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Comments: Water Seeps at the crest of Sinking Creek Mountain ridge

Physical Evidence of Seeps

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

January 2023. Based on new information and observations of Water Seeps (that freeze to ice), the mountain valley pipeline project should be denied entry and operation in the Jefferson National Forest (no change to the Forest Plan).

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 that is intermittently dangerous with dampness on greater than 35% slopes.

Groundtruthing with 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 in numerous scattered places on both sides of the ridge for approximately 30 miles. Extra large, very old growing mosses abound near some seeps.

MVP has created a very dangerous situation for the Forest Service, that will be very difficult to stabilize and keep from triggering more landslides.

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 slower flow, scattered in numerous locations, along both sides of 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 straight down 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. Ice is the "lift and separate" of the big landslide.

A 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, or freezes - to lift and separate the ground.

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. But in

Winter, water freezes on the mountain ridge.

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 seeps and iceflow observations were made, on the same day.

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. An Order 1 Soil Survey is 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 06/20/2017 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. These pipes are in a continually moist environment.

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 with a shear drop down the southeast face of the mountain into JNF and to the protected headwater creek thousands of feet below.

The mud from mvp ROW entrained in the seep waters extend beyond erosion gullies, without benefit of settling out particles in a pond.

Existent persistent gravity.

This is the area once considered the Exclusion Zone - not to be built or disturbed because of the fragile karst ecosystem on the northface of Sinking Creek Mountain and the shear drop of the mvp ROW entry to the Jefferson National Forest.

This was natural dampland land 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 mvp pipeline are widespread.

I am saddened by the thought that the Jefferson National Forest would change its Forest Plan, just to accommodate mvp's truly lousy route. The soils are unsuitable and climate extreme and damp.

A stable thought for unstable ground, " deny Mountain Valley Pipeline entry or operation in Jefferson National Forest" with a "No Action" , no change to the Forest Plan.

Better to get to stabilizing mvp damage without more damage.

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, scarps

-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 has at least two of the boulder field debris flows 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, for the Public to view. Our neighbor's safety and house is at stake.

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 construction 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.

## CONCERNS

MVP has created a very dangerous situation for the Forest Service, that will be very difficult to stabilize and keep from triggering more landslides.

Please do not let mvp trench or move any more soil, except to remove pipe and fill in holes and trench.

Yikes! Comes to mind, with a long groundmound fat with water and a giant ice-slide 2390 feet (mostly straight) long, much steeper than 35% slope right into Craig's Creek.

Forget trying to stop on ice, anyone, any animal, and landslide.

Forget trying to use RUSLE to predict erosion. Just calculate volume of soil lost and figure 100% loss, right down that straight shoot of ROW, plus any adjacent ground that will get pulled along in a mass wasting event.

Please deal with what has already been done, and failing to hold together. Why is no one reporting these dangers? Do they not know what they are seeing or know not how to interpret dangers? Or doesn't anyone else care what has happened to our mountain after being blasted? Come on, that is not fair. There is much more attention that blast area needs now and forevermore.

And are seeps what you do not want the Public to see?