

An Order 1 Soil Survey performed by competent Licensed Professional Soil Scientists with experience in Appalachian Mountain Soils would have made this whole Mountain Valley Pipeline project much shorter in time with much less damage and need for extensive erosion and sediment control expense. An Order 1 Soil Survey would have exposed the extensive soils and landscape features needing attention after disturbance and an estimate of cost could have been made to include soil erosion control materials and structures, cost of manmade diversion ditches, soil amendments such as lime, fertilizer and water to keep vegetation alive in the ROW to reduce further erosion of bare fill material and cut banks of native soil.

Why resist something (bona fide Order 1 Soil Survey) on the grounds that every time the soils change, the soils get sampled and analyzed for vegetative nutrient requirements and described with any dangers noted. This is the proper course of action and still should be, so that safety and vegetation can be maintained. Forest Soil lab tests are not the same as Agricultural laboratory nutrient tests.

A proper Order 1 Soil Survey through the Jefferson National Forest should still be performed by competent Virginia Licensed Professional Soil Scientists who are familiar with Appalachian Mountain Soils. The Order 1 Soil Survey should apply to the whole.mvp route, ROW, workyards, pipeyards, roads, etc.

A Licensed Professional Soil Scientist would have noted all the water seeps on Sinking Creek Mountain, also near the.mvp ROW, because the disturbed ground now channels the seep water down the ROW rockface., concentrating flow to turbulent action and displacing soil and rock particles into a deep gully.

A Virginia Licensed Professional Soil Scientist familiar with mountain soils would have interpreted the route as unsuitable for existent soils intercepted by the path. I have not seen any soils that are suitable for a pipeline in the.mvp route.

An Order 1 Soil Survey of the Mountain Valley Pipeline route would have convinced MVP to not follow the route it has chosen, and it would have caused immediate denial of the permit to harm that first soil.

Ice at the crest of Sinking Creek Mountain ridge

Physical Evidence of Ice

New information not before presented to FERC, Jefferson National Forest or Bureau of Land Management

January 2023. Based on new information and observations of ice, the mountain valley pipeline project should be denied entry and operation in the Jefferson National Forest, and I am asking the Forest Service to deny any pipeline ROW in JNF.

Ice that forms when soil freezes may push up little stones that “cap the ice crystals”. Vertical ice crystal growth lifted North America’s largest landslide and rafted it down the near-vertical rockface of the southside of Sinking Creek Mountain. As the ice melted, the lubrication of landmass (approximately 23 miles intact landslide) was unstoppable. Extreme temperature fluctuations still occur at Sinking Creek Mountain ridge and surrounding mountain ridges. Very Frigid temperatures with wind, in Wintertime, freezes surface water. Groundwater continues to flow as a liquid upon release from the ground pressure into the cold air and around any iceplug that forms, and then freezing too, extending the iceflow four and one-half feet wide and twenty feet long, down the mountain, on both sides of Sinking Creek Mountain, in this case. The little water seeps that occur all along the ridge crest of Sinking Creek Mountain, for nearly thirty miles, freeze, creating masses of ice in numerous, scattered places along the whole length of the ridge of Sinking Creek Mountain.

A site visit to steep Sinking Creek Mountain by those of us who live here, in Craig County, Virginia was conducted in early January 2023 during 50-60 degree Fahrenheit clear weather to observe any freeze-thaw activity after the prior week’s frigid five (5) degree F windy cold weather; and to see if stress cracks were visible from ground heaving or creep.

The southside of the ridge of Sinking Creek Mountain slopes downhill at an 85% slope, 44 degree angle, almost vertical, and is a shear(ed) rockface scarp.

The crest of Sinking Creek Mountain marks a headwater Drinking Water Protection Zone, of the Eastern Continental Divide and the edge of Public Jefferson National Forest land. The easily eroded soils and rocks are protected from disturbance or development by the Forest Service Plan, the Clean Water Act and common sense.

The redundant freeze-thaw episodes and the water weight move exposed mineral soils and fill material in an act of erosion, uncontrolled, unconfined, unnoticed until ground movement becomes severe enough to change the surface topography and vertical displacement scarps form.

Ice grows horizontally out of the vertical face of scarps, with a stone on the end of what looks like an ice straw (with stone). When the solar warmth melts the ice, the stone drops.

Landslides have common indicators before detachment of ground is transported downhill by gravity or water weight, especially on mountain slopes greater than 35% (which is tough to walk upright).

Ground movement indicators are:

- Freshly exposed soil or mineral faces in an area of ground with vertical or horizontal particle displacement, enmasse or in part.
- Trees with bent trunks, living on actively sliding ground that, requires tree to grow back over roots
- Trees with bent trunks with big slide rocks imbedded in the uphill side of tree
- Large flat rocks tipped up by ice wedges
- Young trees forced to grow around big rocks that move and may be the only thing holding rock in place
- Boulder flow and Debris flow and landscape creep may be slow grinding movement with exposed mineral surface, displacement scrape marks and scarps and cracks

The MVP route through the Jefferson National Forest, BLM lands, Montgomery County and neighboring Counties of Craig and Giles, in Virginia and Peter's Mountain in West Virginia has a larger variety of massive dangers than any alternative route MVP has proposed, and now Ice.

Considering the Ice that forms in frigid temperatures at the crest of every mountain ridge, the MVP project is unsuitable and inappropriate for this Region. Ice breaks down rocks and soils by chemical and physical weathering mechanisms. Ice moved Sinking Creek Mountain's unstopable landslides intact. Ice breaks pipes.

Ice and Relevant Cultural History, previously unreported.

Ice used by locals to break rocks at the crest of Sinking Creek Mountain and ice used to move rocks, has been the kind of information only the local folks would know.

People here drilled holes in rock and poured water in the holes when frigid weather was due. The water froze and expanded, breaking off large flat slabs of sandstone bedrock exposed at the crest, then used the Iceflows on the mountain ridges when they rafted very large blocks of sandstone from the crest of the mountain to the mountain flank; local oral history tells of waiting for hard freeze to use the ice to move trees and rocks with communal and familial help, descriptions of teams of mules and sledges used, with evidence being the corner stones of old barns that have stayed in the same family for generations, and as the Tuscarora sandstone corner stones of the rare few covered bridges around Newport, Spruce Run and Sinking Creek Valley.

The covered bridges of the same area attest to historical flooding that resulted from ice melting. Again, in these highland karst areas, redundant freeze-thaw events cause ice to form at the surface of the moist ground (or water) and then some of it melts part-way because the ground is warmer than freezing and maybe it rains so a "perched water table forms"; that is, liquid water below frozen ice and liquid water on top of the ice. Flash flooding can happen any time of year, but water wave "surges" six feet high can happen underground, confined and connected, in karst waterways and surge water into the open air can exceed six feet. Ice layers complicate how much liquid water is released from the karst geology during a thaw. Lakes of water can form above an ice-plugged outlet. That is a lot of water to prepare for in building a covered bridge. Trial and loss of previous bridges left the remaining existing covered bridges to be over eight feet high above Sinking Creek.

The Appalachian Trail is also part of the Ice on Sinking Creek Mountain story, for it was recently reported that iceflows had formed at the AT crossing of Sinking Creek Mountain, as well as where our observations were made, on the same day. That would perchance mean everyone hiking the AT at the right time has seen ice at the crest, and now an uncommon Winter hiker knowledge, in a common foot-traveler culture around here, adds to who shares an important window of time, to a cultural history and natural history of a place.

And, the source of drinking water for everyone in the Sinking Creek Valley is groundwater and springs, which is why the AT comes through here for a drink from a fresh mountain spring: unconfined, free, clean water, even at the summit.

CONCERNS

The ground movement concern with Ice is especially important because of MVP blasting of the mountain ridge in July 2018 de-stabilized the Sinking Creek Mountain on the northface near where blasting occurred at the ridge and between the ridge and through the sinkholeplain on the northface of the Sinking Creek Mountain flank. This poses a significant nexus to deny the entry of MVP to enter, construct or operate in the JNF; that is, gas might not ever get there, due to ice heaving the pipe right-out-of-the-ground or ice slipping large heavy pipes downhill in an unstoppable cascade into drinking water sources, or ice just breaking the welds and pitting-corroded pipes.

Significant dangers, all avoided by telling MVP ,”No, the Jefferson National Forest is too dangerous for the MVP project.”

Continuous water seep, subject to freeze-thaw, at crest of Sinking Creek Mountain where mvp project crosses from Private land in Craig County on northface of Sinking Creek Mountain to Jefferson National Forest on southside of the mountain crest, which was blasted through by mvp in 2018, without permits to do so. This is the area once considered the Exclusion Zone – not to be built or disturbed because of the fragile karst ecosystem on the Craig County Private land northface of Sinking Creek Mountain crest and the mvp ROW entryway to the Jefferson National Forest. This was dampland and not suitable for pipeline construction – best avoided. Caves and Sinkholes and Springs in Karst not suitable for construction of a pipeline -best avoided. Fluctuating water table on steep slope not suitable for construction – best avoided, Shrink-swell clay problems not suitable for construction -best avoided, steep slopes-best avoided, landslide soils -best avoided, extreme freeze-thaw episodes -best avoided, moving ground-best avoided, Water Protection Zone -best avoided, Jefferson National Forest -best avoided, source water springs of drinking water for people and livestock- best avoided. The route is not suitable for construction and best avoided as it currently stands. The soils are not suitable for routing nor construction. Drinking water impacts from construction of pipeline are widespread.

All pipe should be removed and ground restoration performed.

Order 2 compute soil surveys used by mvp show with proper interpretation that the NRCS soil surveys indicate Soils intercepted by the route of the MVP project will fail if trenched; and the soil fertility is acidic Forest Soil, which requires specific laboratory analyses if the plan is to grow vegetation. Otherwise, without vegetation, the forest soil erodes rapidly into Rare and Endangered Species habitat of Craig’s Creek.

Every seep place on the ridge corresponds to mass wasting of large proportions on the mountain slopes. The MVP route crosses large rock block geology and unstable, highly erodible soils.

E&SC structures of fill material are made of acidic blast rock and acidic Forest soils scraped around into high, thick, steeply sloped waterbars on near-vertical southfacing Sinking Creek Mountain slope. The fill material of the E&SC structures are wet-saturated with water going through freeze-thaw cycles for the Winter, and fed water by the water seeps-melting iceflows at the crest of the mountain. Gobs of fill-dirt sloughed downmountain because the grass is dead and dead roots do not hold disturbed rock and soil onto vertical rockfaces well.

Ice grows horizontally out of the vertical face of raw mineral fill material, with a stone on the end of what looks like an ice straw (with stone). When the solar warmth melts the ice, the stone free falls 10-15 feet into an eroded gully, at every erosion control structure of mvp near the crest of our mountain.

This south slope of Sinking Creek Mountain is also home to North America’s largest ancient rock-block slide, rare and endangered landscapes, habitat, soils, fish and amphibians that have developed interconnected communities in vernal pools behind the series of ancient rock-block slides for approximately 23 miles along the steep mountain. The mvp ROW intercepts these special unique habitats, without understanding what is there.

MVP has created a very unstable, and regrettable, situation on Sinking Creek Mountain. Freeze-Thaw is dangerous to the remaining manmade fill material stability. Wet ground is heavy. Gravity is persistent. Ice breaks pipes.

The steel pipe and welds are brittle and ought not to have temperature fluctuations that welds cannot hold when strained, stressed and frigid. The northface of Sinking Creek Mountain remains frozen while the southface warms daily and freezes again at night during the Winter months, in freeze-thaw cycles.

MVP should not be allowed to proceed with the project through JNF. The No Action Alternative choice would allow for all pipe to be removed and ground restoration of the right-of-way and access roads to begin in earnest.

Ice is good reason for taking the "No Action Alternative" to deny MVP a right-of-way through the Jefferson National Forest. Ice breaks mountains.

I have not seen reports of small ground movement, slips, scarps forming in the mvp ROW in the JNF, and not sure why this most dangerous of erosion, at the top of the Sinking Creek Mountain, at the blast cut is under-reported? Does anyone other than a local care about what happens up there?

Obviously, MVP blasted the Sinking Creek Mountain ridge from Craig County into the Jefferson National Forest, irreparably damaging the Jefferson National Forest and Sinking Creek Mountain and Craig County, Virginia. The view from Kelly's Knob along the Appalachian Trail to Sinking Creek Mountain where MVP blasted and left a raw rock gap in the ridgeline spoils the pleasure of a view of continuous forest along a (once) beautiful mountain crest. My sense of pride in our mountains is shamed by the scar, and it saddens me that the blasting was ever permitted. Seeing the blasted gap saddens me when I see it driving along Rt. 42 (currently), as part of local cultural history and telling AT hikers what has happened. The AT hikers cannot believe we let the forests be cleared, further shaming us by our inability to stop the clearing of old growth forests. That becomes a USA cultural shame when the hikers are from all over the World and they see the denudation and spoiled soils left by MVP. So much done to protect views along the AT, for so many years, so that people travelling the AT would become refreshed in the mountain's beauty and diverse unique ecosystems.

Our mountain waters are harmed by the construction of mvp project and the ice will harm the mvp project unless this route through the JNF is abandoned.

Forest Service should deny Mountain Valley Pipeline entry into the Jefferson National Forest on the grounds that Ice will disrupt the pipe and its operation to the grave detriment of the JNF Public lands' health, safety and welfare, redundantly fail if allowed, because extreme cold with extreme temperature fluctuations with ice, breaks steel pipe welds. Both chemical and physical mechanisms of ice crystal formation, melt and re-freeze, expands the area the meltwater flows to in tiny places and heaves as it must, when it refreezes, widening the watergap for the next melt. Each heaving of growing ice crystals wiggles the pipe. Each time pipe pressure changes, the kickback causes a little wiggle. Add up those little wiggles plus Ice and the trouble is obviously with the Ice on an unstable mountain. Trouble starts at the crest and accumulates 2390 feet down a nearly straight line, with ice and no forest to hold onto. This is not a suitable alternative or main route. This is a place to avoid entirely! JNF is too dangerous for this ROW.

Please use the **No Action Option** and further, not allow any pipeline to use this ROW. The JNF, especially Sinking Creek Mountain and all Regional mountains should be placed in a "**No Build Zone**", because of unsuitable unstable ground.

Ice breaks mountains, continued...

Cultural History: The covered bridges of the same area attest to historical flooding that resulted from ice melting. Again, in these highland karst areas, redundant freeze-thaw events cause ice to form at the surface of the moist ground (or water) and then some of it melts part-way because the ground is warmer than freezing and maybe it rains so a “perched water table forms”; that is, liquid water below frozen ice and liquid water on top of the ice. Flash flooding can happen any time of year, but water wave “surges” six feet high can happen underground, confined and connected, in karst waterways and surge water into the open air can exceed six feet. Ice layers complicate how much liquid water is released from the karst geology during a thaw. Lakes of water can form above an ice-plugged outlet. That is a lot of water to prepare for in building a covered bridge. Trial and loss of previous bridges left the remaining existing covered bridges to be over eight feet high above Sinking Creek.

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Please use the **No Action Option** and further, not allow any pipeline to use this ROW. The JNF, especially Sinking Creek Mountain and all Regional mountains should be placed in a "**No Build Zone**", because of unsuitable unstable ground.

SEEPS

New information not before presented to FERC, Jefferson National Forest or BLM,

Based on new information and observations of seeps on Sinking Creek Mountain, the mountain valley pipeline project should be denied entry and operation in the Jefferson National Forest, and I am asking the Forest Service to deny any ROW in JNF, due to extreme danger from water seeps.

Site visits to steep Sinking Creek Mountain ridge, by those of us who live here, in Craig County, Virginia have been conducted for over 35 years and we have always found water near the crest, in numerous scattered seeps of water that puddle, in warm weather. Extra large, very old growing Mosses abound near some seeps.

Confined water, under pressure, moves uphill until pressure is released by water no longer being confined; that is, that fresh mountain spring where you get a drink of water as the water emerges into daylight and atmospheric pressure, unconfined. Seeps are a slower flow, scattered in numerous locations, along the ridge of Sinking Creek Mountain, for approximately 30 miles. The southside of the ridge of Sinking Creek Mountain slopes downhill at an 85% slope, 44 degree angle, almost vertical, and is a shear(ed) rockface, into the Jefferson National Forest.

Landslides have common indicators before detachment of ground is transported downhill by gravity or water weight, especially on mountain slopes greater than 35% (greater than 20 degree angle, which is tough to walk upright).

This south slope of Sinking Creek Mountain is also home to North America's largest ancient rock-block slide, rare and endangered landscapes, habitat, soils, fish and amphibians that have developed interconnected communities in vernal pools behind the series of ancient rock-block slides for approximately 23 miles along the steep mountain. The mvp ROW intercepts these special unique habitats, without understanding what is there.

Disturbance to the crest of Sinking Creek Mountain directly impacts two major watersheds at the headwaters, the source water, the springs that flow water year-round, at the crest of the mountain.

Construction fill material in the mvp ROW on Jefferson National Forest land on the southside of Sinking Creek Mountain is not stable, with continuous water flow coming from between now exposed rock bedding planes bearing confined water and failing erosion control water diversion ditches, with water seeps at near-vertical rock contact, and eroding gullies through fill material, and ponding in downslope fill material bench.

One seep, at the natural crest of Sinking Creek Mountain was frozen solid, with dripping edges as flowing liquid water forced its way around the ice-plug. Another seep of water emerged at the mvp dynamited route in exposed 85% slope sandstone rockface, in disturbed construction fill material from blasting of rock at the crest of Sinking Creek Mountain (for cut and fill) in Jefferson National Forest.

This seep was on one end of a trench that has failing construction fill material, falling down the oversteepened slope, creating an erosion gully that drains out of sight out of bounds, at the other end.

Three trenches at the top of the Sinking Creek Mountain, in mvp ROW have seeps of water. Every trench has an erosion scarp of freshly exposed construction fillmix glistening with water, and a slump of what fillmix slid off heaped below. The ground is not holding onto itself and the water from rain and freeze-

thaw events are contributing to irreparable damage to the Jefferson National Forest soils by.mvp construction to date.

Further, the water is accumulating and ponding on the uppermost pipeyard bench of fill material. Water seeps are a danger and there are numerous seeps encountered on Sinking Creek Mountain at the crest. Gravity influenced water pressure only builds as construction fill material becomes saturated and heavy with water,

The blasting of Sinking Creek Mountain violated the Forest Plan in place in 2018.

No changes should be made to the 2023 Forest Plan to accept more destruction of the Sinking Creek Mountain ridge, disturbance of unstable known landslide areas and the breach of the Clean Drinking Water Protection Zone, by MVP.

-heaved then lubricated with melt water, fill material on an 85% slope of shear mountain rockface, exceeds the angle of repose, eventually. The upper slope of Sinking Creek Mountain is not at a safe, nor stable, angle of repose, in any of the manmade ditches, nor the manmade flat area.

-The clearing of trees and disturbance of native soil has redirected the water and concentrated its flow to the disturbed.mvp ROW route, where water moves laterally along the rock face surface, under fill material, further destabilizing an unstable area of the.mvp ROW, in the Jefferson National Forest on the south side of Sinking Creek Mountain.

The erosion control structures are failing to stop erosion on a near vertical, 85% slope of sheared sandstone rockface. The blasting and removal of a section of mountain ridge was done in July 2018, which intercepted and exposed water conduits in the rock bedding, that rerouted confined water directly to the.mvp right-of-way in the Jefferson National Forest, near the crest of Sinking Creek Mountain. The grasses are not able to stop scarp after scarp from forming as the ground falls away into the erosion gullies, tens of feet deep.

Water follows the rock face, under unconsolidated and consolidated material, until it puddles on manmade benches, which are currently saturated and squishy wet during this freeze thaw, indicating water penetration and retention, which gets heavy on a near vertical rockface. The water flows year-round, not just at Winter.

I have not seen reports of seeps, small ground movement, slips, scarps forming in the.mvp ROW in the JNF, and not sure why this most dangerous of erosion, Ice and seeps, at the top of the Sinking Creek Mountain, at the blast cut is under-reported. Obviously, MVP blasted the Sinking Creek Mountain ridge from Craig County into the Jefferson National Forest, irreparably damaging the Jefferson National Forest and Sinking Creek Mountain and Craig County, Virginia, and waters of the Headwater Protection Zone.

The view from Kelly's Knob of the Appalachian Trail to Sinking Creek Mountain where MVP blasted and left a raw gap wrecks the pleasure of a view of continuous forest along a (once) beautiful mountain crest. The Appalachian Trail is also part of the Seeps on Sinking Creek Mountain, for it was recently reported that iceflows had formed at the AT crossing as well as where our observations were made.

That means the AT crossing also has water seeps, obviously, that freeze.

The few soil descriptions provided by MVP and FS show the Soil Specialists did report a seep in the soil of the ROW. Water means danger on mountain slopes. Yet there remains no narrative, no interpretation of the soils in an Order 1 Soil Survey, clearly called for with danger of seeps needing further proper description, delineation, sampling and nutrient testing for vegetative growth now that we know there is water to water plants.

The construction fill material is disturbed raw edge mineral acid sandstone. There is no forest in the MVP ROW to soak up the continuous flow of water. Manmade water diversion ditches erode into gullies, which erode headward between "waterbars" of fill material, again, on a near vertical incline, every trench/ diversion is actively eroding badly, daily.

The manmade bench holds a pipeyard with actively corroding pipes sitting in the sun and weather of one of the highest mountains around, at the top of the Eastern Continental Divide watershed. Pipe coatings chalking and sloughing the 3M Scotchkote 6233 PFAS epoxy coating with faded date-stamp of 06/02/2017 are pitted with rust lines dripped down the sides, every pipe rusty. These pipes are a danger and not suitable for use as they are.

The pipes must be removed to be recoated before they can be considered safe enough to use; however, the problem with the site remains. The mountain continues to seep water from the crest to the protected headwater creek thousands of feet below. The mud entrained in the seep waters extend beyond erosion gullies, without benefit of settling out particles in a pond.

Existent persistent gravity.

Continuous water seep, subject to freeze-thaw, at crest of Sinking Creek Mountain where MVP project crosses from Private land in Craig County on northface of Sinking Creek Mountain to Jefferson National Forest on southside of the mountain crest, which was blasted through by MVP in 2018, without permits to do so. This is the area once considered the Exclusion Zone – not to be built or disturbed because of the fragile karst ecosystem on the Craig County Private land northface of Sinking Creek Mountain crest and the MVP ROW entryway to the Jefferson National Forest.

This was dampland and not suitable for pipeline construction – best avoided. Karst not suitable for construction of a pipeline -best avoided. Fluctuating water table on steep slope not suitable for construction – best avoided, Shrink-swell clay problems not suitable for construction -best avoided, steep slopes-best avoided, landslide soils -best avoided, extreme freeze-thaw episodes -best avoided, moving ground-best avoided, Water Protection Zone -best avoided, Jefferson National Forest -best avoided, source water springs of drinking water for people and livestock- best avoided. The route is not suitable for construction and best avoided as it currently stands. The soils are not suitable for routing nor construction. Drinking water impacts from construction of pipeline are widespread.

The thought that the Jefferson National Forest would change its Forest Plan, just to accommodate mvp's route, is unbelievable, unjustified, ill-conceived, short-sighted, dangerous, unstable thoughts for unstable ground, and avoidable. MVP should not operate in JNF.

Ground movement indicators are:

-Seeps

-Freshly exposed soil or mineral faces in an area of ground with vertical or horizontal particle displacement, enmasse or in part.

-Trees with bent trunks, as actively sliding downhill requires tree to grow back over roots

-Trees with bent trunks with big slide rocks imbedded in the uphill side of tree

-Mindfulness of 2018, and MVP blasting a cut through some of the toughest Tuscarara Sandstone that has armored Sinking Creek Mountain for millenia; there is no way mvp's unpermitted blasting through JNF lands left the rest of the surrounding ground, unimpacted. Blasting that hard spine of the mountain lasted for more than two days. Blasting vibrations and gravity would have accelerated ground movement of boulder fields to migrate downhill, bit by bit, changing the surface area topography noticeably, where severe. The ROW cut certainly changed water flow to concentrate into the ROW.

Every seep place on the ridge corresponds to mass wasting of large proportions. The MVP route crosses large rock block geology and unstable, highly erodible soils.

Sinking Creek Mountain at least two of the boulder field debris flows are moving based on various observations of multiple indicators, on the ground, on site. Specific LiDAR study area should include within 2 miles of Blast Zone along west side of ROW, on both Jefferson National Forest land and Private land sides of the Sinking Creek Mountain ridge, please.

On the north side the mountain, pipeline integrity is at risk from seeps upslope of two creeping-downhill boulder field debris flows on Private land intercepted by the mvp ROW downslope on the mountain flank. Rather than avoid this land to the Jefferson National Forest, the mvp ROW also intercepts karst (springs, caves and sinkholes), wetland soils, forest soils, landslide soils and shrink-swell clay soils, all within the two mile blast zone, compounding any blast with multiple safety and water containment issues.

Therefore; given the persistence of gravity, water and unstable slopes, further disturbance to the irreparable damage done to Sinking Creek Mountain by MVP will further degrade the land in the Jefferson National Forest and promote continuous erosion of disturbed ground. All pipe needs to be removed and ground repaired, and vegetated.