

February 8, 2023

Dr. Homer Wilkes
Undersecretary Natural Resources and Environment
U.S. Dept, of Agriculture
c/o Jefferson National Forest, MVP Project
5162 Valleypointe Parkway
Roanoke, VA 24019

Dear Dr. Wilkes:

On December 29, 2022, I submitted comments concerning MVP which I am enclosing a copy of for your consideration. I am not submitting all the attachments I sent on December 29. However, I am enclosing maps and data from various entities that support the hypothesis that this pipeline should not be built in Monroe County, Peters Mountain, Jefferson National Forest and George Washington National Forest.

I would appreciate a reply. Thank you.

Shirley Hall

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[REDACTED]
No internet or e-mail and no cell phone
[REDACTED]



Received

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Date: December 29, 2022

To: USDA Forest Service, George Washington and Jefferson National Forests, MVP Project, 5162 Valley Pointe Parkway, Roanoke, VA 24019

From: Shirley Hall, [REDACTED]

Re: Mountain Valley Pipeline (MVP) Project DSEIS

Since 2015, I have written many comment letters to multiple agencies regarding the Mountain Valley Pipeline and have received few replies. I am enclosing a few of those comment letters. I would appreciate these comment letters enclosed be included as part of the public record. Thank you for the opportunity to make comments.

I have come to the conclusion that no one wants to discuss the harm this pipeline is doing and can do to Monroe County, West Virginia. I even recall one report that put Monroe County, West Virginia in Virginia. Following are a few truths for you to consider.

See all the hazards DEIS has listed about the Giles County Seismic Zone (GCSZ) between MPs 165 to 230. Monroe County MP173.4 to MP195.4 is totally within the GCSZ. The Jefferson National Forest is also within the MPs 165 to 230.

DEIS Docket CP16-10-000

4.1.1.5 Geologic Hazards

Geologic hazards including seismicity (e.g., earthquakes), surface faults, soil liquefaction, landslides, flash flooding, karst terrain and subsidence, shallow bedrock, acid producing rocks and soils, and blasting were evaluated for the proposed projects. The conditions necessary for the development of other geologic hazards, including avalanches and volcanism, are not present in the area of the projects and therefore not discussed below. . . . Earthquakes, however, do occur in the eastern United States, primarily due to trailing edge tectonics and residual stress released from past mountain building events. The MVP pipeline would be in close proximity to the Giles County Seismic Zone (GCSZ), between MPs 165 to 230. . . . The GCSZ is considered seismically active and is defined by Bollinger and Wheeler (1988) by 12 earthquakes that span four orders of magnitude and two decades of time 1959 through 1980. . . . In addition, numerous microearthquakes (magnitude 2 or less) have occurred in the area of the GCSZ. . . . Earthquake shaking alone does not pose a significant threat to the integrity of modern buried welded steel pipelines. In general, modern electric arc welded steel pipelines have not sustained damage during seismic events except due to permanent ground deformation, or traveling ground-wave propagation greater than or equal to a MMI of VIII (O'Rourke and Palmer, 1994). . . . The potential for soil liquefaction in the areas north and south of MPs 161 to 230 can be ruled out due to the low potential for a significant seismic event. However, soil liquefaction and lateral spreading hazards do exist along the MVP in the general area of the GCSZ where peak ground acceleration of 0.14 g could occur. A PGA of 0.14 depending on site conditions could be equivalent to a magnitude 5.0 earthquake (D.G. Honegger Consulting, 2015a).

4.1.2.3 Seismicity and Potential for Soil Liquefaction

The majority of the MVP is sited in an area with low probability of localized earth movements. However, in the area of the GCSZ, between about MPs 165 to 230, peak ground accelerations approach 14 percent of the force of g, and the potential for a magnitude 5.8 earthquake exists. . . . Soil liquefaction could also result if a significant seismic event were to occur. The potential for soil liquefaction exists mainly in the area of the GCSZ between MPs 165 and 230. . . . PGAs in this area are on the order of 0.14 g, and could produce an earthquake of magnitude MMI VI. . . . Calculations by D.G. Honegger Consulting indicate that potential hazards exist for triggered slope

displacement due to a higher potential for seismicity between MPs 161 and 230 should the length of soil displacement over the pipeline exceed 1,580 feet for parallel slopes.

According to D.G/ Honegger Consulting, soil liquefaction and lateral spreading hazards do exist along the MVP in the general area of the GCSZ where peak ground acceleration of 0.14 g could occur. A PGA of 0.14 depending on site conditions could be equivalent to a magnitude 5.0 earthquake. This GCSZ area covers all of Monroe County, West Virginia and the Jefferson National Forest.

Jefferson National Forest *4-77 Water Resources*

The portion of the project area within the Jefferson National Forest is underlain by the Valley and Ridge Regional Aquifer system.

Jefferson National Forest *Water Resources 4-106*

The MVP within the Jefferson National Forest would cross two watersheds (HUC-8): the Upper James, and the Middle New. The project would conduct 27 waterbody crossings within the Jefferson National Forest. All waterbodies would be crossed using dry open-cut methods (dam and pump or flume crossing). Table 4.3.2-11 lists the waterbodies that would be crossed within the Jefferson National Forest, along with the locations at which they would be crossed, their flow types, and FERC classifications. One waterbody that would be crossed, Craig Creek, is an NRI-listed waterbody and also contains habitat for threatened and endangered species. Threatened and endangered species are discussed in section 4.7.

4.7.3.3 Forest Service Locally Rare Species *Special Status Species 4-200*

In addition to sensitive species, the FS also selects locally rare species that, despite having secure populations on a range-wide basis, are present in low population numbers within a particular forest. The species are recognized by the FS as requiring appropriate management to maintain the populations within the forest. **The FS indicates that suitable habitat exists within the MVP area for a total of 151 locally rare species, including 3 mammals, 11 birds, 3 reptiles, 1 amphibian, 3 aquatic species, 17 terrestrial invertebrates, and 113 plants.** Appendix O-2 lists these species and their required habitats

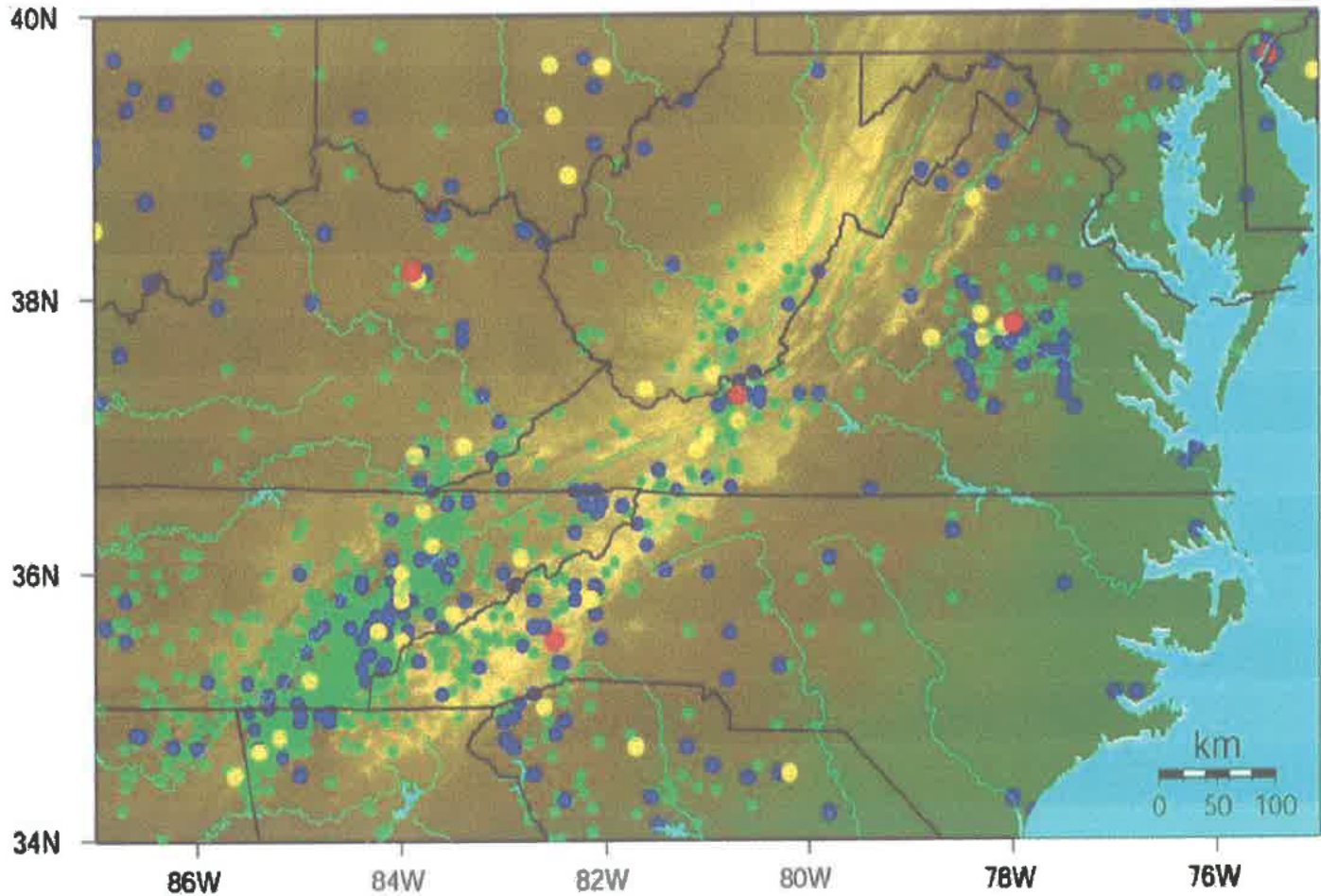
Federal Lands *4-217 Land Use And Visual Resources*

The MVP pipeline route would be within 0.25 mile of the Peters Mountain Wilderness, Brush Mountain Wilderness, within 2.5 miles of Mountain Lake Wilderness, and within 7.5 miles of Brush Mountain East Wilderness. Each of these designated Wilderness Areas are part of the Jefferson National Forest.

Appalachian National Scenic Trail *4-221 Land Use And Visual Resources* **The MVP pipeline route would cross the ANST between about MPs 195.0 and 195.5, within the Jefferson National Forest....The Jefferson National Forest manages the ANST.(4-249 Land Use And Visual Resources - At this location the trail is located on a narrow ridgetop, with steep forested slopes on either side.)**

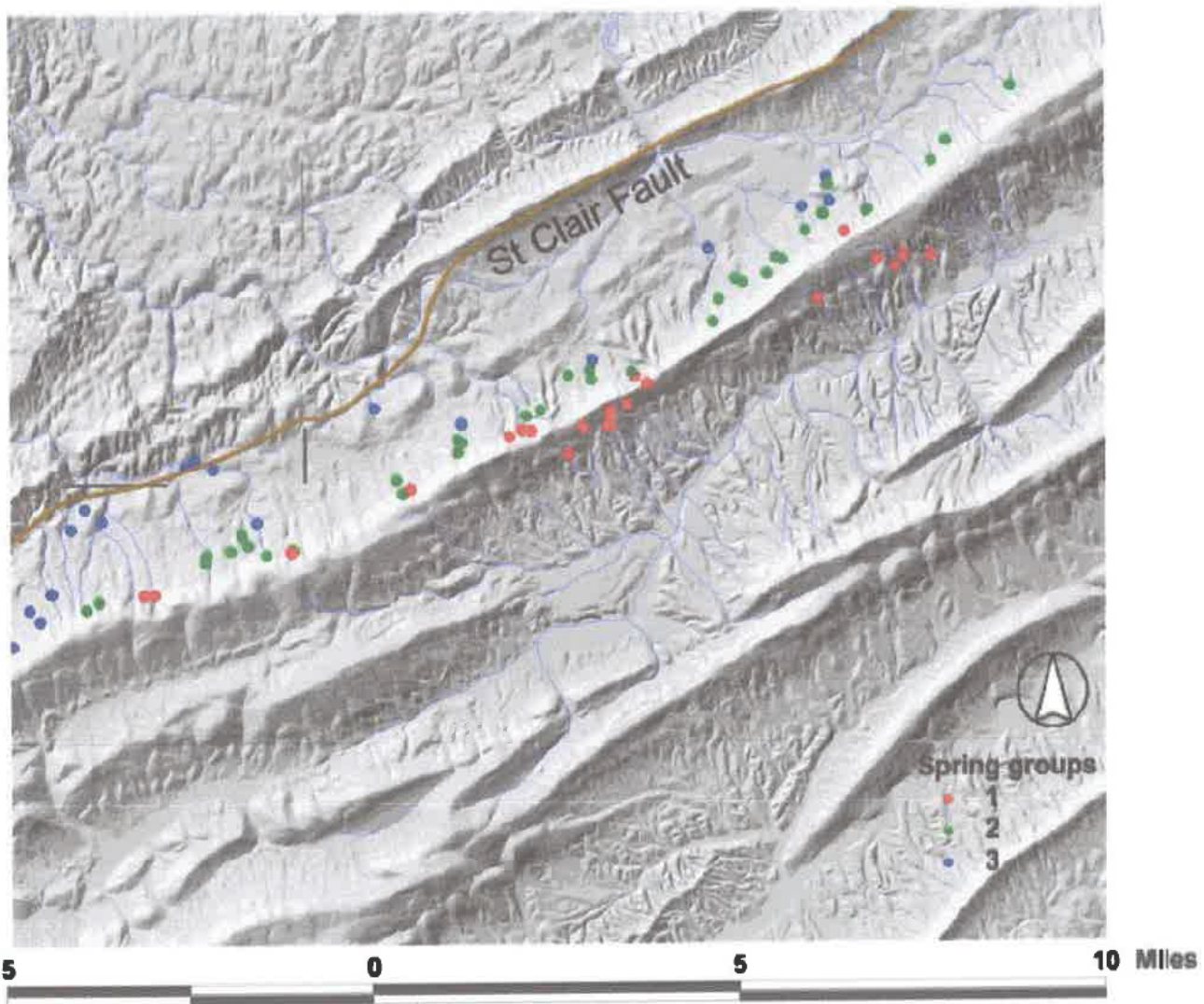
There can be no good reasons given to the people that are and will be directly impacted by this pipeline. The only ones to profit from this are the investors. They are and will live far away from the mess they have made and will not be impacted negatively by their greed.

St. Clair Fault/Earthquake Geology It has been reported recently in the news media that fracking and pipeline construction in Colorado has likely resulted in earthquakes in places where there had never been one before. There has been some earthquake activity in our area and we are part of several faults. Following is a map of regional seismic activity.

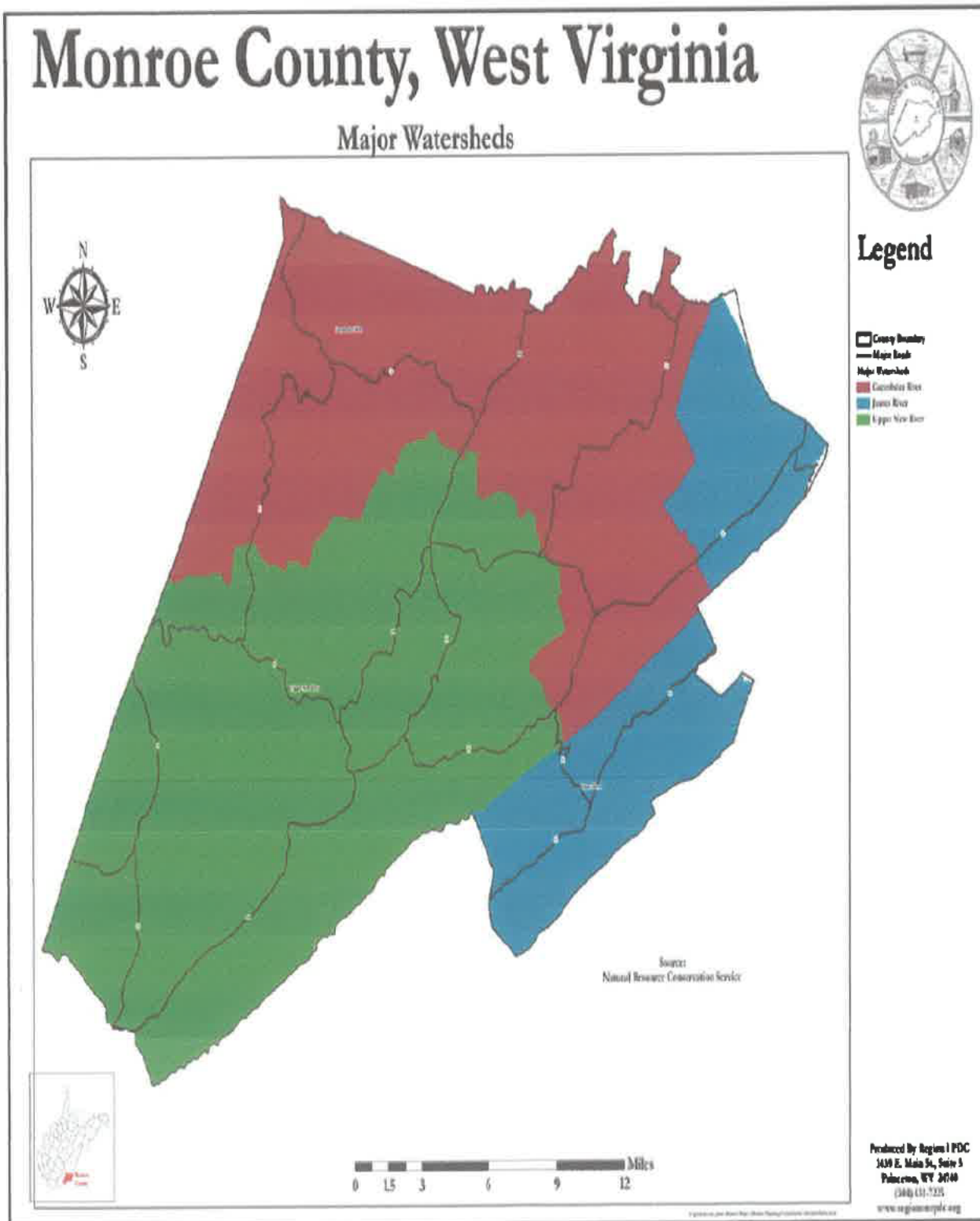


Map of Regional seismic activity (moderate). Source: M. C. Chapman, Virginia Tech

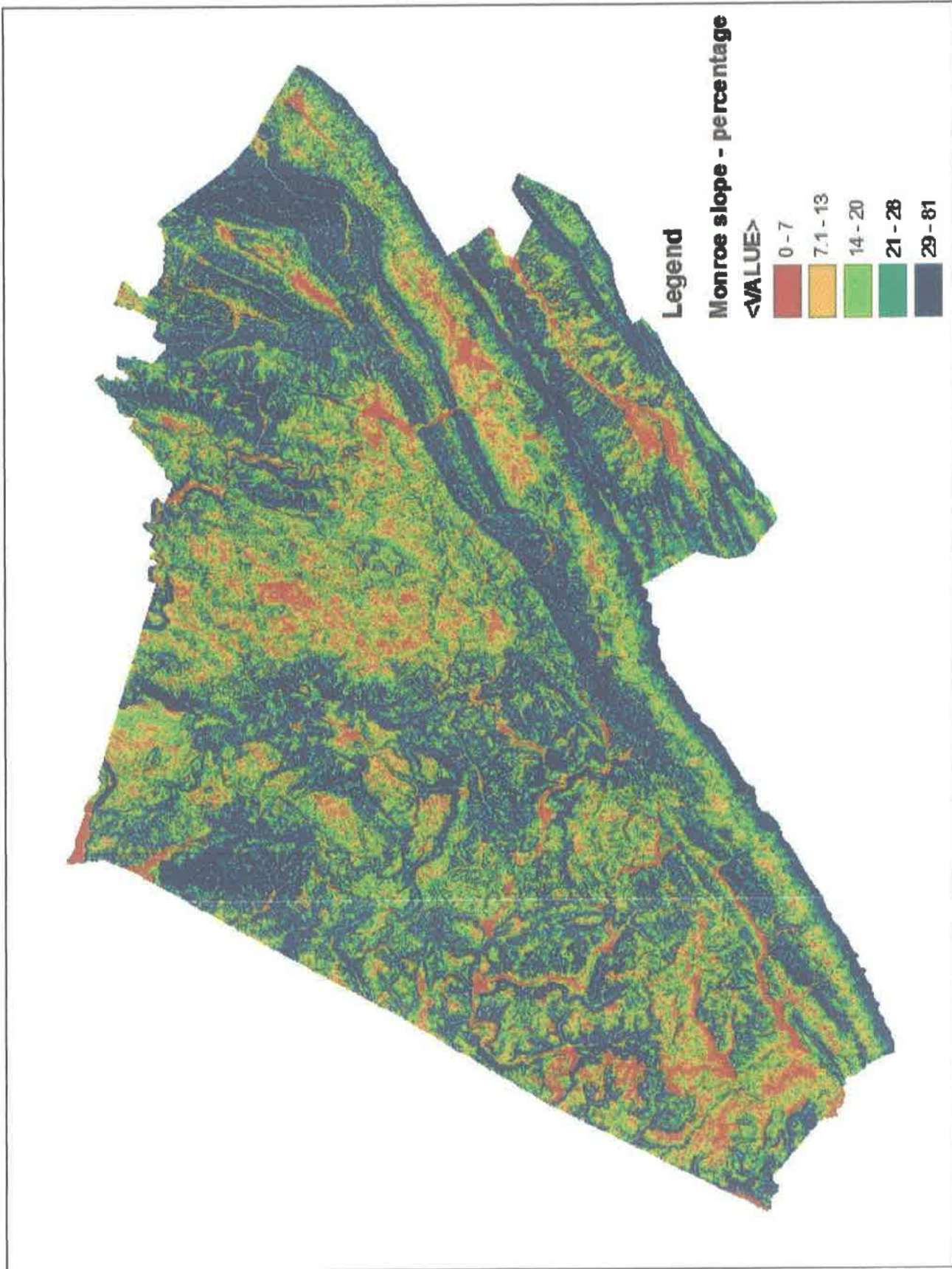
Hydrogeology and geochemistry of Peters Mountain Aquifer Geoff Richards & Joe Donovan, WVU Presented by Tammy Vandivoort, WVU Water Research Institute (see [attachment #2](#)) Study Area - The study examined groundwater occurrence in Peters Mountain between the towns of Centennial and Zenith. From May-Aug 2004, 221 springs were located; Peters Mountain lies on the leading edge of the Allegheny front thrust fault complex and forms the VA-WV border for several miles..... The groundwater is very high in chemical quality, supporting a public service district, bottled water company, and local communities. The remote mountain recharge setting means water is relatively pristine and not currently subject to risk of contamination.



The Monroe County Comprehensive Plan includes the following color-coded map showing our local watersheds (pages 51, 52). **Our karst terrain, cave systems, sinkholes, earthquake faults and slope percentage creates insurmountable risks to our land and water if this project is allowed.**



Slope Percentage Monroe County



Following is part of Table 3.4.2-1 Comparison of Route Alternative 1 and the Proposed Route. MVP still crosses 120 miles of steep slope and 122.8 miles of side slope. That still means that 120 miles of steep slope and 122.8 miles of severe side slope has a high risk of slope failure and pipeline slips, once the pipeline is in operation

DEIS Alternatives 3-24 TABLE 3.4.2-1 Comparison of Route Alternative 1 and the Proposed Route

Feature	Route Alternative 1	Proposed Route
Shallow bedrock crossed	217.3	214.9
Steep slope (>20 percent)	171.4	120.0
Side slope crossed (miles)	165.1	122.8
Landslide potential crossed	232.2	224.2
Karst area crossed (miles)	56.2	53.3

2.4.2.16 Rugged Topography 2-49 *Description Of The Proposed Action* The MVP would cross 18.5 miles of slopes between 15 and 30 percent grade, and 72.6 miles of slopes greater than 30 percent.

4-29 *Geology* The construction and operation of the MVP could result in unstable slopes including cut slope failures and fill slope failures. 4-29 *Geology* Studies conducted by the West Virginia Geological Survey (Lessing and Erwin, 1977) indicate that common situations that could foster rock falls and landslides in West Virginia and the Appalachian Plateau are along areas comprised of moderate to steep slopes within the range of 15 to 45 percent.

4.1.1.5 Geologic Hazards Landslides 4-29 *Geology* Slope failure causing a landslide can be initiated by precipitation, seismic activity, slope disturbance due to construction, or a change in groundwater conditions, such as a seasonal high groundwater table, and soil characteristics. Construction factors that may increase the potential for slope failure could include trenching along slopes and the burden of construction equipment on unstable surfaces.... About 151.7 miles (78 percent) of the MVP pipeline route in West Virginia is considered to have a high incidence of and high susceptibility to landslides.... Ground failure and slope movement are typically associated with steep slopes. The MVP would cross 18.5 miles of slopes ranging from 15 percent to 30 percent and 72.6 miles of slopes greater than 30 percent (see appendix K).

4-41 *Geology* The areas that would be crossed within the Jefferson National Forest by the MVP contain slopes greater than 30 percent and the potential for landslides within the Jefferson National Forest would be moderate to high.

4-47 *Geology* Our review of Mountain Valley's *Landslide Mitigation Plan*, along with stakeholder comments identified additional areas for landslide analysis and additional BMPs that would be effective in mitigating hazards from potential landslides. Therefore, we recommend that: b. an identification of landslide hazards where the pipeline routes through areas comprised of both steep slopes and red shale bedrock of the Conemaugh, Monongahela, Dunkard, and **Mauch Chunk** Groups;

4.1.1.2 Bedrock Geology Mountain Valley Project 4-5 *Geology* The bedrock... between MPs 149 to 193 consists of shale, sandstone, and limestone bedrock consisting of the **Mauch Chunk**, Greenbrier, and Pocono Groups deposited during the Middle Mississippian Period. my note-**Monroe County is within MPs 149 to 193**

4.2.2.4 Slip-Prone Soils Certain soil types such as shaley or clayey soils are more prone to slipping than other soils. Due to this increased potential for slipping, the probability of landslides is increased when constructing through slip prone soils. The Gilpin-Peabody complex, 35 to 70 percent slopes, Carbo, Faywood, Frederick, Nolicucky, Poplimento, and Sequoia soils are considered to be slip-prone. The MVP would affect about 17.5 acres of the soils and complexes of these soils between MP 172 and 196. my note-**The Mountain Valley pipeline would go from mile marker 173.4 to 195.4 in Monroe County, W.V. All/most of slip-prone soils in 4.2.2.4 having an increased probability of landslides are located in Monroe County, West Virginia.**

The following chart compares Appendix K and Appendix N-1 concerning slope percentage in Monroe County. As you can see, there is a huge difference of slope percentage for the same area between the two charts. A lot of information about Monroe County, West Virginia has been left out of this DEIS. The MVP and all other pipelines should be prohibited altogether in Monroe County due to our steep slopes of 25% up to 70%. There is a high risk of slope failure and pipeline slips, once the pipeline(s) is to be in operation. Monroe County has physical characteristic of steep slopes, karst, sinkholes, caves, slip-prone soils and is totally within the Giles County Seismic Zone (GCSZ).

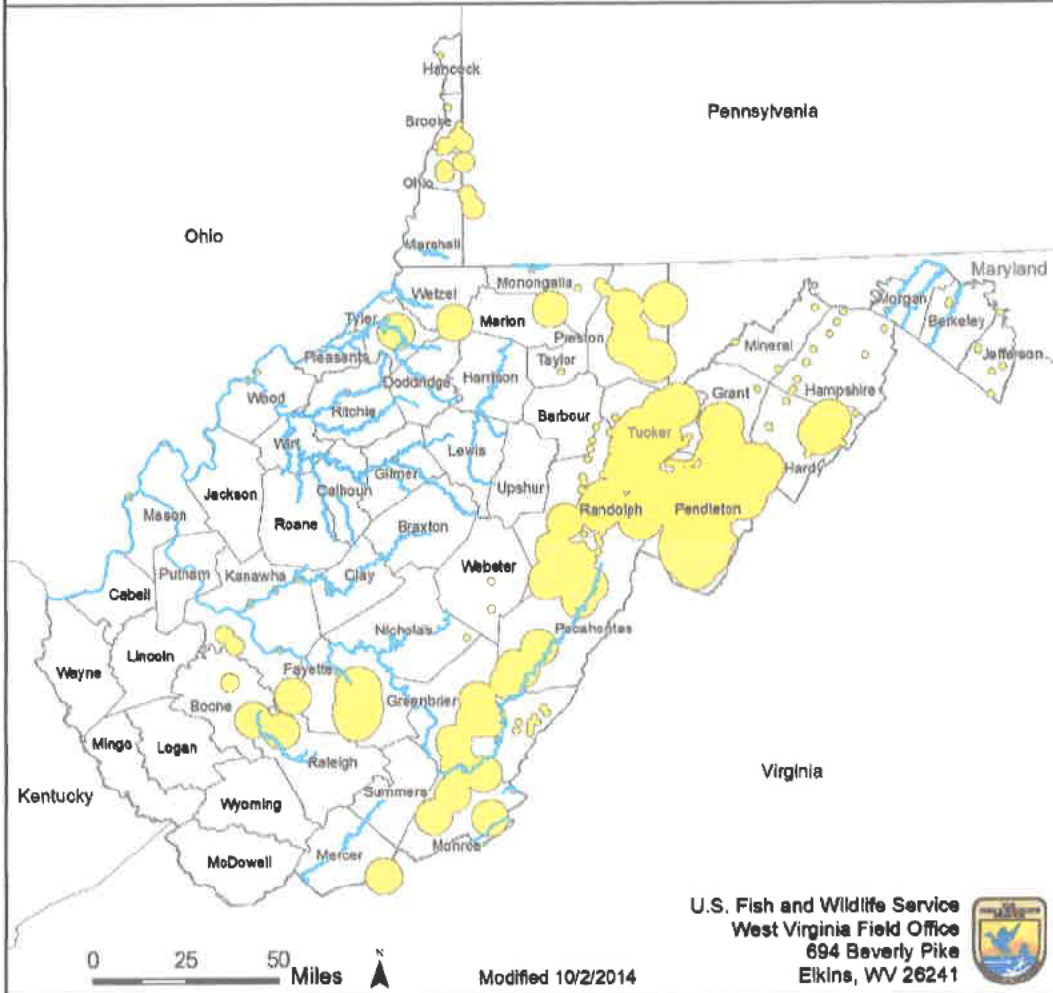
COMPARISON OF SLOPE PERCENTAGE BETWEEN APPENDIX K AND APPENDIS N-1

APPENDIX K Steep Slopes along the MVP					APPENDIX N-1 Soils and Soil Limitations Crossed by the MVP				
MP Start	MP End	Grade (%)	Max Slope (%)	Min Slope(%)	MP	County	Map Unit ID	Soil Name	
174.6	174.6	5-30	18.9	16.2	174.6	Monroe	CIF	Cateache-Litz complex,	35 to 55 percent slopes
174.7	174.7	15-30	22.8	17.8	174.7	Monroe	CIF	Cateache-Litz complex,	35 to 55 percent slopes
176.6	176.6	15-30	23.6	17.2	176.6	Monroe	CIE	Cateache-Litz complex,	25 to 35 percent slopes
179.1	179.1	15-30	20.8	15.1	179.1	Monroe	RgE	Rough very channery silt loam	25 to 35 percent slopes
179.9	179.9	15-30	18.9	16.0	179.9	Monroe	CIE	Cateache-Litz complex	25 to 35 percent slopes
182.5	182.6	>30	49.8	15.8	182.5	Monroe	LtF	Litz silt loam,	35 to 60 percent slopes
192.3	192.4	15-30	19.2	15.1	192.3	Monroe	WeF	Weikert channery silt loam	25 to 55 percent slopes
192.6	192.6	>30	34.7	21.3	192.6	Monroe	DeF	Dekalb channery loam very stony	35 to 55 percent slopes
193.3	193.3	15-30	27.7	16.6	193.3	Monroe	DeF	Dekalb channery loam very stony	35 to 55 percent slopes
193.4	193.6	>30	34.8	19.7	193.4	Monroe	WeF	Weikert channery silt loam	25 to 55 percent slopes
195.1	195.4	>30	58.8	17.4	195.1	Monroe	DeG	Dekalb channery Loam very stony	55 to 70 percent slopes
195.1	195.4			↔	195.2	Monroe	DeG	Dekalb channery Loam very stony	55 to 70 percent slopes
195.1	195.44			↔	195.3	Monroe	DeG	Dekalb channery Loam very stony	55 to 70 percent slopes
195.1	195.44			↔	195.4	Monroe	23F	Lehew & Wallen soils, very stony	35 to 65 percent slopes
195.1	195.44			↔	195.4	Monroe	DeG	Dekalb channery very stony	55 to 70 percent slopes

DEIS 4.2.2.4 Slip-Prone Soils The probability of landslides is increased when constructing through slip prone soils. The Gilpin-Peabody complex, 35 to 70 percent slopes, Carbo, Faywood, Frederick, Nolichucky, Poplimento, and Sequoia soils are considered to be slip-prone. The MVP would affect about 17.5 acres of the soils and complexes of these soils between MP 172 and 196.

my note-The Mountain Valley pipeline would go from mile marker 173.4 to 195.4 in Monroe County, W.V.
Most of slip-prone soils in 4.2.2.4 having an increased probability of landslides are in Monroe County, W.V

Distribution of Federally Listed Threatened and Endangered Species in West Virginia^{1, 2}



- Waterways supporting federally listed aquatic species
- Habitat buffers around known occurrences of other federally listed species²

1. All forested areas in West Virginia are considered potential summer habitat for the endangered Indiana bat. Please contact this office regarding any projects, anywhere in the state, that will require clearing of 17 acres or more of forest.

2. Includes nest sites of bald eagles, which are not listed under the Endangered Species Act. However they continue to receive Federal protection under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Threatened & Endangered Species in West Virginia

23 federally listed species (3 mammals, 1 salamander, 1 fish, 10 mussels, 1 crustacean, 1 snail, 6 plants)

Distribution of Federally Listed Threatened and Endangered Species in West Virginia^{1,2}



¹ All threatened species in West Virginia are considered critically imperiled because of their extremely limited distribution and the effects of anthropogenic activities in their ranges. West Virginia requires listing of 17 species of birds, 2 fish, 10 mussel species, 1 snail, and 1 crustacean under the Endangered Species Act. However, they continue to receive Federal protection under the State and Oceanic Eagle Protection Act and the Migratory Bird Treaty Act.

U.S. Fish & Wildlife Service

Environmental Conservation Online System

Listed species believed to or known to occur in West Virginia

Notes:

- Ⓢ As of 02/13/2015 the data in this report has been updated to use a different set of information. Results are based on where the species is believed to or known to occur. The FWS feels utilizing this data set is a better representation of species occurrence. Note: there may be other federally listed species that are not currently known or expected to occur in this state but are covered by the ESA wherever they are found; Thus if new surveys detected them in this state they are still covered by the ESA. The FWS is using the best information available on this date to generate this list.
- Ⓢ This report shows listed species or populations believed to or known to occur in West Virginia
- Ⓢ This list does not include experimental populations and similarity of appearance listings.
- Ⓢ This list includes species or populations under the sole jurisdiction of the National Marine Fisheries Service.
- Ⓢ Click on the highlighted scientific names below to view a Species Profile for each listing.

Listed species -- 24 listings

Animals -- 18 listings

Status

Species/Listing Name

E	Bat, gray Entire (Myotis grisescens)
E	Bat, Indiana Entire (Myotis sodalis)
T	Bat, Northern long-eared (Myotis septentrionalis)
E	Bat, Virginia big-eared Entire (Corynorhinus (=Plecotus) townsendii virginianus)
E	Blossom, tubercled (pearlymussel) Entire Range; Except where listed as Experimental Populations (Epioblasma torulosa torulosa)
E	Clubshell Entire Range; Except where listed as Experimental Populations (Pleurobema clava)
E	Darter, diamond (Crystallaria cincotta)

- E Fanshell (*Cyprogenia stegaria*)
- T Isopod, Madison Cave Entire (*Antrolana lira*)
- T Knot, red (*Calidris canutus rufa*)
- E Mucket, pink (pearlymussel) Entire (*Lampsilis abrupta*)
- E Mussel, sheepnose (*Plethobasus cyphus*)
- E Mussel, snuffbox (*Epioblasma triquetra*)
- E Riffleshell, northern Entire (*Epioblasma torulosa rangiana*)
- T Salamander, Cheat Mountain Entire (*Plethodon nettingi*)
- T Snail, flat-spined three-toothed Entire (*Triodopsis platysayoides*)
- E Spectaclecase (mussel) (*Cumberlandia monodonta*)
- E Spiny mussel, James Entire (*Pleurobema collina*)

Plants – 6 listings

<u>Status</u>	Species/Listing Name
E	Bulrush, Northeastern (<i>Scirpus ancistrochaetus</i>)
E	Clover, running buffalo (<i>Trifolium stoloniferum</i>)
E	Harperella (<i>Ptilimnium nodosum</i>)
T	Pogonia, small whorled (<i>Isotria medeoloides</i>)
E	rock cress, Shale barren (<i>Arabis serotina</i>)
T	Spiraea, Virginia (<i>Spiraea virginiana</i>)