STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

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, 92nd Congress) as amended,

Permit No.	MO-0100218
Owner:	The Doe Run Resources Corporation d/b/a The Doe Run Company
Address:	1801 Park 270 Drive, St. Louis, MO 63146
Continuing Authority:	The Doe Run Company
Address:	6854 Highway KK, Bunker, MO 63629
Facility Name:	The Doe Run Company – West Fork
Facility Address:	6854 Highway KK, Bunker, MO 63629
Legal Description:	see page two
UTM Coordinates:	see page two
Receiving Stream:	see page two
First Classified Stream and ID:	West Fork Black River (P) WBID #2755; 303(d)
USGS Basin & Sub-watershed No.:	Middle West Fork Black River (11010007-0103)

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

FACILITY DESCRIPTION

Metallic Mineral Mine, SIC # 2031; NAICS # 212231. See pages two and three for additional information.

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 Sections 640.013, 621.250, and 644.051.6 of the Law.

August 1, 2017
Effective Date

Edward B. Galbraith, Director, Division of Environmental Quality

March 31, 2020
Expiration Date

David J. Lamb, Acting Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

OUTFALL #001 – Process wastewater; SIC # 1031; NAICS # 212231
Mine dewatering, tailings basin, industrial sludge, and stormwater; settling.

Legal Description:	NE¼, SE¼, Sec.1, T32N, R2W, Reynolds County
UTM Coordinates:	X= 667686, Y= 4150953
Receiving Stream:	West Fork Black River*
First Classified Stream and ID:	West Fork Black River (P) WBID #2755; 303(d)
USGS Basin & Sub-watershed No.:	Middle West Fork Black River (11010007-0103)
Design Flow:	25 MGD **
Average Flow:	15.9 MGD ***

OUTFALL #002 – Domestic wastewater; SIC # 1031; NAICS # 212231
No discharge; subsurface no-pressure system. Discharges from these outfalls are no longer authorized, and shall be subject to 40 CFR 122.41(m) and reported according to 40 CFR 122.41(m)(3)(i) & (ii).

Legal Description:	NW¼, SE¼, Sec.1, T32N, R2W, Reynolds County
UTM Coordinates:	X= 667160, Y= 4151118
Receiving Stream:	Tributary to West Fork Black River
First Classified Stream and ID:	West Fork Black River (P) WBID #2755; 303(d)
USGS Basin & Sub-watershed No.:	Middle West Fork Black River (11010007-0103)
Design Flow:	0 MGD
Average Flow:	0 MGD

OUTFALL #003 – Emergency spillway of process wastewater; SIC # 1031; NAICS # 212231

Legal Description:	NW¼, SE¼, Sec.1, T32N, R2W, Reynolds County
UTM Coordinates:	X= 667275, Y= 4151006
Receiving Stream:	West Fork Black River (P)
First Classified Stream and ID:	West Fork Black River (P) WBID #2755; 303(d)
USGS Basin & Sub-watershed No.:	Middle West Fork Black River (11010007-0103)
Design Flow:	0 MGD
Average Flow:	0 MGD

OUTFALL #004 – Emergency spillway of process wastewater; SIC # 1031; NAICS # 212231

Legal Description:	SE¼, SE¼, Sec.1, T32N, R2W, Reynolds County
UTM Coordinates:	X= 667190, Y= 4150483
Receiving Stream:	West Fork Black River (P)
First Classified Stream and ID:	8-20-13 MUDD V1.0 (C) WBID #3960
USGS Basin & Sub-watershed No.:	Middle West Fork Black River (11010007-0103)
Design Flow:	0 MGD
Average Flow:	0 MGD

* The facility has created a diversion channel within the stream due to a mine collapse. The facility has extended the discharge pipe to meet the new channel. See the fact sheet for additional information.

** These are expanded flows from the previous permit. Allowed per the March 2013 Water Quality and Antidegradation Review completed by the Engineering Section, public noticed May 16, 2013, and completed July 18, 2013. This value is the estimate from the antidegradation analysis. The value reported with the permit renewal materials was 14.43 MGD. The value reported in the reapplication on February 6, 2017 is 25 MGD. This value is accepted by the department.

*** The average flow was presented in the reapplication materials from February 6, 2017.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001	TABLE A-1 INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective on **August 1, 2017** and remain in effect through **July 31, 2019**. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
PHYSICAL						
Flow	MGD	*		*	once/week	24 hr. total
CONVENTIONAL						
pH (Note 1)	SU	6.5 – 9.0		6.5 – 9.0	once/month	grab
Total Suspended Solids	mg/L	30		20	once/month	grab
METALS						
Cadmium, Total Recoverable	µg/L	1.2		0.6	once/month	grab
Lead, Total Recoverable	µg/L	24.6		12.2	once/month	grab
Nickel, Total Recoverable	µg/L	*		*	once/month	grab
Thallium, Total Recoverable	µg/L	10.3		6.3	once/month	grab
Zinc, Total Recoverable	µg/L	586.8		292.5	once/month	grab
NUTRIENTS						
Nitrate + Nitrite as N	mg/L	2.0		2.0	once/month	grab
Nitrogen, Total (TN)	mg/L	*		*	once/month	grab
Phosphorus, Total (TP)	mg/L	0.5		0.5	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE SEPTEMBER 28, 2017. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN THE DISCHARGED WATER IN OTHER THAN TRACE AMOUNTS.						
OTHER						
Whole Effluent Toxicity, Chronic (Special Condition #D.1.)	TUc	2.6			once/quarter ◊	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2017. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN THE DISCHARGED WATER IN OTHER THAN TRACE AMOUNTS.						
METALS						
Copper, Total Recoverable	µg/L	43.5		21.7	once/year	grab
Mercury, Total Recoverable	µg/L	2.0		1.0	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED YEARLY; THE FIRST REPORT IS DUE JANUARY 28, 2018. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN THE DISCHARGED WATER IN OTHER THAN TRACE AMOUNTS.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #001	TABLE A-2 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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 on **August 1, 2019** and remain in effect through expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
PHYSICAL						
Flow	MGD	*		*	once/week	24 hr. total
CONVENTIONAL						
pH (Note 1)	SU	6.5 – 9.0		6.5 – 9.0	once/month	grab
Total Suspended Solids	mg/L	30		20	once/month	grab
METALS						
Cadmium, Total Recoverable	µg/L	1.0		0.5	once/month	grab
Lead, Total Recoverable	µg/L	19.4		9.7	once/month	grab
Nickel, Total Recoverable	µg/L	229		114	once/month	grab
Thallium, Total Recoverable	µg/L	10.3		6.3	once/month	grab
Zinc, Total Recoverable	µg/L	586.8		292.5	once/month	grab
NUTRIENTS						
Nitrate + Nitrite as N	mg/L	2.0		2.0	once/month	grab
Nitrogen, Total (TN)	mg/L	*		*	once/month	grab
Phosphorus, Total (TP)	mg/L	0.5		0.5	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE SEPTEMBER 28, 2019. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN THE DISCHARGED WATER IN OTHER THAN TRACE AMOUNTS.						
OTHER:						
Whole Effluent Toxicity, Chronic (Special Condition #D.1.)	TUc	1.7			once/quarter ◊	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2019. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN THE DISCHARGED WATER IN OTHER THAN TRACE AMOUNTS.						
METALS:						
Copper, Total Recoverable	µg/L	43.5		21.7	once/year	grab
Mercury, Total Recoverable	µg/L	2.0		1.0	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED YEARLY; THE FIRST REPORT IS DUE JANUARY 28, 2020. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN THE DISCHARGED WATER IN OTHER THAN TRACE AMOUNTS.						

* Monitoring requirement only.

Note 1 The facility will report the minimum and maximum values. pH is not to be averaged.

◊ Quarterly sampling minimum requirements

MINIMUM QUARTERLY SAMPLING REQUIREMENTS			
QUARTER	**MONTHS**	**EFFLUENT PARAMETERS**	**REPORT IS DUE**
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALLS #003 & #004	TABLE A-3 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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 on **August 1, 2017** and remain in effect through expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
PHYSICAL						
Flow	MGD	*		*	once/day Ϫ	24 hr. total
Precipitaiton	inches	*		*	once/day Ϫ	24 hr. total
CONVENTIONAL						
pH (Note 1)	SU	6.5-9.0		6.5-9.0	once/day Ϫ	grab
Total Suspended Solids	mg/L	30		20	once/day Ϫ	grab
METALS						
Cadmium, Total Recoverable	µg/L	1.0		0.5	once/day Ϫ	grab
Copper, Total Recoverable	µg/L	43.5		21.7	once/day Ϫ	grab
Lead, Total Recoverable	µg/L	19.4		9.7	once/day Ϫ	grab
Mercury, Total Recoverable	µg/L	2		1	once/day Ϫ	grab
Nickel, Total Recoverable	µg/L	229		114	once/day Ϫ	grab
Thallium, Total Recoverable	µg/L	10.3		6.3	once/day Ϫ	grab
Zinc, Total Recoverable	µg/L	586.8		292.5	once/day Ϫ	grab

MONITORING REPORTS SHALL BE SUBMITTED THE NEXT MONTH AFTER DAY OF DISCHARGE.
THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN THE DISCHARGED WATER IN OTHER THAN TRACE AMOUNTS.

* Monitoring requirement only.

Note 1 The facility will report the minimum and maximum values. pH is not to be averaged.

Ϫ Once per day sampling means the facility will sample at least once each day a discharge occurs. The facility will report the results following the month of the cessation of discharge.

B. SCHEDULE OF COMPLIANCE

Schedules of compliance are allowed under 40 CFR 122.47. The facility shall attain compliance with final effluent limitations for the following parameters at outfall #001 as soon as reasonably achievable or no later than the following timeframes:

1. Within six months of the effective date of this permit, the permittee shall report progress made in attaining compliance with the final effluent limits.

2. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits every 12 months from effective date. The first report is due August 1, 2018.

3. Within 24 months of the effective date of this permit or sooner, the permittee shall attain compliance with the final effluent limits and permit requirements at outfall #001 for: Metals: Cadmium, total recoverable, Lead, total recoverable, Nickel, total recoverable. Other: Whole Effluent Toxicity, Chronic

   Please submit progress reports via the electronic reporting system (eDMR).

C. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I and Part III standard conditions dated August 1, 2014 and March 1, 2015, respectively, and hereby incorporated as though fully set forth herein.

D. SPECIAL CONDITIONS

1. Chronic Whole Effluent Toxicity (WET) tests shall be conducted as follows:
   (a) Freshwater Species and Test Methods: Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the most recent edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013; Table IA, 40 CFR Part 136).* The permittee shall concurrently conduct 7-day, static, renewal toxicity tests with the following species:
      - The fathead minnow, *Pimephales promelas* (Survival and Growth Test Method 1000.0).
      - The daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).

   (b) Chemical and physical analysis of the upstream control sample and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping. Where upstream receiving water is not available or known to be toxic, other approved control water may be used.
   (c) Test conditions must meet all test acceptability criteria required by the EPA Method used in the analysis.
   (d) The Allowable Effluent Concentration (AEC) for this outfall is 86%.
   The dilution series is: 93 %, 86 %, 80 %, 74 %, and 69 %.
   (e) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
   (f) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of chronic toxic units ($TU_c = 100/IC_{25}$) reported according to the *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* chapter on report preparation and test review. The 25 percent Inhibition Effect Concentration (IC_{25}) is the toxic or effluent concentration that would cause 25 percent reduction in mean young per female or in growth for the test populations.
   (g) Accelerated Testing Trigger: If the regularly scheduled chronic WET test exceeds the TU_c limit, the permittee shall conduct accelerated follow-up WET testing as prescribed in the following conditions. Results of the follow-up accelerated WET testing shall be reported to the Southwest Regional Office in TU_c. This permit requires the following additional toxicity testing if any one test result exceeds a TU_c limit.
      (1) A multiple dilution test shall be performed for both test species within 60 calendar days of becoming aware the regularly scheduled WET test exceeded a TU_c limit, and once every two weeks thereafter until one of the following conditions are met:
         i. Three consecutive multiple-dilution tests are below the TU_c limit. No further tests need to be performed until next regularly scheduled test period.
         ii. A total of three multiple-dilution tests exceed the TU_c limit.
      (2) Follow-up tests do not negate an initial test result.
      (3) The permittee shall submit a summary of all accelerated WET test results for the test series along with complete copies of the laboratory reports as received from the laboratory within 14 calendar days of the availability of the third test exceeding a TU_c limit.
   (h) TIE/TRE Trigger: The following shall apply upon the exceedance of the TU_c limit in three accelerated follow-up WET tests. The permittee should contact the department within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact the department upon the third follow up test exceeding a TU_c limit, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE within 60 calendar days of the date of the automatic trigger or the department's direction to perform either a TIE or TRE. The plan shall be based on EPA Methods and include a schedule for completion. This plan must be approved by the department before the TIE or TRE is begun.

2. Outfalls #003 and #004 only: 40 CFR 440.131(b) *Storm exemption for facilities permitted to discharge.* If, as a result of precipitation or snowmelt, a source with an allowable discharge under 40 CFR part 440 has an overflow or excess discharge of effluent which does not meet the limitations of 40 CFR part 440, the source may qualify for an exemption from such limitations with respect to such discharge if the following conditions are met:
   (1) The facility is designed, constructed and maintained to contain the maximum volume of wastewater which would be generated by the facility during a 24-hour period without an increase in volume from precipitation and the maximum volume of wastewater resulting from a 10-year, 24-hour precipitation event or treat the maximum flow associated with these volumes. In computing the maximum volume of wastewater which would result from a 10-year, 24-hour precipitation event, the facility must include the volume which would result from all areas contributing runoff to the individual treatment facility, *i.e.*, all runoff that is not diverted from the active mining area and runoff which is not diverted from the mill area.
   (2) The facility takes all reasonable steps to maintain treatment of the wastewater and minimize the amount of overflow.
   (3) The facility complies with the notification requirements of §122.60 (g) and (h). The storm exemption is designed to provide an affirmative defense to an enforcement action. Therefore, the operator has the burden of demonstrating to the appropriate authority that the above conditions have been met.

D. SPECIAL CONDITIONS (CONTINUED)

3. Electronic Discharge Monitoring Report (eDMR) Submission System
   (a) Discharge Monitoring Reporting Requirements. The permittee must electronically submit compliance monitoring data via the eDMR system. In regards to Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit.
   (b) Programmatic Reporting Requirements. The following reports (if required by this permit) must be electronically submitted as an attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:
      (1) Schedule of Compliance Progress Reports; and
      (2) Any additional report required by the permit excluding bypass reporting.
      After such a system has been made available by the department, required data shall be directly input into the system by the next report due date.
   (c) Other actions. The following shall be submitted electronically after such a system has been made available by the department:
      (1) General Permit Applications/Notices of Intent to discharge (NOIs);
      (2) Notices of Termination (NOTs); and
      (3) No Exposure Certifications (NOEs).
      (4) Bypass reporting,
   (d) Electronic Submissions. To access the eDMR system, use the following link in your web browser: https://edmr.dnr.mo.gov/edmr/E2/Shared/Pages/Main/Login.aspx.

4. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the CWA section 402(k); however, this permit shall be reopened and modified, or alternatively revoked and reissued:
   (a) To 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) To 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's Water Quality Standards.
   (c) To 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 list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.
   (d) If the Department determines that the permittee's discharges cause, have reasonable potential to cause, or are contributing to exceedances of Missouri's Water Quality Standards.
   The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

5. All outfalls and permitted features must be clearly marked in the field.

6. Changes in Discharges of Toxic Pollutant
   In addition to the reporting requirements under §122.41(1), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
   (a) That an activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
      (1) One hundred micrograms per liter (100 µg/L);
      (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile;
      (3) Five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol;
      (4) One milligram per liter (1 mg/L) for antimony;
      (5) Five (5) times the maximum concentration value reported for the pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
      (6) The notification level established by the department in accordance with 40 CFR 122.44(f).
   (b) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
      (1) Five hundred micrograms per liter (500 µg/l);
      (2) One milligram per liter (1 mg/l) for antimony;
      (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with §122.21(g)(7).
      (4) The level established by the Director in accordance with §122.44(f).

D. SPECIAL CONDITIONS (CONTINUED)

7. Report as no-discharge when a discharge does not occur during the report period.

8. Reporting of Non-Detects
   (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
   (b) The permittee shall not report a sample result as "Non-Detect" without also reporting the detection limit of the test. Reporting as "Non-Detect" without also including the detection limit will be considered failure to report, which is a violation of this permit.
   (c) The permittee shall report the "Non-Detect" result using the less than sign and the minimum detection limit (e.g. <10).
   (d) Where the permit contains a Minimum Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
   (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
   (f) When calculating monthly averages, one-half of the minimum detection limit (MDL) should be used instead of a zero. Where all data are below the MDL, the "<MDL" shall be reported as indicated in item (C).
   (g) It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

9. Any pesticide discharge from any point source shall comply with the requirements of Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 136 ET. SEQ.) and the use of such pesticides shall be in a manner consistent with its label.

10. The purpose of the SWPPP and the BMPs listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR 20-2.010(56)] of waters of the state, and corrective actions means the facility took steps to eliminate the deficiency.

11. To protect the general criteria found at 10 CSR 20-7.031(4), before releasing water accumulated in secondary containment areas, it must be examined for hydrocarbon odor and presence of sheen. If the presence of odor or sheen is indicated, the water shall be treated using an appropriate method or disposed of in accordance with legally approved methods, such as being sent to a wastewater treatment facility. Following treatment, the water shall be tested for oil and grease, benzene, toluene, ethylbenzene, and xylene using 40 CFR part 136 methods. All pollutant levels must be below the most protective, applicable standards for the receiving stream, found in 10 CSR 20-7.031 Table A. Records of all testing and treatment of water accumulated in secondary containment shall be stored in the SWPPP to be available on demand to DNR and EPA personnel.

12. Release of a hazardous substance must be reported to the department in accordance with 10 CSR 24-3.010. A record of each reportable spill shall be retained with the SWPPP and made available to the department upon request.

D. SPECIAL CONDITIONS (CONTINUED)

13. The facility's SIC code(s) is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2) hence shall implement a SWPPP which must be prepared and implemented upon permit issuance. The SWPPP must be kept on-site and should not be sent to the department unless specifically requested. The SWPPP must be reviewed and updated every five (5) years or as site conditions change (see Part III: Antidegradation Analysis and SWPPP sections in the fact sheet). The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in: *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002) published by the EPA in February 2009 (www.epa.gov/npdes/pubs/industrial_swppp_guide.pdf). The SWPPP must include:
    (a) A listing of specific contaminants and their control measures (or BMPs) and a narrative explaining how BMPs are implemented to control and minimize the amount of contaminants potentially entering stormwater.
    (b) The SWPPP must include a schedule for once per month site inspections and brief written reports. The inspection report must include precipitation information for the entire period since last inspection, as well as observations and evaluations of BMP effectiveness. Throughout coverage under this permit, the facility must perform ongoing SWPPP review and revision to incorporate any site condition changes.
        i. Operational deficiencies must be corrected within seven (7) calendar days.
        ii. Minor structural deficiencies must be corrected within fourteen (14) calendar days.
        iii. Major structural deficiencies must be reported to the regional office within seven (7) days of discovery. The initial report shall consist of the deficiency noted, the proposed remedies, the interim or temporary remedies (including the general timing of the placement of the interim measures), and an estimate of the timeframe needed to wholly complete the repairs or construction. The permittee will work with the regional office to determine the best course of action, including but not limited to temporary structures to control stormwater runoff. The facility shall correct the major structural deficiency as soon as reasonably achievable.
        iv. All actions taken to correct the deficiencies shall be included with the written report, including photographs.
        v. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to department and EPA personnel upon request.
    (c) A provision for designating an individual to be responsible for environmental matters.
    (d) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of the department.

14. Permittee shall adhere to the following minimum Best Management Practices (BMPs):
    (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of stormwater from these substances.
    (b) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
    (c) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to stormwater or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. 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.
    (d) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
    (e) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.
    (f) Ensure that adequate provisions are provided to prevent surface water intrusion into the storage basin, to divert stormwater runoff around the storage basin, and to protect embankments from erosion.

E. DOMESTIC WASTEWATER SPECIAL CONDITIONS
Adapted from MO-G823
Permitted Feature #002

1. The facility will keep the domestic wastewater system in good working order and will report any bypasses, or other releases to the regional office within 24 hours of the release. If the release occurs on a weekend or holiday, the facility shall report to the Environmental Emergency Response Section at 573-634-2436 to meet the 24 hour reporting deadline.

2. For subsurface domestic wastewater systems, vegetation such as grasses or other non-food crops must be grown over the system. The only equipment allowed on the area with the subsurface system is equipment used to maintain the vegetation. No livestock shall be allowed to use the area with the subsurface system.

3. Subsurface land application of domestic wastewater shall not cause the surfacing of wastewater.

4. Records of maintenance for subsurface systems must be maintained for at least 5 years. Examples of records include filter replacement, sludge removal, etc. These records shall be made available during inspection or upon request by DNR or EPA.

5. The domestic wastewater system shall not encroach within: 300 feet of a well primarily used for drinking, 300 feet of an active sinkhole, 300 feet of a losing stream, 150 feet of a dwelling, or 50 feet of the property line.

6. This permit does not authorize surface land application of domestic wastewater.

7. Subsurface dispersion systems under this permit are Class V wells if they have the capacity to serve 20 or more persons; and shall comply with the reporting requirements of 40 CFR 144.26. An inventory form shall be submitted to the Department of Natural Resources' Missouri Geological Survey for these wells as required under federal regulations.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0100218
DOE RUN—WEST FORK

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 stormwater 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. Missouri State Operating Permits (MSOPs) 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). MSOPs are issued for a period of five (5) years unless otherwise specified for less.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (MSOP or operating permit) listed below. A factsheet is not an enforceable part of an operating permit.

Part I. FACILITY INFORMATION

Facility Type: Major Categorical Industrial
Facility SIC Code(s): 1031
Facility NAICS Code: 212231
Application Date: 9/15/2014
Modification Dates: 10/25/2011, 8/6/2014
Expiration Date: 3/11/2015
Last Inspection: 09/16/2015 - not in compliance

FACILITY DESCRIPTION:
The West Fork mine is one of several mines owned by the Doe Run Company and the base of operations is within Reynolds County in Missouri. The company owns a system of mines located in Reynolds and Iron counties, otherwise called the Viburnum Trend. This mine has four outfalls, only one of which is allowed to discharge process wastewater. The facility's last permit was issued March 12, 2010 and revised July 13, 2010, October 25, 2011, and August 6, 2014. This permit expired March 11, 2015. The permit issued prior was issued August 2, 1996 and modified September 25, 1998. That permit expired August 1, 2001. There appears no permit was issued between August 2, 2001 and March 12, 2010.

An antidegradation analysis was performed prior to the subsidence event. Should the facility feel this is no longer representative of the operations at the facility, Doe Run must apply for another antidegradation review. Antidegradation only applies to the design flow of the facility, not the average flow. The average flow was changed on February 1st 2016 from 3.19 MGD in the prior draft to 7.8 MGD by using only the flows from after the subsidence event to calculate the average flow (April 2014 to December 2015). This recalculation does not change any permit limit calculation as design flow is used for the mass-balance equation.

A second antidegradation analysis was public noticed December 16, 2016 through January 16, 2016. The antidegradation allowed a design flow of 25 MGD and an average flow of 15.9 MGD as shown in the table below.

PERMITTED FEATURES TABLE:

OUTFALL	AVERAGE FLOW	DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#001	15.9 MGD 24.645 cfs	25 MGD 38.75 cfs	Physical Settling	Mine Dewatering, Tailings Basin, Stormwater
#002	0	0	Subsurface Land Application	Domestic Wastewater (No Discharge)
#003	0	0	Physical Settling	Emergency Spillway
#004	0	0	Physical Settling	Emergency Spillway

FACILITY PERFORMANCE HISTORY:
The electronic discharge monitoring reports were reviewed for the last five years. The following table is a list of all of the water quality exceedances for the last five years. The data was pulled from the MoCWIS database on August 24, 2015.

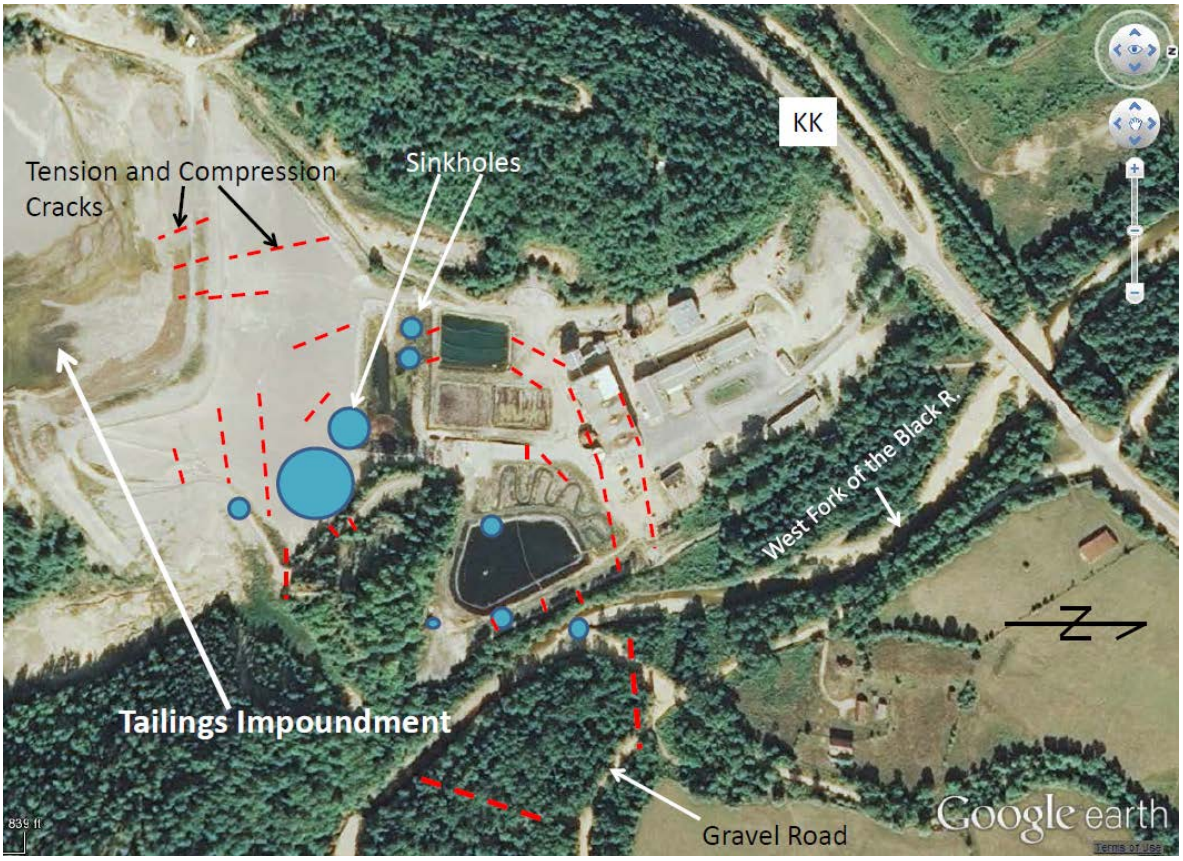
OUTFALL	MONITORING PERIOD END DATE	PARAMETER	UNITS	LIMIT	LIMIT	REPORTED VALUE	LIMIT	LIMIT	REPORTED VALUE
#001	06/30/2015	Cadmium, TR	ug/L	1.2	Daily	2.2	0.6	Month	2.2
#001	05/31/2015	Cadmium, TR	ug/L	1.2	Daily	3.3	0.6	Month	3.3
#001	04/30/2015	Cadmium, TR	ug/L	1.2	Daily	2.4	0.6	Month	2.4
#001	03/31/2015	Cadmium, TR	ug/L	1.2	Daily	2.6	0.6	Month	2.6
#001	02/28/2015	Cadmium, TR	ug/L	1.2	Daily	1.8	0.6	Month	1.8
#001	01/31/2015	Cadmium, TR	ug/L	1.2	Daily	1.3	0.6	Month	1.3
#001	12/31/2014	Cadmium, TR	ug/L	1.2	Daily	2	0.6	Month	2
#001	11/30/2014	Cadmium, TR	ug/L	1.2	Daily	1.4	0.6	Month	1.4
#001	10/31/2014	Cadmium, TR	ug/L	1.2	Daily	1.5	0.6	Month	1.5
#001	09/30/2014	Cadmium, TR	ug/L	1.2	Daily	2.1	0.6	Month	1.8
#001	08/31/2014	Cadmium, TR	ug/L	1.2	Daily	3	0.6	Month	2.4
#001	07/31/2014	Cadmium, TR	ug/L	1.2	Daily	2.2	0.6	Month	2.2
#001	06/30/2014	Cadmium, TR	ug/L	1.2	Daily	0.8	0.6	Month	0.8
#001	05/31/2014	Cadmium, TR	ug/L	1.2	Daily	1.1	0.6	Month	1
#001	04/30/2014	Cadmium, TR	ug/L	1.2	Daily	0.82	0.6	Month	0.82
#001	03/31/2014	Cadmium, TR	ug/L	1.2	Daily	0.62	0.6	Month	0.62
#001	02/28/2014	Cadmium, TR	ug/L	1.2	Daily	0.97	0.6	Month	0.835
#001	01/31/2014	Cadmium, TR	ug/L	1.2	Daily	0.97	0.6	Month	0.97
#001	12/31/2013	Cadmium, TR	ug/L	1.2	Daily	0.67	0.6	Month	0.67
#001	06/30/2013	Cadmium, TR	ug/L	1.2	Daily	1	0.6	Month	1
#001	05/31/2013	Cadmium, TR	ug/L	1.2	Daily	1.6	0.6	Month	1.6
#001	04/30/2013	Cadmium, TR	ug/L	1.2	Daily	1.4	0.6	Month	1.4
#001	03/31/2013	Cadmium, TR	ug/L	1.2	Daily	1.6	0.6	Month	1.6
#001	03/31/2012	Lead (Pb), TR	ug/L	53	Daily	97	53 S	Month	63.5
#001	05/31/2011	Lead (Pb), TR	ug/L	53	Daily	50	45	Month	50
#001	03/31/2011	Lead (Pb), TR	ug/L	53	Daily	87	45	Month	65
#001	01/31/2011	Lead (Pb), TR	ug/L	53	Daily	56.3	45	Month	45.3
#001	06/30/2015	Chronic Cerio	toxic	2.6	Maximum	48.08	-	-	-
#001	12/31/2014	Chronic Cerio	toxic	2.6	Maximum	27.8	-	-	-
#001	06/30/2014	Chronic Cerio	toxic	2.6	Maximum	6.15	-	-	-
#001	06/30/2013	Chronic Cerio	toxic	2.6	Maximum	6.1	-	-	-
#001	12/31/2011	Chronic Cerio	toxic	2.6	Maximum	2.95	-	-	-
#001	03/31/2011	Chronic Cerio	toxic	2.6	Maximum	4	-	-	-
#001	12/31/2010	Chronic Cerio	toxic	2.6	Maximum	8	-	-	-
#001	07/31/2014	Zinc (Zn), TR	ug/L	512.8	Daily	1470	260.7 S	Month	1470
#001	06/30/2014	Zinc (Zn), TR	ug/L	512.8	Daily	443	260.7 S	Month	443
#001	05/31/2014	Zinc (Zn), TR	ug/L	512.8	Daily	492	260.7 S	Month	454
#001	04/30/2014	Zinc (Zn), TR	ug/L	512.8	Daily	367	260.7 S	Month	367
#001	03/31/2014	Zinc (Zn), TR	ug/L	512.8	Daily	317	260.7 S	Month	317
#001	02/28/2014	Zinc (Zn), TR	ug/L	512.8	Daily	414	260.7 S	Month	399
#001	01/31/2014	Zinc (Zn), TR	ug/L	512.8	Daily	573	260.7 S	Month	573
#001	12/31/2013	Zinc (Zn), TR	ug/L	512.8	Daily	344	260.7 S	Month	344
#001	06/30/2013	Zinc (Zn), TR	ug/L	512.8	Daily	326	260.7 S	Month	326
#001	05/31/2013	Zinc (Zn), TR	ug/L	512.8	Daily	442	260.7 S	Month	442
#001	04/30/2013	Zinc (Zn), TR	ug/L	512.8	Daily	548	260.7 S	Month	491
#001	02/28/2011	Zinc (Zn), TR	ug/L	442	Daily	496	442	Month	496

Outfall	Monitoring Period End Date	Parameter	Units	Limit	Limit	Reported Value	Limit	Limit	Reported Value
#002	09/30/2010	Fecal Coli.	#/100mL	1000	Daily	99999	400	Month	99999
#002	09/30/2010	pH	SU	6	Min.	5.9			
#003	10/31/2010	Cadmium, TR	ug/L	9	Daily	4.7	4.5	Month	4.7
#003	07/31/2010	Cadmium, TR	ug/L	9	Daily	40	4.5	Month	16.8
#003	07/31/2010	Copper, TR	ug/L	23.9	Daily	25	11.9	Month	14.5
#003	07/31/2010	Lead (Pb), TR	ug/L	170	Daily	977	84.6	Month	617.3
#003	10/31/2010	Zinc (Zn), TR	ug/L	195	Daily	2290	97.0	Month	2290
#003	07/31/2010	Zinc (Zn), TR	ug/L	195	Daily	4069	97.0	Month	2501.5
#004	05/31/2011	Lead (Pb), TR	ug/L	170	Daily	160	84.6	Month	90
#004	05/31/2011	Lead (Pb), TR	ug/L	170	Daily	160	84.6	Month	90
#004	04/30/2011	Lead (Pb), TR	ug/L	170	Daily	199	84.6	Month	142
#004	05/31/2011	Zinc (Zn), TR	ug/L	195	Daily	507	97.0	Month	418
#004	05/31/2011	Zinc (Zn), TR	ug/L	195	Daily	507	97.0	Month	418
#004	04/30/2011	Zinc (Zn), TR	ug/L	195	Daily	526	97.0	Month	432

S = Stay value used to determine exceedance.

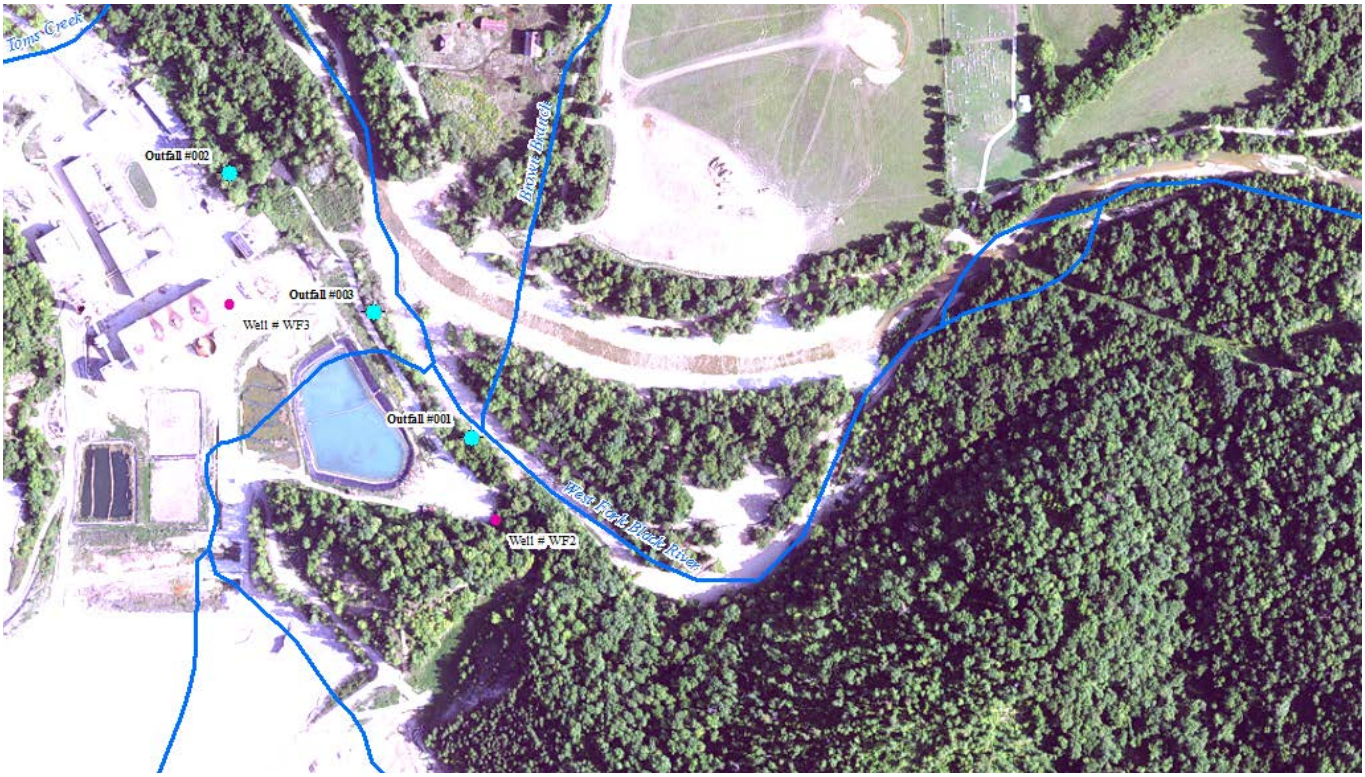
FACILITY COMMENTS:

In 2014, the facility had a serious problem which caused extensive damage to the mine and subsequent issues with water infiltration. On April 2, 2014, there was an extensive rockfall within the mine most likely caused by pillar shaving. On April 4th, two sinkholes appeared on the north side of the tailings dam. On April 8th, a third sinkhole appeared. The Bio-Cells, which were part of the water treatment system emptied. Water flowing into the mine was measured at 3400 gallons per minute (GPM); 4.896 million gallons per day-- MGD; normal mine dewatering is at about 1000 gallons per minute (1.44 MGD). On April 10th, additional pumps were brought in to the facility. On June 11th and 12th, the mine began to rumble. On June 13th, numerous sinkholes were found off of the property. On June 16, 2014, the Mine Safety and Health Administration (MSHA) ordered the facility closed and did not allow any work on site. On June 18th, the Department's Environmental Emergency Response section issued a Hazardous Substance Declaration. Later in June, more settlement and larger cracks appeared. Pumping was increased to 10,000 GPM (14.4 MGD) but the mine was still filling up. It was at this time the stream, West Fork Black River, was noticed to be disappearing. The surficial stream flow had decreased to about 6 CFS. A diversion channel was planned and was built north of the natural channel. After the diversion channel was completed, the stream began to regain its natural flow rates and mine dewatering pumping rates were decreased. Current average flows from outfall #001 are 3.19 MGD as calculated using discharge monitoring reporting data.



Tension and compression cracks: June 2014

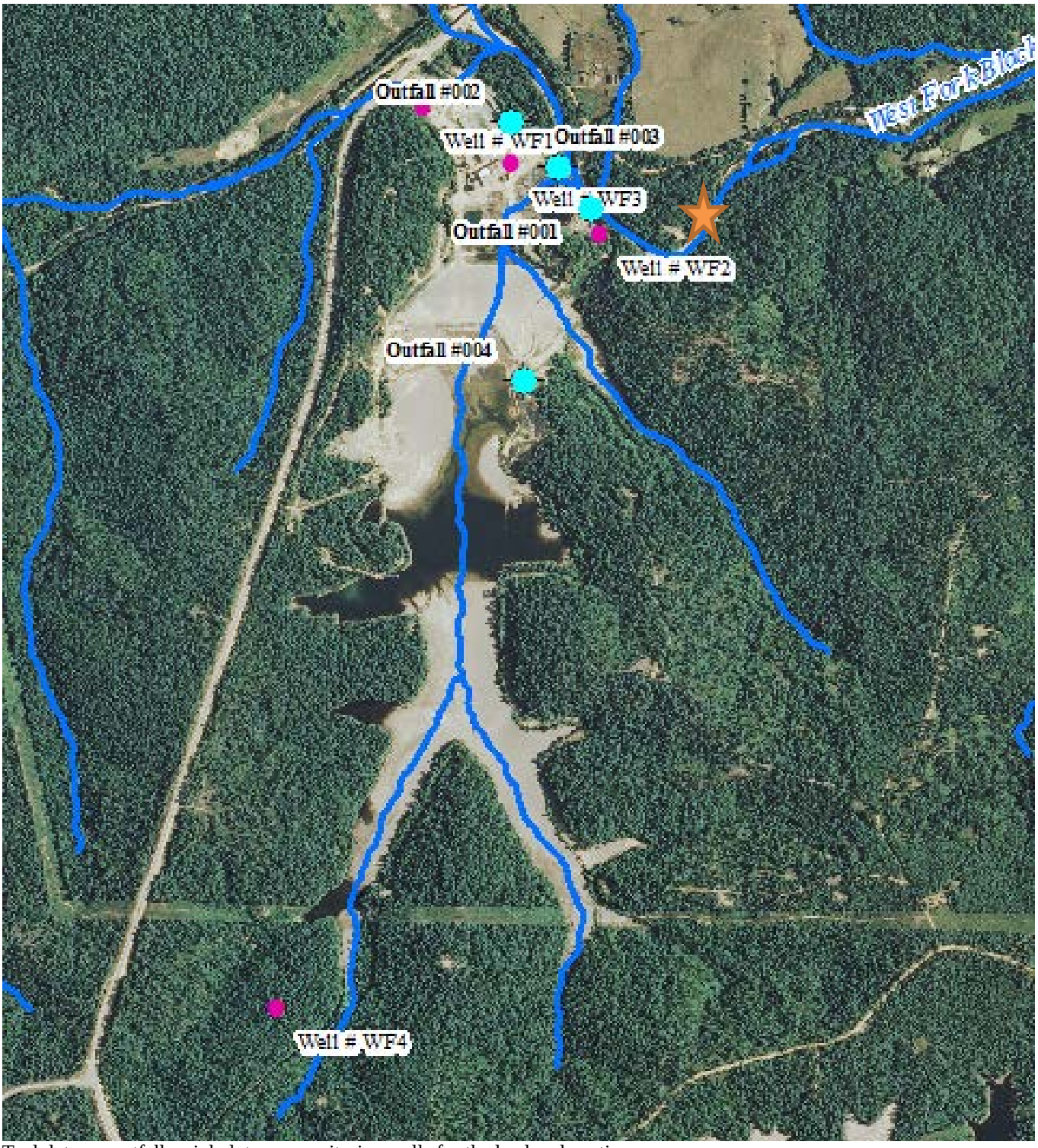
Natural Channel



Diversion channel above natural channel, natural channel dry

MAJOR WATER USER:
The facility is a major water user registered with the state. Major water user # 46485508. In 2014, the facility withdrew 8,712,550 gallons of groundwater. The facility does not withdraw surface water.

FACILITY MAP:



Teal dots are outfalls, pink dots are monitoring wells for the land reclamation program.
Orange star indicates temporary location of outfall #001.

Part II. RECEIVING STREAM INFORMATION

RECEIVING WATER BODY'S WATER QUALITY:
The receiving stream, West Fork of Black River has water quality data available online. The West Fork Black River has been sampled by the department and data can be found at http://www.dnr.mo.gov/mocwis_public/wqa/waterbodySearch.do

303(D) LIST:
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. http://dnr.mo.gov/env/wpp/waterquality/303d/303d.htm

- ✓ Applicable; the West Fork Black River is listed on the 2014 Missouri 303(d) List for lead and nickel in sediment. The pollutants were originally listed in 2008. The impaired use is aquatic life habitat.
- ✓ This facility is considered to be a source of, and has the potential to contribute to the above listed pollutants. Once a TMDL is developed, the permit will be modified to include WLAs from the TMDL.

TOTAL MAXIMUM DAILY LOAD (TMDL):
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; hence, the purpose of a TMDL is to determine the pollutant loading a specific waterbody can assimilate without exceeding water quality standards. http://dnr.mo.gov/env/wpp/tmdl/

- ✓ No longer applicable. Withdrawal of the Nutrient Total Maximum Daily Load, or TMDL, for West Fork Black River (Water Body ID: 2755), established Dec. 23, 2010.

The department is notifying the U.S. Environmental Protection Agency and providing public notice of the withdrawal of the West Fork Black River TMDL for nutrients. This TMDL is being withdrawn in accordance with EPA guidance "Considerations for Revising and Withdrawing TMDLs" (March 22, 2012). This guidance indicates such withdrawal may occur when a TMDL is developed for "a water that was incorrectly placed on the 303(d) list" and when "subsequent information demonstrates that the water was then, and is now, attaining water quality standards."

The department has determined that West Fork Black River (WFBR) is attaining applicable water quality standards for nutrients according to current listing methodology. The department has also reviewed the administrative record for this water body and determined that WFBR was incorrectly placed on the 1998 303(d) List of impaired waters without sufficient and compelling reason to do so. Landowner complaints pertaining to instream conditions also occurring in other streams within the region do not present sufficient justification then or now for listing a water body as impaired. For these reasons, the department is withdrawing the TMDL for nutrients established by the EPA for West Fork Black River in December 2010. See https://www.epa.gov/mo/notice-availability-proposed-withdrawal-total-maximum-daily-load-tmdl-west-fork-black-river-state

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

- ✓ As per Missouri's Effluent Regulations [10 CSR 20-7.015(1)(B)], the waters of the state are divided into the following seven categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Missouri or Mississippi River:	☐
Lake or Reservoir:	☐
Losing:	☐
Metropolitan No-Discharge:	☐
Special Stream:	☐
Subsurface Water:	☐
All Other Waters:	☒

RECEIVING STREAMS TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO CLASSIFIED SEGMENT	12-DIGIT HUC
#001	West Fork Black River	P	2755	CLH, HHP, IRR, LWP, SCR, WBC-A	0.0 mi	11010007-0103 Middle West Fork Black River
#002	West Fork Black River	P	2755	CLH, HHP, IRR, LWP, SCR, WBC-A	0.5 mi	
#003	West Fork Black River	P	2755	CLH, HHP, IRR, LWP, SCR, WBC-A	0.01 mi	
#004	West Fork Black River	P	2755	CLH, HHP, IRR, LWP, SCR, WBC-A	0.4 mi	

n/a not applicable
WBID = Waterbody IDentification: Missouri Use Designation Dataset 8-20-13 MUDD V1.0 data can be found as an ArcGIS shapefile on MSDIS at ftp://msdis.missouri.edu/pub/Inland_Water_Resources/MO_2014_WQS_Stream_Classifications_and_Use_shp.zip
* As per 10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission's water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream's beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses which may be found in the receiving streams table, above:
10 CSR 20-7.031(1)(C)1.:
AQL = Protection of aquatic life (Current narrative use(s) are defined to ensure the protection and propagation of fish shellfish and wildlife, which is further subcategorized as: WWH = Warm Water Habitat; CLH = Cool Water Habitat; CDH = Cold Water Habitat; EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses AQL effluent limitations in 10 CSR 20-7.031 Table A for all habitat designations unless otherwise specified.)
10 CSR 20-7.031(1)(C)2.: Recreation in and on the water
WBC = Whole Body Contact recreation where the entire body is capable of being submerged;
WBC-A = Whole body contact recreation supporting swimming uses and has public access;
WBC-B = Whole body contact recreation supporting swimming;
SCR = Secondary Contact Recreation (like fishing, wading, and boating).
10 CSR 20-7.031(1)(C)3. to 7.:
HHP (formerly HHF) = Human Health Protection as it relates to the consumption of fish;
IRR = Irrigation for use on crops utilized for human or livestock consumption;
LWW = Livestock and wildlife watering (Current narrative use is defined as LWP = Livestock and Wildlife Protection);
DWS = Drinking Water Supply;
IND = Industrial water supply
10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Table A currently does not have corresponding habitat use criteria for these defined uses)
WSA = Storm- and flood-water storage and attenuation; WHP = Habitat for resident and migratory wildlife species;
WRC = Recreational, cultural, educational, scientific, and natural aesthetic values and uses; WHC = Hydrologic cycle maintenance.
10 CSR 20-7.031(6): GRW = Groundwater

RECEIVING STREAM LOW-FLOW VALUES:
Within the last two permits, the department has used 15 CFS as the 7Q10 low flow value to calculate permitted limits. However, at this permit renewal, the department has asked the facility to supply measured stream flow data to determine if the utilized 7Q10 low flow value is appropriate and can be supported or refuted with the existing data. While the facility has not been sampling daily for a span of 10 years (as a true calculation of 7Q10 requires), measurements have been recorded from October 10, 2000 to December 9, 2015. Many of the values appear to have been gathered on a quasi-weekly basis as previous permits have required. There is no algebraic equation or statistical reckoning the department is aware of to determine a true 7Q10 from non-consecutive data. However, several inferences can be made about the data supplied. Seventy-six data points are below the 15 CFS point; there are 630 data points in total; that means 12% of the data are below 15 CFS. The minimum value in the data set was 2.75 CFS and 5.02 CFS is the second smallest value. These data points both occur in August of 2007. The maximum measured value was 245.84 CFS.

Several estimations of stream flow were recorded; 400 CFS was the highest estimated value. According to the facility, stream flows were only estimated when actual stream conditions made the measurement unattainable for safety reasons; no estimates reportedly occurred below 20 CFS. The reported data show the stream is highly variable at the facility likely due to the central location within the West Fork Black River watershed.

At two times during the last 15 years, eight sequential (but non-consecutive days) points of data are below 15 CFS. The first occurred between July 20, 2001 and September 6, 2001. The second 8-sequential timeframe was between July 13, 2007 and September 6, 2007. Similarly, 6 of the 15 years of data contain sequential (3 to 5 measurements) of values less than 15 CFS. Because 76 independent measurements of stream flow have been measured below the 15 CFS, the department has concluded 15 CFS for the 7Q10 is not appropriate to protect the stream.

Group 1			Group 2	
7/20/01	9.7		7/13/07	13.62
7/27/01	11.55		7/16/07	9.12
8/1/01	13		7/23/07	12.69
8/8/01	9.95		8/8/07	10.41
8/15/01	11.13		8/13/07	5.02
8/23/01	10.2		8/22/07	6.12
8/27/01	11.29		8/30/07	2.75
9/6/01	11.42		9/6/07	10.92

Hence, the program has used a published USGS stream variability index and a measured catchment drainage area to calculate the 7Q10 of the West Fork Black River just above outfall #001. The document used was *Computed Statistics at Streamgages, and Methods for Estimating Low-Flow Frequency Statistics and Development of Regional Regression Equations for Estimating Low-Flow Frequency Statistics at Ungaged Locations in Missouri* Scientific Investigations Report 2013-5090 by the U.S. Department of the Interior and the U.S. Geological Survey. Gauging data throughout the state was used by the USGS to interpolate several variables. The less "flashy" a stream, the lower the variability. Please review the above document for additional information.

Table 16. Regional-regression equations for the 1-, 2-, 3-, 7, 10-, 30-, and 60-day durations with a recurrence interval of 10 years on unregulated streams in Missouri. The following excerpt is from Region 2 (Regression Equation 4)

M7D10Y	120	$M7D10Y=2.197*(DRNAREA)^{1.244}*e^{STREAM\_VAR*-10.807}$	0.475	0.481	51.0

Drainage area = upstream catchment area as measured using ArcGIS software.
The longest flow path is not appropriate for Region 2 7Q10 predictors.

$M7D10Y=2.197*(DRNAREA)^{1.244}*e^{STREAM\_VAR*-10.807}$	
Catchment Drainage Area (mi^2; DRNAREA)	71.46
Longest Flow Length (miles)	NA
Mean Catchment Stream Variability Index	0.375653
M7D10Y (cfs)	7.677

The calculations have arrived at a conservative 7.677 cfs value for the stream at West Fork Mine. Calculations were completed for East Fork of the Black River. This stream is upstream of the facility and has a 7Q10 of 1.282 cfs. This value further confirms the calculations for West Fork Black River are not too low.

RECEIVING STREAM LOW-FLOW VALUES TABLE:

OUTFALL	RECEIVING STREAM	LOW-FLOW VALUES (CFS)		
		1Q10	7Q10	30Q10
#001	West Fork Black River (P)	n/a	7.677	n/a

MIXING CONSIDERATIONS:
To determine the mixing considerations, the permit writer followed 10 CSR 20-7.031(5)(A)4.B.(II) and divided the 7Q10 value by 4 to obtain the MZ, then multiplied the MZ by 0.1 to obtain the ZID as shown in the table below.

ZONE OF INITIAL DILUTION (CFS) (ACUTE) [10 CSR 20-7.031(5)(A)4.B.(II)]			MIXING ZONE (CFS) (CHRONIC) [10 CSR 20-7.031(5)(A)4.B.(II)]		
1Q10	7Q10	30Q10	1Q10	7Q10	30Q10
n/a	0.19193	n/a	0	1.91925	0

RECEIVING STREAM MONITORING REQUIREMENTS:
The department has established a derived value for the 7Q10 mixing considerations. Should the facility determine a need exists for an in-stream measurement of daily stream flow (discharge in cubic feet per second, cfs) above the diversion channel, the facility may do so. After 10 years of daily sequential data have been collected, the department will be able to calculate the true 7Q10 value. The department asks if data is collected, a date and time accompany each data point. Also, the facility may fund an appropriate USGS gaging station in lieu of taking measurements themselves if desired.

Per a comment letter dated January 29th, 2016, the facility's representative has understood the above calculations have a 51% standard error rate and said the facility may want to investigate and establish an appropriate 7Q10 value by performing a site-specific mixing zone study. The department is aware of the conservative approach this method takes and will review (through a permit modification request) any study the facility or its representative's may engage in to better classify the stream on a site-specific basis.

Part III. RATIONALE AND DERIVATION OF EFFLUENT LIMITATIONS & PERMIT CONDITIONS

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:
As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

- ✓ Not applicable; the facility does not discharge to a losing stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:
A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- ✓ Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.
- ✓ Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.
  - The facility was monitoring for total recoverable arsenic (no limits in the previous permit); a reasonable potential analysis determined there is no reasonable potential to cause or contribute to pollution of waters of the state from total recoverable arsenic therefore the parameter was removed from the permit.
  - The facility has converted the domestic wastewater system from discharging (at outfall #002) to a no-discharge subsurface system. Limits removed.
  - When the receiving stream was changed, copper and zinc at outfall #003 and #004 were changed to match the primary discharge limits at outfall #001. This change required backsliding of permitted limits.
  - Zinc limitations were recalculated using site specific data and resulted in elevated limitations.
  - Special condition C. 6. In the previous permit stating disposal of sludge is not authorized by this permit was removed. The facility places sludge within the tailings basin. The facility description was also updated to reflect this change.
- ✓ The Department determined technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).
  - The previous permit contained a specific set of prohibitions related to general criteria found in 10 CSR 20-7.031(4); however, there was no determination as to whether the discharges have reasonable potential to cause or contribute to excursion of those general water quality standards in the previous permit. Federal regulations 40 CFR 122.44(d)(1)(iii) requires that in instances were reasonable potential (RP) to cause or contribute to an exceedance of a water quality standard exists, a numeric limitation must be included in the permit. Rather than conducting the appropriate RP determination and establishing numeric effluent limitations for specific pollutant parameters, the previous permit simply placed the prohibitions in the permit. These conditions were removed from the permit. Appropriate reasonable potential determinations were conducted for each general criterion listed in 10 CSR 20-7.031(4) and effluent limitations were placed in the permit for those general criteria where it was determined the discharge had reasonable potential to cause or contribute to excursions of the general criteria. Specific effluent limitations were not included for those general criteria where it was determined that the discharges will not cause or contribute to excursions of general criteria. Removal of the prohibitions does not reduce the protections of the permit or allow for impairment of the receiving stream. The permit maintains sufficient effluent limitations, monitoring requirements and best management practices to protect water quality.

ANTIDEGRADATION:
In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.
✓ New and/or expanded discharge. The facility has begun to receive additional mine dewatering flows from Fletcher mine. The antidegradation analysis was public noticed from December 16, 2016 through January 16, 2017.

For stormwater discharges with new, altered, or expanding discharges, the stormwater BMP chosen for the facility, through the antidegradation analysis performed by the facility, must be implemented and maintained at the facility. Failure to implement and maintain the chosen BMP alternative is a permit violation; see SWPPP.
✓ Applicable; the facility must review and maintain stormwater BMPs as appropriate.

BENCHMARKS:
When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer. Benchmarks require the facility to monitor, and if necessary, replace and update stormwater control measures. Benchmark concentrations are not effluent limitations. A benchmark is a technology-based threshold. A benchmark exceedance, therefore, is not a permit violation; however, failure to take corrective action is a violation of the permit. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective actions may be necessary to comply with the technology based effluent limitations (TBEL).
Because of the fleeting nature of stormwater discharges, the department, under the direction of EPA guidance, has determined monthly averages are capricious measures of stormwater discharges. The *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-001; 1991) Section 3.1 indicates most procedures within the document apply only to water quality based approaches, not end-of-pipe technology-based controls. Hence, stormwater outfalls will only contain a maximum daily limit (MDL), benchmark, or monitoring requirement determined by the site specific conditions including the receiving water's current quality. While inspection of the stormwater BMPs occur monthly, facilities with no compliance issues are usually expected to sample stormwater quarterly.

Numeric benchmark values are based on other stormwater permits including the Environmental Protection Agency's (EPA's) *Multi-Sector General Permit For Stormwater Discharges Associated With Industrial Activity* (MSGP) or water quality standards. Because precipitation events are sudden and momentary, benchmarks based on state or federal standards or recommendations use the Criteria Maximum Concentration (CMC) value, or acute standard. The CMC is the estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect. The CMC for aquatic life is intended to be protective of the vast majority of the aquatic communities in the United States.
✓ Not applicable; this facility does not have any permitted stormwater-only outfalls.

BIOSOLIDS & SEWAGE SLUDGE:
Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). 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. Additional information regarding biosolids and sludge is located at the following web address: http://extension.missouri.edu/main/DisplayCategory.aspx?C=74, items WQ422 through WQ449.
✓ Permittee is not authorized to land apply biosolids. Sludge/biosolids are removed by contract hauler, incinerated, or stored in the holding tanks.

COMPLIANCE AND ENFORCEMENT:
Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.
✓ Applicable. The permittee/facility is currently under enforcement action. The Doe Run Resource Corporation Multi-Media Consent Decree filed 12/21/2011 is available at http://www.epa.gov/region7/cleanup/doe_run/pdf/consent_decree.pdf.

EFFLUENT LIMITATION GUIDELINE:
Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. All are technology based limitations which must be met by the applicable facility at all times.

✓ The Environmental Protection Agency has established effluent limitation guidelines (ELG) at 40 CFR 440 *Ore Mining and Dressing Point Source Category* Subpart J (440.100 – 440.105) *Copper, Lead, Zinc, Gold, Silver, and Molybdenum Ores Subcategory* which apply to this facility. However, Missouri water quality standards may be more stringent, and in those cases, are used. Any differences between the calculations found in this section and the antidegradation review can be attributed to the differences in the 7Q10 values used for calculations.

EFFLUENT CHARACTERISTIC	CATEGORICAL EFFLUENT LIMITATIONS	
	MAXIMUM FOR ANY ONE DAY	AVERAGE OF DAILY VALUES FOR 30 CONSECUTIVE DAYS
	MILLIGRAMS PER LITER	MILLIGRAMS PER LITER
Cu	0.30	0.15
Zn	1.5	0.75
Pb	0.6	0.3
Hg	0.002	0.001
Cd	0.10	0.05
pH	6.0 – 9.0	not averaged, 6.0 – 9.0
TSS	30.0	20.0

3. Narrative special condition #2 (continued from previous permit): Outfalls #003 and #004 only: 40 CFR 440.131(b) *Storm exemption for facilities permitted to discharge.* If, as a result of precipitation or snowmelt, a source with an allowable discharge under 40 CFR part 440 has an overflow or excess discharge of effluent which does not meet the limitations of 40 CFR part 440, the source may qualify for an exemption from such limitations with respect to such discharge if the following conditions are met:
(1) The facility is designed, constructed and maintained to contain the maximum volume of wastewater which would be generated by the facility during a 24-hour period without an increase in volume from precipitation and the maximum volume of wastewater resulting from a 10-year, 24-hour precipitation event or treat the maximum flow associated with these volumes. In computing the maximum volume of wastewater which would result from a 10-year, 24-hour precipitation event, the facility must include the volume which would result from all areas contributing runoff to the individual treatment facility, *i.e.*, all runoff that is not diverted from the active mining area and runoff which is not diverted from the mill area.
(2) The facility takes all reasonable steps to maintain treatment of the wastewater and minimize the amount of overflow.
(3) The facility complies with the notification requirements of §122.60 (g) and (h). The storm exemption is designed to provide an affirmative defense to an enforcement action. Therefore, the operator has the burden of demonstrating to the appropriate authority that the above conditions have been met.
   - However, these exemptions will only apply (if granted) to TSS and total recoverable mercury as these are the only ELG limitations on outfalls #003 and #004. Any exceedances of water quality limitations will not be exempted.

GROUNDWATER MONITORING:
Groundwater is a water of the state according to 10 CSR 20-7.015(7) and 10 CSR 20-7.031(6) and must be protected accordingly.

✓ Applicable. The facility is to monitor groundwater for the land reclamation program. The water protection program has reviewed the reports. No additional sampling or reporting is required at this time.

INDUSTRIAL SLUDGE:
Industrial sludge is solids, semi-solids, or liquid residue generated during the treatment of industrial process wastewater in a treatment works; including but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and a material derived from industrial sludge.

✓ Not applicable; this condition is not applicable to the permittee for this facility. While the facility places sludge within the holding basin, the basin is a treatment device and putting and placing is allowed for sludge at mining and milling sites due to the Bevill exempted material status.

NUTRIENT MONITORING:
State regulations at 10 CSR 20-7.015 (9)(D)7. Require all facilities discharging greater than 0.1 MGD sample for nutrients. The rule also indicates facilities "that typically discharge nitrogen and phosphorus" are applicable indicating only facilities expected to discharge these pollutants need sample. The rule became effective as law on February 28, 2014. This facility is expected to discharge nutrients as detections occurred while sampling for permit renewal.

Most commercial explosives contain organic nitrogenous compounds containing $–NO_2$, $-ONO_2$, and $–NHNO_2$ groups. The gaseous products of complete reaction are typically carbon dioxide, steam, and nitrogen. Nitrogen is atmospherically deposited throughout the mine, falls into mine water, and then brought to the surface through mine dewatering activities.

Nitrate and nitrite are part of the nitrogen cycle. The nitrate ion, NO_3^-, is the stable form of oxidized nitrogen and is not acutely toxic. The nitrite ion, NO_2^-, is relatively unstable but common intermediate form in nitrogen chemistry, and is toxic to humans when ingested. Waters containing nitrate can become toxic with nitrite by partial denitrification by bacteria e.g. during stagnation of oxygen-poor water. The NO_3^- salts of all common metals (e.g. $NaNO_3$ and KNO_3) are highly soluble in water. In natural waters, carbonates, sulfates, chlorides, phosphates, and nitrates affect metal speciation by forming ionizable salts. Insoluble carbonate formation is one of the most important processes for removing metals from solution.

The department's Nutrient Loss Reduction Strategy http://dnr.mo.gov/env/wpp/mnrsc/docs/nlrs-strategy-2014.pdf indicates facilities may be required to report each constituent of total nitrogen to reveal speciation.

Total Nitrogen (TN) is the sum of all nitrogen forms or; Total Nitrogen = Ammonia Nitrogen (NH_3) + Organic Nitrogen (Nitrogen in amino acids and proteins) + Nitrite (NO_2) + Nitrate (NO_3) or; Total Nitrogen = TKN + NO_2 + NO_3. TKN stands for Total Kjeldahl Nitrogen which is the sum of; NH_3 + Organic Nitrogen

REASONABLE POTENTIAL ANALYSIS (RPA):
Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard. In accordance with [40 CFR Part 122.44(d)(1)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

✓ Applicable; a RPA was conducted on appropriate parameters and is presented in the following table. The Reasonable Potential Analysis was conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request. This RPA was conducted on data supplied to the department by the facility through DMRs. This data was not used to calculate permit limits as a treatment plant is scheduled for installation and a CV of 0.6 and the average flow of 15.9 MGD was used to calculate permit limits.

PARAMETER	DAILY MAX	MONTHLY AVERAGE	CMC	RWC ACUTE	CCC	RWC CHRONIC	n	MAX/MIN	CV	MF	RP
Arsenic, TR	34.65	17.13	NA	NA	20.0	17.19	60	11/0.08	0.61	1.64	No
Cadmium, TR	0.84	0.42	35.2	5.31	0.5	5.08	60	3.3/0	0.59	1.62	Yes
Copper, TR	36.23	18.06	96.9	39.62	21.0	37.94	5	9.5/1.4	0.60	4.19	Yes
Lead, TR	15.54	7.81	1045.0	194.38	9.1	186.13	55	118/2.5	0.59	1.66	Yes
Mercury, TR	0.86	0.43	2.8	0.17	0.5	0.16	5	0.04/0	0.60	4.19	No
Nickel, TR	198.24	92.23	995.0	518.43	110.6	496.42	60	300/2	0.70	1.74	Yes
Thallium, TR	13.29	6.61	6.3	23.50	6.3	22.51	60	7/0	2.41	3.37	Yes
Zinc, TR	500.77	210.97	498.3	4733.57	315.4	4532.52	53	2350/18.4	0.87	2.02	Yes

N/A Not Applicable
* Units are (µg/L) unless otherwise noted.
n number of samples. If the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent.
CV Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.
RWC Receiving Water Concentration: concentration of a toxicant or the parameter in the receiving water after mixing (if applicable).
MF Multiplying Factor. 99% Confidence Level and 99% Probability Basis.
RP Reasonable Potential: an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

SCHEDULE OF COMPLIANCE (SOC):
A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, effluent limits, 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. SOCs are allowed under 40 CFR 122.47 providing certain conditions are met.

✓ Applicable; the time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(12)]. The facility has been given a schedule of compliance at outfall #001 to meet final effluent limits for the following metals: total recoverable cadmium, total recoverable lead, total recoverable nickel, and chronic whole effluent toxicity.

SPILL REPORTING:
Per 10 CSR 24-3.010, any emergency involving a hazardous substance must be reported to the department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I. http://dnr.mo.gov/env/esp/spillbill.htm

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):
In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities: (2) Authorized under section 402(p) of the CWA for the control of stormwater discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure. Additionally in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate pollution of stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged with during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values discussed in Part V above. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure that will assist in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit. Additional information can be found in EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009].

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed the facility will employ the control measures that have been determined to be adequate to achieve the benchmark values discussed above. The facility will conduct monitoring and inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example, if sample results from an outfall show values of TSS above the benchmark value, the BMP being employed is deficient in controlling stormwater pollution. Corrective action should be taken to repair, improve, or replace the failing BMP. This internal evaluation is required at least once per month but should be continued more frequently if BMPs continue to fail. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

If failures continue to occur and the permittee feels there are no practicable or cost-effective BMPs that will sufficiently reduce a pollutant concentration in the discharge to the benchmark values established in the permit, the permittee can submit a request to re-evaluate the benchmark values. This request needs to include 1) a detailed explanation of why the facility is unable to comply with the permit conditions and unable to establish BMPs to achieve the benchmark values; 2) financial data of the company and documentation of cost associated with BMPs for review and 3) the SWPPP, which should contain adequate documentation of BMPs employed, failed BMPs, corrective actions, and all other required information. This will allow the department to conduct a cost analysis on control measures and actions taken by the facility to determine cost-effectiveness of BMPs. The request shall be submitted in the form of an operating permit modification; the application is found at: http://dnr.mo.gov/forms/index.html.

✓ Applicable; a SWPPP shall be developed and implemented for each area 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.

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.

✓ 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 WLA is the amount of pollutant each discharger is allowed to release into a given stream after the department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

✓ Applicable; wasteload allocations were calculated where relevant using water quality criteria or water quality model results and by applying the dilution equation below:

$$C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)}$$ (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* or TSD EPA/505/2-90-001; March 1991.
- Number of Samples "n": In accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance which should be, at a minimum, targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For Total Ammonia as Nitrogen, "n = 30" is used.

WLA MODELING:
Permittees may submit site specific studies to better determine the site specific wasteload allocations applied in permits.

✓ Applicable. The *Dissolved Metal Translator Study for Doe Run Facilities* dated January 18, 2011 is used to determine the dissolved:total ratio of hardness-dependent metals for this site. This study was approved by the department.

WATER QUALITY STANDARDS:
Per [10 CSR 20-7.031(4)], general criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:
A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

✓ Applicable. Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A)7. And the Water Quality Standards 10 CSR 20-7.031(4)(D),(F),(G),(I)2.A & B are being met. Under [10 CSR 20-6.010(8)(A)4], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§§644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; 644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc…); and 644.051.5 is the basic authority to require testing conditions. WET testing will be required by all major type facilities.

Part IV. EFFLUENT LIMITS DETERMINATION

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit. Daily maximums and monthly averages are required under 40 CFR 122.45(d)(1) for continuous discharges not from a POTW.

GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into the permit for those pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states that pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. The previous permit included the narrative criteria as specific prohibitions placed upon the discharge. These prohibitions were included in the permit absent any discussion of the discharge's reasonable potential to cause or contribute to an excursion of the criterion. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether the discharge has reasonable potential to cause, or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). In instances where reasonable potential exist the permit includes numeric limitations to address the reasonable potential. In instances where reasonable potential does not exist the permit includes monitoring of the discharges potential to impact the receiving stream's narrative criteria. Finally, all of the previous permit narrative criteria prohibitions have been removed from the permit given they are addressed by numeric limits where reasonable potential exists.

(A) 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.
- Specific pollutants are discussed below in Derivation and Discussion of Limits and where appropriate, numeric effluent limitations added. The facility is also subject to whole effluent toxicity limitations at outfall #001. The discharge from outfalls #001, 003, & 004 are control by a technologic limitation for TSS which is more stringent than WQ limitations. There is no reasonable potential for these discharges to cause or contribute to an excursion from to this criterion.

(B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses.
- During application for renewal, the facility disclosed they believed oil and grease was absent and supplied a non-detect analytical result for oil and grease. This was the only substance disclosed which could influence this criterion. With that being said, the discharge from outfalls #001, 003, & 004 do not have reasonable potential to cause or contribute to an excursion from this criterion.

(C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.
- The discharges from outfalls #001, #003, & #004 contain solids which may cause color or turbidity however the discharges are subject to technology based limitations for TSS which are more stringent than WQ limitations. The technology limit will also protect for water quality and therefore there is no reasonable potential to cause or contribute to an excursion from this criterion.

(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life.
- Specific toxic pollutants are discussed below in Derivation and Discussion of Limits and where appropriate numeric effluent limitations added. The facility is also subject to whole effluent toxicity limitations.

(E) There shall be no significant human health hazard from incidental contact with the water.
- Specific toxic pollutants, including those that could result in human health hazards, are discussed below in Derivation and Discussion of Limits, and where appropriate, numeric effluent limitations added.

(F) There shall be no acute toxicity to livestock or wildlife watering.
- Specific toxic pollutants are discussed below in Derivation and Discussion of Limits, and where appropriate, numeric effluent limitations added. The facility is also subject to whole effluent toxicity limitations.

(G) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.
- The facility has reasonable potential to change the chemical makeup or impair the biological community because of the metals discharges. Changes in pH change the effects the metals have on the biological community. Numeric limitations on pH and metals shall will control the discharges from outfalls #001, 003 & 004 and protect this criterion.

(H) 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.

- There are no solid waste disposal activities or any operation that would cause or contribute to the materials listed above being discharged through any outfall. The discharges from outfalls #001, 003, & 004 do not have reasonable potential to cause or contribute to an excursion from this criterion.

OUTFALL #001 – PROCESS WATER: MAIN FACILITY OUTFALL

EFFLUENT LIMITATIONS TABLE:

PARAMETERS OUTFALL #001	UNIT	BASIS FOR LIMITS	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL								
FLOW	MGD	1	*	*	SAME	ONCE/WEEK	ONCE/MONTH	24 HR. TOT
CONVENTIONAL								
pH ǂ	SU	1, 3	6.5 TO 9.0	6.5 to 9.0	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
TSS	mg/L	1	30	20	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
METALS								
CADMIUM, TR	µg/L	1, 2, 3	1.2	0.6	I, 1.2, 0.6	ONCE/MONTH	ONCE/MONTH	GRAB
CADMIUM, TR	µg/L	1, 2, 3	1.0	0.5	FINAL	ONCE/MONTH	ONCE/MONTH	GRAB
COPPER, TR	µg/L	1, 2, 3	43.5	21.7	57.5, 28.7	ONCE/YEAR	ONCE/YEAR	GRAB
LEAD, TR	µg/L	1, 2, 3	24.6	12.2	I, 24.6, 12.2	ONCE/MONTH	ONCE/MONTH	GRAB
LEAD, TR	µg/L	1, 2, 3	19.4	9.7	FINAL	ONCE/MONTH	ONCE/MONTH	GRAB
MERCURY, TR	µg/L	1	2	1	2, 1	ONCE/YEAR	ONCE/YEAR	GRAB
NICKEL, TR	µg/L	2, 6	*	*	I, *, *	ONCE/MONTH	ONCE/MONTH	GRAB
NICKEL, TR	µg/L	2, 6	229	114	FINAL	ONCE/MONTH	ONCE/MONTH	GRAB
THALLIUM, TR	µg/L	2	10.3	6.3	*, *	ONCE/MONTH	ONCE/MONTH	GRAB
ZINC, TR	µg/L	1, 2, 3	586.8	292.5	523.1, 260.7	ONCE/MONTH	ONCE/MONTH	GRAB
NUTRIENTS								
NITRATE + NITRITE AS N	mg/L	6	2.0	2.0	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
NITROGEN, TOTAL N (TN)	mg/L	1	*	*	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
PHOSPHORUS, TOT. P (TP)	mg/L	1	0.5	0.5	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
OTHER								
CHRONIC WET TEST	TUc	8	2.6	-	I, 2.6	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHRONIC WET TEST	TUc	8	1.7	-	FINAL	ONCE/QUARTER	ONCE/QUARTER	GRAB

*	Monitoring requirement only
ǂ	The facility will report the minimum and maximum pH values; pH is not to be averaged.
NEW	Parameter not previously established in previous state operating permit.
I	interim limit
Same	Same as previous permit limits
Final	Final limit value after schedule of compliance
TR	Total Recoverable

Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Antidegradation Review/Policy
5. Water Quality Model
6. Best Professional Judgment
7. TMDL or Permit in lieu of TMDL
8. WET Test Policy

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

Flow
In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification. The facility will report the total flow in millions of gallons per day (MGD). The previous permit required monthly flow records only, the facility will report weekly flow values, increased from the previous permit due to weekly sampling of nutrients and the subsidence event.

CONVENTIONAL:

pH
6.5 to 9.0 SU. The Water Quality Standard at 10 CSR 20-7.031(5)(E) states water contaminants shall not cause pH to be outside the range of 6.5 to 9.0 standard pH units. This limitation also protects 10 CSR 20-7.031(4)(D), (E), (F), and (G). The facility has reasonable potential to exceed water quality limitations per RPD.

Total Suspended Solids (TSS)
40 CFR 440 requires 30 mg/L daily maximum, 20 mg/L consecutive thirty-day daily-average limits.

METALS:
Effluent limitations for total recoverable metals were developed using methods and procedures outlined in the *Technical Support Document For Water Quality-based Toxic Controls* (EPA/505/2-90-001) and *The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion* (EPA 823-B-96-007). In a pre-public notice comment letter from Newman Comley & Ruth dated January 29th, 2016, the facility's representative indicated the permit writer should have used downstream data to calculate the hardness-dependent metals limits. The department has calculated the following limits using the downstream data of which 292 mg/L is the 25th percentile. N/A = not applicable.

Conversion factor values supplied by the permittee via a dissolved metals translator study (LimnoTech, 2011)

METAL	STUDY CONVERSION FACTORS	
	ACUTE	CHRONIC
Cadmium	0.32	0.93
Copper	0.32	0.91
Lead	0.16	0.72
Zinc	0.50	0.79

Values calculated using equation found in Section 1.3 of EPA 823-B-96-007 and hardness = 292 mg/L.

METAL	STANDARD CONVERSION FACTORS	
	ACUTE	CHRONIC
Nickel	0.998	0.997
Thallium	N/A	N/A

During the 2016 Antidegradation Analysis, the calculations were performed using a CV of 0.6 and average flow of 15.9 MGD. The RP analysis was performed on data supplied by DMRs using the data's own variability and design flow of 25 MGD.

Arsenic, Total Recoverable
This metal is not required per the ELG. Previous permit limitations were monitoring only. An RP analysis showed no RP, monitoring discontinued.

Cadmium, Total Recoverable

Limits for this metal are required per the ELG. Previous permit limits were 1.2 µg/L daily maximum and 0.6 µg/L monthly average. Categorical limits are 100 µg/L daily maximum and 50 µg/L monthly average and are not as protective of water quality based limits. A reasonable potential analysis was performed and the facility was shown to have RP. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G).

Acute AQL WQS: $e^{(1.0166 * \ln 292 - 3.062490)} * (1.136672 - \ln 292 * 0.041838) = 13.469$ [Hardness 292]
Chronic AQL WQS: $e^{(0.7409 * \ln 292 - 4.719948)} * (1.101672 - \ln 292 * 0.041938) = 0.517$ [Hardness 292]
Acute WQS: 13.469 ÷ 0.32 = 42.092 µg/L
Chronic WQS: 0.517 ÷ 0.93 = 0.556 µg/L
Acute WLA: [(24.645 + 0.19193) 42.092 – (0.19193 * 0.0)] ÷ 24.645 Ce = 42.42 µg/L
Chronic WLA: [(24.645 + 1.91925) 0.556 – (1.91925 * 0.0)] ÷ 24.645 Ce = 0.599 µg/L
LTAa: 42.42 (0.321) = 13.62 µg/L [CV = 0.6, 99th Percentile]
LTAc: 0.599 (0.527) = 0.316 µg/L [CV = 0.6, 99th Percentile]
MDL: 0.316 (3.11) = **1.0 µg/L** [CV = 0.6, 99th Percentile]
AML: 0.316 (1.55) = **0.5 µg/L** [CV = 0.6, 95th Percentile, n = 4]

The facility cannot consistently meet these new limits and will be allowed a schedule of compliance to meet the new effluent limits. Monthly sampling and reporting continued from previous permit.

Copper, Total Recoverable

This metal is required per the ELG. Previous permit limits were 57.5 µg/L daily maximum and 28.7 µg/L monthly average with a once per year sampling schedule. Categorical limits are 300 µg/L daily maximum and 150 µg/L monthly average. Categorical limits are not as protective as water quality based limits. A reasonable potential analysis was performed and the facility was shown to have RP. Traditionally, the department only uses the last five years of data to determine RP, however, this parameter is only sampled yearly and has only been sampled since the last permit renewal so the permit writer used data from 2010 to 2015; six points of data. RP was still found. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G).

Acute AQL WQS: $e^{(0.9422 * \ln 292 - 1.7003)} * 0.32 = 36.874$ [Hardness 292]
Chronic AQL WQS: $e^{(0.8545 * \ln 292 - 1.7020)} * 0.91 = 22.375$ [Hardness 292]
Acute WQS: 36.874 ÷ 0.32 = 115.23 µg/L
Chronic WQS: 22.375 ÷ 0.91 = 24.59 µg/L
Acute WLA: [(24.645 + 0.19193) 115.232 – (0.19193 * 0.0)] ÷ 24.645 Ce = 116.13 µg/L
Chronic WLA: [(24.645 +1.91925) 24.588 – (1.91925 * 0.0)] ÷ 24.645 Ce = 26.50 µg/L
LTAa: 116.13 (0.321) = 37.287 µg/L [CV = 0.6, 99th Percentile]
LTAc: 26.50 (0.527) = 13.98 µg/L [CV = 0.6, 99th Percentile]
MDL: 13.98 (3.11) = **43.5 µg/L** [CV = 0.6, 99th Percentile]
AML: 13.98 (1.55) = **21.7 µg/L** [CV = 0.6, 95th Percentile, n = 4]

According to the data, the facility is able to meet the new limits therefore no schedule of compliance is afforded. Yearly monitoring continued.

Lead, Total Recoverable

This metal is required per the ELG and is necessary because the 303(d) list has identified this facility as a contributor to the sediment pollution of the West Fork Black River. Previous permit limits were 24.6 µg/L daily maximum and 12.2 µg/L monthly average. A reasonable potential analysis was performed and was shown there is RP. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G).

Acute AQL WQS: $e^{(1.273 * \ln 292 - 1.460448)} * (1.46203 - \ln 292 * 0.145712) = 202.696$ [at Hardness 292]
Chronic AQL WQS: $e^{(1.273 * \ln 292 - 4.704797)} * (1. 46203 - \ln 292 * 0.145712) = 7.904$ [at Hardness 292]
Acute TR WQS: 202.696 ÷ 0.16 = 1266.850
Chronic TR WQS: 7.904 ÷ 0.72 = 10.978
Acute WLA: [(24.645 + 0.1919) 1266.850 – (0.1919 * 0.0)] ÷ 24.645 Ce = 1276.72 µg/L
Chronic WLA: [(24.645 + 1.9193) 10.978 – (1.9193 * 0.0)] ÷ 24.645 Ce = 11.83 µg/L
LTAa: 1288.192 (0.321) = 409.93 µg/L [CV = 0.6, 99th Percentile]
LTAc: 11.83 (0.527) = 6.24µg/L [CV = 0.6, 99th Percentile]
MDL: 6.24 (3.11) = **19.4 µg/L** [CV = 0.6, 99th Percentile]
AML: 6.24 (1.55) = **9.7 µg/L** [CV = 0.6, 95th Percentile, n = 4]

After reviewing the last five years of data, the facility is not able to meet these limits. The facility will be afforded a schedule of compliance for this parameter. Monthly sampling continued from previous permit.

Mercury, Total Recoverable

This metal is required to be limited per the ELG. Previous permit limits were 2.0 µg/L daily maximum and 1.0 µg/L monthly average. These are the ELG values. The data does not show reasonable potential to contribute to pollution of waters of the state for mercury. Monitoring and reporting will remain at yearly.

Nickel, Total Recoverable

Previous permit limits were monitoring only. The RP analysis has found reasonable potential to contribute to pollution of waters of the state for this parameter, likely due to the lowered 7Q10 value of the West Fork Black River. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G).

Acute AQL WQS: $e^{(0.846 * \ln 292 + 2.255647)} * 0.998 = 1160.004$ [at Hardness 292]
Chronic AQL WQS: $e^{(0.846 * \ln 292 + 0.058978)} * 0.997 = 128.832$ [at Hardness 292]
Acute TR WQS: 1160.004 ÷ 0.998 = 1162.329
Chronic TR WQS: 128.832 ÷ 0.997 = 129.219
Acute WLA: [(24.645 + 0.1919) 1162.329 – (0.1919 * 0.0)] ÷ 24.645 Ce = 1171.910 µg/L
Chronic WLA: [(24.645 + 1.9193) 129.219 – (1.9193 * 0.0)] ÷ 24.645 Ce = 139.28 µg/L
LTAa: 1171.910 (0.321) = 376.11 [CV = 0.6, 99th Percentile]
LTAc: 139.28 (0.527) = 73.46 [CV = 0.6, 99th Percentile]
MDL: 73.46 (3.11) = **229 µg/L** [CV = 0.6, 99th Percentile]
AML: 73.46 (1.55) = **114 µg/L** [CV = 0.6, 95th Percentile, n = 4]

Once per month sampling is continued from previous permit. After review of the last five years of data, the facility cannot meet the new limits; SOC allowed.

Thallium, Total Recoverable

Previous permit limits were monitoring only. This parameter is not a requirement of the ELG. However, the reasonable potential analysis as performed per the TSD (EPA/505/2-90-001, Section 3.3.2), showed RP to contribute to pollution of waters of the state. Thallium's water quality limits are based on protection of human health (HHP) which is a use required to be protected for the West Fork Black River. The chronic standard is 6.3 µg/L. The limits below were calculated using section 5.4.4 in EPA/505/2-90-001. When calculating limits for HHP, mixing is not allowed. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G).

Chronic HHP WQS: 6.3; AML = WLA = 6.3
Standard CV = 0.6; standard n=4; 99th percentile; therefore multiplier for HHP protection is 1.64
MDL: 6.3 * 1.64 = 10.332 **10.3 µg/L**
AML: **6.3 µg/L**

Data for the last five years was reviewed. One data point (7 µg/L) was above the AML. The facility is expected to be able to meet the new limitations; no SOC.

Zinc, Total Recoverable

This metal is required per the ELG. Previous permit limits were 523.1 µg/L daily maximum and 260.7 µg/L monthly average. An RPA showed RP for this parameter. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G).

Acute WQS: $e^{(0.8473 * \ln 292) + 0.884} * 0.98 = 291.113$ [at Hardness 292]
Chronic WQS: $e^{(0.8473 * \ln 292) + 0.884} * 0.98 = 291.113$ [at Hardness 292]
Acute TR WQS: 291.113 ÷ 0.5 = 582.226
Chronic TR WQS: 291.113 ÷ 0.79 = 368.497
Acute WLA: [(24.645 + 0.1919) 582.226 – (0.1919 * 0.0)] ÷ 24.645 Ce = 586.76 µg/L
Chronic WLA: [(24.645 + 1.9193) 368.497 – (1.9193 * 0.0)] ÷ 24.645 Ce = 397.19 µg/L
LTAa: 586.76 (0.321) = 188.40 [CV = 0.6, 99th Percentile]
LTAc: 397.19 (0.527) = 209.49 [CV = 0.6, 99th Percentile]
MDL: 188.40 (3.11) = **586.8 µg/L** [CV = 0.6, 99th Percentile]
AML: 188.40 (1.55) = **292.5 µg/L** [CV = 0.6, 95th Percentile, n = 4]

WQ limits more protective than ELG limits. Backsliding allowed as new information was used to calculate permitted limitations.

NUTRIENTS:

Nitrate plus Nitrite as Nitrogen

Previous permit limits were 2.0 mg/L for daily maximum and monthly average continued from previous permit as described by the March 2013 Water Quality Review and December 2016 Antidegradation Review completed by the Engineering Section, public noticed ending May 16, 2013, and ending January 16, 2017 respectively.

Nitrogen, Total N (TN)

Monthly monitoring and reporting continued from previous permit as described by the March 2013 Water Quality and Antidegradation Review completed by the Engineering Section, public noticed May 16, 2013, and completed July 18, 2013.

Phosphorous, Total P (TP)

Previous permit limits 0.5 mg/L daily maximum and monthly average continued from previous permit as described by the March 2013 Water Quality and Antidegradation Review completed by the Engineering Section, public noticed May 16, 2013, and completed July 18, 2013.

OTHER:

WET Test, Chronic

The facility has failed numerous chronic toxicity tests by exceeding TUc. Previous permit limits were 2.6 TUc. The permit writer has determined this facility has reasonable potential to cause toxicity in the receiving stream. The Environmental Protection Agency has determined the narrative condition of "no toxics present in toxic amounts" to mean in-stream limits of 0.3 TUa for acute toxicity, and 1.0 TUc for chronic toxicity in EPA 832-B-04-003 and within the TSD. This translates to the CMC = 1.0 TUa, and CCC = 0.3 TUc. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G).

WET WLAa: $[(0.3 \div DF_{cfs}) * (DF_{cfs} + ZID_{cfs})]$

WET WLAa: $[(0.3 \div 38.75) * (38.75 + 0.192)] = 0.00774 * 38.942 = 0.3014$ TUa

WET WLAc: $[(1.0 \div DF_{cfs}) * (DF_{cfs} + MZ_{cfs})]$

WET WLAc: $[(1.0 \div 38.75) * (38.75 + 1.919)] = 0.0258 * 40.669 = 1.0495$ TUc

The acute WLA is converted to a long-term average concentration (LTAa,c) using the following equation: WLAa,c = WLAa × ACR. A default acute to chronic ratio value of 10 is used based on the information presented in section 1.3.4 (page 18) and Appendix A of the March 1991 TSD.

WLAa,c: 0.3014 TUa * 10 = 3.014 [ACR = acute-to-chronic ratio = 10]

LTAa,c: 3.014 (0.321) = 0.9794 [CV = 0.6, 99th Percentile]

LTAc: 1.049 (0.527) = 0.5528 [CV = 0.6, 99th Percentile]

Use most protective number of LTA_c or LTA_a. To protect a waterbody from both acute and chronic effects, the more limiting of the calculated LTAa,c and LTAc is used to derive the effluent limits. As shown above, the LTAc value (0.6155) was less than the LTAa,c value.

MDL: 0.5528 * (3.11) = **1.7 TUc** [CV = 0.6, 99th Percentile]

The facility cannot meet these permit limits. A schedule of compliance is afforded. Quarterly sampling continued.

For classified permanent streams with other than default mixing considerations, the AEC% is determined as follows:
Chronic AEC% = $[\text{design flow}_{cfs} \div (MZ_{7Q10} + \text{design flow}_{cfs})] \times 100 = \#\#\%$
AECc = $[11.3925 \div (1.91925 + 11.3925)] * 100 =$ **86 %**

10 CSR 20-7.015((9)(L)4.A. states the dilution series must be proportional. Each dilution was determined by multiplying or dividing 0.93 from the AEC and then each consecutive value. Rounding occurred after all calculations were completed. The dilution series is: **93 %, 86 %, 80 %, 74 %, and 69 %**.
See special condition #C.13.

OUTFALLS #003 AND #004 – OVERFLOWS

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	MONTHLY AVERAGE MAX	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY ⁑	MINIMUM REPORTING FREQUENCY ⁑	SAMPLE TYPE
PHYSICAL								
FLOW	MGD	1	*	*	SAME	ONCE/DAY	30 DAYS	ESTIMATE
PRECIPITATION	INCHES	6	*	*	SAME	ONCE/DAY	30 DAYS	MEASURE
CONVENTIONAL								
PH	SU	1	6.5 – 9.0	6.5 – 9.0	6.5 – 9.0	ONCE/DAY	30 DAYS	GRAB
TSS	MG/L	1	30	20	30/20	ONCE/DAY	30 DAYS	GRAB
METALS								
CADMIUM, TR	µg/L	1	1.0	0.5	12.1/6.0	ONCE/DAY	30 DAYS	GRAB
COPPER, TR	µg/L	1	43.5	21.7	31.7/15.8	ONCE/DAY	30 DAYS	GRAB
LEAD, TR	µg/L	1	19.4	9.7	247/123	ONCE/DAY	30 DAYS	GRAB
MERCURY, TR	µg/L	1	2	1	2/1	ONCE/DAY	30 DAYS	GRAB
NICKEL, TR	µg/L	1	229	114	NEW	ONCE/DAY	30 DAYS	GRAB
THALLIUM, TR	µg/L	1	10.3	6.3	NEW	ONCE/DAY	30 DAYS	GRAB
ZINC, TR	µg/L	1	586.8	292.5	195/97	ONCE/DAY	30 DAYS	GRAB

* Monitoring requirement only
⁑ When the outfall discharges the facility must sample, at a minimum, once per day each day of discharge, the results will be reported on the DMR for the monitoring period in which the discharge occurred.
New parameter is new this permit
TR total recoverable

Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Antidegradation Review/Policy
5. Water Quality Model
6. Best Professional Judgment
7. TMDL or Permit in lieu of TMDL
8. WET Test Policy

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

Flow

In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification. Permittee will record total volume of wastewater discharged from each outfall each day.

Precipitation

Monitoring only requirement; measuring the amount of precipitation [(10 CSR 20-6.200(2)(C)1.E(VI)] during an overflow event is necessary to ensure adequate stormwater management exists at the site. Knowing the amount of potential stormwater runoff can provide the permittee a better understanding of specific control measure that should be employed to ensure protection of water quality. Because rainfall data is easily available online, the facility will only need to report the rainfall measurement from the day of sampling.

CONVENTIONAL:

pH

6.5 to 9.0 SU. The Water Quality Standard at 10 CSR 20-7.031(5)(E) states water contaminants shall not cause pH to be outside the range of 6.5 to 9.0 standard pH units. This limitation also protects 10 CSR 20-7.031(4)(D), (E), (F), and (G). The facility has reasonable potential to exceed water quality limitations per RPD.

Total Suspended Solids

Per ELG – 30 mg/L daily maximum; 20 mg/L monthly average; continued from previous permit. Because this facility is expected to discharge solids (as there is an ELG limitation), there is RP to cause or contribute to exceed general water quality criteria; however, technology limitations are more protective and are protective of 10 CSR 20-7.031(4)(A), (B), and (C).

METALS:

Cadmium, Total Recoverable

Previous permit limits: 12.1 µg/L daily maximum; 6.0 µg/L monthly average. The receiving stream has been changed to West Fork (P) therefore these outfalls will have the same limits as outfall #001: 1.0 µg/L daily maximum; 0.5 µg/L monthly average. The facility stated in an email dated 5/24/2017 they do not require an SOC; SOC's are generally not granted for emergency discharge outfalls.

Copper, Total Recoverable

Previous permit limits: 31.7 µg/L daily maximum; 15.8 µg/L monthly average. The receiving stream has been changed to West Fork (P) therefore these outfalls will have the same limits as outfall #001: 43.5 µg/L daily maximum, 21.7 µg/L monthly average. Backsliding is allowed as the receiving stream has changed. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G).

Lead, Total Recoverable

Previous permit limits: 247 µg/L daily maximum; 123 µg/L monthly average. The receiving stream has been changed to West Fork (P) therefore these outfalls will have the same limits as outfall #001: 19.4 µg/L daily maximum, 9.7 µg/L monthly average. The facility stated in an email dated 5/24/2017 they do not require an SOC; SOC's are generally not granted for emergency discharge outfalls. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G).

Mercury, Total Recoverable

Previous technology based permit limits retained; data unavailable to complete RPA; RPD completed. Should this outfall discharge, it is discharging untreated wastewater therefore there is RP. 2 µg/L daily maximum; 1 µg/L monthly average.

Nickel, Total Recoverable
The RP analysis for outfall #001 has found reasonable potential to contribute to pollution of waters of the state for this parameter, likely due to the lowered 7Q10 value of the West Fork Black River. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G). The receiving stream has been changed to West Fork (P) therefore these outfalls will have the same limits as outfall #001: 229 µg/L daily maximum, 114 µg/L monthly average. New parameter this permit. The facility stated in an email dated 5/24/2017 they do not require an SOC; SOC's are generally not granted for emergency discharge outfalls.

Thallium, Total Recoverable
The RP analysis for outfall #001 has found reasonable potential to contribute to pollution of waters of the state for this parameter, likely due to the lowered 7Q10 value of the West Fork Black River. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G). The receiving stream has been changed to West Fork (P) therefore these outfalls will have the same limits as outfall #001: 10.3 µg/L daily maximum, 6.3 µg/L monthly average. New parameter this permit. The facility stated in an email dated 5/24/2017 they do not require an SOC; SOC's are generally not granted for emergency discharge outfalls.

Zinc, Total Recoverable
Previous permit limits 195 µg/L daily maximum; 97 µg/L monthly average. The receiving stream has been changed to West Fork (P) therefore these outfalls will have the same limits as outfall #001: 586.8 µg/L daily maximum, 292.5 µg/L monthly average. Backsliding is allowed as the receiving stream has changed. This limitation also protects general criteria 10 CSR 20-7.031(4)(A), (D), (E), (F), and (G).

Part V. SAMPLING AND REPORTING REQUIREMENTS

Refer to each outfall's derivation and discussion of limits section to review individual sampling and reporting frequencies and sampling type.

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:
The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. This final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online.

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: http://dnr.mo.gov/forms/780-2692-f.pdf. A request must be made for each facility. If more than one facility is owned or operated by a single entity, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is non-transferable.

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.
✓ The permittee/facility is currently using the eDMR data reporting system.

SAMPLING FREQUENCY JUSTIFICATION:
Sampling and reporting frequency was generally retained from previous permit. Regardless of sampling frequency BMP inspection occurs monthly. The facility may sample more frequently if they need additional data to determine if their best management technology is performing as expected. 40 CFR 122.45(d)(1) indicates all continuous discharges shall be permitted with daily maximum and monthly average limits.

WET Testing schedules and intervals are established in accordance with the Department's Permit Manual; Section 5.2 *Effluent Limits/ WET Testing for Compliance Bio-monitoring.* It is recommended that WET testing be conducted during the period of lowest stream flow. However, the department has established within the previous permit a quarterly sampling schedule for whole effluent toxicity. This quarterly sampling is continued.

OUTFALL #001 ONLY:

Chronic Whole Effluent Toxicity

☐ -No less than **Once/Year:**

☐ - POTW facilities with a design flow of greater than 10 million gallons per day), and which have less than 15:1 dilution available in mixing zone shall conduct and submit to the Department a chronic WET test no less than once per calendar year.

☐ - Discharges with pollutants that pose a strong probability of causing chronic toxicity, such as pesticides or certain other chemicals.

☒ -Industrial dischargers with toxic parameters in the discharge; that may alter production processes; or facilities which handle large quantities of toxic substances or substances that are toxic in large amounts shall conduct chronic WET test at a frequency no less than quarterly. (continued from previous permit)

SAMPLING TYPE JUSTIFICATION:
Sampling type (grab) was continued from the previous permit. The sampling types are representative of the discharges, and is protective of water quality. Discharges with altering effluent should have composite sampling; discharges with uniform effluent can have grab samples. Grab samples are usually appropriate for stormwater. Parameters which must have grab sampling are: pH, ammonia, *E. coli*, total residual chlorine, free available chlorine, hexavalent chromium, dissolved oxygen, total phosphorus, and volatile organic samples.

Part VI. 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.

PERMIT SYNCHRONIZATION:
The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. http://dnr.mo.gov/env/wpp/cpp/docs/watershed-based-management.pdf. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than three years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit.

✓ *This permit will be synchronized by expiring the 1st quarter of 2020.*

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. http://dnr.mo.gov/env/wpp/permits/pn/index.html additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

✓ The first Public Notice period for this operating permit was from 3/31/2017 to 5/1/2017; one comment letter was received.

Comment 1.
Facility Description, Page 3. For Outfall 003 and 004, the Facility Description lists the receiving stream as a "Tributary to West Fork Black River." In the event either one of these outfalls discharges, the pathway that the water will flow to the West Fork Black River is not a water of the State. These waterways are virtually at all times dry even when it rains and they do not contain any aquatic life, nor do they contain any flow or permanent pools. Therefore, Doe Run requests the receiving stream be changed to West Fork Black River

for these two outfalls.

Response 1.
The department has reviewed this request and has changed the receiving stream. Because the receiving stream is being changed, the permit writer has also reviewed the limitations for outfall #003 and #004 and determined they should be the same as the limitations for outfall #001. Parameters with reasonable potential from outfall #001 (nickel and thallium) were added to outfalls #003 and #004 as the wastewater is the same wastewater containing the same pollutants. These changes require an additional public notice comment period.

Comment 2.
Effluent limits for Outfalls 003 and 004 on Page 6. The permit requires nutrient monitoring for these two outfalls. These outfalls almost never discharge. Therefore, these outfalls do not have a design flow 0.1 MGD as specified in the regulation that requires nutrient monitoring. Moreover, since it will be extremely rare for a discharge to occur, if nutrient samples were collected the data would be virtually meaningless during a rare and infrequent flood event. Therefore, Doe Run requests that the nutrient monitoring for Outfalls 003 and 004 be removed from the permit.

Response 2.
Nutrient monitoring removed on outfalls with less than 0.1 MGD design flow. This change requires an additional public notice.

Comment 3.
Fact Sheet, Page 5. The Fact Sheet notes that the department is in the process of withdrawing the West Fork Black River nutrient TMDL. Doe Run supports this rescission and commends the MDNR for taking a leadership role in this rescission. However, Doe Run suggests that the Fact Sheet also include a discussion of the available data that demonstrates the water body is attaining water quality standards based on nutrient discharges.

Response 3.
A discussion was added to the fact sheet.

Comment 4.
Special Condition Paragraph 12, Page 8. Special Condition 12 states that the disposal of industrial sludge is not authorized. This statement is incorrect and should be removed from the permit. Industrial sludge, a Bevill-excluded material, from the wastewater treatment facility will be pumped to the tailings storage structure where it will be co-mingled with stormwater, process wastewater from Fletcher Mine and Mill, and mine water. Water from these sources will be pumped to the wastewater treatment facility for treatment and eventual discharge through outfall 001. In the event of a catastrophic rainfall event, it is possible there could be a discharge through outfall 001 and/or through the emergency spillway at outfall 004. The permit includes limits for both outfalls 001 and 004. Therefore, the placement of industrial sludge in the tailings impoundment is properly permitted pursuant to Missouri regulations, including 10 CSR 20 – 6.015 and 10 CSR 20 – 8.200.

Response 4.
The special condition was removed. This change requires an additional public notice.

Comment 5.
Fact Sheet, Page 15. There is a section on “Water Quality Standards.” It refers to down-stream monitoring as being required. Down-stream monitoring was removed from this permit. Therefore, the Fact Sheet should reflect this modification.

Response 5.
Reference removed.

Comment 6.
Fact Sheet, Page 21. The calculation of the WET limits apply the design flow of 38.75 cfs. The calculations should be revised to apply the average flow of 24.645 cfs.

Response 6.
The department uses design flow to calculate all limits, including limits for WET testing.

Permit writers notes:
In the public notice draft version of the permit, an 18 month schedule of compliance was proposed. However, after review of specifications of the electronic reporting system, it was determined an 18 month SOC would result in system malfunction. The SOC was amended to be for two years.
The permit writer rearranged the permit to be consistent with the new format of the template.
Total recoverable Thallium and Zinc were removed from part B of the permit as these parameters do not have an SOC.
Special condition #D.2. was added and was continued from previous permit.

Several changes require an additional public notice comment period.

✓ The second Public Notice period for this operating permit was from 6/16/2017 to 7/17/2017. Two comments were received.

Comment 1
While the changes were made on Page 3 of the Permit, the receiving stream table of Page 8 of the Fact Sheet notes the receiving stream for Outfall #003 and #004 as Tributary to the West Fork of the Black River.

Response 1
The fact sheet was changed to reflect the discharge is to the West Fork of the Black River.

Comment 2
We request the calculation of the WET limit for Outfall #001 use the average flow of 15.9 MGD.

Response 2
The calculations for WET testing are performed using the design flow; just as the design flow is used to calculate all permit limits. Design flow is used to assure the facility does not cause or contribute to instream toxicity when operating at the highest allowable flow. No change to the permit; see response 6 above.
None of the comments during the second public notice comment period warrant an additional public notice comment period.

DATE OF FACT SHEET: JULY 18, 2017

COMPLETED BY:
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STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions
Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
   b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.

2. **Monitoring Requirements**.
   a. Records of monitoring information shall include:
      i. The date, exact place, and time of sampling or measurements;
      ii. The individual(s) who performed the sampling or measurements;
      iii. The date(s) analyses were performed;
      iv. The individual(s) who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.
   b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.

3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

4. **Test Procedures**. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is "sufficiently sensitive" when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.

5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

6. **Illegal Activities.**
   a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
   b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

Section B – Reporting Requirements

1. **Planned Changes.**
   a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
      iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
      iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.

2. **Non-compliance Reporting.**
   a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours under this paragraph.
   i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
   ii. Any upset which exceeds any effluent limitation in the permit.
   iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.

c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.

3. **Anticipated Noncompliance**. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.

4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.

5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.

6. **Other Information**. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

7. **Discharge Monitoring Reports.**
   a. Monitoring results shall be reported at the intervals specified in the permit.
   b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
   c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.

Section C – Bypass/Upset Requirements

1. **Definitions.**
   a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
   b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
   c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. **Bypass Requirements.**
   a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.
   b. Notice.
      i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
      ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
   c. Prohibition of bypass.
      i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
         1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
         2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
         3. The permittee submitted notices as required under paragraph 2. b. of this section.
      ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.

3. **Upset Requirements.**
   a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
   b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
      i. An upset occurred and that the permittee can identify the cause(s) of the upset;
      ii. The permitted facility was at the time being properly operated; and
      iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
      iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
   c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
   a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
   b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement

imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed $10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

2. **Duty to Reapply.**
   a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
   b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
   c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. **Proper Operation and Maintenance**. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

6. **Permit Actions.**
   a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
      i. Violations of any terms or conditions of this permit or the law;
      ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
      iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
      iv. Any reason set forth in the Law or Regulations.
   b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. **Permit Transfer.**
   a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
   b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
   c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.

8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
    a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

12. **Closure of Treatment Facilities.**
    a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
    b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.

13. **Signatory Requirement.**
    a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
    b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
    c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
March 1, 2015

PART III – SLUDGE AND BIOSOLIDS FROM DOMESTIC AND INDUSTRIAL WASTEWATER TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulation for domestic wastewater and industrial process wastewater. This permit also incorporates applicable federal sludge disposal requirements under 40 CFR 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR 503 for domestic wastewater. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address the federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW), privately owned facilities and sludge or biosolids generated at industrial facilities.
3. Sludge and Biosolids Use and Disposal Practices:
    a. The permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
    b. The permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
    c. The permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
4. Sludge Received from other Facilities:
    a. Permittees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
    b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Actor under Chapter 644 RSMo.
8. In addition to STANDARD CONDITIONS, the Department may include sludge limitations in the special conditions portion or other sections of a site specific permit.
9. Alternate Limits in the Site Specific Permit.
   Where deemed appropriate, the Department may require an individual site specific permit in order to authorize alternate limitations:
    a. A site specific permit must be obtained for each operating location, including application sites.
    b. To request a site specific permit, an individual permit application, permit fee, and supporting documents shall be submitted for each operating location. This shall include a detailed sludge/biosolids management plan or engineering report.
10. Exceptions to these Standard Conditions may be authorized on a case-by-case basis by the Department, as follows:
    a. The Department will prepare a permit modification and follow permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR 124.10, and 40 CFR 501.15(a)(2)(ix)(E). This includes notification of the owner of the property located adjacent to each land application site, where appropriate.
    b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR 503.

SECTION B – DEFINITIONS

1. Best Management Practices include agronomic loading rates, soil conservation practices and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Industrial wastewater means any wastewater, also known as process water, not defined as domestic wastewater. Per 40 CFR Part 122, process water means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.
8. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including septic tanks, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological discs, and other similar facilities. It does not include wastewater treatment lagoons and constructed wetlands for wastewater treatment.
9. Operating location as defined in 10 CSR 20-2.010 is all contiguous lands owned, operated or controlled by one (1) person or by two (2) or more persons jointly or as tenants in common.
10. Plant Available Nitrogen (PAN) is the nitrogen that will be available to plants during the growing seasons after biosolids application.
11. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
12. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs)
13. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
14. Septage is the material pumped from residential septic tanks and similar treatment works (with a design population of less than 150 people). The standard for biosolids from septage is different from other sludges.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and sludge conditions of this permit.
2. The permittee shall operate the facility so that there is no sludge discharged to waters of the state.
3. Mechanical treatment plants shall have separate sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove sludge from these storage compartments on the required design schedule is a violation of this permit.

SECTION D – SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR CONTRACT HAULER

1. This section applies to permittees that haul sludge to another treatment facility for disposal or use contract haulers to remove and dispose of sludge.
2. Permittees that use contract haulers are responsible for compliance with all the terms of this permit including final disposal, unless the hauler has a separate permit for sludge or biosolids disposal issued by the Department; or the hauler transports the sludge to another permitted treatment facility.
3. Haulers who land apply septage must obtain a state permit.
4. Testing of sludge, other than total solids content, is not required if sludge is hauled to a municipal wastewater treatment facility or other permitted wastewater treatment facility, unless it is required by the accepting facility.

SECTION E – INCINERATION OF SLUDGE

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or if the ash is determined to be hazardous with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored, and ash used or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.

SECTION F – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS

1. Surface disposal sites of domestic facilities shall comply with the requirements in 40 CFR 503 Subpart C; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain sludge storage lagoons as storage facilities, accumulated sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of sludge removed will be dependent on sludge generation and accumulation in the facility. Enough sludge must be removed to maintain adequate storage capacity in the facility.
    a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of sludge on the bottom of the lagoon, upon prior approval of the Department; or
    b. Permittee shall close the lagoon in accordance with Section H.

SECTION G – LAND APPLICATION

1. The permittee shall not land apply sludge or biosolids unless land application is authorized in the facility description or the special conditions of the issued NPDES permit.
2. Land application sites within a 20 miles radius of the wastewater treatment facility are authorized under this permit when biosolids are applied for beneficial use in accordance with these standard conditions unless otherwise specified in a site specific permit. If the permittee's land application site is greater than a 20 mile radius of the wastewater treatment facility, approval must be granted from the Department.
3. Land application shall not adversely affect a threatened or endangered species or its designated critical habitat.
4. Biosolids shall not be applied unless authorized in this permit or exempted under 10 CSR 20, Chapter 6.
    a. This permit does not authorize the land application of domestic sludge except for when sludge meets the definition of biosolids.
    b. This permit authorizes "Class A or B" biosolids derived from domestic wastewater and/or process water sludge to be land applied onto grass land, crop land, timber or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
5. Public Contact Sites:

    Permittees who wish to apply Class A biosolids to public contact sites must obtain approval from the Department after two years of proper operation with acceptable testing documentation that shows the biosolids meet Class A criteria. A shorter length of testing will be allowed with prior approval from the Department. Authorization for land applications must be provided in the special conditions section of this permit or in a separate site specific permit.
    a. After Class B biosolids have been land applied, public access must be restricted for 12 months.
    b. Class B biosolids are only land applied to root crops, home gardens or vegetable crops whose edible parts will not be for human consumption.
6. Agricultural and Silvicultural Sites:

    Septage – Based on Water Quality guide 422 (WQ422) published by the University of Missouri
    a. Haulers that land apply septage must obtain a state permit
    b. Do not apply more than 30,000 gallons of septage per acre per year.
    c. Septage tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to other mechanical type treatment facilities.
    d. To meet Class B sludge requirements, maintain septage at 12 pH for at least thirty (30) minutes before land application. 50 pounds of hydrated lime shall be added to each 1,000 gallons of septage in order to meet pathogen and vector stabilization for septage biosolids applied to crops, pastures or timberland.
    e. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.

Biosolids - Based on Water Quality guide 423, 424, and 425 (WQ423, WQ424, WQ425) published by the University of Missouri;

a. Biosolids shall be monitored to determine the quality for regulated pollutants

b. The number of samples taken is directly related to the amount of sludge produced by the facility (See Section I of these Standard Conditions). Report as dry weight unless otherwise specified in the site specific permit. Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to reach the maximum concentration of pollutants allowed.

c. Table 1 gives the maximum concentration allowable to protect water quality standards

TABLE 1

Biosolids ceiling concentration [1]	
Pollutant	Milligrams per kilogram dry weight
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

[1] Land application is not allowed if the sludge concentration exceeds the maximum limits for any of these pollutants

d. The low metal concentration biosolids has reduced requirements because of its higher quality and can safely be applied for 100 years or longer at typical agronomic loading rates. (See Table 2)

TABLE 2

Biosolids Low Metal Concentration [1]	
Pollutant	Milligrams per kilogram dry weight
Arsenic	41
Cadmium	39
Copper	1,500
Lead	300
Mercury	17
Nickel	420
Selenium	36
Zinc	2,800

[1] You may apply low metal biosolids without tracking cumulative metal limits, provided the cumulative application of biosolids does not exceed 500 dry tons per acre.

e. Each pollutant in Table 3 has an annual and a total cumulative loading limit, based on the allowable pounds per acre for various soil categories.

TABLE 3

Pollutant	CEC 15+		CEC 5 to 15		CEC 0 to 5	
	Annual	Total [1]	Annual	Total [1]	Annual	Total [1]
Arsenic	1.8	36.0	1.8	36.0	1.8	36.0
Cadmium	1.7	35.0	0.9	9.0	0.4	4.5
Copper	66.0	1,335.0	25.0	250.0	12.0	125.0
Lead	13.0	267.0	13.0	267.0	13.0	133.0
Mercury	0.7	15.0	0.7	15.0	0.7	15.0
Nickel	19.0	347.0	19.0	250.0	12.0	125.0
Selenium	4.5	89.0	4.5	44.0	1.6	16.0
Zinc	124.0	2,492.0	50.0	500.0	25.0	250.0

[1] Total cumulative loading limits for soils with equal or greater than 6.0 pH (salt based test) or 6.5 pH (water based test)

TABLE 4 - Guidelines for land application of other trace substances [1]

Cumulative Loading	
Pollutant	Pounds per acre
Aluminum	4,000[2]
Beryllium	100
Cobalt	50
Fluoride	800
Manganese	500
Silver	200
Tin	1,000
Dioxin	(10 ppt in soil)[3]
Other	[4]

[1] Design of land treatment systems for Industrial Waste, 1979. Michael Ray Overcash, North Carolina State University and Land Treatment of Municipal Wastewater, EPA 1981.)

[2] This applies for a soil with a pH between 6.0 and 7.0 (salt based test) or a pH between 6.5 to 7.5 (water based test). Case-by-case review is required for higher pH soils.

[3] Total Dioxin Toxicity Equivalents (TEQ) in soils, based on a risk assessment under 40 CFR 744, May 1998.

[4] Case by case review. Concentrations in sludge should not exceed the 95th percentile of the National Sewage Sludge Survey, EPA, January 2009.

Best Management Practices – Based on Water Quality guide 426 (WQ426) published by the University of Missouri

a. Use best management practices when applying biosolids.
b. Biosolids cannot discharge from the land application site
c. Biosolid application is subject to the Missouri Department of Agriculture State Milk Board concerning grazing restrictions of lactating dairy cattle.
d. Biosolid application must be in accordance with section 4 of the Endangered Species Act.
e. Do not apply more than the agronomic rate of nitrogen needed.
f. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.
    i. PAN can be determined as follows and is in accordance with WQ426
    (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).
    [1] Volatilization factor is 0.7 for surface application and 1 for subsurface application.
g. Buffer zones are as follows:
    i. 300 feet of a water supply well, sinkhole, lake, pond, water supply reservoir or water supply intake in a stream;
    ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;
    iii. 150 feet if dwellings;
    iv. 100 feet of wetlands or permanent flowing streams;
    v. 50 feet of a property line or other waters of the state, including intermittent flowing streams.
h. Slope limitation for application sites are as follows;
    i. A slope 0 to 6 percent has no rate limitation
    ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels
    iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.
i. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.
j. Do not apply biosolids to sites with soil that is snow covered, frozen or saturated with liquid without prior approval by the Department.
k. Biosolids / sludge applicators must keep detailed records up to five years.

SECTION H – CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical, industrial, and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all residues, including sludge, biosolids. Mechanical plants, sludge lagoons, ash ponds and other storage structures must obtain approval of a closure plan from the Department. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6. 010 and 10 CSR 20 – 6.015.
3. Residuals that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
    a. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
    b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
    c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre.
        i. PAN can be determined as follows:

        (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).

        [1] Volatilization factor is 0.7 for surface application and 1 for subsurface application.
4. When closing a domestic wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered “septage” under the similar treatment works definition. See Section B of these standard conditions. Under the septage category, residuals may be left in place as follows:
    a. Testing for metals or fecal coliform is not required
    b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
    c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Residuals left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, the lagoon berm shall be demolished, and the site shall be graded and contain ≥70% vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
6. Lagoons and/or earthen structure and/or ash pond closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200
7. When closing a mechanical wastewater and/or industrial process wastewater plant; all sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
    a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain ≥70% vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
    b. Per 10 CSR 20-6.015(4)(B)6, Hazardous Waste shall not be land applied or disposed during industrial and mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations under 10 CSR 25.
    c. After demolition of the mechanical plant / industrial plant, the site must only contain clean fill defined in RSMo 260.200 (5) as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill or other beneficial use. Other solid wastes must be removed.
8. If sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or H, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR 503, Subpart C.

SECTION I – MONITORING FREQUENCY

1. At a minimum, sludge or biosolids shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

TABLE 5

Design Sludge Production (dry tons per year)	Monitoring Frequency (See Notes 1, 2, and 3)			
	Metals, Pathogens and Vectors	Nitrogen TKN [1]	Nitrogen PAN [2]	Priority Pollutants and TCLP [3]
0 to 100	1 per year	1 per year	1 per month	1 per year
101 to 200	biannual	biannual	1 per month	1 per year
201 to 1,000	quarterly	quarterly	1 per month	1 per year
1,001 to 10,000	1 per month	1 per month	1 per week	--[4]
10,001 +	1 per week	1 per week	1 per day	--[4]

[1] Test total Kjeldahl nitrogen, if biosolids application is 2 dry tons per acre per year or less.

[2] Calculate plant available nitrogen (PAN) when either of the following occurs: 1) when biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.

[3] Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) and toxicity characteristic leaching procedure (40 CFR 261.24) is required only for permit holders that must have a pre-treatment program.

[4] One sample for each 1,000 dry tons of sludge.

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.
Note 2: Total Phosphorus: Total phosphorus and total potassium shall be tested at the same monitoring frequency as metals.
Note 3: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. If you own a wastewater treatment lagoon or sludge lagoon that is cleaned out once a year or less, you may choose to sample only when the sludge is removed or the lagoon is closed. Test one composite sample for each 100 dry tons of sludge or biosolids removed from the lagoon during the year within the lagoon at closing. Composite sample must represent various areas at one-foot depth.
3. Additional testing may be required in the special conditions or other sections of the permit. Permittees receiving industrial wastewater may be required to conduct additional testing upon request from the Department.
4. At this time, the Department recommends monitoring requirements shall be performed in accordance with, "POTW Sludge Sampling and Analysis Guidance Document," United States Environmental Protection Agency, August 1989, and the subsequent revisions.

SECTION J – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in these standard conditions and any additional items in the Special Conditions section of this permit. This shall include dates when the sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting period
    a. By January 28th of each year, an annual report shall be submitted for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and sludge or biosolids disposal facilities.
    b. Permittees with wastewater treatment lagoons shall submit the above annual report only when sludge or biosolids are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Forms. The annual report shall be submitted on report forms provided by the Department or equivalent forms approved by the Department.
4. Reports shall be submitted as follows:

Major facilities (those serving 10,000 persons or 1 million gallons per day) shall report to both the Department and EPA. Other facilities need to report only to the Department. Reports shall be submitted to the addresses listed as follows:

DNR regional office listed in your permit
(see cover letter of permit)
ATTN: Sludge Coordinator

EPA Region VII
Water Compliance Branch (WACM)
Sludge Coordinator
11201 Renner Blvd.
Lenexa, KS 66219

5. Annual report contents. The annual report shall include the following:
    a. Sludge and biosolids testing performed. Include a copy or summary of all test results, even if not required by the permit.
    b. Sludge or biosolids quantity shall be reported as dry tons for quantity generated by the wastewater treatment facility, the quantity stored on site at the end of the year, and the quantity used or disposed.
    c. Gallons and % solids data used to calculate the dry ton amounts.
    d. Description of any unusual operating conditions.
    e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
        i. This must include the name, address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
        ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
    f. Contract Hauler Activities:
    If contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate sludge or biosolids use permit.
    g. Land Application Sites:
        i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
        ii. If the “Low Metals” criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
        iii. Report the method used for compliance with pathogen and vector attraction requirements.
        iv. Report soil test results for pH, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FORM A – APPLICATION FOR NONDOMESTIC PERMIT UNDER MISSOURI CLEAN WATER LAW

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED

Note ► PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for:

☐ An operating permit for a new or unpermitted facility:
Please indicate the original Construction Permit # _____

☑ An operating permit renewal:
Please indicate the permit # MO- 0100216 Expiration Date 03/11/2015

☐ An operating permit modification:
Please indicate the permit # MO-_____ Modification Reason: _____

1.1 Is the appropriate fee included with the application? (See instructions for appropriate fee) ☐ YES ☐ NO

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
The Doe Run Company - West Fork		(573) 244-8152 FAX (573) 244-8179	
ADDRESS (PHYSICAL) 6854 Highway KK	CITY Bunker	STATE MO	ZIP CODE 63629

3. OWNER

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
The Doe Run Resources Corporation d/b/a The Doe Run Company	mcummings@doerun.com	(573) 244-8152 FAX (573) 244-8179	
ADDRESS (MAILING) 1801 Park 270 Drive	CITY St. Louis	STATE MO	ZIP CODE 63146

3.1 Request review of draft permit prior to public notice? ■ YES ☐ NO

4. CONTINUING AUTHORITY

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
The Doe Run Company	mcummings@doerun.com	(573) 244-8152 FAX (573) 244-8179	
ADDRESS (MAILING) P.O. Box 500	CITY Viburnum	STATE MO	ZIP CODE 65566

5. OPERATOR

NAME	CERTIFICATE NUMBER	TELEPHONE NUMBER WITH AREA CODE	
The Doe Run Company		(573) 244-8152 FAX (573) 244-8179	
ADDRESS (MAILING) 6854 Highway KK	CITY Bunker	STATE MO	ZIP CODE 63629

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
Mark W. Cummings	EHS Regulatory Manager	(573) 244-8152
	E-MAIL ADDRESS mcummings@doerun.com	FAX (573) 244-8179

7. ADDITIONAL FACILITY INFORMATION

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)

001 NE ¼ SE ¼ Sec 1 T 32N R 2W Reyno County
UTM Coordinates Easting (X): 667686 Northing (Y): 4150953
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

002 NW ¼ SE ¼ Sec 1 T 32N R 2W Reyno County
UTM Coordinates Easting (X): 667160 Northing (Y): 4151118

003 NW ¼ SE ¼ Sec 1 T 32N R 2W Reyno County
UTM Coordinates Easting (X): 667275 Northing (Y): 4151006

004 SE ¼ SE ¼ Sec 1 T 32N R 2W Reyno County
UTM Coordinates Easting (X): 667190 Northing (Y): 4150483

7.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.

001 – SIC 1031 and NAICS 212231 002 – SIC 1031 and NAICS 212231
003 – SIC 1031 and NAICS 212231 004 – SIC 1031 and NAICS 212231

8. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION (Complete all forms that are applicable.)

A.	Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? If yes, complete Form C or 2F. (2F is the U.S. EPA's Application for Storm Water Discharges Associate with Industrial Activity.)	YES ☑	NO ☐
B.	Is application for storm water discharges only? If yes, complete Form C or 2F.	YES ☐	NO ☑
C.	Is your facility considered a "Primary Industry" under EPA guidelines: If yes, complete Forms C or 2F and D.	YES ☑	NO ☐
D.	Is wastewater land applied? If yes, complete Form I.	YES ☐	NO ☑
E.	Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? If yes, complete Form R.	YES ☐	NO ☑

F. If you are a Class IA CAFO, please disregard part D and E of this section. However, please attach any revision to your Nutrient Management Plan.

F. Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.

9. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary. See Instructions. (PLEASE SHOW LOCATION ON MAP. SEE 8.D ABOVE).

NAME			
Bob Hafeli (See attached additional downstream landowner)			
ADDRESS	**CITY**	**STATE**	**ZIP CODE**
25 Bangert Ave	St. Louis	MO	63135

10. I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law to the Missouri Clean Water Commission.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Mark W. Cummings, EHS Regulatory Manager	(573) 244-8152
SIGNATURE	**DATE SIGNED**
	9-10-2014

MO 780-1479 (07-14)

BEFORE MAILING, PLEASE ENSURE ALL SECTIONS ARE COMPLETED AND ADDITIONAL FORMS, IF APPLICABLE, ARE INCLUDED.

Submittal of an incomplete application may result in the application being returned.

HAVE YOU INCLUDED:

- ☐ Appropriate Fees?
- ☑ Map at 1" = 2000' scale?
- ☑ Signature?
- ☑ Form C or 2F, if applicable?
- ☑ Form D, if applicable?
- ☐ Form I (Irrigation), if applicable?
- ☐ Form R (Sludge), if applicable?
- ☐ Revised Nutrient Management Plan, if applicable?

INSTRUCTIONS FOR COMPLETING FORM A - APPLICATION FOR NONDOMESTIC PERMIT

1. Check which option is applicable. **Do not check more than one item.** Nondomestic permit refer to permits issued by the Department of Natural Resources' Water Protection Program for all **nondomestic** wastewater treatment facilities, including all industry, stormwater, and Class IA Concentrated Animal Feeding Operations (CAFO). **This includes all nondomestic wastewater treatment facilities that incorporate domestic wastewater into the operating permit.**

1.1 OPERATING PERMIT FEES

If the application is for a site-specific permit re-issuance, send no fees. You will be invoiced separately by the department.

Discharges covered by section 644.052.4 RSMo. (Primary or Categorical Facilities)

$3,500 for a design flow under 1 mgd

$5,000 for a design flow of 1 mgd or more

A. Discharges covered by section 644.052.5 RSMo. (Secondary or Noncategorical Facilities).

$1,500 for a design flow under 1 million gallons per day (mpg)

$2,500 for a design flow of 1 mgd or more

SITE-SPECIFIC STORMWATER DISCHARGE FEES

A. $1,350 for a design flow under 1 mgd

B. $2,350 for a design flow of 1 mgd or more

CAFO OPERATING PERMIT FEES

A. $5,000 for site-specific permit (Class IA)

OPERATING PERMIT MODIFICATIONS are subject to the following fees:

A. Major Modifications - 25 percent of annual fee.

B. Minor Modifications (in accordance with 40 CFR 122.63, including transfers) - $100

Note: Facility name and address changes where owner, operator and continuing authority remain the same are not considered transfers.

Incomplete permit applications and/or related engineering documents will be returned by the department if they are not completed in the time frame established in a comment letter from the department to the owner. Permit fees for returned applications shall be forfeited. Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited.

2. Facility - Provide the name by which this facility is known locally. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Also include the street address or location of the facility. If the facility lacks a street name or route number, give the names of the closest intersection, highway, county road, etc.

3. Owner - Provide the legal name and address of owner.

3.1 Prior to submitting a permit to public notice, the department shall provide the permit applicant 15 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice. Check YES to review the draft permit prior to public notice. Check NO to waive the process and expedite the permit.

4. Continuing Authority - Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility. The regulatory requirement regarding continuing authority is available at www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf or contact the appropriate Department of Natural Resources regional office.

5. Operator - Provide the name, certificate number and telephone number of the person operating the facility.

6. Provide the name, title and work telephone number of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department, if necessary.

7.1 An outfall is the point at which wastewater is discharged. Outfalls should be given in terms of the legal description of the facility. Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used at the outfall pipe and the displayed coordinates submitted. If access to a GPS receiver is not available, please use a mapping system to approximate the coordinates; the department's mapping system is available at www.dnr.mo.gov/internetmapviewer/.

7.2 List only your primary Standard Industrial Classification, or SIC, and North American Industry Classification System code for each outfall. The SIC system was devised by the U.S. Office of Management and Budget to cover all economic activities. To find the correct SIC code, an applicant may check his or her unemployment insurance forms or contact the Missouri Division of Employment Security, 573-751-3215. The primary SIC code is that of the operation that generates the most revenue. If this information is not available, the number of employees or, secondly, production rate may be used to determine your SIC code. Additional information is on the Web for Standard Industrial Codes at www.osha.gov/pls/imis/siesearch.html and for the North American Industry Classification System at www.census.gov/naics or contact the appropriate Department of Natural Resources regional office.

8. If you answer yes to A, B, C, D, or E, then you must complete and file the supplementary form(s) indicated. A U.S. Geological Survey 1" = 2,000' scale map must be submitted with the permit application showing all outfalls, the receiving stream and the location of the downstream property owners. This type of map is available on the Web at www.dnr.mo.gov/internetmapviewer/ or from the Missouri Department of Natural Resources' Geological Survey in Rolla at 573-368-2125.

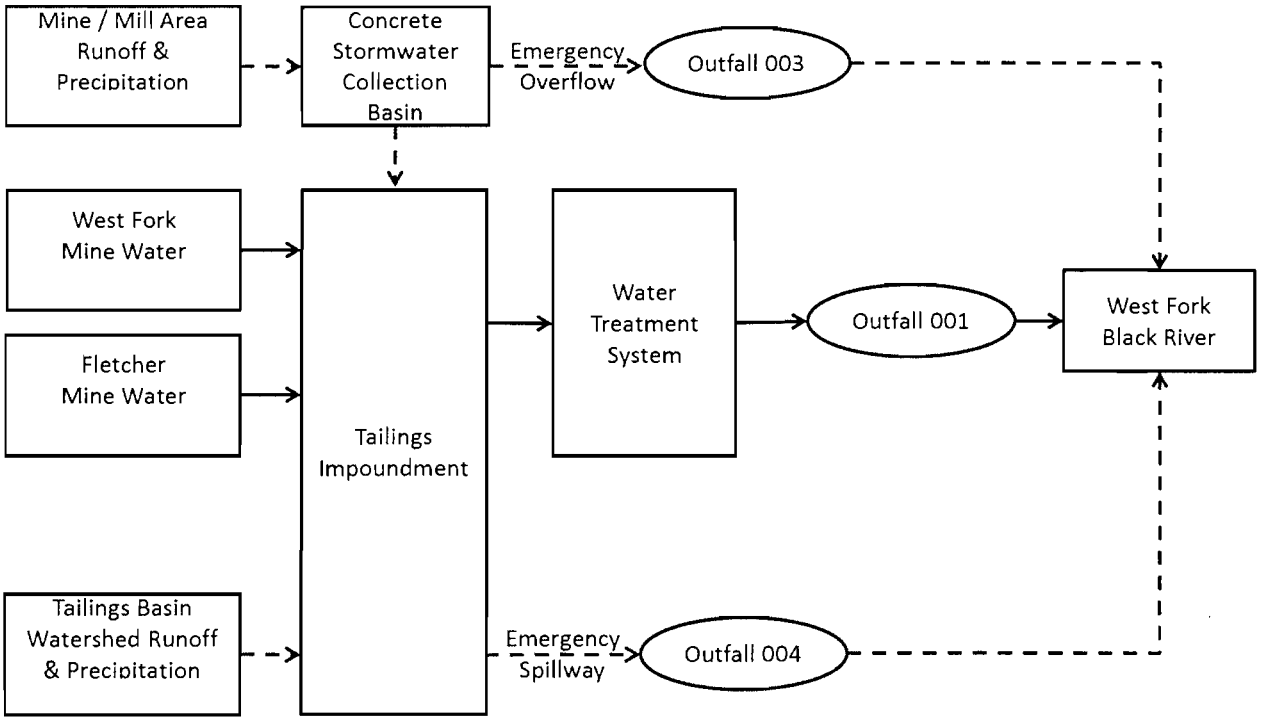
INSTRUCTIONS FOR COMPLETING FORM A - APPLICATION FOR NONDOMESTIC PERMIT (CONTINUED)

9. Please provide the name and address of the first downstream landowner, different from that of the permitted facility, through whose property the discharge will flow. Also, please indicate the location on the map. For discharges that leave the permitted facility and flow under a road or highway, or along the right-of-way, the downstream property owner is the landowner that the discharge flows to after leaving the right-of-way. For no discharge facilities, provide this information for the location where discharge would flow if there was one. For land application sites, include the owners of the land application sites and all adjacent landowners.

10. Signature - All applications must be signed as follows and the signature must be **original**:
    A. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
    B. For a partnership or sole proprietorship, by a general partner or the proprietor.
    C. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

This completed form, along with the applicable permit fees, should be submitted to the Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102-0176. Submittal of an incomplete application may result in the application being returned. A map of the department's regional offices with addresses and phone numbers can be viewed at www.dnr.mo.gov/regions/ro-map.pdf. If there are any questions concerning this form, contact the appropriate regional office or the Department of Natural Resources' Water Protection Program, Permits and Engineering Section at 800-361-4827 or 573-751-6825.

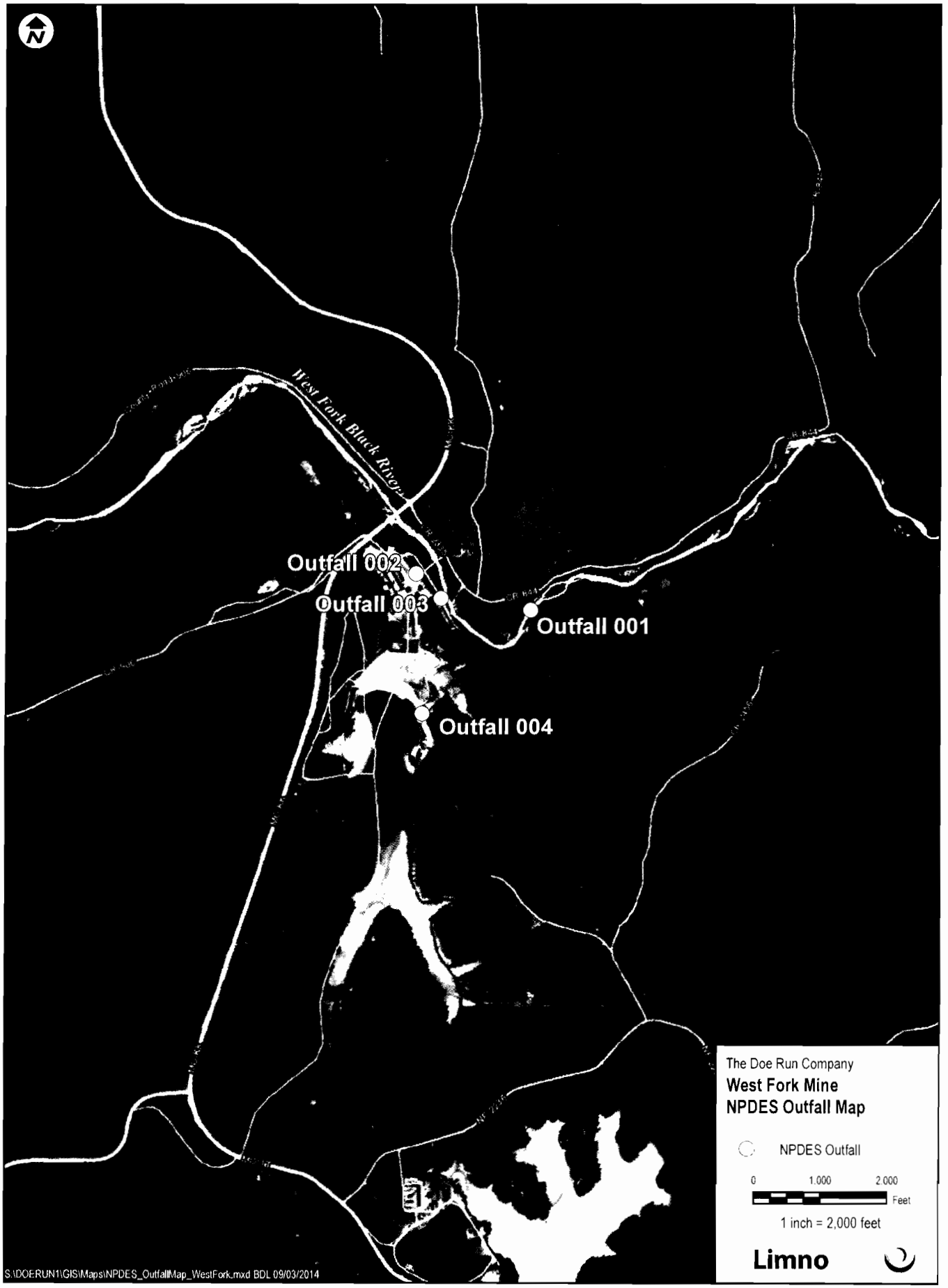
For More Information
Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176
800-361-4827 or 573-751-1300
www.dnr.mo.gov/env/wpp/index.html

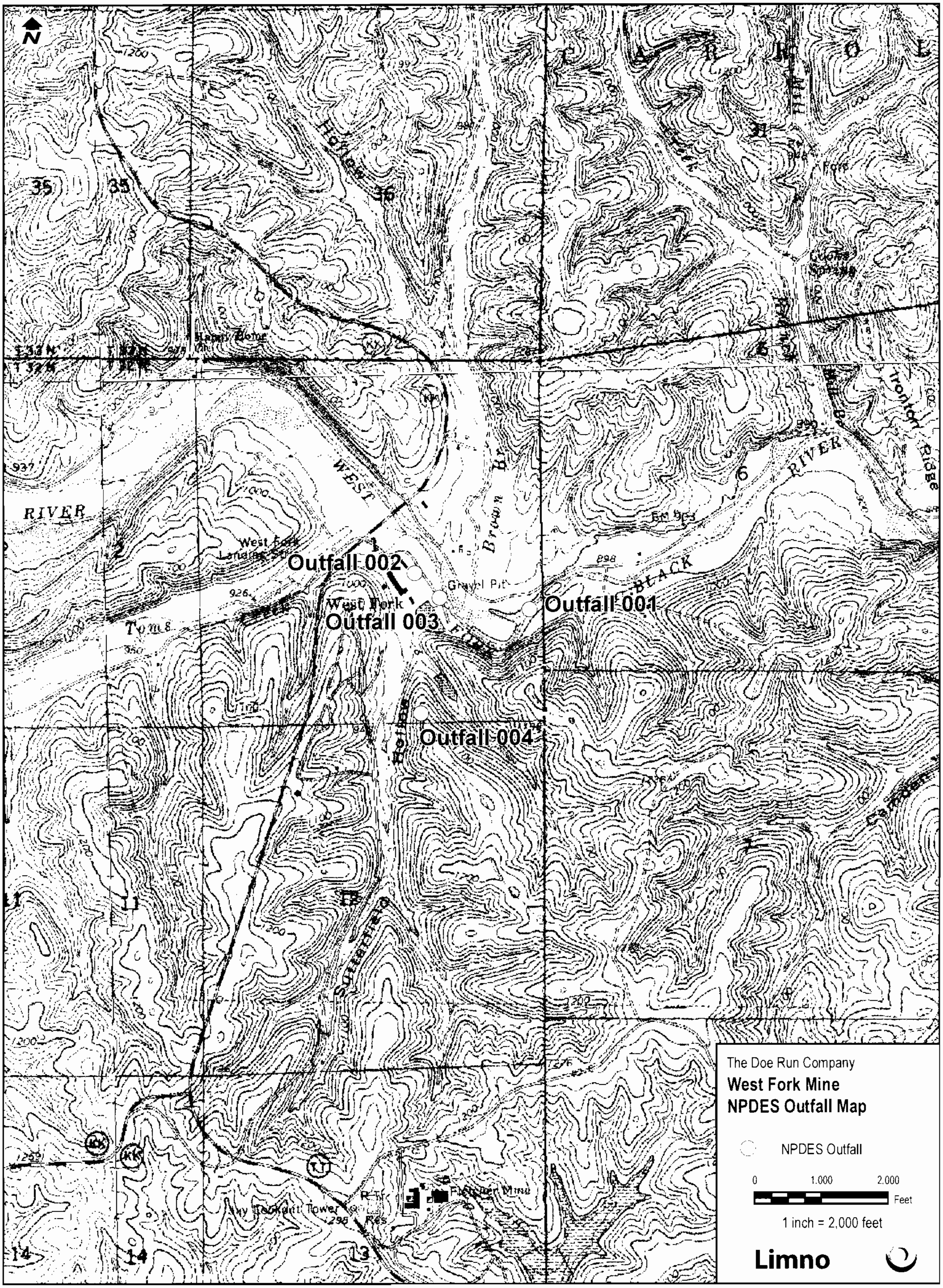

Mine / Mill Area Runoff & Precipitation
Concrete Stormwater Collection Basin
Emergency Overflow
Outfall 003
West Fork Mine Water
Fletcher Mine Water
Tailings Impoundment
Water Treatment System
Outfall 001
West Fork Black River
Tailings Basin Watershed Runoff & Precipitation
Emergency Spillway
Outfall 004

Additional Downstream Landowner

Thomas Elmore
PO Box 210
Bunker MO 63629

West Fork Downstream Landowners


West Fork Black River
Outfall 002
Outfall 003
Outfall 001
Outfall 004
The Doe Run Company
West Fork Mine
NPDES Outfall Map
NPDES Outfall
0
1,000
2,000
Feet
1 inch = 2,000 feet
Limno
S:\DOERUN1\GIS\Maps\NPDES_OutfallMap_WestFork.mxd BDL 09/03/2014


Outfall 002
Outfall 003
Outfall 001
Outfall 004
West Fork
Gravel Pit
RIVER
BLACK
WEST
FORK
Toms
Brown Br
Happy Home
Fletcher Mine
The Doe Run Company
West Fork Mine
NPDES Outfall Map
NPDES Outfall
0
1,000
2,000
Feet
1 inch = 2,000 feet
Limno

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH

FORM C – APPLICATION FOR DISCHARGE PERMIT – MANUFACTURING, COMMERCIAL, MINING, SILVICULTURE OPERATIONS, PROCESS AND STORMWATER

FOR AGENCY USE ONLY	
CHECK NO	
DATE RECEIVED	FEE SUBMITTED

NOTE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY

The Doe Run Company - West Fork

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER

MO-0100218

1.20 THIS IS A NEW FACILITY AND WAS CONSTRUCTED UNDER MISSOURI CONSTRUCTION PERMIT NUMBER (COMPLETE ONLY IF THIS FACILITY DOES NOT HAVE AN OPERATING PERMIT).

N/A

2.00 LIST THE STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES APPLICABLE TO YOUR FACILITY (FOUR DIGIT CODE)

A. FIRST 1031 B. SECOND _____

C. THIRD _____ D. FOURTH _____

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

OUTFALL NUMBER (LIST) _____1/4 _____1/4 SEC_____ T_____ R_____ _____COUNTY

001 NE1/4 SE1/4 Sec 1 T 32N R 2W Reynolds County
002 NW1/4 SE1/4 Sec 1 T 32N R 2W Reynolds County
003 NW1/4 SE1/4 Sec 1 T 32N R 2W Reynolds County
004 SE1/4 SE1/4 Sec 1 T 32N R 2W Reynolds County

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER

OUTFALL NUMBER (LIST)	RECEIVING WATER
001	West Fork of the Black River
002	NA
003	NA
004	NA

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS

Mining and Milling of Ores

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent and treatment units labeled to correspond to the more detailed descriptions in item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, public sewers and outfalls. If a water balance cannot by determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of 1. All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water and storm water runoff. 2. The average flow contributed by each operation. 3. The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
(LIST)	A. OPERATION (LIST)	B. AVERAGE FLOW (INCLUDE UNITS) (MAXIMUM FLOW)	A. DESCRIPTION	B. LIST CODES FROM TABLE A
001	Mine/Tailings/Storm Water	Avg ? MGD, Max ? MGD	Physical settling	1-U
002	Domestic WWT System	No discharge	NA	NA
003	Overflow from stormwater basi	No discharge	NA	NA
004	Emergency Spillway	No discharge	NA	NA

2.40 CONTINUED

C. EXCEPT FOR STORM RUNOFF, LEAKS OR SPILLS, ARE ANY OF THE DISCHARGES DESCRIBED IN ITEMS A OR B INTERMITTENT OR SEASONAL?

☐ **YES** *(COMPLETE THE FOLLOWING TABLE)* ☑ **NO** *(GO TO SECTION 2.50)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(S) CONTRIBUTING FLOW *(list)*	3. FREQUENCY		4. FLOW				C. DURATION *(in days)*
				A. FLOW RATE *(in mgd)*		B. TOTAL VOLUME (specify with units)		
		A. DAYS PER WEEK *(specify average)*	B. MONTHS PER YEAR *(specify average)*	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	
NA								

2.50 MAXIMUM PRODUCTION

A. DOES AN EFFLUENT GUIDELINE LIMITATION PROMULGATED BY EPA UNDER SECTION 304 OF THE CLEAN WATER ACT APPLY TO YOUR FACILITY?

☑ **YES** *(COMPLETE B.)* ☐ **NO** *(GO TO SECTION 2.60)*

B. ARE THE LIMITATIONS IN THE APPLICABLE EFFLUENT GUIDELINES EXPRESSED IN TERMS OF PRODUCTION (OF OTHER MEASURE OF OPERATION)?

☐ **YES** *(COMPLETE c.)* ☑ **NO** *(GO TO SECTION 2.60)*

C. IF YOU ANSWERED "YES" TO B. LIST THE QUANTITY THAT REPRESENTS AN ACTUAL MEASUREMENT OF YOUR MAXIMUM LEVEL OF PRODUCTION, EXPRESSED IN THE TERMS AND UNITS USED IN THE APPLICABLE EFFLUENT GUIDELINE AND INDICATE THE AFFECTED OUTFALLS

1. MAXIMUM QUANTITY			2. AFFECTED OUTFALLS *(list outfall numbers)*
A. QUANTITY PER DAY	B. UNITS OF MEASURE	C. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	
NA			

2.60 IMPROVEMENTS

A. ARE YOU NOW REQUIRED BY ANY FEDERAL, STATE OR LOCAL AUTHORITY TO MEET, ANY IMPLEMENTATION SCHEDULE FOR THE CONSTRUCTION, UPGRADING OR OPERATION OF WASTEWATER TREATMENT EQUIPMENT OR PRACTICES OR ANY OTHER ENVIRONMENTAL PROGRAMS THAT MAY AFFECT THE DISCHARGES DESCRIBED IN THIS APPLICATION? THIS INCLUDES, BUT IS NOT LIMITED TO, PERMIT CONDITIONS, ADMINISTRATIVE OR ENFORCEMENT ORDERS, ENFORCEMENT COMPLIANCE SCHEDULE LETTERS, STIPULATIONS, COURT ORDERS AND GRANT OR LOAN CONDITIONS.

☑ **YES** *(COMPLETE THE FOLLOWING TABLE)* ☐ **NO** *(GO TO 3.00)*

1. IDENTIFICATION OF CONDITION AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
				A. REQUIRED	B. PROJECTED
Refer to Multi-media Consent Decree: U.S. and State of Mo. vs. Doe Run					

B. OPTIONAL. YOU MAY ATTACH ADDITIONAL SHEETS DESCRIBING ANY ADDITIONAL WATER POLLUTION CONTROL PROGRAMS *(OR OTHER ENVIRONMENTAL PROJECTS WHICH MAY AFFECT YOUR DISCHARGES)* YOU NOW HAVE UNDER WAY OR WHICH YOU PLAN. INDICATE WHETHER EACH PROGRAM IS NOW UNDER WAY OR PLANNED, AND INDICATE YOUR ACTUAL OR PLANNED SCHEDULES FOR CONSTRUCTION

☐ **MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED.**

3 00 INTAKE AND EFFLUENT CHARACTERISTICS

A & B SEE INSTRUCTIONS BEFORE PROCEEDING – COMPLETE ONE TABLE FOR EACH OUTFALL – ANNOTATE THE OUTFALL NUMBER IN THE SPACE PROVIDED
NOTE TABLE 1 IS INCLUDED ON SEPARATE SHEETS NUMBERED FROM PAGE 6 TO PAGE 7

C. USE THE SPACE BELOW TO LIST ANY OF THE POLLUTANTS LISTED IN PART B OF THE INSTRUCTIONS. WHICH YOU KNOW OR HAVE REASON TO BELIEVE IS DISCHARGED OR MAY BE DISCHARGED FROM ANY OUTFALL. FOR EVERY POLLUTANT YOU LIST, BRIEFLY DESCRIBE THE REASONS YOU BELIEVE IT TO BE PRESENT AND REPORT ANY ANALYTICAL DATA IN YOUR POSSESSION

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
None from Table B			

3.10 BIOLOGICAL TOXICITY TESTING DATA

DO YOU HAVE ANY KNOWLEDGE OR REASON TO BELIEVE THAT ANY BIOLOGICAL TEST FOR ACUTE OR CHRONIC TOXICITY HAS BEEN MADE ON ANY OF YOUR DISCHARGES OR ON RECEIVING WATER IN RELATION TO YOUR DISCHARGE WITHIN THE LAST THREE YEARS?

☑ YES (IDENTIFY THE TEST(S) AND DESCRIBE THEIR PURPOSES BELOW) ☐ NO (GO TO 3 20)

Fathead Minnow and Ceriodaphnia Dubia - Special Condition 10 of permit

3 20 CONTRACT ANALYSIS INFORMATION

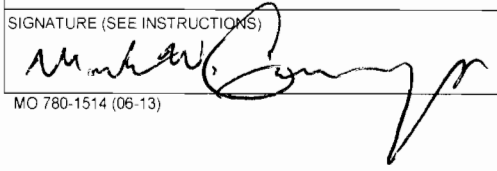
WERE ANY OF THE ANALYSES REPORTED PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

☑ **YES** *(LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF AND POLLUTANTS ANALYZED BY EACH SUCH LABORATORY OR FIRM BELOW)* ☐ **NO** *(GO TO 3 30)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code and number)*	D. POLLUTANTS ANALYZED *(list)*
Pace Analytical Services, Inc.	808 West McKay Frontenac, KS 66763	620-235-0003	WET Testing, Fecal
Pace Analytical Services, Inc.	9608 Loiret Blvd. Lenexa, KS 66219	913-599-5665	Chemical Analysis

3 30 CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS APPLICATION AND ALL ATTACHMENTS AND THAT, BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Mark Cummings, EHS Regulatory Manager	(573) 244-8152
SIGNATURE (SEE INSTRUCTIONS)	**DATE SIGNED**
	9-10-2014

PLEASE PRINT OR TYPE You may report some or all of this information on separate sheet *(Use the same format)* instead of completing these pages.
SEE INSTRUCTIONS

FORM C
TABLE 1 FOR 3.00 ITEM A AND B

INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO

PART A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT							3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Biochemical Oxygen Demand (BOD)								mg/L	lbs/day			
B. Chemical Oxygen Demand (COD)								mg/L	lbs/day			
C. Total organic Carbon (TOC)								mg/L	lbs/day			
D. Total Suspended Solids (TSS)								mg/L	lbs/day			
E. Ammonia *(as N)*								mg/L	lbs/day			
F. Flow	VALUE		VALUE		VALUE			MGD		VALUE		
G. Temperature *(winter)*	VALUE		VALUE		VALUE			°C		VALUE		
H. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE		
I. pH	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM				STANDARD UNITS				

PART B – Mark "X" in column 2A for each pollutant you know or have reason to believe is present. Mark "X" in column 2B for each pollutant you believe to be absent. If you mark column 2A for any pollutant, you must provide the results for at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS														
A. Bromide (24959-67-9)										mg/L	lbs/day			
B. Chlorine, Total Residual										mg/L	lbs/day			
C. Color										Units				
D. Fecal Coliform										cfu/100mL				
E. Fluoride (16984-48-8)										mg/L	lbs/day			
F. Nitrate - Nitrate *(as N)*										mg/L	lbs/day			

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
G. Nitrogen, Total Organic *(as N)*										mg/L	lbs/day			
H. Oil and Grease										mg/L	lbs/day			
I. Phosphorus *(as P)*, Total (7723-14-0)										mg/L	lbs/day			
J. Sulfate *(as SO^4)* (14808-79-8)										mg/L	lbs/day			
K. Sulfide *(as S)*										mg/L	lbs/day			
L. Sulfite (as SO^3) (14265-45-3)										mg/L	lbs/day			
M. Surfactants										mg/L	lbs/day			
N. Aluminum, Total (7429-90-5)										ug/L	lbs/day			
O. Barium, Total (7440-39-3)										ug/L	lbs/day			
P. Boron, Total (7440-42-8)										ug/L	lbs/day			
Q. Cobalt, Total (7440-48-4)										ug/L	lbs/day			
R. Iron, Total (7439-89-6)										ug/L	lbs/day			
S. Magnesium, Total (7439-95-4)										ug/L	lbs/day			
T. Molybdenum, Total (7439-98-7)										ug/L	lbs/day			
U. Manganese, Total (7439-96-5)										ug/L	lbs/day			
V. Tin, Total (7440-31-5)										ug/L	lbs/day			
W. Titanium, Total (7440-32-6)										ug/L	lbs/day			

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, AND TOTAL PHENOLS														
1M. Antimony, Total (7440-36-9)										ug/L	lbs/day			
2M. Arsenic, Total (7440-38-2)										ug/L	lbs/day			
3M. Beryllium, Total (7440-41-7)										ug/L	lbs/day			
4M. Cadmium, Total (7440-43-9)										ug/L	lbs/day			
5M. Chromium III (16065-83-1)										mg/L	lbs/day			
6M. Chromium VI (18540-29-9)										mg/L	lbs/day			
7M. Copper, Total (7440-50-8)										ug/L	lbs/day			
8M. Lead, Total (7439-92-1)										ug/L	lbs/day			
9M. Mercury, Total (7439-97-6)										ug/L	lbs/day			
10M. Nickel, Total (7440-02-0)										ug/L	lbs/day			
11M. Selenium, Total (7782-49-2)										ug/L	lbs/day			
12M. Silver, Total (7440-22-4)										ug/L	lbs/day			
13M. Thallium, Total (7440-28-0)										ug/L	lbs/day			
14M. Zinc, Total (7440-66-6)										ug/L	lbs/day			
15M. Cyanide, Amenable to Chlorination										mg/L	lbs/day			
16M. Phenols, Total										mg/L	lbs/day			
RADIOACTIVITY														
(1) Alpha Total										pCi/L				
(2) Beta Total										pCi/L				
(3) Radium Total										pCi/L				
(4) Radium 226 Total										pCi/L				

INSTRUCTIONS FOR FILLING OUT APPLICATION FOR DISCHARGE PERMIT FORM C – MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS.

All blanks must be filled in when the application is submitted to the appropriate regional office (see map). The form must be signed as indicated.

This application is to be completed only for wastewater facilities with a discharge. Include any facility with possibility of discharge, even if normally there is no discharge. If this form is not adequate for you to describe your existing operation, then sufficient information should be attached so that an evaluation of the discharge can be made.

1.00 Name of Facility – By what title or name is this facility known locally?

1.10 and 1.20 Self-explanatory.

2.00 List in descending order of significance the four digit Standard Industrial Classification (SIC) codes that best describe your facility in terms of the principal products or services you produce or provide. Also, specify each classification in words.

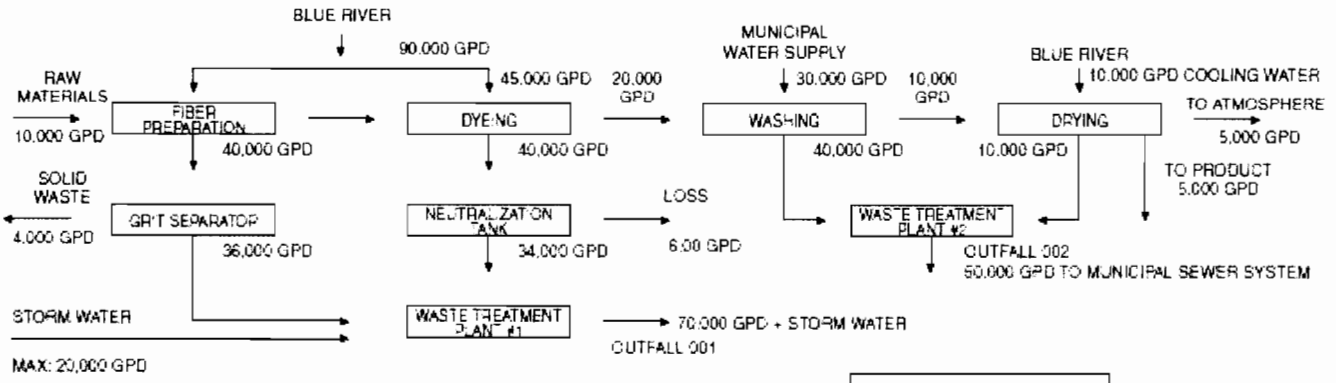
SIC code numbers are descriptions that may be found in the "Standard Industrial Classification Manual" prepared by the Executive Office of the President, Office of Management and Budget, that is available from the Government Printing Office, Washington, D.C. Use the current edition of the manual. If you have any questions concerning the appropriate SIC code for your facility, contact the Missouri Department of Natural Resources Regional office in your area (see map).

2.10 Point of discharge should be given in terms of the legal description of the waste treatment plant, location or sufficient information so that it may be located.

2.20 Receiving Water – the name of the stream to which the discharge is directed and any subsequent tributary until a continuous flowing stream is reached.

2.30 Self-explanatory.

2.40 A. The line drawing should show generally the route taken by water in your facility from intake to discharge. Show all operations contributing wastewater, including process and production areas, sanitary flows, cooling water and storm water runoff. You may group similar operations into a single unit labeled to correspond to the more detailed listing. The water balance should show average and maximum flows. Show all significant losses of water to products, atmosphere, discharge and public sewer systems. You should use actual measurements whenever available; otherwise, use your best estimate. An example of any acceptable line drawing appears below.



B. List all sources of wastewater to each outfall. Operations may be described in general terms (for example, "dye-making reactor" or a distillation tower"). You may estimate the flow contributed by each source if no data is available, and for storm water, you may use any reasonable measure of duration, volume or frequency. For each treatment unit, indicate its size, flow rate and retention time, and describe the ultimate disposal of any solid or liquid wastes not discharged. Treatment units should be listed in order and you should select the proper code from Table A to fill in column 3B for each treatment unit. Insert "XX" into column 3B if no code corresponds to a treatment unit you list.

TABLE A – CODES FOR TREATMENT UNITS

PHYSICAL TREATMENT PROCESSES

1-A	Ammonia Stripping	1-M	Grit Removal
1-B	Dialysis	1-N	Microstraining
1-C	Diatomaceous Earth Filtration	1-O	Mixing
1-D	Distillation	1-P	Moving Bed Filters
1-E	Electrodialysis	1-Q	Multimedia Filtration
1-F	Evaporation	1-R	Rapid Sand Filtration
1-G	Flocculation	1-S	Reverse Osmosis (Hyperfiltration)
1-H	Flotation	1-T	Screening
1-I	Foam Fractionation	1-U	Sedimentation (Settling)
1-J	Freezing	1-V	Slow Sand Filtration
1-K	Gas-Phase Separation	1-W	Solvent Extraction
1-L	Grinding (Comminutors)	1-X	Sorption

CHEMICAL TREATMENT PROCESSES

2-A	Carbon Absorption	2-G	Disinfection (Ozone)
2-B	Chemical Oxidation	2-H	Disinfection (Other)
2-C	Chemical Precipitation	2-I	Electrochemical Treatment
2-D	Coagulation	2-J	Ion Exchange
2-E	Dechlorination	2-K	Neutralization
2-F	Disinfection (Chlorine)	2-L	Reduction

BIOLOGICAL TREATMENT PROCESSES

3-A	Activated Sludge	3-E	Pre-Aeration
3-B	Aerated Lagoons	3-F	Spray Irrigation/Land Application
3-C	Anaerobic Treatment	3-G	Stabilization Ponds
3-D	Nitrification-Denitrification	3-H	Trickling Filtration

OTHER PROCESSES

4-A	Discharge to Surface Water	4-C	Reuse/Recycle of Treated Effluent
4-B	Ocean Discharge Through Outfall	4-D	Underground Injection

SLUDGE TREATMENT AND DISPOSAL PROCESSES

5-A	Aerobic Digestion	5-M	Heat Drying
5-B	Anaerobic Digestion	5-N	Heat Treatment
5-C	Belt Filtration	5-O	Incineration
5-D	Centrifugation	5-P	Land Application
5-E	Chemical Conditioning	5-Q	Landfill
5-F	Chlorine Treatment	5-R	Pressure Filtration
5-G	Composting	5-S	Pyrolysis
5-H	Drying Beds	5-T	Sludge Lagoons
5-I	Elutriation	5-U	Vacuum Filtration
5-J	Flotation Thickening	5-V	Vibration
5-K	Freezing	5-W	Web Oxidation
5-L	Gravity Thickening		

2.40 C. A discharge is intermittent unless it occurs without interruption during the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes or other similar activities. A discharge is seasonal if it occurs only during certain parts of the year. Fill in every applicable column in this item for each source of intermittent or seasonal discharges. Base your answers on actual data whenever available; otherwise, provide your best estimate. Report the highest daily value for flow rate and total volume in the "Maximum Daily" columns. Report the average of all daily values measures during days when discharge occurred within the last year in the "Long Term Average" columns.

2.50 A. All effluent guidelines promulgated by EPA appear in the Federal Register and are published annually in 40 CPR Subchapter N. A guideline applies to you if you have any operations contributing process wastewater in any subcategory covered by BPT, BCT, or BAT guidelines. If you are unsure whether you are covered by a promulgated effluent guideline, check with your Missouri Department of Natural Resources' Regional Office. You must check yes if an applicable effluent guideline has been promulgated, even if the guideline limitations are being contested in court. If you believe that a promulgated effluent guideline has been remanded for reconsideration by a court and does not apply to your operations, you may check no.

B. An effluent guideline is expressed in terms of production (or other measure of operation) if the limitations are expressed as mass of pollutant per operational parameter; for example, "pounds of BOD per cubic foot of logs from which bark is removed," or "pounds of TSS per megawatt hour of electrical energy consumed by smelting furnace." An example of a guideline not expressed in terms of a measure of operation is one which limits the concentration of pollutants.

C. This item must be completed only if you checked yes to item B. The production information requested here is necessary to apply effluent guidelines to your facility and you may not claim it as confidential. However, you do not have to indicate how the reported information was calculated.

Report quantities in the units of measurement used in the applicable effluent guideline. The figures provided must be a measure of actual operation over a one month period, such as the production for the highest month during the last twelve months, or the monthly average production for the highest year of the last five years, or other reasonable measure of actual operation, but may not be based on design capacity or on predictions of future increases in operation.

2.60 A. If you check yes to this question, complete all parts of the chart, or attach a copy of any previous submission you have made containing the same information.

B. You are not required to submit a description of future pollution control projects if you do not wish to or if none is planned.

3.00 These items require you to collect and report data on the pollutants discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and must be completed in accordance with the specific instructions for that part. The following general instructions apply to the entire item.

GENERAL INSTRUCTIONS. Part A requires you to report at least one analysis for each pollutant. Part B requires you to mark "X" in either the "Believe Present" column or the "Believe Absent" column (column 2A or 2B, Part B) based on you best estimate, and test for those which you believe to be present. Part C requires you to list any of a group of pollutants which you believe to be present, with a brief explanation of why you believe it to be present. (See specific instructions on the form and below Parts A through C).

Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, maintenance chemicals, intermediate and final products and byproducts, and any previous analyses known to you of your effluent or of any similar effluent. (For example, if you manufacture pesticides, you should expect those pesticides to be present in contaminated storm water runoff.) If you would expect a pollutant to be present solely as a result of its presence in your intake water, you must mark "Believe Present" but you are not required to analyze for that pollutant. Instead, mark an "X" in the "Intake" column.

REPORTING. All levels must be reported as a concentration and as total mass. You may report some or all of the required data by attaching separate sheets of paper. (Use the following abbreviations in the columns headed "Units" (column 3, Part A, and column 4, Part B).

CONCENTRATION		MASS	
ppm	parts per million	lbs	pounds
mg/L	milligrams per liter	ton	tons (English tons)
ppb	parts per billion	mg	Milligrams
ug/L	micrograms per liter	g	grams
		kg	kilograms
		T	tonnes (metric tons)

If you measure only one daily value, complete only the "Maximum Daily Values" columns and insert "1" into the "number of analyses" columns (columns 2A and 2B, Part A, and columns 3A and 3D, Part B). The Missouri Department of Natural Resources may require you to conduct additional analyses to further characterize your discharges.

For composite samples, the daily value is the total mass or average concentration found in a complete sample taken over the operating hours of the facility during a 24 hour period; for grab samples, the daily value is the arithmetic or flow-weighted total mass or average concentration found in a series of at least four grab samples taken over the operating hours of the facility during a 24 hour period.

If you measure more than one daily value for a pollutant, determine the average of all values within the last year and report the concentration and mass under the "Long Term Average Values" columns (column 2C, Part A, and column 3C, Part B), and the total number of daily values under the "Number of Analyses" columns (column 2D, Part A, and column 3D, Part B). Also, determine the average of all daily values taken during each calendar month, and report the highest average of all daily values taken during each calendar month, and report the highest average under the "Maximum 30 Day Values" columns (column 2B, Part A, and column 3B, Part B).

SAMPLING. The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater. You may contact your Missouri Department of Natural Resources' Regional Office for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate samples, etc. The time when you sample should be representative of your normal operation, to the extent feasible, with all processes which contribute wastewater in normal operation and with your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit or at any site adequate for the collection of a representative sample.

Grab and composite samples are defined as follows:

GRAB SAMPLE. An individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.

COMPOSITE SAMPLE. A combination of at least eight sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24 hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

ANALYSIS. You must use test methods promulgated in 40 CFR Part 136; however, if none has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding times, preservation techniques and the quality control measures which you used.

If you have two or more substantially identical outfalls, you may request permission from the Missouri Department of Natural Resources to sample and analyze only one outfall and submit the results of the analysis for other substantially identical outfalls. If your request is granted by the Missouri Department of Natural Resources, on a separate sheet attached to the application form, identify which outfall you did test and describe why the outfalls which you did not test are substantially identical to the outfall which you did test.

REPORTING OF INTAKE DATA. You are not required to report data under the "Intake" columns unless you wish to demonstrate your eligibility for a "net" effluent limitation for one or more pollutants, that is, an effluent limitation adjusted by subtracting the average level of the pollutant(s) present in your intake water. National Pollutant Discharge Elimination System (NPDES) regulations allow net limitations only in certain circumstances. To demonstrate your eligibility, under the Intake columns report the average of the results of analyses on your intake water (if your water is treated before use, test the water after it is treated), and attach a separate sheet containing the following for each pollutant:

1. A statement that the intake water is drawn from the body of water into which the discharge is made. (Otherwise, you are not eligible for net limitations.)

2. A statement of the extent to which the level of the pollutant is reduced by treatment of your wastewater. (Your limitations will be adjusted only to the extent that the pollutant is not removed.)

3. When applicable, a demonstration of the extent to which the pollutants in the intake vary physically, chemically, or biologically from the pollutants contained in your discharge. For example, when the pollutant represents a class of compounds. Your limitations will be adjusted only to the extent that the intake pollutants do not vary from the discharged pollutants.

3.00 Part A must be completed by all applicants for all outfalls, including outfalls containing only noncontact cooling water or storm runoff. However, at your request, the Missouri Department of Natural Resources may waive the requirements to test for one or more of these pollutants, upon a determination that testing for the pollutant(s) is not appropriate for your effluent.

Use composite samples for all pollutants in this part, except use grab samples for pH and temperature. See discussion in instructions above for definitions of the columns in Part A. The "Long Term Average Values" column (column 2C) and "Maximum 30 Day Values" column (column 2B) are not compulsory but should be filled out if data is available.

3.00 Part B must be completed by all applicants for all outfalls, including outfalls containing only noncontact cooling water or storm runoff.

Use composite samples for all pollutants you analyze for in this part, except use grab samples for residual chlorine, oil and grease and fecal coliform. The Long Term Average Values column (column 3C) and Maximum 30 Day Values column (column 3B) are not compulsory but should be filled out if data is available.

3.00 List any pollutants in Table B that you believe to be present and explain why you believe them to be present in part C. No analysis is required, but you have analytical, you must report it.

TABLE B – TOXIC POLLUTANTS AND HAZARDOUS SUBSTANCES REQUIRED TO BE IDENTIFIED BY APPLICANTS IF EXPECTED TO BE PRESENT

TOXIC POLLUTANT

Asbestos

HAZARDOUS SUBSTANCES

Acetaldehyde
Allyl alcohol
Allyl chloride
Amyl acetate
Aniline
Benzonitrile
Benzyl chloride
Butyl acetate
Butylamine
Captan

HAZARDOUS SUBSTANCES

Dichlorvos
Diethylamine
Dimethylamine
Dintrobenzene
Diquat
Disulfoton
Diuron
Epichlorohydrin
Ethion
Ethylene diamine
Ethylene dibromide
Formaldehyde
Furfural
Guthion

HAZARDOUS SUBSTANCES

Nalad
Napthenic acid
Nitrotoluene
Parathion
Phenolsulfonate
Phosgene
Propargite
Propylene oxide
Pyrethrins
Quinoline
Resorcinol
Strontium
Strychnine
Sytrene

TABLE B – (continued)

HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES
Carbaryl	Isoprene	2, 4, 5-T (2,4,5-Trichloro-phenoxyacetic acid)
Carbofuran	Isopropanolamine	TDE (Tetrachlorodiphenyl ethane)
Carbon disulfide	Kelthane	2, 4, 5-TP (2-(2,4,5-Trichloro-phenoxy) propanoic acid)
Chlorpyrifos	Kepone	Trichlorofon
Coumaphos	Malathion	Triethanolamine
Cresol	Mercaptodimethur	Triethaylamine
Crotonaldehyde	Methoxychlor	Uranium
2,4-D (2,4-Dichloro-Phenoxyacetic acid)	Methyl mercaptan	Vanadium
Diazinon	Methyl parathion	Vinyl acetate
Dicamba	Mevinphos	Xylene
Dichlobenil	Mexacarbate	Xylenol
2,2-Dichloropropionic acid	Monethyl amine	Zirconium
	Monomethyl amine	

3.10 Self-explanatory. Additional information may be requested by the Missouri Department of Natural Resources.

3.20 Self-explanatory.

3.30 The Clean Water Act provides for severe penalties for submitting false information on this application form.

Section 309(c)(2) of the Clean Water Act provides that "Any person who knowingly makes any false statement, representation, or certification in any application . . . shall upon conviction, be punished by a fine of no more $10,000 or by imprisonment for not more than six months, or both.

All applications must be signed as follows and the signature must be original.

A. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.

B. For a partnership or sole proprietorship, by a general partner or the proprietor.

C. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH

FORM D – APPLICATION FOR DISCHARGE PERMIT – PRIMARY INDUSTRIES

FOR AGENCY USE ONLY	
CHECK NO.	
DATE RECEIVED	FEE SUBMITTED

NOTE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY

The Doe Run Company - West Fork

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER

MO - 0100218

This form is to be filled out in addition to forms A and C "Application for Discharge Permit" for the Industries listed below:

INDUSTRY CATEGORY

Adhesives and sealants
Aluminum forming
Auto and other laundries
Battery manufacturing
Coal mining
Coil coating
Copper forming
Electric and electronic compounds
Electroplating
Explosives manufacturing
Foundries
Gum and wood chemicals
Inorganic chemicals manufacturing
Iron and steel manufacturing
Leather tanning and finishing
Landfill
Mechanical products manufacturing
Nonferrous metals manufacturing
Ore mining
Organic chemicals manufacturing
Paint and ink formulation
Pesticides
Petroleum refining
Pharmaceutical preparations
Photographic equipment and supplies
Plastic and synthetic materials manufacturing
Plastic processing
Porcelain enameling
Printing and publishing
Pulp and paperboard mills
Rubber processing
Soap and detergent manufacturing
Steam electric power plants
Textile mills
Timber products processing

APPLICATION FOR DISCHARGE PERMIT
FORM D – PRIMARY INDUSTRIES

TABLE II

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO-0100218	001

1.30 If you are a primary industry and this outfall contains process wastewater, refer to Table A in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-A for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. Mark "X" in column 2-B for each pollutant you know or have reason to believe is present. Mark "X" in column 2-C for each pollutant you believe to be absent. If you mark either columns 2-A or 2-B for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (*all seven pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TEST-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-9)											ug/L	lbs/day			
2M. Arsenic, Total (7440-38-2)											ug/L	lbs/day			
3M. Beryllium, Total (7440-41-7)											ug/L	lbs/day			
4M. Cadmium, Total (7440-43-9)											ug/L	lbs/day			
5M. Chromium III (16065-83-1)											mg/L	lbs/day			
6M. Chromium VI (18540-29-9)											mg/L	lbs/day			
7M. Copper, Total (7440-50-8)											ug/L	lbs/day			
8M. Lead, Total (7439-92-1)											ug/L	lbs/day			
9M. Magnesium Total (7439-95-4)											ug/L	lbs/day			
10M. Mercury, Total (7439-97-6)											ug/L	lbs/day			
11M. Molybdenum Total (7439-98-7)											ug/L	lbs/day			
12M. Nickel, Total (7440-02-0)											ug/L	lbs/day			
13M. Selenium, Total (7782-49-2)											ug/L	lbs/day			
14M. Silver, Total (7440-22-4)											ug/L	lbs/day			
15M. Thallium, Total (7440-28-0)											ug/L	lbs/day			
16M. Tin Total (7440-31-5)											ug/L	lbs/day			
17M. Titanium Total (7440-32-6)											ug/L	lbs/day			
18M. Zinc, Total (7440-66-6)											ug/L	lbs/day			

CONTINUED FROM PAGE 3

19M. Cyanide, Amenable to Chlorination											mg/L	lbs/day			
20M. Phenols, Total											mg/L	lbs/day			

DIOXIN

2,3,7,8 – Tetra – chlorodibenzo-P-Dioxin (1764-01-6)				**DESCRIBE RESULTS**

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)											ug/L	lbs/day			
2V. Acrylonitrile (107-13-1)											ug/L	lbs/day			
3V. Benzene (71-43-2)											ug/L	lbs/day			
4V. Bis (*Chloromethyl*) Ether (542-88-1)											ug/L	lbs/day			
5V. Bromoform (75-25-2)											ug/L	lbs/day			
6V. Carbon Tetrachloride (56-23-5)											ug/L	lbs/day			
7V. Chlorobenzene (108-90-7)											ug/L	lbs/day			
8V. Chlorodibromomethane (124-48-1)											ug/L	lbs/day			
9V. Chloroethane (75-00-3)											ug/L	lbs/day			
10V. 2-Chloroethylvinyl Ether (110-75-8)											ug/L	lbs/day			
11V. Chloroform (67-66-3)											ug/L	lbs/day			
12V. Dichlorobromomethane (75-27-4)											ug/L	lbs/day			
13V. Dichloro-difluoromethane (75-71-8)											ug/L	lbs/day			
14V. 1,1 – Dichloroethane (75-34-3)											ug/L	lbs/day			
15V. 1,2 – Dichloroethane (107-06-2)											ug/L	lbs/day			
16V. 1,1 – Dichloroethylene (75-35-4)											ug/L	lbs/day			
17V. 1,3 – Dichloropropane (78-87-5)											ug/L	lbs/day			
18V. 1,2 –Dichloropropylene (542-75-6)											ug/L	lbs/day			
19V. Ethylbenzene (100-41-4)											ug/L	lbs/day			
20V. Methyl Bromide (74-83-9)											ug/L	lbs/day			
21V. Methyl Chloride (74-87-3)											ug/L	lbs/day			

CONTINUE ON PAGE 4

CONTINUED FROM THE FRONT

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO-0100218	001

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC.MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)											ug/L	lbs/day			
23V. 1,1,2,2 – Tetra-chloroethane (79-34-5)											ug/L	lbs/day			
24V. Tetrachloroethylene (127-18-4)											ug/L	lbs/day			
25V. Toluene (108-88-3)											ug/L	lbs/day			
26V. 1,2 – Trans Dichloroethylene (156-60-5)											ug/L	lbs/day			
27V. 1,1,1 – Tri – chloroethane (71-55-6)											ug/L	lbs/day			
28V. 1,1,2 – Tri-chloroethane (79-00-5)											ug/L	lbs/day			
29V. Trichloro – ethylene (79-01-6)											ug/L	lbs/day			
30V. Trichloro – fluoromethane (75-69-4)											ug/L	lbs/day			
31V. Vinyl Chloride (75-01-4)											ug/L	lbs/day			
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2 – Chlorophenol (95-57-8)											ug/L	lbs/day			
2A. 2,4 – Dichloro – phenol (120-83-2)											ug/L	lbs/day			
3A. 2,4 – Dimethyl – phenol (105-67-9)											ug/L	lbs/day			
4A. 4,6 – Dinitro - O-Cresol (534-52-1)											ug/L	lbs/day			
5A. 2,4 – Dinitro – phenol (51-28-5)											ug/L	lbs/day			
6A. 2-Nitrophenol (88-75-5)											ug/L	lbs/day			
7A. 4-Nitrophenol (100-02-7)											ug/L	lbs/day			
8A. P – Chloro – M Cresol (59-50-7)											ug/L	lbs/day			
9A. Pentachloro – phenol (87-86-5)											ug/L	lbs/day			
10A. Phenol (108-952)											ug/L	lbs/day			
11A. 2,4,6 – Trichloro-phenol (88-06-2)											ug/L	lbs/day			
12A. 2 - methyl – 4,6 dinitrophenol (534-52-1)											ug/L	lbs/day			

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)											ug/L	lb/day			
2B. Acenaphtylene (208-96-8)											ug/L	lb/day			
3B. Anthracene (120-12-7)											ug/L	lb/day			
4B. Benzidine (92-87-5)											ug/L	lb/day			
5B. Benzo (a) Anthracene (56-55-3)											ug/L	lb/day			
6B. Benzo (a) Pyrene (50-32-8)											ug/L	lb/day			
7B. 3,4 – Benzofluoranthene (205-99-2)											ug/L	lb/day			
8B. Benzo (ghi) Perylene (191-24-2)											ug/L	lb/day			
9B. Benzo (k) Fluoranthene (207-08-9)											ug/L	lb/day			
10B. Bis (2-Chloroethoxy) Methane (111-91-1)											ug/L	lb/day			
11B. Bis (2-Chloroethyl) Ether (111-44-4)											ug/L	lb/day			
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)											ug/L	lb/day			
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)											ug/L	lb/day			
14B. 4-Bromophenyl Phenyl Ether (101-55-3)											ug/L	lb/day			
15B. Butyl Benzyl Phthalate (85-68-7)											ug/L	lb/day			
16B. 2-Chloronaphthalene (91-58-7)											ug/L	lb/day			
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)											ug/L	lb/day			
18B. Chrysene (218-01-9)											ug/L	lb/day			
19B. Dibenzo (a.h) Anthracene (53-70-3)											ug/L	lb/day			
20B. 1,2 – Dichlorobenzene (95-50-1)											ug/L	lb/day			
21B. 1,3 – Dichlorobenzene (541-73-1)											ug/L	lb/day			

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NPDES # *(IF ASSIGNED)*	OUTFALL NUMBER
MO-0100218	001

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1, 4-Dichlorobenzene (106-46-7)											ug/L	lb/day			
23B. 3, 3`-Dichlorobenzidine (91-94-1)											ug/L	lb/day			
24B. Diethyl Phthalate (84-66-2)											ug/L	lb/day			
25B. Dimethyl Phthalate (131-11-3)											ug/L	lb/day			
26B. Di-N-butyl Phthalate (84-74-2)											ug/L	lb/day			
27B. 2,4-Dinitrotoluene (121-14-2)											ug/L	lb/day			
28B. 2,6-Dinitrotoluene (606-20-2)											ug/L	lb/day			
29B. Di-N-Octyphthalate (117-84-0)											ug/L	lb/day			
30B. 1,2-Diphenylhydrazine (*as Azobenzene)* (122-66-7)											ug/L	lb/day			
31B. Fluoranthene (206-44-0)											ug/L	lb/day			
32B. Fluorene (86-73-7)											ug/L	lb/day			
33B. Hexachlorobenzene (87-68-3)											ug/L	lb/day			
34B. Hexachlorobutadiene (87-68-3)											ug/L	lb/day			
35B. Hexachloro-cyclopentadiene (77-47-4)											ug/L	lb/day			
36B. Hexachloroethane (67-72-1)											ug/L	lb/day			
37B. Indeno (1,2,3-c-d) Pyrene (193-39-5)											ug/L	lb/day			
38B. Isophorone (78-59-1)											ug/L	lb/day			
39B. Naphthalene (91-20-3)											ug/L	lb/day			
40B. Nitrobenzene (98-95-3)											ug/L	lb/day			
41B. N-Nitro-sodimethylamine (62-75-9)											ug/L	lb/day			

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT						D. NO. OF ANALYSES	4. UNITS		5. INTAKE (*optional*)		
	A. TES-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)			A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
42B. N-Nitroso N-Propylamine (621-64-7)											ug/L	lbs/day			
43B. N-Nitro-sodiphenylamine (86-30-6)											ug/L	lbs/day			
44B. Phenanthrene (85-01-8)											ug/L	lbs/day			
45B. Pyrene (129-00-0)											ug/L	lbs/day			
46B. 1,2,4-Tri chlorobenzene (120-82-1)											ug/L	lbs/day			
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)											ug/L	lbs/day			
2P. α-BHC (319-84-6)											ug/L	lbs/day			
3P. β-BHC (319-84-6)											ug/L	lbs/day			
4P. γ-BHC (58-89-9)											ug/L	lbs/day			
5P. δ-BHC (319-86-8)											ug/L	lbs/day			
6P. Chlordane (57-74-9)											ug/L	lbs/day			
7P. 4,4'-DDT (50-29-3)											ug/L	lbs/day			
8P. 4,4'-DDE (72-55-9)											ug/L	lbs/day			
9P. 4,4'-DDD (72-54-8)											ug/L	lbs/day			
10P. Dieldrin (60-57-1)											ug/L	lbs/day			
11P. α-Endosulfan (115-29-7)											ug/L	lbs/day			
12P. β-Endosultan (115-29-7)											ug/L	lbs/day			
13P. Endosulfan Sulfate (1031-07-8)											ug/L	lbs/day			
14P. Endrin (72-20-8)											ug/L	lbs/day			
15P. Endrin Aldehyde (7421-93-4)											ug/L	lbs/day			
16P. Heptachlor (76-44-8)											ug/L	lbs/day			

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NPDES # (IF ASSIGNED)	OUTFALL NUMBER
MO-0100218	001

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICISES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)											ug/L	lbs/day			
18P. PCB-1242 (53469-21-9)											ug/L	lbs/day			
19P. PBC-1254 (11097-69-1)											ug/L	lbs/day			
20P. PCB-1221 (11104-28-2)											ug/L	lbs/day			
21P. PCB-1232 (11141-16-5)											ug/L	lbs/day			
22P. PCB-1248 (12672-29-6)											ug/L	lbs/day			
23P. PCB-1260 (11096-82-5)											ug/L	lbs/day			
24P. PCB-1016 (12674-11-2)											ug/L	lbs/day			
25P. Toxaphene (8001-35-2)											ug/L	lbs/day			
J. RADIOACTIVITY															
(1) Alpha Total											pCi/L				
(2) Beta Total											pCi/L				
(3) Radium Total											pCi/L				
(4) Radium 226 Total											pCi/L				

2.00 POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

A. IS ANY POLLUTANT LISTED IN ITEM 1.30 A SUBSTANCE OR A COMPONENT OF A SUBSTANCE WHICH YOU DO OR EXPECT THAT YOU WILL OVER THE NEXT FIVE YEARS USE OR MANUFACTURE AS AN INTERMEDIATE OR FINAL PRODUCT OR BYPRODUCT?

☐ **YES** *(LIST ALL SUCH POLLUTANTS BELOW)* ☐ **NO** *(GO TO B)*

B. ARE YOUR OPERATIONS SUCH THAT YOUR RAW MATERIALS, PROCESSES OR PRODUCTS CAN REASONABLE BE EXPECTED TO VARY SO THAT YOUR DISCHARGES OF POLLUTANTS MAY DURING THE NEXT FIVE YEARS EXCEED TWO TIMES THE MAXIMUM VALUES REPORTED IN ITEM 1.30?

☐ **YES** *(COMPLETE C BELOW)* ☐ **NO** *(GO TO SECTION 3.00)*

C. IF YOU ANSWERED "YES" TO ITEM B, EXPLAIN BELOW AND DESCRIBE IN DETAIL THE SOURCES AND EXPECTED LEVELS OF SUCH POLLUTANTS THAT YOU ANTICIPATE WILL BE DISCHARGED FROM EACH OUTFALL OVER THE NEXT FIVE YEARS, TO THE BEST OF YOUR ABILIITY AT THIS TIME. CONTINUE ON ADDITIONAL SHEETS IF YOU NEED MORE SPACE.

3.00 CONTRACT ANALYSIS INFORMATION

WERE ANY OF THE ANALYSES REPORTED IN 1.30 PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

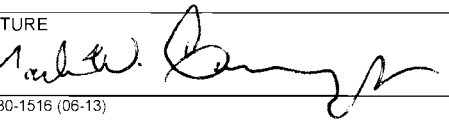
■ **YES** *(LIST THE NAME, ADDRESS, AND TELEPHONE NUMBER OF, AND ANALYZED BY, EACH SUCH LABORATORY OR FIRM BELOW)*

☐ **NO** *(GO TO SECTION 4.00)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code and number)*	D. POLLUTANTS ANALYZED *(list)*
Pace Analytical Services, Inc.	9608 Loiret Blvd	(913) 599-5665	All
	Lenexa, KS 66219		

4.00 CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	PHONE NUMBER (AREA CODE AND NUMBER)
Mark Cummings, EHS Regulatory Manager	(573) 244-8152
SIGNATURE	DATE SIGNED
	9-10-2014

INSTRUCTIONS FOR FILLING OUT APPLICATION FOR DISCHARGE PERMIT FORM D – PRIMARY INDUSTRIES

All blanks must be filled in when the applications is submitted to the appropriate Regional Office (see map). The form **must be signed** as indicated.

This application is to be completed only for wastewater facilities from which there is a discharge. Include any facility that it is possible to discharge from even if normally there is no discharge. If this form is not adequate for you to describe your existing operation, the sufficient information should be attached so that an evaluation of the discharge can be made.

1.00 Name of Facility – By what title or name is this facility known locally?

1.10 and 1.20 Self-explanatory.

1.30 GENERAL INSTRUCTIONS. For some pollutants, you may be required to mark "X" in the "Testing Required" column (column 2-A) and test (sample and analyze) and report the levels of the pollutants in your discharge whether or not you expect them to be present in your discharge. For all others, you must mark "X" in either the "Believe Present" column or the "Believe Absent" column (column 2-B or 2-C) based on your best estimate, and test for those which you believe to be present.

Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, maintenance chemicals, intermediate and final products and byproducts and any previous analyses known to you of your effluent or of any similar effluent. (For example, if you manufacture pesticides, you should expect those pesticides to be present in contaminated storm water runoff). If you would expect a pollutant to be present solely as a result of its presence in your intake water, you must mark "Believe Present" but you are not required to analyze for that pollutant. Instead, mark an "X" in the "Intake" column.

REPORTING. All levels must be reported as concentration and as total mass. You may report some or all of the required data by attaching separate sheets of paper instead of filling out Table II if the separate sheets contain all the required information in a format which is consistent with Table II in spacing and in identification of pollutants and columns. (For example, the data system used in your GC/MS analysis may be able to print data in the proper format). Use the following abbreviations in the columns headed "Units". (column 4)

CONCENTRATION

ppm.....parts per million
mg/1.....milligrams per liter
ppb.....parts per billion
µg/1.....micrograms per liter

MASS

lbs.....pounds
ton.....tons (English tons)
mg.....milligrams
g.....grams
kg.....kilograms
T.....tonnes (metric tons)

If you measure only one daily value, complete only the "Maximum Daily Values" columns and insert "1" into the "Number of Analyses" columns (columns 3-A and 3-D). Missouri Department of Natural Resources may require you to conduct additional analyses to further characterize your discharges.

For composite samples, the daily value is the total mass or average concentration found in a composite sample taken over the operating hours of the facility during a 24 hour period; for grab samples, the daily value is the arithmetic or flow-weighted total mass or average concentration found in a series of at least four grab samples taken over the operating hours of the facility during a 24 hour period.

If you measure more than one daily value for a pollutant, determine the average of all values within the last year and report the concentration and mass under the "Long Term Average Values" column (column 3-C), and the total number of daily values under the "Number of Analyses" columns (column 3-D). Also, determine the average of all daily values taken during each calendar month, and report the highest average under the "Maximum 30 Day Value" column (column 3-B)

SAMPLING. The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater. You may contact your Missouri Department of Natural Resources' Regional Office for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate samples, etc. The time when you sample should be representative of your normal operation, to the extent feasible, with all processes that contribute wastewater in normal operation, and with your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit or at any site adequate for the collection of a representative sample.

Grab and composite samples are defined as follows:

GRAB SAMPLES. An individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.

COMPOSITE SAMPLE. For the purposes of this application, A combination of at least eight sample aliquots of at lease 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24 hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

ANALYSIS. You must use test methods promulgated in 40 CFR Part 136; however, if none has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding times, preservation techniques and the quality control measures which you used.

If you have two or more substantially identical outfalls, you may request permission from the Missouri Department of Natural Resources to sample and analyze only one outfall and submit the results of the analysis for other substantially identical outfalls. If your request is granted by the Missouri Department of Natural Resources, on a separate sheet attached to the application form, identify which outfall you did test and describe why the outfalls which you did not test are substantially identical to the outfall which you did test.

REPORTING OF INTAKE DATA. You are not required to report data under the "Intake" columns unless you wish to demonstrate your eligibility for a "net" effluent limitation for one or more pollutants, that is, an effluent limitation adjusted by subtracting the average level of the pollutant(s) present in your intake water. National Pollutant Discharge Elimination System (NPDES) regulations allow net limitations only in certain circumstances. To demonstrate your eligibility, under the "Intake" columns report the average of the results of analyses on your intake water (if your water is treated before use, test the water after it is treated), and attach a separate sheet containing the following for each pollutant:

1. A statement that the intake water is drawn from the body of water into which the discharge is made. (Otherwise, you are not eligible for net limitations.)

2. A statement of the extent to which the level of the pollutant is reduced by treatment of your wastewater. (Your limitations will be adjusted only to the extent that the pollutant is not removed.)

3. When applicable, a demonstration of the extent to which the pollutant in the intake vary physically, chemically or biologically from the pollutants contained in your discharge. For example, when the pollutant represents a class of compounds. Your limitations will be adjusted only to the extent that the intake pollutants do not vary from the discharged pollutants.

SPECIFIC INSTRUCTIONS. Table A lists the 34 "primary" industry categories in the left-hand column. For each outfall, if any of your processes that contribute wastewater falls into one of those categories, you must mark "X" in "Testing Required" column (column 2-A) and test for: A. All of the toxic metals, cyanide and total phenols; and B. The organic toxic pollutants contained in the gas chromatography/mass spectrometry (GS/MS) fractions indicated in Table A as applicable to your category, unless you qualify as a small business (see below). The organic toxic pollutants are listed by GC/MS fractions in Table II in 1.30. For example, the Organic Chemicals Industry has an "X" in all four

fractions; therefore, applicants in this category must test for all organic toxic pollutants in 1.30. If you are applying for a permit for a privately owned treatment works, determine your testing requirements on the basis of the industry categories of your contributors. When you determine which industry category you are in to find your testing requirements, you are not determining your category for any other purpose and you are not giving up your right to challenge your inclusion in that category (for example, for deciding whether an effluent guideline is applicable) before your permit is issued.

TABLE A – TESTING REQUIREMENTS FOR ORGANIC TOXIC POLLUTANTS INDUSTRY CATEGORY

		GC/MS FRACTION		
INDUSTRY CATEGORY	**VOLATILE**	**ACID**	**BASE/NEUTRAL**	**PESTICIDE**
Adhesives and sealants	X	X	X	-
Aluminum forming	X	X	X	-
Auto and other laundries	X	X	X	X
Battery manufacturing	X	-	X	-
Coal mining	X	X	X	X
Coil coating	X	X	X	-
Copper forming	X	X	X	-
Electric and electronic compounds	X	X	X	X
Electroplating	X	X	X	-
Explosives manufacturing	X	X	X	-
Foundries	X	X	X	-
Gum and wood chemicals	X	X	X	X
Inorganic chemicals manufacturing	X	X	X	-
Iron and steel manufacturing	X	X	X	-
Leather tanning and finishing	X	X	X	X
Mechanical products manufacturing	X	X	X	-
Nonferrous metals manufacturing	X	X	X	X
Ore Mining	X	X	X	X
Organic chemicals manufacturing	X	X	X	X
Paint and ink formulation	X	X	X	X
Pesticides	X	X	X	X
Petroleum refining	X	X	X	X
Pharmaceutical preparations	X	X	X	-
Photographic equipment and supplies	X	X	X	X
Plastic and synthetic materials mfg.	X	X	X	X
Plastic processing	X	-	-	-
Porcelain enameling	X	-	X	X
Printing and publishing	X	X	X	X
Pulp and paperboard mills	X	X	X	X
Rubber processing	X	X	X	-
Soap and detergent manufacturing	X	X	X	-
Stream electric power plants	X	X	X	-
Textile mills	X	X	X	X
Timber products	X	X	X	X

1 The pollutants in each fraction are listed in Item 1.30
X = Testing required
- = Testing not required

For all other cases (nonprocess wastewater outfalls and nonrequired GC/MS fractions), you must mark "X" in either the "Believed Present" column (column 2-B) or the "Believed Absent" column (column 2-C) for each pollutant, and test for those you believe present (those marked "X" in column 2-B. If you qualify as a small business (see below) you are exempt from testing for the organic toxic pollutants, listed in Table II. For pollutants in intake water, see discussion above. The "Long Term Average Values" column (column 5-2) are not compulsory but should be filled out if data is available.

Use composite samples for all pollutants in this part, except use grab samples for total phenols and cyanide.

You are required to mark "Testing Required" for dioxin if you use or manufacture one of the following compounds:

1. 2,4,5-trichlorophenocy acetic acid (2,4,5-T);
2. 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP);
3. 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon;
4. O,O-dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel);
5. Hexachlorophene (HCP).

If you mark "Testing Required" or "Believe Present," you must perform a screening analysis for dioxins, using gas chromatography with an electron capture detector. A TCDD standard for quantification is not required. Describe the results of this analysis in the space provided; for example, "no measurable baseline deflection at the retention time of TCDD" or "a measurable peak within the tolerances of the retention time of TCDD." The permitting authority may require you to perform a quantitative analysis if you report a positive result.

The Effluent Guidelines Division of EPA has collected and analyzed samples from some plants for the pollutants listed in Part C in the course of its BAT guidelines development program. If your effluents were sampled and analyzed as part of this program in the last three years, you may use this data to answer provided that the Missouri Department of Natural Resources approves, and provided that no process change or change in raw materials or operating practices has occurred since the samples were taken that would make the analyses unrepresentative of your current discharge.

SMALL BUSINESS EXEMPTION. If you qualify as a "small business" you are exempt from the reporting requirements for the organic toxic pollutants, listed in Table II. If your facility is a coal mine, and if your probable total annual production is less than 100,000 tons per year, you may submit past production data or estimated future production (such as a schedule of estimated total production under 30 CFR Section 795.14(c)) instead of conducting analysis for the organic toxic pollutants. If your facility is not a coal mine, and if your gross total annual sales for the most recent three years average less than $100,000 per year, in second quarter 1980 dollars, you may submit sales data for those years instead of conducting analyses for the organic toxic pollutants.

The production or sales data must be for the facility that is the source of the discharge. The data should not be limited to production or sales for the process or processes which contribute to the discharge, unless those are the only processes at your facility. For sales data, in situations involving intra-corporate transfers of goods and services, the transfer price per unit should approximate market prices for those goods and services as closely as possible. Sales figures for years after 1980 should be indexed to the second quarter of 1980 by using the gross national product price deflator (second quarter of 1980 = 100). This index is available in "National Income and Product Accounts of the United States" (Department of Commerce, Bureau of Economic Analysis).

2.00 A. You may not claim this information as confidential; however, you do not have to distinguish between use or production of the pollutants or list the amounts. Under NPDES regulations your permit will contain limits to control all pollutants you report in answer to this question, as well as all pollutants reported in item 1.30 to 2.00 B at levels exceeding the technology-based limits appropriate to your facility. Your permit will also require you to report to Missouri Department of Natural Resources if you, in the future, begin or expect that you will begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which you did not report here. Your permit may be modified at that time if necessary to control that pollutant.

B. For this item, consider only those variations which may result in concentrations of pollutants in effluents which may exceed two times the maximum values you reported in 1.30. These variations may be part of your routine operations or part of your regular cleaning cycles.

Under NPDES regulations your permit will contain limits to control any pollutant you report in answer to this question at levels exceeding the technology-based limits appropriate to your facility. Your permit will also require you to report to the Missouri Department of Natural Resources if you know or have reason to believe that any activity has occurred or will occur which would make your discharge of any toxic pollutant five times the maximum values reported in 1.30 or in this item, and your permit may be modified at that time if necessary to control the pollutant.

Do not consider variations which are the result of bypasses or upsets. Increased levels of pollutants that are discharged as a result of bypasses or upsets are regulated separately under NPDES regulations.

C. Examples of the types of variations to be described here include:

Changes in raw or intermediate materials;
Changes in process equipment or materials;
Changes in product lines;
Significant chemical reactions between pollutants in waste streams; and
Significant variation in removal efficiencies of pollution control equipment.

You may indicate other types of variations as well, except those which are the result of bypasses or upsets. Missouri Department of Natural Resources may require you to further investigate or document variations you report here.

Base your prediction of expected levels of these pollutants upon your knowledge of your processes, raw materials, past and projected product ranges, etc., or upon any testing conducted upon your effluents that indicates the range of variability that can be expected in your effluent over the next five years.

EXAMPLE: Outfall 001 discharges water used to clean six 500 gallon tanks. These tanks are used for formulation of dispersions of synthetic resins in water (adhesives). Use of toxic pollutants that can be expected in the next five years is:

1. Copper acetate inhibitor, ½, lb. per tank;
2. Dibutyl phthalate, 50 lbs. per tank;
3. Toulene, 5 lbs. per tank; and
4. Antimony oxide, 1 lb. per tank.

Based on normal cleaning an average of 1 percent and a maximum of 3 percent of the contents of each tank is collected and discharged once every two weeks in the 150 gallons of water used for cleaning. Treatment (pH adjustment, flocculation, filtration) removes 85 percent of metals and 50 percent of organic compounds.

3.00 Self-explanatory.

4.00 The Federal Clean Water Act provides for severe penalties for submitting false information on this application form.

Section 309(c)(2) of the Federal Clean Water Act provides that "Any person who knowingly makes any false statement, representation, or certification in any application..... shall upon conviction, be punished by a fine of no more than $10,000 or by imprisonment for not more than six months, or both."

STATE REGULATIONS REQUIRE THE CERTIFICATION TO BE SIGNED AS FOLLOWS

1. For a corporation, by an officer of at least the level of plant manager;
2. For a partnership or sole proprietorship, by a general partner or the proprietor; or
3. For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking public official.