

STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

Matt Blunt, Governor • Doyle Childers, Director

www.dnr.mo.gov

NOV 6 2007

Mr. John DeLashmit  
U.S. Environmental Protection Agency  
Region VII  
901 North Fifth Street  
Kansas City, KS 66101

RE: Mertens Construction Company's (Auxvasse Quarry-South) State Operating Permit in Lieu of a Total Maximum Daily Load for Bynum Creek (WBID 709)

Dear Mr. DeLashmit:

Three-tenths of a mile of Bynum Creek, near the City of Auxvasse in Callaway County, Missouri, was placed on Missouri's 1998 303(d) List of impaired waters for sediment. The sole source was listed as Auxvasse Stone & Gravel's quarry. By the time Mertens Construction Company purchased the quarry, and was assigned General Permit MO-G490032 in early 2002, the creek had already been proposed for the 2002 303(d) List for Non-Volatile Suspended Solids (NVSS). The Missouri Department of Natural Resources (department) has opted to correct the NVSS impairment through permit limits in lieu of a Total Maximum Daily Load (TMDL).

The change from sediment to NVSS was to specify that the problem was due to mineral solids (e.g., silt, sand and gravel) coming from eroding mine waste materials and stockpiles. When these solids get into a stream, they settle onto the bottom, smothering natural substrates (and interstitial spaces associated with that habitat), aquatic invertebrates and fish eggs. This occurrence violates the narrative criteria in Missouri's Water Quality Standards (WQS) at 10 CSR 20-7.031(3)(A), (C) and (G), the latter being, "Waters shall be free from physical...changes that would impair the natural biological community."

The listing for the impaired reach was based on stream surveys conducted on January 25, 1994 and March 27, 1998. On those dates, department personnel observed bottom deposits that created conditions harmful to aquatic life (see enclosed stream survey data). On the latter date, qualitative examination of the aquatic invertebrates in Bynum Creek indicated their habitat was being degraded directly downstream, and attributable to, the quarry – specifically from the road crossing Bynum Creek. As noted during the September 26, 2006 survey, the road crossing was "largely composed of fines."

There is one permitted facility discharging into Bynum Creek upstream from the Auxvasse Quarry-South. Mertens Construction Company's Auxvasse Quarry-North, Permit No. MO-G490120 is approximately 0.7 miles upstream of the south quarry's creek crossing and expires on October 5, 2011 (see enclosed map). No evidence was found in the department's databases to indicate that the north quarry was a contributor to the NVSS problem. Limestone fines have not been reported in the creek between the two quarries, and department personnel specifically identified the work yard, stockpiles and creek crossing at the south quarry as the sole source of the impairment.

Land use in the watershed is mostly agricultural – approximately 63 percent grassland and forest/woodland. The watershed draining into the three miles of creek directly upstream from the Auxvasse Quarry-South is almost 100 percent grassland and forest/woodland. There are no known nonpoint source contributors to the NVSS problem.

By the time the 2002 303(d) List became effective, Mertens Construction Company had already begun implementing Best Management Practices (BMPs) to address storm water control issues. Since purchasing the quarry, berms have been added around all processing and stockpile areas. Sediment from quarry activity was not found in Bynum Creek during an inspection on December 1, 2004, and analysis of water samples taken above both quarries and below Auxvasse Quarry-South revealed Total Suspended Solids (TSS) values of 18 mg/L and 17 mg/L, respectively well below the maximum permit limit of 70 mg/L (see enclosed water chemistry data and map with sample sites). In addition, the facility was at that time deemed to be providing sufficient sediment and erosion controls to prevent pollution of waters of the state.

During a September 2006 survey, department personnel noted “a slight powdery coating on the rocks, but no heavy deposition” just below the stream crossing. At that time, no visible signs of impact on macroinvertebrates were found 0.2 miles downstream of the crossing, adjacent and downstream of a large processing and stockpile area (see enclosed stream survey data). In a November 1, 2006, *Report of Compliance Inspection* from the department’s Northeast Regional Office to Mertens Construction Company, which summarized findings from the September inspection, it was reported that below where water from Outfall 001 enters the creek (upstream of the creek crossing), the “water was clear and no sediment deposits were observed in Bynum Creek.”

On May 17, 2007, the permittee rebuilt the creek crossing as authorized by Nationwide Permit 3, as specified by the U.S. Army Corps of Engineers in a letter to the permittee’s consultant, Mr. Lindsey Henry (Midwest Environmental Consultants), dated January 10, 2007 (copy enclosed). Authorization conditions (see page two) included the requirement that, “The [riprap] material must be reasonably well graded, consisting of pieces varying in size from 20-pound up to and including at least 150-pound pieces. Generally the maximum weight of any piece should not be more than 500 pounds. Gravel and dirt should not exceed 15% of the total fill volume.”

To replace the general permit that expired on October 4, 2006, the department issued a new site-specific (i.e., individual) permit to Mertens Construction Company for their Auxvasse Quarry-South (MO-0133957) on October 30, 2007. The only reason Mertens Construction Company was required to change from a general to a site-specific permit was because the permit-in-lieu-of a TMDL requires elements, such as a Schedule of Compliance, not incorporated into general permits. The narrative criteria at 10 CSR 20-7.031(3)(A), (C) and (G) for NVSS will be achieved through the reconstruction of the road crossing and installation of BMPs to control storm water contributions of sediment to the creek.

In addition, the permit limits that will address the NVSS issue went into effect upon permit issuance. They include the same 70 mg/L daily and monthly discharge limits for TSS as in the old general permit. The daily and monthly Settleable Solids limits of 1.5 mL/L/hr and 1.0 mL/L/hr, will also remain unchanged. These limits have been shown to be achievable and protective of instream water quality at similar facilities using similar BMPs. The most noteworthy difference in the expression of discharge limits from the old to new permits is that non-storm water and storm water discharge limits for pollutants were delineated separately on

Mr. John DeLashmit  
Page Three

the old general permit, whereas the new site-specific permit requires the same pollutant discharge parameters at all three outfalls. In addition, monitoring reports will now have to be submitted quarterly, as opposed to the former annual submittal requirement.

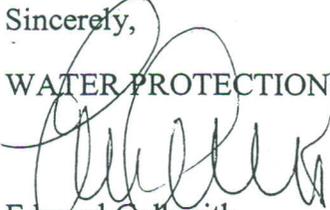
The permit also includes a Schedule of Compliance (see Section E of the permit, page 6) requiring the permittee replace the temporary berm directing storm water flow away from the crossing over Bynum Creek with a permanent berm within 90 days of permit issuance.

The Site Specific Missouri State Operating Permit for Mertens Construction Company's Auxvasse Quarry-South is enclosed (it may also be found at: <http://www.dnr.mo.gov/env/wpp/permits/wpcpermits-issued.htm>). The replacement of the creek crossing and installation of BMPs should result in WQS being achieved in Bynum Creek. In order to determine if the impairment has been eliminated post-crossing replacement and BMP installation, the department will conduct routine inspections of storm water controls at the quarry to confirm compliance with the WQS. In addition, the new permit includes a once per quarter, instream monitoring requirement of a "visual survey of bottom sediments" to ensure permit limits are being achieved. Instream Site S1 will be downstream of the stream crossing and will be monitored for presence/absence of solids (see Section D. of the permit, page 6 and enclosed map). The permit includes a reopener clause to allow for incorporation of stricter effluent limits if monitoring reveals that WQS are not being achieved.

With this letter, the department submits the Mertens Construction Company's Auxvasse Quarry-South permit to the U.S. Environmental Protection Agency (EPA) for concurrence that the permit will serve in lieu of a TMDL on Bynum Creek. We appreciate EPA taking prompt action on this matter. If you have any questions, please contact Ms. Donna Menown at (573) 526-1595, via e-mail at [donna.menown@dnr.mo.gov](mailto:donna.menown@dnr.mo.gov), or by mail at Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102.

Sincerely,

WATER PROTECTION PROGRAM



Edward Galbraith  
Director

EG:dml

Enclosures

c: Mr. Daniel R. Schuette, Director, Division of Environmental Quality  
Mr. Earl Pabst, Deputy Director, Division of Environmental Quality  
Missouri Clean Water Commission  
Ms. Mary Bryan, Attorney General's Office