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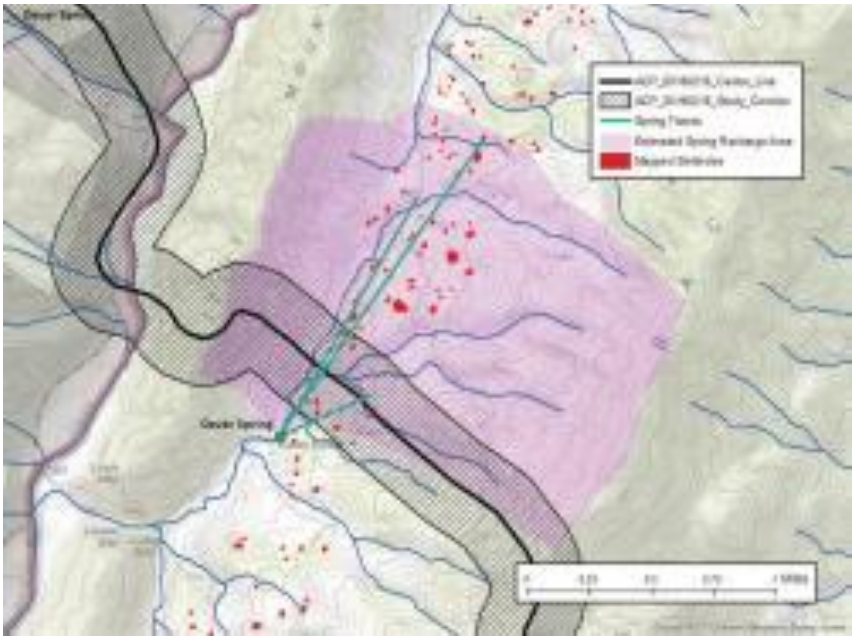
Dominion to address karst uncertainty

BY JOHN BRUCE • STAFF WRITER

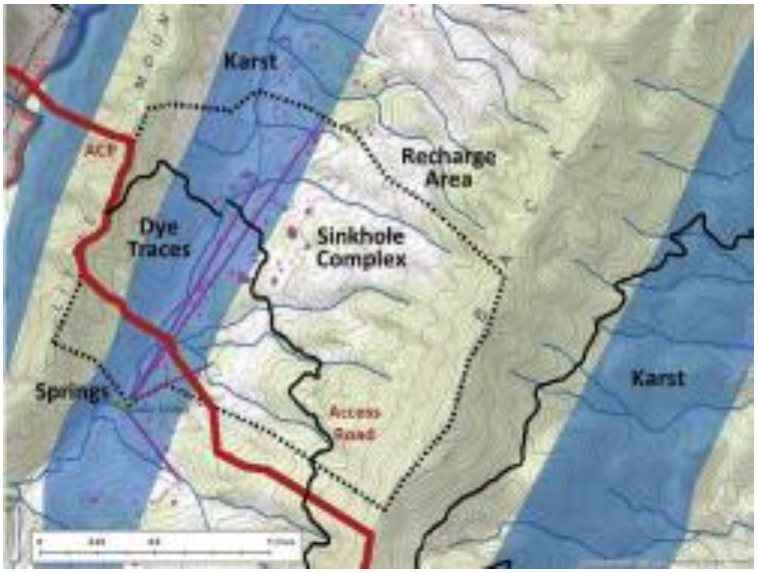


This map depicts the Valley Center spring recharge area. (Courtesy Dominion Pipeline Monitoring Coalition)

MONTEREY — Dominion will perform geophysical surveys in Little Valley and elsewhere before construction of the proposed Atlantic Coast Pipeline can begin. But detailed study results of many affected karst areas in southern Highland and northern Bath counties will not be released until after the Federal Regulatory Energy Commission issues a draft Environmental Impact Statement for the project next month.

The company maintains it can build the pipeline without polluting groundwater and disputed the findings of one of Highland's leading karst authorities about the terrain in Valley Center.

The company did not know about karst in Little Valley because it relied on older geological maps, and landowners have not granted permission to survey there, according to a filing with federal regulators last week.



This map shows Dever spring recharge area. (Courtesy Dominion Pipeline Monitoring Coalition}

The pipeline company's filing responded to FERC requests about William K. Jones' "Hydrogeologic Setting of Little Valley at Bolar, Bath County, Virginia" and Richard A. Lambert's "Assessments of Four Karst Systems in Highland-Bath Counties, Virginia along the GWNF-6 Route."

FERC told Dominion to resolve the discrepancy between the numbers, types, and density of karst features and springs in Little Valley with those documented in Jones' report.

"This (Little Valley) area was not originally examined for karst features because the closest geological maps available for Little Valley area did not indicate that the valley is underlain by carbonate bedrock," Dominion replied. "Recently available LIDAR data, however, suggests that a number of surface karst features (sinkholes) are present in the area. In addition, during the course of the study leading up to the report by Mr. Jones, several outcrops of carbonate bedrock were observed within the study area, most likely part of the Dolly Ridge Formation, which contains argillaceous limestone interbedded with shale. Final location and study of the surface karst features in Little Valley along the proposed alignment will be performed when permissions have been obtained to access the parcels in this area. As of Nov. 8, 2016, (Dominion) had not been granted permission by property owners to access this portion of the alignment," Dominion said.

This aerial photo shows the area slightly south of Valley Center. (Photo courtesy Dominion Pipeline Monitoring Coalition)

Jones did not have any comment on Dominion's response other than, "A more detailed site-specific investigation of this area is needed."

"We've always planned to conduct geophysical surveys prior to construction," Dominion spokesman Aaron Ruby said. "Our karst survey program consists of multiple elements, including desktop surveys, field surveys and geophysical surveys. We have not yet completed our field or geophysical surveys for the entire route because some landowners have not granted us permission to survey their properties. We will complete the entire karst survey program as soon as we gain access to these properties, and certainly prior to construction."

FERC directed Dominion to discuss groundwater travel times, shown by dye trace tests documented by Jones, the degree of karst development expected along the pipeline alignment, specific construction mitigation measures to protect groundwater receptors.

"The relatively rapid flow rate seen for the dye trace (i.e., 0.25 mile in less than 24 hours) suggests that there is conduit flow occurring from the sinking stream dye injection point to Carpenter Spring," Dominion responded. "Dye was also recovered at a stream culvert near Bolar, Virginia, at 45, 70, and 90 hours after injection, approximately 3.7 miles northeast of the sinking stream dye injection point. In the Little Valley area, the primary karst development is in the carbonate facies of the Dolly Ridge Formation. This unit tends to produce small surface sinkholes compared to the well-developed surface karst northeast of Bolar in Big Valley, which has developed in the Ordovician limestones exposed along the axis of the breached Bolar anticline.

"Construction mitigation for protecting ground water receptors are described in the update to (Dominion's) Karst Terrain Assessment, Construction, Monitoring and Mitigation Plan," the company stated.

"These measures are designed to prevent surface sediment (and the contaminants it could carry) from entering the subsurface through open throat sinkholes, caves, or sinking streams." Examples of measures in the plan include:

• Conducting a pre-construction geophysical survey for more information on subsurface conditions;

• Training geology and engineering staff on the identification and mitigation of karst features;

• Conducting a pre-construction inspection of the right of way to confirm, identify, and assess surface karst features;

• Monitoring features identified during the inspection, features intercepted during construction; and features that form during construction;

• Implementing best management practices for erosion and sediment control and surface water control in karst areas;

• Placing excavated spoil on the upgradient side of the excavation in near karst features;

• Implementing a Spill Control, Control, and Countermeasures Plan, including buffers for re-fueling and parking near karst features;

• Implementing best management practices for blasting; and

• Implementing best management practices for water discharge.

FERC told Dominion to provide a thorough assessment of karst development and potential impacts on surface water and groundwater resources through Dever Spring Recharge Area, Little Valley, Burnsville Cove and Brown's Pond Cave Ridge Poplar Hollow.

Dominion said it would provide an assessment in an update to the 2016 Karst Survey Report, which it anticipates filing in February 2017.

"The delineation of the Dever Spring Recharge described in the report by Mr. Lambert, based on two successful dye traces, was not a formal study subject to peer review," Dominion added. "Additionally, the statement in the report that pipeline construction will 'behead' karst conduits supplying water to the spring is unsupported by data." Dominion said its karst consultant, GeoConcepts Engineering, told Dominion it was unlikely the conduits could be intercepted by the typical 10-12- foot trench depth. "The conclusion in Mr. Lambert's report, based on review of the Draft Environmental Impact Statement for the Highland Scenic Highway Study (MNF, 1981), is based on inference; no documentation of 'beheading' of karst conduits is provided in the EIS," Dominion said.

Lambert said very few dye traces, if any, in Virginia, get peer reviews. "This does not reduce the significance of the results. These dye traces were not done in response to (the proposed pipeline) but due to sediments in a spring after a fish pond lost its water many years ago. These dye traces were also conducted by Virginia's Department of Conservation and Recreation, not the Highland County Cave Survey," he said. "I trust the state agency that conducted the dye traces and the lab which determined the results. Dominion is welcomed to come and repeat the dye traces and should. GeoConcepts does not know how deep the conduits are, they are only guessing. It is not our responsibility to do the drilling for them to determine the depth of the conduits.

"Dominion wants to build the pipeline and the cost of doing a good job to protect the ground water in Valley Center should fall on them, not us," Lambert continued. "Obviously, if we have a spring, multiple sinking points, and hundreds of sinkholes the conduits are close to the surface in many places. The data for the beheading is lacking, but this does not negate the fact that springs were beheaded and the fish hatchery management placed the blame on the Highland Scenic Highway construction. From what I can find, no one but Dominion is disputing this. This may be because they do not want to spend the money to do a good job to determine the possible impacts on the Valley Center area. I'm sure this response was prepared by a GeoConcepts engineer sitting behind a desk. He or she needs to get out of the office and into Valley Center and re-walk the route with a critical eye and not one which is designed to rubber stamp Dominion's desires."