



*Natural building blocks for quality of life*

February 15, 2006

Water Docket  
U.S. Environmental Protection Agency  
Mailcode 4101T  
Docket No. OW-2005-0007  
1200 Pennsylvania, Ave., NW  
Washington, D.C. 20460

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To Whom it May Concern:

The National Stone, Sand and Gravel Association (NSSGA) submit the following comments on EPA's proposed NPDES General Permit for Stormwater Discharges from Industrial Activities.

Based near the nation's capital, NSSGA is the world's largest mining association by product volume. Its member companies represent more than 90 percent of the crushed stone and 70 percent of the sand and gravel produced annually in the U.S. and approximately 115,000 working men and women in the aggregates industry. During 2004, a total of about 2.86 billion metric tons of crushed stone, sand and gravel, valued at \$16 billion, were produced and sold in the United States.

In the proposed Multi-Sector General Permit (MSGP) for storm water activities, Part 4, Subsection J, Sector J - Mineral Mining and Processing, there is a numeric effluent limitation and benchmark monitoring concentration (0.68mg/L) for nitrate plus nitrite nitrogen ("nitrogen") listed specifically for sand and gravel mining (SIC 1442, 1446). I can find no justification in Subsection J for: 1) the inclusion of this parameter for sand and gravel mining, or 2) the concentration limit of 0.68 mg/L. Based on the information that follows from various EPA sources, I can also find no justification for either inclusion of that parameter or the very low limit.

NSSGA therefore asks EPA to remove this parameter for sand and gravel mining in the final MSGP.

## **BACKGROUND**

Sand and gravel is any clean, unconsolidated mixture of fine and/or coarse aggregate material found in a natural deposit. Most sand and gravel deposits are formed by deposition in water. Examination of a geologic map of the United States shows that most sand and gravel are found along stream channels in rural areas. It is primarily composed of quartz (SiO<sub>2</sub>). There are no nitrogen compounds associated with the chemistry or geology of sand and gravel.

In contrast to the solid deposits of rock, which are sources of raw material for the crushed stone industry, sand and gravel deposits are in a loose state. These loose deposits are mined without the necessity of drilling and blasting. Dry sand and gravel deposits found in floodplains or upland areas can be mined with backhoes or front-end loaders. Wet deposits located in streams, lakes, rivers, estuaries or oceans have to be removed with dredges, draglines or cranes.

Sand and gravel deposits are usually shallow in depth and can be mined quickly in a matter of a few months to a few years. Crushed stone deposits are much deeper and more extensive and may take decades to mine. Since sand and gravel is a shallow deposit over smaller areas of land, reclamation can be concurrent with mining returning the land to another useful form quickly.

## **EPA STUDIES PROVIDE NO JUSTIFICATION FOR NITROGEN INCLUSION IN SAND AND GRAVEL MSGP**

### **EPA's MSGP Guidance Manual**

EPA's January 1999 *Guidance Manual for the Monitoring and Reporting Requirements of the NPDES MSGP* lists 0.68 mg/L for several industry sectors, including sand and gravel mining. However, it does not give any justification or references for that inclusion.

### **EPA's Storm Water Phase II Compliance Assistance Guide**

This Guidance issued in March 2000, lists on page 2-1, surveyed impaired river miles and the leading pollutants and leading sources. While nutrients are listed second after siltation, the leading source for nutrient pollution is agricultural operations. A 1996 survey, which is the basis for this 2000 storm water report, says on page 2-2 that urban runoff is a major source of water quality impairment nationwide. Sand and gravel mining is conducted in rural areas and in no way contributes to urban runoff or nutrient impairment of receiving streams.

### **Water Quality Criteria**

I reviewed EPA's own Nutrient Criteria Database for Parameter Statistics Report by State/Ecoregion (<http://oaspub.epa.gov/pls/nutdb/reports.control>) for nitrite and nitrate, dissolved, mg/L as nitrogen for "rivers and streams" waterbody types. This was the most logical waterbody type to review since sand and gravel are located near, and would either discharge to, or affect, rivers and streams. There are 14 state/ecoregions in the U.S. according to this report. For nitrite and nitrate nitrogen a total of 74,294 observations were listed that averaged 1.3748 mg/L nitrogen.

### **Nationwide Urban Runoff Program (NURP)**

The possible deleterious water quality effects of nonpoint sources in general, and urban runoff in particular, were recognized by the Water Pollution Control Act Amendments of 1972. Because of uncertainties about the true significance of urban runoff as a contributor to receiving water quality problems, Congress made treatment of separate stormwater discharge ineligible for Federal funding when it enacted the Clean Water Act in 1977. To obtain information that would help resolve these uncertainties, the Agency established the Nationwide Urban Runoff Program (NURP) in 1978. This five-year program was designed to examine such issues as:

- The quality characteristics of urban runoff, and similarities or differences at different urban locations;
- The extent to which urban runoff is a significant contributor to water quality problems across the nation, and;
- The performance characteristics and the overall effectiveness and utility of management practices for the control of pollutant loads from urban runoff.

The few states that have nitrogen listed as a parameter in their state storm water permits have a reference to EPA's NURP for justification for the general 0.68 mg/L concentration. For example, Tennessee's MSGP for Industrial Activities refers to EPA's NURP median concentration.

When reviewing the median nitrogen concentration from the NURP report for *Urban Open and Nonurban* areas, I find that 118 samples were taken at only 6 locations nationwide to arrive at 0.68 mg/L (if that is the justification for the 0.68 mg/L for sand and gravel in the first place). None of these samples were taken at or near a sand and gravel operation. In fact, if you average all locations in the NURP for nitrogen the mean is 1.145 mg/L. The median is 0.835 mg/L nitrogen. These data would lead you to believe the 0.68 mg/L concentration is actually too low based on the general data available from this and other EPA sources. However, once again, there is absolutely no correlation between urban runoff from any of the five geographic locations listed (residential, mixed, commercial, industrial, urban open and nonurban) and effluent discharges found at mostly rural sand and gravel mining sites.

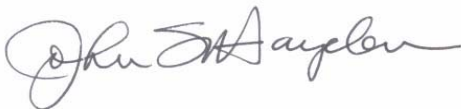
Relying on data from urban runoff statistics from a 1983 report to determine concentrations of nitrogen in mainly rural sand and gravel mining operations in 2006 makes no logical scientific sense, let alone public policy sense. This broad-brush approach to regulations is misdirected and not based on any semblance of relevant or accurate data for the industry EPA is trying to regulate.

#### **EPA's Drinking Water Standards for Nitrogen**

EPA's Drinking Water Standards and their Maximum Contaminant Levels (MCL) (EPA 816-F-02-013 July 2002, lists nitrate's MCL as 10 mg/L and nitrite's MCL as 1 mg/L. The source of both contaminants is listed as runoff from fertilizer use; leaching from septic tanks, sewage; and erosion of natural deposits (of nitrogen based materials). Sand and gravel mining contains no such sources. It is composed of predominantly quartz sand particles (SiO<sub>2</sub>). The chemistry and geology of the material does not include any form of nitrogen. Having a MSGP parameter for nitrogen at sand and gravel mining of 0.68 mg/L is unfounded.

I can find no justification in these EPA reports for EPA to 1) include this parameter in Mining Sector J of the MSGP, let alone only for sand and gravel producers, and 2) have such a low concentration limit based on the available EPA data from other sources. I look forward to receiving justification from EPA on the inclusion of both in Sector J of the MSGP.

Sincerely,



John S. Hayden, PG, REM  
Vice President, Environmental Services