

MEMORANDUM TO: Office of the Secretary
FROM: Paul Friedman, FERC staff
SUBJECT: Mountain Valley Project
CP16-10
DATE: January 30, 2018

2018 JAN 30 AM 11: 01

FILED
OFFICE OF THE SECRETARY

Please place these documents in the public files for the project proposed by Mountain Valley Pipeline LLC (Mountain Valley) in Docket No. CP16-10-000:

- Notes from the January 10, 2018 Conference Telephone Call about the Appalachian National Scenic Trail, and the Summary of the Visual Impact Assessment produced by Mountain Valley.

These documents were generated by staff. The documents are NOT confidential.

Office of Energy Projects –
 Division of Gas
 Environment and Engineering –
 Gas Branch 3

Docket No.:
 CP16-10-000
 Mountain Valley Project

Conference Telephone Call Regarding the Appalachian National Scenic Trail

Date/Time of Meeting: Wednesday, January 10, 2018, 1:00 – 3:00 pm EST

Meeting Participants:

Name	Representing
Paul Friedman	Federal Energy Regulatory Commission (FERC)
Andrew Downs	Appalachian Trail Conservancy (ATC)
Laura Belleville	ATC
Joby Timm	U.S Department of Agriculture, Forest Service (FS)
Ginny Williams	FS
Troy Morris	FS
Mike Madden	FS
Grace Ellis	Galileo Project, LLC (contractor to the FS)
Wendy Janssen	U.S Department of the Interior (USDOI), National Park Service (NPS)
Mary Krueger	NPS
Jonathan Meade	NPS
Denise Nelson	NPS
Mark Meyer	NPS
Jennifer McConaghie	NPS
David Uschold	NPS
John Henson	USDOI Counsel
Roger Kirchen	Virginia Department of Historic Resources (VADHR)
Libby Cook	VADHR
Ethel Eaton	VADHR
Richard Chidester	Giles County
John Ross	Giles County
John Centofanti	Mountain Valley Pipeline LLC (Mountain Valley)
Matt Eggerding	Mountain Valley
Thomas Jensen	Mountain Valley
Evelyn Tidlow	GAI Consultants (contractor to Mountain Valley)
Sean Sparks	Tetra Tech (contractor to Mountain Valley)
Chris Lawson	Tetra Tech (contractor to Mountain Valley)
Lavinia DiSanto	Cardno (contractor to FERC)
Douglas Mooneyhan	Cardno (contractor to FERC)

Memorandum – Notes of the Conference Call

Representatives from the FERC, ATC, FS, NPS, USDOI, VADHR, Giles County, and MVP had a conference telephone call on January 10, 2018 to discuss visual impacts on the Appalachian National Scenic Trail (ANST) from the Mountain Valley Pipeline Project (MVP). FERC staff stated that the purpose of the call was to initiate the consultation requirements of Stipulation

III.B.4. of the December 2017 Programmatic Agreement for the MVP. For use during the call, Mountain Valley prepared a summary of their *Visual Impact Analysis (VIA) for the Jefferson National Forest* which was filed on May 11, 2017 (summary attached to this Memo).

FERC staff commented on a few statements from the NPS letter dated November 17, 2017, that read: "...43 miles of the MVP ... could be viewed from the Trail" and "...A substantial portion of the MVP pipeline route will parallel the Appalachian Trail...." In FERC staff's opinion, only a small portion of the MVP pipeline would parallel the ANST, and the pipeline route would cross the Trail in a perpendicular manner. MVP's VIA indicated that the "bare earth" analysis showed that about 40 miles of the pipeline corridor would be visible from the ANST if there were no trees along the Trail. However, about 39.3 miles of the Trail in this viewshed is forested, blocking views of the pipeline corridor.

ATC staff clarified that the MVP route would parallel the ANST for about 15 miles where the pipeline and the Trail would be about 4 miles apart.

NPS staff noted that the two-dimensional visual simulations may not fully represent actual conditions, vegetation screening isn't always permanent (due to disease or fire), and it is their goal to preserve the ANST visitor experience. The ANST is eligible for the NRHP partly due to its scenic qualities.

Mountain Valley's VIA indicated that the pipeline corridor would likely not be noticeable to users of the ANST at Dragons Tooth observation area. The VIA indicated that the pipeline corridor may be visible from Kelly Knob and Angel's Rest areas.

ATC representatives identified two additional ANST locations where there may be impacts to the experience of hikers: 1) Pocahontas Road (access road MVP-GI-232) and 2) Peter's Mountain from KOP-OID-85 (Rice Field section of the ANST) to KOP-201 (campsite on the Peters Mountain segment of the ANST looking southwest approximately 0.2 mile from the MVP pipeline).

The participants agreed that the MVP would have "no adverse effects" on the ANST, if certain measures are implemented by Mountain Valley. First, Mountain Valley would implement already agreed to measures, outlined in its Plan of Development filed with the FS, for the portion of the pipeline route within Jefferson National Forest (JNF), including a) feathering/undulating of the edge of the right-of-way during tree clearing; b) plantings along the right-of-way during revegetation/restoration; and c) reduced mowing to a 10-foot-wide strip centered over the pipeline during maintenance/operation. While the FERC Plan requires revegetation monitoring for two seasons, Mountain Valley would extend that monitoring to five years on the JNF under an agreement with the FS.

Second, outside the JNF, where portions of the pipeline corridor may be visible to ANST hikers, Mountain Valley would also conduct a program of plantings along the edge of the right-of-way during restoration/revegetation, together with post-construction monitoring. The ATC will, in the near future, provide FERC with MPs for portions of the pipeline route it thinks would be visible from the ANST, and where plantings may be done to mitigate impacts on the views.

However, the participants agreed that Mountain Valley does not have to feather or undulate the edge of the right-of-way during tree clearing in those areas; and Mountain Valley does not have to delay construction (once authorized by FERC), and can use mechanical methods for tree clearing where feasible.

Lastly, if possible, for safety reasons and to enhance the experience, ANST users, Mountain Valley would work with the FS, NPS, and ATC to permanently relocate the ANST at the crossing of Pocahontas Road. If this cannot be accomplished in time for project construction, Mountain Valley would institute a system of flagging and monitoring, and escort hikers through the construction zone along Pocahontas Road in the short term.

ATC and NPS representatives also raised concerns about "cumulative" impacts on the ANST. Mountain Valley described its mitigation program with the Commonwealth of Virginia to compensate for impacts on forest, waterbodies, and historic properties. It was agreed that the discussion of cumulative impacts would be tabled for now, and the participants would hold a future conference call or meeting to address unresolved issues. However, construction may proceed (if allowed by FERC) prior to the conduct of additional meetings or calls.

Mountain Valley agreed to provide an updated construction schedule, with specifics for the area near the ANST. As noted above, the FS agreed to work with the NPS and ATC and investigate the steps involved in the ANST relocation near Pocahontas Road. Once details, such as the specific areas of plantings along visible portions of the pipeline corridor, and the relocation of the ANST at Pocahontas Road, are agreed to, Mountain Valley would file a plan for implementation, similar to an avoidance or minimization plan.

To memorialize this telephone conference call, draft notes were circulated to all participants for review, with a final version will be placed in the FERC record.

Paul Friedman

From: Thomas Jensen <TCJensen@hollandhart.com>
Sent: Wednesday, January 10, 2018 12:18 PM
To: Lavinia DiSanto; Paul Friedman; Andrew Downs; Eggerding, Matthew; 'Roger.Kirchen@dhr.virginia.gov'; Adams, Jennifer - FS (jenniferpadams@fs.fed.us); Wendy_Janssen@nps.gov; Mary_C_Krueger@nps.gov; Douglas Mooneyhan; Centofanti, John (JCentofanti@eqt.com); Evelyn Tidlow; John.Scott@tetrattech.com; rchidester@gilescounty.org; dianak16@earthlink.net; Jonathan_Meade@nps.gov; Sean.Sparks@tetrattech.com; Grace Ellis; lauren.johnston@galileoaz.com; Williams, Ginny -FS; Irvine, Peter -FS
Cc: Morris, Troy - FS; Timm, Joby -FS; Lawson, Chris
Subject: RE: Mountain Valley Pipeline Project and ANST
Attachments: MVP VIA SUMMARY.pdf

All – The PDF attached to this email is a revised version of the document circulated earlier today. The document has been amended to include an introductory paragraph. There are no other changes to the document. Please substitute this revised version for the earlier document. On behalf of MVP, please accept my apology for any inconvenience.

Thomas C. Jensen
Holland & Hart LLP

From: Lavinia DiSanto [mailto:Lavinia.DiSanto@cardno.com]
Sent: Wednesday, January 10, 2018 10:27 AM
To: Paul Friedman; Andrew Downs; Eggerding, Matthew; 'Roger.Kirchen@dhr.virginia.gov'; Adams, Jennifer - FS (jenniferpadams@fs.fed.us); Wendy_Janssen@nps.gov; Mary_C_Krueger@nps.gov; Douglas Mooneyhan; Centofanti, John (JCentofanti@eqt.com); Evelyn Tidlow; John.Scott@tetrattech.com; rchidester@gilescounty.org; dianak16@earthlink.net; Jonathan_Meade@nps.gov; Sean.Sparks@tetrattech.com; Grace Ellis; lauren.johnston@galileoaz.com; Williams, Ginny -FS; Irvine, Peter -FS
Cc: Thomas Jensen; Morris, Troy - FS; Timm, Joby -FS; Lawson, Chris
Subject: Mountain Valley Pipeline Project and ANST

Good Morning,

For today's call - attached is a summary of Mountain Valley's Visual Impact Assessment which was prepared by Mountain Valley. Thank you.

Lavinia M. DiSanto
SENIOR CONSULTANT
CARDNO



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MVP VIA SUMMARY – January 10, 2018

Introduction

This document was prepared by Mountain Valley Pipeline (MVP) to support consultations pursuant to the National Historic Preservation Act Programmatic Agreement for the Mountain Valley Pipeline project. The information in this document describes the method and results of the analysis prepared by MVP, in consultation with federal and state resource managers, conservation organizations, and others, to determine how the project might affect views from the Appalachian National Scenic Trail. The overview map (Slide 1), page 3 of this document, was prepared specifically for this paper. The map is a compilation of information included in the Visual Impact Analysis (VIA) for the Jefferson National Forest filed with FERC on May 11, 2017. The three figures (pages 4, 5, and 6) were taken directly from the VIA.

Description of VIA Method and Results

1. MVP used bare-earth viewshed analysis to determine the potential locations on the ANST from which it would theoretically be possible to see any part of the pipeline corridor. Ninety-two (92) miles of the ANST and 56 miles of the pipeline corridor are within the bare-earth viewshed study area. [Slide 1]
2. Of the 92 miles of the ANST within the bare-earth viewshed analysis area, a total of 40 miles of the ANST, comprised of numerous shorter increments, theoretically offer views of the MVP project corridor – based on line-of-sight, bare-earth assumptions. [Slide 1]
3. Of the 40 miles of ANST from which the MVP corridor is theoretically visible, 39.3 miles of the trail are in forest. Vegetation will provide some measure of screening of views along 98 percent of the areas on the ANST from which the pipeline corridor is theoretically visible. [Slide 1]
4. The bare-earth analysis shows that, of approximately 56 miles of pipeline corridor in the viewshed study area, 35.3 miles theoretically could be visible from the ANST. [Slide 1]
5. Of the 35.3 miles of potentially visible pipeline corridor, 28.7 are forested and 6.6 are meadow or fields. [Slide 1]
6. Based on recommendations from consulting parties, MVP analyzed in detail the potential impacts on views from 47 key observation points along or near the ANST. About half (19) of the KOPs were those recommended by the ATC. Viewshed analyses performed for the 47 KOPs resulted in analysis of all 56 miles of the potentially visible pipeline corridor. The viewshed analyses extended 10 miles from each KOP. MVP's analysis followed USFS Scenery Management System and the BLM Visual Contrast Rating Procedure protocols. [Slide 1]
7. For each of the 47 KOPs, MVP took photographs and prepared images using digital terrain modeling that indicates where the estimated right-of-way will be located with respect to existing landscape features. MVP then prepared computer-based photo-simulation graphics depicting existing and with-Project visual conditions. The simulations take into account the effects of terrain on visibility, as does bare-earth viewshed analysis, but also accounts for the screening effects of existing vegetation. The field inventory for the MVP VIA involved collecting over 200 sets of location-specific photos. Photography at each location typically included at least 10 to 15 separate photo frames, to cover the full field of view

that could be relevant to the analysis. Therefore, MVP's VIA field inventory represents a photo database of over 2,000 individual exposures.

8. The MVP VIA shows that, of the 47 KOPs selected for analysis, the pipeline corridor would have no visual impact at 36 of them and would be barely perceptible at another four (4). Of the remaining seven (7), three (3) of which are different viewpoints from Kelly's Knob, the pipeline corridor would be visible with low impacts at five (5), visible with moderate impacts in the short-term at one (1) (Kelly's Knob), and visible from Giles County High School but with no impact to the ANST.

9. Comments from NPS and ATC emphasized potential impacts on views from Kelly's Knob, Angel's Rest, and the Dragon's Tooth. Each was studied in detail. [VIA Figures 8b, 16b, and 24b, attached]

a. Kelly's Knob: MVP's bare-earth viewshed analysis indicated that up to 5.3 miles of the Project are within the area of potential visibility from Kelly's Knob. The simulation for this KOP indicated that approximately 3 miles of pipeline corridor would actually be visible, with most of that length situated in open areas on the valley floor. Visible segments of the corridor within forested area on the valley floor and the side of Sinking Creek Mountain is approximately 1.25 miles.

b. Angel's Rest: MVP's bare-earth viewshed analysis indicated that 4.7 miles of the Project are within the area of potential visibility from Angels Rest. The simulation for this KOP indicated that approximately 2 miles of pipeline corridor descending forested area on Peters Mountain would actually be visible at a distance of approximately 6 miles.

c. Dragons Tooth: MVP's bare-earth viewshed analysis for Dragon's Tooth indicated very small areas of potential Project visibility to the south-southwest of the viewpoint, where the alignment crosses Paris Mountain. The simulation does not show visible evidence of the project, and the cleared ROW would not be noticeable to the casual observer from this KOP.

In short, the detailed studies for the three locations concluded that 1.25 miles of the pipeline corridor is potentially visible from Kelly's Knob, 2.0 miles of corridor is potentially visible from Angel's Rest, and none of the corridor would be visible from Dragons Tooth.

10. The long-term visibility of the Project is expected to result in a low visual impact at Kelly's Knob. In the period soon after construction and before revegetation has softened the appearance of the ROW, however, the ROW will likely be more distinct and it is possible the impact would be considered moderate. Based on the limited degree of visual change introduced by the Project, MVP concluded the visual impact at Angel's Rest would be low. Based on the viewing angle and distance, the Project may be detectable but will barely be perceptible from Dragons Tooth. The visual contrast created by the Project would be weak at most, and the visual impact at Dragons Tooth would be low or none.

Mountain Valley Pipeline Project

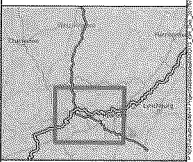


VISUAL IMPACT ASSESSMENT
Cumulative Results

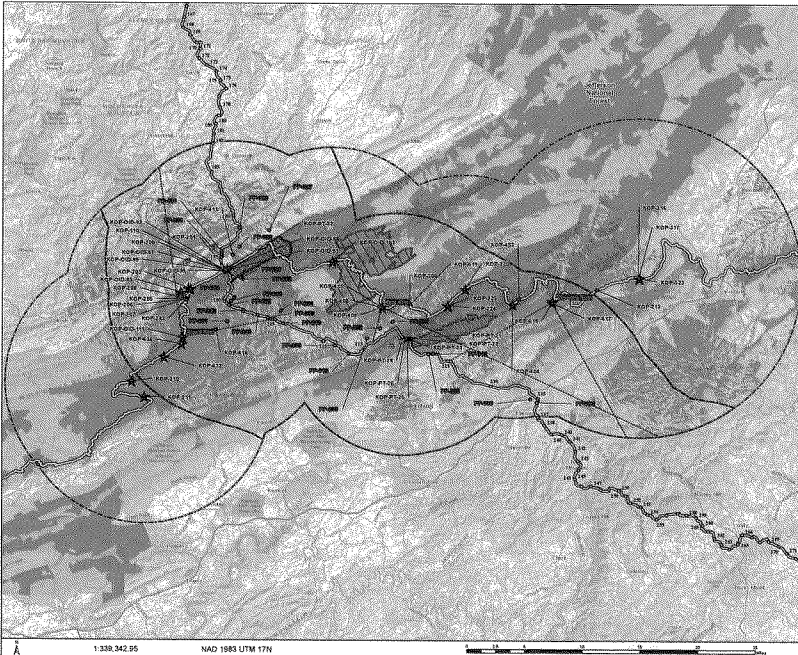
JANUARY 2018

- Forest Service Proposed Photo Point (Q317)
- Photo Point with Full Simulation
- Photo Point with Pre-Simulation
- Field of View Cone for Simulation
- ★ ATC Requested Photo Point
- Allgeport
- Proposed Route
- Appalachian National Scenic Trail
- General Study Area 15-mile Extent
- VAA RCP Viewshed 15-mile Extent
- VAA RCP Area of Potential Visibility*
- ▨ Palms Mountain Wilderness
- ▨ Shash Mountain Wilderness
- ▨ Mountain Lake Wilderness
- ▨ U.S. Forest Service (National Forest) Lands

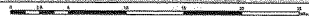
*Individual viewsheds were developed for each of the 47 RCPs using a 3-degree sector and 100-meter resolution model. Results were merged into a cumulative layer, and overlaid areas indicate potential visibility from at least one RCP location.

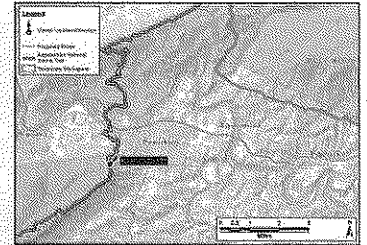
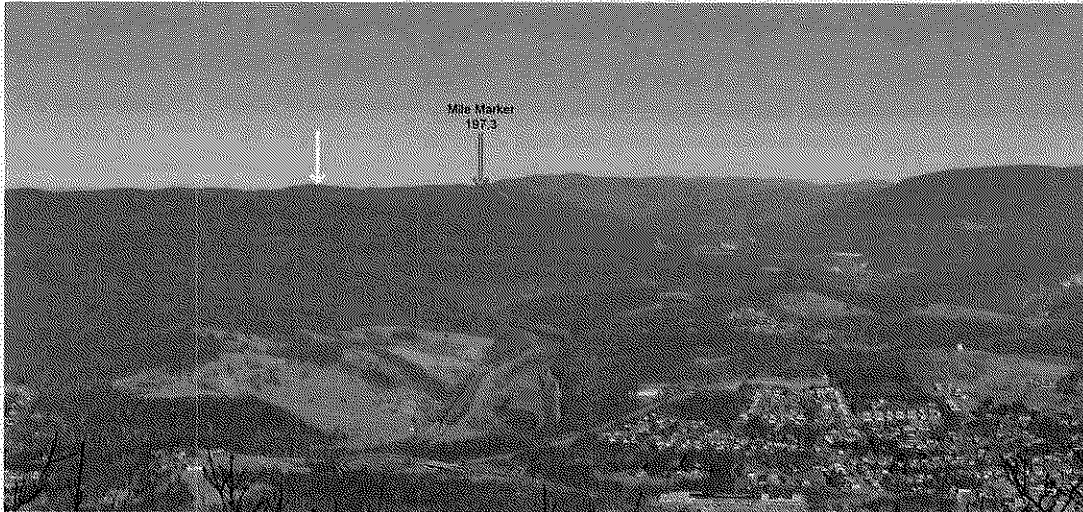


Base Source: 10030, NCE, 2006



1:330,342.95 NAD 1983 UTM 17N





Photograph Information

Time of photograph: 1:57 PM
 Date of photograph: 12.20.2016
 Weather condition: Sunny
 Viewing direction: Northeast
 Latitude: 37°19'3.46"N
 Longitude: 80°45'20.84"W
 Photo Location: Photo taken from Appalachian National Scenic Trail at the Angels Rest overlook on Pearis Mountain in Virginia.

The top photo is intended to simulate what a person with normal vision (no binoculars or camera zoom) would see in that location. The photograph is intended to be viewed at 10 inches from the viewer's eyes when printed on 11x17-inch paper. In the bottom image, the area in yellow depicts the location of the top photo. The bottom image was created by stitching together multiple photos to make a panoramic image.

Post Construction (Leaf-off conditions) - The red arrow indicates the location where the proposed pipeline would cross over Peters Mountain at a point approximately 5 miles northeast of the Angels Rest overlook on the Appalachian National Scenic Trail. The white arrow indicates the approximate location of the bore pit.



Mountain Valley Pipeline Project

Photographic Simulation from Key Observation Point OID-111

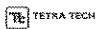
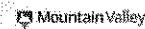
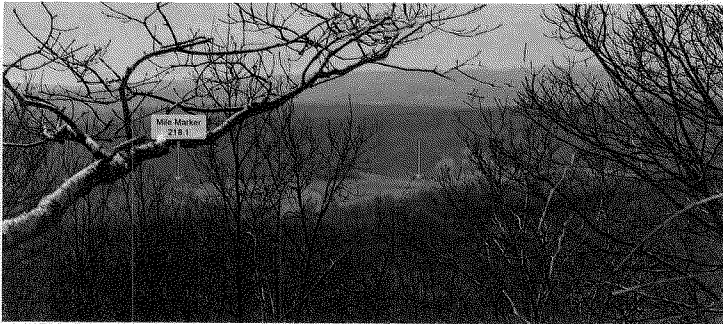
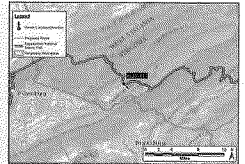


Figure 8b



Post Construction (Leaf-off conditions) - The proposed pipeline would cross along the base of Sinking Creek Mountain approximately 2.1 miles from the Kelly Knob overlook near the Appalachian National Scenic Trail. The red arrows indicate the location of the proposed pipeline located approximately 2.1 miles from this viewpoint.



Photograph Information

Time of photograph: 9:05 AM
 Date of photograph: 4.2.2017
 Weather condition: Sunny
 Viewing direction: Southeast
 Latitude: 37°21'19.36"N
 Longitude: 80°26'28.13"W

Photo Location: Photo taken near the Appalachian National Scenic Trail approximately 180 feet east of the Kelly Knob overlook in Virginia.

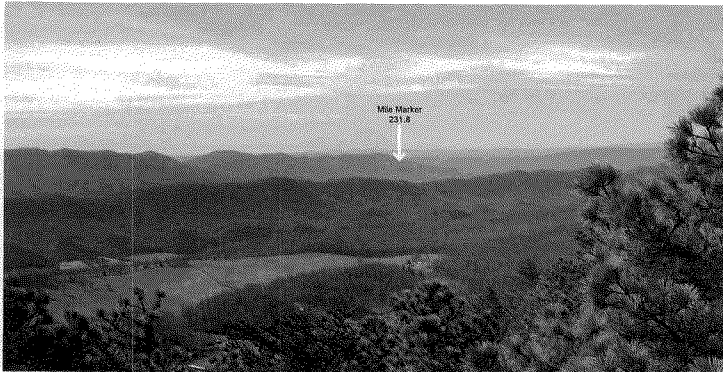
The top photo is intended to simulate what a person with normal vision (no binoculars or camera zoom) would see in that location. The photograph is intended to be viewed at 10 inches from the viewer's eyes when printed on 11x17-inch paper. In the bottom image, the area in yellow depicts the location of the top photo. The bottom image was created by stitching together multiple photos to make a panoramic image.



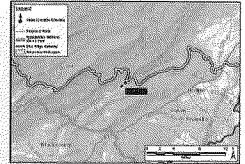
Mountain Valley Pipeline Project
 Photographic Simulation from Key Observation Point 411



Figure 16b



Post Construction (Leaf-off conditions) - The proposed pipeline would cross over Fort Lewis Mountain approximately 8 miles from an overlook from along the Appalachian National Scenic Trail at Dragons Tooth. The white arrow indicates the direction in which the proposed pipeline would cross Fort Lewis Mountain approximately 8 miles from this viewpoint.

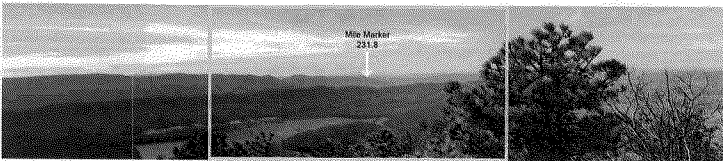


Photograph Information

Time of photograph: 9.18 AM
 Date of photograph: 3.31.2017
 Weather condition: Sunny, Clear
 Viewing direction: Southwest
 Latitude: 37°21'36.34"N
 Longitude: 80°10'24.61"W

Photo Location: Photo taken from the Appalachian National Scenic Trail from an overlook at Dragon's Tooth on Cove Mountain in Virginia. The proposed pipeline is approximately 10 miles from KOP 617.

The top photo is intended to simulate what a person with normal vision (no binoculars or camera zoom) would see in that location. The photograph is intended to be viewed at 10 inches from the viewer's eyes when printed on 11x17-inch paper. In the bottom image, the area in yellow depicts the location of the top photo. The bottom image was created by stitching together multiple photos to make a panoramic image.



Mountain Valley Pipeline Project

Photographic Simulation from Key Observation Point 617



Figure 24b