

Dynan



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII  
901 NORTH 5TH STREET  
KANSAS CITY, KANSAS 66101

DEC 28 2007

Mr. Edward Galbraith, Director  
Water Pollution Control Program  
Water Protection and Soil Conservation Division  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, Missouri 65102

Dear Mr. Galbraith:

RE: Permit Limits in Lieu of a TMDL for Bynum Creek (WBID 709) and Dog Creek (WBID 510)

This letter responds to the submissions from the Missouri Department of Natural Resources (MDNR) dated November 7, 2007, and December 10, 2007, regarding Bynum Creek and Dog Creek. Bynum and Dog Creeks were listed as impaired on Missouri's 1998 §303(d) list, for sediment and on the 2002 §303(d) list, for Non-Volatile Suspended Solids (NVSS). MDNR proposes to correct the impairments with National Pollutant Discharge Elimination System (NPDES) permit limits in lieu (PIL) of Total Maximum Daily Loads (TMDLs). The following water body segments are proposed to be corrected through permit limits.

Water Body	WBID	Impairment	Source	Permit #	Year added to list
Bynum Creek	709	NVSS	Martens' Construction Company's South Auxvasse Quarry	MO-0133957	1998
Dog Creek	510	NVSS	Trager Limestone, L.L.C.'s Gallatin Quarry	MO-0134091	1998

Waters require TMDLs when certain pollution control requirements are not stringent enough to implement water quality standards (WQS) for such waters. To exempt an impaired water from the TMDL process, the pollution control requirements cited in the regulation under 130.7(b)(1)(i), (ii), and (iii) must be established and enforced by federal, state, or local laws or regulations, and be stringent enough that, when applied, the receiving water will meet WQS.

In regards to Bynum Creek and Dog Creek, Federal regulations at 40 CFR 130.7(b)(1)(ii) provide that where ["more stringent effluent limitations (including prohibitions) required by either state or local authority preserved by section 510 of the Act, or Federal authority (law, regulation, or treaty)"] are stringent enough to implement WQS, a TMDL is not required. The United States Environmental Protection Agency (EPA), Region 7, has completed its review of



these submissions, and other submitted information supporting these PILs, and concur that TMDLs are not required for these impaired water bodies because the impairments are being addressed through more stringent effluent limitations as per 40 CFR 130.7(b)(1)(ii).


Mertens' Construction Company's South Auxvasse Quarry has been identified as the sole source of the NVSS impairment on Bynum Creek as a result of stream surveys conducted above and below the south quarry. A site specific NPDES permit for Mertens' Construction Company's South Auxvasse Quarry was issued on October 30, 2007. The permit includes a schedule of compliance to commence within 90 days of issuance. Permit limits, which will achieve WQS for NVSS, will be imposed immediately on issuance. In review of the site specific permit, the effluent limits are 70 milligrams per liter (mg/L) daily maximum and monthly average TSS and 1.5 ml/L/hour daily maximum and 1.0 milliliters per liter per hour (ml/L/hour) monthly average Settleable Solids. Additionally, the permit requests instream monitoring with a visual survey of the receiving stream ten yards or less below outfall S1. The permit also includes a reopener clause to allow for stricter limits if monitoring shows WQS violations.

Trager Limestone, L.L.C.'s Gallatin Quarry has been identified as the sole source of the NVSS impairment on Dog Creek as a result of stream surveys conducted above and below the quarry. A site specific NPDES permit for Trager Limestone, L.L.C.'s Gallatin Quarry was issued on November 16, 2007. The permit includes a schedule of compliance to commence within 30 days of issuance. Permit limits, which will achieve WQS for NVSS, will be imposed immediately on issuance. In review of the site specific permit, the effluent limits are 70 mg/L daily maximum and monthly average TSS and 1.5 ml/L/hour daily maximum and 1.0 ml/L/hour monthly average Settleable Solids. Additionally, the permit requests instream monitoring with a visual survey of the receiving stream ten yards or less below outfall S1. The permit also includes a reopener clause to allow for stricter limits if monitoring shows WQS violations.

Enclosed with this letter are the Region 7 4b Rationale Documents which summarize EPA's approval of the PILs. EPA believes the separate elements of the PILs described in the enclosed forms adequately address the pollutant of concern.

If you have any questions or concerns in regards to this matter, please do not hesitate to contact Tabatha Adkins at (913) 551-7128.

Sincerely,

  
William A. Spratlin  
Director  
Water, Wetlands, and Pesticides Division

Enclosure

cc: John Hoke, MDNR  
Rob Morrison, MDNR  
Phil Schroeder, MDNR



## EPA Region 7 4B Rationale

**Water body ID(s):** MO\_0709 **State:** MO  
**Water body Names(s):** BYNUM CREEK  
**Pollutant(s):** NON-VOLATILE SUSPENDED SOLIDS (NVSS)  
**HUC(s):** 10300102  
**Basin:**  
**Tributary(ies):** AUXVASSE CREEK  
**First Listing Cycle:** 1998  
**Submittal Date:** 11/7/2007 **Approved:** Yes

### Submittal Letter

*State submittal letter indicates final Maximum Daily Load(s) for specific pollutant(s)/water(s) were adopted by the state, and submitted to EPA for approval under section 303(d) of the Clean Water Act. Include date submitted letter was received by EPA and date of receipt of any revisions.*

The United States Environmental Protection Agency (EPA) received this submittal with cover letter, check list, final permit, stream survey data, map of quarry, Nationwide permit (NWP) 3 and fact sheet on November 7, 2007.

### Concern

*A statement of the problem causing the impairment.*

The sole source of the impairment is Mertens? Construction Company?s South Auxvasse Quarry (permit numbers: originally general permit MO-G490032 and now site specific permit MO-0133957). The listing was based on stream surveys conducted in 1994 and 1998. Specifically the work yard, stockpiles and creek crossing at the south quarry were listed as the sole source of the impairment. Mineral solids coming from eroding mine waste materials and stockpiles get into the stream and settle on the bottom, smothering natural substrates, aquatic invertebrates and fish eggs.

### Implementation Strategy

*A description of the proposed implementation strategy and supporting pollution controls necessary to achieve WQS, including the identification of point and nonpoint source loadings that when implemented assure the attainment of all applicable WQS.*

A site specific permit was issued on October 30, 2007 to replace the previous general permit. Permit limits include 70 mg/L daily maximum and monthly average for TSS and 1.5 ml/L/hour daily maximum and 1.0 ml/L/hour monthly average for Settleable Solids. This WLA will ensure that water quality standards (WQS) will be achieved through the narrative standards for NVSS.

### Time

*An estimate or projection of the time when WQS will be met.*

October 30, 2007 when the South Auxvasse Quarry was issued the new limits by the site specific permit, WQS should be achieved in Bynum Creek.

**Schedule**

*A reasonable schedule for implementing the necessary pollution controls.*

The site specific permit was issued October 30, 2007 and replaces all previous general permits. The South Auxvasse Quarry permit limits remained the same for TSS and Settleable Solids but require all three outfalls to have the same discharge parameters. The final effluent limits will become effective the date of permit issuance (October 30, 2007). The permit also includes a schedule of compliance for the permittee to replace the temporary berm with a permanent berm to direct storm water flow away from the crossing over Bynum Creek within 90 days of issuance (October 30, 2007). Best Management Practices have already been implemented. Berms have been added around all processing and stockpile areas. Permittee rebuilt the creek crossing as specified by the United States Army Corps of Engineers, NWP 3.

**Monitoring**

*A description of, and schedule for, monitoring milestones for tracking and reporting progress to EPA on the implementation of the pollution controls.*

Instream monitoring will consist of a visual survey of the receiving stream ten yards or less below outfall S1. Visual surveys will include examination of the nearest downstream riffle and the nearest downstream pool each a section ten feet long by ten feet wide (if the wetted area is less than ten feet, the examined area will encompass the entire stream width). Surveyor shall note and include the date and weather conditions. The report will include estimated percent fines for each rifle and pool, and be submitted with the quarterly discharge monitoring reports to ensure permit limits are being met and WQS are achieved.

**Commitment to Revise**

*A commitment to revise, as necessary, the implementation strategy and pollution controls if progress towards meeting WQS is not being shown.*

A reopener clause has been included in the permit to allow for incorporation of stricter effluent limits if monitoring shows that WQS are not being achieved.

\*\*\*\*\* **Pollution control requirements in the submittal** \*\*\*\*\*

National Pollution Discharge and Elimination System (NPDES)

STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



WQMB Rec'd NOV 07 2007

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No. MO-0133957

Owner: Mertens Construction Company, Inc.  
Address: P.O. Box 52, Kingdom City, MO 65262

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Mertens Construction Co., Inc. - Auxvasse Quarry - South  
Facility Address: 2303 Old US Highway 54, Auxvasse, MO 65231

Legal Description: See Page 2  
Latitude/Longitude: See Page 2

Receiving Stream: See Page 2  
First Classified Stream and ID: See Page 2  
USGS Basin & Sub-watershed No.: See Page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

See Page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

October 30, 2007  
Effective Date

October 29, 2012  
Expiration Date  
MO 780-0041 (10-93)

Doyle Childers, Director, Department of Natural Resources  
Executive Secretary, Clean Water Commission

Edward Galbraith, Director of Staff, Clean Water Commission

Outfall #001 - Storm water runoff - SIC #1422

Legal Description: SE ¼, NE ¼, Sec. 34, T49N, R9W, Callaway County  
Latitude/Longitude: +3859022 /-09154313

Receiving Stream: Bynum Creek (C)  
First Classified Stream and ID: Bynum Creek (C) (00709) 303(d) List  
USGS Basin & Sub-watershed No.: (10300102 - 280001)

Outfall #002 - Storm water runoff - SIC #1422

Legal Description: SE ¼, NE ¼, Sec. 34, T49N, R9W, Callaway County  
Latitude/Longitude: +3858857/-09154297

Receiving Stream: Bynum Creek (C)  
First Classified Stream and ID: Bynum Creek (C) (00709) 303(d) List  
USGS Basin & Sub-watershed No.: (10300102 - 280001)

Outfall #003 - Storm water runoff - SIC #1422

Legal Description: SE ¼, NE ¼, Sec. 34, T49N, R9W, Callaway County  
Latitude/Longitude: +3858793/-09154621

Receiving Stream: Bynum Creek (C)  
First Classified Stream and ID: Bynum Creek (C) (00709) 303(d) List  
USGS Basin & Sub-watershed No.: (10300102 - 280001)

Outfall #S1 - SIC #1422

Instream monitoring approximately 150 yards downstream of outfall 002. See D. RECEIVING WATER MONITORING.

Legal Description: SE ¼, NE ¼, Sec. 34, T49N, R9W, Callaway County  
Latitude/Longitude: +3858779/-09154410

Receiving Stream: Bynum Creek (C)  
First Classified Stream and ID: Bynum Creek (C) (00709) 303(d) List  
USGS Basin & Sub-watershed No.: (10300102 - 280001)

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

PAGE NUMBER 3 of 6

PERMIT NUMBER MO-0133957

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall 001, 002, 003</u>						
Flow	gpd	*		*	once/quarter	24 hour estimate
Total Suspended Solids	mg/L	70		70	once/quarter	grab
Settleable Solids***	mL/L/hr	1.5		1.0	once/quarter	grab
Oil and Grease	mg/L	15		10	once/quarter	grab
pH - units	SU	**		**	once/quarter	grab
<u>Outfall S1 &amp; S2</u>						
Visual Survey (see D. Receiving Stream Monitoring)		*		*	once/quarter	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE January 28, 2008.

**B. STANDARD CONDITIONS**

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

MO 780-0010 (8/91)

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**

- \* Monitoring requirement only.
- \*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.
- \*\*\* An emergency exceedence of effluent limitations for Settleable Solids is authorized due to precipitation exceeding the highest 1-in-10-year, 365-day rainfall or the highest 25-year, 24-hour storm event. The burden of proof lies with the permit holder to document that the precipitation event occurred. This exemption from effluent limits does not apply to dry weather flows such as dewatering of pits.

C. SPECIAL CONDITIONS

1. This permit does not authorize mining activity, only water discharges that result from mining activity. A permit authorizing mining activities must be obtained from the Land Reclamation Program.
2. This permit does not authorize discharges of waste material, such as concrete and water from washing of concrete delivery trucks, into waters of the state. This permit does not authorize discharges to waters of the state from any location other than the outfalls described on page one of this permit. Waste concrete from delivery trucks shall be washed into a dedicated shallow depression or other device designed to capture the concrete and allow it to dry. Washing waste concrete into waters of the state or in a location where it is likely to enter waters of the state, such as a drainage ditch, is prohibited by State Law and Regulations (644.051 RSMo, 10 CSR 20-6.010).
3. Non-storm water discharges are those caused by something other than storm water runoff and include mine pit dewatering, vehicle and equipment wash water and all dry-weather discharges from processing plants. This permit does not authorize the discharge of waters with added detergents, acids, caustics, solvents, or other additives.
4. Storm water samples shall be collected within the first 60 minutes of storm events of 0.1 inches or greater, that result in a discharge. If a discharge does not occur during the reporting period, the permittee shall submit a report of no discharge to the department. All outfalls must be clearly marked in the field.
5. Permittee shall provide sediment and erosion control sufficient to prevent pollution to waters of the state and comply with the effluent limitations and other permit conditions. This may require the construction of properly designed sediment basins or other treatment structures. The permittee shall not allow mined material or overburden to enter waters of the state.
6. If vehicle or equipment washing/rinsing is conducted at the facility or other similar process wastewater is generated, permittee shall treat the resulting wastewater prior to discharge to waters of the state in order to meet the effluent limitations and other permit conditions.
7. This permit authorizes operation of asphalt or concrete batch plants within the quarry property, if such batch plants will discharge to an existing outfall. If the facility desires to establish a new outfall, this permit must be modified.
8. If dumping or disposal of waste concrete, waste asphalt, waste clay or glass products; or waste rock is conducted at the facility, permittee shall prevent the material from entering waters of the state. Any resulting wastewater or leachate from these activities must be treated prior to discharge. Discharging these materials into waters of the state during off site activities is also prohibited.
9. Permittee shall prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment maintenance, or warehousing activities and thereby prevent the contamination of storm water from these substances.
10. Permittee shall provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
11. Permittee shall store all paint, solvents, petroleum products, petroleum waste products, and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water, or provide other prescribed BMP's such as plastic lids, portable spill pans or containment to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Permittee shall provide spill prevention, control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
12. Permittee shall designate an individual as responsible for environmental matters at the facility who will serve as a contact for the department. Permittee shall notify the department in writing of a personnel change for this position. One individual may be the contact for multiple facilities so long as that person can effectively communicate with the department on every facility.
13. Permittee shall maintain records of all pumped discharges that enter surface waters of the state. These records must include an estimate of the volume, the date and time(s), and the location of each discharge.

C. SPECIAL CONDITIONS (continued)

14. Permittee shall provide for inspection by facility staff, at least once per month, of all storm water pollution prevention structures, storm water and wastewater treatment structures, and of the facility in general to ensure that structures are properly maintained and effective, and that any Best Management Practices are continually implemented and effective. Inspections must be documented in the form of a written report or checklist. The reports must note any spills, leaks, or maintenance needs of any of the structures or practices. The reports must also describe action taken to correct or repair deficiencies. Areas of a quarry that have been permanently or temporarily stabilized need only be inspected once per year. Monthly inspections shall continue if the stabilized area is re-disturbed for any reason. Written records of inspections must be kept onsite and made available to the department upon request.
15. Stormwater discharge monitoring is not required of areas stabilized by a durable non-erosive surface, such as hauling roads that are completely covered with gravel. Monitoring or further improvements may be required if department staff determine that the improvements are not adequate to protect water quality. Storm water monitoring is not required at areas that have been revegetated, nor at areas that were never subjected to mining activities. Storm water monitoring is required of storm water runoff from unvegetated piles of overburden, product stockpiles, soil stockpiles, or other disturbed areas.
16. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C), and (D), 304(b)(2) and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) Controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test, or other information indicates changes are necessary to assure compliance with Missouri Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's current 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

17. Water Quality Standards

- (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
  - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
  - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (5) There shall be no significant human health hazard from incidental contact with the water;
  - (6) There shall be no acute toxicity to livestock or wildlife watering;
  - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

D. RECEIVING WATER MONITORING CONDITIONS

1. Instream monitoring shall consist of a visual survey of the receiving stream. This survey shall be conducted at (10 yards or less) below outfall S1. In the event that a safe, accessible location is not present at this location, a suitable location can be negotiated with the department.
2. Each visual survey shall include examination of the nearest downstream riffle\* and the nearest downstream pool\*\* from the locations indicated in condition #1., above. This means there will be a total of two areas examined. The permittee shall choose a 10 foot long by 10 foot wide square section of the wetted stream area of both the pool and riffle. In the event that the wetted stream width is less than 10 feet wide, the area examined shall be 10 feet long and encompass the entire stream width.
3. For each pool and riffle report the estimated percent (0-100%) of the stream bottom covered by light colored limestone fine material washed from the permitted facility.
4. On your data sheets, report this under, "Visual survey of bottom sediments," and report your findings as a percent. This report shall be submitted with your quarterly discharge monitoring reports.
5. When conducting in-stream monitoring, the permittee shall record the date, weather conditions and submit them with the visual survey.
6. The exact same site location for each pool and each riffle shall be examined during each survey. A durable marker shall be placed at the survey locations that will survive weather and high water events. Should hydrologic changes, such as natural stream meandering, require a change in monitoring location, please contact the department.
7. Should the permittee require additional instructions or training, please contact the department.

\*Riffle: The portion of the stream characterized by a steep descent in the streambed and where the water breaks over rocks and/or boulders.

\*\*Pool: That portion of a stream that is relatively deep and slow moving.

E. SCHEDULE OF COMPLIANCE

1. Within 90 days of issuance of this permit, permittee shall replace the temporary berm with a permanent berm to direct storm water flow away from the crossing over Bynum Creek. The purpose of this berm is to reduce the potential for solids contributions from the constructed crossing, and to reduce maintenance of crossing due to erosive forces.

**Missouri Department of Natural Resources  
Factsheet**

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Permits in Missouri are issued by the Director of the Missouri Department of Natural Resources (department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). NPDES operating permits are issued for a period of five (5) years unless otherwise specified.

A Factsheet gives pertinent information regarding the applicable regulations, rational for the development of the NPDES Missouri State Operating Permit (operating permit), and the public participation process for operating permit listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for a Major , Minor , Industrial Facility ; Variance ;  
Master General Permit ; General Permit Covered Facility ; and/or permit with widespread public interest .

**Facility Information**

NPDES #: MO-0133957  
 Facility Name: Mertens Construction Co., Inc. - Auxvasse Quarry - South  
 Facility Address: 2303 Old US Highway 54, Auxvasse, MO 65231  
 Owner's Name: Mertens Construction Company, Inc.  
 Owner's Address: P.O. Box 52, Kingdom City, MO 65262

Facility Region: Northeast  
 Facility County: Callaway

Facility Type: Quarry  
 Facility SIC Code(s): 1422

Facility Description: Limestone quarry.

Application Date: N.A.  
 Expiration Date: N.A.  
 Last Inspection: 6-6-07 In Compliance ; Non-Compliance

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001, 002, 003	Varies	Primary	Industrial Storm water	0.0

**Outfall #001** - Storm water from limestone quarry - SIC #1422

Legal Description: SE ¼, NE ¼, Sec. 34, T49N, R9W, Callaway County  
 Latitude/Longitude: +3858591 /-09154157

Receiving Stream: Bynum Creek (C)  
 First Classified Stream and ID: Bynum Creek (C) (00709) 303(d) List  
 USGS Basin & Sub-watershed No.: (10300102 - 280001)

**Outfall #002** - Storm water from limestone quarry - SIC #1422  
 Legal Description: SE ¼, NE ¼, Sec. 34, T49N, R9W, Callaway County  
 Latitude/Longitude: +38598477/-09154207

Receiving Stream: Bynum Creek (C)  
 First Classified Stream and ID: Bynum Creek (C) (00709) 303(d) List  
 USGS Basin & Sub-watershed No.: (10300102 - 280001)

**Outfall #003** - Storm water from limestone quarry - SIC #1422  
 Legal Description: SE ¼, NE ¼, Sec. 34, T49N, R9W, Callaway County  
 Latitude/Longitude: +3858494/-09154357  
 Receiving Stream: Bynum Creek (C)  
 First Classified Stream and ID: Bynum Creek (C) (00709) 303(d) List  
 USGS Basin & Sub-watershed No.: (10300102 - 280001)

Water Quality History: Bynum Creek is on Missouri's 1998 303(d) List for sediment and the 2002 303(d) List for nonvolatile suspended solids. The sole source of this pollution was the crossing over Bynum Creek constructed by the former owners of the facility (Auxvasse Stone & Gravel Co.).

Comments: The crossing has since been stabilized (i.e., replaced by Mertens Construction 5/17/07), and existing Best Management Practices at the quarry are believed to be effective at preventing further pollution of Bynum Creek (although the temporary berm diverting storm water runoff away from the crossing will need to be replaced with a permanent berm). The department will continue assessing the stream periodically, and eventually recommend delisting the stream if it continues to be in compliance with water quality standards. If the stream is removed from a U.S. EPA-approved 303(d) List and U.S. EPA deems that water quality standards are being met, the facility may apply for coverage under the Master General Permit for quarries, MO-G49.

**Receiving Stream Information**

Please mark the correct designated waters of the state categories of the receiving stream.

All Other Waters [10 CSR 20-7.015(8)]: Yes ; No

10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1<sup>st</sup> classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

**RECEIVING STREAM(S) TABLE:**

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Bynum Creek	C	0709	LWW, AQL, WBC(B)	10300102	Ozark/Moreau/Loutre

\* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND).

\*\* - Ecological Drainage Unit

\*\*\* - UAA conducted on DATE and approved on DATE or disapproved on DATE.

\*\*\* - UAA has not been conducted.

**RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:**

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Bynum Creek (C)	0.0	0.0	0.1

**MIXING CONSIDERATIONS:**

Mixing Zone: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].  
Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].

**RECEIVING STREAM MONITORING REQUIREMENTS:**

Site S1.

PARAMETER(S)	SAMPLING FREQUENCY	SAMPLE TYPE	LOCATION
Presence/absence of solids	once/month	visual survey	Approximately 150 yards downstream of outfall 002

Comments: Instream monitoring required to verify efficacy of Best Management Practices and treatment devices demonstrating that the receiving stream has returned to compliance with water quality standards.

During a site visit on 6-6-07, department staff noted that no solids were present in the receiving stream. It is believed that the actions taken by the permittee to stabilize the creek crossing were effective in eliminating contributions of solids to the stream.

**Rationale and Derivation of Effluent Limitations & Permit Conditions**

**ANTI-BACKSLIDING:**

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); CFR §122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions. (Staff may also add or remove any language needed)

- All limits in this Factsheet are at least as protective as those previously established; therefore, backsliding does not apply.

- Backsliding proposed in this Factsheet for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 § CFR 122.44.

**ANTIDegradation:**

Policies which ensure protection of water quality for a particular water body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters. Antidegradation plans are adopted by each State to minimize adverse effects on water.

Not Applicable .

Applicable, but deferred .

As per [10 CSR 20-7.031(2)(D)], the three (3) levels of protection provided by the antidegradation policy in subsections (A), (B), and (C) of this section shall be implemented according to procedures developed by the department. *Missouri Antidegradation Rule and Implementation Procedure*, when approved, shall be applicable to new or upgraded/expanded facilities only.

**APPLICABLE PERMIT PARAMETERS:**

Effluent parameters contained in Factsheets and Missouri State Operating Permits are obtained from Technology Based Effluent Limit (TBEL), Missouri's Effluent Regulations [10 CSR 20-7.015], Missouri's Water Quality Standards [10 CSR 20-7.031], previous Missouri State Operating Permits, and from Operating Permit Applications.

**BIO-SOLIDS, SLUDGE, & SEWAGE SLUDGE:**

Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sludge is any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

Applicable (renewal and modifications to existing operating permits) ;

This facility has been approved to land apply as per Permit Standard Conditions III and a department approved bio-solids management plan.

Applicable (new operating permits) ;

The permittee has proposed that sludge and bio-solids are not to be removed by a contract hauler for this facility. The permittee has proposed to land apply the sludge and bio-solids as per the Permit Standard Conditions Part III. The department has reviewed and approved the permittee's bio-solids management plan and therefore is approved to land apply said sludge and bio-solids as a means of treatment or disposal.

Not Applicable ;

This condition is not applicable to the permittee for this specific facility.

**COMPLIANCE AND ENFORCEMENT:**

Action taken by the department to resolve violations of the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

Applicable ;

Not Applicable ;

The permittee/facility is not under enforcement action and is considered to be in compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

**REASONABLE POTENTIAL ANALYSIS (RPA):**

Limitations must control all pollutants or pollutant parameters that are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above the Missouri Water Quality Standards.

Applicable ;

A RPA was conducted for this facility for (parameters) and determined that this facility has the potential to cause or contribute to violations of Water Quality. Please see APPENDIX C -- RPA RESULTS.

Not Applicable ;

A RPA was not conducted for this facility.

**REMOVAL EFFICIENCY:**

Removal efficiency is one method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD<sub>5</sub>) and Total Suspended Solids (TSS) for domestic wastewater sources.

Applicable ;

Secondary Treatment is 85% removal [40 CFR 133.102(a)(3) & (b)(3)].

Applicable ;

Equivalent to Secondary Treatment is 65% removal [40 CFR 105(a)(3) & (b)(3)].

Not Applicable ;

This facility is not required to meet a designated removal efficiency.

**SCHEDULE OF COMPLIANCE (SOC):**

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Applicable ;

The SOC is written in compliance with [10 CSR 20-7.031(10)]. Within 90 days of issuance of this permit, permittee shall replace the temporary berm with a permanent berm to direct storm water flow away from the crossing over Bynum Creek. The purpose of this berm is to reduce the potential for solids contributions from the constructed crossing, and to reduce maintenance of crossing due to erosive forces.

Not Applicable ;

This permit does not contain a SOC.

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP):**

A plan to schedule activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. The plan may include, but is not limited to, treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Applicable ;

A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

Not Applicable ;

At this time, the permittee is not required to develop and implement a SWPPP because the permittee is already incorporating the elements of such a plan in their operation.

**VARIANCE:**

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law § 644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law § 644.006 to 644.141.

Applicable ;

Not Applicable ;

This operating permit is not drafted under premises of a petition for variance.

**WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:**

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the department to release into a given stream after the department has determined to total amount of pollutant that may be discharged into that stream without endangering its water quality.

Applicable ;

Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

- Where C = downstream concentration
- Cs = upstream concentration
- Qs = upstream flow
- Ce = effluent concentration
- Qe = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Not Applicable ;  
Wasteload allocations were not calculated.

**WLA MODELING:**

Applicable ;

Not Applicable ;  
A WLA study was either not submitted or determined not applicable by department staff.

**WHOLE EFFLUENT TOXICITY (WET) TEST:**

As per [10 CSR 20-7.031(1)(CC)], a toxicity test conducted under specified laboratory conditions on specific indicator organism; and as per [40 CFR § 122.2], the aggregate toxic effect of an effluent measured directly by a toxicity test.

Applicable ;

Effective July 15, 2005, upon revision, renewal, modification, or issuance, all Missouri State Operating Permits under the NPDES will incorporate use of the following guidelines for determining the applicability and requirements for WET testing. WET testing requirements are established by the WET Test Policy, 120 § 308 of the Federal Water Pollution Control Act, and 40 CFR § 136.

Please check WET tests applicability for this facility:

- All major discharge facilities ;
- Facilities that are exceeding or routinely exceed their design flow ;
- Most municipals, domestic sewage dischargers ;
- Industrial dischargers or other dischargers that may alter their production processes throughout the year ;
- Facilities that may handle large quantities of toxic substances, or substances that are toxic in large amounts ; and
- Facilities that have been granted seasonal relief of numeric limitations .

Not Applicable ;  
At this time, the permittee is not required to conduct WET test for this facility.

**303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):**

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

Applicable ;

Bynum Creek is listed on the Missouri's 1998 303(d) List for sediment and the 2002 303(d) List for nonvolatile suspended solids (fines from the creek crossing).

This facility was considered the sole source of the above listed pollutant(s). The source of pollutants at the facility has been eliminated.

Not Applicable ;

This facility does not discharge to a 303(d) listed stream.

**Outfall #001, 002 & 003**

**EFFLUENT LIMITATIONS TABLE:**

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	NO	
TOTAL SUSPENDED SOLIDS	MG/L	8/9	70		70	NO	
SETTLABLE SOLIDS	ML/L/HR	8/9	1.5		1.0	NO	
PH (S.U.)	SU	1/2/3	6.5-9		6.5-9	YES	6.5-9.0
OIL & GREASE (MG/L)	MG/L	1/2/3	15		10	NO	

\* - Monitoring requirement only

**Basis for Limitations Codes:**

- |  |                                   |
|--|-----------------------------------|
| 1. State or Federal Regulation/Law       | 6. Antidegradation Policy         |
| 2. Water Quality Standard (includes RPA) | 7. Water Quality Model            |
| 3. Water Quality Based Effluent Limits   | 8. Best Professional Judgement    |
| 4. Lagoon Policy                         | 9. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy                        | 10. WET test Policy               |

**OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:**

- **Total Suspended Solids (TSS)** Effluent limitations have been retained from previous state operating permit, and are considered protective of instream water quality.
- **Settleable Solids** Effluent limitations have been retained from previous state operating permit, and are considered protective of instream water quality.
- **pH** Effluent limitation has been established in accordance with water quality standards. [10 CSR 20-7.031(4)(E)].
- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.

## **Administrative Requirements**

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

### **PUBLIC NOTICE:**

As per the Missouri Clean Water Law, the Missouri Clean Water Commission, and the federal Clean Water Act, persons wishing to comment on Missouri State Operating Permits are directed to do so by a department approved Public Notice coversheet. This Public Notice coversheet is attached to a Missouri State Operating Permit during the Public Notice period.

The Public Notice period for this operating permit began on 8-17-07 and ended on 9-18-07. Minor permit language changes have been made to the permit as a result of comments from the permittee and department staff.

**Date of Factsheet: 7-17-07**

Curt B. Gateley, ES-IV  
Water Protection Program  
(573) 526-1155  
curtis.gateley@dnr.mo.gov