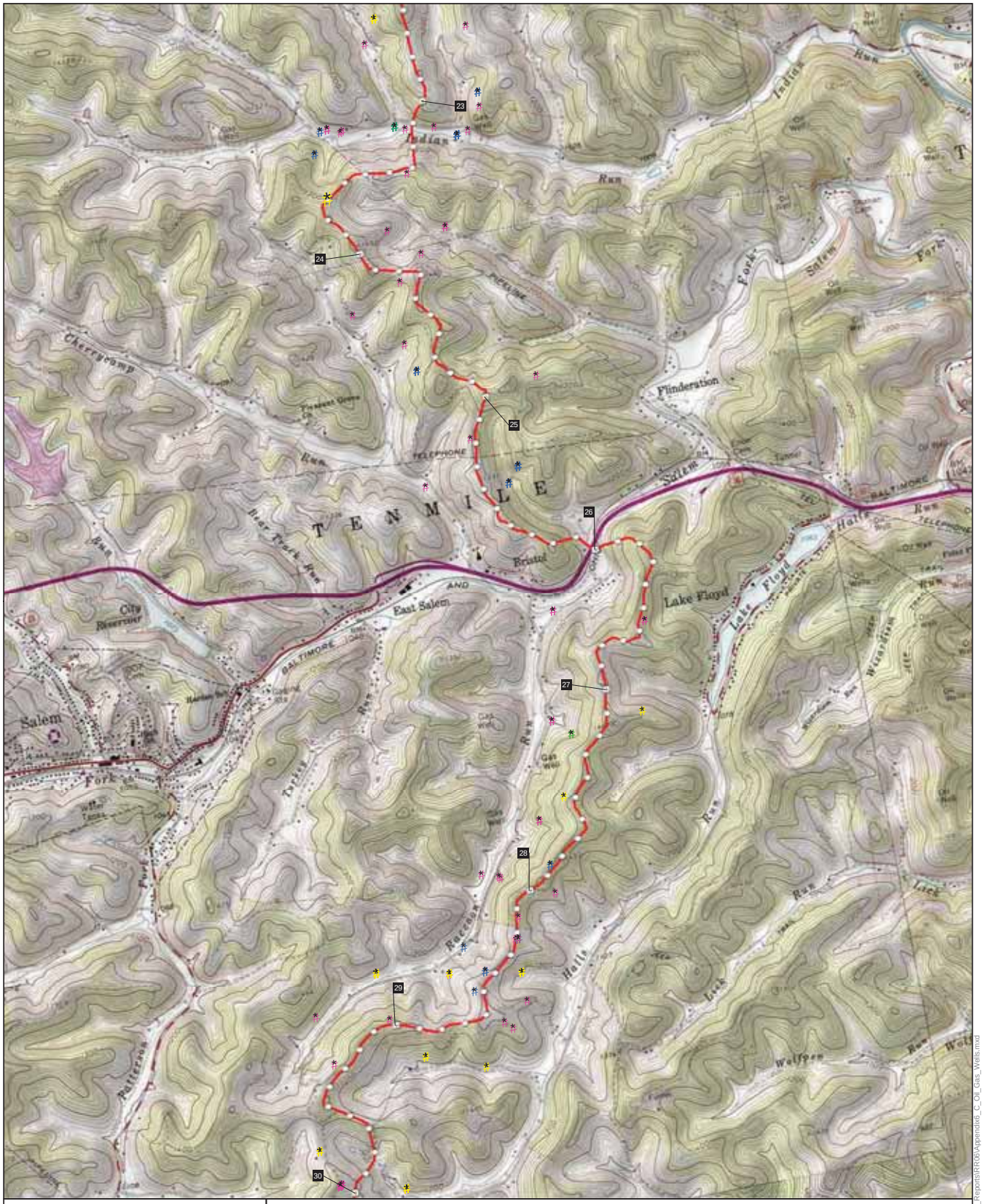
Well Type

- Gas
- Gas w/ Oil Show
- Oil
- Oil and Gas

Proposed Route



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

Page 5 of 41

May 2015

Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

Legend

- / Milepost
- (Tenth-Mile

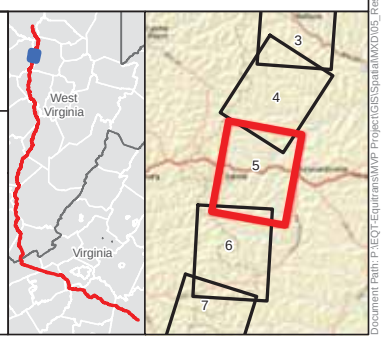
Well Type

- Other
- Dry
- Gas
- Oil
- Oil and Gas

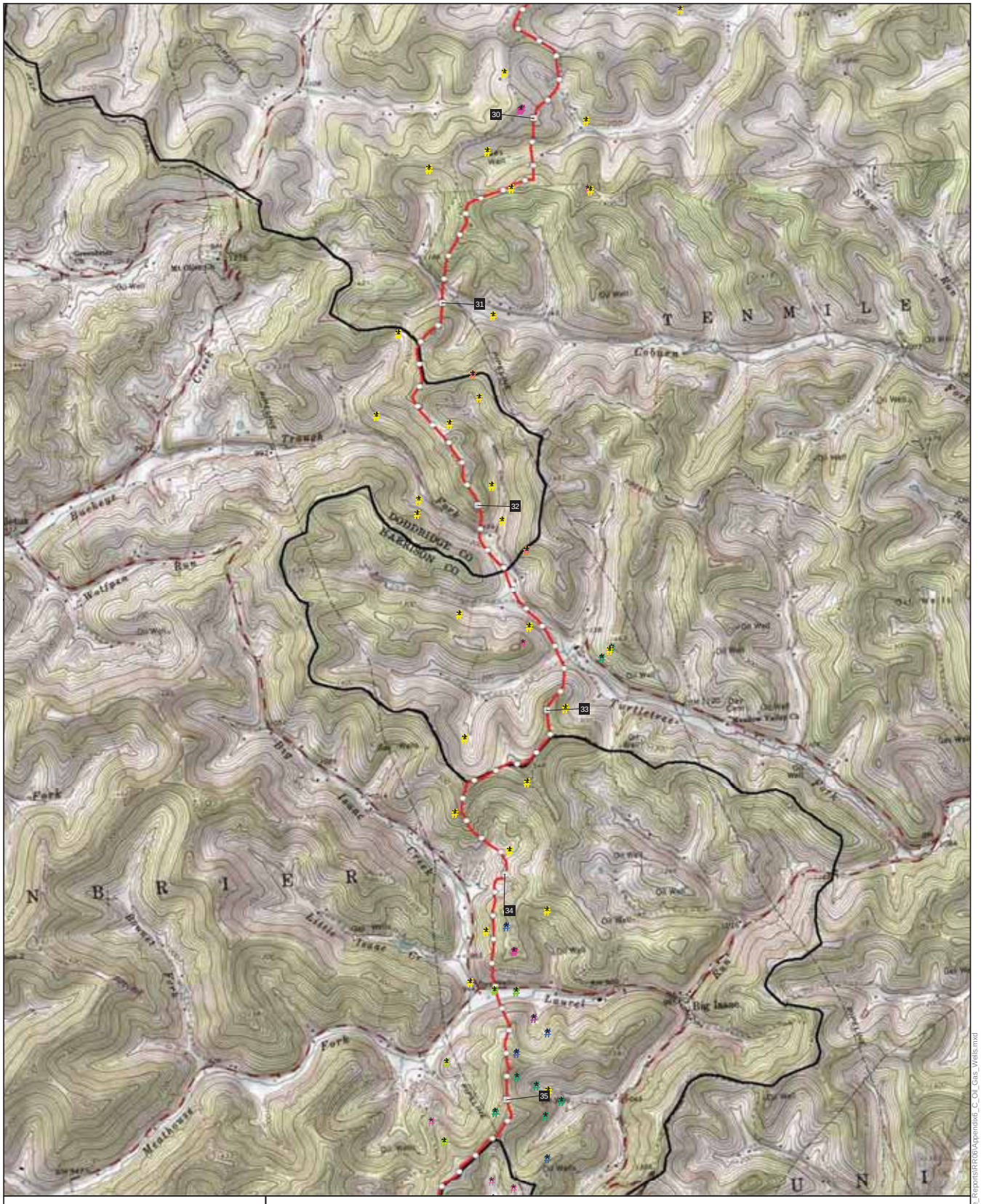
Preliminary Meter Station Location

- MarkWest Interconnect receipt

Proposed Route



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

Page 6 of 41

May 2015

Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

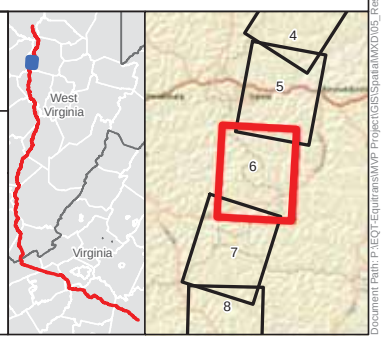
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- / Milepost
- (Tenth-Mile

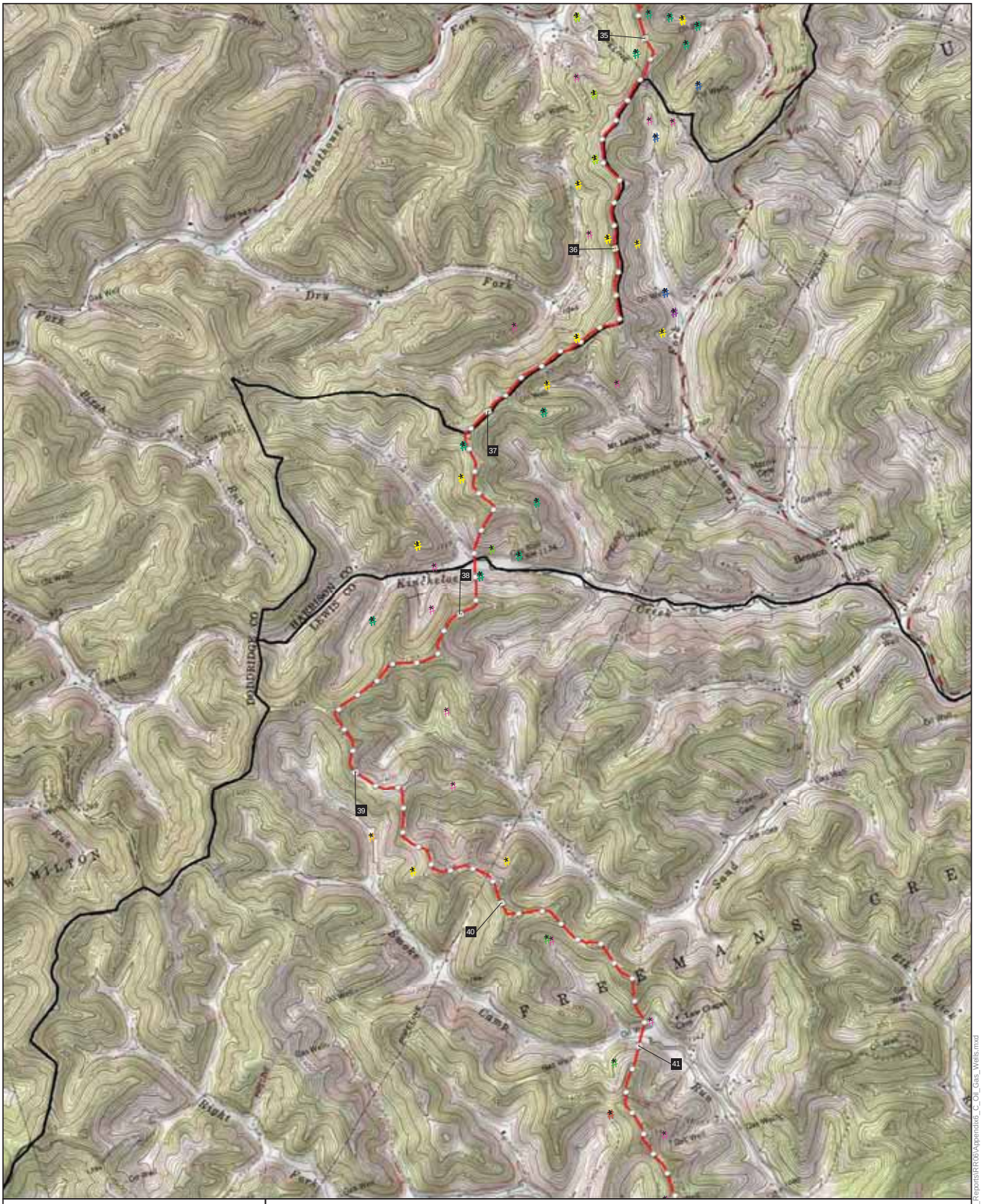
Well Type

- Other
- Gas
- Gas w/ Oil Show
- Oil
- Oil and Gas
- Oil w/ Gas Show

Proposed Route



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

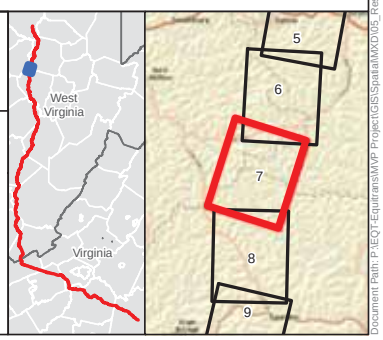
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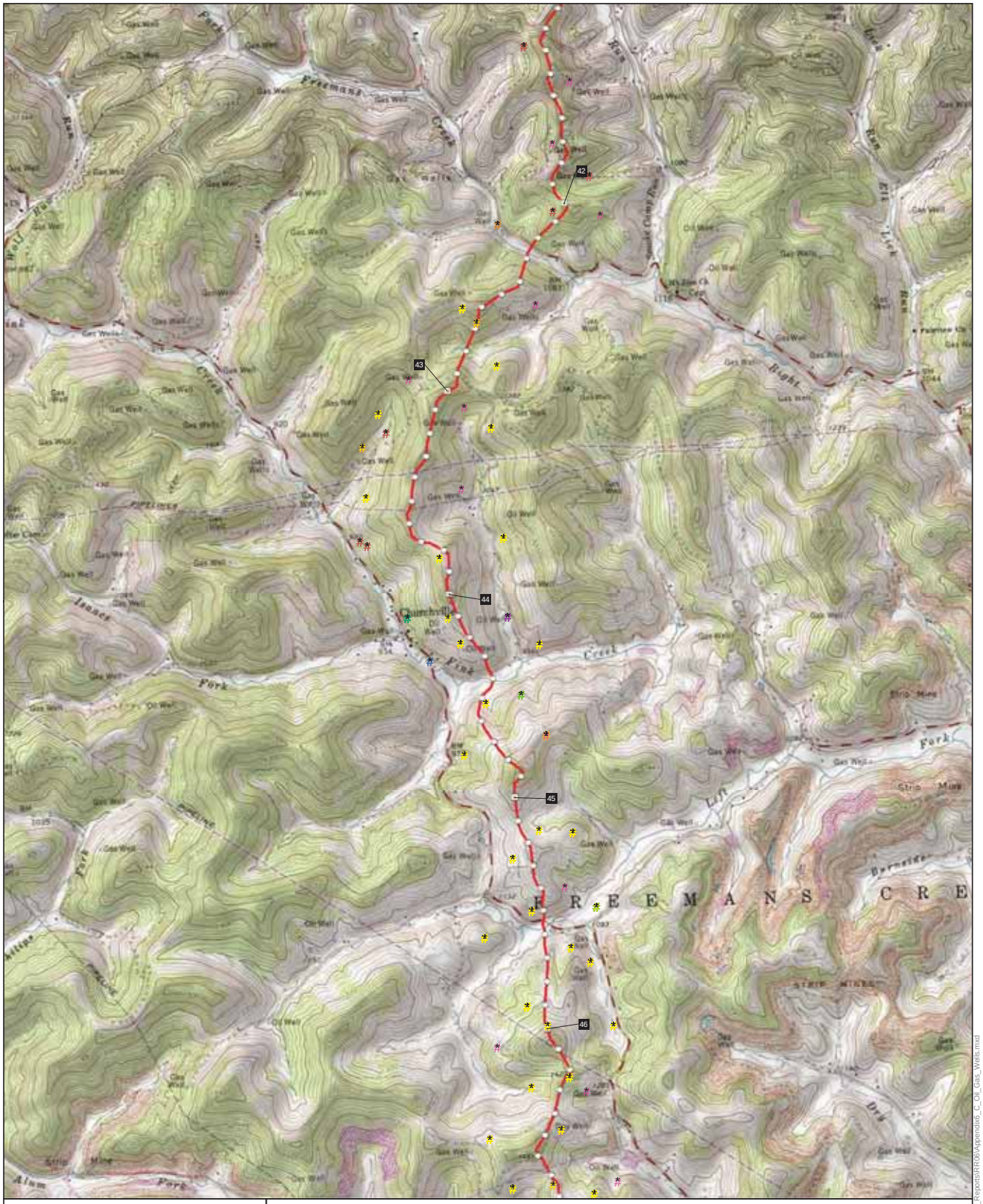
- / Milepost
- (Tenth-Mile
- Proposed Route

Well Type

- Dry
- Gas
- Gas w/ Oil Show
- Oil
- Oil and Gas
- Oil w/ Gas Show
- Storage



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_C_Oil_Gas_Wells.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

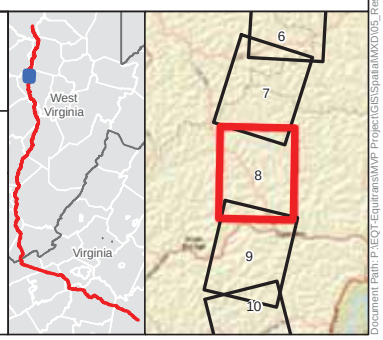
Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

Legend

- / Milepost
- (Tenth-Mile
- Proposed Route

Well Type

- Other
- Gas
- Gas w/ Oil Show
- Oil
- Oil and Gas
- Oil w/ Gas Show
- Storage



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_C_Oil_Gas_Wells.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

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May 2015

Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

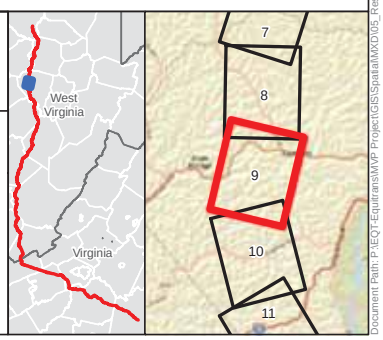
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- / Milepost
- (Tenth-Mile

Well Type

- Dry
- Gas
- Gas w/ Oil Show
- Water Injection

Proposed Route



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_C_Oil_Gas_Wells.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

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May 2015

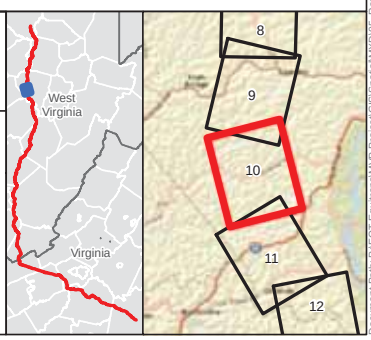
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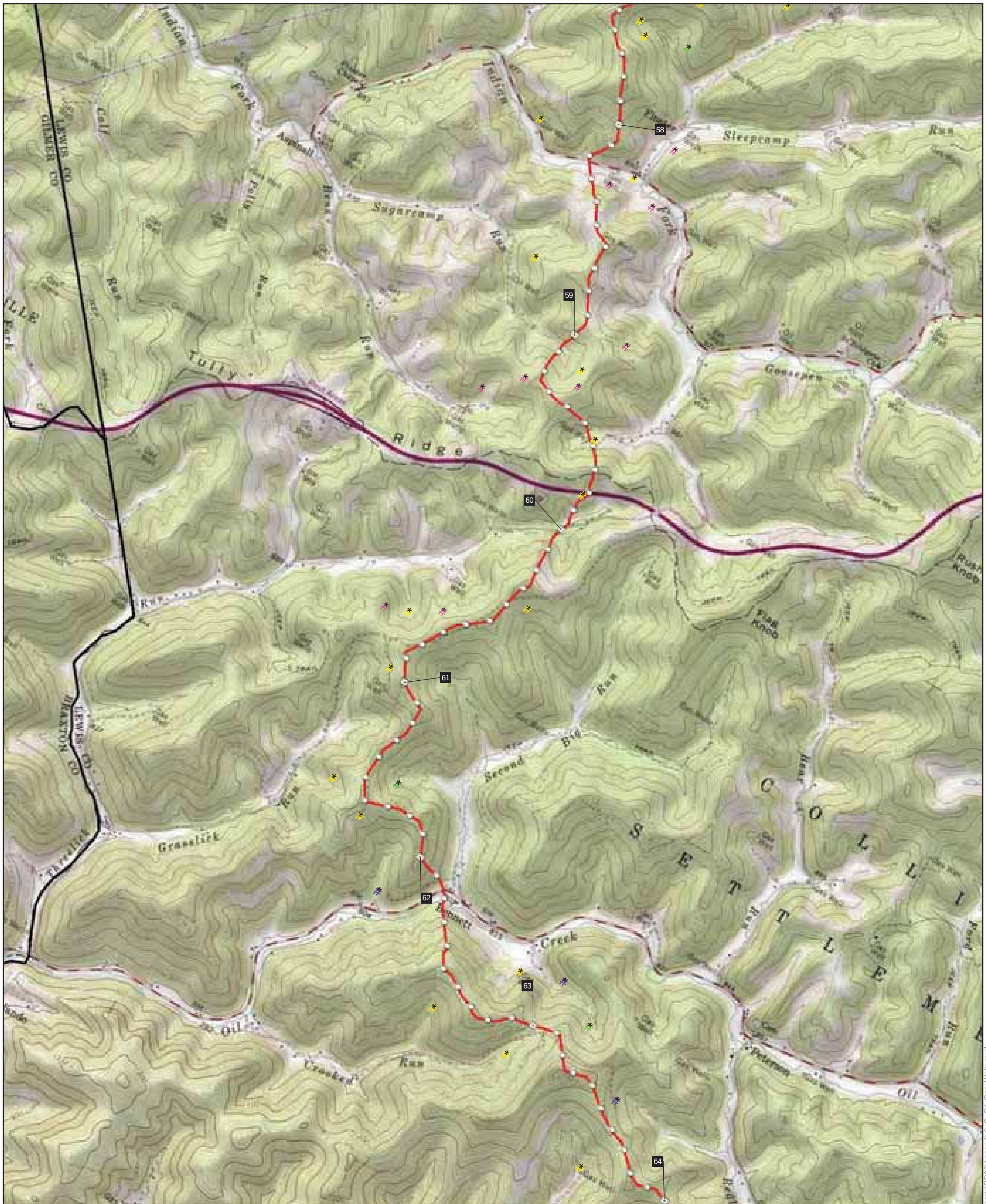
- Milepost
- Tenth-Mile
- Oil w/ Gas Show
- Proposed Route

Well Type

- Other
- Dry
- Dry w/ O&G Show
- Gas
- Gas w/ Oil Show
- Oil
- Oil and Gas



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_C_Oil_Gas_Wells.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

Page 11 of 41

May 2015

Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

Legend

Milepost

Tenth-Mile

Well Type

Dry

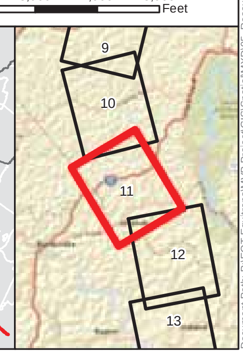
Dry w/ Gas Show

Gas

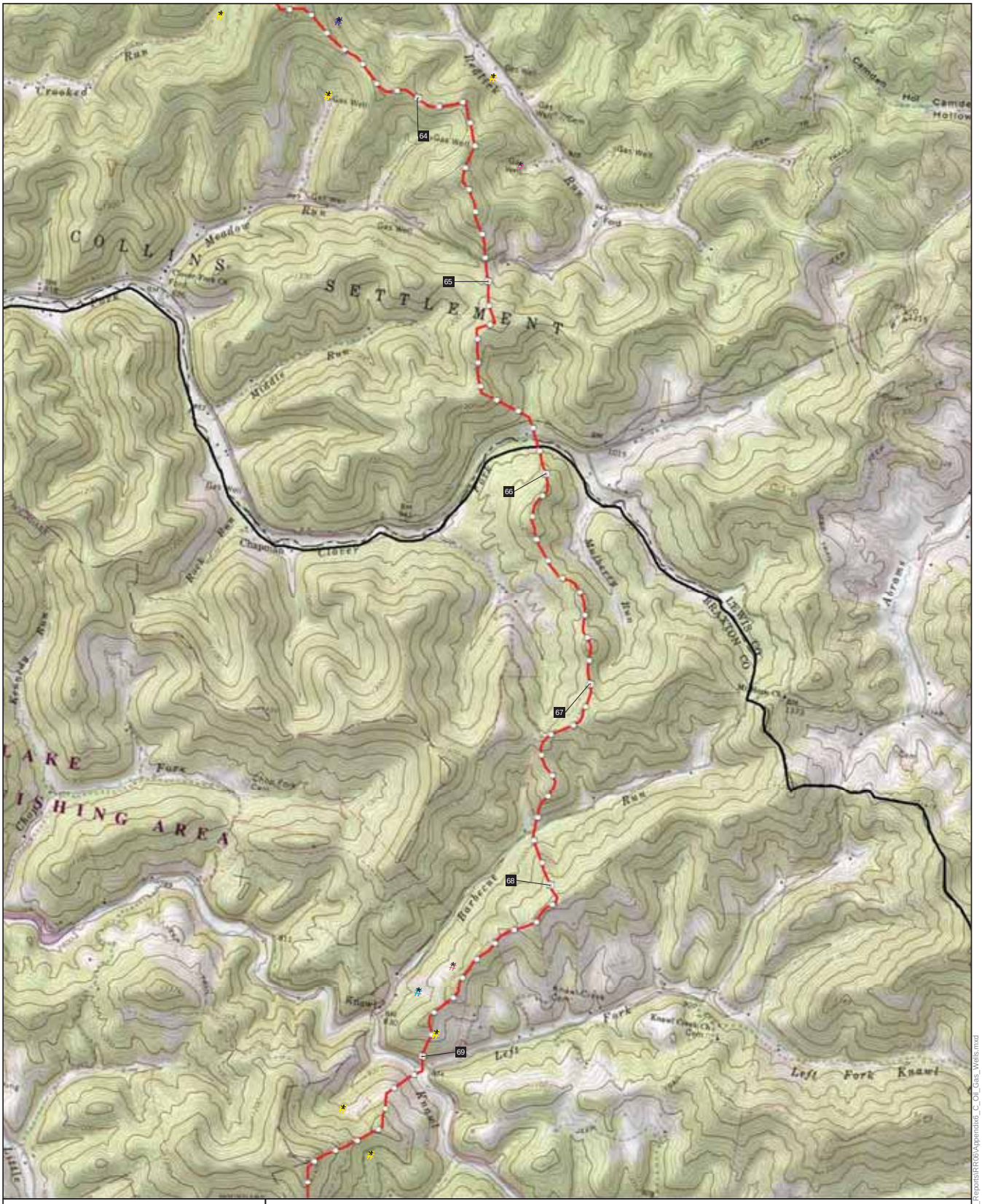
Gas w/ Oil Show

Proposed Route





Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_C_Oil_Gas_Wells.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

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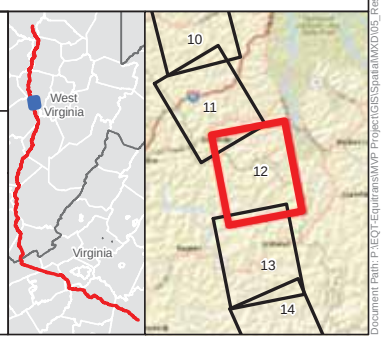
Legend

- Milepost
- Tenth-Mile

Well Type

- Dry w/ Gas Show
- Dry w/ Oil Show
- Gas

Proposed Route



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

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May 2015

Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

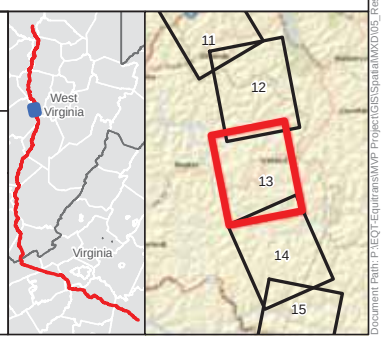
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- Milepost
- Tenth-Mile

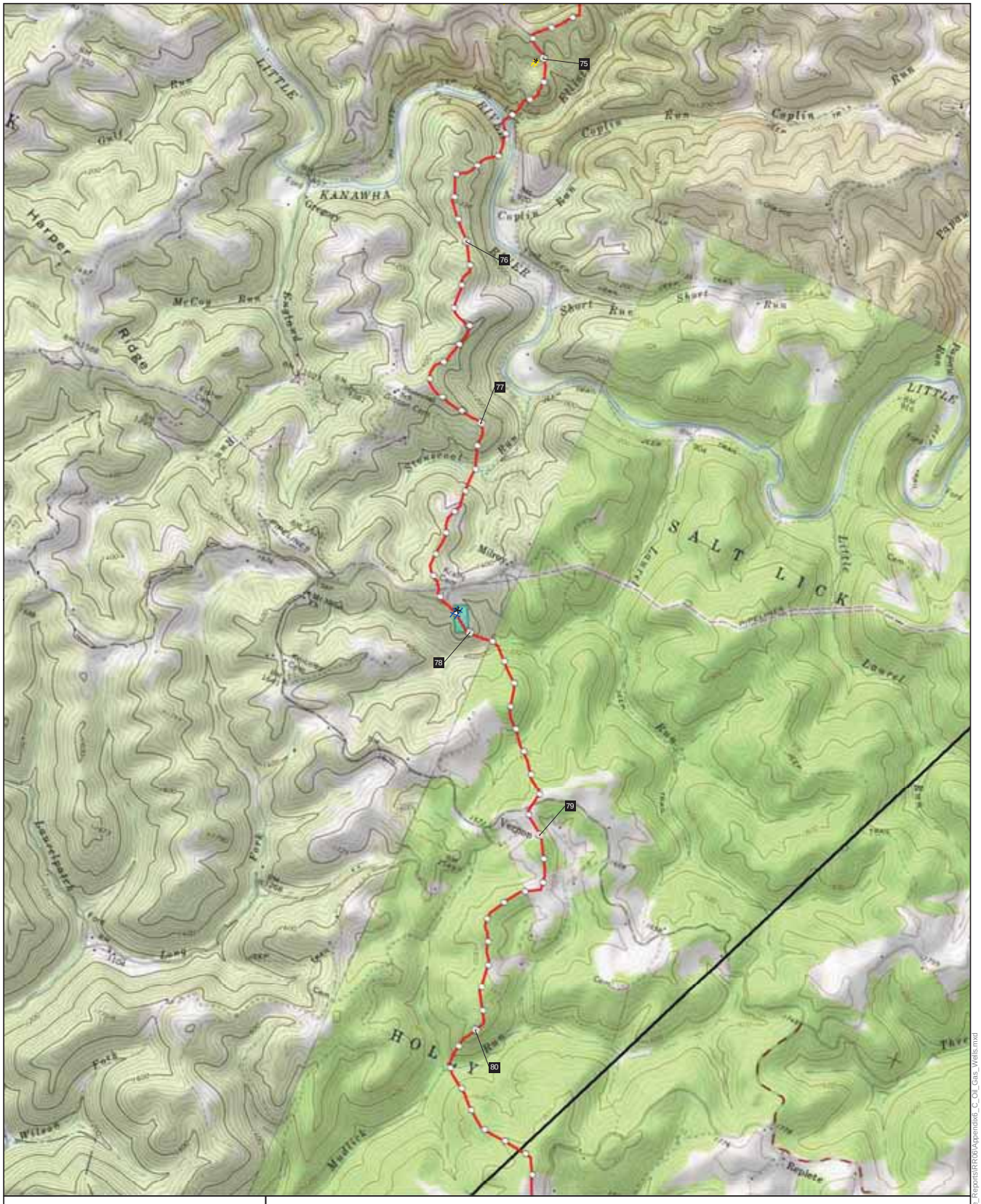
Well Type

- Dry w/ Gas Show
- Dry w/ O&G Show
- Gas
- Gas w/ Oil Show

Proposed Route



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_C_Oil_Gas_Wells.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

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May 2015

Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

Legend

- Milepost
- Tenth-Mile

Well Type

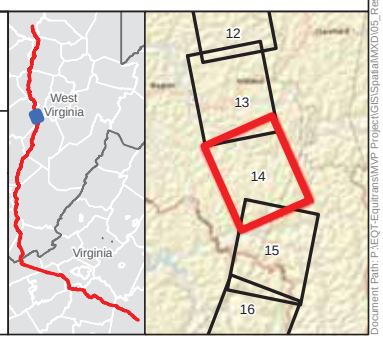
- Gas

Preliminary Meter Station Location

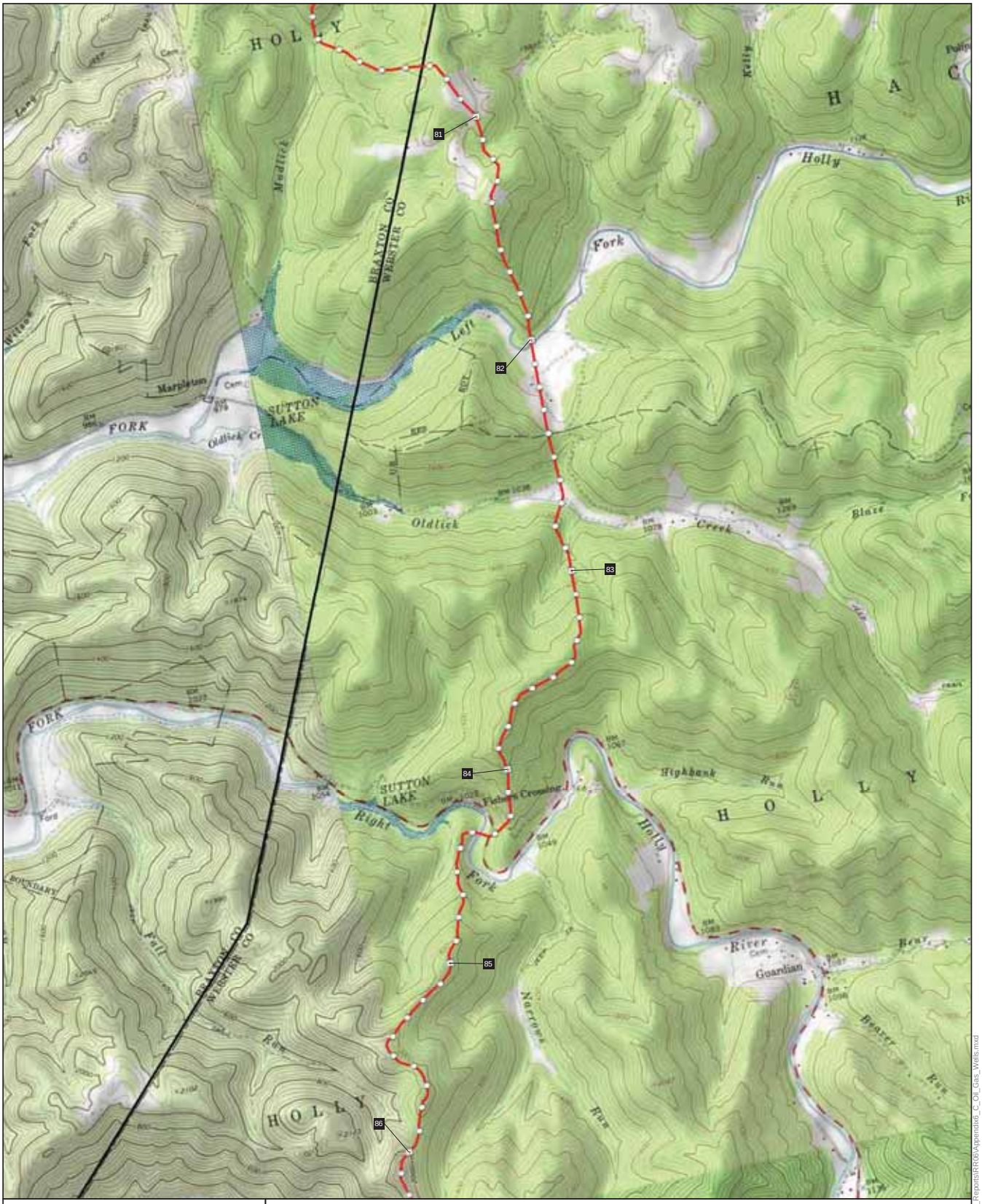
- WB Interconnect receipt
- Proposed Route

Preliminary Compressor Station Location

- Harris Station



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Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

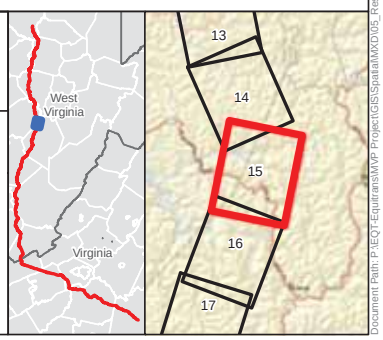
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Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

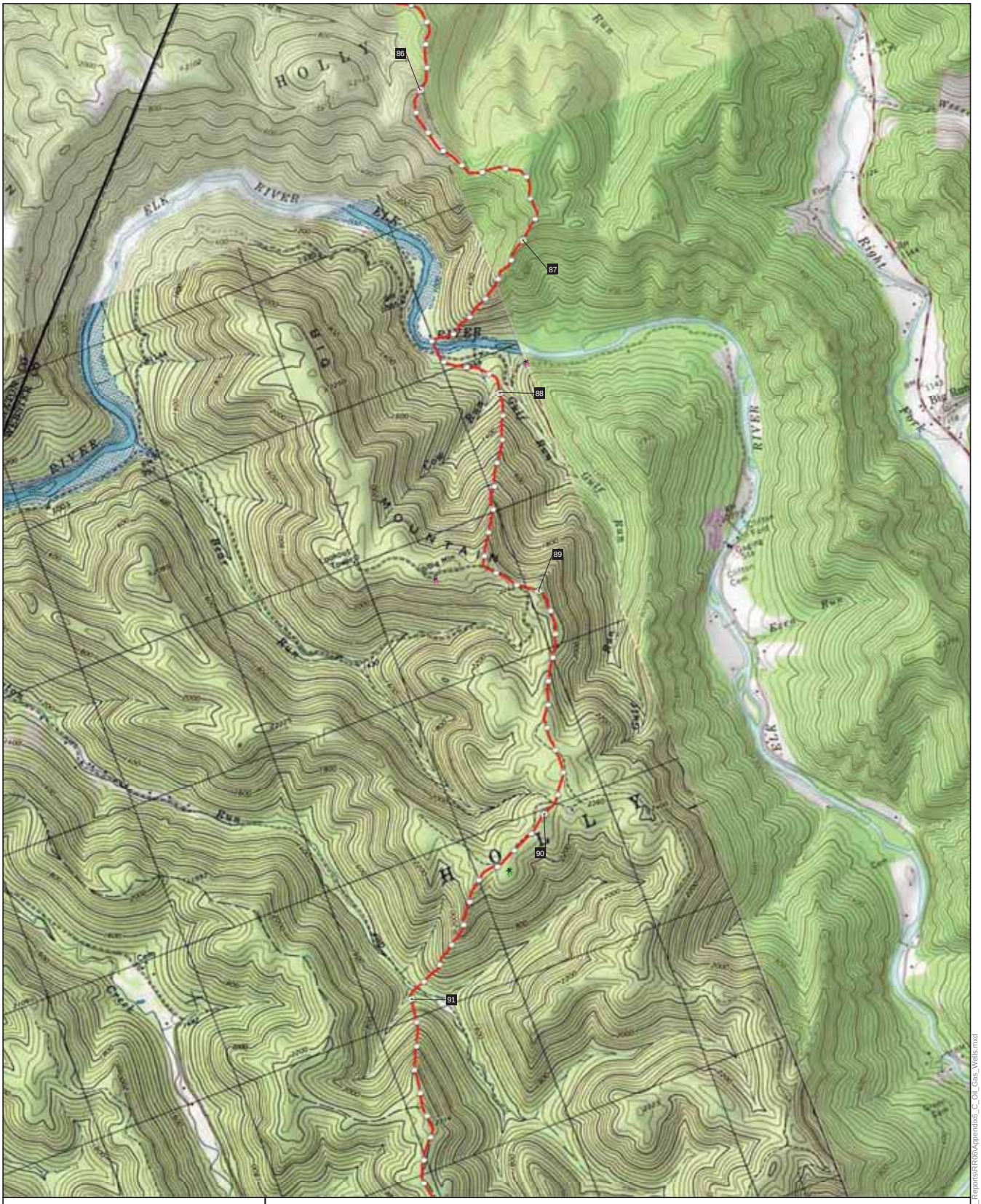
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Legend

- / Milepost
- (Tenth-Mile
- Proposed Route



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

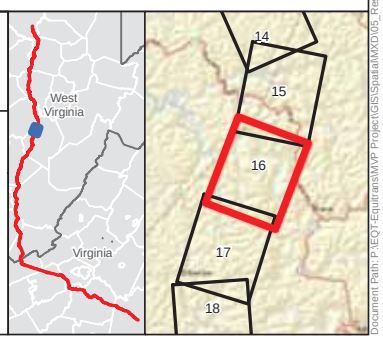
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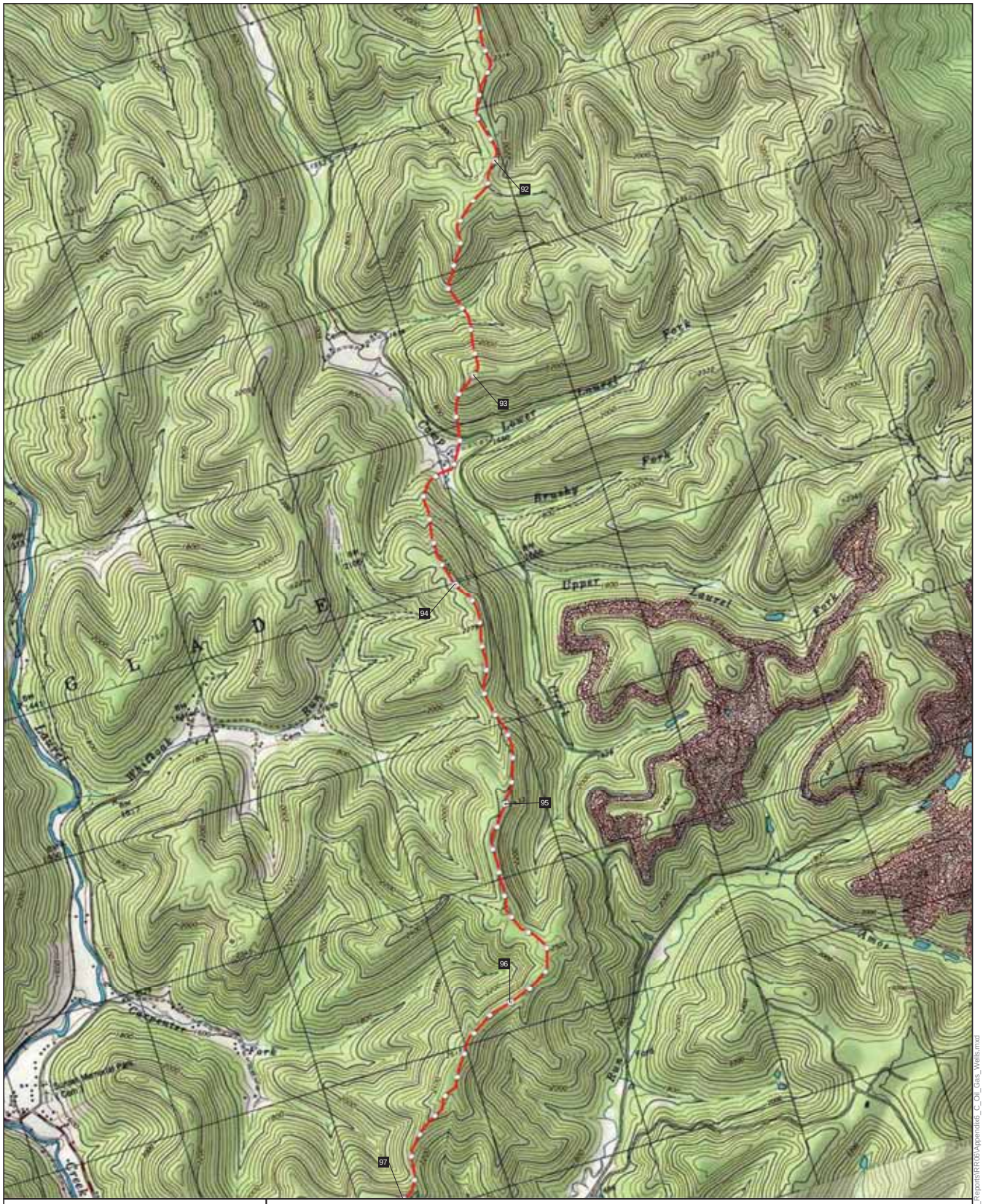
- Milepost
- Tenth-Mile

Well Type

- Dry
- Proposed Route



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

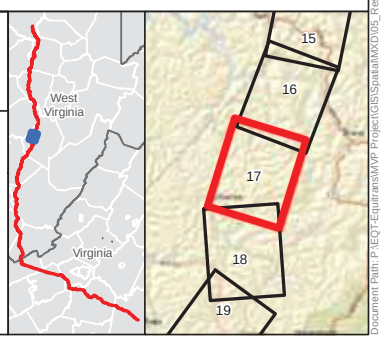
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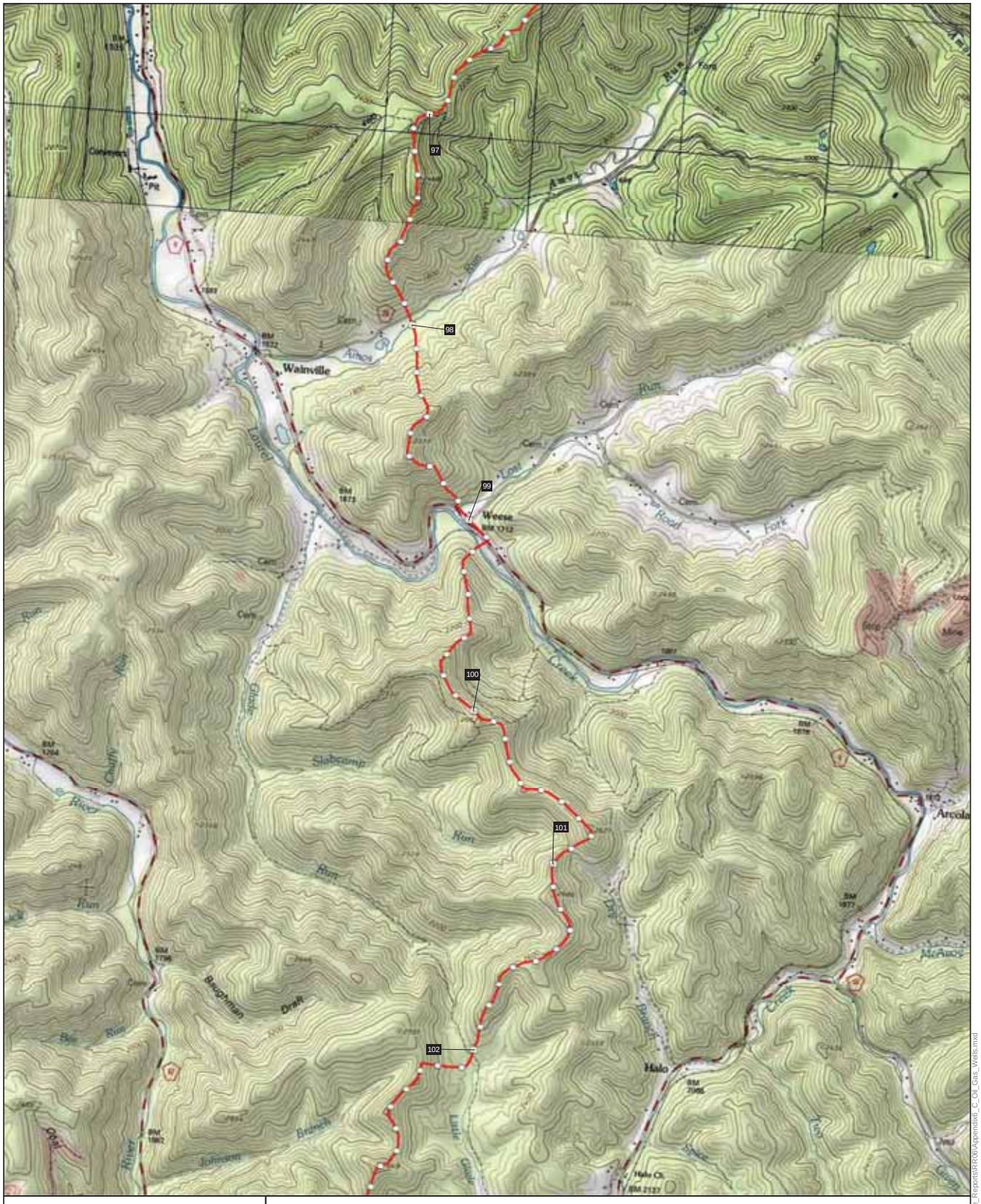
/ Milepost

(Tenth-Mile

Proposed Route



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

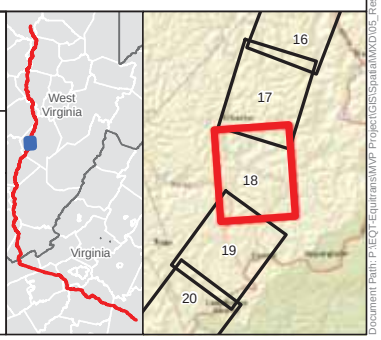
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Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

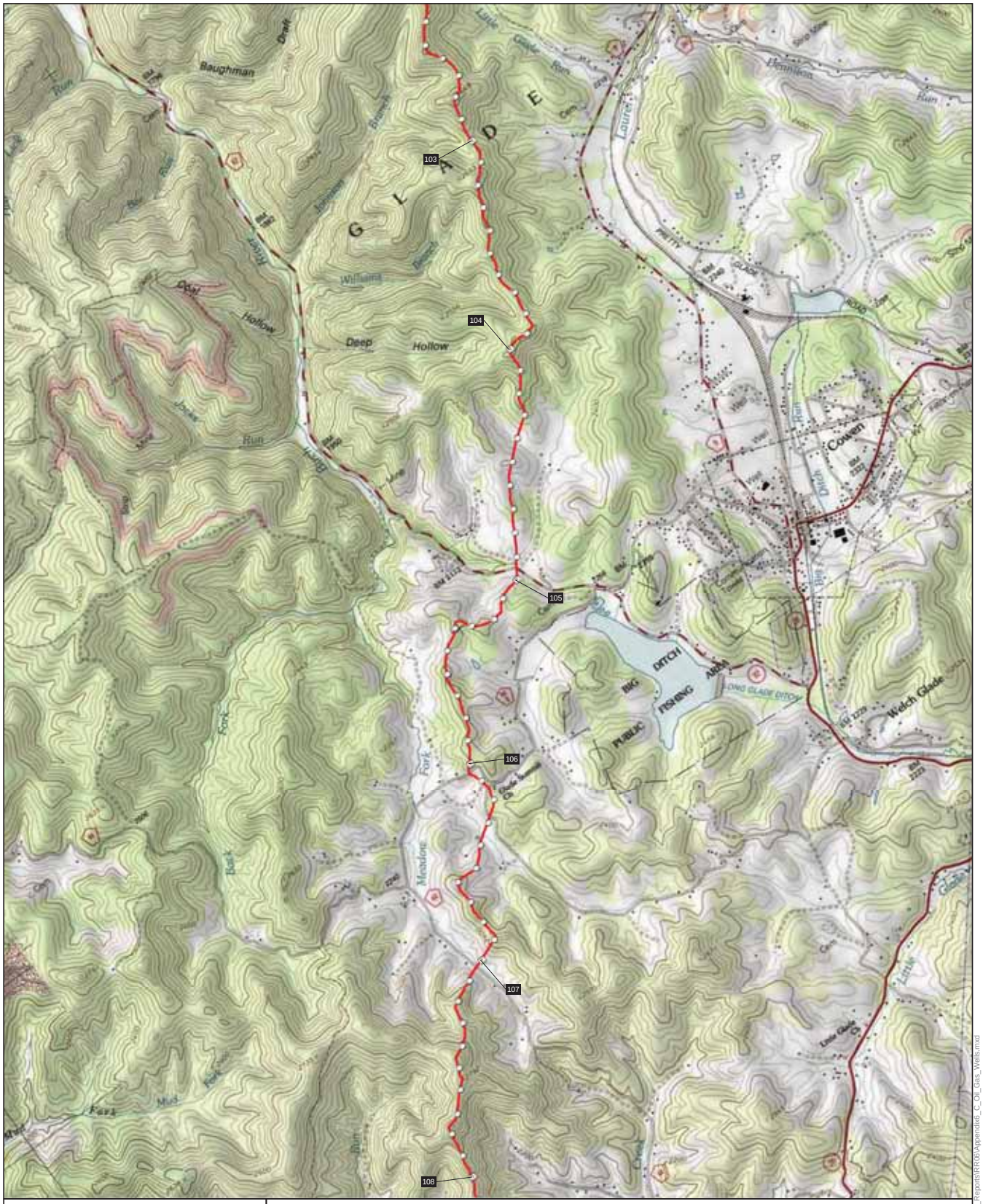
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Legend

- Milepost
- Tenth-Mile
- Proposed Route



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Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

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May 2015

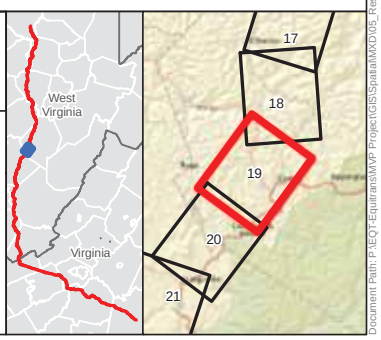
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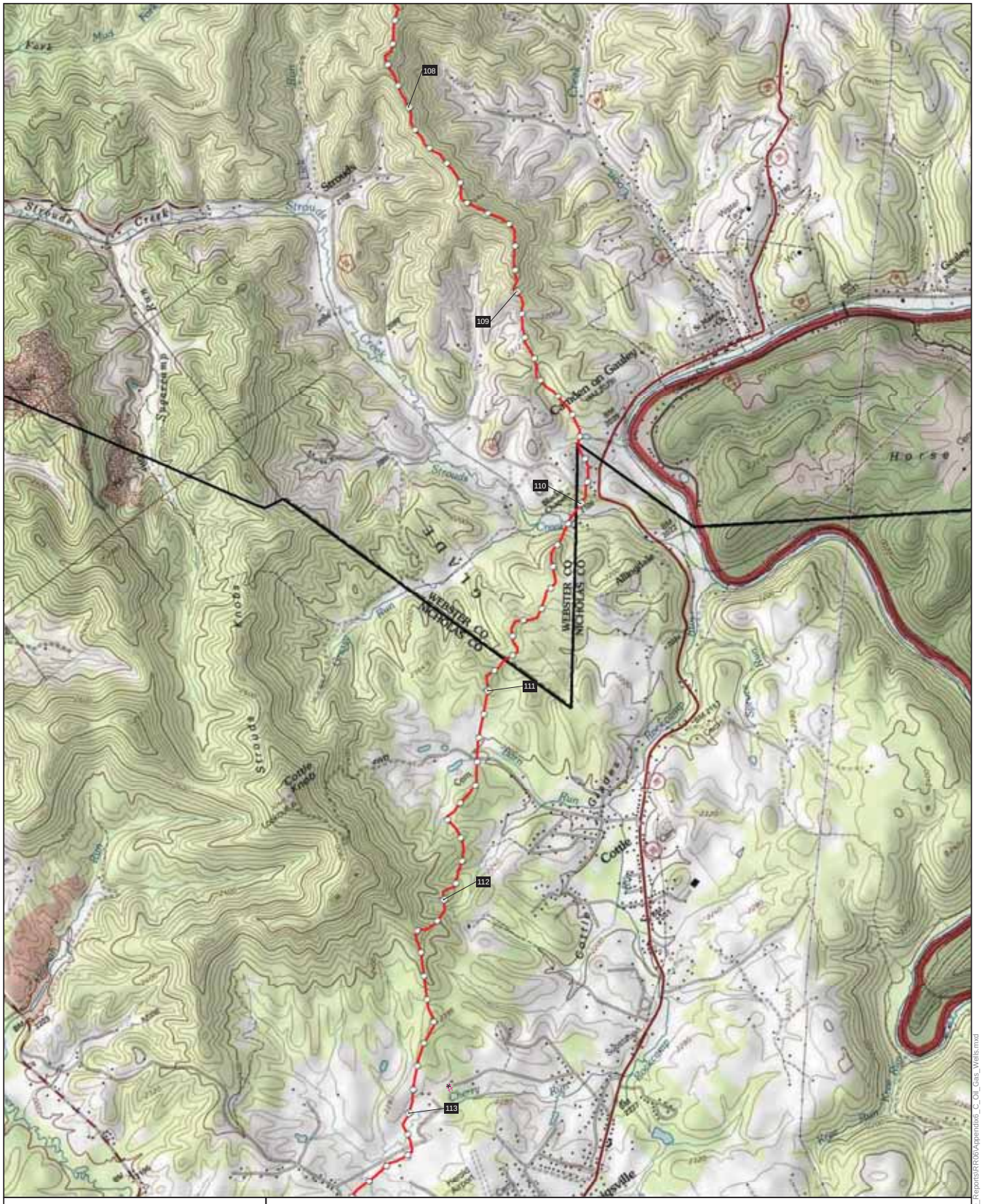
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(Tenth-Mile

Proposed Route



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
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May 2015

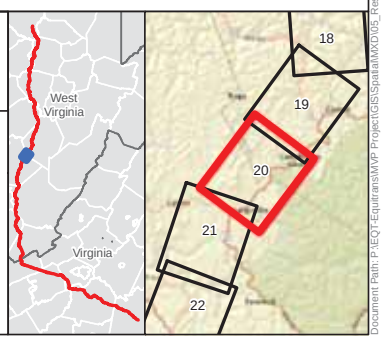
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/ Milepost

(Tenth-Mile

Proposed Route



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
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of the MVP Alignment

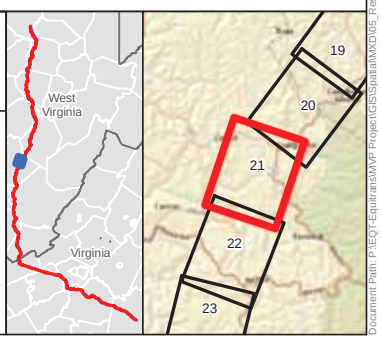
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May 2015

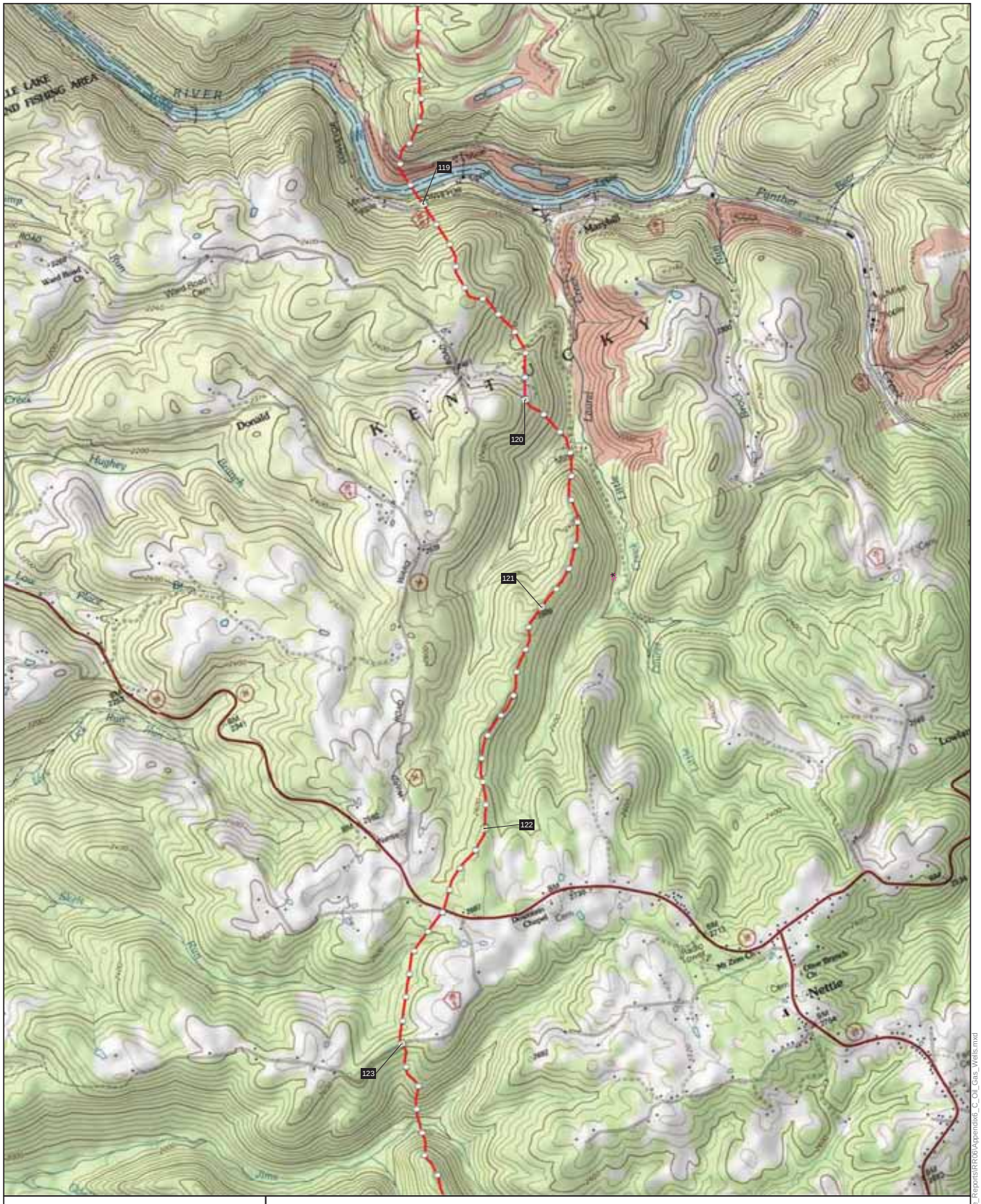
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Legend

- / Milepost
- (Tenth-Mile
- Proposed Route



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

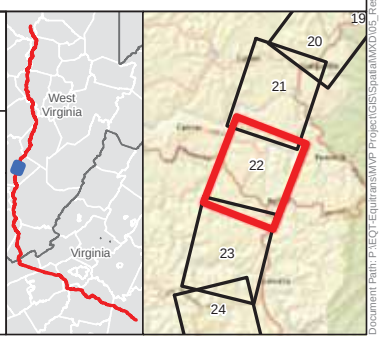
Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

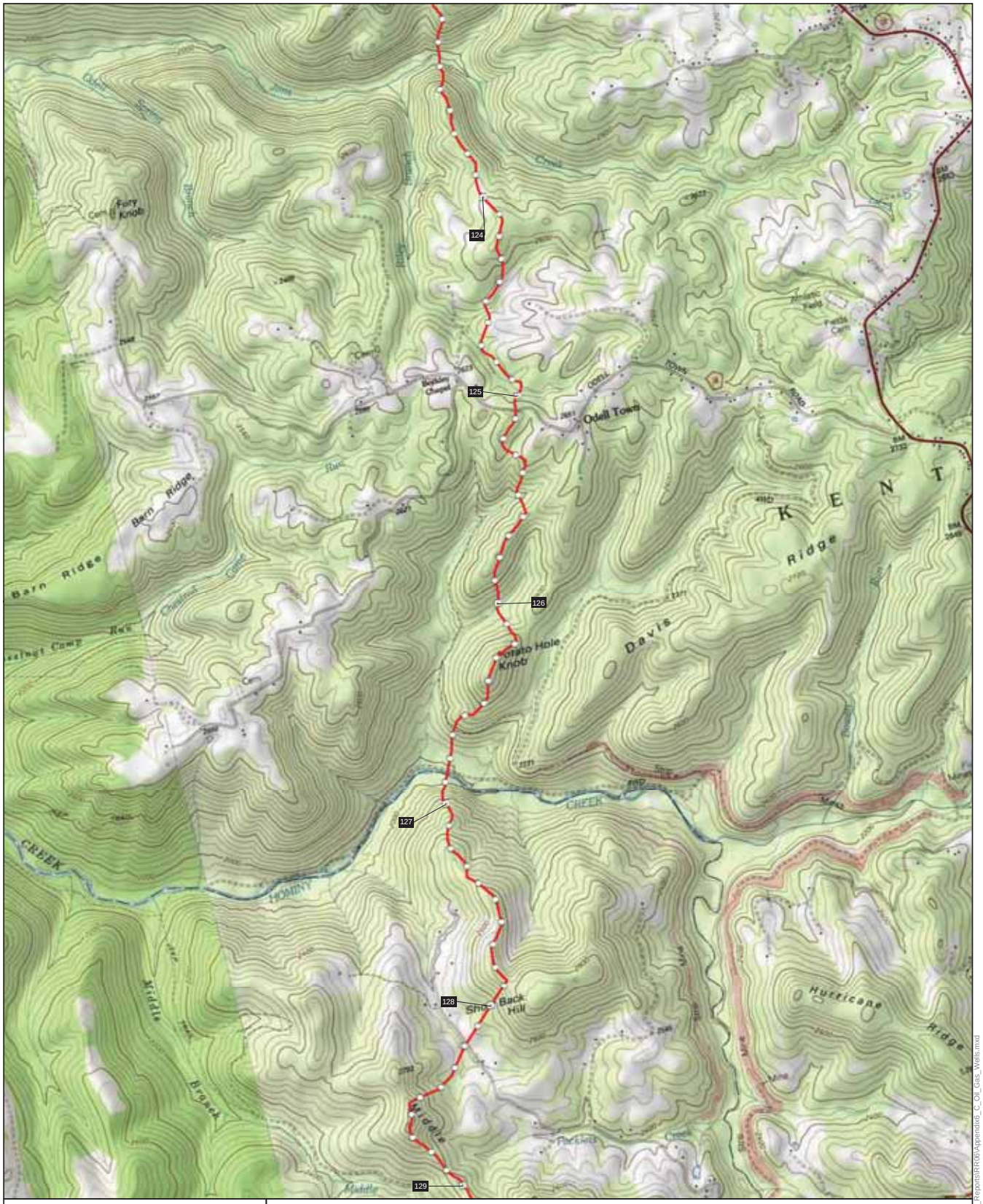
Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

Legend

- Milepost
- Tenth-Mile
- Proposed Route



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\Q3_Resource_Reports\RR06\Appendix6_C_Oil_Gas_Wells.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

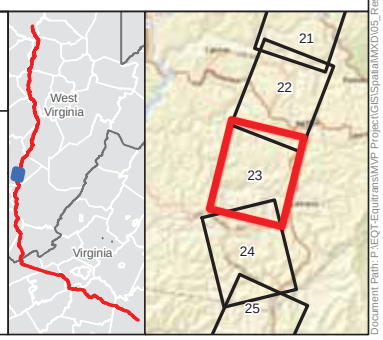
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Within 0.25 miles
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May 2015

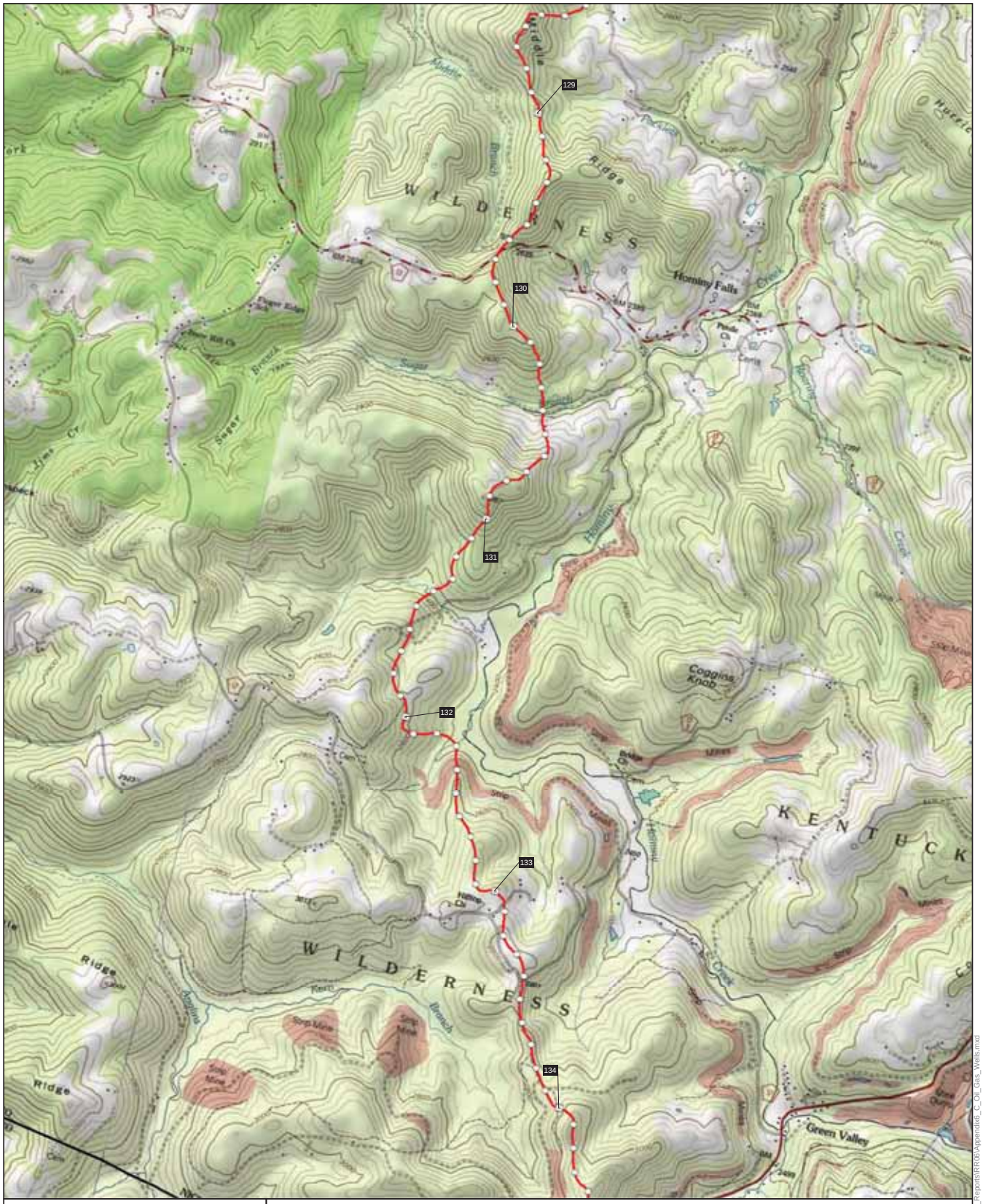
Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

Legend

- Milepost
- Tenth-Mile
- Proposed Route



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

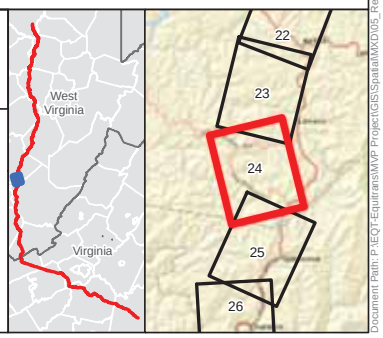
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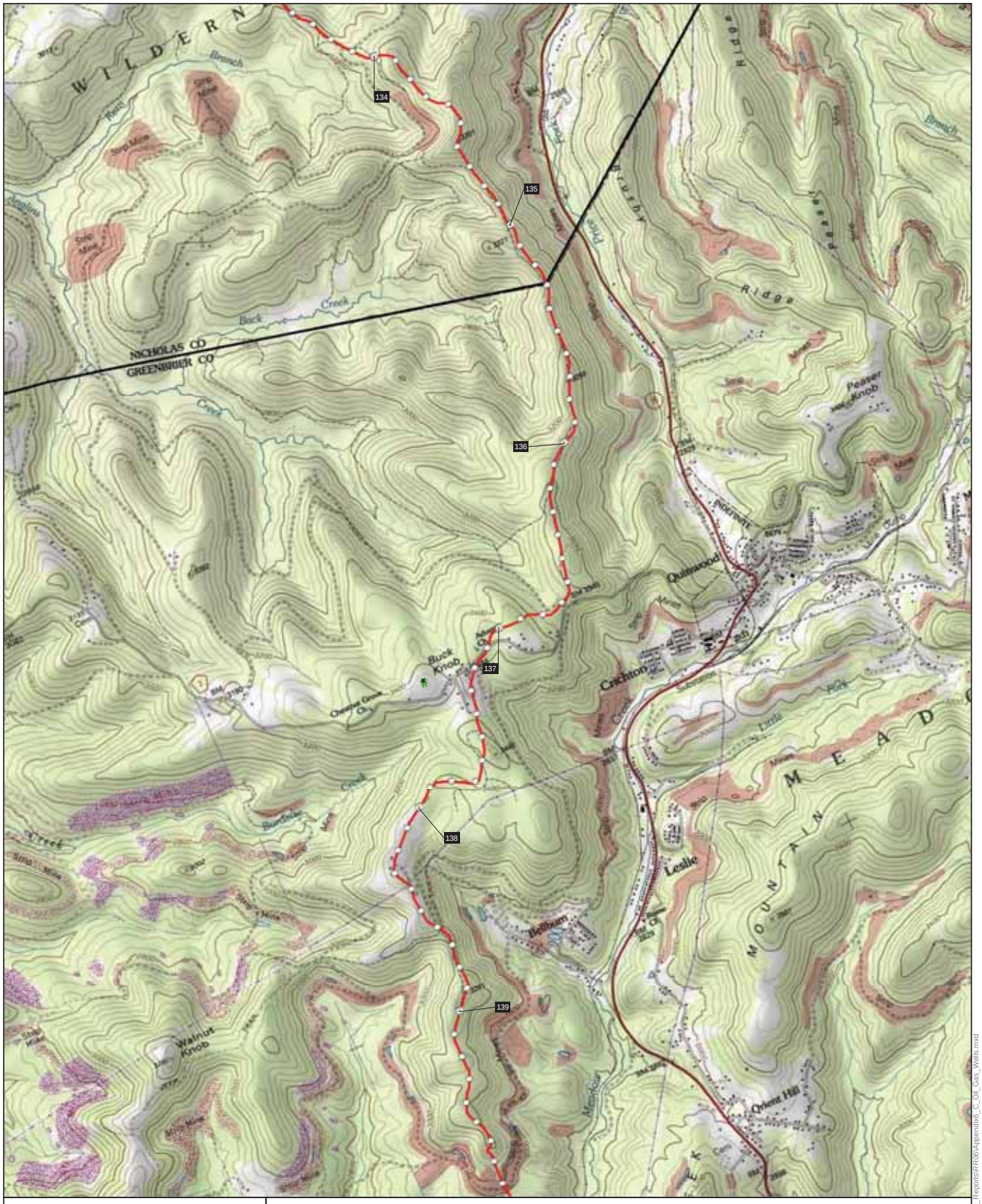
/ Milepost

(Tenth-Mile

Proposed Route



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Mountain Valley Pipeline Project

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Oil and Gas Wells
Within 0.25 miles
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May 2015

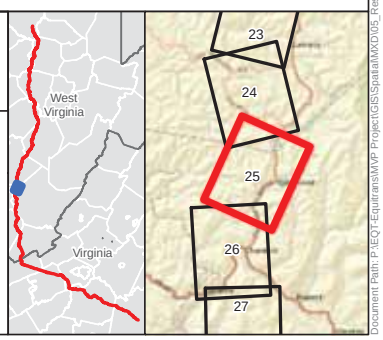
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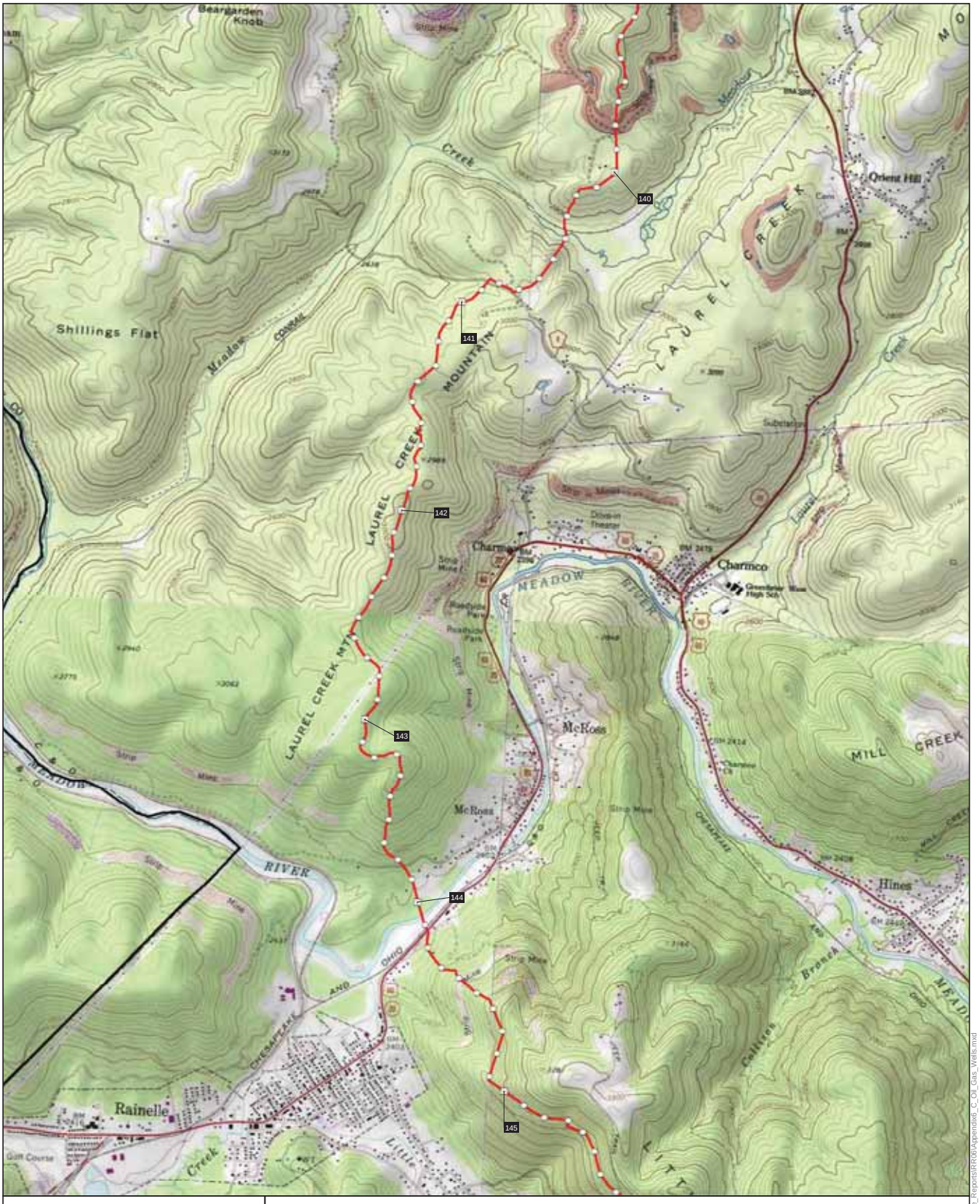
- Milepost
- Tenth-Mile

Well Type

- Dry
- Proposed Route



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Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

Appendix 6-C
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Within 0.25 miles
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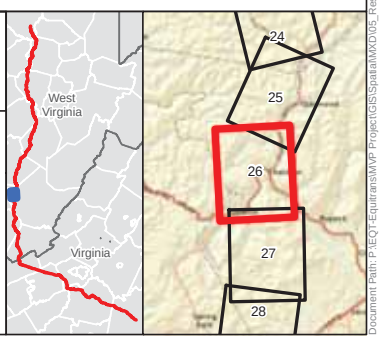
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May 2015

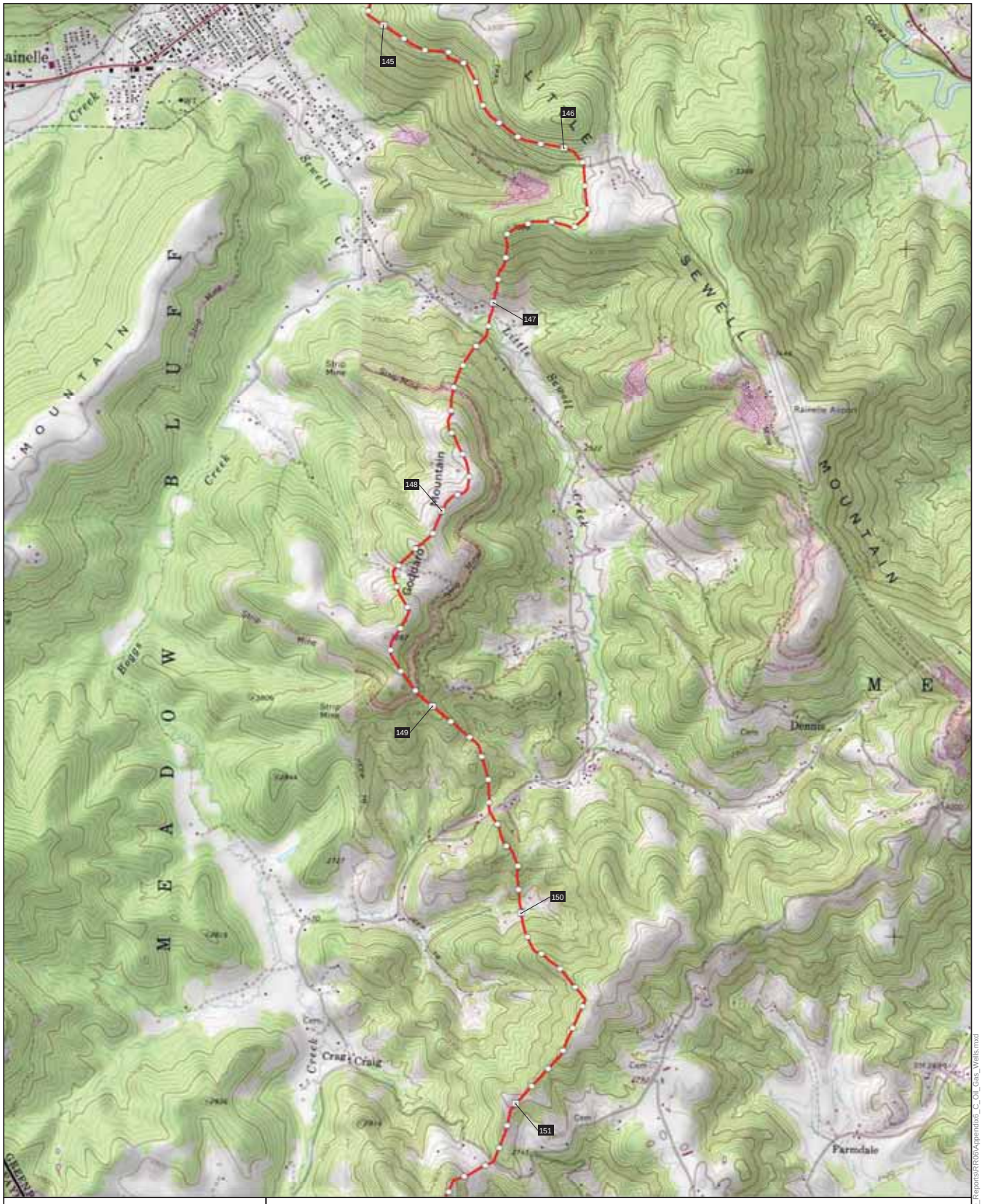
Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

Legend

- / Milepost
- (Tenth-Mile
- Proposed Route



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Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

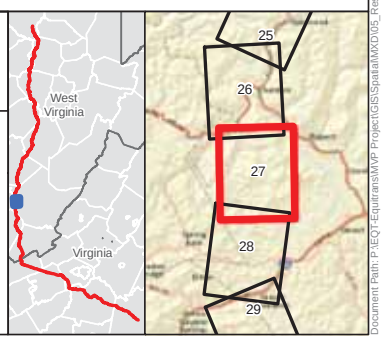
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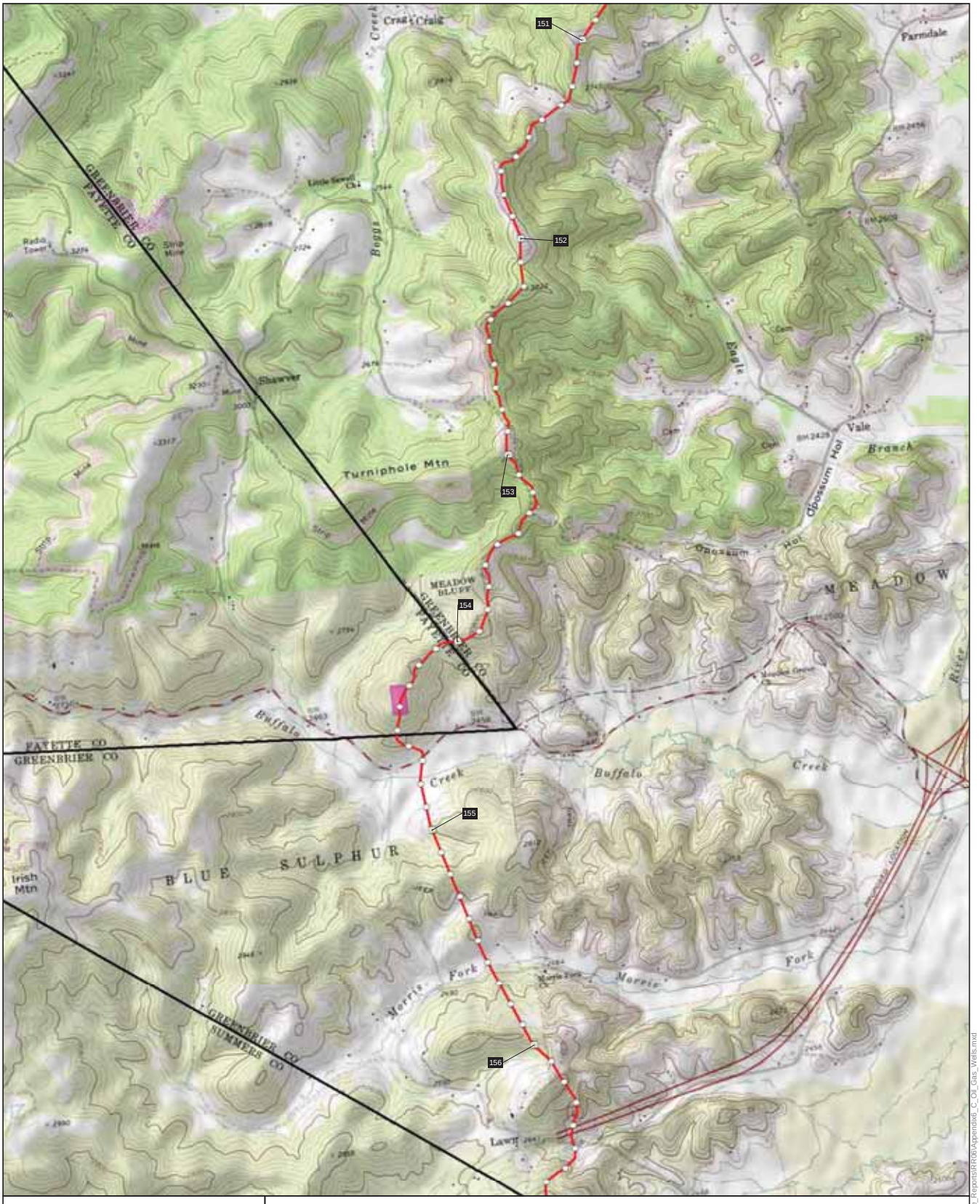
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Legend

- Milepost
- Tenth-Mile
- Proposed Route



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Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

Page 28 of 41

May 2015

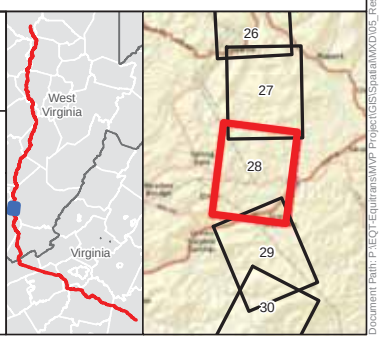
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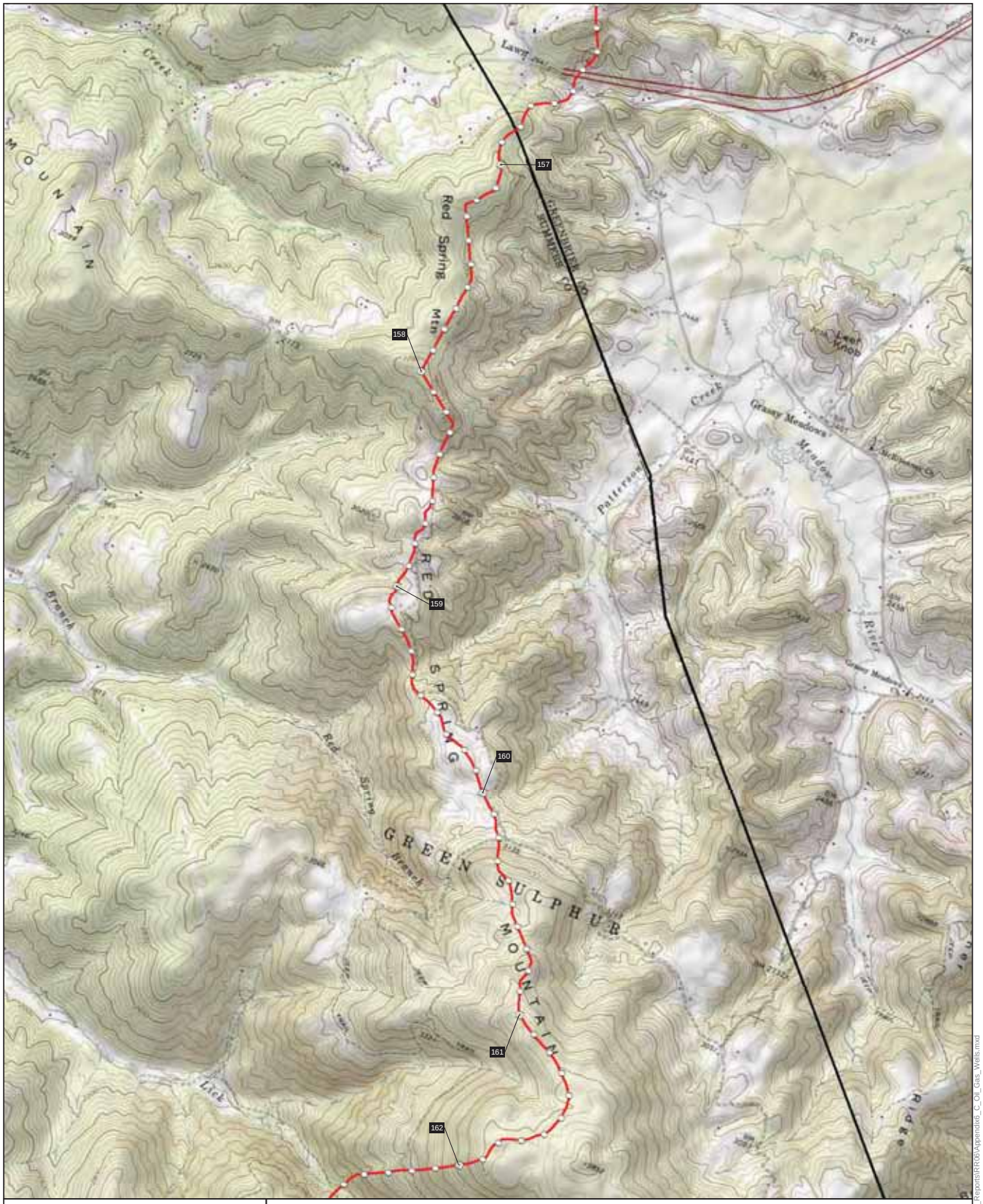
- / Milepost
- (Tenth-Mile
- Proposed Route

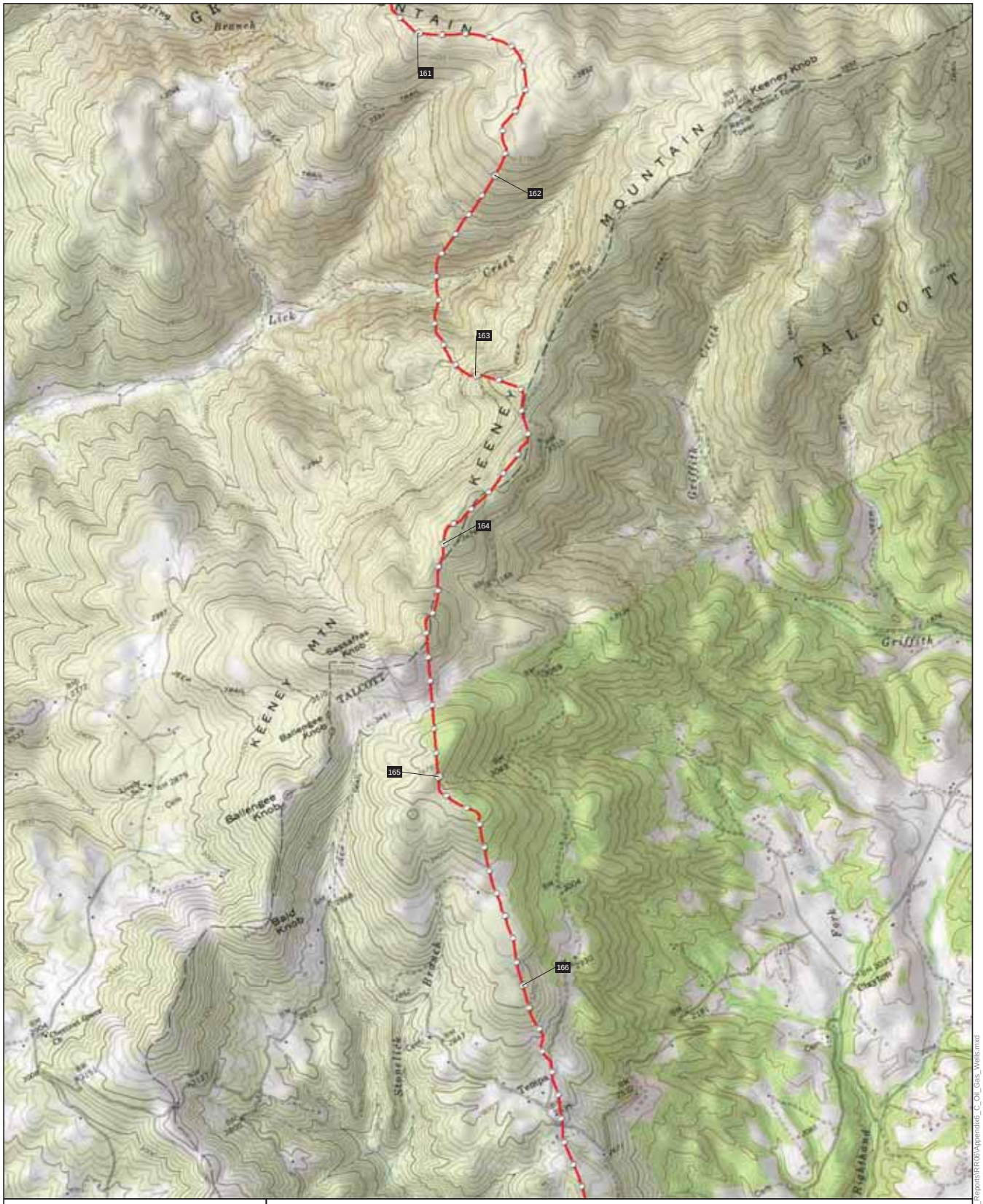
Preliminary Compressor Station Location

- Stallworth Station



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157
158
159
160
161
162
Red Spring Mtn
RED SPRING
GREEN SULPHUR MOUNTAIN
Grassy Meadows
Patterson
Lick
Mountain Valley Pipeline Project
NAD 1983 UTM 17N
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Mountain Valley PIPELINE
Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment
Page 29 of 41
May 2015
Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.
Legend
Milepost
Tenth-Mile
Proposed Route
West Virginia
Virginia
27
28
29
30
31
Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_C_Oil_Gas_Wells.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
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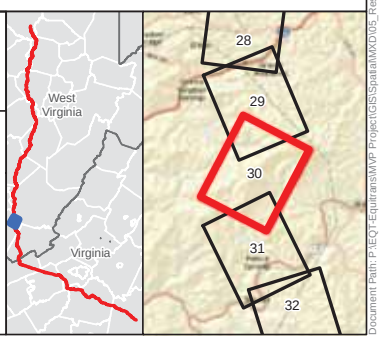
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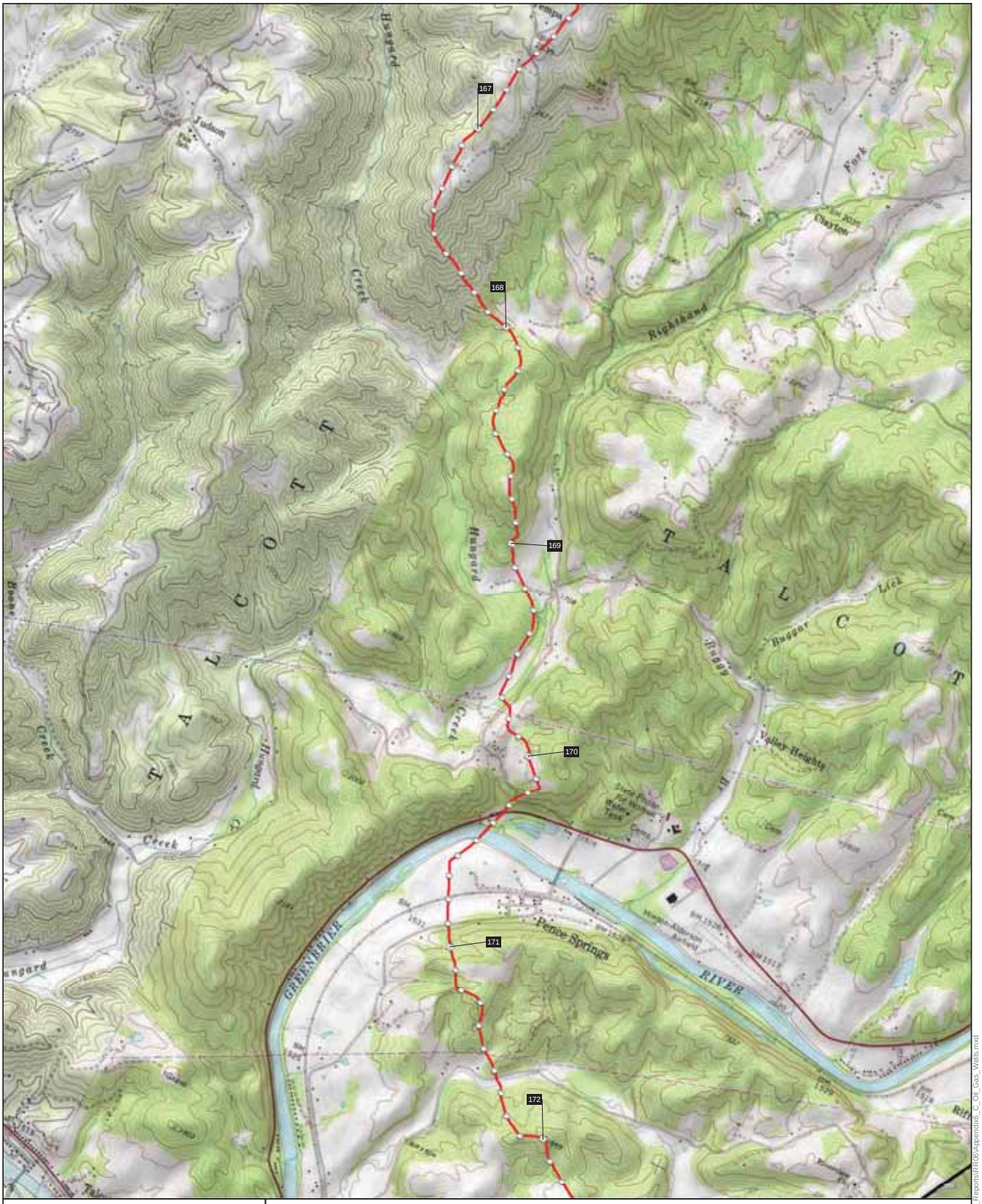
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- / Milepost
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Mountain Valley Pipeline Project

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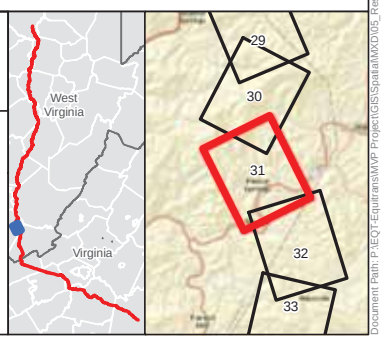
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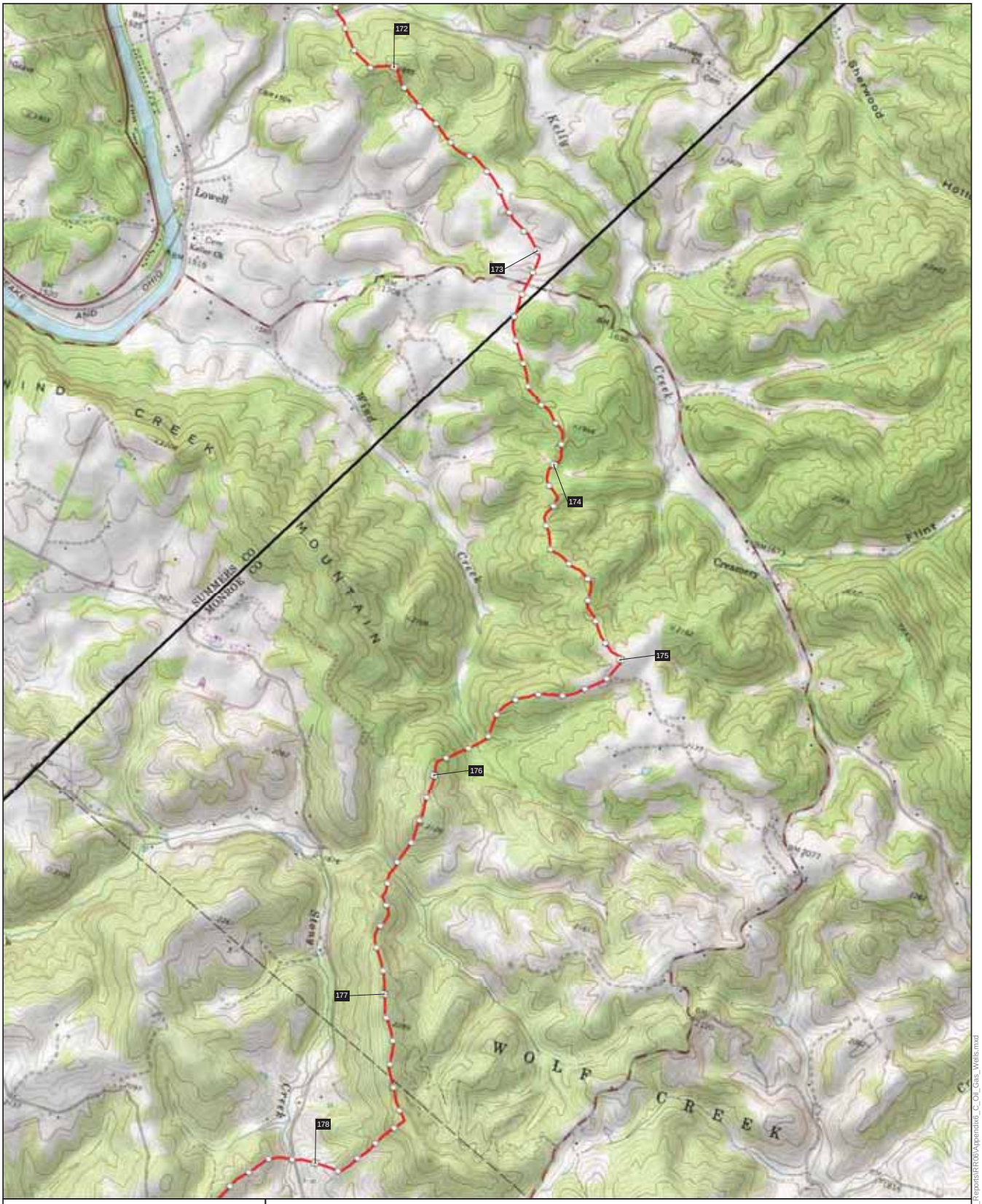
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Legend

- / Milepost
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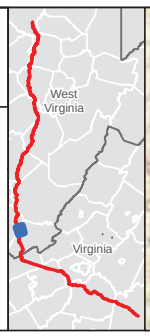
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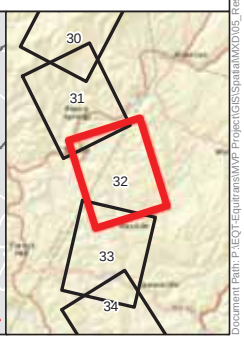
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(Tenth-Mile

Proposed Route





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Mountain Valley Pipeline Project

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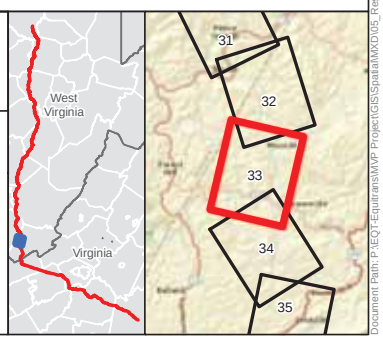
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Oil and Gas Wells
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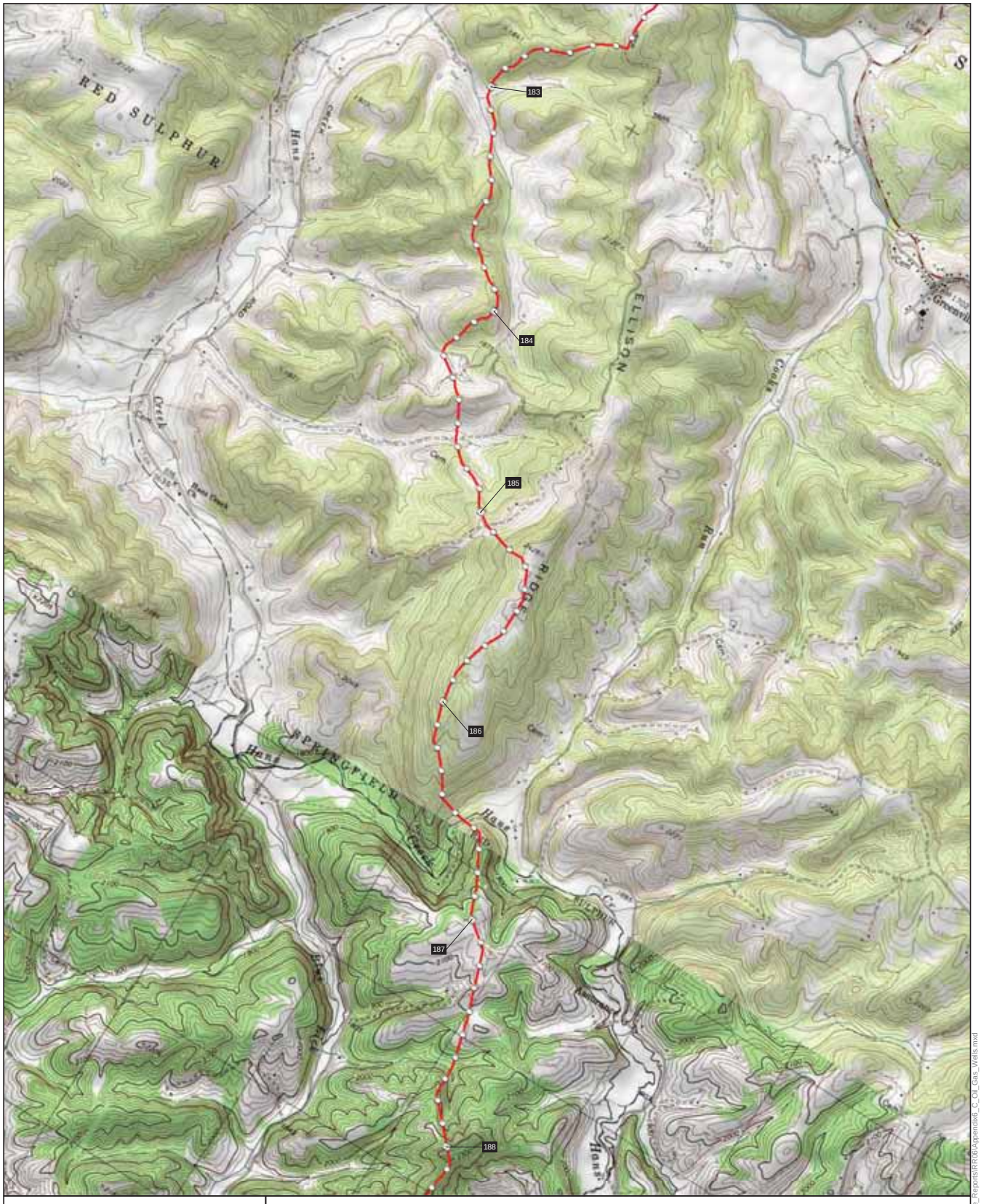
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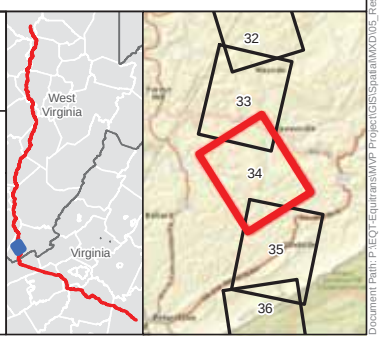
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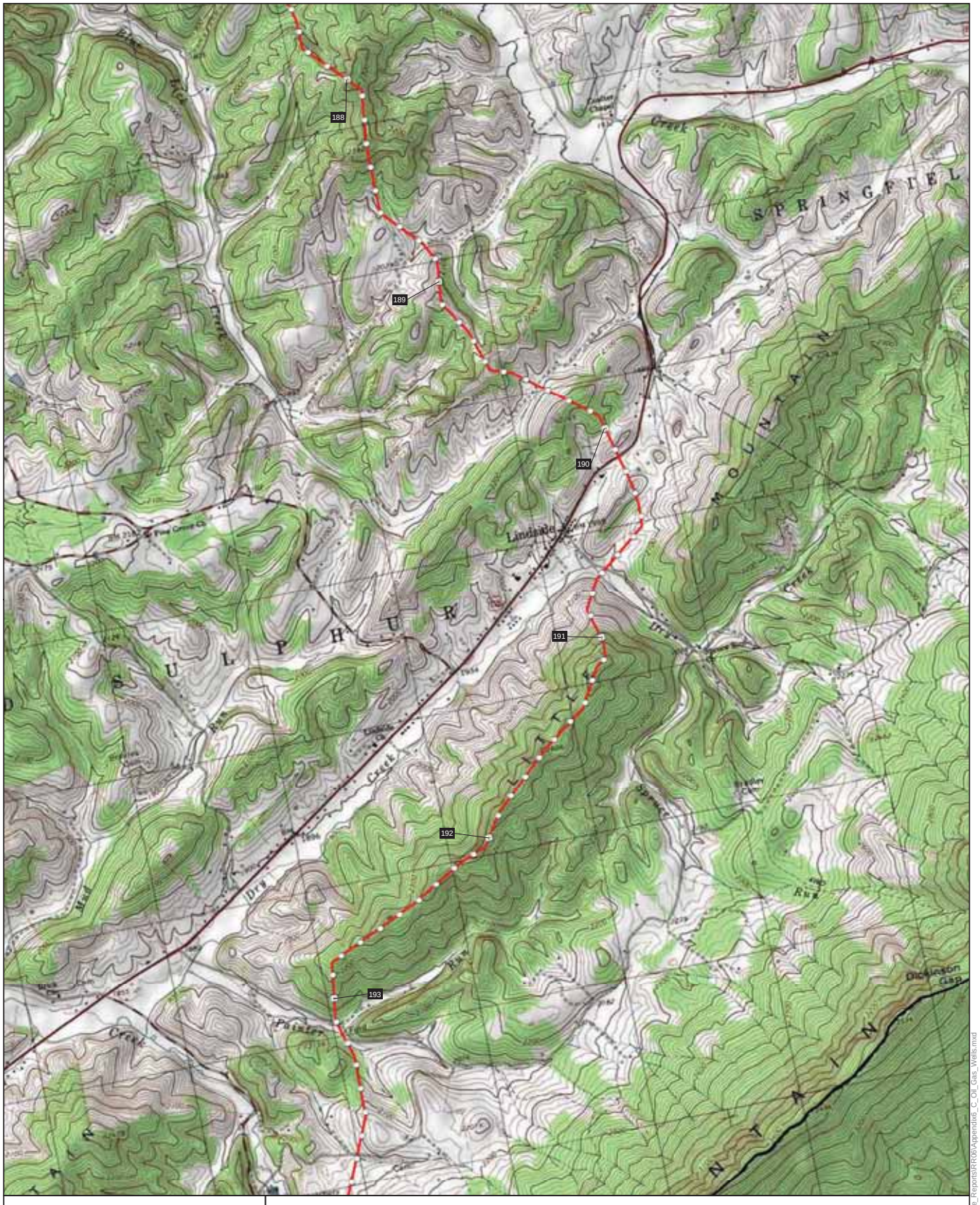
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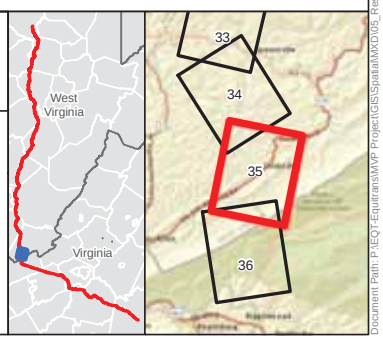
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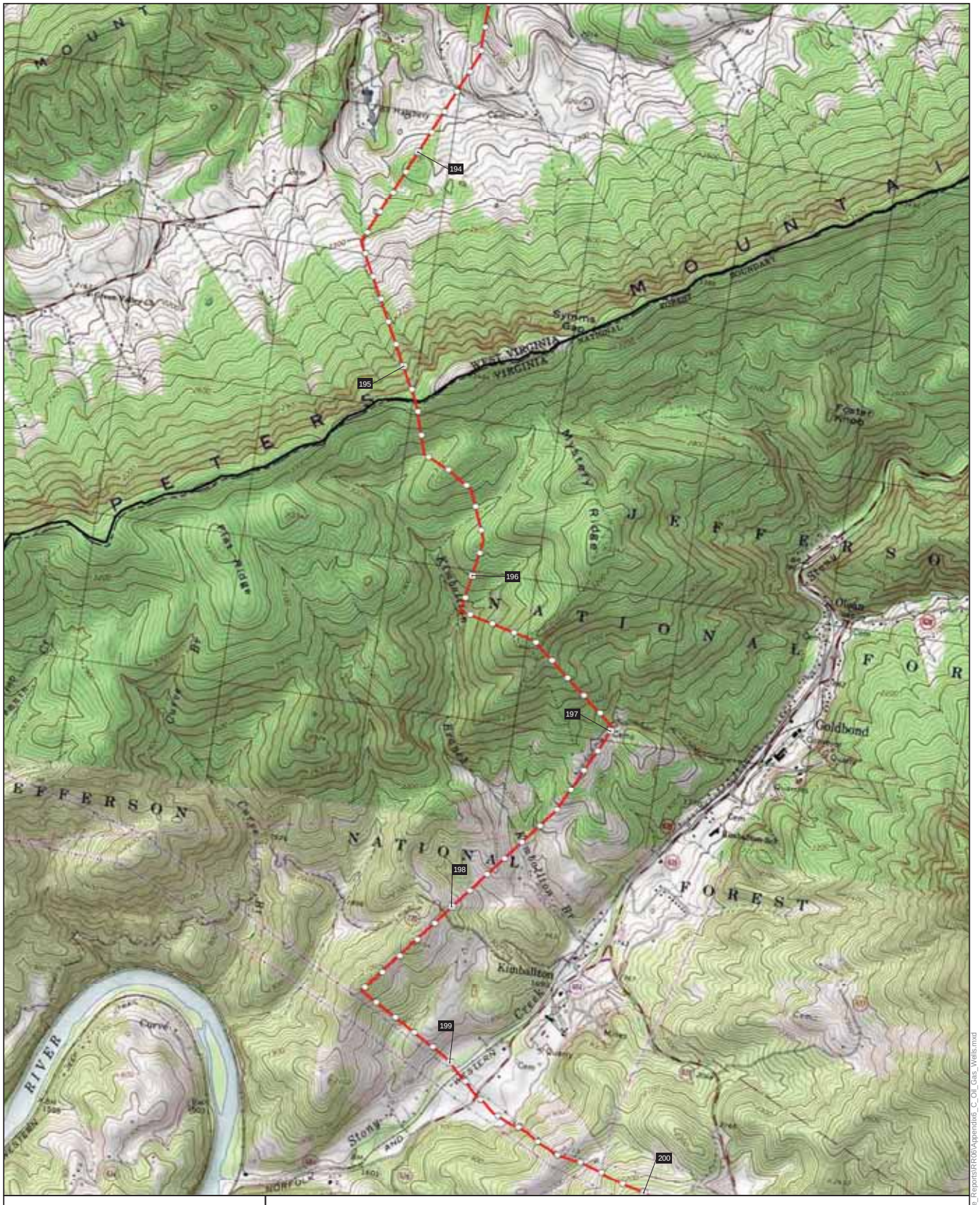
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- (Tenth-Mile
- Proposed Route



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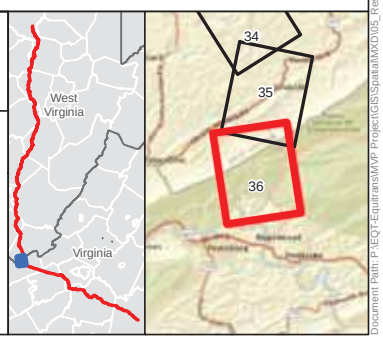
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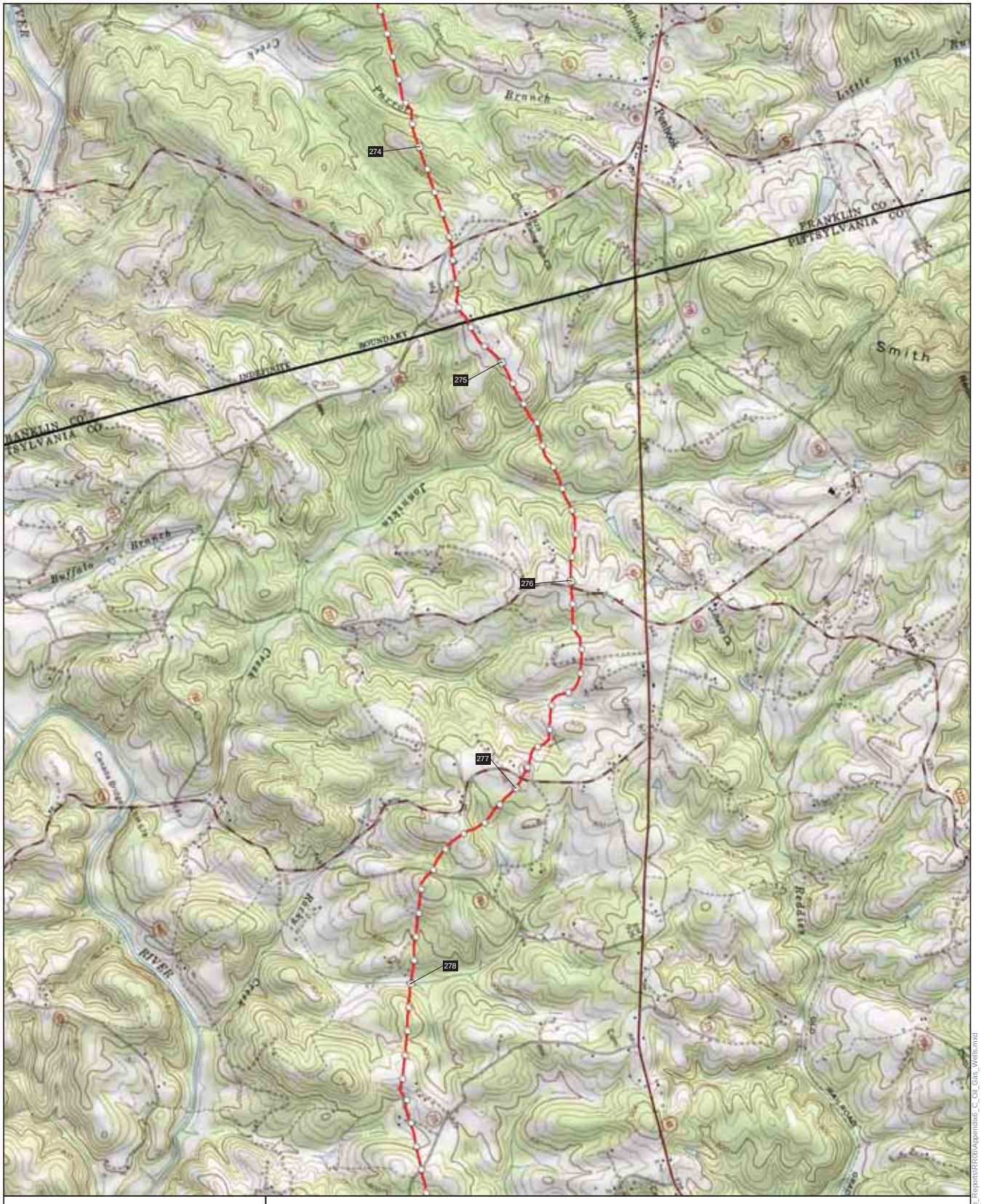
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Legend

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- Tenth-Mile
- Proposed Route



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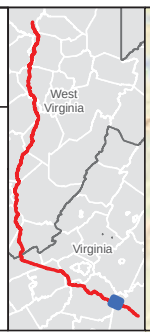
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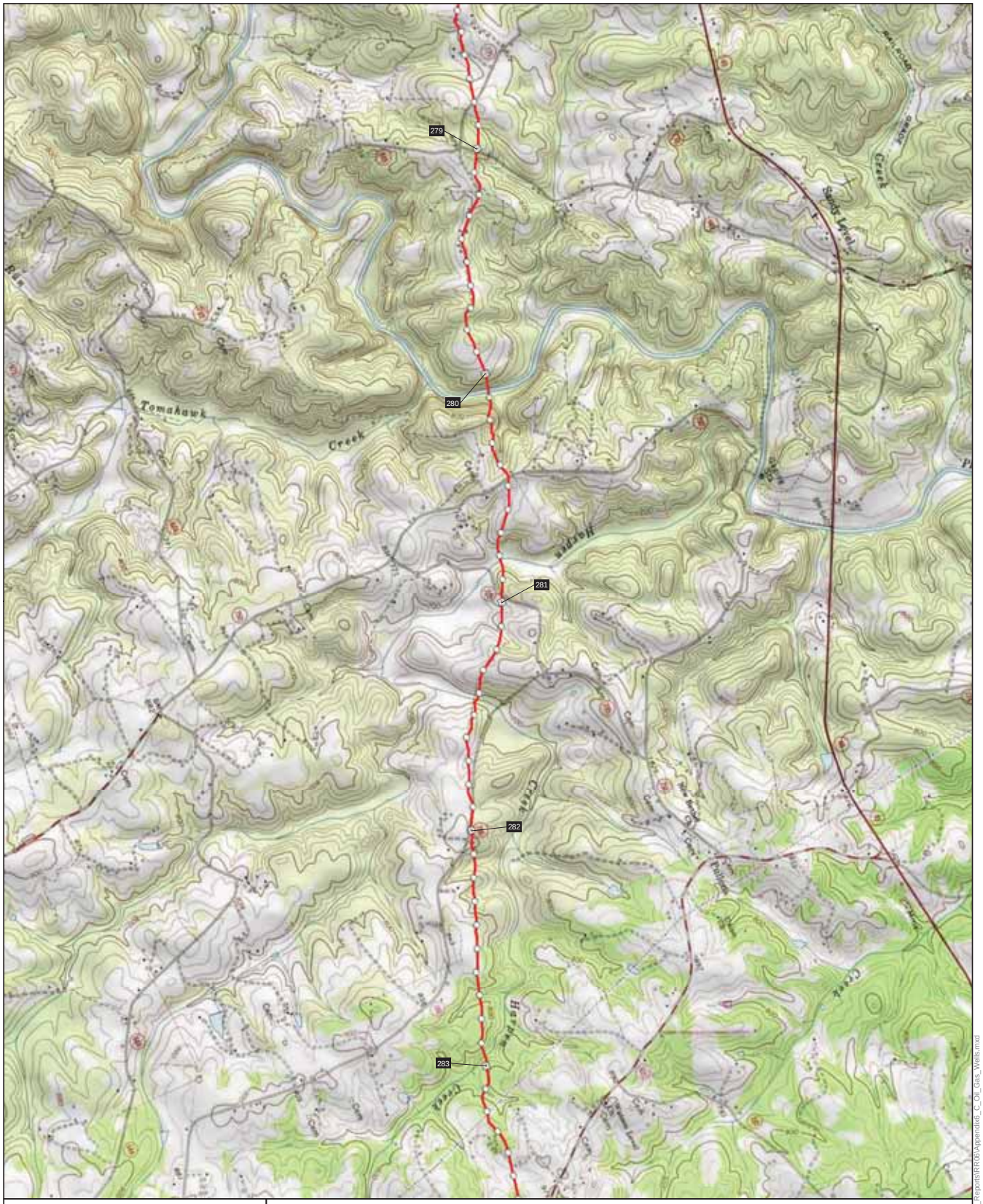
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Proposed Route





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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
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May 2015

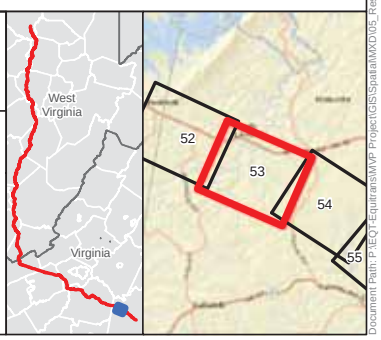
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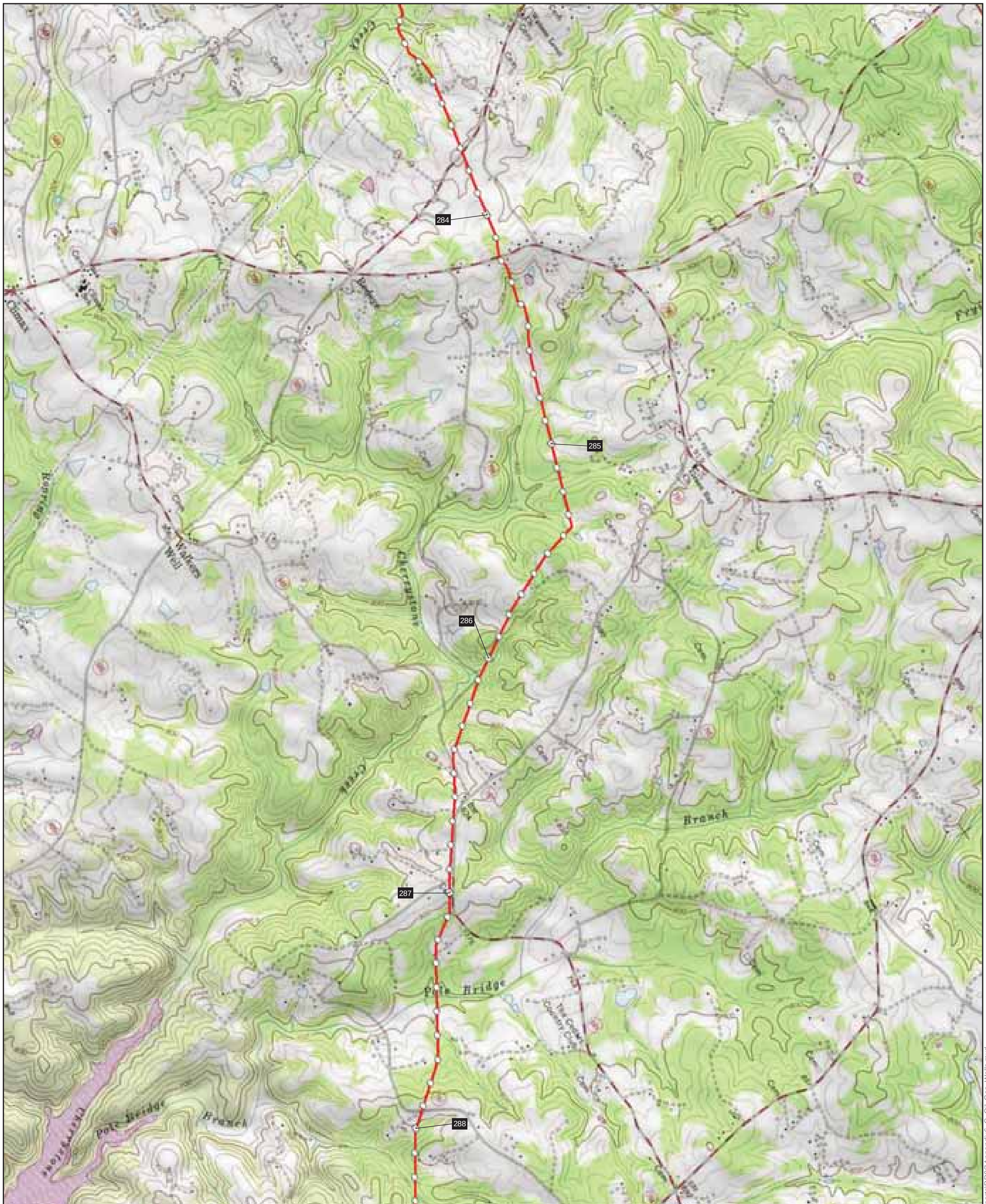
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Proposed Route



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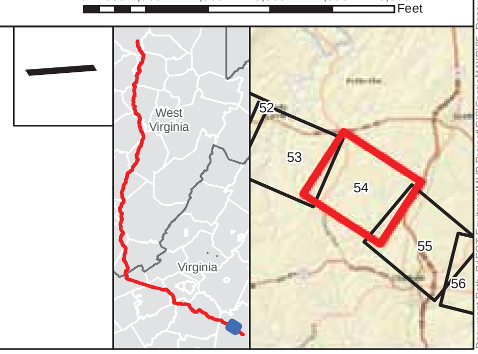
Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

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May 2015

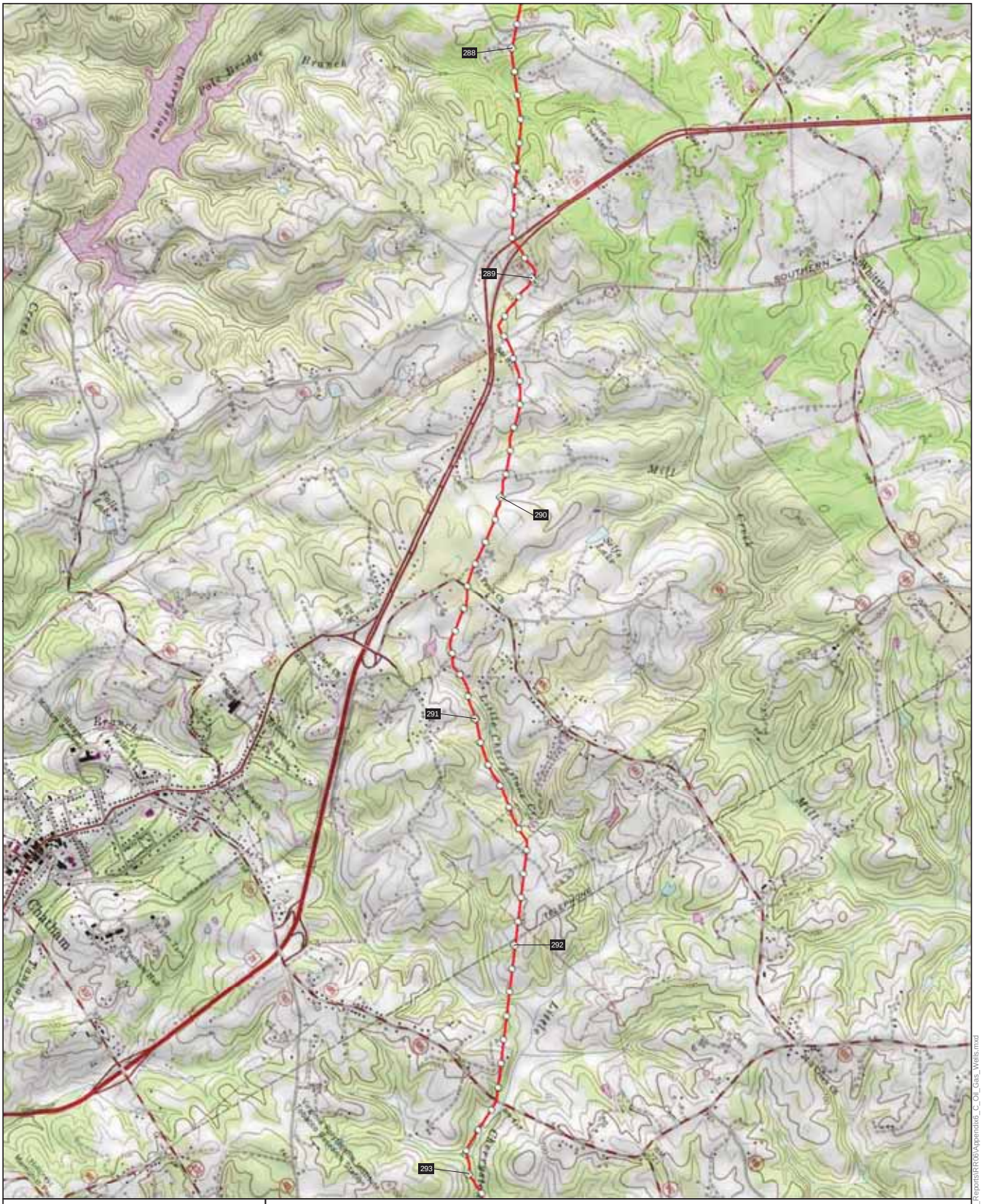
Legend

- Milepost
- Tenth-Mile
- Proposed Route



Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

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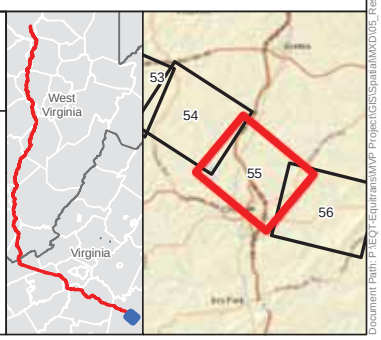
Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

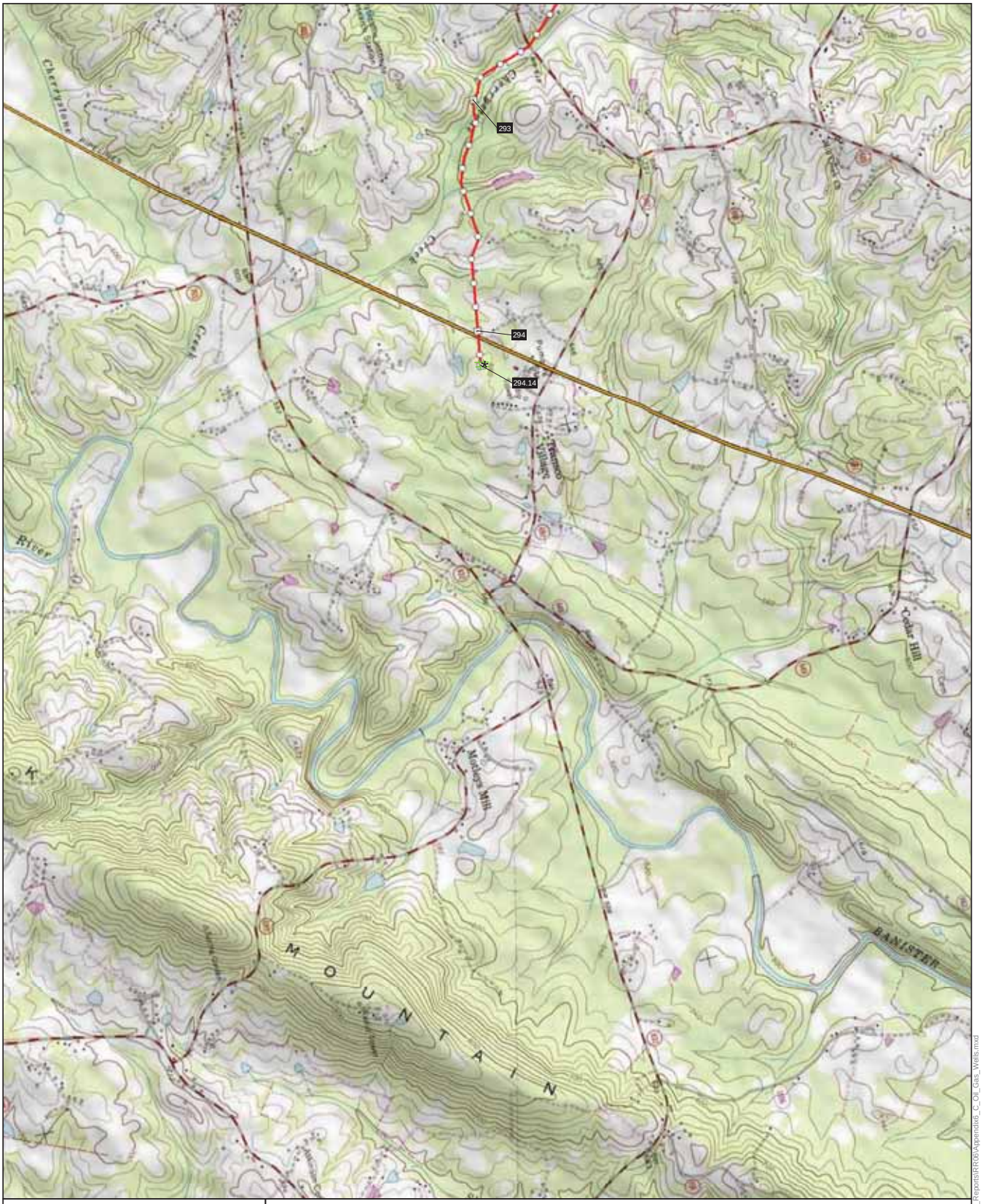
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Legend

- / Milepost
- (Tenth-Mile
- Proposed Route



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_C_Oil_Gas_Wells.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:24,000

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Mountain Valley PIPELINE

Appendix 6-C
Oil and Gas Wells
Within 0.25 miles
of the MVP Alignment

May 2015

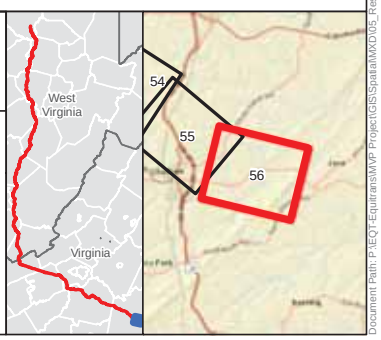
Data Sources: ESRI Streaming Topo Layer, 2014, WV Department of Environmental Protection.

Legend

- Milepost
- Tenth-Mile

Preliminary Meter Station Location

- Transco Interconnect receipt
- Proposed Route
- Existing Transco Pipeline



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_C_Oil_Gas_Wells.mxd

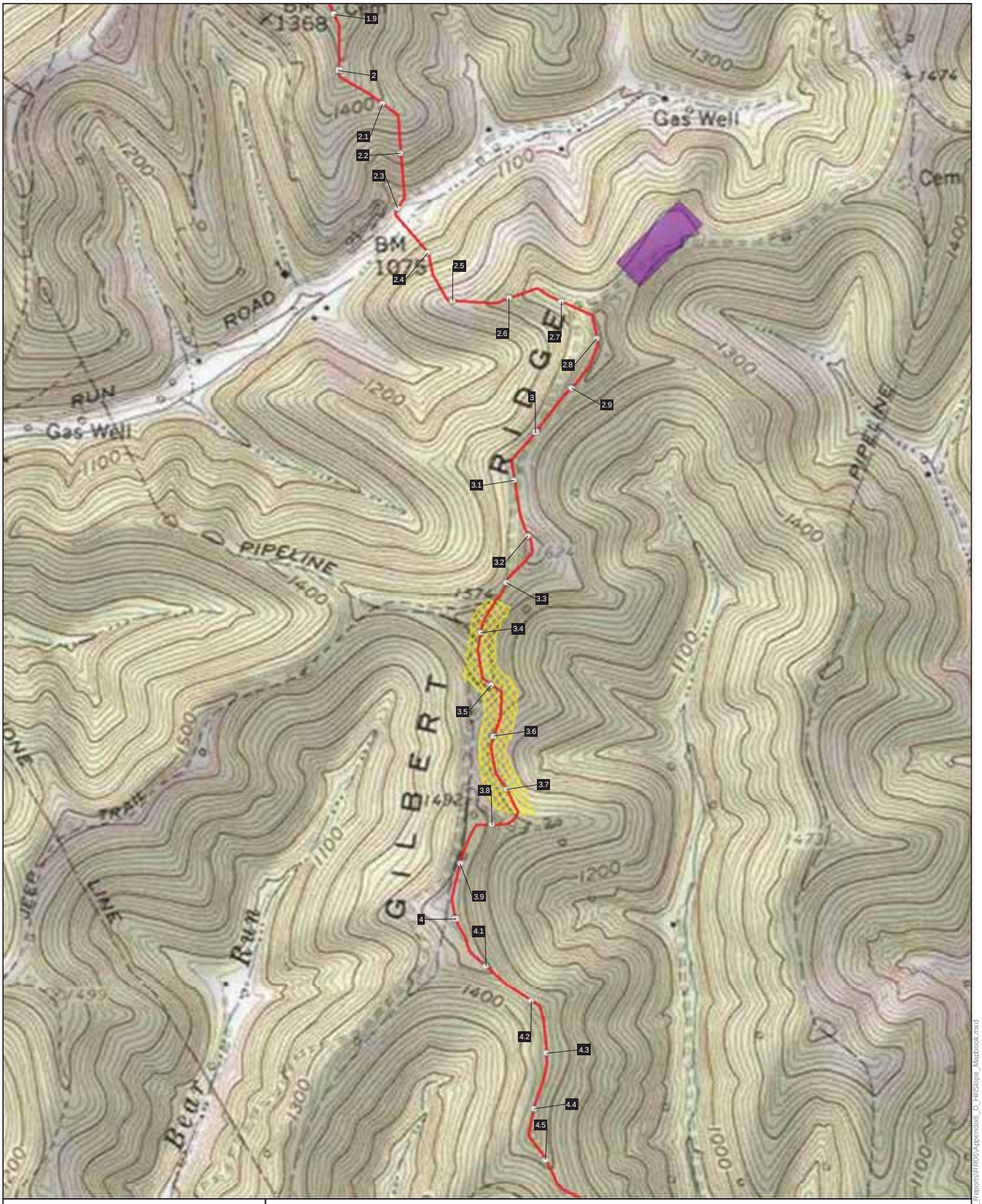
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Mountain Valley Pipeline Project

Docket No. PF15-3

Resource Report 6

Appendix 6-D
Steep Hill Slopes Crossed by the MVP Project
(Map Set)



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

Page 1 of 30

May 2015

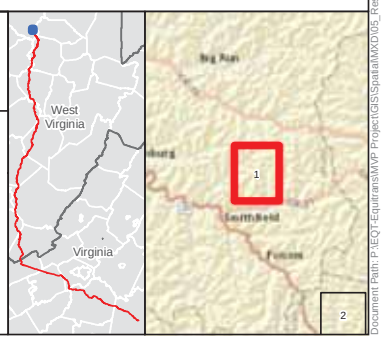
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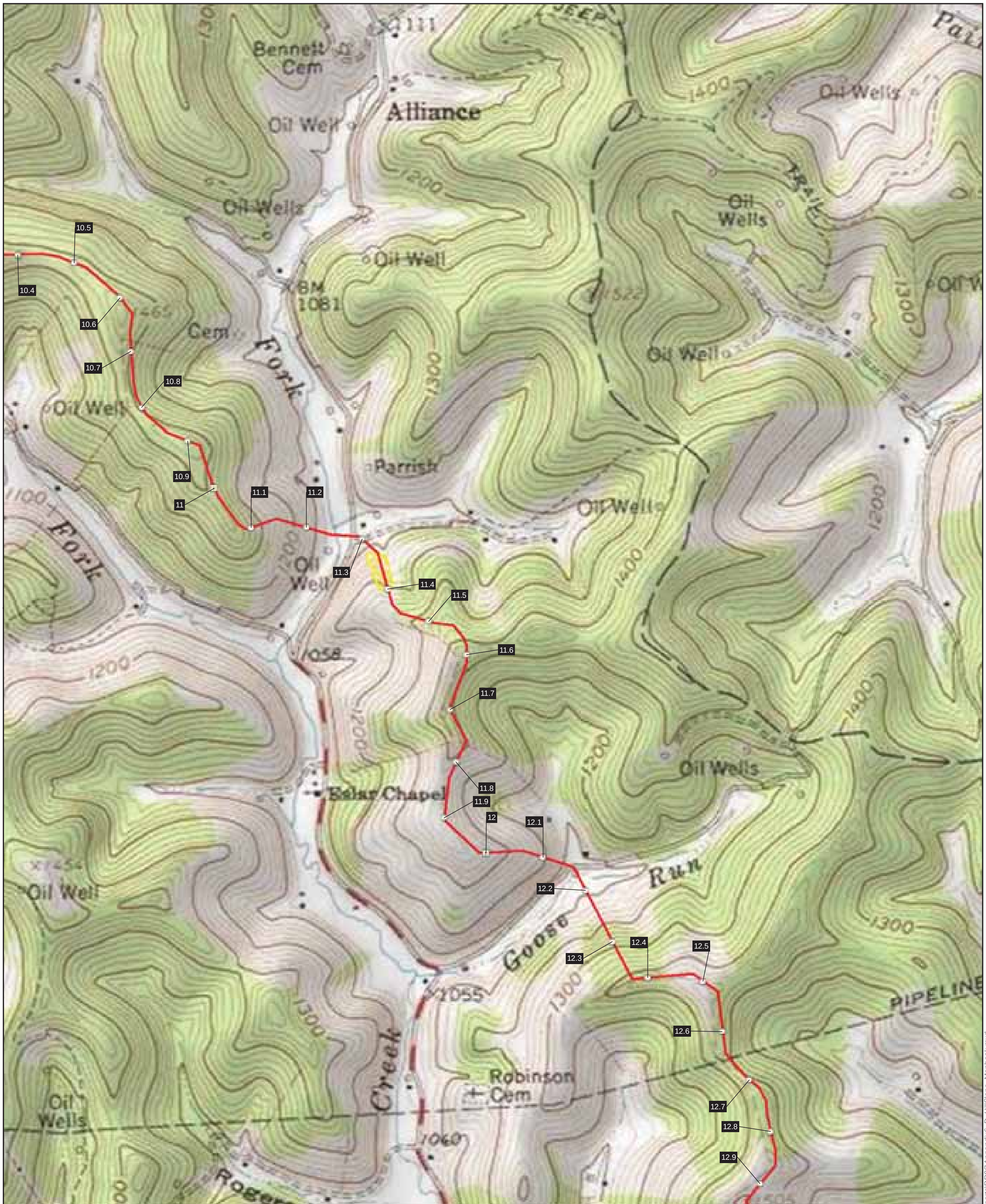
- Milepost
- Tenth-Mile
- Proposed Route

Preliminary Compressor Station Location

- Bradshaw Station
- Hillslope Area



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

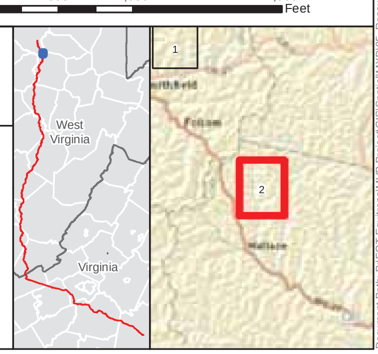
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May 2015

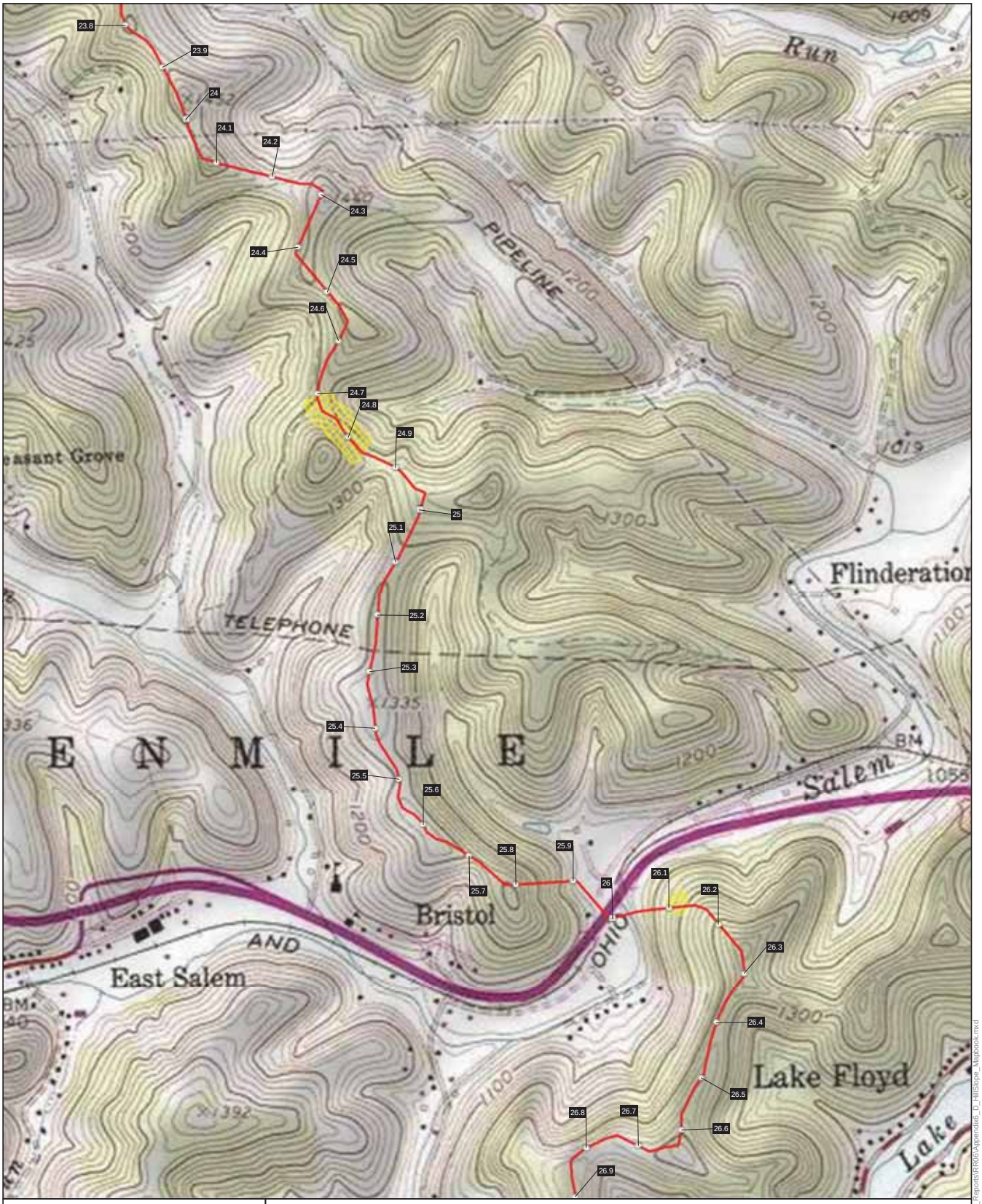
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope Area



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

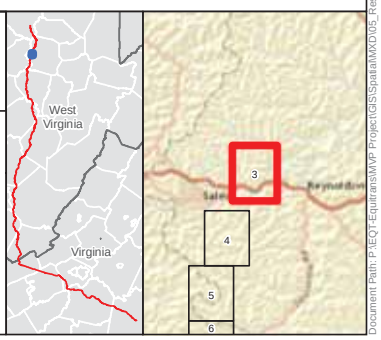
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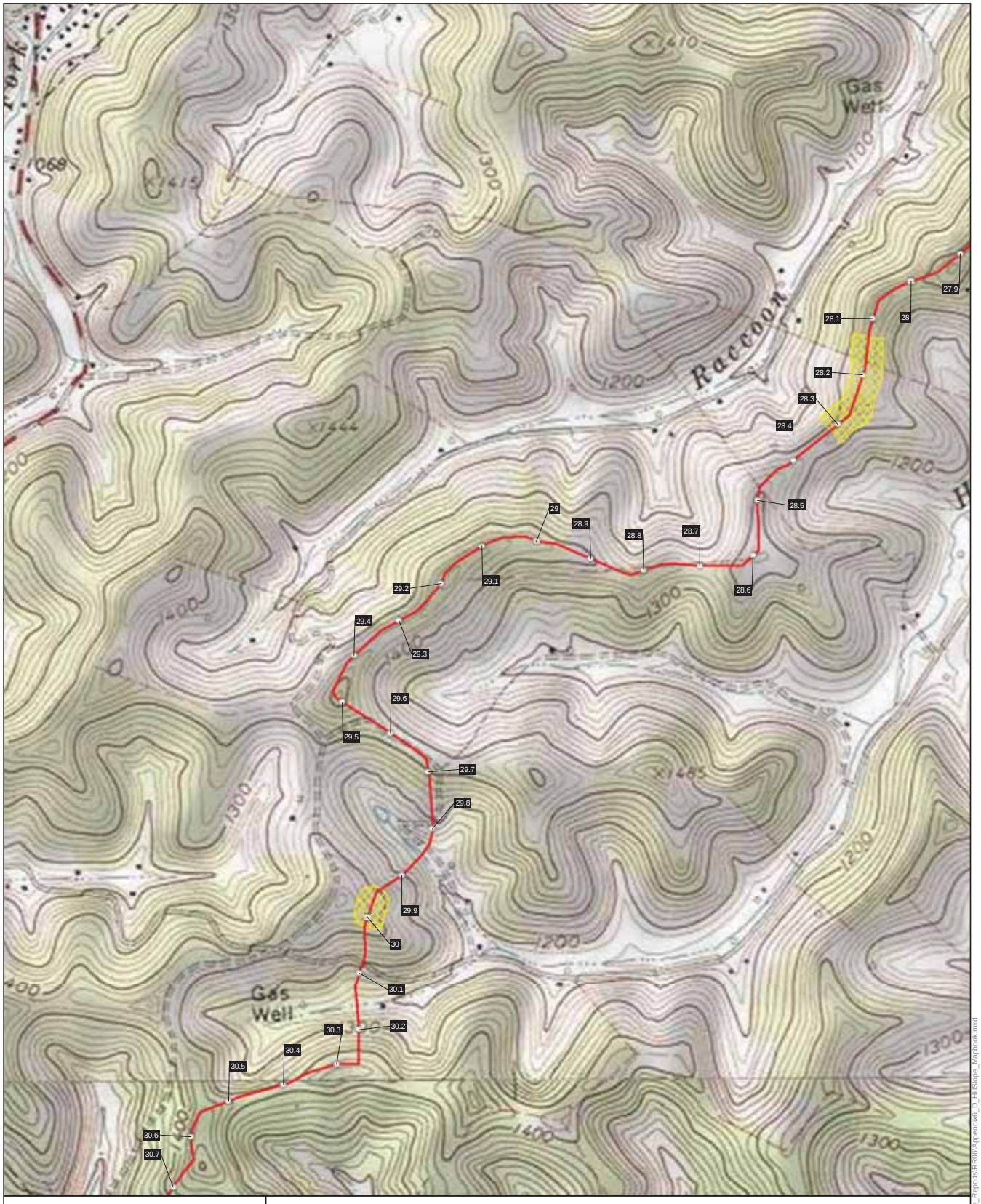
Data Sources: ESRI Streaming Data, 2014, Draper Aden Associates, 2015.

Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix 6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

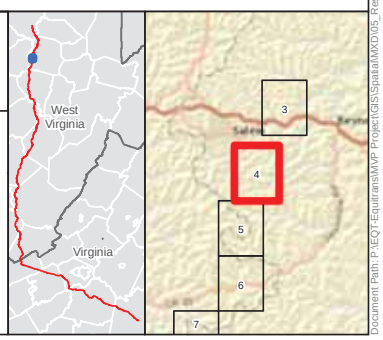
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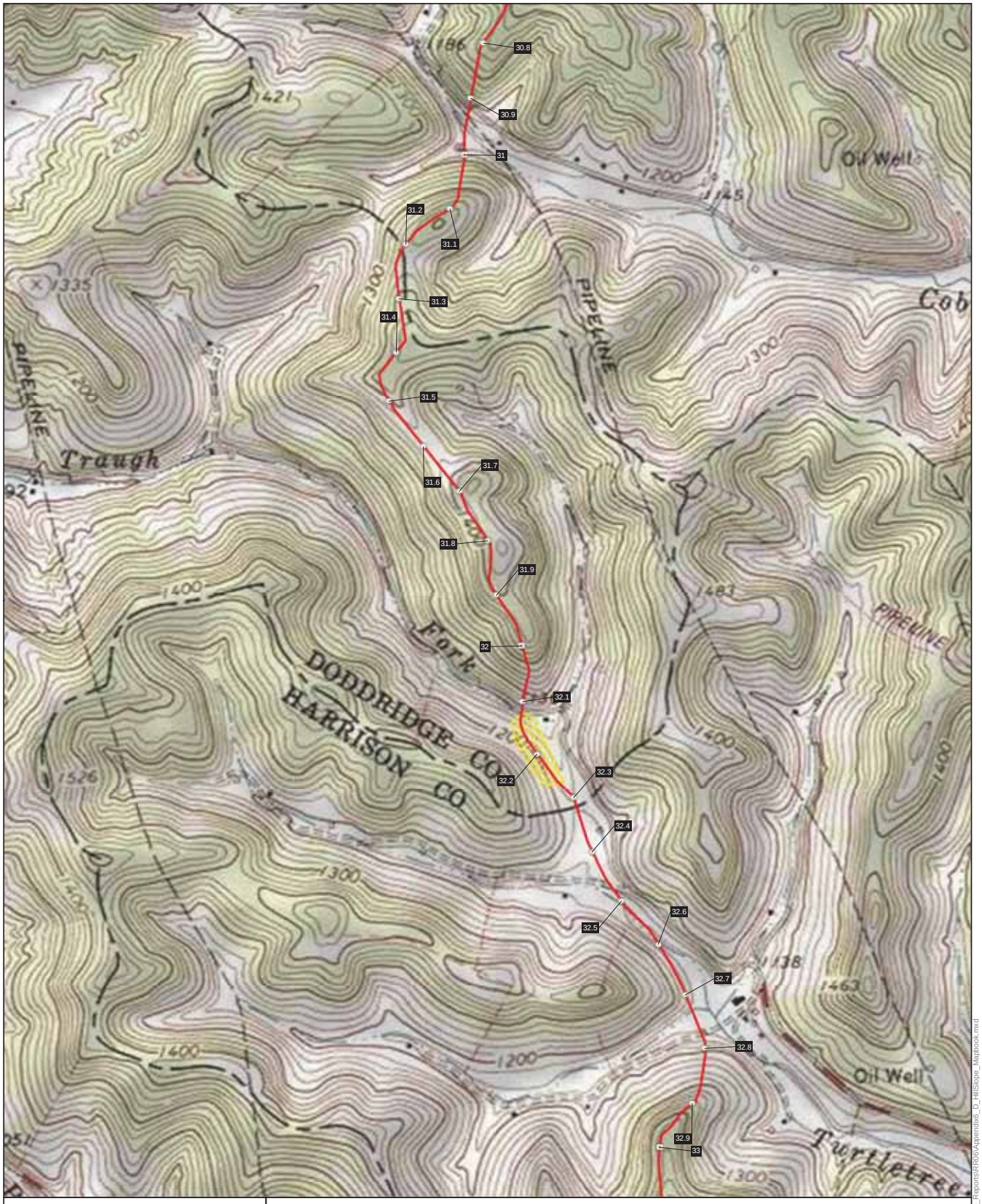
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix 6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

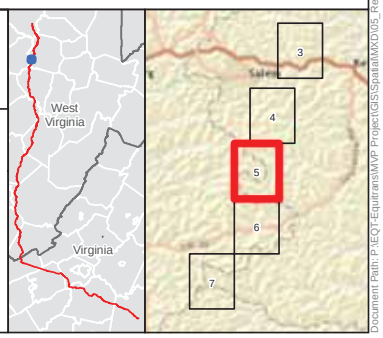
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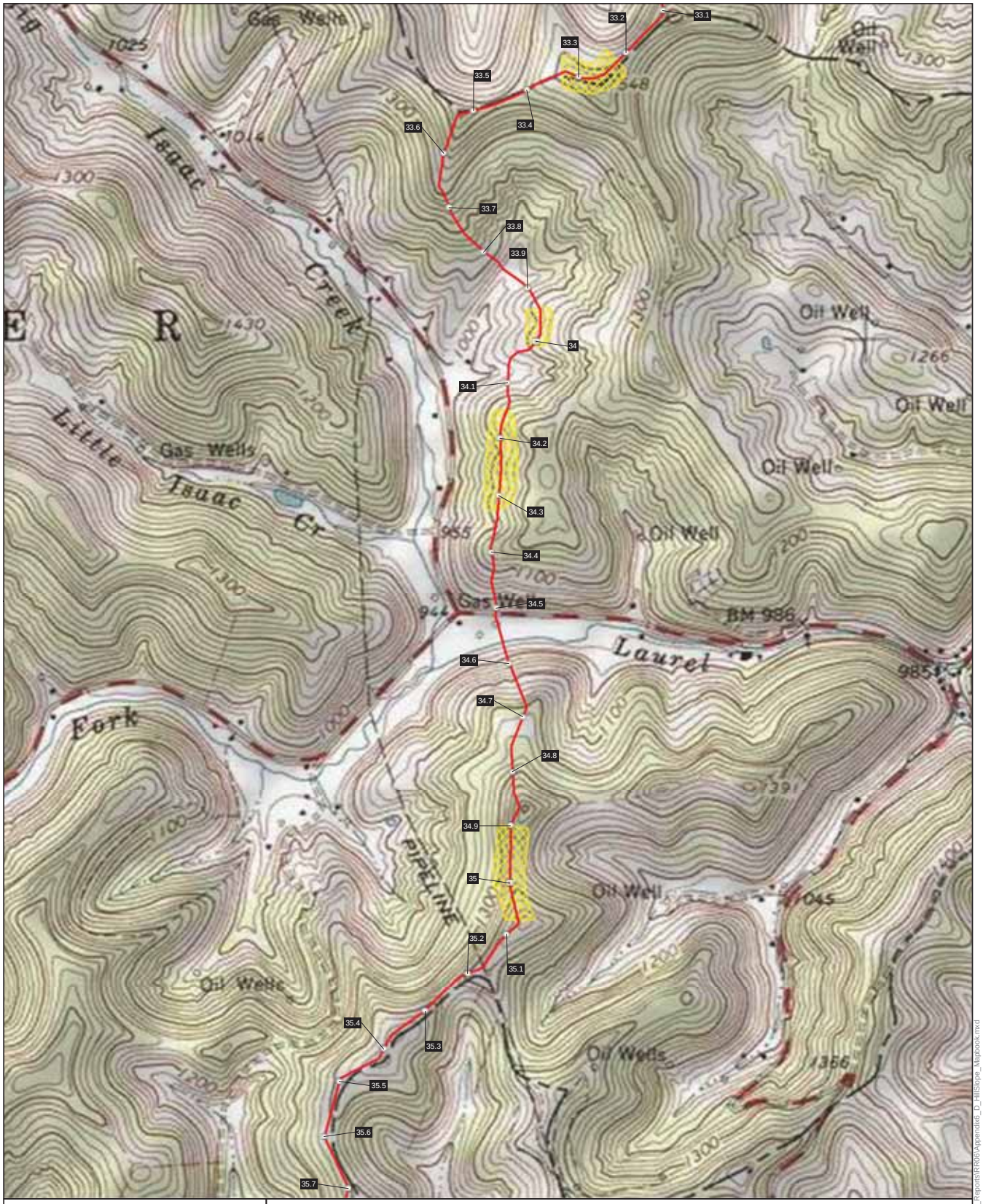
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

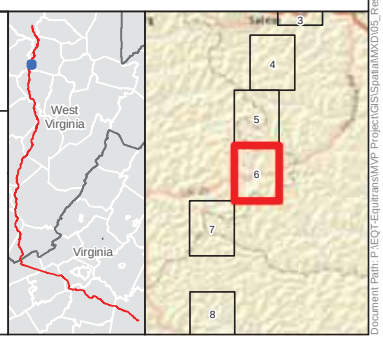
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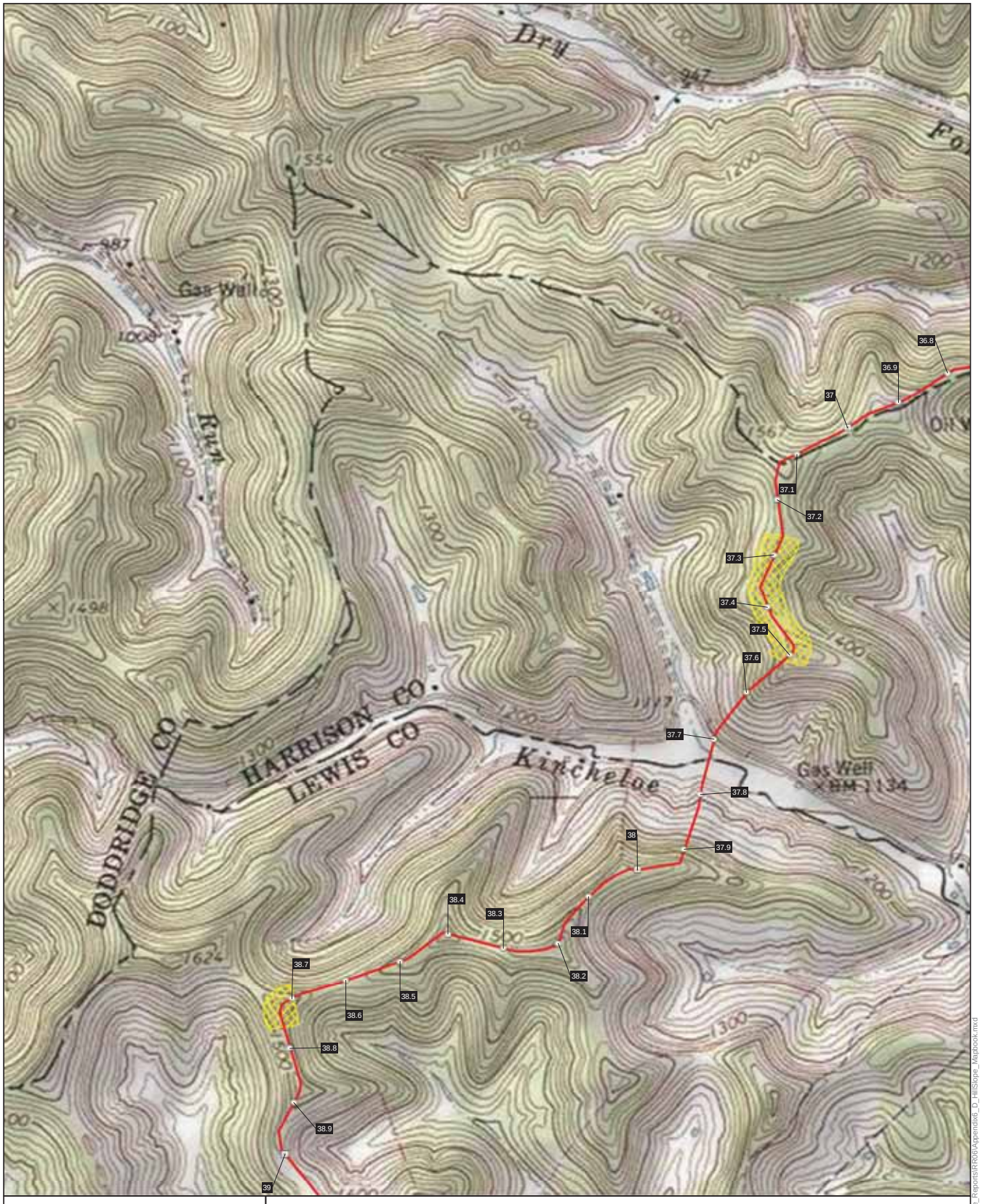
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

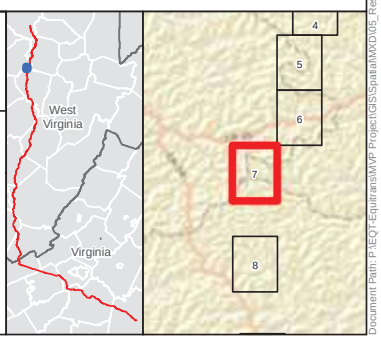
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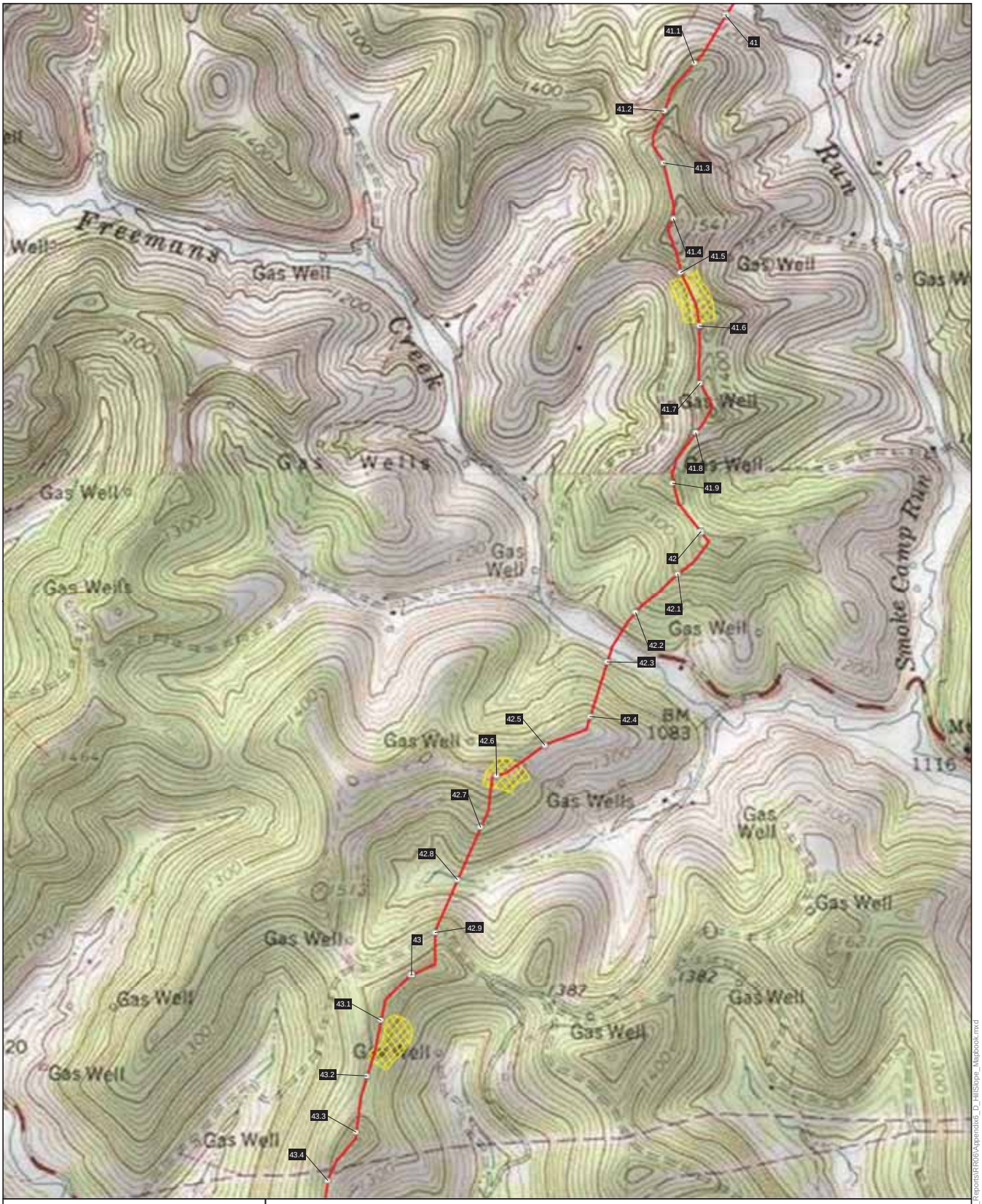
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

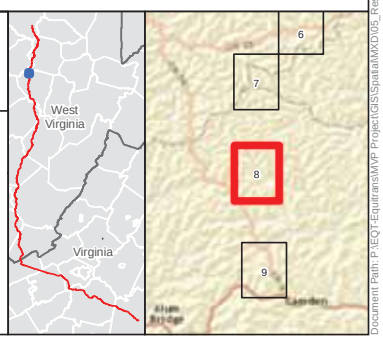
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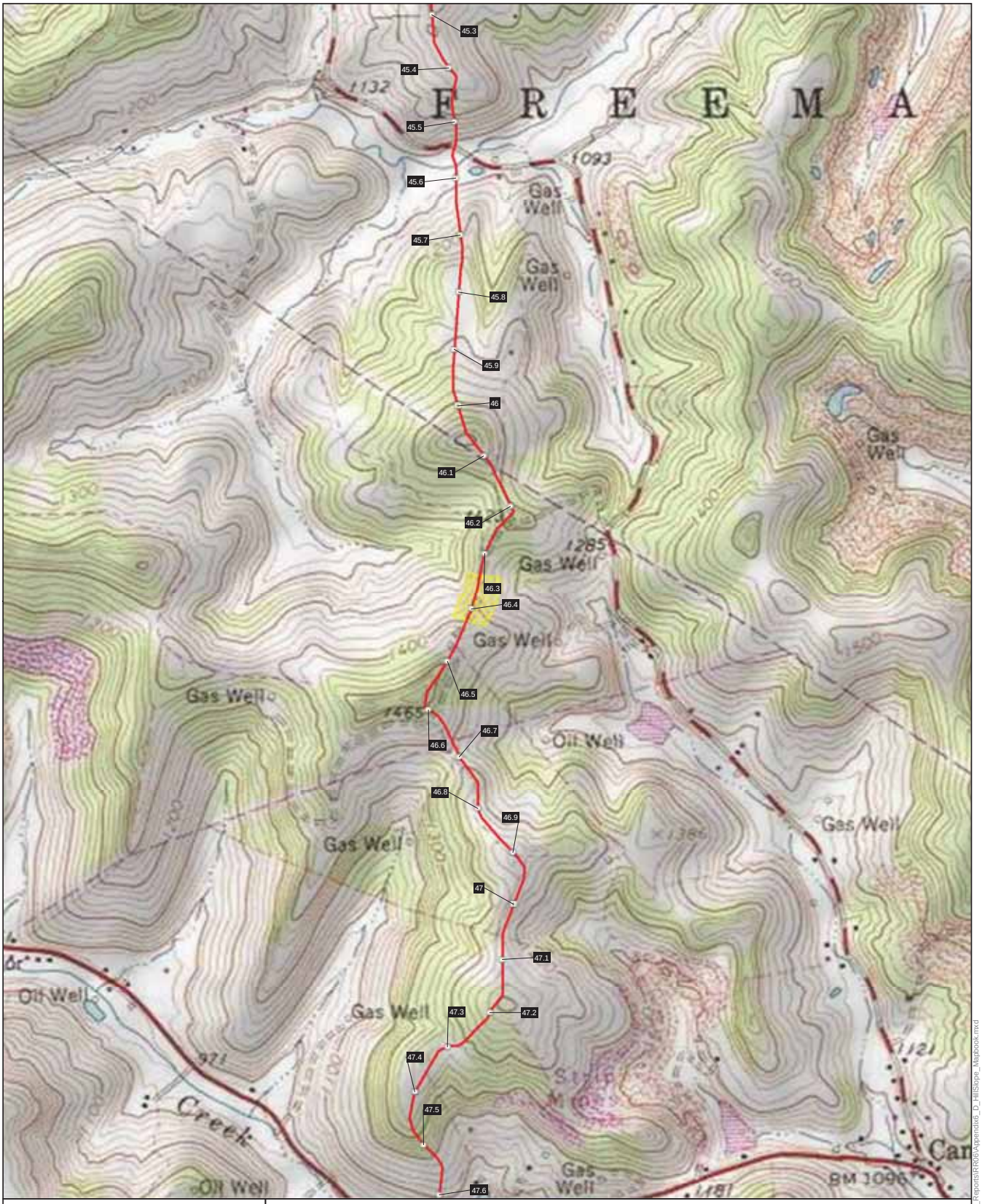
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

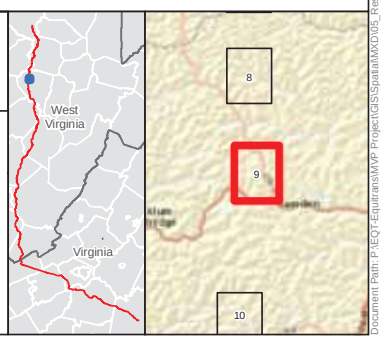
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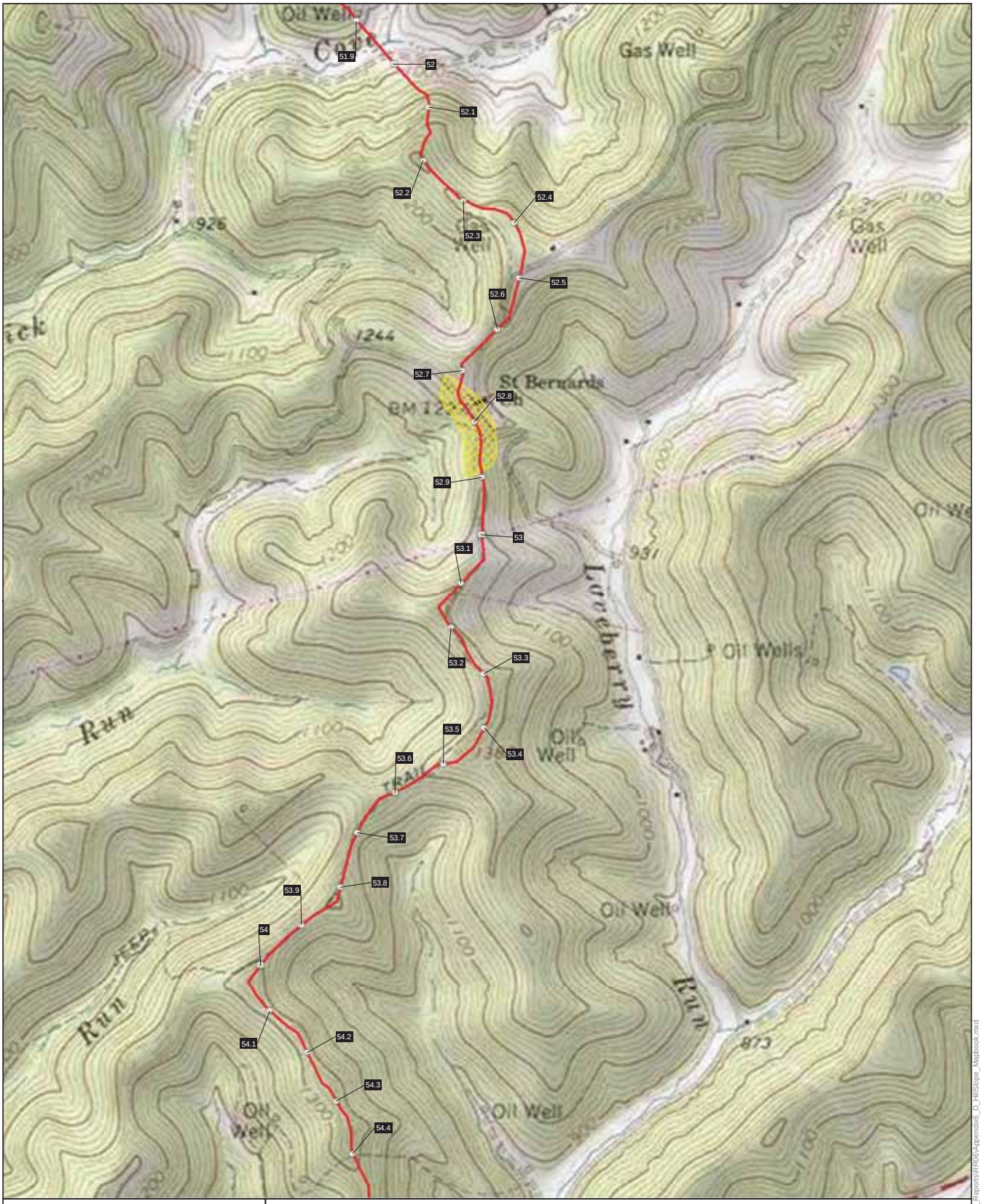
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

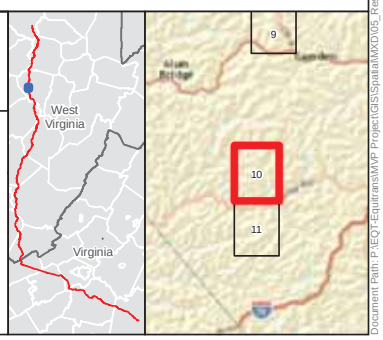
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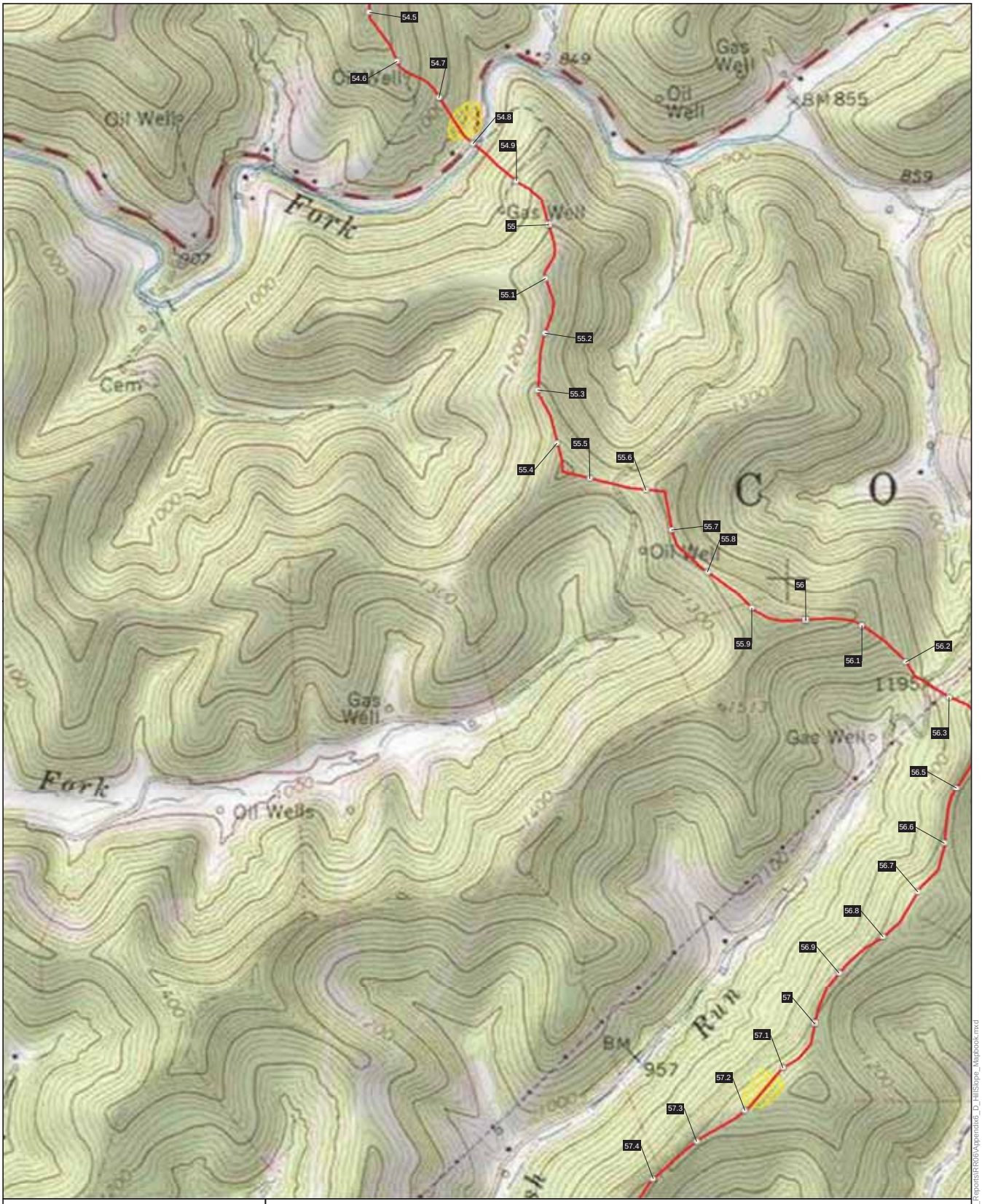
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



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Mountain Valley Pipeline Project

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Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

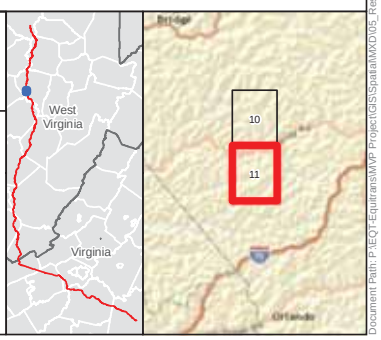
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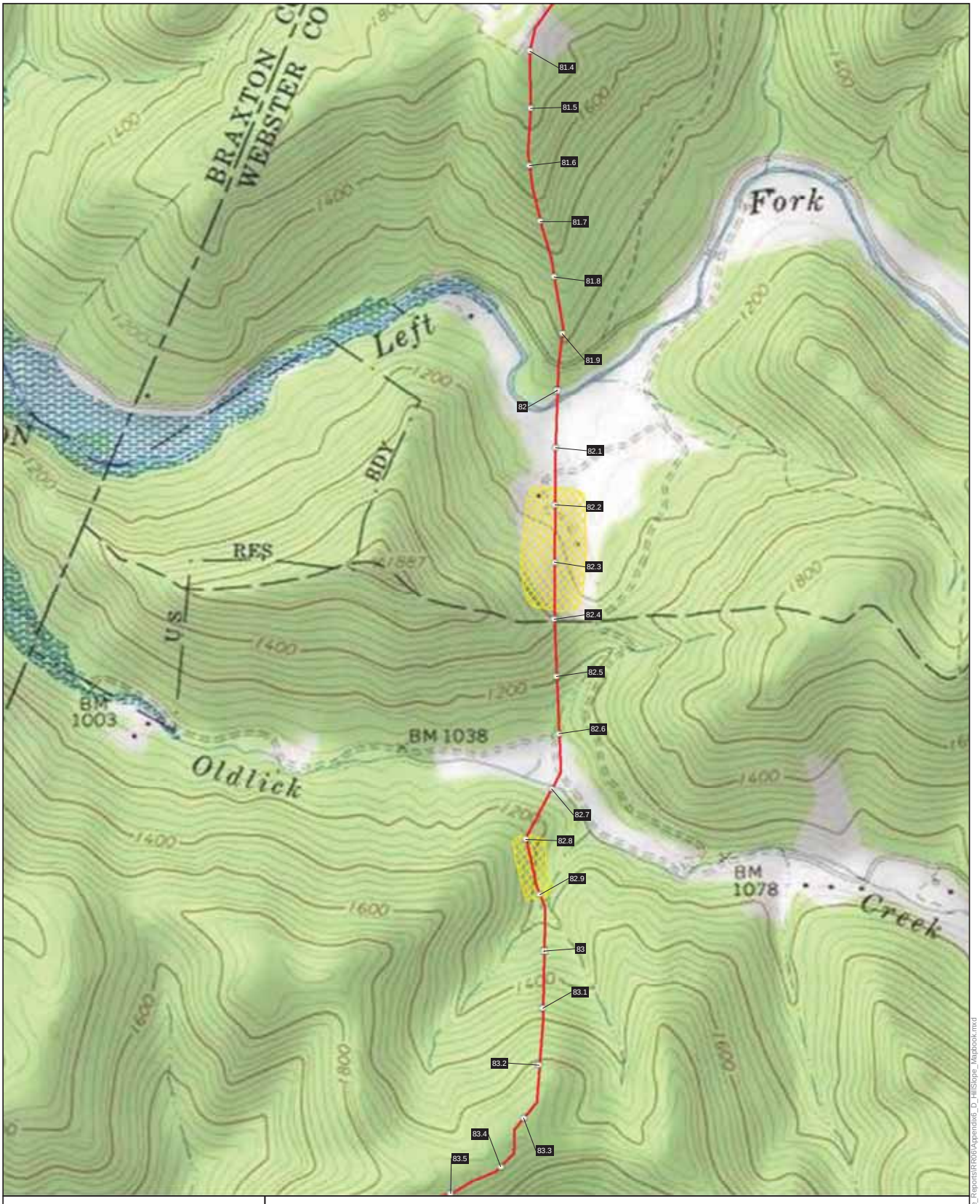
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

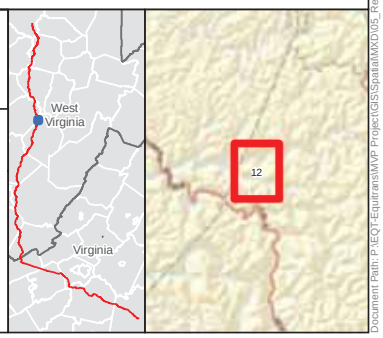
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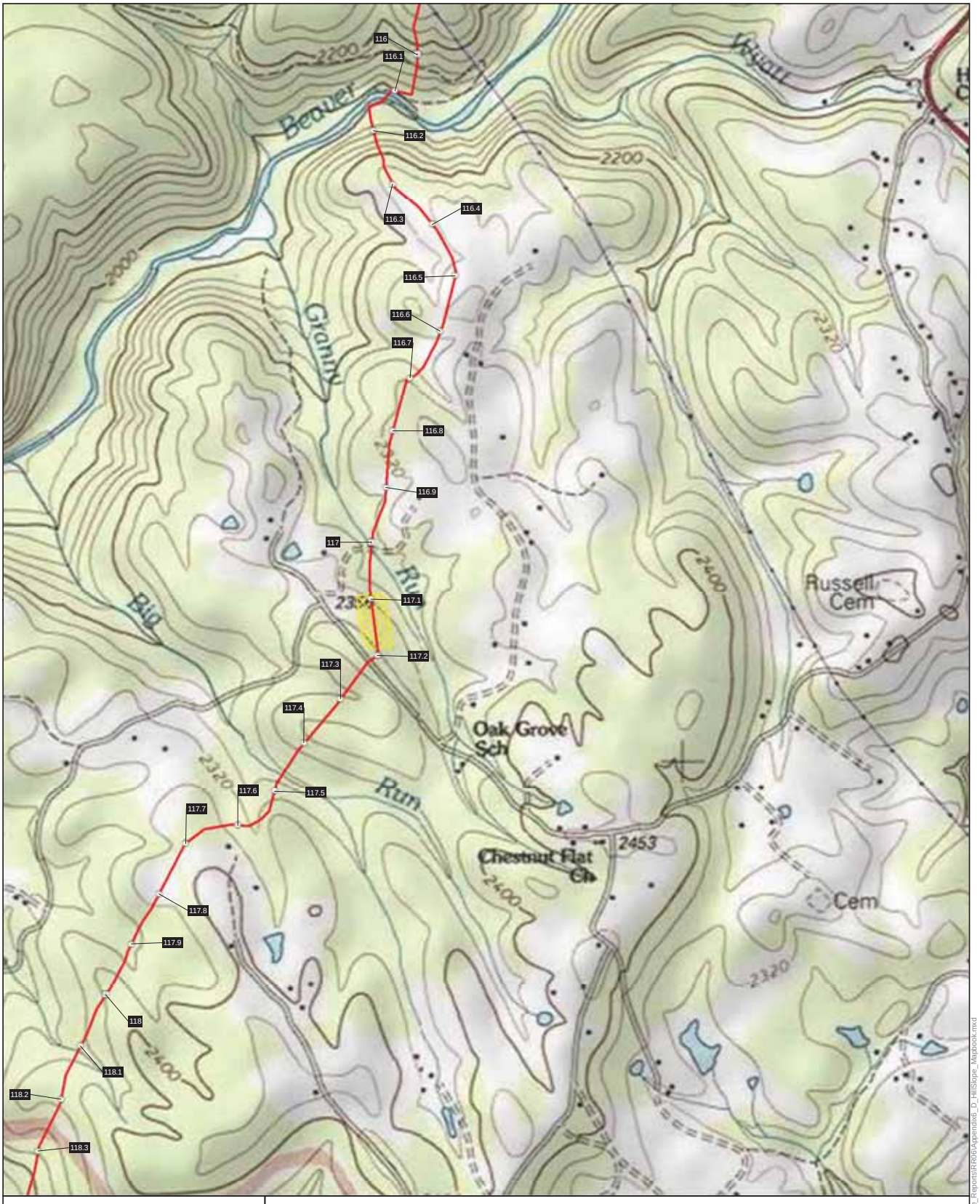
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



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Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

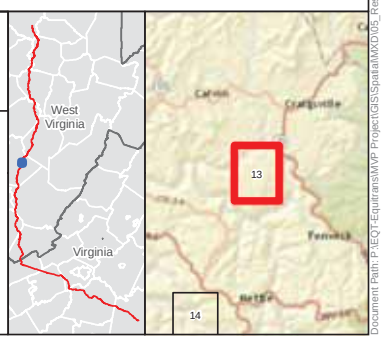
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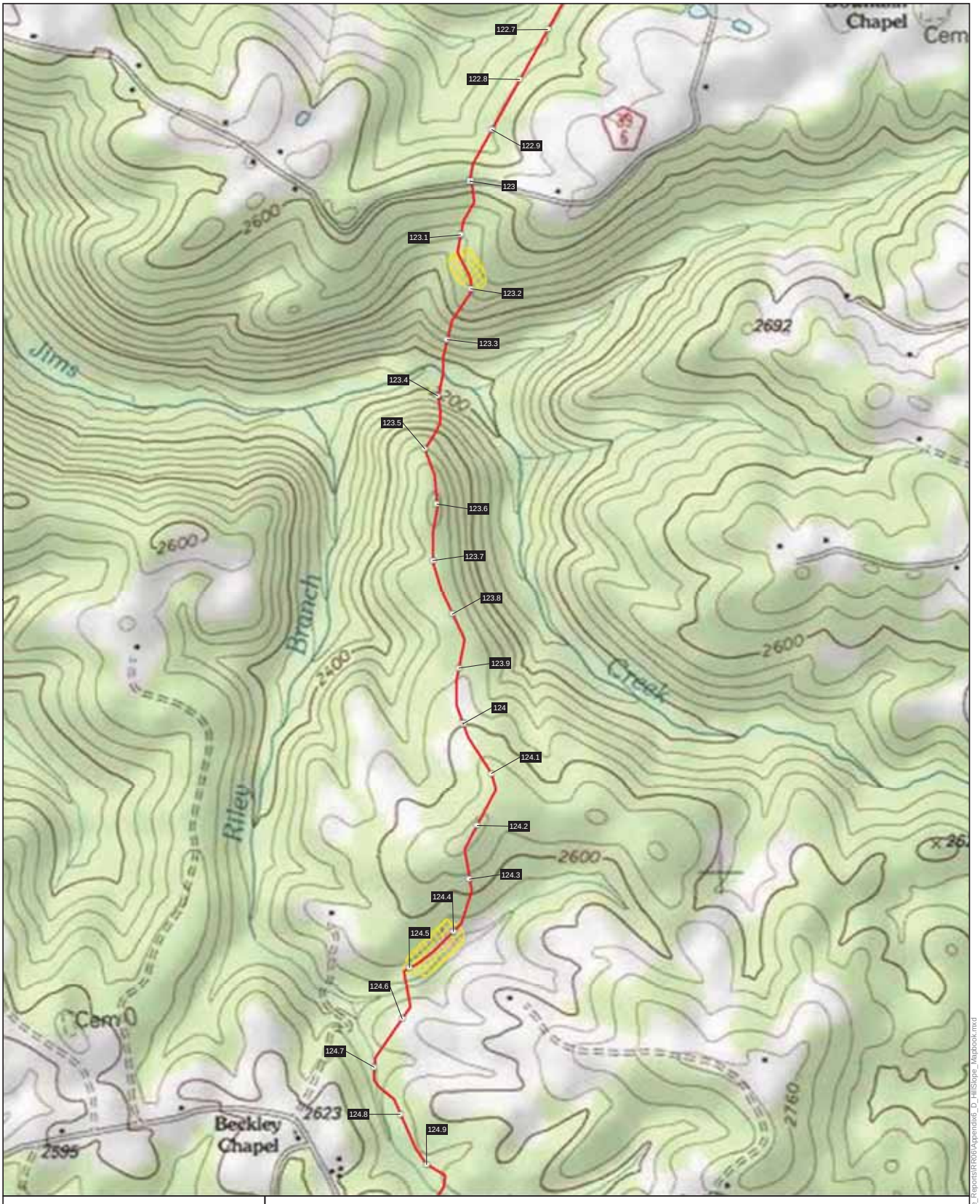
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

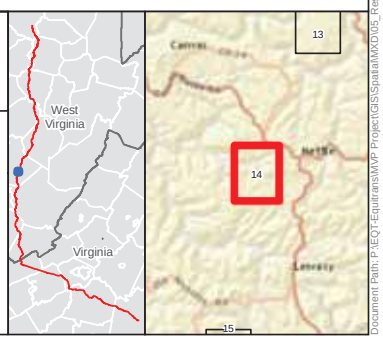
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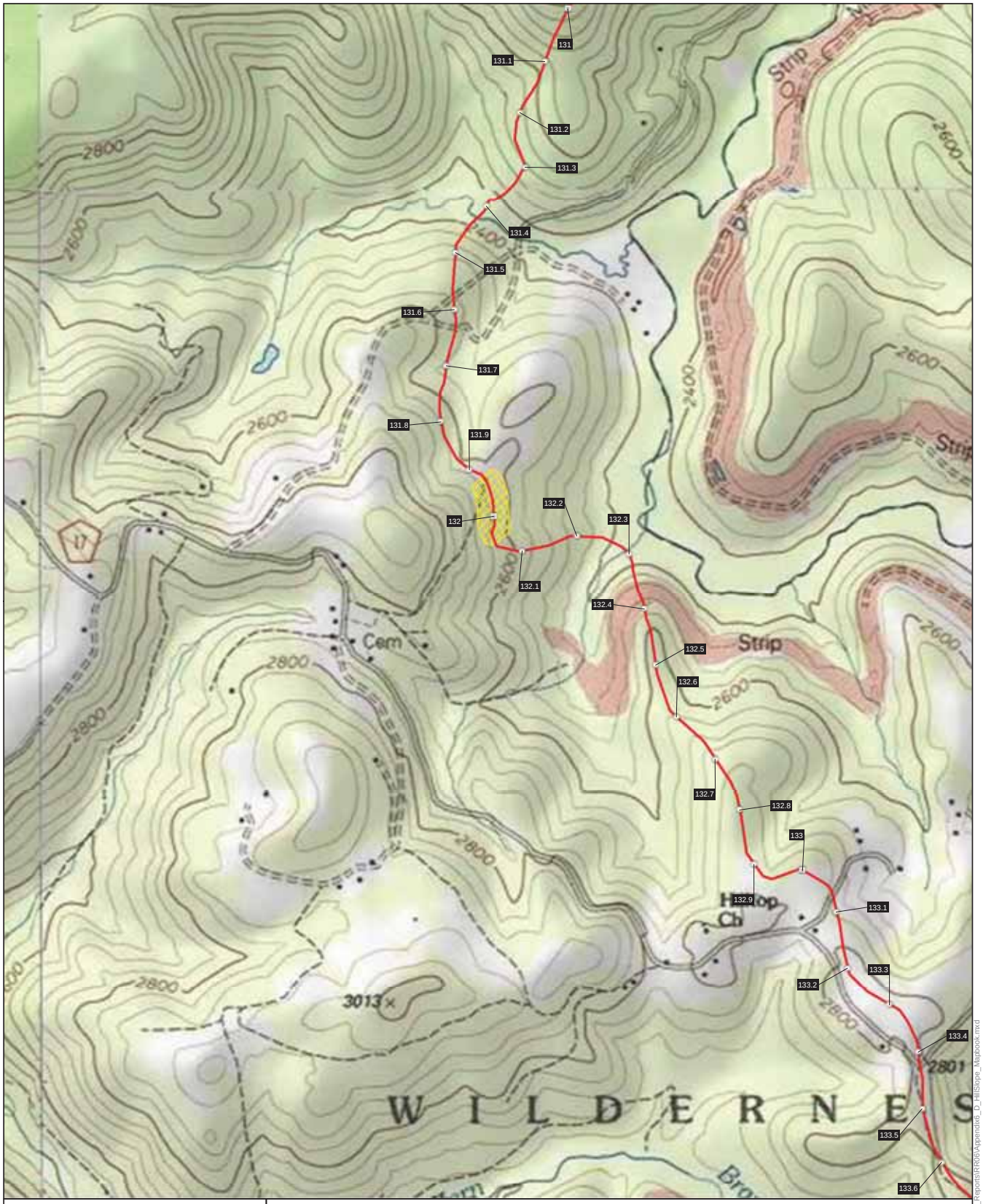
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

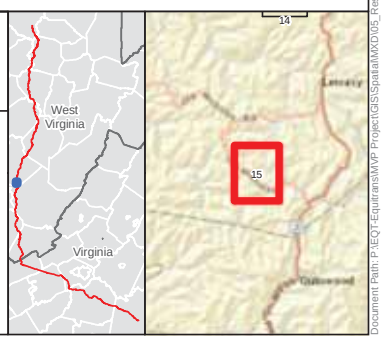
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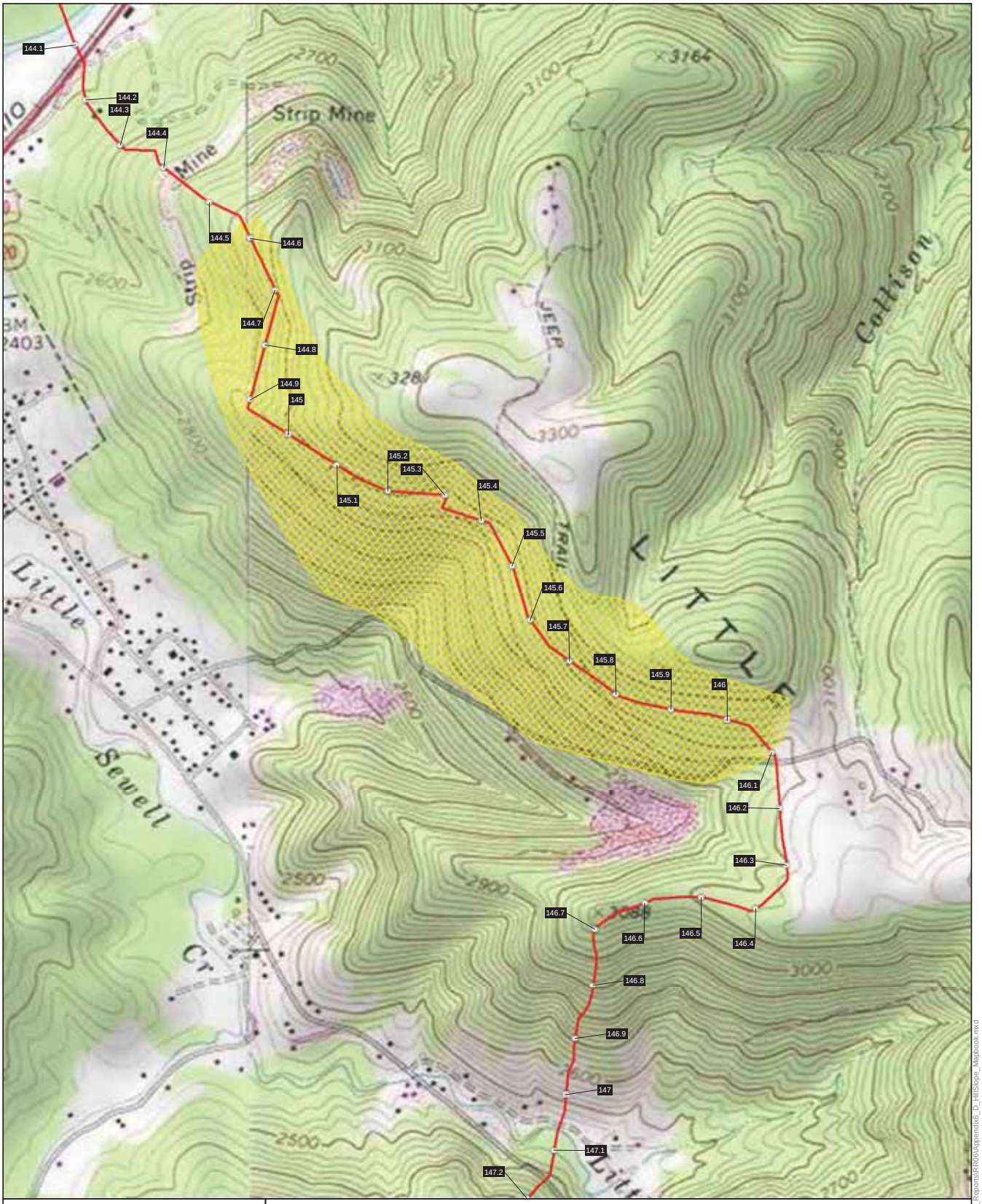
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

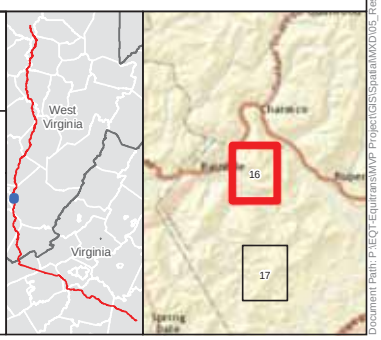
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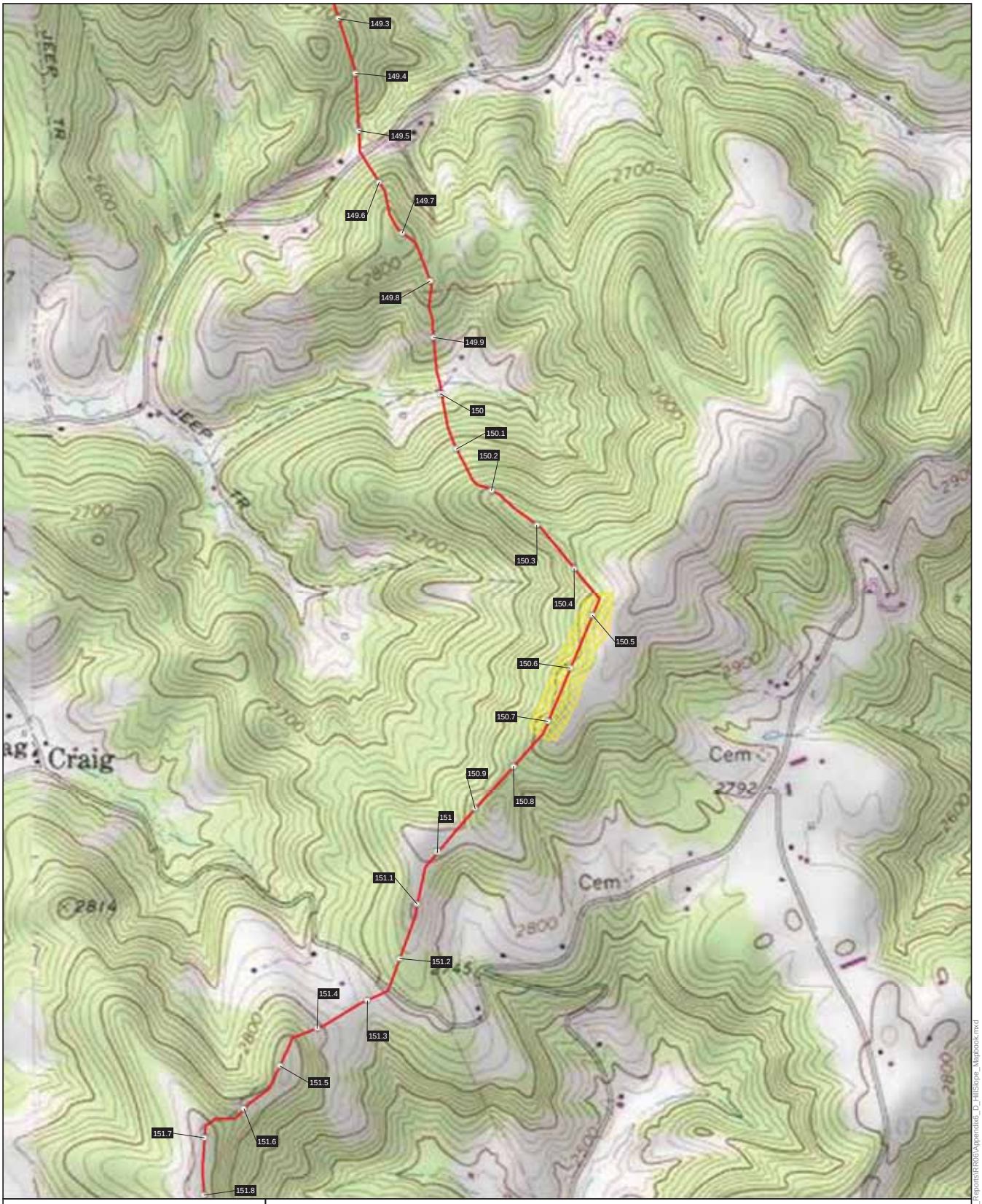
Data Sources: ESRI Streaming Data, 2014, Draper Aden Associates, 2015.

Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

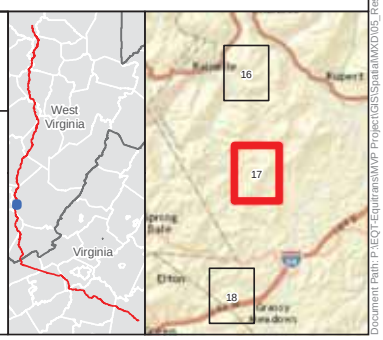
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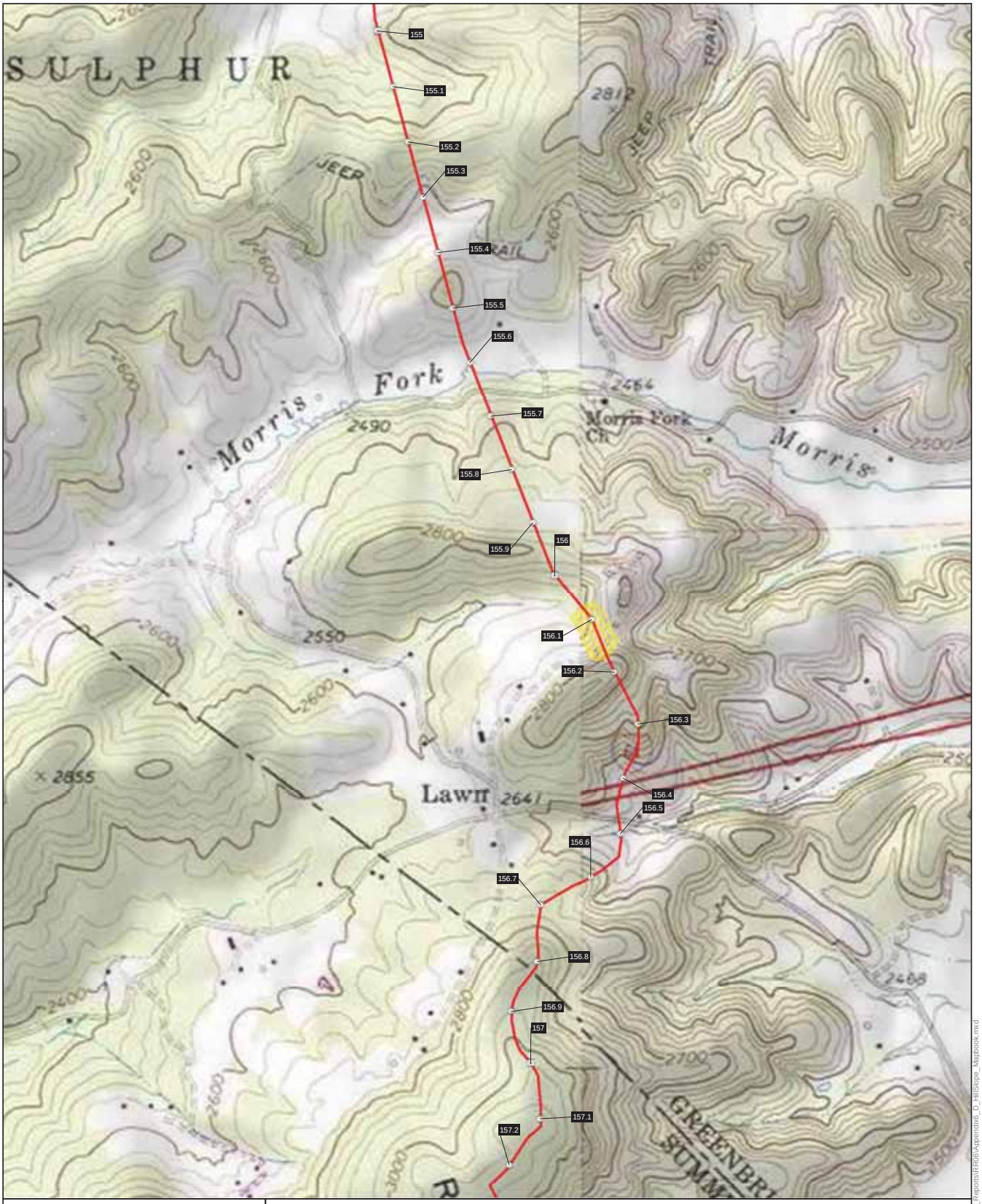
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\05_Resource_Reports\RR06\Appendix6_D_HillSlope_Mapbook.mxd



Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:10,000

0 500 1,000 2,000 Feet

Mountain Valley PIPELINE

Appendix 6-D
Hillslopes Crossed by the MVP Alignment

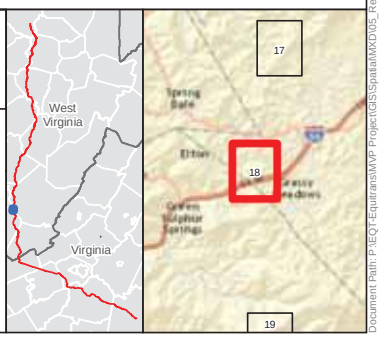
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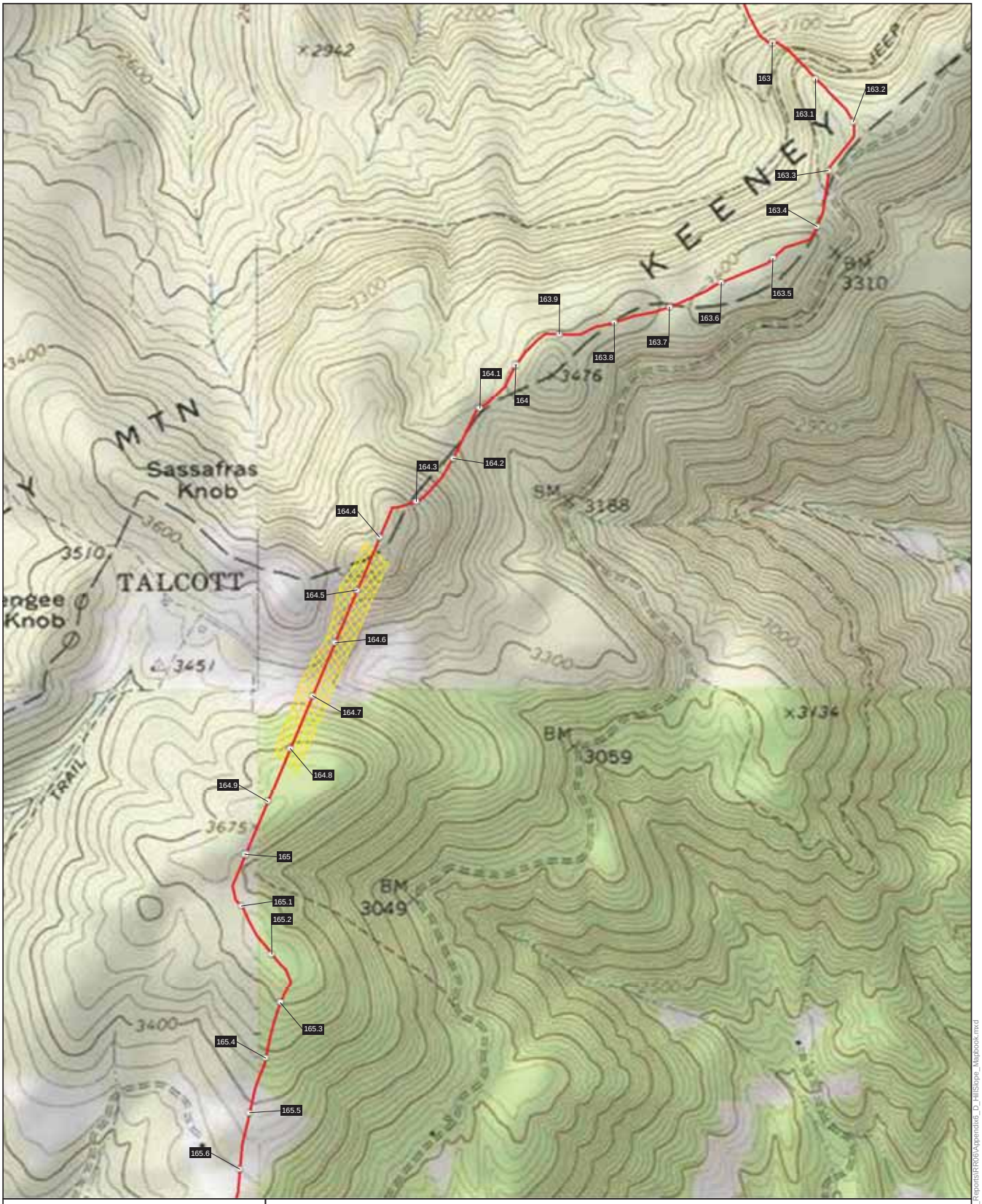
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Legend

- Milepost
- Tenth-Mile
- Proposed Route
- Hillslope



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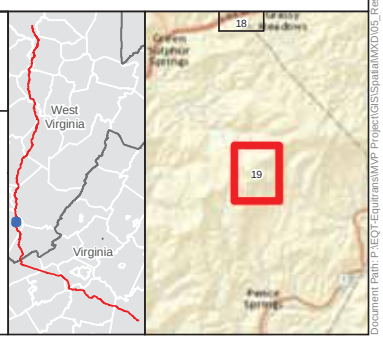
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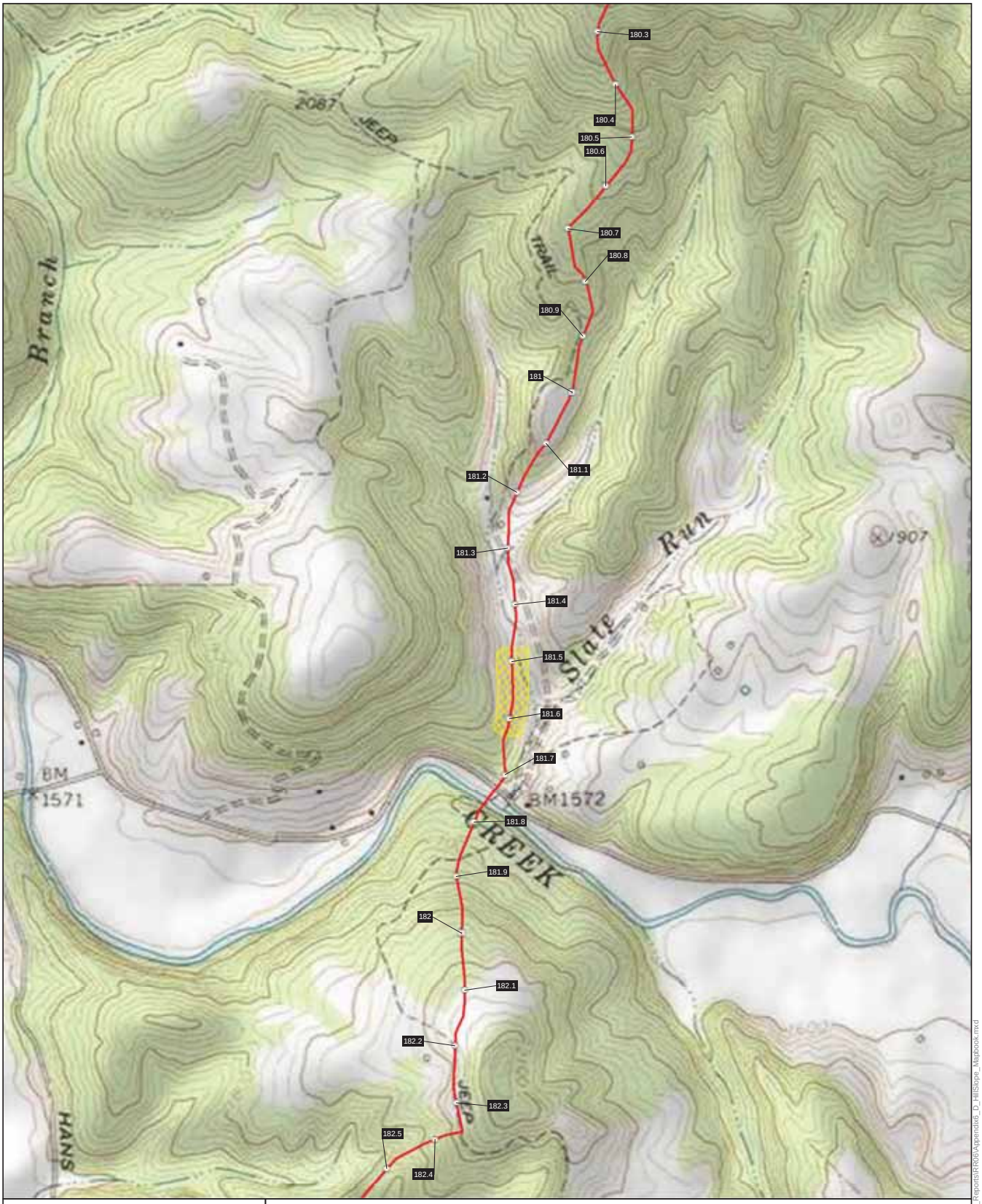
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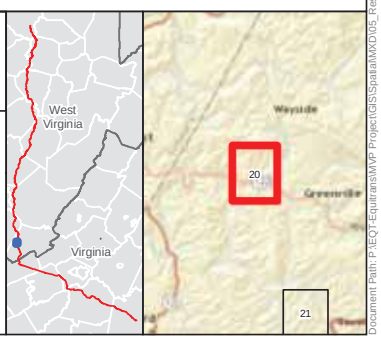
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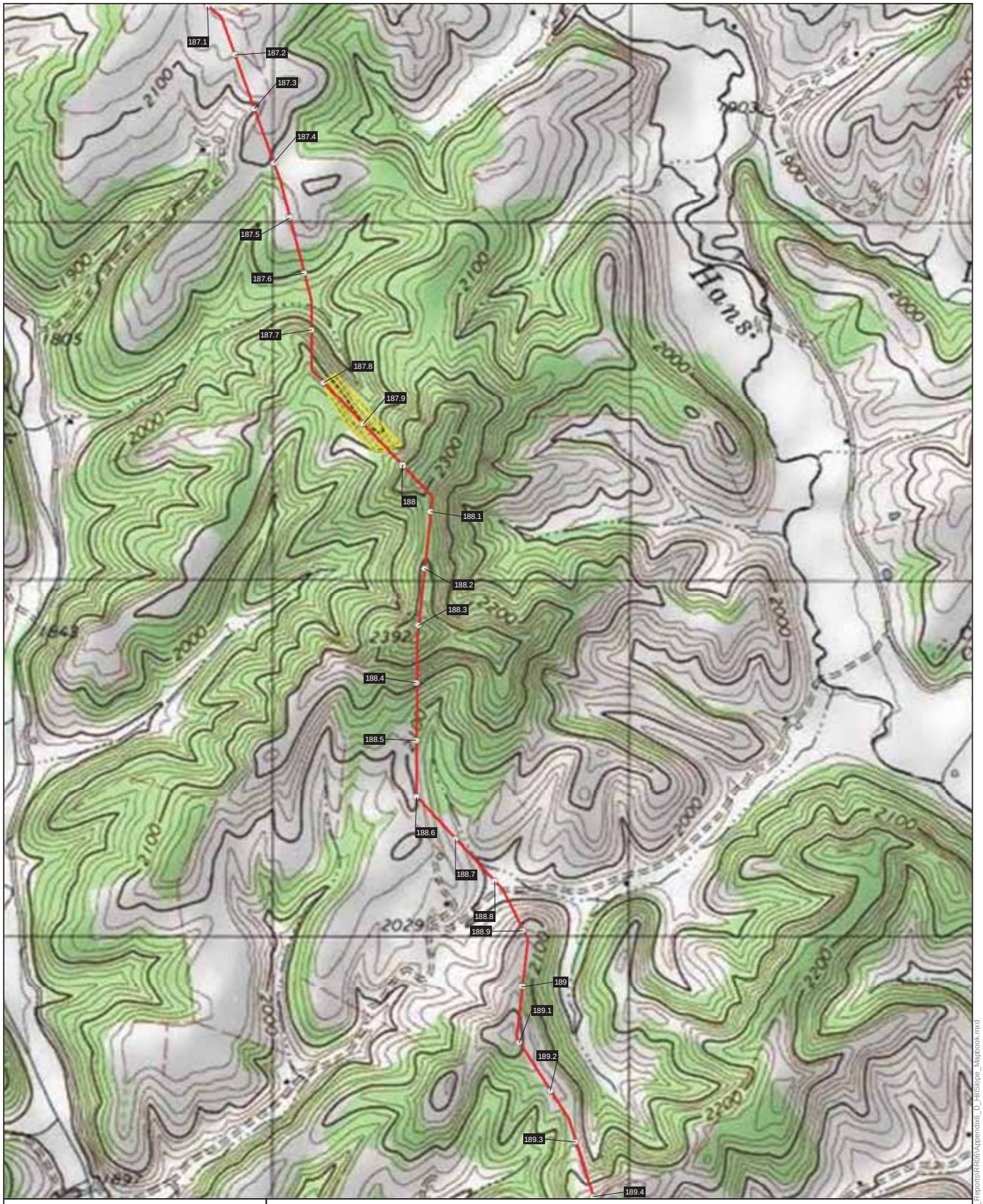
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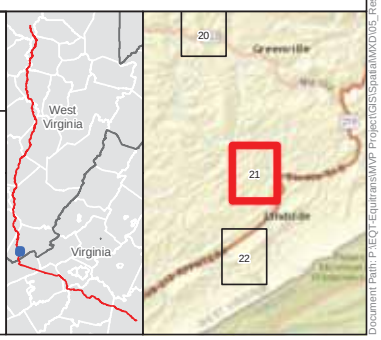
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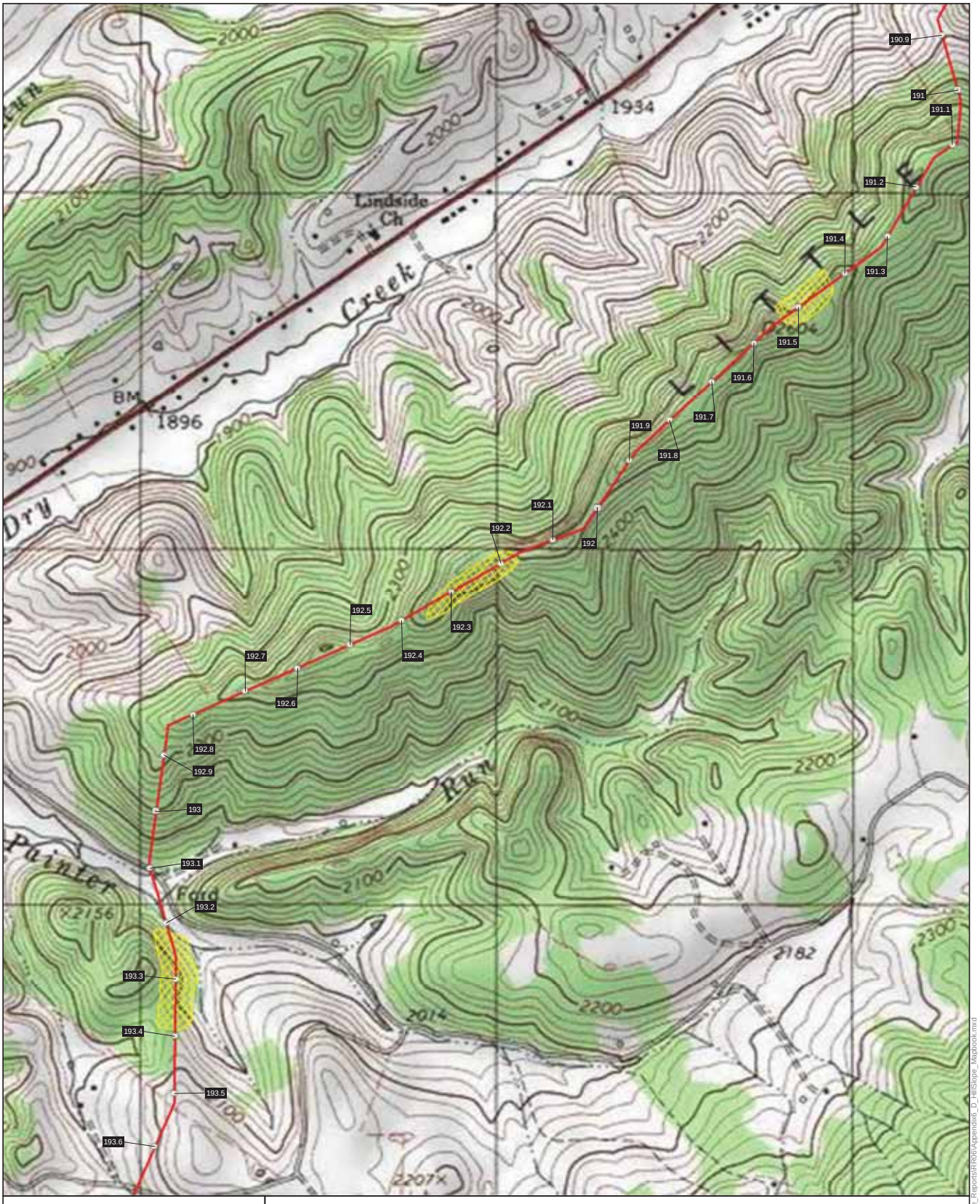
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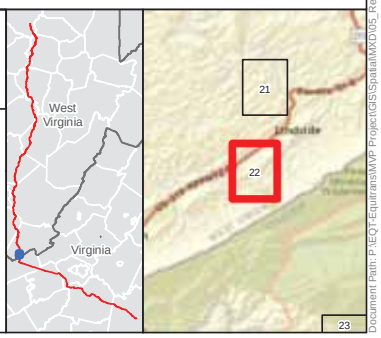
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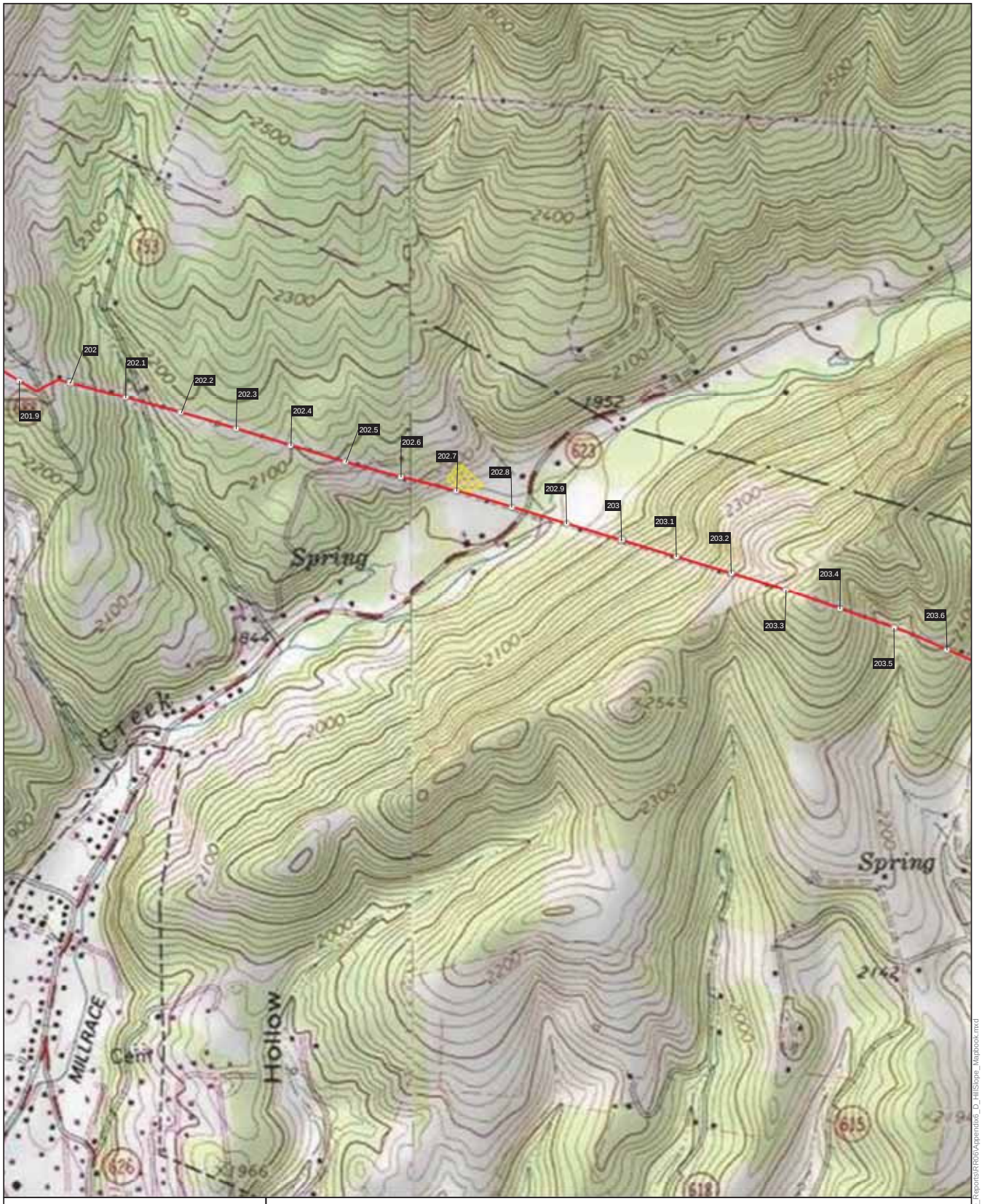
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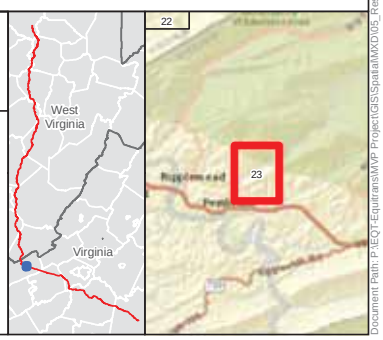
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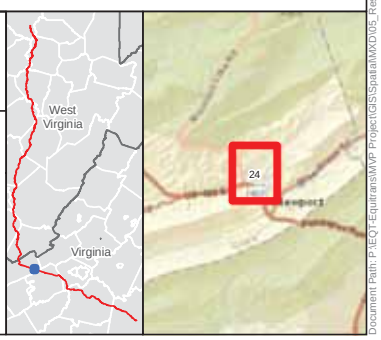
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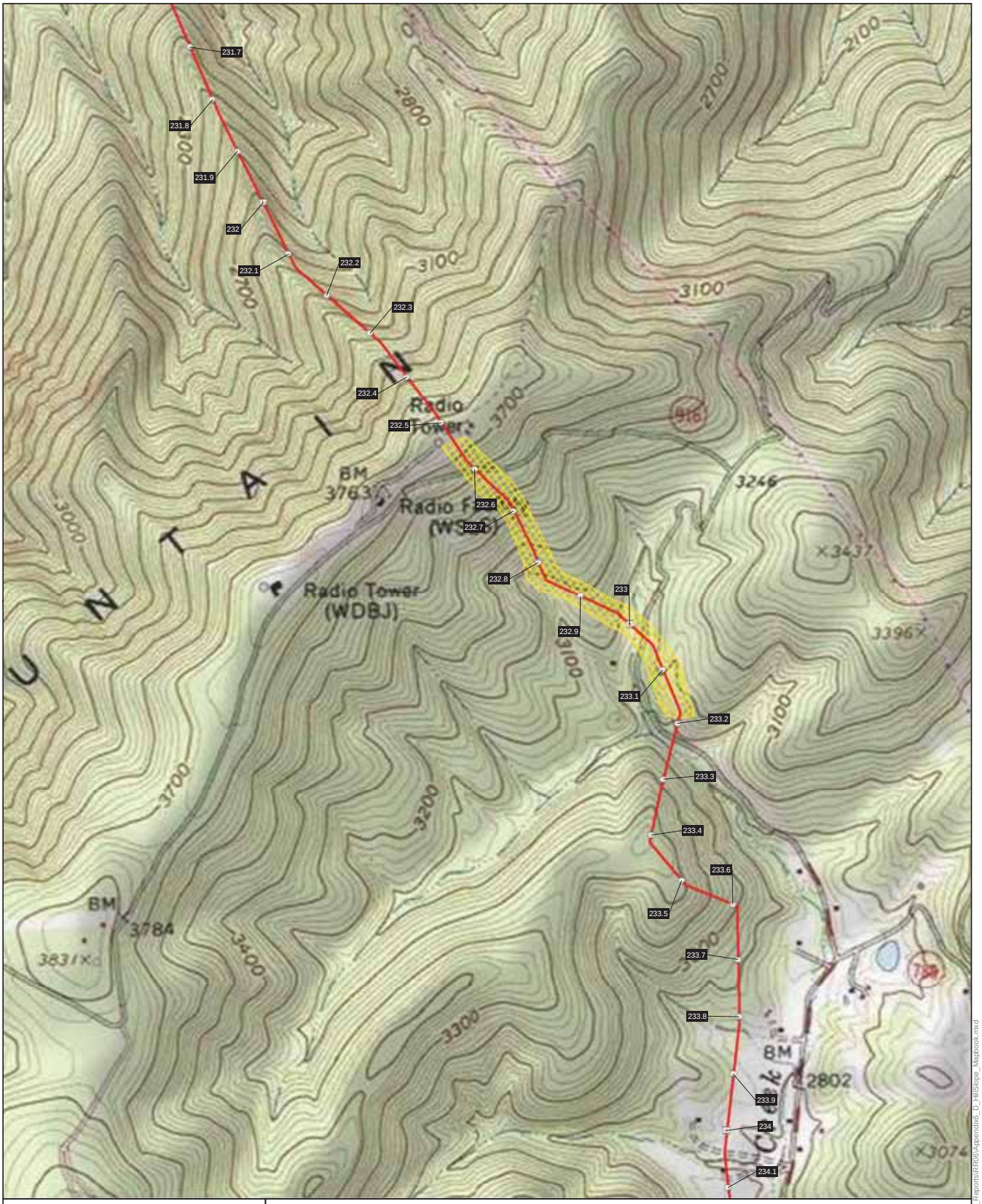
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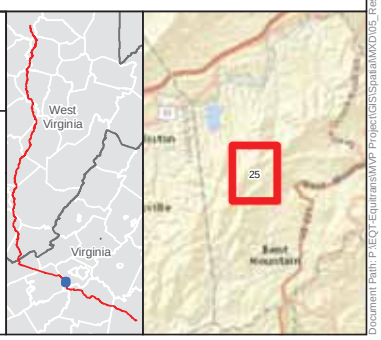
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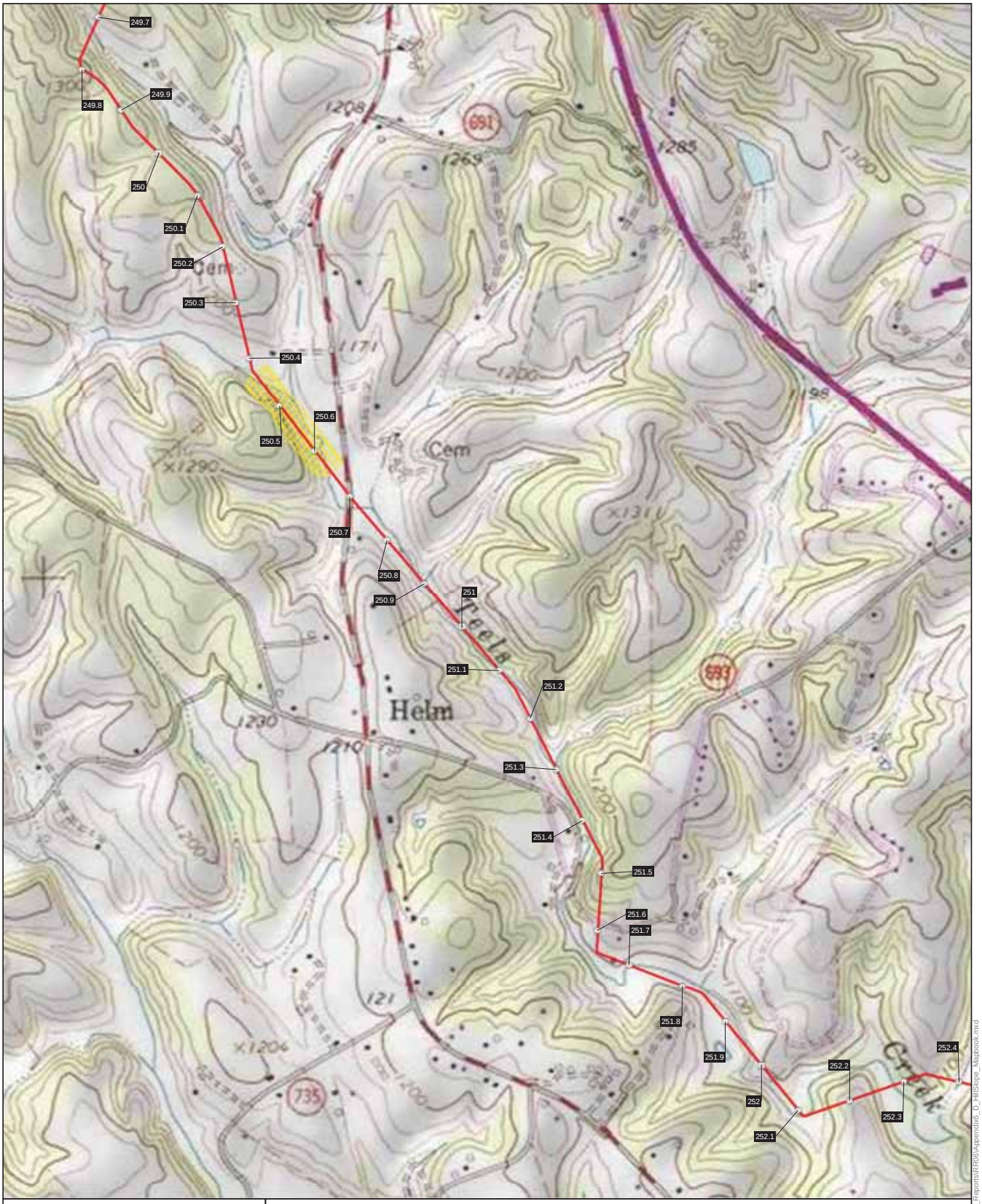
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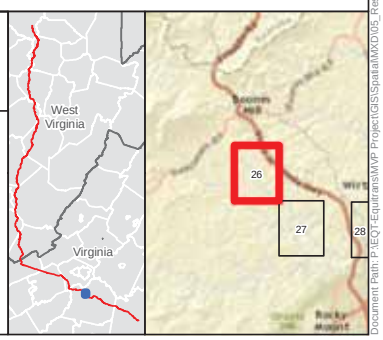
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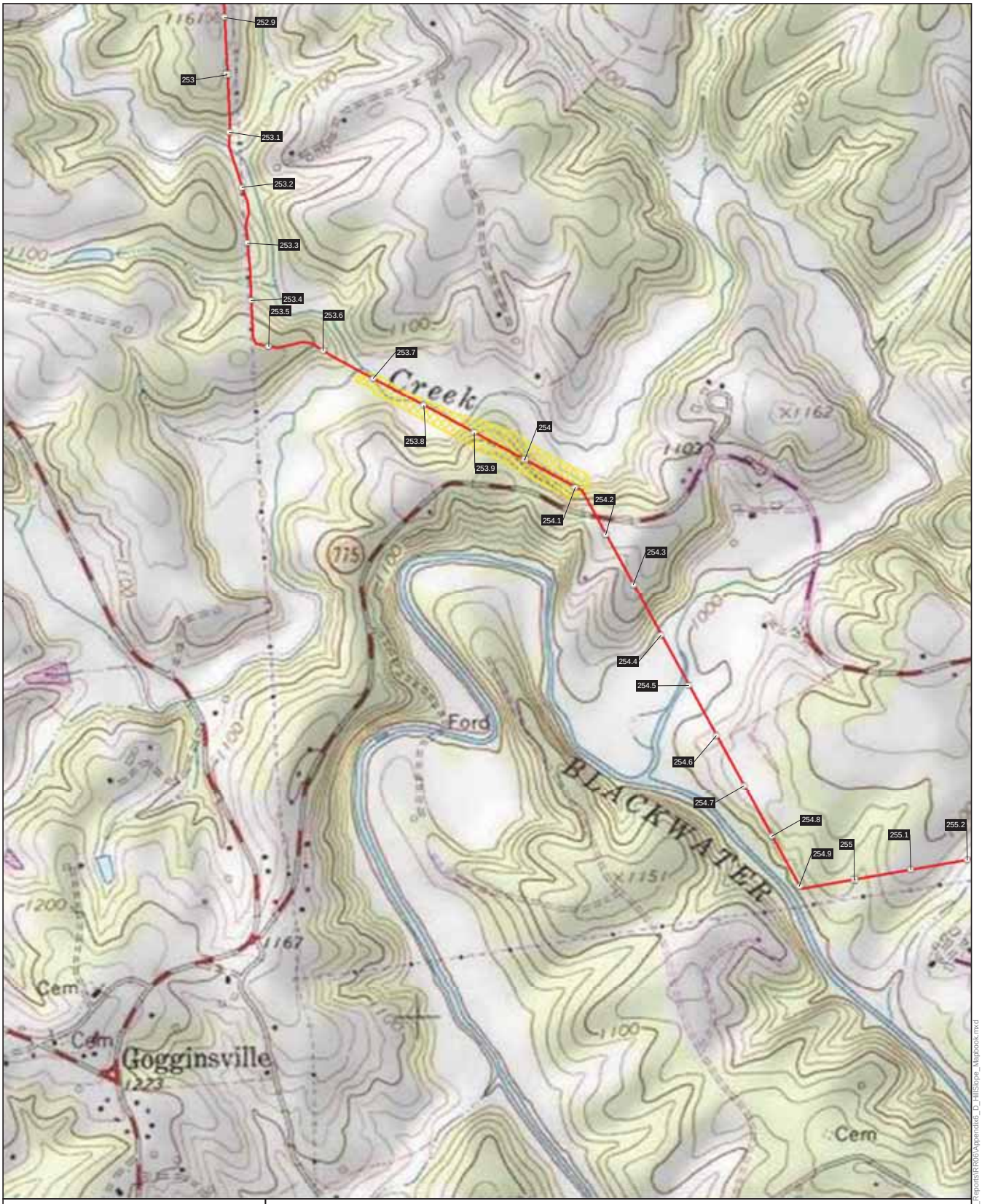
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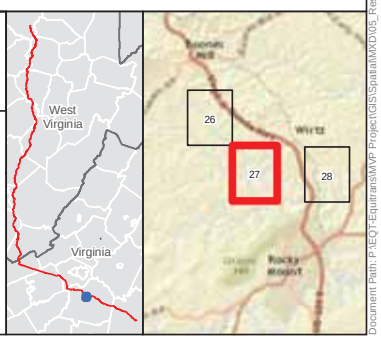
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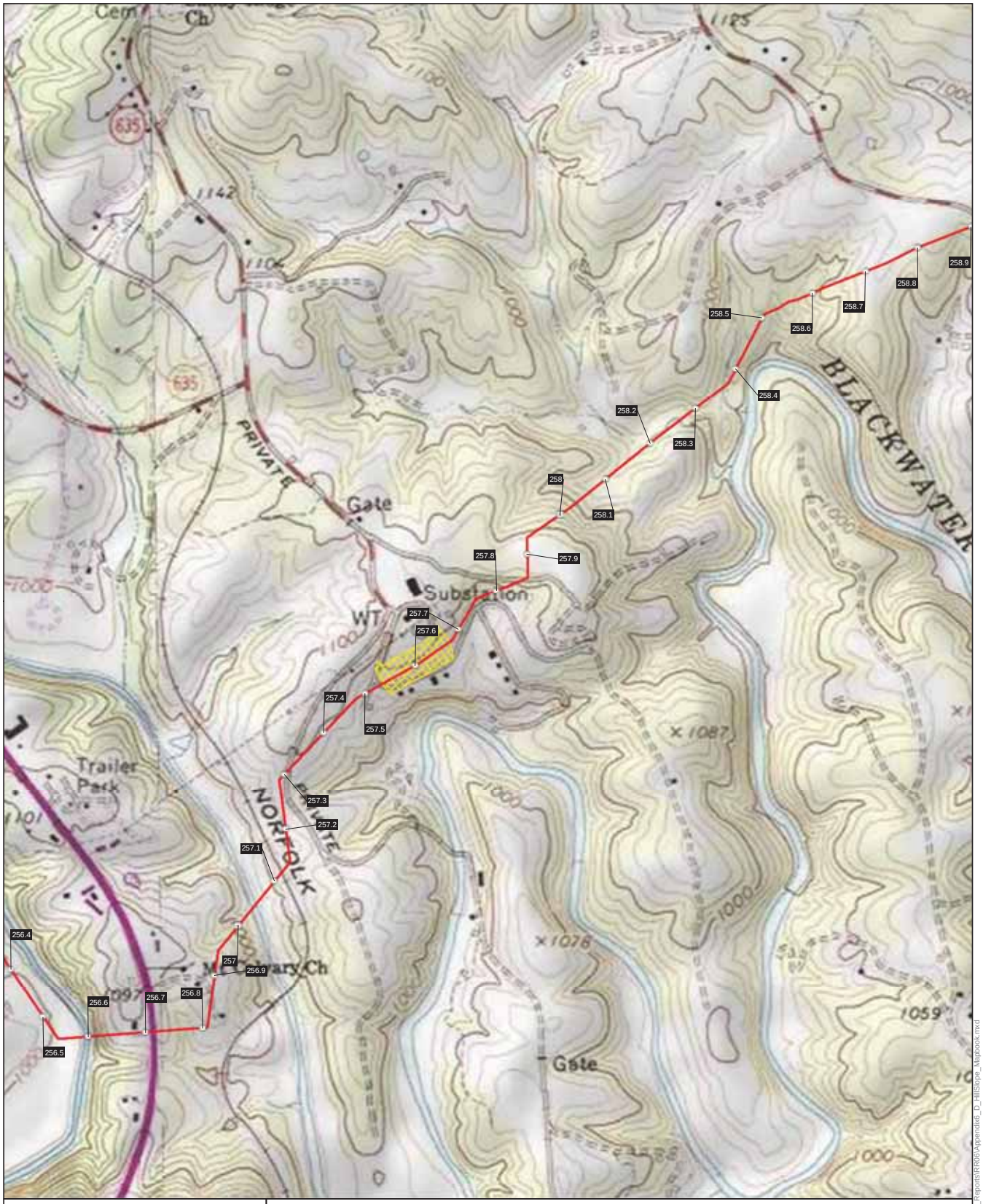
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Appendix 6-D
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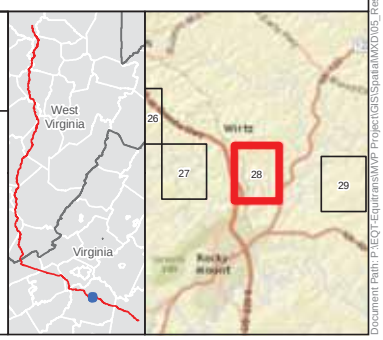
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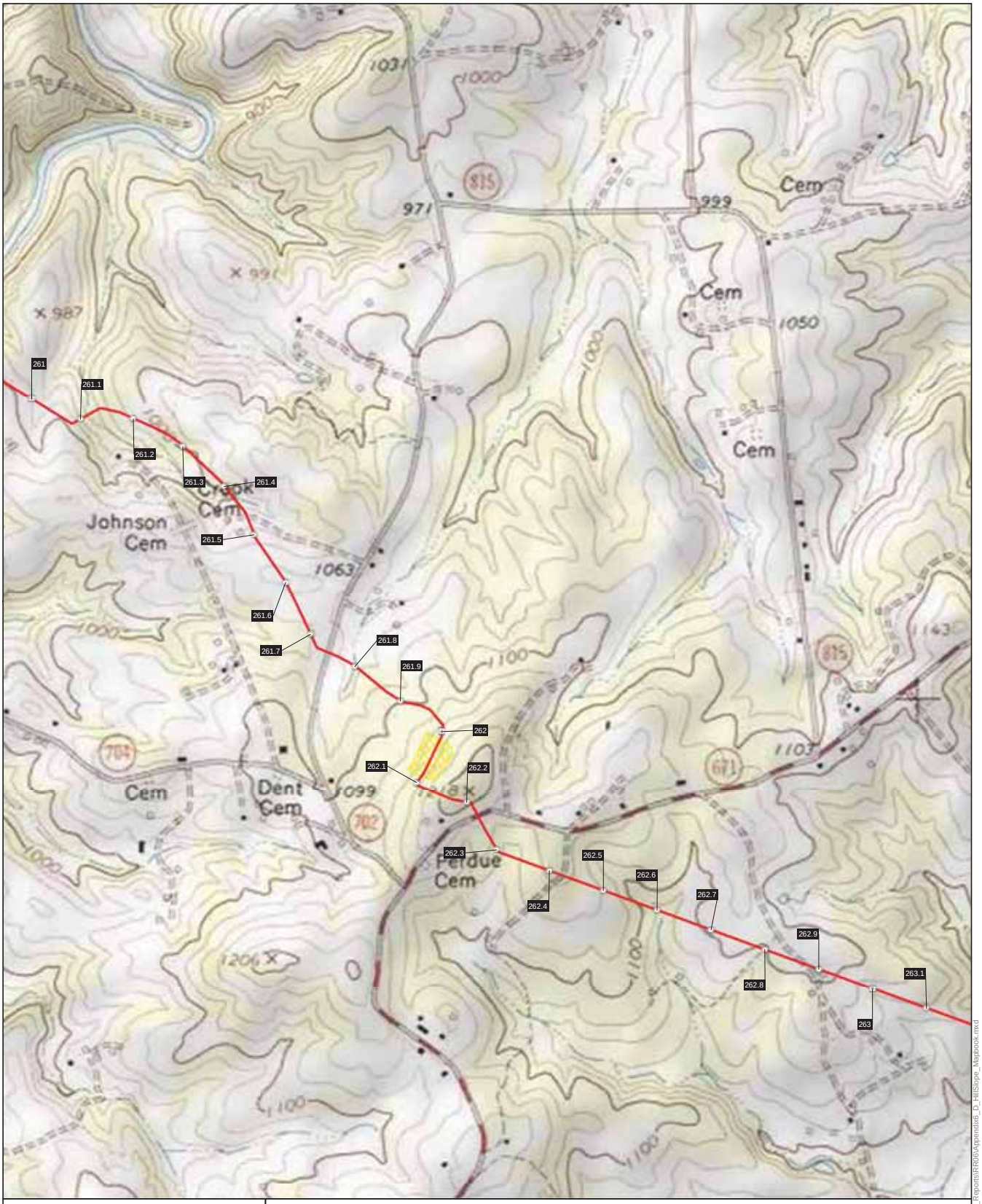
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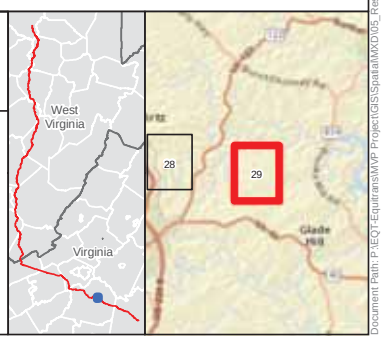
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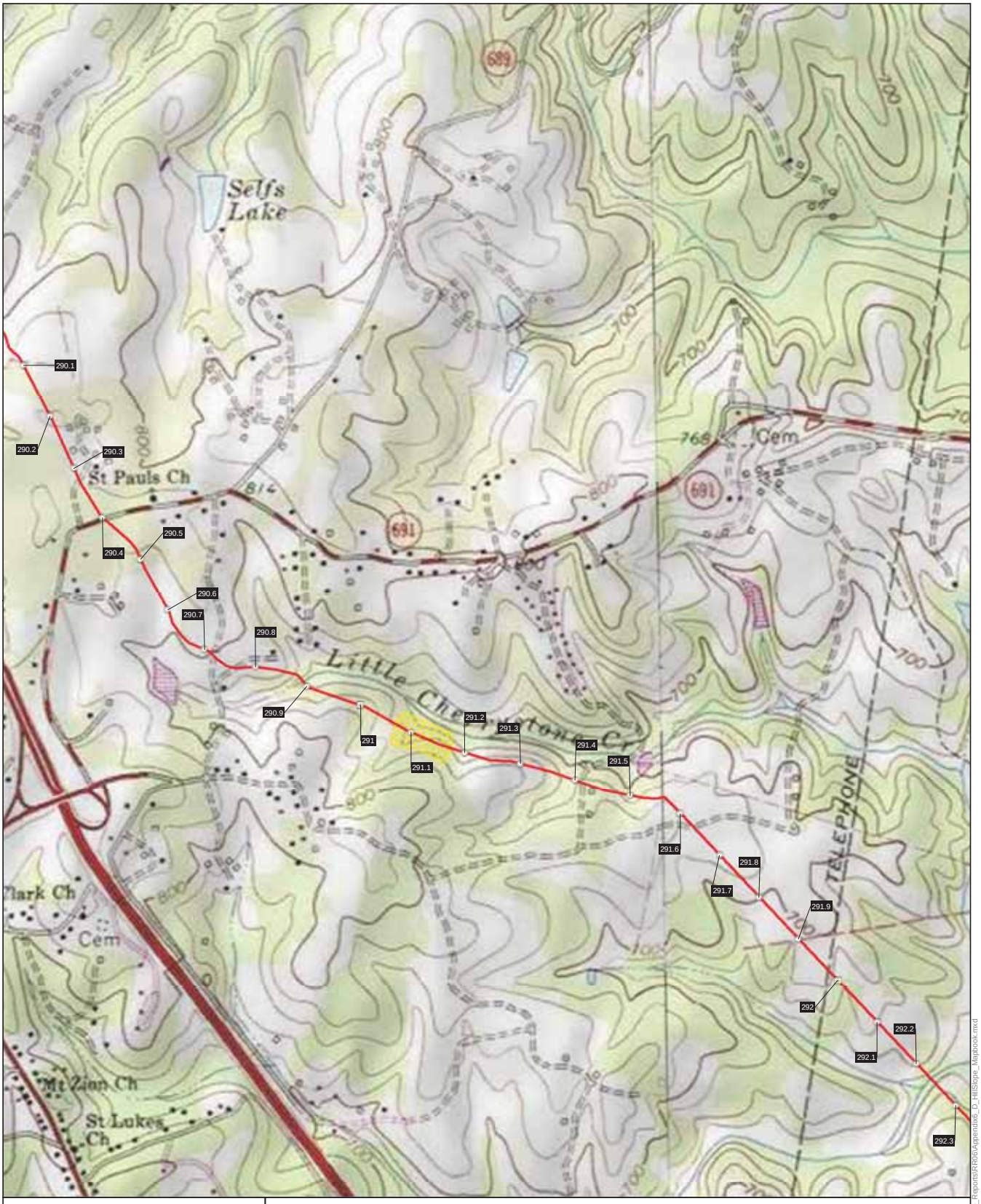
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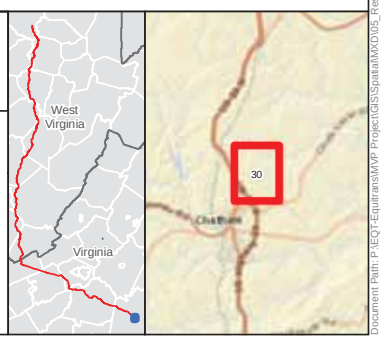
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Mountain Valley Pipeline Project

Docket No. PF15-3

Resource Report 9 – Air and Noise Quality

Draft

May 2015

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Mountain Valley Pipeline Project
Resource Report 9 – Air and Noise Quality

Resource Report 9 Filing Requirements	
Information	**Location in Resource Report**
Minimum Filing Requirements – 18 CFR § 380.12(k)	
1. Describe the existing air quality, including background levels of nitrogen dioxide and other criteria pollutants that may be emitted above EPA-identified significance levels. (§ 380.12(k)(1))	Section 9.1.1.4
2. Quantitatively describe existing noise levels at noise-sensitive areas such as schools, hospitals, or residences and include any areas covered by relevant state or local noise ordinances: • Report existing noise levels as the L_{eq} (day), L_{eq} (night), and L_{dn} and include the basis for the data or estimates. • For existing compressor stations, include the results of a sound level survey at the site property line and nearby noise-sensitive areas while the compressors are operated at full load. • For proposed new compressor station sites, measure or estimate the existing ambient sound environment based on current land uses and activities. • Include a plot plan that identifies the locations and duration of noise measurements, the time of day, weather conditions, wind speed and direction, engine load, and other noise sources present during each measurement. (§ 380.12(k)(2)(i-iv))	To be included in Resource Report 9 with MVP's application to FERC
3. Estimate the impact of the project on air quality, including how existing regulatory standards would be met. • Provide the emission rate of nitrogen oxides from existing and proposed facilities, expressed in pounds per hour and tons per year for maximum operating conditions, include supporting calculations, emission factors, fuel consumption rates, and annual hours of operation. • For major sources of air emissions (as defined by the Environmental Protection Agency), provide copies of applications for permits to construct (and operate, if applicable) or for applicability determinations under regulations for the prevention of significant air quality deterioration and subsequent determinations. (§ 380.12(k)(3)(i-ii))	To be included in Resource Report 9 with MVP's application to FERC
4. Provide a quantitative estimate of the impact of the project on noise levels at noise-sensitive areas, such as schools, hospitals, or residences. • Include step-by-step supporting calculations or identify the computer program used to model the noise levels, the input and raw output data and all assumptions made when running the model, far-field sound level data for maximum facility operation, and the source of the data. • Include sound pressure levels for unmuffled engine inlets and exhausts, engine casings, and cooling equipment; dynamic insertion loss for all mufflers; sound transmission loss for all compressor building components, including walls, roof, doors, windows and ventilation openings; sound attenuation from the station to nearby noise-sensitive areas; the manufacturer's name, the model number, the performance rating; and a description of each noise source and noise control component to be employed at the proposed compressor station. For proposed compressors the initial filing must include at least the proposed horsepower, type of compression, and energy source for the compressor. • Far-field sound level data measured from similar units in service elsewhere, when available, may be substituted for manufacturer's far-field sound level data.	To be included in Resource Report 9 with MVP's application to FERC

Resource Report 9 Filing Requirements	
Information	**Location in Resource Report**
• If specific noise control equipment has not been chosen, include a schedule for submitting the data prior to certification. • The estimate must demonstrate that the project will comply with applicable noise regulations and show how the facility will meet the following requirements: ▪ The noise attributable to any new compressor station, compression added to an existing station, or any modification, upgrade or update of an existing station, must not exceed a day- night sound level (L_{dn}) of 55 dBA at any pre-existing noise-sensitive area (such as schools, hospitals, or residences). ▪ New compressor stations or modifications of existing stations shall not result in a perceptible increase in vibration at any noise-sensitive area. (§ 380.12 (k)(4)(i-v))	
5. Describe measures and manufacturer's specifications for equipment proposed to mitigate impact to air and noise quality, including emission control systems, installation of filters, mufflers, or insulation of piping and buildings, and orientation of equipment away from noise-sensitive areas. (§ 380.12 (k)(5))	To be included in Resource Report 9 with MVP's application to FERC
Minimum Filing Requirements – Appendix A to Part 380 [Note: May overlap with requirements above.]	
1. Describe existing air quality in the vicinity of the project. (§ 380.12(k)(1))	Section 9.1.1.4
2. Quantify the existing noise levels (day-night sound level (L_{dn}) and other applicable noise parameters) at noise-sensitive areas and at other areas covered by relevant state and local noise ordinances. (§ 380.12(k)(2))	To be included in Resource Report 9 with MVP's application to FERC
3. Quantify existing and proposed emissions of compressor equipment, plus construction emissions, including nitrogen oxides (NO_x) and carbon monoxide (CO), and the basis for these calculations. Summarize anticipated air quality impacts for the project. (§ 380.12(k)(3))	To be included in Resource Report 9 with MVP's application to FERC
4. Describe the existing compressor units at each station where new, additional, or modified compressor units are proposed, including the manufacturer, model number, and horsepower of the compressor units. For proposed new, additional, or modified compressor units include the horsepower, type, and energy source. (§ 380.12(k)(4)).	To be included in Resource Report 9 with MVP's application to FERC
5. Identify any nearby noise-sensitive area by distance and direction from the proposed compressor unit building/enclosure. (§ 380.12(k)(4))	To be included in Resource Report 9 with MVP's application to FERC
6. Identify any applicable state or local noise regulations. (§ 380.12(k)(4))	Section 9.2.1
7. Calculate the noise impact at noise-sensitive areas of the proposed compressor unit modifications or additions, specifying how the impact was calculated, including manufacturer's data and proposed noise control equipment. (§ 380.12(k)(4))	To be included in Resource Report 9 with MVP's application to FERC

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FERC Environmental Information Request for Resource Report 9 Dated March 13, 2015	
Information	**Location in Resource Report**
1. Include a discussion of impacts resulting from greenhouse gas emissions from the Project. This analysis should include fugitive emissions from all Project components. Further, estimate how much of the natural gas delivered from the Project would be used to supplant other existing fuel sources, such as using new natural gas supplies to replace retiring coal-fired power plants.	Section 9.1.3.1.4, p. 9-11, additional information to be included in Resource Report 9 with application to FERC

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AIR AND NOISE QUALITY
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Note: Appendices will be included with Resource Report 9 filed with MVP's application to FERC

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Appendix 9-C West Virginia State Air Permit Applications
Appendix 9-D Baseline Noise Reports
Appendix 9-E Pipeline HDD Noise Assessments
Appendix 9-F Compressor Station Noise Assessments

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RESOURCE REPORT 9
AIR QUALITY AND NOISE

LIST OF ACRONYMS AND ABBREVIATIONS

AQS	Air Quality System data repository maintained by EPA
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
Commission	Federal Energy Regulatory Commission
CSR	Code of State Rules
dB	decibel
dBA	A-weighted decibel
EPA	U.S. Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
GHG	greenhouse gases
HDD	horizontal directional drill
Hz	Hertz
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
L_{max}	maximum sound level
L_p	sound pressure level
L_w	sound power level
$\mu g/m^3$	micrograms per cubic meter
MACT	Maximum Achievable Control Technology
MLV	mainline block valve
MMBtu/hr	million British thermal units per hour
MRR	Mandatory Reporting Rule
MVP	Mountain Valley Pipeline, LLC
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NNSR	Nonattainment New Source Review
NO_2	nitrogen dioxide
NOx	nitrogen oxides
NSA	noise-sensitive area
NSPS	New Source Performance Standards
NSR	New Source Review
PM	particulate matter
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
Project	Mountain Valley Pipeline Project
PSD	Prevention of Significant Deterioration
SO_2	sulfur dioxide
tpy	tons per year
Transco	Transcontinental Gas Pipe Line Company, LLC
VOC	volatile organic compound

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RESOURCE REPORT 9
AIR QUALITY AND NOISE

INTRODUCTION

Mountain Valley Pipeline, LLC (MVP), a joint venture between affiliates of EQT Corporation, NextEra Energy, Inc., WGL Holdings, Inc. and Vega Energy Partners, Ltd., is seeking a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission (FERC or Commission) pursuant to Section 7(c) of the Natural Gas Act authorizing it to construct and operate the proposed Mountain Valley Pipeline Project (Project) located in 16 counties in West Virginia and Virginia MVP plans to construct an approximately 294.1-mile, 42-inch-diameter natural gas pipeline to provide timely, cost-effective access to the growing demand for natural gas for use by local distribution companies, industrial users and power generation in the Mid-Atlantic and southeastern markets, as well as potential markets in the Appalachian region.

The proposed pipeline will extend from the existing Equitrans, L.P. transmission system in Wetzel County, West Virginia to Transcontinental Gas Pipe Line Company, LLC's (Transco) Zone 5 compressor station 165 in Pittsylvania County, Virginia. In addition to the pipeline, the Project will require approximately 217,200 horsepower of compression at approximately four compressor stations currently planned along the route, as well as measurement, regulation, and other ancillary facilities required for the safe operation of the pipeline. The pipeline is designed to transport up to 2.0 billion cubic feet per day of natural gas. Resource Report 1 provides a complete summary of the Project facilities (see Tables 1.2-1 and 1.2-2) and a general location map of the Project facilities (Figure 1.2-1).

ENVIRONMENTAL RESOURCE REPORT ORGANIZATION

Resource Report 9 includes discussion of Air Quality and Noise in the Project area and potential Project impacts. Resource Report 9 is prepared and organized according to the FERC *Guidance Manual for Environmental Report Preparation* issued August 2002. Air quality resources and potential impacts from the Project are discussed in Section 9.1, including a summary of the regional climate and existing air quality in Section 9.1.1, a discussion of Project related emissions in 9.1.2, an overview of the permitting requirements in Section 9.1.3, and a discussion of potential Project-related air quality impacts in Section 9.1.4. Section 9.2.1 provides a description of the applicable regulatory requirements applicable to noise, Section 9.2.2 identifies the existing in-air acoustic conditions, and Section 9.2.3 estimates the construction and operation sound sources.

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9.1 AIR QUALITY

9.1.1 Existing Air Quality

9.1.1.1 Climate

Monthly climatological data for the Compressor Station locations is referenced from the most representative nearby meteorological stations (National Weather Service cooperative stations 466202, 462718, 460582, and 447285). There are also closer non-airport meteorological data sources; however, these stations were determined to have the most similar terrain, elevation, surrounding topography, and the most complete meteorological data. Meteorological data for all stations was obtained from the National Climatic Data Center for the period from January 1981 to December 2010. The annual average temperatures and average precipitation data for these areas are presented in Table 9.1-1.

Table 9.1-1

Climate Parameters at the Compressor Station Locations

Station	Monitor	ID	Approximate Distance and Direction from Station	Average Daily Minimum Temperature – January (°F)	Average Daily Maximum Temperature – July (°F)	Annual Precipitation (inches)
Bradshaw	Morgantown Hart Field, WV US	GHCND: USW00013736	33 miles NE	23.7	83.4	41.83
Harris	Elkins-Randolph County Regional Airport, WV US	GHCND: USW 00013729	36 miles NE	19.4	81.0	45.93
Stallworth	Raleigh County Memorial Airport, WV US	GHCND: USW00003872	20 miles SW	22.8	79.8	41.19
Swann	Roanoke-Blacksburg Regional Airport, VA US	GHCND: USW 00013741	19 miles NE	27.5	87.0	41.25

9.1.1.2 National Ambient Air Quality Standards

Table 9.1-2 summarizes the National Ambient Air Quality Standards (NAAQS) that are currently in effect. Any area that does not meet the NAAQS for the corresponding pollutant is known as a non-attainment area. All counties in which the Project is located are classified as in attainment with all NAAQS.

Table 9.1-2

National Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Primary Standards	Averaging Times	Secondary Standards
Carbon Monoxide (CO)	9 ppm (10,000 µg/m^3)	8-hour	None
	35 ppm (40,000 µg/m^3)	1-hour	None
Lead	0.15 µg/m^3	Rolling 3-month Average	Same as Primary
Nitrogen Dioxide (NO_2)	53 ppb (100 µg/m^3)	Annual (Arithmetic Mean)	Same as Primary
	100 ppb (188 µg/m^3)	1-hour	None

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Table 9.1-2

National Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Primary Standards	Averaging Times	Secondary Standards
Particulate Matter (PM_{10})	150 µg/m^3	24-hour	Same as Primary
Particulate Matter ($PM_{2.5}$)	12 µg/m^3	Annual (Arithmetic Mean)	15 µg/m^3
	35 µg/m^3	24-hour	Same as Primary
Ozone	75 ppb	8-hour	Same as Primary
Sulfur Dioxide (SO_2)*	0.03 ppm (80 µg/m^3)	Annual (Arithmetic Mean)	0.02 ppm
	0.14 ppm (365 µg/m^3)	24-hour	None
	None	3-hour	0.5 ppm (1,300 µg/m^3)
	75 ppb (196 µg/m^3)	1-hour	None

Source: http://epa.gov/air/criteria.html. The counties of Wetzel, Harrison, Doddridge, Lewis, Braxton, Webster, Nicholas, Greenbrier, Fayette, Summers, and Monroe, WV, are each in attainment for all criteria pollutants. The counties of Giles, Montgomery, Roanoke, Franklin, and Pittsylvania, VA, are each in attainment for all criteria pollutants.

* The existing annual and 24-hour SO_2 standards will be revoked one year after the effective dates in areas with designated status for the revised SO_2 NAAQS.

9.1.1.3 Section 107 Attainment Status Designations

The Project is located in counties of Wetzel, Harrison, Doddridge, Lewis, Braxton, Webster, Nicholas, Greenbrier, Fayette, Summers, and Monroe, West Virginia, and Giles, Montgomery, Roanoke, Franklin, and Pittsylvania, Virginia. All counties listed are in attainment for all criteria pollutants.

9.1.1.4 Existing Ambient Background Levels

Existing ambient background concentrations for criteria air pollutants in the vicinity of the proposed compressor stations are presented in Tables 9.1-3 through 9.1-6 below. This data was obtained from the EPA's Air Quality System (AQS) which is the EPA's repository of ambient air quality data, collected and stored from over 10,000 monitors nationwide. The AQS system data is used to assess air quality, assist in Attainment/Non-Attainment designations, evaluate State Implementation Plans for Non-Attainment Areas, and provide inputs to support modeling for air quality permits and permit review. As mentioned above, all counties crossed by the Project are in attainment for all criteria pollutants.

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Table 9.1-3

Existing Ambient Background Levels in the Vicinity of the Bradshaw Compressor Station

Pollutant	Averaging Period	Monitoring Station	AQS Site ID	County	State	Approx. Distance from Facility (miles)	Background Concentration ($\mu g/m^3$)	Primary NAAQS ($\mu g/m^3$)
NO_2	1-hour	Charleroi Waste Treatment Plant	42-125-0005	Washington	PA	54	68.4	188.0
NO_2	Annual	Charleroi Waste Treatment Plant	42-125-0005	Washington	PA	54	16.1	100.0
$PM_{2.5}$	24-hour	Marion Heath Care Hospital	54-049-0006	Marion	WV	22	18.8	35.0
$PM_{2.5}$	Annual	Marion Heath Care Hospital	54-049-0006	Marion	WV	22	9.7	12.0
CO	1-hour	Charleroi Waste Treatment Plant	42-125-0005	Washington	PA	54	2,864.0	40,000.0
CO	8-hour	Charleroi Waste Treatment Plant	42-125-0005	Washington	PA	54	1,718.4	10,000.0
PM_{10}	24-hr	Brilliant	39-081-0001	Jefferson	OH	50	47.0	150.0
SO_2	1-hour	Morgantown - Airport US	54-061-0003	Monongalia	WV	34	39.3	196.0
SO_2	3-hour	Morgantown - Airport US	54-061-0003	Monongalia	WV	34	41.9	1300.0
SO_2	24-hour	Morgantown - Airport US	54-061-0003	Monongalia	WV	34	16.8	365.0
SO_2	Annual	Morgantown - Airport US	54-061-0003	Monongalia	WV	34	73.4	80.0

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Table 9.1-4

Existing Ambient Background Levels in the Vicinity of the Harris Compressor Station

Pollutant	Averaging Period	Monitoring Station	AQS Site ID	County	State	Approx. Distance from Facility (miles)	Background Concentration ($\mu g/m^3$)	Primary NAAQS ($\mu g/m^3$)
NO_2	1-hour	Rockingham VDOT	51-165-0003	Rockingham	VA	93	73.4	188.0
NO_2	Annual	Rockingham VDOT	51-165-0003	Rockingham	VA	93	17.0	100.0
$PM_{2.5}$	24-hour	Washington Irving Junior High School	54-033-0003	Harrison	WV	40	19.0	35.0
$PM_{2.5}$	Annual	Washington Irving Junior High School	54-033-0003	Harrison	WV	40	9.1	12.0
CO	1-hour	Charleroi Waste Treatment Plant	42-125-0005	Washington	PA	103	2,864.0	40,000.0
CO	8-hour	Charleroi Waste Treatment Plant	42-125-0005	Washington	PA	103	1,718.4	10,000.0
PM_{10}	24-hr	Charleston Baptist Temple	54-039-0010	Kanawha	WV	66	30	150.0
SO_2	1-hour	Morgantown - Airport US	54-061-0003	Monongalia	WV	71	39.3	196.0
SO_2	3-hour	Morgantown - Airport US	54-061-0003	Monongalia	WV	71	41.9	1300.0
SO_2	24-hour	Morgantown - Airport US	54-061-0003	Monongalia	WV	71	16.8	365.0
SO_2	Annual	Morgantown - Airport US	54-061-0003	Monongalia	WV	71	73.4	80.0

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Table 9.1-5

Existing Ambient Background Levels in the Vicinity of the Stallworth Compressor Station

Pollutant	Averaging Period	Monitoring Station	AQS Site ID	County	State	Approx. Distance from Facility (miles)	Background Concentration ($\mu g/m^3$)	Primary NAAQS ($\mu g/m^3$)
NO_2	1-hour	East Vinton Elementary School	51-161-1004	Roanoke	VA	63	69.2	188.0
NO_2	Annual	East Vinton Elementary School	51-161-1004	Roanoke	VA	63	12.6	100.0
$PM_{2.5}$	24-hour	Salem High School	51-775-0011	Salem City	VA	54	17	35.0
$PM_{2.5}$	Annual	Salem High School	51-775-0011	Salem City	VA	54	9	12.0
CO	1-hour	Winston-Salem	37-067-0023	Forsyth	NC	127	2,749.5	40,000.0
CO	8-hour	Winston-Salem	37-067-0023	Forsyth	NC	127	1,947.5	10,000.0
PM_{10}	24-hr	Charleston Baptist Temple	54-039-0010	Kanawha	WV	58	30.0	150.0
SO_2	1-hour	Charleston Baptist Temple	54-039-0010	Kanawha	WV	58	110.9	196.0
SO_2	3-hour	Charleston Baptist Temple	54-039-0010	Kanawha	WV	58	120.5	1300.0
SO_2	24-hour	Charleston Baptist Temple	54-039-0010	Kanawha	WV	58	46.9	365.0
SO_2	Annual	Charleston Baptist Temple	54-039-0010	Kanawha	WV	58	157.2	80.0

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Table 9.1-6

Existing Ambient Background Levels in the Vicinity of the Swann Compressor Station

Pollutant	Averaging Period	Monitoring Station	AQS Site ID	County	State	Approx. Distance from Facility (miles)	Background Concentration ($\mu g/m^3$)	Primary NAAQS ($\mu g/m^3$)
NO_2	1-hour	East Vinton Elementary School	51-161-1004	Roanoke	VA	24	69.2	188.0
NO_2	Annual	East Vinton Elementary School	51-161-1004	Roanoke	VA	24	12.6	100.0
$PM_{2.5}$	24-hour	Salem High School	51-775-0011	Salem City	VA	13	17	35.0
$PM_{2.5}$	Annual	Salem High School	51-775-0011	Salem City	VA	13	9	12.0
CO	1-hour	Winston-Salem	37-067-0023	Forsyth	NC	83	2,749.5	40,000.0
CO	8-hour	Winston-Salem	37-067-0023	Forsyth	NC	83	1,947.5	10,000.0
PM_{10}	24-hr	Gladeville Elementary School	51-035-0001	Carroll	VA	50	26	150.0
SO_2	1-hour	East Vinton Elementary School	51-161-1004	Roanoke	VA	24	14.1	196.0
SO_2	3-hour	East Vinton Elementary School	51-161-1004	Roanoke	VA	24	15.7	1300.0
SO_2	24-hour	East Vinton Elementary School	51-161-1004	Roanoke	VA	24	11.5	365.0
SO_2	Annual	East Vinton Elementary School	51-161-1004	Roanoke	VA	24	19.1	80.0

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9.1.1.5 Federal Class I Areas

Federal Class I areas are certain areas established by Congress, such as wilderness areas and national parks, that are afforded special protection under the Clean Air Act (CAA). Once designated as a Class I area, that area cannot be re-designated to another (lower) classification. Class I areas are allowed the smallest degree of air quality deterioration through New Source Review (NSR) / Prevention of Significant Deterioration (PSD) permitting, and special considerations must be made in the NSR permitting process when a Class I area is located close to a proposed site. Based on preliminary calculations, the Project does not require PSD review and Class I modeling will not be required. Regardless, the Class I areas nearest to the proposed locations of the Bradshaw, Harris, Stallworth, and Swann Compressor Stations have been identified. The Class I areas are listed in Tables 9.1-7, 9.1-8, 9.1-9, and 9.1-10.

Table 9.1-7

Federal Class I Areas Closest to the Bradshaw Compressor Station

Class I Area	Managing Agency	Direction from Bradshaw	Approximate Distance to Compressor Station	
			Kilometers	Miles
Otter Creek, WV	U.S. Forest Service	Southeast of Bradshaw	98	61
Dolly Sods, WV	U.S. Forest Service	Southeast of Bradshaw	117	73
Shenandoah, VA	National Park Service	Southeast of Bradshaw	211	131
James River, VA	U.S. Forest Service	Southeast of Bradshaw	236	147

Table 9.1-8

Federal Class I Areas Closest to the Harris Compressor Station

Class I Area	Managing Agency	Direction from Harris	Approximate Distance to Compressor Station	
			Kilometers	Miles
Otter Creek, WV	U.S. Forest Service	Northeast of Harris	82	52
Dolly Sods, WV	U.S. Forest Service	Northeast of Harris	103	64
Shenandoah, VA	National Park Service	Southeast of Harris	166	103
James River, VA	U.S. Forest Service	Southeast of Harris	156	97

Table 9.1-9

Federal Class I Areas Closest to the Stallworth Compressor Station

Class I Area	Managing Agency	Direction from Stallworth	Approximate Distance to Compressor Station	
			Kilometers	Miles
Otter Creek, WV	U.S. Forest Service	Northeast of Stallworth	159	99
Dolly Sods, WV	U.S. Forest Service	Northeast of Stallworth	174	108
Shenandoah, VA	National Park Service	Northeast of Stallworth	189	117
James River, VA	U.S. Forest Service	Southeast of Stallworth	120	75

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Table 9.1-10

Federal Class I Areas Closest to the Swann Compressor Station

Class I Area	Managing Agency	Direction from Swann	Approximate Distance to Compressor Station	
			Kilometers	Miles
Otter Creek, WV	U.S. Forest Service	Northeast of Swann	202	125
Dolly Sods, WV	U.S. Forest Service	Northeast of Swann	208	128
Shenandoah, VA	National Park Service	Northeast of Swann	185	115
James River, VA	U.S. Forest Service	Northeast of Swann	85	53

9.1.2 Project Emissions

9.1.2.1 Construction

The proposed Project includes the construction of approximately 294.1 miles of new 42-inch diameter natural gas pipeline through 16 counties in West Virginia and Virginia. The West Virginia counties include Wetzel, Harrison, Doddridge, Lewis, Braxton, Webster, Nicholas, Greenbrier, Fayette, Summers, and Monroe. The Virginia counties include Giles, Montgomery, Roanoke, Franklin, and Pittsylvania. The pipeline will deliver gas from the Equitrans L.P. transmission system, gathering systems, and natural gas production facilities to Columbia Gas Transmission, LLC's WB system and Transco's system.

Four compressor stations are anticipated to be required for the Project. An initial station at the northern-most point of the pipeline will provide suppliers with immediate pipeline access, and three relay stations located further south along the pipeline will boost pipeline pressure and allow for the designed capacity. The compressor stations will have pig launcher and receiver sites. Additional meter and mainline block valve (MLV) sites will be located along the pipeline.

The use of equipment to construct the Project will result in temporary, short-term emissions of air pollutants that will be restricted to the construction period for each facility and pipeline and will terminate once construction has been completed. Construction for the Project is expected to take place in 2017 and 2018. These emissions will not result in significant adverse impacts to air quality.

Construction activities can generally be categorized into the following activities:

- Construction Equipment Engines – Emissions from air compressors, backhoes, cranes, and other construction equipment;
- On-Road Vehicle Travel – Emissions from commuter buses, passenger vehicles, and diesel or gasoline trucks;
- Off-Road Vehicle Travel – Emissions from dump trucks, light/medium duty trucks, and water/fuel trucks;
- Earthmoving Fugitives – Emissions resulting from bulldozing, grading, and land disturbance; and
- Stockpile Fugitives – Emissions from wind erosion of stockpiles during pipeline construction.

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Emissions from these source categories will be calculated using emission factors and the U.S. Environmental Protection Agency (EPA) models from the following sources:

- Compilation of Air Pollutant Emission Factors, EPA AP-42;
- EPA NONROAD2008a Model; and
- EPA MOVES2014 Vehicle Emission Modeling Software.

As the Project design is not yet complete, potential emissions from construction cannot yet be calculated. This section will be updated to present estimated construction emissions once the design is final and the information will be included in the final Resource Report 9 to be filed with MVP's application to FERC.

9.1.2.2 Operation (including maintenance and malfunctions)

The following four sections list the equipment to be installed at each compressor station based on the preliminary design. Final list of equipment along with the ratings and capacities will be provided once the design is finalized. As the Project design is not yet complete, potential emissions from operation cannot yet be calculated. This section will be updated to present potential operation emissions once the design is final and the information will be included in the final Resource Report 9 to be filed with MVP's application to FERC.

9.1.2.2.1 Bradshaw Compressor Station

The proposed Bradshaw Compressor Station located in Wetzel County, West Virginia may involve the installation of approximately 121,800 horsepower and the following equipment:

- Two natural gas-fired emergency engines;
- Four turbines for the compression and transmission of natural gas;
- Five microturbines to provide power;
- Two natural gas-fired heaters;
- One produced fluids tank and associated loadout;
- One waste oil tank and associated loadout; and
- Associated piping and components.

9.1.2.2.2 Harris Compressor Station

The proposed Harris Compressor Station located in Braxton County, West Virginia may involve the installation of approximately 31,800 horsepower and the following equipment:

- One natural gas-fired emergency engine;
- Two turbines for the compression and transmission of natural gas;
- Five microturbines to provide power;
- Two natural gas-fired heaters;
- One produced fluids tank and associated loadout;
- One waste oil tank and associated loadout; and
- Associated piping and components.

9.1.2.2.3 Stallworth Compressor Station

The proposed Stallworth Compressor Station located in Fayette County, West Virginia may involve the installation of approximately 31,800 horsepower and the following equipment:

- One natural gas-fired emergency engine;

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- Two turbines for the compression and transmission of natural gas;
- Five microturbines to provide power;
- Two natural gas-fired heaters;
- One produced fluids tank and associated loadout;
- One waste oil tank and associated loadout; and
- Associated piping and components.

9.1.2.2.4 Swann Compressor Station

The proposed Swann Compressor Station located in Montgomery County, Virginia may involve the installation of approximately 31,800 horsepower. The equipment and layout of the proposed compressor station is still under review. Additional information, including expected equipment that would contribute to emissions during station operation, will be provided in the final Resource Report 9 included with MVP's application to FERC.

9.1.2.3 Decommissioning

Decommissioning of facilities is not currently planned. MVP will obtain the necessary permission for decommissioning at the end of the useful project life.

9.1.3 Regulatory Review and Applicability

This section lists applicable air quality regulations. As the Project design is not yet complete, the applicable regulations included in this section are not comprehensive. This section will be updated once the design is final and the information will be included in the final Resource Report 9 to be filed with MVP's application to FERC.

9.1.3.1 Federal Air Quality Regulations

9.1.3.1.1 Major New Source Review and Title V Operating Permit

The federal NSR program applies to major stationary sources. The NSR program regulates the installation of new major sources or major modifications to existing major sources and is comprised of two programs: 1) PSD; and 2) Nonattainment New Source Review (NNSR). Since none of the compressor stations are in nonattainment counties, NNSR is categorically not applicable and only PSD applicability has been addressed.

The compressor stations that are part of the Project are all located in counties that are classified as "Unclassifiable/Attainment" with all NAAQS per 40 Code of Federal Regulations (CFR) 81.349. Compressor stations are also not listed as one of the 28 categories of stationary sources subject to a 100 ton per year (tpy) major source threshold (40 CFR 52.21(b)(1)(i)(a)). As a result, the PSD major source thresholds are 250 tpy for the main criteria pollutants expected to be emitted as part of the Project (i.e., PM_{10}, $PM_{2.5}$, sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen oxides (NO_X), and volatile organic compounds [VOC]). The design of the Project is still in preliminary phases; however, MVP does not expect the compressor stations to trigger PSD permitting but will present final emissions and a detailed PSD analysis in the final Resource Report 9 filed with the application to FERC after the design is complete.

Similarly, the Title V major source permitting thresholds are 100 tpy for the criteria pollutants noted above (40 CFR 70.2). The need for obtaining a Title V operating permit will also be evaluated after the finalization of the design.

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The pipeline associated with this project is not expected to be a major stationary emission source, based on its potential fugitive emissions, and is thus not expected to be subject to the potential requirements of the Major NSR and Title V Operating Permit programs. Potential fugitive emissions from the pipeline and associated equipment, such as pig launcher and receiver sites, meter stations, and MLVs, will be calculated after the finalization of the design.

9.1.3.1.2 National Emission Standards for Hazardous Air Pollutants (NESHAP or MACT)

The potential hazardous air pollutants emissions at the Bradshaw, Harris, Stallworth, and Swann Compressor Stations are not yet known and as a result, a complete NESHAP applicability cannot be presented. Potentially applicable subparts are presented below.

NESHAP Subpart HH – Oil and Natural Gas Production Facilities

Because the Bradshaw, Harris, Stallworth, and Swann Compressor Stations do not meet the definition of natural gas production facilities per 40 CFR 63.761, the requirements of this subpart do not apply.

NESHAP Subpart HHH – Natural Gas Transmission and Storage Facilities

This Subpart is potentially applicable to the stations but its applicability and specific requirements will be determined and presented in the Resource Report 9 filed with MVP's application to FERC after the design is complete.

NESHAP Subpart YYYY – Stationary Combustion Turbines

This Subpart is potentially applicable to the stations but its applicability and specific requirements will be determined and presented in final Resource Report 9 after the design is complete.

NESHAP Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines

The Bradshaw, Harris, Stallworth, and Swann Compressor Stations will include natural gas-fired emergency engines. These engines will be subject to NESHAP Subpart ZZZZ, but the specific requirements will be discussed after the design is complete and major or area source status of the facilities is determined.

9.1.3.1.3 New Source Performance Standards (NSPS)

NSPS Subpart Dc

The heaters at the Bradshaw, Harris, Stallworth, and Swann Compressor Stations will meet the definition under this subpart of a 'steam generating unit'. However, MVP does not anticipate the rated heat input of these units to exceed the Subpart Dc applicability threshold of 10 million British thermal units per hour (MMBtu/hr). Therefore, Subpart Dc is not expected to apply to the facilities.

NSPS Subparts K, Ka, and Kb

Based on the preliminary design, the tanks at the Bradshaw, Harris, Stallworth, and Swann Compressor Stations will have a capacity of 10,000 gallons or less. As such, Subparts K, Ka, and Kb do not apply to the storage tanks at the facilities.

NSPS Subpart GG – Stationary Gas Turbines

NSPS Subpart GG was promulgated in 1979. The applicability of Subpart KKKK, promulgated in 2006, is similar to that of Subpart GG and applies to stationary combustion turbines that commence construction after February 18, 2005. Turbines subject to Subpart KKKK are specifically exempt from the requirements of Subpart GG, per 40 CFR 60.4305(b). The combustion turbines will be subject to Subpart

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KKKK and, as such, this subpart is not expected to apply to any combustion turbines that will be installed at the Bradshaw, Harris, and Stallworth Compressor Stations.

NSPS Subpart IIII – Stationary Compression Ignition Internal Combustion Engines
As noted in Section 9.1.2.2, there are no compression ignition engines in the preliminary design. Therefore, the requirements of this subpart do not apply.

NSPS Subpart JJJJ – Stationary Spark Ignition Internal Combustion Engines
The Bradshaw, Harris, Stallworth, and Swann Compressor Stations will include natural gas-fired emergency engines. These emergency engines will be considered affected facilities subject to NSPS Subpart JJJJ. MVP will provide more details on compliance with the applicable requirements of this regulation after the specifics for each engine is known.

NSPS Subpart KKKK – Stationary Combustion Turbines
Subpart KKKK, Standards of Performance for Stationary Combustion Turbines, applies to stationary combustion units with a heat input at peak load equal to or greater than 10 MMBtu/hr, based on the higher heating value of the fuel, commencing construction after February 18, 2005.

The microturbines that will be used at the Bradshaw, Harris, Stallworth, and Swann Compressor Stations have a heat input lower than 10 MMBtu/hr and as such, NSPS Subpart KKKK does not apply to the microturbines.

The turbines designed for compression and transmission of natural gas, however, will have a heat input at peak load greater than 10 MMBtu/hr. They are therefore subject to this Subpart. MVP will comply with all applicable requirements under this Subpart for the turbines, which includes emission limitations for NO_X (40 CFR 60.4320(a)) and SO_2 (40 CFR 60.4330(a)), monitoring (40 CFR 60.4340, 60.4365, and 60.4370), reporting (40 CFR 60.4375) and performance testing (40 CFR 60.4400).

NSPS Subpart OOOO – Oil & Natural Gas Sector
The Bradshaw, Harris, Stallworth, and Swann Compressor Stations are not gas wellheads, nor are they natural gas processing plants. The Bradshaw, Harris, and Stallworth Compressor Stations will be located in the transmission segment. Therefore, the only potentially applicable requirements for the proposed equipment at these facilities are those for new storage vessels where construction commenced after August 23, 2011.

Each compressor station will have a storage vessel (as defined in Subpart OOOO) installed as a result of this project. However, since VOC emissions are not anticipated to exceed 6 tpy, the tanks will likely not be considered storage vessel affected facilities under the rule, per 40 CFR 60.5365(e) and the rule is not expected to be applicable. The applicability will be reevaluated when the design is finalized and final emission calculations can be reviewed.

9.1.3.1.4 Greenhouse Gas Reporting Rule

Per 40 CFR 98.2(a)(2), facilities which contain a source category listed in Table A-4 of 40 CFR 98 Subpart A, and which emit 25,000 metric tons per year of carbon dioxide equivalent (CO_2e) in combined emissions from stationary fuel combustion units, miscellaneous uses of carbonate, and all applicable source categories in Tables A-3 and A-4 are subject to reporting under the Greenhouse Gas Mandatory Reporting Rule (MRR). Table A-4 of 40 CFR 98 Subpart A includes Petroleum and Natural Gas Systems. Greenhouse gas (GHG) emissions from each of the compressor stations will be calculated and

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compared with the 25,000 metric tons per year of CO_2e when the design is final to address the applicability of the rule. As applicable, MVP will meet all requirements of the MRR for these new compressor stations. No other subparts under the MRR are applicable to the facilities.

9.1.3.2 West Virginia Air Quality Regulations

The Bradshaw, Harris, and Stallworth Compressor Stations are potentially subject to regulations contained in the West Virginia Code of State Rules, Chapter 45 (Code of State Rules, or CSR). The specific requirements associated with this project are discussed in the following sections. Since the design is in preliminary phases, the requirements that generally apply to the Project have been discussed in this section. However, after the design of each compressor station is finalized, the regulatory applicability will be reevaluated to ensure that specific requirements that could be applicable to each individual compressor station are properly addressed.

45 CSR 2: To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers

45 CSR 2 applies to fuel burning units, defined as equipment burning fuel "for the primary purpose of producing heat or power by indirect heat transfer".

The turbines and microturbines do not meet the definition of a fuel burning unit, as power is not produced by indirect heat transfer. Units less than 10 MMBtu/hr, such as the proposed heaters, are only subject to opacity limits. The heaters do produce heat by indirect heat transfer, and visible emissions from these units will be minimized via the use of natural gas as a fuel.

45 CSR 4: To Prevent and Control the Discharge of Air Pollutants into the Air Which Causes or Contributes to an Objectionable Odor

According to 45 CSR 4-3:

> *No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.*

The Bradshaw, Harris, and Stallworth Compressor Stations are generally subject to this requirement. However, due to the nature of the process at these compressor stations, production of objectionable odor from the facilities is unlikely.

The pipeline is generally subject to this requirement. However, emissions from the pipeline will result from its construction, will be temporary in nature, and production of objectionable odor from these operations is unlikely.

45 CSR 13: Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, Permission to Commence Construction, and Procedures for Evaluation

According to 45 CSR 13-5:

> *No person shall cause, suffer, allow or permit the construction, modification, relocation and operation of any stationary source to be commenced without notifying the Secretary of such intent and obtaining a permit to construct, modify, relocate and operate the stationary source as required in this rule or any other applicable rule promulgated by the Secretary.*

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The proposed units at the Bradshaw, Harris, and Stallworth Compressor Stations will be installed upon the fulfillment of this requirement. Any future emission source at the Bradshaw, Harris, and Stallworth Compressor Stations will be installed only upon receipt of the necessary approval from the West Virginia Department of Environmental Protection.

45 CSR 14: Permits for Construction and Major Modification of Major Stationary Sources for the Prevention of Significant Deterioration of Air Quality

The requirements of this section are already discussed under the PSD section and the federal regulations in Section 9.1.3.1.1.

45 CSR 16: Standards of Performance for New Stationary Sources

45 CSR 16-1 incorporates the federal CAA standards of performance for new stationary sources set forth in 40 CFR Part 60 by reference, with the exception of a few Subparts.

By complying with all applicable requirements of 40 CFR Part 60, MVP will be complying with 45 CSR 16.

45 CSR 17: To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter

According to 45 CSR 17-3.1:

> *No person shall cause, suffer, allow or permit fugitive particulate matter to be discharged beyond the boundary lines of the property lines of the property on which the discharge originates or at any public or residential location, which causes or contributes to statutory air pollution.*

Due to the nature of the activities at the Bradshaw, Harris, and Stallworth Compressor Stations, it is unlikely that fugitive particulate matter emissions will be emitted under normal operating conditions. However, MVP will take measures to ensure any fugitive particulate matter emissions will not cross the property boundary should any such emissions occur. Particulate emissions from the pipeline will result from its construction, but will be temporary in nature. MVP will take all measures necessary to ensure compliance with this requirement and will follow its fugitive dust control plan that will be submitted to the FERC in future filing.

45 CSR 34: Emissions Standards for Hazardous Air Pollutants

45 CSR 34-1 incorporates the federal CAA NESHAPs as set forth in 40 CFR Parts 61 and 63 by reference.

By complying with all applicable requirements of 40 CFR Parts 61 and 63 at the Bradshaw, Harris, and Stallworth Compressor Stations, MVP will be complying with 45 CSR 34.

9.1.3.3 Virginia Air Quality Regulations

The Swann Compressor Station is potentially subject to regulations contained in the Virginia Administrative Code, Title 9, Agency 5 (9 VAC 5). The Virginia air quality regulations mostly apply to operating sources and are expected to apply to the proposed new Swann Compressor Station during operation. MVP will reevaluate the applicable air quality regulations when the design is final. An analysis will be provided in final Resource Report 9 of MVP's application to FERC.

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9.1.3.4 General Conformity

Under the CAA, a General Conformity analysis is required for any project that requires federal action. General Conformity applies to those emission generating activities resulting from the Project that are not already covered by permitting and located in an area that is designated as nonattainment or a maintenance area (40 CFR 93.153(b)). The counties of Wetzel, Harrison, Doddridge, Lewis, Braxton, Webster, Nicholas, Greenbrier, Fayette, Summers, and Monroe, West Virginia, are each in attainment for all criteria pollutants. Similarly, the counties of Giles, Montgomery, Roanoke, Franklin, and Pittsylvania, Virginia, are each in attainment for all criteria pollutants. Therefore, a General Conformity analysis is not required for the construction at the Bradshaw, Harris, Stallworth, and Swann Compressor Stations or for the construction along the proposed pipeline. Construction emissions will be presented for informational purposes only to show that the Project will not result in significant adverse impacts to air quality, even though this project is not required to undergo a full General Conformity analysis, and there are no numerical thresholds that apply to the construction emissions.

9.1.4 Air Quality Mitigation Measures

MVP will address the air quality impact assessment with regard to construction emissions, operating emissions, and GHG impacts after the design of the Project is final, and potential and actual emissions are calculated to allow for a comprehensive assessment. General mitigation measures are addressed here.

Construction Emissions

As demonstrated in Section 9.1.2.1, the construction emissions associated with the Project are expected to have minimal impact on the air quality in the surrounding area. However, MVP will implement various mitigation measures to minimize construction emissions. These include:

- Unnecessary construction activities leading to increased emissions will be avoided, where possible.
- MVP will follow manufacturer's operating recommendations regarding good combustion practices to ensure that fuel efficiency is maximized and engines are operated such that emissions are minimized.
- MVP will implement a fugitive dust control plan, and will utilize certain dust control measures such as water suppression, enclosures, or other techniques.

Operational Emissions

Emissions from operating the equipment at the new Bradshaw, Harris, Stallworth, and Swann Compressor Stations are a result of combustion of natural gas of the turbines at the stations. While the design is not yet final MVP will purchase turbines that meet the emission limitations found in the applicable NSPS sections. Further, MVP will mitigate these emissions through the development and implementation of an operation and maintenance plan that is in line with the manufacturer's recommendations for good combustion practices. Proper operation and preventative maintenance activities will ensure that emissions from the turbines will be minimized and continue to meet the emission standards.

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9.2 NOISE

A sound source is defined by a sound power level (L_W), which is the rate at which acoustical energy is radiated outward and is expressed in units of watts (W). A sound pressure level (L_P) is a measure of this fluctuation at a given receiver location and can be obtained through the use of a microphone or calculated from information about the source sound power level and the surrounding environment. Sound power cannot be measured directly, but rather calculated from measurements of sound intensity or sound pressure at a given distance from the source. The perception of sound as "noise" is influenced by several technical factors such as intensity, sound quality, tonality, duration, and existing background levels. Sound levels are presented on a logarithmic scale to account for the large range of acoustic pressures that the human ear is exposed to and are expressed in units of decibels (dB). Broadband sound includes sound energy summed across the frequency spectrum. In addition to broadband sound pressure levels, analysis of the various frequency components of the sound spectrum is used to determine tonal characteristics. The unit of frequency is Hertz (Hz), measuring the cycles per second of the sound pressure waves, and typically the frequency analysis examines 11 octave (or 33 1/3 octave) bands ranging from 16 Hz (low) to 16,000 Hz (high). One-third (1/3) octave bands take these 11 octave bands and split them into three, giving a higher resolution and a more detailed description of the frequency content of the sound. Because the human ear does not perceive every frequency with equal loudness, spectrally varying sounds are often adjusted with a weighting filter.

The A-weighted filter is applied to compensate for the frequency response of the human auditory system and sound exposure in acoustic assessments and is designated in A-weighted decibels (dBA). Environmental noise is commonly described in terms of equivalent sound level (L_{eq}). The L_{eq} value, conventionally expressed in dBA, is the energy-averaged, A-weighted sound level for the complete time period represented as a steady, continuous sound level. Another common noise descriptor used when assessing environmental noise is the day-night sound level (L_{dn}), which is calculated by averaging the 24-hour hourly L_{eq} levels at a given location and adding 10 dB to noise emitted during the nighttime period (10:00 p.m. to 7:00 a.m.) to account for the increased sensitivity of people to noises that occur at night. The L_{max} is the maximum instantaneous sound level as measured during a specified time period. It can also be used to quantify the time-varying maximum instantaneous sound pressure level (as generated by equipment or an activity) or a manufacturer maximum source emission level. Estimates of common noise sources and outdoor acoustic environments, and the comparison of relative loudness are presented in Figure 9.2-1.

9.2.1 Applicable Noise Regulations

The Project is located in West Virginia and Virginia and crosses portions of Braxton, Doddridge, Fayette, Greenbrier, Harrison, Lewis, Monroe, Nicholas, Summers, Webster, and Wetzel counties in West Virginia and Franklin, Giles, Montgomery, Pittsylvania, and Roanoke counties in Virginia. MVP reviewed noise regulations at the federal, state, county, and local levels to identify possible regulations that are applicable to the Project. There are no state noise standards applicable to the Project; however, there are some county noise regulations that are applicable to the Project, as described below.

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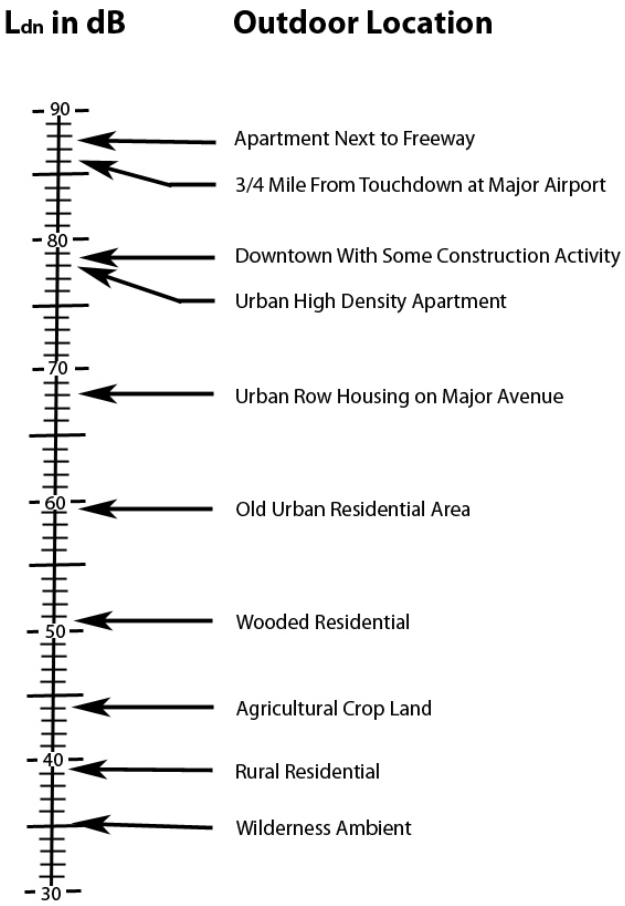


Figure 9.2-1. Sound Pressure Levels (Lp)

9.2.1.1 Commission Requirements

The Commission's noise regulations, set forth in 18 CFR §380.12(k)(2), require an applicant to identify existing noise sensitive areas (NSAs) (e.g., residences, schools, churches) and quantitatively describe existing sound levels at NSAs and at other areas covered by relevant state and local noise ordinances. The following stipulations are given:

- If new compressor station sites are proposed, measure or estimate the existing ambient sound environment based on current land uses and activities;
- For existing compressor stations (operated at full load), include the results of a sound level survey at the site property line and nearby NSAs;
- Include a plot plan that identifies the locations and duration of noise measurements; and
- All surveys must identify the time of day, weather conditions, wind speed and direction, engine load and other noise sources present during each measurement.

In addition, the Commission's requirement for noise quality, in the absence of any applicable state or local noise regulation, is that the noise attributable to any new compressor station and associated pipeline facilities must not exceed an L_{dn} of 55 dBA at any pre-existing NSA such as schools, hospitals, or

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residences. This criterion limits the sound level contribution from the Project at any pre-existing NSA to 55 dBA (L_{dn}). An L_{dn} of 55 dBA is equivalent to a continuous noise level of 48.6 dBA L_{eq} for facilities that operate at a constant level of noise.

9.2.1.2 County Limits

Four of the counties that are crossed by the Project prescribe noise level limits that may be applicable to the Project. Table 9.2-1 provides a summary of these limits. Note that the FERC limits are more stringent than the County limits and are therefore controlling.

Table 9.2-1

Noise Level Limits for Counties with Noise Regulations Crossed by the Project

County	Daytime	Nighttime
Fayette County, West Virginia	65 dBA L_{eq} (7AM – 6PM)	55 dBA L_{eq} (6PM – 7AM
Franklin County, Virginia	67 dBA L_{eq} (7AM – 10PM)	62 dBA L_{eq} (10PM – 7AM)
Montgomery County, Virginia	57 dBA L_{eq} (7AM – 10PM)	52 dBA L_{eq} (10PM – 7AM)
Pittsylvania County, Virginia	57 dBA L_{eq} (7AM – 10PM)	52 dBA L_{eq} (10PM – 7AM)

9.2.2 Existing Sound Environment

MVP will quantify the existing noise levels at NSAs at each compressor station and near sites where pipeline installation is proposed using the horizontal directional drill (HDD) technique. Existing noise levels will be quantified following the guidance for baseline noise surveys given in the Commission's noise regulations in 18 CFR §380.12(k)(2). Results of the baseline sound surveys will be provided in Resource Report 9 included with MVP's application to the FERC.

9.2.3 Noise Impacts

9.2.3.1 Construction Noise and Mitigation

Potential impacts from the Project could include short-term increases in sound during construction. Construction of the pipeline will generate noise from heavy machinery and equipment as construction moves in phases along the right-of-way (see draft Resource Report 1 for description of pipeline construction). Sound from pipeline construction will generally be temporary, sporadic, and short-term in any one location along the pipeline route. One exception will be locations where the pipeline will be installed using the HDD technique. At HDD sites drilling equipment is typically in place for a number of days or weeks, and may run continuously until the drilling operation is completed. Although temporary, NSAs near HDD sites could therefore experience noise impacts above an acceptable level.

Analysis of construction noise impacts is ongoing. Final results will be provided in Resource Report 9 included with MVP's application to the FERC.

9.2.3.2 Operation Noise and Mitigation

MVP prepared preliminary noise models for the Bradshaw, Harris, and Stallworth compressor stations, using conceptual station designs and manufactures' specifications. The preliminary noise models also assumed typical noise attenuation would be designed into each station. Among the conceptual equipment

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assumed to be included at each station the following were considered significant sound sources in the model:

- Noise from the turbine exhaust, including the exhaust outlet and noise radiated from the exhaust ductwork, expansion joints, and silencer shell;
- Noise from the turbine intake air system, including the inlet opening and noise radiated from the silencer/ductwork shell and any duct joints;
- Turbine/Compressor casing noise that penetrates the building and building ventilation openings;
- Noise from the lube oil/auxiliary cooler and gas aftercooler; and
- Noise radiated by aboveground station piping.

Model Data Inputs

The following assumptions were made when generating the preliminary noise models for Bradshaw, Harris, and Stallworth. An exhaust system consistent with past turbine installations and current vendor proposals for MVP was modeled assuming an exhaust height of 58 feet above grade. This will be updated as a turbine vendor is selected and additional information becomes available.

Each compressor building was assumed to include wall intakes, and a throat ridge ventilator along the roof. The sound levels due to intake ductwork, exhaust system ductwork, and suction and discharge piping were based on sound level measurements of a Mars 100 turbine-driven compressor at an existing compressor station.

The gas cooler sound power levels were taken from a datasheet for a fan at an existing compressor station, and adjusted to account for the presence of three fans in each cooler consistent with current preliminary cooler sizing. The lube oil cooler sound power levels were taken from Solar turbine manufacturers' noise data book for a 90 dBA "Special" lube-oil cooler.

Noise levels will be modeled again at each compressor station using manufacturer specific data once the turbine/compressor equipment is selected. This information will be provided in MVP's Resource Report 9 filing with FERC.

Noise Control Treatments

The preliminary noise models assumed certain noise control treatments would be part of each compressor station design. However, there are many different combinations of noise control mitigation measures that would provide similar noise control. As the station designs are finalized, noise mitigation treatments will also be finalized, and will be modified as needed to ensure each station operates in compliance with the FERC and local sound level requirements. Assumed noise control treatments included in the preliminary noise model are summarized below.

<u>Compressor Building Walls and Roof</u>

The compressor building was assumed to have a wall and roof system with typical transmission loss performance across each octave band consistent with past installations. It was assumed that the compressor building would have no windows, skylights, or translucent panels. The building would be well sealed with no cracks or gaps, and all piping penetrations through the building walls would be well

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insulated, flashed, and caulked. The interior surface of the compressor building walls would be acoustically absorptive.

Compressor Building Doors and Ventilation

The compressor building was assumed to have standard insulated overhead doors and industrial metal doors with good perimeter seals, all meeting defined acoustic transmission loss specifications. All building ventilation openings would include standard acoustical louvers or silencers.

Turbine Exhausts and Silencers

An exhaust system consistent with past turbine installations was assumed and calibrated to be consistent with preliminary silencer performance data provided by the turbine vendors that are being evaluated for MVP.

Turbine Intake Silencers and Breakout

A standard turbine inlet silencing system was assumed that was consistent with past installations and designs. The model includes the performance of the entire system, including any filter insertion losses.

Station Piping

Noise from centrifugal compressors can cause significant noise radiation from connected piping. It was assumed that to the extent practical, suction and discharge piping would be run underground. Above ground main gas piping would be acoustically lagged as necessary.

Results of Preliminary Noise Modeling

Preliminary results from acoustic modeling for the Bradshaw, Harris and Stallworth Compressor Stations are represented below in Figures 9.2-2 through 9.2-4, and predicted noise impacts on the nearest NSAs to each station are presented in Tables 9.2-2 through 9.2-4. Preliminary results for the Swann Compressor Station are not available at this time since the equipment and layout of this proposed compressor station is still under review; necessary data will be provided in final Resource Report 9 of MVP's application to FERC. Site locations, layouts and modeled equipment were determined from best available information and assumed typical sound mitigation for compressor stations such as acoustical building enclosures, air inlet silencers, and pipeline lagging.

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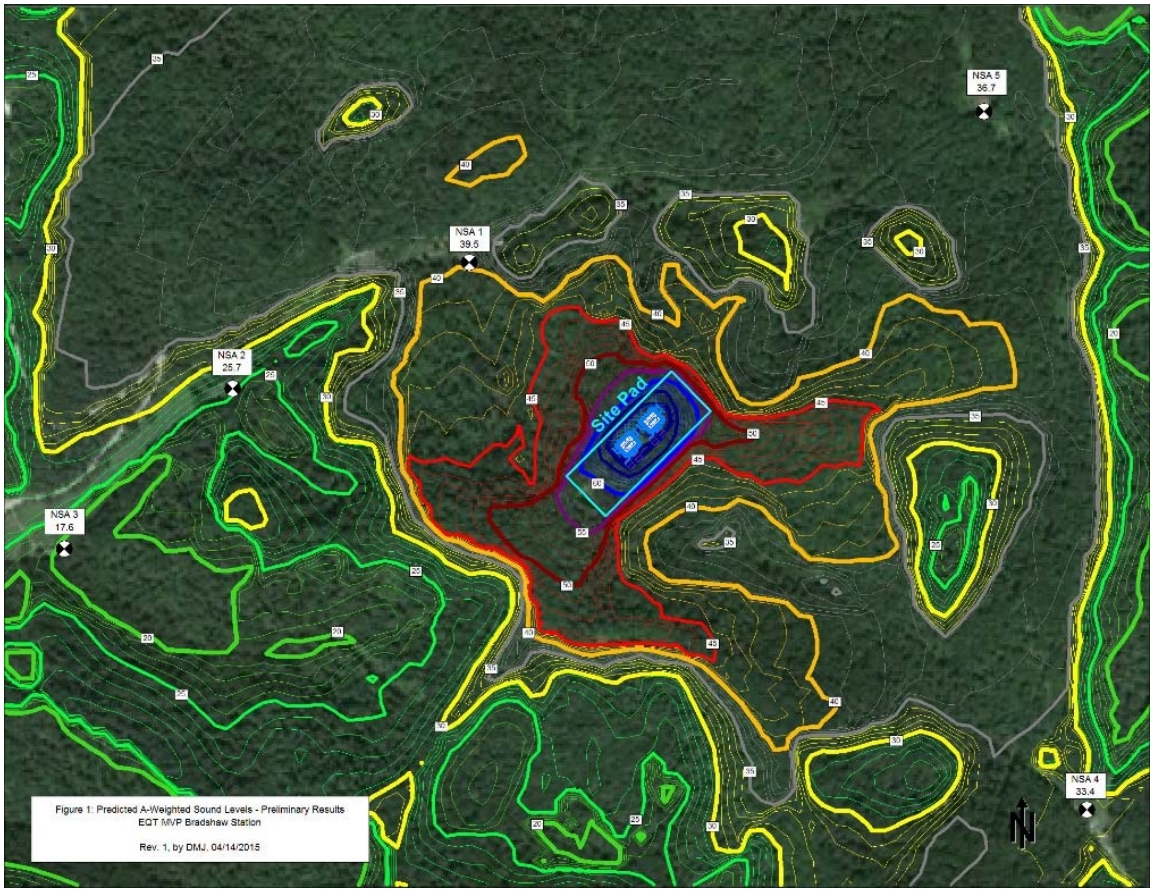


Figure 9.2-2. Preliminary Modeled Sound Levels (dBA) During Operation of Bradshaw Compressor Station

Table 9.2-2

Predicted Sound Levels – Preliminary – Bradshaw Compressor Station

Location	Distance (feet)/Direction from Compressor Station to NSA	Predicted Sound Level (dBA)
NSA 1	1,170′/NW	39.5
NSA 2	2,230′/W	25.7
NSA 3	3,220′/W	17.6
NSA 4	3,210′/SE	33.4
NSA 5	2,550′/NE	36.7

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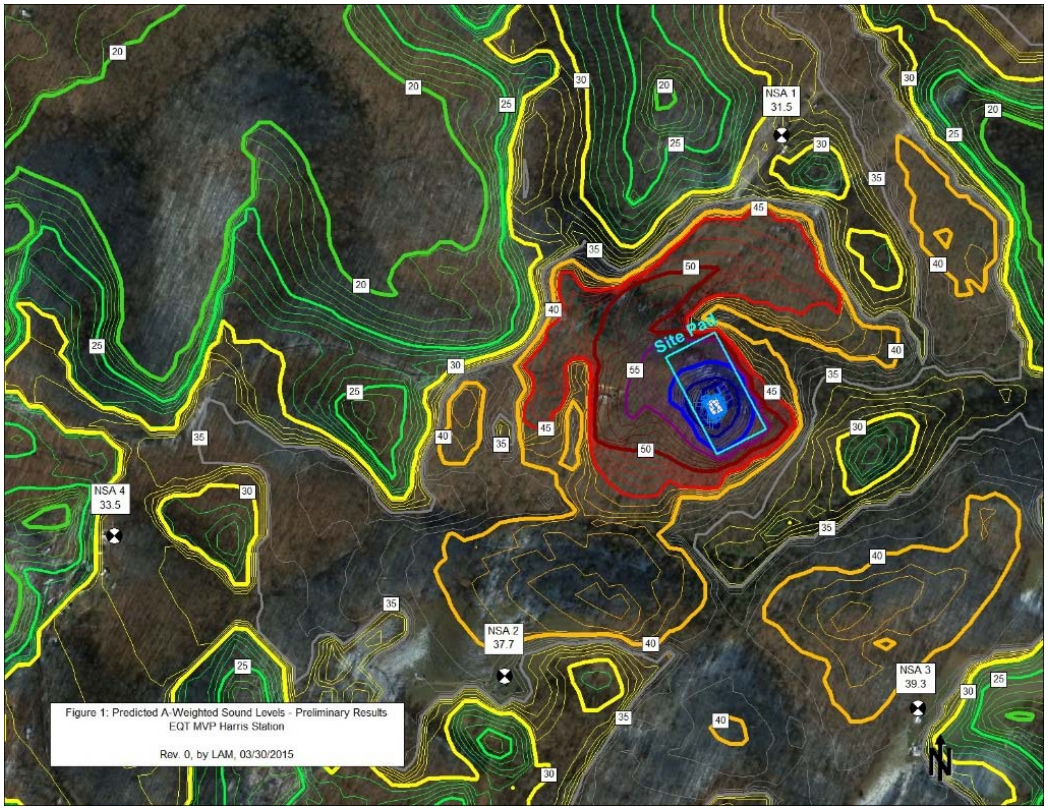


Figure 9.2-3. Preliminary Modeled Sound Levels (dBA) During Operation of Harris Compressor Station

Table 9.2-3

Predicted Sound Levels – Preliminary – Harris Compressor Station

Location	Distance (feet)/Direction from Compressor Station to NSA	Predicted Sound Level (dBA)
NSA 1	1,650′/N	31.5
NSA 2	1,980′/SW	37.7
NSA 3	1,780′/SE	39.3
NSA 4	3,640′/W	33.5

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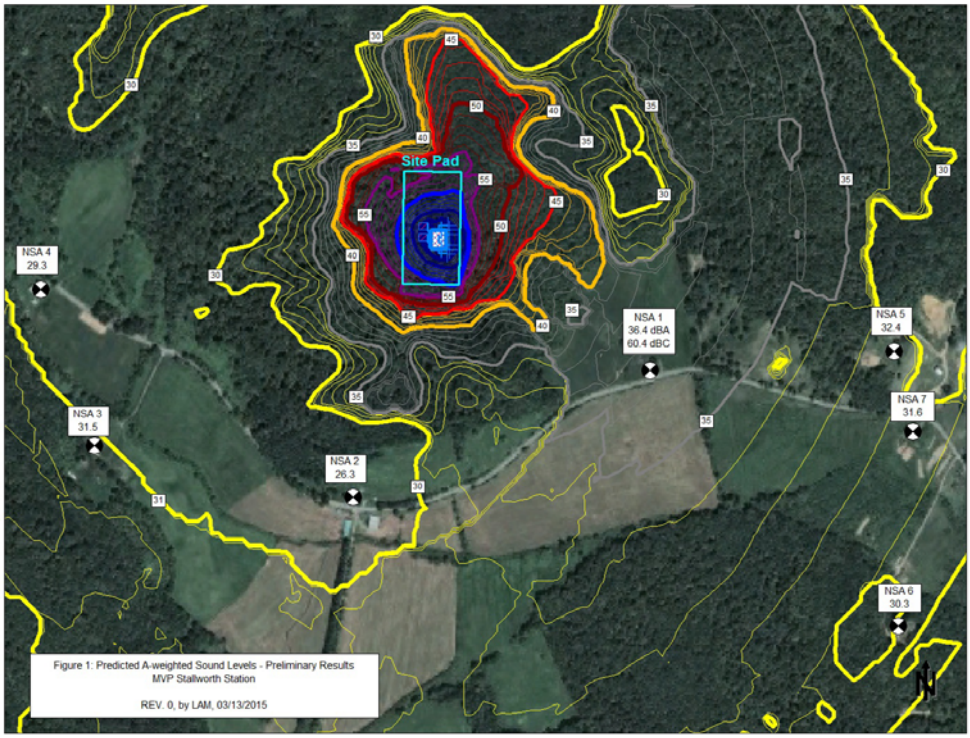


Figure 9.2-4. Preliminary Modeled Sound Levels (dBA) During Operation of Stallworth Compressor Station

Table 9.2-4

Predicted Sound Levels – Preliminary – Stallworth Compressor Station

Location	Distance (feet)/Direction from Compressor Station to NSA	Predicted Sound Level (dBA)
NSA 1	1,330′/SE	36.4
NSA 2	1,430′/S	26.3
NSA 3	2,120′/SW	31.5
NSA 4	2,170′/W	29.3
NSA 5	2,490′/E	32.4
NSA 6	3,080′/SE	30.3
NSA 7	2,760′/SE	31.6

Results from the preliminary modeling show that predicted sound levels at the modeled NSAs at each compressor station are within the county and FERC noise limits. Final results of acoustic modeling will include detailed sound level information about major pieces of equipment within each compressor station, and proposed sound mitigation as needed to ensure the final modeled sound levels at NSAs are below the county and FERC limits. Final results of noise modeling will be included with final Resource Report 9 filed with MVP's application to FERC.

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9.3 REFERENCES

EPA (U.S. Environmental Protection Agency). 1978. Protective Noise Levels Condensed Version of EPA Levels Document. Prepared by the U.S. Environmental Protection Agency.

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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 9

Appendix 9-A
Construction Emissions Calculations
(will be provided with Resource Report 9 included with MVP's application to FERC)

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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 9

Appendix 9-B
Operating Emissions Calculations
(will be provided with Resource Report 9 included with MVP's application to FERC)

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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 9

Appendix 9-C
West Virginia State Air Permit Applications
(will be provided with Resource Report 9 included with MVP's application to FERC)

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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 9

Appendix 9-D
Baseline Noise Reports
(will be provided with Resource Report 9 included with MVP's application to FERC)

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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 9

Appendix 9-E
Pipeline HDD Noise Assessments
(will be provided with Resource Report 9 included with MVP's application to FERC)

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Mountain Valley Pipeline Project

Docket No. PF15-3

Draft Resource Report 9

Appendix 9-F
Compressor Station Noise Assessments
(will be provided with Resource Report 9 included with MVP's application to FERC)

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