

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-0101702
Owner:	Forest City Facility LLC
Address:	25102 Exide Drive, MO 64451
Continuing Authority:	Forest City Facility LLC
Address:	P.O. Box 159, Forest City, MO 64451
Facility Name:	Canon Hollow Smelter
Facility Address:	25102 Exide Drive, Forest City, MO 64451
Legal Description:	see following pages
Latitude/Longitude:	see following pages
Receiving Stream:	see following pages
First Classified Stream and ID:	see following pages
USGS Basin & Sub-watershed No.:	see following pages

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

FACILITY DESCRIPTION

Industrial – lead recycling; SIC # 3341; NAICS # 331314
This facility does not require a certified wastewater operator.


This permit authorizes only wastewater and stormwater 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.

June 1, 2019
Effective Date

September 1, 2020
Modification Date


Edward B. Galbraith, Director, Division of Environmental Quality

May 31, 2024
Expiration Date


Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

OUTFALL #001 – process wastewater, landfill leachate, and stormwater from lead recycling operation paved areas and roofs with air deposition; lime precipitation, pH adjustment, coagulation, filter press; sampled prior to mixing with outfall #003 in surge tank at pump station for combined pumping to Missouri River. Solids sent to landfill.

Legal Description: SW¼, NE¼, Sec. 10, T59N, R39W, Holt Co.
 UTM Coordinates: X= 306619, Y= 4426487
 Receiving Stream: (piped to) Missouri River
 First Classified Stream and ID: Missouri River (P) WBID# 0226
 USGS Basin & Sub-watershed No.: Old Channel Little Tarkio Creek – Missouri River: 10240005-1003
 Design flow: 0.23 MGD
 Average flow: 0.056 MGD

OUTFALL #002 – eliminated 2001 modification; previously discharged sanitary wastewater

UTM Coordinates: X= 309362, Y= 4433753

OUTFALL #003 – stormwater, landfill stormwater; stormwater treatment system: precipitation, coagulation, filter press; sampled prior to mixing with outfall #001 in surge tank at pump station for combined pumping to Missouri River. Solids sent to landfill.

Legal Description: SW¼, NE¼, Sec. 10, T59N, R39W, Holt County
 UTM Coordinates: X= 306619, Y= 4426487
 Receiving Stream: (piped to) Missouri River
 First Classified Stream and ID: Missouri River (P) WBID# 0226
 USGS Basin & Sub-watershed No.: Old Channel Little Tarkio Creek – Missouri River: 10240005-1003
 Design flow: 0.138 MGD
 Average flow: 0.107 MGD; actual flow is dependent upon precipitation

OUTFALL #004 – Stormwater – landfill area

Legal Description: NW¼, SW¼, Sec. 12, T60N, R39W, Holt County
 UTM Coordinates: X= 309588, Y= 4433846
 Receiving Stream: Tributary to Canon Creek
 First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) WBID# 3960; locally known as Canon Creek
 USGS Basin & Sub-watershed No.: Lower Kimsey and Mission Creeks – Missouri River: 10240005-1103
 Average flow: 0.108 MGD; actual flow is dependent upon precipitation

OUTFALL #005 – stormwater; eliminated 2018 renewal, permittee reported discharge through this outfall does not occur.

UTM Coordinates: X= 309445, Y= 4433850

OUTFALL #006 – stormwater

Legal Description: NW¼, SW¼, Sec. 12, T60N, R39W, Holt County
 UTM Coordinates: X= 309276, Y= 4433699
 Receiving Stream: Canon Creek
 First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) WBID# 3960; locally known as Canon Creek
 USGS Basin & Sub-watershed No.: Lower Kimsey and Mission Creeks – Missouri River: 10240005-1103
 Average flow: 257 gallons per day; actual flow is dependent upon precipitation

OUTFALL #007 – stormwater

Legal Description: SW¼, SW¼, Sec. 12, T60N, R39W, Holt County
 UTM Coordinates: X= 309265, Y= 4433384
 Receiving Stream: Canon Creek
 First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) WBID# 3960; locally known as Canon Creek
 USGS Basin & Sub-watershed No.: Lower Kimsey and Mission Creeks – Missouri River: 10240005-1103
 Average flow: 365 gallons per day; actual flow is dependent upon precipitation

PERMITTED FEATURE S1 – instream monitoring; eliminated at 2018 renewal; Canon Creek: upstream of the small west flowing drainage just north of plant site

UTM Coordinates: X= 309517, Y= 4433977

PERMITTED FEATURE S2 – instream monitoring; eliminated at 2018 renewal; Canon Creek: downstream at the railroad bridge

UTM Coordinates: X= 309225, Y= 4433258

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MINIMUM MEASUREMENT FREQUENCY	SAMPLE TYPE
OUTFALL #001 <i>process wastewater</i>					
TABLE A-1 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 June 1, 2019 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:					
LIMIT SET: M					
PHYSICAL					
Flow	MGD	*	*	once/day	24 hr. total
CONVENTIONAL					
pH †	SU	6.5-9.0	6.5-9.0	continuous	continuous
pH † – time of deviation	minutes	-	446	continuous	continuous
pH † – single excursion max	minutes	60	-	continuous	continuous
Total Suspended Solids	mg/L	*	*	once/month	composite ‡
Total Suspended Solids	lbs/day	46.2	22.4	once/month	composite ‡
METALS					
Antimony, Total Recoverable	µg/L	*	*	once/week	composite ‡
Antimony, Total Recoverable	lbs/day	2.30	1.01	once/week	composite ‡
Arsenic, Total Recoverable	µg/L	*	*	once/week	composite ‡
Arsenic, Total Recoverable	lbs/day	1.66	0.68	once/week	composite ‡
Cadmium, Total Recoverable	µg/L	*	*	once/month	composite ‡
Lead, Total Recoverable	µg/L	*	*	once/week	composite ‡
Lead, Total Recoverable	lbs/day	0.33	0.15	once/week	composite ‡
Zinc, Total Recoverable	µg/L	*	*	once/week	composite ‡
Zinc, Total Recoverable	lbs/day	1.22	0.48	once/week	composite ‡
NUTRIENTS					
Ammonia as N	mg/L	*	*	once/week	composite ‡
Ammonia as N	lbs/day	22.9	8.94	once/week	composite ‡
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>JULY 28, 2019</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					
LIMIT SET: WA					
OTHER					
Whole Effluent Toxicity, Acute See Special Condition #2	TU _a	3.3	-	once/quarter ◇	composite ‡
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>OCTOBER 28, 2019</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

EFFLUENT PARAMETERS	UNITS	INTERIM EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
OUTFALL #003 <i>treated stormwater</i>					
TABLE A-2 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. In accordance with 10 CSR 20-7.031, the final effluent limitations outlined in Table A-3 must be achieved as soon as possible but no later than June 1, 2022 . These interim effluent limitations are effective beginning June 1, 2019 and remain in effect through May 31, 2022 or as soon as possible. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:					
LIMIT SET: M					
PHYSICAL					
Flow	MGD	*	*	once/month	24 hr. total
CONVENTIONAL					
pH †	SU	6.5-9.0	6.5-9.0	continuous	continuous
pH † – time of deviation	minutes	-	446	continuous	continuous
pH † – single excursion max	minutes	60	-	continuous	continuous
Total Suspended Solids	mg/L	41	16	once/month	composite ‡
METALS					
Antimony, Total Recoverable	µg/L	*	*	once/month	composite ‡
Arsenic, Total Recoverable	µg/L	*	*	once/month	composite ‡
Cadmium, Total Recoverable	µg/L	*	*	once/month	composite ‡
Lead, Total Recoverable	µg/L	*	*	once/month	composite ‡
Zinc, Total Recoverable	µg/L	*	*	once/month	composite ‡
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>JULY 28, 2019</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
OUTFALL #003 <i>treated stormwater</i>					
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 June 1, 2022 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:					
LIMIT SET: M					
PHYSICAL					
Flow	MGD	*	*	once/month	24 hr. total
CONVENTIONAL					
pH †	SU	6.5-9.0	6.5-9.0	continuous	continuous
pH † – time of deviation	minutes	-	446	continuous	continuous
pH † – single excursion max	minutes	60	-	continuous	continuous
Total Suspended Solids	mg/L	41	16	once/month	composite ‡
METALS					
Antimony, Total Recoverable	µg/L	*	*	once/month	composite ‡
Arsenic, Total Recoverable	µg/L	*	*	once/month	composite ‡
Cadmium, Total Recoverable	µg/L	148.3	50.6	once/month	composite ‡
Lead, Total Recoverable	µg/L	*	*	once/month	composite ‡
Zinc, Total Recoverable	µg/L	*	*	once/month	composite ‡
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>JULY 28, 2022</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALLS #004, #006, #007 <i>precipitation monitoring</i>		TABLE A-4 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 June 1, 2019 and remain in effect until 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 TOTAL	MONTHLY TOTAL	MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: M					
PHYSICAL					
Precipitation	inches	*	*	daily	24 hr. total, record or measured
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>JULY 28, 2019</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					

OUTFALLS #004, #006, #007 <i>Stormwater Only</i>		TABLE A-5 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 June 1, 2019 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETERS	UNITS	FINAL LIMITATIONS		BENCH-MARKS	MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE		MINIMUM MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: Q						
PHYSICAL						
Flow	MGD	*		-	once/quarter ◊	24 Hr Est.
CONVENTIONAL						
Settleable Solids	mL/L/hr	**		2.5	once/quarter ◊	grab
Total Suspended Solids	mg/L	**		100	once/quarter ◊	grab
METALS						
Cadmium, Total Recoverable	µg/L	*		-	once/quarter ◊	grab
Copper, Total Recoverable	µg/L	*		-	once/quarter ◊	grab
Lead, Total Recoverable	µg/L	**		271	once/quarter ◊	grab
Selenium, Total Recoverable **	µg/L	*		-	once/quarter ◊	grab
Zinc, Total Recoverable	µg/L	**		369	once/quarter ◊	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>OCTOBER 28, 2019</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

** This permit establishes monitoring for total recoverable selenium where compliance with the Water Quality Standard is determined below the most commonly used analytical methods' detection limits. However, 40 CFR 136 indicates effluent characteristics can be effectively quantified using EPA approved method 200.9 or 3113B. These methods have detection limits of 0.6 µg/L and 2 µg/L respectively; either may be used to maintain compliance with this permit. The facility must choose one of the above methods, or similar, to attain compliance with Standard Conditions Part I Section A 4.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

- * Monitoring and reporting requirement only.
- ** Monitoring and reporting requirement with benchmark.
- † The facility will report the minimum and maximum values for pH. For outfalls #001 and #003, the facility shall measure pH continuously. The total time of deviation shall be summarized each calendar month and shall not exceed 446 minutes total. A single excursion shall not exceed 60 minutes. The facility will enter the highest value for each parameter each month. All data must be reported to the department in accordance with Standard Conditions I.A.2.b.
- ‡ Composite samples are composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device over the span of 24 hours. When the flow duration is less than 24 hours, composite samples are collected as a flow-proportional sample for the duration of the discharge.
- ◇ Quarterly sampling

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

B. SCHEDULE OF COMPLIANCE

Schedules of compliance are allowed per 40 CFR 122.47. The facility shall attain compliance with final effluent limitations established in this permit as soon as reasonably achievable:

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 June 1, 2020.
3. Within 3 years of the effective date of this permit, the permittee shall attain compliance with the final effluent limits at outfall #003 for total recoverable cadmium.
4. Progress reports must be submitted via the electronic reporting system.

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. If a stormwater sample is not collected for an outfall in a quarter, the facility must submit a letter via eDMR indicating why. If the facility identifies a safety concern then the facility shall implement measures to address the safety concerns so future samples can be collected.
2. Acute 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 acute toxicity of NPDES effluents are found in the most recent edition of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/821/R-02/012; Table IA, 40 CFR Part 136). The permittee shall concurrently conduct 48-hour, static, non-renewal toxicity tests with the following species:

D. SPECIAL CONDITIONS (CONTINUED)

- The fathead minnow, *Pimephales promelas* (Acute Toxicity EPA Test Method 2000.0).
 - The daphnid, *Ceriodaphnia dubia* (Acute Toxicity EPA Test Method 2002.0).
 - (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 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) is 9%; the dilution series is: 2.25%, 4.5%, 9%, 18%, and 36%.
 - (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 acute toxic units ($TU_a = 100/LC_{50}$) reported according to the test methods manual chapter on report preparation and test review. The Lethal Concentration 50 Percent (LC_{50}) is the effluent concentration that would cause death in 50 percent of the test organisms at a specific time.
 - (g) Accelerated Testing Trigger: If the regularly scheduled acute WET test exceeds the TU_a 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 in TU_a . This permit requires the following additional toxicity testing if any one test result exceeds a TU_a 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_a 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_a 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_a 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_a limit.
 - (h) TIE/TRE Trigger: The following shall apply upon the exceedance of the TU_a 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_a 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. 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: 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);
 - (3) No Exposure Certifications (NOEs);
 - (4) Low Erosivity Waivers and Other Waivers from Stormwater Controls (LEWs); and
 - (5) Bypass reporting.

D. SPECIAL CONDITIONS (CONTINUED)

- (d) Electronic Submission: access the eDMR system, via: <https://edmr.dnr.mo.gov/edmr/E2/Shared/Pages/Main/Login.aspx>.
 - (e) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: <http://dnr.mo.gov/forms/780-2692-f.pdf>. The Department will either approve or deny this electronic reporting waiver request within 120 calendar days. Only permittees with an approved waiver request may submit monitoring data and reports on paper to the Department for the period the approved electronic reporting waiver is effective.
3. The facility's SIC code(s) or description is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2) hence shall continue implement an effective Stormwater Pollution Prevention Plan (SWPPP). 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 years or as site conditions change. 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 2015 https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf The purpose of the SWPPP and the Best Management Practices (BMPs) listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effectively preventing pollution [10 CSR 20-2.010(56)] of waters of the state. Corrective action means the facility took steps to eliminate the deficiency. 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 a provision for documenting inspection findings. Monthly inspections must include observations and evaluations of BMP effectiveness. Deficiencies found during monthly inspections must be corrected. Operational deficiencies must be corrected within 7 calendar days. Other deficiencies must be corrected within 14 calendar days and the actions taken to correct the deficiencies shall be included with the written inspection records. BMP deficiencies unable to be corrected in 14 calendar days, the permittee is required to inform the Department it will take longer than 14 calendar days to correct. The permittee will provide a description of the deficiency, a projected timeline for correction of the deficiency, and will update the SWPPP with the corrective measures. The facility shall correct all deficiencies as soon as practicable. Monthly inspection reports must be kept on site with the SWPPP and maintained for a period of 3 years. These must be made available to the Department upon request. Throughout coverage under this permit, the facility must perform regular SWPPP review and revise to incorporate site condition changes impacting stormwater.
 - (c) A provision for designating an individual to be responsible for environmental matters.
 - (d) A provision for providing training to all personnel involved in housekeeping, material handling (including but not limited to loading and unloading), storage, and staging of all operational, maintenance, storage, and cleaning areas. Proof of training shall be submitted upon request by the Department.
4. 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, warehouse activities, and other areas 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 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. Any spills should be noted in the SWPPP.
 - (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
 - (f) Ensure adequate provisions are provided to prevent and to protect embankments from erosion.

D. SPECIAL CONDITIONS (CONTINUED)

5. This permit stipulates pollutant benchmarks applicable to your discharge. The benchmarks do not constitute direct numeric effluent limitations; therefore, a benchmark exceedance alone is not a permit violation. Benchmark monitoring and visual inspections shall be used to determine the overall effectiveness of the SWPPP and to assist you in knowing when additional corrective action may be necessary to protect water quality. If a sample exceeds a benchmark concentration you must review your SWPPP and your BMPs to determine what improvements or additional controls are needed to reduce the pollutant in your stormwater discharge(s).

Any time a benchmark exceedance occurs, a Corrective Action Report (CAR) must be completed. A CAR is a document recording the efforts undertaken by the facility to improve BMPs to meet benchmarks in future samples. CARs must be retained with the SWPPP and be available to the Department upon request. If the efforts taken by the facility are not sufficient and subsequent exceedances of a benchmark occur, the facility must contact the Department if a benchmark value cannot be achieved. Failure to take corrective action to address a benchmark exceedance and failure to make measureable progress towards achieving the benchmarks is a permit violation.

6. 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 tested for oil and grease, benzene, toluene, ethylbenzene, and xylene using 40 CFR part 136 methods. If pollutant levels are below the most protective, applicable standards for the receiving stream found in 10 CSR 20-7.031 Table A, the water may be discharged. If pollutant levels exceed the applicable standards in 10 CSR 20-7.031 Table A, suitable water may be treated in the on-site wastewater treatment facility or disposed of at an off-site facility. Records of all testing and treatment of water accumulated in secondary containment shall be stored in the SWPPP to be available on demand to the Department and EPA personnel.
7. 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 may be reopened and modified, or alternatively revoked and reissued 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 contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or controls any pollutant not limited in the permit.
8. All outfalls and permitted features must be clearly marked in the field.
9. 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).
10. Report as no-discharge when a discharge does not occur during the report period. It is a violation of this permit to report no-discharge when a discharge has occurred.

D. SPECIAL CONDITIONS (CONTINUED)

11. Reporting of Non-Detects
 - (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way 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 or the reporting limit of the laboratory. Reporting as “non-detect” without also including the detection/reporting 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 “<” symbol and the laboratory’s detection/reporting limit (e.g. <6).
 - (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, then zero (0) is reported for the 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).

12. Failure to pay fees associated with this permit is a violation of the Missouri Clean Water Law (644.055 RSMo).

**MISSOURI DEPARTMENT OF NATURAL RESOURCES
STATEMENT OF BASIS
MO-0101702
CANON HOLLOW SMELTER**

This Statement of Basis (Statement) gives pertinent information regarding minor modification(s) to the above listed operating permit without the need for a public comment process. A Statement is not an enforceable part of a Missouri State Operating Permit.

Part I – Facility Information

Facility Type: Industrial – Lead Recycling
Facility SIC Code(s): #3341
Facility Description: Canon Hollow Smelter is a secondary lead smelting plant that recycles lead-acid storage batteries and other lead-bearing raw materials into new metallic lead pig and block ingots.

Part II – Modification Rationale

This operating permit is hereby modified to reflect a change in the facility's name and ownership. The facility's name has been changed from Exide Technologies, Canon Hollow Smelter to Canon Hollow Smelter. The continuing authority has also been changed from Exide Technologies to Forest City Facility LLC.

No other changes were made at this time.

Part III – 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 subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit.

DATE OF FACT SHEET: 8/24/2020

COMPLETED BY: KYLE O'ROURKE

**KYLE O'ROURKE, ENVIRONMENTAL PROGRAM ANALYST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - INDUSTRIAL WASTEWATER UNIT
(573)526-1289
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MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0101702
EXIDE TECHNOLOGIES – CANON HOLLOW SMELTER

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant 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)(A)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: Industrial – Major, Categorical
SIC Code(s): 3341
NAICS Code(s): 331314
Application Date: 02/03/2017
Expiration Date: 07/31/2017
Last Inspection: 02/23/2011 – in compliance

FACILITY DESCRIPTION:

Exide owns and operates the Canon Hollow Smelter, which is a secondary lead smelting plant located in Holt County, Missouri approximately four miles north of Forest City, Missouri. The plant recycles lead-acid storage batteries and other lead-bearing raw materials into new metallic lead pig and block ingots. The plant site consist of an office, production and storage buildings, a wastewater treatment plant (WWTP), a baghouse/scrubber building, and a maintenance shop. The plant also has an onsite hazardous waste landfill, which stores treated slag and sludge. The plant property is approximately 600 acres. However, the plant operations, including the landfill, only occupy approximately 50 of those acres. Other than the area immediately surrounding the plant, most of the acreage is wooded. Land use of adjoining property includes farming and private recreational/residential use. The closest body of water is Canon Creek, a newly classified "C" stream.

The WWTP consists of two separate treatment processes and is located in the plant area north of the office building. The WWTP treats industrial process water as well as portions of the site's stormwater in two separate treatment processes. The treatment process used to treat process water consists of lime precipitation, coagulation/settling, pH adjustment, and filtration. The treatment of stormwater consists of coagulation, settling, and filtration. Solids from the filter press are disposed of in the onsite landfill.

The WWTP primarily treats process wastewater from industrial activities, including cooling water used at the plant and wash-down water used for equipment and floors of the facility. Stormwater falling on filled portions of the onsite hazardous waste landfill is collected in the leachate collection system and conveyed to the WWTP for treatment. Treated process wastewater is discharged into the Missouri River at outfall #001.

Stormwater treated at the WWTP consists of runoff from industrial areas, which includes any runoff from paved areas in the main plant, the haul road leading to the landfills, and any other areas upgradient of the main plant and the haul road. Runoff is collected in the stormwater collection basin located southwest of the office building and pumped from the stormwater collection basin as needed to the WWTP to be treated in the stormwater treatment system by lime sedimentation. Treated stormwater is piped to the wet well of the effluent pump station and discharged at outfall #003. Treated stormwater from outfall #003 is combined with the treated process water of outfall #001 at the effluent pump station prior to being discharged to the Missouri River.

Stormwater from the industrial areas not collected for treatment and does not come into contact with landfill waste is discharged directly through one of the facility stormwater outfalls (#004, #006, or #007).

The design flow at outfall #001 established in the previous permits since July 1997 was 0.078 MGD. The design flow was based on the previous lagoon system; this was prior to installation of the treatment system. The facility implemented the new treatment system prior to 2008 when antidegradation rules were implemented therefore the permit writer has elevated the design flow of the facility to the actual maximum filter press rate of 0.23 MGD. Typically the treatment system operates 8 to 10 hours per day at a rate of 120 gpm. The design flow is based on a 24 hour operation at the maximum 160 gpm filter press operation. The permit writer has considered this an oversight on the department’s part therefore is not requiring the facility to undergo an antidegradation evaluation.

A construction permit for the pump station for outfalls #001 and #003 to discharge to the Missouri River was issued in 2008, as CP#21-8817. The pipeline was completed and first discharged in August 2012 and discharge for outfalls #001 and #003 was moved from Canon Creek to the Missouri River.

The charter number for the continuing authority for this facility is F00341680; this number was verified by the permit writer to be associated with the facility and precisely matches the continuing authority reported by the facility to the Secretary of State.

Domestic wastewater is treated in a sub-surface treatment system.

PERMITTED FEATURES TABLE:

OUTFALL	AVERAGE FLOW	DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.122 MGD	0.078 MGD	precipitation, pH adjustment, coagulation	process wastewater
#003	0.107 MGD	n/a	precipitation, coagulation	industrial stormwater
#004	0.108 MGD	n/a	none	industrial stormwater
#006	257 gallons	n/a	none	industrial stormwater
#007	365 gallons	n/a	none	industrial stormwater

FACILITY PERFORMANCE HISTORY & COMMENTS:

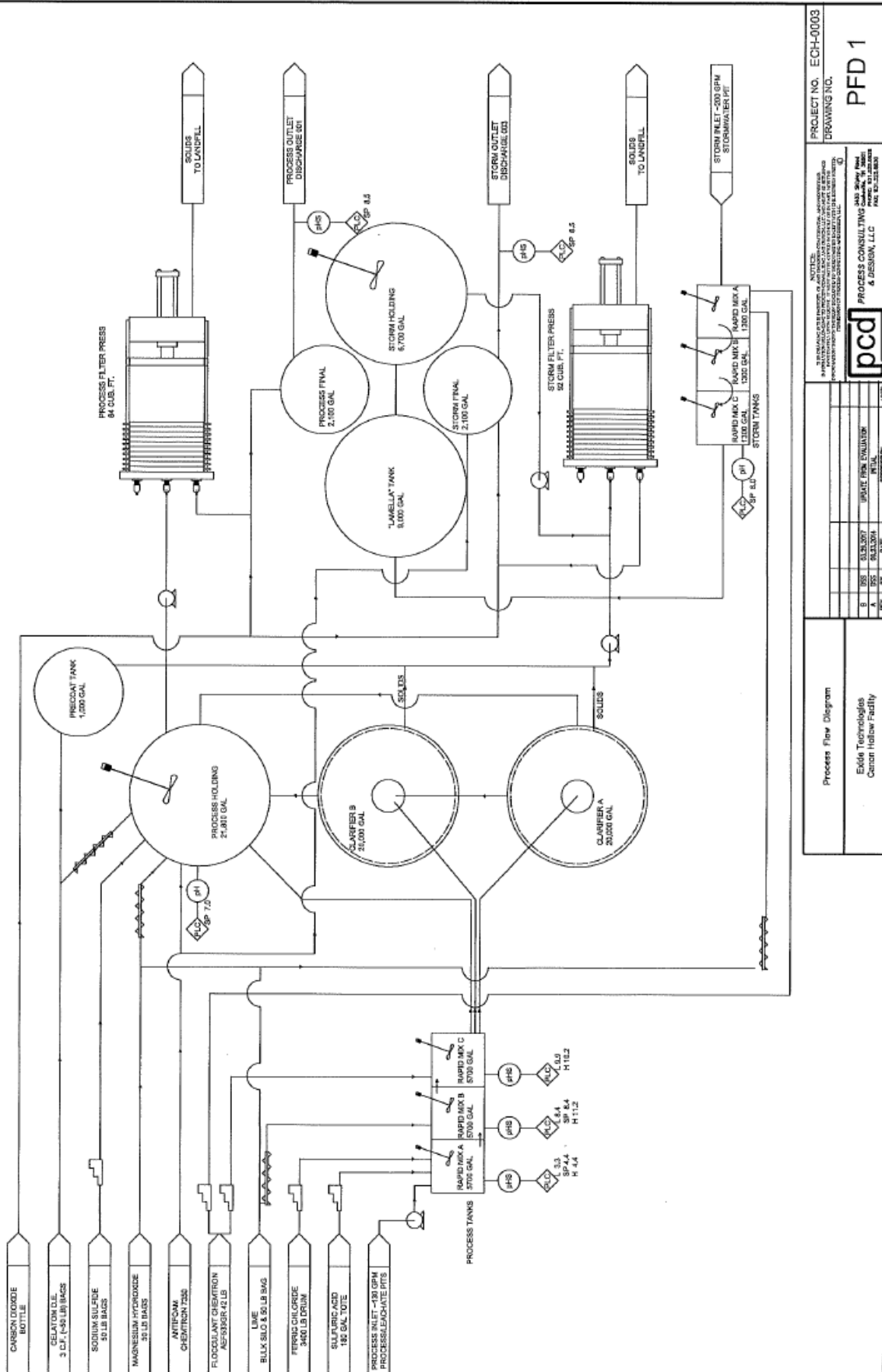
The electronic discharge monitoring reports were reviewed for the last five years. The facility exceeded technology limitations of lead and total suspended solids twice each. No water quality exceedances were noted. The EPA ECOS database shows non-compliance; however, ECOS and DNR’s MoCWIS databases were not linked effectively and the ECOS database is incorrect. The Department and EPA are working towards a remedy; this affects multiple permittees.

FACILITY MAP:



Outfalls #001 and #003 are not shown, they are piped to the Missouri River about 6 miles away.

WATER BALANCE DIAGRAM:



PROJECT NO. ECH-0003
 DRAWING NO. PFD 1

NOTICE: THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF EXIDE TECHNOLOGIES AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF EXIDE TECHNOLOGIES.

Exide Technologies
 Canon Hollow Facility

Process Flow Diagram

REV	DATE	BY	CHK	APP
8	03.20.20	UNATE	UNATE	UNATE
7	03.20.20	UNATE	UNATE	UNATE
6	03.20.20	UNATE	UNATE	UNATE
5	03.20.20	UNATE	UNATE	UNATE
4	03.20.20	UNATE	UNATE	UNATE
3	03.20.20	UNATE	UNATE	UNATE
2	03.20.20	UNATE	UNATE	UNATE
1	03.20.20	UNATE	UNATE	UNATE

pcd PROCESS CONSULTING & DESIGN, LLC

PART II. RECEIVING WATERBODY INFORMATION

RECEIVING WATERBODY’S WATER QUALITY:

The USGS has data for the Missouri River. There is no data for Canon Creek. The facility supplied background data; the background average was used within the WQ RPA for the available parameters.

POC	Units	Missouri River ⁽¹⁾		
		Average	Maximum	Minimum
Ammonia, winter	mg/L	0.09	0.66	0.005
Ammonia, summer	mg/L	0.03	0.29	0.005
Antimony ⁽³⁾	µg/L	No data available.		
Arsenic	µg/L	3.15	5.8	1.6
Cadmium	µg/L	0.185	1.06	0.044
Chromium VI ⁽³⁾	µg/L	No data available.		
Copper	µg/L	1.81	8.6	0.83
Lead	µg/L	6.12	71	0.33
pH ⁽²⁾	SU	8.2	8.7	6.7
Selenium	µg/L	2.68	4.0	0.46
Chloride + sulfate	mg/L	169	259	16
Zinc	µg/L	17.7	115	2.9

Notes:

- (1) Missouri River water quality data is from USGS Gage 06818000 at St. Joseph from January 2000 through October 2016.
- (2) The pH "Average" value is the median of the data set since these values should not be averaged.
- (3) No nearby or recent data was available for this parameter. For the purpose of the WLA, half of the detection limit was used.

POC	Units	Canon Creek – S1 ⁽¹⁾			Canon Creek – S2 ⁽²⁾		
		Average	Maximum	Minimum	Average	Maximum	Minimum
Lead	µg/L	3.29	21.3	0.050	22.7	462	0.8
pH ⁽³⁾	SU	7.8	8.5	7.0	8.0	8.6	6.7
Selenium	µg/L	2.4	15	0.2	3.83	20	0.05
Zinc	µg/L	4.96	14.5	1.5	5.19	12.1	1.1

Notes:

- (1) Water quality data is based on DMRs, January 2012–December 2016, from the upstream instream monitoring location S1.
- (2) Water quality data is based on DMRs, January 2012–December 2016, from the downstream instream monitoring location S2.
- (3) The pH "Average" value is the median of the data set since these values should not be averaged.

303(D) LIST:

Section 303(d) of the federal Clean Water Act requires each state identify waters 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 impaired waters not addressed by normal water pollution control programs. <http://dnr.mo.gov/env/wpp/waterquality/303d/303d.htm>

✓ Not applicable; this facility does not discharge to an impaired segment of a 303(d) listed stream.

TOTAL MAXIMUM DAILY LOAD (TMDL):

A TMDL is a calculation of the maximum amount of a given pollutant a water body 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. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan or TMDL may be developed. The TMDL shall include the WLA calculation. <http://dnr.mo.gov/env/wpp/tmdl/>

✓ Not applicable; this facility does not discharge to a waterbody/watershed with a TMDL.

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

Per Missouri’s Effluent Regulations [10 CSR 20-7.015(1)(B)], waters of the state are divided into seven categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall’s effluent limitation table and further discussed in Part IV: Effluents Limits Determinations.

- ✓ Missouri or Mississippi River, and
- ✓ All Other Waters

RECEIVING WATERBODY TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO SEGMENT	12-DIGIT HUC
#001 #003	Missouri River	P	0226	DWS, GEN, HHP, IND, IRR, LWW, SCR, WBC-B, WWH (ALP)	0 mi	Old Channel Little Tarkio Creek – Missouri River: 10240005-1003
#004 #006 #007	8-20-13 MUDD V1.0 (C) WBID# 3960; locally known as Canon Creek	C	3960	GEN, HHP, IRR, LWW, SCR, WBC-B, WWH (ALP)	0 mi	Lower Kimsey and Mission Creeks – Missouri River: 10240005-1103

The Ecological Drainage Unit (EDU) for this facility is Central Plains/Nishnabotna/Platte.

Classes are hydrologic classes as defined in 10 CSR 20-7.031(1)(F). L1: Lakes with drinking water supply - wastewater discharges are not permitted to occur to L1 watersheds per 10 CSR 20-7.015(3)(C); L2: major reservoirs; L3: all other public and private lakes; P: permanent streams; C: streams which may cease flow in dry periods but maintain pools supporting aquatic life; E: streams which do not maintain surface flow; and W: wetland. Losing streams are defined in 10 CSR 20-7.031(1)(O) and are designated on the Losing Stream dataset or determined by the Department to lose 30% or more of flow to the subsurface.

WBID = Waterbody Identification: Missouri Use Designation Dataset per 10 CSR 20-7.031(1)(Q) and (S) as 8-20-13 MUDD V1.0 or newer; data can be found as an ArcGIS shapefile on MSDIS at http://msdis.missouri.edu/pub/Inland_Water_Resources/MO_2014_WQS_Stream_Classifications_and_Use_shp.zip; New C streams described on the dataset per 10 CSR 20-7.031(2)(A)3. as 100K Extent Remaining Streams.

Per 10 CSR 20-7.031, 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 are to be maintained in the receiving streams 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.: **ALP** = Aquatic Life Protection (formerly AQL; current uses are defined to ensure the protection and propagation of fish shellfish and wildlife, 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 ALP effluent limitations in 10 CSR 20-7.031 Table A1-A2 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 not supported in WBC-A;

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 and drinking of water;

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 Tables A1-B3 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

MIXING CONSIDERATIONS:

For stormwater outfalls #004, #006, and #007, mixing zone and zone of initial dilution are not allowed per 10 CSR 20-7.031(5)(A)4.B.(I)(a) and (b), as the base stream flow does not provide dilution to the effluent; Canon Creek is a “C” stream.

RECEIVING STREAM LOW-FLOW VALUES:

OUTFALL	RECEIVING STREAM	LOW-FLOW VALUES (CFS)				
		GAGING STATION	1Q10*	7Q10	30Q10	60Q10
#001 #003	Missouri River	Rulo, NE #06813500	14,150	16,222	18,175	18,715

Data were obtained for the last 20 years and were calculated using a departmentally developed spreadsheet (available upon request). The facility supplied the low flow data from USGS gaging station #06813500 at Rulo NE for the last 15 years. However, the department has determined using 20 years of data to be the most appropriate at this time. The values derived by the department and submitted values are essentially the same and provide for near identical effluent limitations/reasonable potential determinations.

MIXING CONSIDERATIONS TABLE: MISSOURI RIVER OUTFALL #001

MIXING ZONE (CFS) (CHRONIC) [10 CSR 20-7.031(5)(A)5.A.4.B.(III)(a)]				ZONE OF INITIAL DILUTION (CFS) (ACUTE) [10 CSR 20-7.031(5)(A)4.B.(III)(b)]			
1Q10	7Q10	30Q10	60Q10	1Q10	7Q10	30Q10	60Q10
3537.5 cfs	4055.5 cfs	4543.75 cfs	4675.75 cfs	3.565 cfs	3.565 cfs	3.565 cfs	3.565 cfs

ZID cannot be greater than 10 times the facility design flow. Outfall #001’s design flow is 0.23 MGD = 0.3565 cfs.

MIXING CONSIDERATIONS TABLE: MISSOURI RIVER OUTFALL #003

MIXING ZONE (CFS) (CHRONIC) [10 CSR 20-7.031(5)(A)5.A.4.B.(III)(a)]				ZONE OF INITIAL DILUTION (CFS) (ACUTE) [10 CSR 20-7.031(5)(A)4.B.(III)(b)]			
1Q10	7Q10	30Q10	60Q10	1Q10	7Q10	30Q10	60Q10
3537.5 cfs	4055.5 cfs	4543.75 cfs	4675.75 cfs	2.139 cfs	2.139 cfs	2.139 cfs	2.139 cfs

ZID cannot be greater than 10 times the facility design flow. Outfall #003’s design flow is 0.138 MGD = 0.2139 cfs.

RECEIVING WATERBODY MONITORING REQUIREMENTS:

The facility was previously monitoring the stream to determine pollutant load from wastewater contributions; however, the facility now discharges process wastewater to the Missouri River, therefore no additional sampling is required.

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.

ANTIBACKSLIDING:

Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(l)] require a reissued permit to be as stringent as the previous permit with some exceptions. Backsliding (a less stringent permit limitation) is only allowed under certain conditions.

- ✓ Limitations in this operating permit for the reissuance conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.
 - ✓ Material and substantial alterations or additions to the permitted facility occurred after permit issuance justify the application of a less stringent effluent limitation.
 - Monitoring in-stream at #S1 and #S2 was removed; there is no longer any process wastewater entering the creek; stormwater will be assessed at the stormwater outfalls.
 - ✓ Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) which would have justified the application of a less stringent effluent limitation.

- Previous permit used 200 mg/L as hardness; however, data for Missouri River hardness was submitted with the supplemental application provided by BARR Engineering therefore hardness of 266 mg/L was used. 7Q10/4 river flow was 2250 cfs; changed to 4055.5 cfs. Design flow changed from 0.121 cfs to 0.357 cfs.
- DMR data support removal of monitoring at outfall #001 for ammonia, chloride plus sulfate, hexavalent chromium, and total recoverable copper; none of these pollutants exhibit reasonable potential, nor are included in the ELG, or are pollutants of concern, therefore monitoring was removed.
- DMR data were used to remove the limitations and sampling requirement for total recoverable selenium at outfall #001; there was no reasonable potential to cause or contribute to exceedances for this parameter and data shows it is not a pollutant of concern in the effluent.
- DMR data support the removal of monitoring at outfall #003 for ammonia as N, chloride plus sulfate, dissolved hexavalent chromium, total recoverable selenium, and whole effluent toxicity. The facility is treating stormwater on site; these pollutants do not have reasonable potential.
- Technology limitations for TSS, antimony, arsenic, lead, and zinc at outfall #001 were recalculated using site-specific information.
- 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 special conditions 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 criteria in the previous permit. Federal regulations 40 CFR 122.44(d)(1)(iii) requires instances where 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, 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)(A) through (I) 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 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. See GENERAL CRITERIA CONSIDERATIONS below.
 - The previous permit included the special condition “Sludge from the process and stormwater filter presses, along with sludge from the scrubber and slag from the lead smelting operation are mixed with Portland cement (stabilized) and disposed of in the landfill on site. (EPA Report of the Compliance of Biomonitoring inspection June 4-5, 2001.)” The permit writer has determined this special condition is outside the scope of NPDES permitting therefore was removed.
- ✓ This permit reissuance conforms to 40 CFR 122.41(d)(1)(vii)(A) and 40 CFR 122.44(l)(ii).
 - Technology limitations were derived from new production values. The permit writer determined the technology limitations were not above relevant water quality standards and will not cause exceedances of instream standards.

ANTIDegradation REVIEW:

Process water discharges with new, altered, or expanding flows, the Department is to document, by means of antidegradation review, if the use of a water body’s available assimilative capacity is justified. In accordance with Missouri’s water quality regulations for antidegradation [10 CSR 20-7.031(3)], degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the Department prior to establishing, altering, or expanding discharges. See <http://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm>

- ✓ Applicable; the facility has submitted information proposing expanded or altered process water discharge. The facility reports flows on the DMRs greater than the design flow established for outfall #001 frequently. After review of historical information and the timing of the flow increases, the permit writer has determined the new design flow for the facility to be 0.23 MGD. The treatment plant was installed prior to antidegradation rules being effective therefore the permit can show the actual design flow of the filter press without an antidegradation review being completed.

This permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) which must include an alternative analysis (AA) of the BMPs. The SWPPP must be developed, implemented, updated, and maintained at the facility. Failure to implement and maintain the chosen alternative, is a permit violation. The AA is a structured evaluation of BMPs to determine which are reasonable and cost effective. Analysis should include practices designed to be 1) non-degrading, 2) less degrading, or 3) degrading water quality. The chosen BMP will be the most reasonable and cost effective while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The analysis must demonstrate why “no discharge” or “no exposure” are not feasible alternatives at the facility. Existing facilities with established SWPPPs and BMPs need not conduct an additional alternatives analysis unless new BMPs are established to address BMP failures or benchmark exceedances. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.015(9)(A)5 and 7.031(3). For stormwater discharges with new, altered, or expanding discharges, the stormwater BMP chosen for

the facility, through the AA 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, improve, and maintain stormwater BMPs as appropriate.

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:

This special condition reiterates the federal rules found in 40 CFR 122.44(f) and 122.42(a)(1). In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as "...any pollutant listed as toxic under section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA." Section 307 of the clean water act then refers to those parameters found in 40 CFR 401.15. The permittee should also consider any other toxic pollutant in the discharge as reportable under this condition.

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.

✓ Not applicable; the permittee/facility is not currently under Water Protection Program enforcement action.

DOMESTIC WASTEWATER:

Domestic wastewater is defined as wastewater (i.e., human sewage) originating primarily from the sanitary conveniences of residences, commercial buildings, factories, and institutions, including any water which may have infiltrated the sewers. Domestic wastewater excludes stormwater, animal waste, process waste, and other similar waste.

✓ Applicable; this facility discharges domestic wastewater subsurface; see UIC requirements below.

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 facility has an associated Effluent Limit Guideline (ELG) which is applicable to the wastewater discharge at this site and is applied under 40 CFR 125.3(a). The ELG at 40 CFR 421 Subpart M is applied when relevant. Should Reasonable Potential be established for any particular parameter and water-quality derived effluent limits are more protective of the receiving water's quality, the WQS will be used as the limiting factor in accordance with 40 CFR 122.44(d) and 10 CSR 20-7.015(9)(A). See Part IV: EFFLUENT LIMITS DETERMINATION.

- 40 CFR 421.132(a) – lead scrap production (P)
- 40 CFR 421.132(b) – lead produced from smelting (S)
- 40 CFR 421.132(c) – lead produced from refining (R)
- 40 CFR 421.132(e) – pounds of lead cast (C)
- 40 CFR 421.132(f) – lead produced from smelting (S)
- 40 CFR 421.132(g) – lead produced from smelting (S) – eliminated – does not provide any allowance
- 40 CFR 421.132(h) – lead scrap production (P) – eliminated – does not provide any allowance
- 40 CFR 421.132(i) – lead produced from smelting (S)
- 40 CFR 421.132(j) – lead produced from smelting (S)
- 40 CFR 421.132(k) – lead produced from smelting (S)
- BPJ Landfill leachate

✓ Production values:

- Lead Scrap Production: 24,667 tons/year
- Lead Produced from Smelting: 59,035 tons/year
- Lead Produced from Refining: 39,409 tons/year
- Pounds of Lead Cast: 39,409 tons/year
- Landfill Leachate: 20,571 gpd

Technology Calculations:

Below are listed each section of the ELG with the flows determining the limitations calculated for this permit. The original spreadsheet with the calculations is available upon request. The top group of columns is the limitation as stated in the ELG, the bottom group of columns is the calculations for each section of the ELG with the totals below those columns.

					Daily Maximum - BAT ELG Allowance						Monthly Average - BAT ELG Allowance						
					TSS	Sb	As	Pb	Zn	NH3	TSS	Sb	As	Pb	Zn	NH3	
(a)	P	Battery Cracking	Lead Scrap Produced		27.6	1.299	0.936	0.189	0.687	0	13.130	0.579	0.384	0.087	0.283	0	
(b)	S	Pollution Control	Smelting		107.0	5.038	3.628	0.731	2.662	0	50.900	2.245	1.488	0.339	1.096	0	
(c)	R	Pollution Control	Refining		1.845	0.087	0.063	0.013	0.046	0	0.878	0.039	0.026	0.006	0.019	0	
(e)	C	Contact Cooling	Casting		9.061	0.042	0.031	0.006	0.022	0	4.130	0.019	0.013	0.003	0.009	0	
(f)	S	Truck Wash	Smelting		0.861	0.041	0.029	0.006	0.021	0	0.410	0.018	0.012	0.003	0.009	0	
(i)	S	Handwash	Smelting		1.107	0.052	0.038	0.008	0.028	0	0.527	0.023	0.015	0.004	0.011	0	
(j)	S	Respirator Wash	Smelting		1.804	0.085	0.061	0.012	0.045	0	0.858	0.038	0.025	0.006	0.018	0	
(k)	S	Uniform Wash	Smelting		5.248	0.247	0.178	0.036	0.131	0	2.496	0.110	0.073	0.017	0.054	0	
LL	n/a	Landfill Leachate	Allowance-mg/L		15	1.93	1.39	0.28	1.02	133.3	10	0.76	0.55	0.11	0.31	52.1	
					Daily Maximum - Calculated Value						Monthly Average - Calculated Value						
					TSS	Sb	As	Pb	Zn	NH3	TSS	Sb	As	Pb	Zn	NH3	
(a)	P		tons/year	tons/day	#/million#	3.730	0.176	0.127	0.026	0.093	0	1.775	0.078	0.052	0.012	0.038	0
(b)	S		59035	161.740	0.323	34.612	1.630	1.174	0.236	0.861	0	16.465	0.726	0.481	0.110	0.355	0
(c)	R		39409	107.970	0.216	0.398	0.019	0.014	0.003	0.010	0	0.190	0.008	0.006	0.001	0.004	0
(e)	C		39409	107.970	0.216	1.957	0.009	0.007	0.001	0.005	0	0.892	0.004	0.003	0.001	0.002	0
(f)	S		59035	161.740	0.323	0.279	0.013	0.009	0.002	0.007	0	0.133	0.006	0.004	0.001	0.003	0
(i)	S		59035	161.740	0.323	0.358	0.017	0.012	0.003	0.009	0	0.170	0.007	0.005	0.001	0.004	0
(j)	S		59035	161.740	0.323	0.584	0.027	0.020	0.004	0.015	0	0.278	0.012	0.008	0.002	0.006	0
(k)	S		59035	161.740	0.323	1.698	0.080	0.058	0.012	0.042	0	0.807	0.036	0.024	0.005	0.017	0
LL	n/a		flow*weight	0.020571	8.34	2.573	0.331	0.238	0.048	0.175	22.869	1.716	0.130	0.094	0.019	0.053	8.94
					Daily Maximum Limit						Monthly Average Limit						
					TSS	Sb	As	Pb	Zn	NH3	TSS	Sb	As	Pb	Zn	NH3	
Limits		lbs/day			46.189	2.302	1.658	0.334	1.216	22.9	22.425	1.009	0.676	0.152	0.482	8.94	

* All allowances BAT except for TSS which is BPT - there is no BAT TSS.

GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states 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 the specified narrative criterion. The previous permit included the narrative criteria as special conditions 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 the rule itself, under 10 CSR 20-7.031(4)). In instances where reasonable potential exists, the permit includes numeric limitations to address the reasonable potential. In instances where reasonable potential does not exist, the permit may include monitoring to later determine 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. It should also be noted Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit state it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri is 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.

- (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.
 - For all outfalls, there is no RP for putrescent bottom deposits preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates putrescent wastewater would be discharged from the facility.
 - For outfalls #001 and #003, there is RP for unsightly or harmful bottom deposits preventing full maintenance of beneficial uses; this permit established limitations for TSS on these outfalls.
 - For outfalls #004, #006, and #007, there is no RP for unsightly or harmful bottom deposits preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates unsightly or harmful bottom deposits would be discharged from the facility.
- (B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses.
 - For all outfalls, there is no RP for oil in sufficient amounts to be unsightly preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates oil will be present in sufficient amounts to impair beneficial uses.

- For all outfalls, there is no RP for scum and floating debris in sufficient amounts to be unsightly preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates scum and floating debris will be present in sufficient amounts to impair beneficial uses.
- (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.
- For outfalls #001 and #003, there is RP for unsightly color or turbidity in sufficient amounts as the ELG has promulgated limitations for TSS for outfall #003, and the permit writer has continued best professional judgment limitations for TSS for outfall #003; the permit writer has determined effluent limitations for TSS to be applicable and will control for turbidity at these two outfalls.
 - For outfalls #004, #006, and #007, there is no RP for unsightly color or turbidity in sufficient amounts preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates unsightly color or turbidity will be present in sufficient amounts to impair beneficial uses. However, these outfalls have technology benchmarks for TSS.
 - For all outfalls, there is no RP for offensive odor in sufficient amounts preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates offensive odor will be present in sufficient amounts to impair beneficial uses.
- (D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life.
- This facility has numeric effluent limitations for WET testing at outfall #001; specific toxic pollutants are discussed below in Derivation and Discussion of Limits, and where appropriate, numeric effluent limitations added.
 - For outfalls #003, #004, #006, and #007, the permit writer considered specific toxic pollutants when writing this permit. Numeric effluent limitations are included for those pollutants could be discharged in toxic amounts. These effluent limitations are protective of human health, animals, and aquatic life.
- (E) There shall be no significant human health hazard from incidental contact with the water.
- This criterion is very similar to (D) above. See Part IV, Effluent Limits Derivation below.
- (F) There shall be no acute toxicity to livestock or wildlife watering.
- This criterion is very similar to (D) above. See Part IV, Effluent Limits Derivation below.
- (G) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.
- For all outfalls, there is no RP for physical changes that would impair the natural biological community because nothing disclosed by the permittee indicates physical changes that would impair the natural biological community.
 - For outfalls #001 and #003, there is RP for chemical changes that would impair the natural biological community; data support including numeric limitations for pH and WET on outfall #001, and pH and cadmium limitations on outfall #003..
 - For outfalls #004, #006, and #007, there is no RP for chemical changes that would impair the natural biological community because nothing disclosed by the permittee indicates chemical changes are occurring impairing the natural biological community.
 - For all outfalls, there is no RP for hydrologic changes that would impair the natural biological community because nothing disclosed by the permittee indicates hydrologic changes would impair the natural biological community.
- (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.
- The facility has a solid waste disposal area (RSMo 260.200(46),(47)). However, the ELG at 40 CFR 445.1(e) specifically excludes single-source landfills associated with the source industry. There is no reasonable potential for the wastes listed above to be found in the receiving stream at any of the outfalls serving this solid waste facility. The facility has BMPs established for the stormwater outfalls at the site.

GROUNDWATER MONITORING:

Groundwater is a water of the state according to 10 CSR 20-2.010(82), and is subject to regulations at 10 CSR 20-7.015(7) and 10 CSR 20-7.031(6) and must be protected accordingly.

- ✓ This facility is monitoring the groundwater at the site for the Waste Management Program.

MAJOR WATER USER:

Any surface or groundwater user with a water source and the equipment necessary to withdraw or divert 100,000 gallons (or 70 gallons per minute) or more per day combined from all sources from any stream, river, lake, well, spring, or other water source is considered a major water user in Missouri. All major water users are required by law to register water use annually (Missouri Revised Statutes Chapter 256.400 Geology, Water Resources and Geodetic Survey Section). <https://dnr.mo.gov/pubs/pub2337.htm>

- ✓ Not applicable; this permittee cannot withdraw water from the state in excess of 70 gpm/0.1 MGD.
- ✓ This facility uses 7.2 MG of Forest City potable water per year and withdraws 14.819 MG of groundwater per year. This is 40,600 gallons per day/28.2 gpm. This facility is not required to register.

NO-DISCHARGE LAND APPLICATION:

Land application of wastewater or sludge shall comply with the all applicable no-discharge requirements listed in 10 CSR 20-6.015 and all facility operations and maintenance requirements listed in 10 CSR 20-8.020(15). These requirements ensure appropriate operation of the no-discharge land application systems and prevent unauthorized and illicit discharges to waters of the state. Land

applications by a contract hauler on fields the permittee has a spreading agreement on are not required to be in this permit. A spreading agreement does not constitute the field being rented or leased by the permittee as they do not have any control over management of the field.

✓ Not applicable; this permit does not authorize operation of a no-discharge land application system to treat wastewater or sludge.

OIL/WATER SEPARATORS:

Oil water separators (OWS) are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or . Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separators must be operated according to manufacturer’s specifications and authorized in NPDES permits or may be classified as a petroleum tank.

✓ Not applicable; the permittee has not disclosed the use of any oil water separators at this permitted facility therefore are not authorized by this permit.

REASONABLE POTENTIAL (RP):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants which are (or may be) discharged at a level causing or have the reasonable potential to cause (or contribute to) an in-stream excursion above narrative or numeric water quality standards. Per 10 CSR 20-7.031(4), general criteria shall be applicable to all waters of the state at all times; however, acute toxicity criteria may be exceeded by permit in zones of initial dilution, and chronic toxicity criteria may be exceeded by permit in mixing zones. If the permit writer determines any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for the pollutant per 40 CFR Part 122.44(d)(1)(iii) and the most stringent limits per 10 CSR 20-7.031(9)(A). Permit writers may use mathematical reasonable potential analysis (RPA) using the Technical Support Document for Water Quality Based Toxics Control (TSD) methods (EPA/505/2-90-001) as found in Section 3.3.2, or may also use reasonable potential determinations (RPD) as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD.

✓ An RPA was conducted on appropriate parameters at outfalls #001 and #003. The RPAs were 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. See Wasteload Allocations (WLA) for Limits in this section.

Outfall #001

Parameter	Daily Maximum	Monthly Average	CMC	RWC Acute	CCC	RWC Chronic	n	Max/Min	CV	MF	RP
Cadmium, TR	148.29	50.11	13.6	9.54	0.6	0.03	68	41.1/0.1	1.7	2.55	no
Chloride (mg/L)	9460.00	5258.41	860.0	82.14	230.0	0.08	64	618/73.3	0.5	1.46	no
Chromium VI, Dissolved	165.00	65.78	15.0	1.78	10.0	0.01	68	10/0.0002	1.0	1.96	no
Copper, TR	242.53	84.74	22.0	7.91	14.1	0.02	36	25.5/0.1	1.5	3.41	no
Lead, TR	3057.71	1524.14	283.5	1127.52	11.1	3.27	1	940/940	0.6	13.19	no
Selenium, TR	33249.26	14717.94	NA	NA	5.0	0.14	69	312/0	0.8	1.74	no

Outfall #003

Parameter	Daily Maximum	Monthly Average	CMC	RWC Acute	CCC	RWC Chronic	n	Max/Min	CV	MF	RP
Antimony, TR	183713.88	82400.44	NA	35.61	4300.0	0.02	55	211/13	0.8	1.86	no
Arsenic, TR	706933.69	251082.48	NA	NA	20.0	0.01	55	81.5/2	1.4	2.59	no
Cadmium, TR	148.29	50.56	13.6	37.27	0.6	0.02	55	145/0.8	1.6	2.83	yes
Chloride (mg/L)	8710.00	3434.41	860.0	27.05	230.0	0.02	59	141/3.4	1.0	2.11	no
Copper, TR	368.88	159.48	35.2	13.98	21.5	0.01	36	231/3.1	1.9	4.15	no
Lead, TR	3057.71	1116.94	283.5	188.19	11.1	0.11	55	844/9.9	1.3	2.45	no
Selenium, TR	168437.47	73927.87	NA	NA	5.0	0.01	55	54/1.4	0.8	1.90	no
Zinc, TR	1987.55	805.40	180.7	26.87	179.2	0.02	55	141/2	0.9	2.10	no

Units are (µg/L) unless otherwise noted.

n/a Not Applicable

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.

CCC continuous chronic concentration

CMC continuous maximum concentration

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).

✓ Applicable; the permit writer conducted an RPD on applicable parameters within the permit. See Part IV: Effluent Limits Determinations below.

- ✓ A mathematical RPA was not conducted for this facility at the stormwater outfalls (#004, #005, and #007). This permit establishes permit limits and benchmarks for stormwater. The Department has determined stormwater is not a continuous discharge and is therefore not necessarily dependent on mathematical RPAs. However, the permit writer completed an RPD, a reasonable potential determination, using best professional judgment for all of the appropriate parameters in this permit. An RPD consists of reviewing application data and/or discharge monitoring data for the last five years and comparing those data to narrative or numeric water quality criteria.
- ✓ Permit writers use the Department's permit writer's manual (<http://dnr.mo.gov/env/wpp/permits/manual/permit-manual.htm>), the EPA's permit writer's manual (<https://www.epa.gov/npdes/npdes-permit-writers-manual>), program policies, and best professional judgment. For each parameter in each permit, the permit writer carefully considers all applicable information regarding: technology based effluent limitations, effluent limitation guidelines, water quality standards, stream flows and uses, and all applicable site specific information and data gathered by the permittee through discharge monitoring reports and renewal (or new) application sampling. Best professional judgment is based on the experience of the permit writer, cohorts in the Department and resources at the EPA, research, and maintaining continuity of permits if necessary. For stormwater permits, the permit writer is required per 10 CSR 6.200(6)(B)2 to consider: A. application and other information supplied by the permittee; B. effluent guidelines; C. best professional judgment of the permit writer; D. water quality; and E. BMPs. Part V provides specific decisions related to this permit.

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.

A SOC is not allowed:

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed. 40 CFR § 125.3.
- For a newly constructed facility in most cases. Newly constructed facilities must meet applicable effluent limitations when discharge begins, because the facility has installed the appropriate control technology as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study associated with development of a site specific criterion. A facility is not prohibited from conducting these activities, but a SOC may not be granted for conducting these activities.

In order to provide guidance in developing SOCs, and to attain a greater level of consistency, the department issued a policy on development of SOCs on October 25, 2012. The policy provides guidance to permit writers on standard time frames for schedules for common activities, and guidance on factors to modify the length of the schedule.

- ✓ 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 to meet final effluent limits. See permit Sections A and B for compliance dates.
 - Outfall #003: total recoverable cadmium

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>

SLUDGE – DOMESTIC BIOSOLIDS:

Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for beneficial use (i.e. fertilizer). Sewage sludge is solid, semi-solid, 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 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: <http://extension.missouri.edu/main/DisplayCategory.aspx?C=74> (WQ422 through WQ449).

- ✓ Not applicable; this condition is not applicable to the permittee for this facility.

SLUDGE – INDUSTRIAL:

Industrial sludge is solid, semi-solid, 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.

- ✓ Applicable; the sludge from the process and stormwater filter presses along with the sludge from the scrubber and slag from the lead smelting operation are mixed with Portland cement (stabilized) and disposed of in the landfill on site.

STANDARD CONDITIONS:

The standard conditions Part I attached to this permit incorporate all sections of 40 CFR 122.41(a) through (n) by reference as required by law. These conditions, in addition to the conditions enumerated within the standard conditions should be reviewed by the permittee to ascertain compliance with this permit, state regulations, state statutes, federal regulations, and the Clean Water Act.

The standard conditions Part III attached to this permit contain conditions related to handling of sludge relating to the domestic wastewater on site, and oil water separator sludges.

STORMWATER PERMITTING: LIMITATIONS AND BENCHMARKS:

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-only outfalls will generally only contain a maximum daily limit (MDL), benchmark, or monitoring requirement determined by the site specific conditions, the BMPs in place, past performance of the facility, and the receiving water's current quality.

Sufficient rainfall to cause a discharge for one hour or more from a facility would not necessarily cause significant flow in a receiving stream. Acute Water Quality Standards (WQSs) are based on one hour of exposure, and must be protected at all times. Therefore, industrial stormwater facilities with toxic contaminants present in the stormwater may have the potential to cause a violation of acute WQSs if toxic contaminants occur in sufficient amounts. In this instance, the permit writer may apply daily maximum limitations.

Conversely, it is unlikely for rainfall to cause a discharge for four continuous days from a facility; if this does occur however, the receiving stream will also likely sustain a significant amount of flow providing dilution. Most chronic WQSs are based on a four-day exposure with some exceptions. Under this scenario, most industrial stormwater facilities have limited potential to cause a violation of chronic water quality standards in the receiving stream.

A standard mass-balance equation cannot be calculated for stormwater from this facility because the stormwater flow and flow in the receiving stream cannot be determined for conditions on any given day or storm event. The amount of stormwater discharged from the facility will vary based on current and previous rainfall, soil saturation, humidity, detention time, BMPs, surface permeability, etc. Flow in the receiving stream will vary based on climatic conditions, size of watershed, amount of surfaces with reduced permeability (houses, parking lots, and the like) in the watershed, hydrogeology, topography, etc. Decreased permeability may increase the stream flow dramatically over a short period of time (flash).

Numeric benchmark values are based on site specific requirements taking in to account a number of factors but cannot be applied to any process water discharges. First, the technology in place at the site to control pollutant discharges in stormwater is evaluated. The permit writer also evaluates other similar permits for similar activities. A review of the guidance forming the basis of Environmental Protection Agency's (EPA's) *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP) may also occur. 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 may also be used. 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.

40 CFR 122.44(b)(1) requires the permit implement the most stringent limitations for each discharge, including industrially exposed stormwater; and 40 CFR 122.44(d)(1)(i) and (iii) requires the permit to include water-quality based effluent limitations where reasonable potential has been found; however, because of the non-continuous nature of stormwater discharges, staff are unable to perform statistical Reasonable Potential Analysis (RPA). Reasonable potential determinations (RPDs; see REASONABLE POTENTIAL above) using best professional judgment are performed.

Benchmarks require the facility to monitor, and if necessary, replace and update stormwater control measures. Benchmark concentrations are not effluent limitations. 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 conditions of the permit.

BMP inspections typically occur more frequently than sampling. Sampling frequencies are based on the facility's ability to comply with the benchmarks and the requirements of the permit. Inspections should occur after large rain events and any other time an issue is noted; sampling after a benchmark exceedance may need to occur to show the corrective active taken was meaningful.

When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer, if there is no RP for water quality excursions.

✓ Applicable, this facility has stormwater-only outfalls.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k), Best Management Practices (BMPs) must be used 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*, (EPA 833-B-09-002) published by the EPA in 2015 https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf, BMPs are measures or practices used to reduce the amount of pollution entering waters of the state from a permitted facility. 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. Additional information can be found in *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006; September 1992).

A SWPPP must be prepared by the permittee if the SIC code is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). A SWPPP may be required of other facilities where stormwater has been identified as necessitating better management. The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged 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 or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

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 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.

For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)]. For further guidance, consult the antidegradation implementation procedure (<http://dnr.mo.gov/env/wpp/docs/AIP050212.pdf>).

Alternative Analysis (AA) evaluation of the BMPs is a structured evaluation of BMPs which are reasonable and cost effective. The AA evaluation should include practices designed to be: 1) non-degrading; 2) less degrading; or 3) degrading water quality. The glossary of AIP defines these three terms. The chosen BMP will be the most reasonable and effective management strategy while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The AA evaluation must demonstrate why "no discharge" or "no exposure" is not a feasible alternative at the facility. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.031(3) Water Quality Standards and *Antidegradation Implementation Procedure* (AIP), Section II.B.

If parameter-specific numeric benchmark exceedances continue to occur and the permittee feels there are no practicable or cost-effective BMPs which 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:

<https://dnr.mo.gov/forms/#WaterPollution>

✓ Applicable; a SWPPP shall be developed and implemented for this facility; continued from previous permit.

- ✓ In a comment dated 1/17/2019, the facility commented records retention schedule of five years should not be required. Because standard conditions part I indicates records need only be retained for three years, the retention schedule was changed. The permit writer notes, SWPPP records may be retained electronically and facilities should be reviewing past data to determine changes in BMP effectiveness. However, if the permittee wishes to not consider historical performance, the permit writer has determined it is their option.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS (TBEL):

One of the major strategies of the Clean Water Act (CWA) in making “reasonable further progress toward the national goal of eliminating the discharge of all pollutants” is to require effluent limitations based on the capabilities of the technologies available to control those discharges. Technology-based effluent limitations (TBELs) aim to prevent pollution by requiring a minimum level of effluent quality attainable using demonstrated technologies for reducing discharges of pollutants or pollution into the waters of the United States. TBELs are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and water quality-based effluent limitations (WQBELs).

- ✓ Not applicable; the permittee is subject to an ELG therefore those technology limitations will be used instead of an individual TBEL POC analysis. The previous permit evaluated TSS at outfall #003, see Part IV, Outfall #003 for determination.

UNDERGROUND INJECTION CONTROL (UIC):

The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to section 1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA. Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by RSMo 577.155; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in RSMo 577.155; Class V wells are shallow injection wells; some examples are heat pump wells and groundwater remediation wells. Domestic wastewater being disposed of sub-surface is also considered a Class V well. In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of drinking water standards or groundwater standards under 10 CSR 20-7.031, or other health based standards, or may otherwise adversely affect human health. If the director finds the injection activity may endanger USDWs, the Department may require closure of the injection wells, or other actions listed in 40 CFR 144.12(c), (d), or (e). In accordance with 40 CFR 144.26, the permittee shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. The Class V Well Inventory Form can be requested from the Geological Survey Program or can be found at the following web address: <http://dnr.mo.gov/forms/780-1774-f.pdf>

- ✓ Applicable; the permittee discharges domestic wastewater subsurface. The facility must supply the data to the Geologic Survey Program if the facility has not already done so.

VARIANCE:

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 permit is not drafted under premise 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 discharge into the receiving stream without endangering water quality. Two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs) are reviewed. If one limit does not provide adequate protection for the receiving water, then the other must be used per 10 CSR 20-7.015(9)(A).

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

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

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

- Acute wasteload allocations designated as daily maximum limits (MDL) 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).
- Chronic wasteload allocations designated as monthly average limits (AML) 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).
- Water quality based MDL and AML 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; 3/1991.
- 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 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.

- ✓ Not applicable; a WLA study was either not submitted or determined not applicable by Department staff.

PART IV. EFFLUENT LIMITS DETERMINATIONS

Effluent limitations derived and established for this permit are based on current operations of the facility and applied per 10 CSR 20-7.015(9)(A). Any flow through the outfall is considered a discharge and must be sampled and reported as provided below. Future permit action due to facility modification may contain new operating permit terms and conditions which supersede the terms and conditions, including effluent limitations, of this operating permit. Daily maximums and monthly averages are required per 40 CFR 122.45(d)(1) for continuous discharges (not from a POTW).

OUTFALL #001 – MAIN FACILITY OUTFALL

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	*	SAME	ONCE/DAY	ONCE/MONTH	24 Hr. Tot
CONVENTIONAL							
pH †	SU	6.5-9.0	6.5-9.0	SAME	CONTINUOUS	ONCE/MONTH	CONTINUOUS
pH – TIME OF DEVIATION	minutes	-	446	SAME	CONTINUOUS	ONCE/MONTH	CONTINUOUS
pH – SINGLE EXCURSION MAX	minutes	60		SAME	CONTINUOUS	ONCE/MONTH	CONTINUOUS
TOTAL SUSPENDED SOLIDS (TSS)	mg/L	*	*	NEW	ONCE/WEEK	ONCE/MONTH	COMPOSITE
TOTAL SUSPENDED SOLIDS (TSS)	lbs/day	46.2	22.4	36.4/17.3	ONCE/WEEK	ONCE/MONTH	COMPOSITE
METALS							
ANTIMONY, TR	µg/L	*	*	NEW	ONCE/WEEK	ONCE/MONTH	COMPOSITE
ANTIMONY, TR	lbs/day	2.30	1.01	1.71/0.76	ONCE/WEEK	ONCE/MONTH	COMPOSITE
ARSENIC, TR	µg/L	*	*	NEW	ONCE/WEEK	ONCE/MONTH	COMPOSITE
ARSENIC, TR	lbs/day	1.66	0.68	1.23/0.51	ONCE/WEEK	ONCE/MONTH	COMPOSITE
CADMIUM, TR	µg/L	*	*	*/*	ONCE/WEEK	ONCE/MONTH	COMPOSITE
LEAD, TR	µg/L	*	*	NEW	ONCE/WEEK	ONCE/MONTH	COMPOSITE
LEAD, TR	lbs/day	0.33	0.15	1.71/0.76	ONCE/WEEK	ONCE/MONTH	COMPOSITE
ZINC, TR	µg/L	*	*	NEW	ONCE/WEEK	ONCE/MONTH	COMPOSITE
ZINC, TR	lbs/day	1.22	0.482	1.71/0.76	ONCE/WEEK	ONCE/MONTH	COMPOSITE
NUTRIENTS							
AMMONIA AS N	mg/L	*	*	*/*	ONCE/WEEK	ONCE/MONTH	COMPOSITE
AMMONIA AS N	lbs/day	22.9	8.94	NEW	ONCE/WEEK	ONCE/MONTH	COMPOSITE
OTHER							
WET TEST - ACUTE	TUa	3.3	-	PASS/FAIL	ONCE/QUARTER	ONCE/QUARTER	COMPOSITE

- * Monitoring and reporting requirement only
- † Report the minimum and maximum pH values; pH is not to be averaged
- NEW Parameter not established in previous state operating permit
- TR Total Recoverable

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). Daily measurements required; continued from previous permit.

CONVENTIONAL:

pH

6.5 to 9.0 SU; continued from the previous permit. Technology based limits [10 CSR 20-7.015(9)(I)1.] are applicable to this outfall. Continuous monitoring technology based limits 6.5 to 9.0 SU with deviations allowed [40 CFR 401.17]. The permittee uses a continuous sampling regime therefore is provided technology based allowances of excursions where the pH may deviate from the technology-based limitations. The total time of deviation allowed is 7 hours 26 minutes (7.43 hours/446 minutes) in any calendar month, and any single excursion is prohibited when greater than 60 minutes.

Total Suspended Solids (TSS)

Technology limits: 46.2 lbs/day daily maximum and 22.4 lbs/day monthly average; see Part III: EFFLUENT LIMITATION GUIDELINE. Previous permit was 36.4 lbs/day daily maximum and 17.3 lbs/day monthly average; the facility reported between 0.5755 and 78.7 lbs/day. This permit implements reporting in concentration units to determine future compliance with general criteria. See Part III – ANTIBACKSLIDING.

METALS:

Water Quality Limits in Pounds per Day:

Water Quality Limits in Pounds per Day:		Daily Maximum	Monthly Average
Aluminum, TR	lbs/day	15825.15	7888.164
Antimony, TR	lbs/day	188259.7	93839.44
Cadmium, TR	lbs/day	198.8338	67.19064
Chromium III, TR	lbs/day	63805.49	31804.32
Chromium VI, Dissolved	lbs/day	316.503	126.1818
Copper, TR	lbs/day	500.5435	174.8804
Lead, TR	lbs/day	3728.745	1858.621
Selenium, TR	lbs/day	88658.04	39244.9
Thallium, TR	lbs/day	275822.3	137485.7
Zinc, TR	lbs/day	3985.458	1986.581

All technology calculations (below) are more protective than water quality limitations (above) therefore this permit renewal conforms to the requirements at 40 CFR 122.44(l)(ii).

Antimony, Total Recoverable

Technology limits: 3.38 lbs/day daily maximum and 1.49 lbs/day monthly average; see Part III: EFFLUENT LIMITATION GUIDELINE. Previous permit was 1.71 lbs/day maximum and 0.76 lbs/day monthly average; the facility reported between 0.002 to 0.453 lbs/day; see Part III, ANTIBACKSLIDING. This permit implements reporting in concentration units to determine future compliance with water quality standards.

Arsenic, Total Recoverable

Technology limits: 2.46 lbs/day daily maximum and 1.08 lbs/day monthly average; see Part III: EFFLUENT LIMITATION GUIDELINE. Previous permit was 1.23 lbs/day maximum and 0.51 lbs/day monthly average; the facility reported between 0.001 to 0.1 lbs/day; see Part III, ANTIBACKSLIDING. This permit implements reporting in concentration units to determine future compliance with water quality standards.

Cadmium, Total Recoverable

Monitoring continued. The data supplied by the permittee within the DMRs currently show no reasonable potential. Barr Engineering identified this as a parameter of concern and limitations for this parameter are implemented on outfall #003.

Chromium IV, Dissolved

Monitoring removed, no RP; see Part III: ANTIBACKSLIDING, and REASONABLE POTENTIAL.

Copper, Total Recoverable

Monitoring removed, no RP; see Part III: ANTIBACKSLIDING, and REASONABLE POTENTIAL.

Selenium, Total Recoverable

Monitoring and limitations removed, no RP; see Part III: ANTIBACKSLIDING, and REASONABLE POTENTIAL. Previous permit was 39 mg/L (39,000 µg/L) maximum and 20 mg/L (20,000 µg/L) monthly average. Maximum reported was 0.312 mg/L (312 µg/L).

Lead, Total Recoverable

Technology limits: 0.50 lbs/day daily maximum and 0.23 lbs/day monthly average; see Part III: EFFLUENT LIMITATION GUIDELINE. Previous permit was 1.71 lbs/day maximum and 0.76 lbs/day monthly average; the facility reported between 0.0008 and 0.7486 lbs/day; see Part III, ANTIBACKSLIDING. These ELG limitations are lower than previously calculated.

This permit implements reporting in concentration units as well. On the application for renewal, the facility reported 940 µg/L. The permit writer notes this is somewhat close to the relevant chronic standards. However, the maximum 30 day average was 240 µg/L, and the long term average was 35 µg/L therefore no RP was demonstrated at this time.

Zinc, Total Recoverable

Technology limits: 1.73 lbs/day daily maximum and 0.67 lbs/day monthly average; see Part III: EFFLUENT LIMITATION GUIDELINE. Previous permit was 1.71 lbs/day maximum and 0.76 lbs/day monthly average; the facility reported between 0.002 and 0.2 lbs/day for this parameter; see Part III, ANTIBACKSLIDING. This permit implements reporting in concentration units as well.

NUTRIENTS:

Ammonia, Total as Nitrogen

Technology limits: 22.9 lbs/day daily maximum and 8.94 lbs/day monthly average; see Part III: EFFLUENT LIMITATION GUIDELINE. Monitoring in mg/L continued from the previous permit. Monthly monitoring increased to weekly to match frequency of all other ELG parameters. This parameter was monitoring only in the previous permit.

WQL for ammonia would be 133 mg/L daily maximum and 50.8 mg/L monthly average.

$133 \text{ mg/L} * 8.34 \text{ lbs} * 0.23 \text{ MGD} = 255.1 \text{ lbs/day}$

$50.8 \text{ mg/L} * 8.34 \text{ lbs} * 0.23 \text{ MGD} = 97.4 \text{ lbs/day}$

Technology limits are more protective.

OTHER:

Chloride

The facility supplied the chloride values to the department upon request on 11/19/2018. Data was used to determine there was no reasonable potential for chloride at this time; see Part III, REASONABLE POTENTIAL.

Chloride plus Sulfate

The previous permit required monitoring of chloride and sulfate. Values in the DMRs range from 306 to 5078 mg/L. The proposed limit using the 60Q10 of the stream flow and background average of 169 mg/L would be 14,485 mg/L. There is no RP for this parameter. The spreadsheet used for this calculation is available upon request. Monitoring removed; see Part III: ANTIBACKSLIDING.

Whole Effluent Toxicity (WET) Test, Acute

Water quality limit of 3.3 TUa; AEC = 9%; dilution series = 2.25%, 4.5%, 9%, 18%, 36%. Previous permit was pass/fail with an endpoint of mortality of 50% of the organisms. This permit changes the pass/fail requirement to Toxic Units with the same endpoint; 50% mortality. A WET test is a quantifiable method to determine discharges from the facility cause toxicity to aquatic life by itself, in combination with, or through synergistic responses, when mixed with receiving stream water.

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 the provisions in 10 CSR 20-6 and the Water Quality Standards in 10 CSR 20-7 are being met. Under 10 CSR 20-6.010(8)(A)4, the Department may require other terms and conditions it deems necessary to assure compliance with the CWA and related regulations of the Missouri Clean Water Commission. The following Missouri Clean Water Laws (MCWL) apply: §644.051.3. requires the Department to set permit conditions complying 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); and §644.051.5. is the basic authority to require testing conditions. WET tests are required by all facilities meeting the following criteria:

- ✓ Facility is a designated Major
- ✓ Facility handles large quantities of toxic substances, or substances toxic in large amounts.

The permit writer has determined this facility has reasonable potential to cause toxicity in the receiving stream. Quarterly monitoring continued from previous permit; AEC continued from previous permit.

WQS: no toxics in toxic amounts [10 CSR 20-7.031(4)(J)2.B.] = 0.3 TUa

Acute WLA: $C_e = ((0.837 \text{ cfs}_{DF} + 8.37 \text{ cfs}_{ZID7Q10}) 0.3 \text{ TUa}) \div 0.837 \text{ cfs}_{DF}$

$C_e = 3.3 \text{ TUa}$

LTA_a: 3.3 TU_a (0.321) = 1.0593 TU_a

[CV = 0.6, 99th Percentile]

MDL: 1.0593 TU_a (3.11) = 3.3 TU_a

[CV = 0.6, 99th Percentile]

For classified permanent streams with other than default mixing considerations, the Allowable Effluent Concentration (AEC)% is determined as follows: $AEC_a\% = [0.837 \text{ cfs}_{DF} \div (8.37 \text{ cfs}_{ZID7Q10} + 0.837 \text{ cfs}_{DF})] * 100\% = 9\%$. 10 CSR 20-7.015((9)(L)4.A. states the dilution series must be proportional. Each dilution was determined by multiplying or dividing 2 from the AEC and then each consecutive value. The dilution series is: 2.25%, 4.5%, 9%, 18%, 36%.

OUTFALL #003 – TREATED STORMWATER

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	MONTHLY AVERAGE	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	*	SAME	DAILY	ONCE/MONTH	24 HR. TOTAL
CONVENTIONAL							
pH †	SU	6.5-9.0	6.5-9.0	SAME	CONTINUOUS	ONCE/MONTH	CONTINUOUS
pH – TIME OF DEVIATION	minutes	-	446	SAME	CONTINUOUS	ONCE/MONTH	CONTINUOUS
pH – SINGLE EXCURSION MAX	minutes	60		SAME	CONTINUOUS	ONCE/MONTH	CONTINUOUS
TSS	mg/L	41	16	SAME	ONCE/MONTH	ONCE/MONTH	COMPOSITE
METALS							
ANTIMONY, TR	µg/L	*	*	SAME ‡	ONCE/MONTH	ONCE/MONTH	COMPOSITE
ARSENIC, TR	µg/L	*	*	SAME ‡	ONCE/MONTH	ONCE/MONTH	COMPOSITE
CADMIUM, TR	µg/L	*	*	I	ONCE/MONTH	ONCE/MONTH	COMPOSITE
CADMIUM, TR	µg/L	148.3	50.6	F	ONCE/MONTH	ONCE/MONTH	COMPOSITE
LEAD, TR	µg/L	*	*	SAME ‡	ONCE/MONTH	ONCE/MONTH	COMPOSITE
ZINC, TR	µg/L	*	*	SAME ‡	ONCE/MONTH	ONCE/MONTH	COMPOSITE

- * Monitoring and reporting requirement only
- ** Monitoring with associated benchmark
- † Report the minimum and maximum pH values; pH is not to be averaged
- NEW Parameter not established in previous state operating permit
- TR Total Recoverable
- I interim requirements
- F final limits
- ‡ units changed from mg/L to µg/L

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). Daily measurements required; continued from previous permit.

CONVENTIONAL:

pH

6.5 to 9.0 SU; continued from the previous permit. Technology based limits [10 CSR 20-7.015(9)(I)1.] are applicable to this outfall. Continuous monitoring technology based limits 6.5 to 9.0 SU with deviations allowed [40 CFR 401.17]. The permittee uses a continuous sampling regime therefore is provided technology based allowances of excursions where the pH may deviate from the technology-based limitations. The total time of deviation allowed is 7 hours 26 minutes (7.43 hours/446 minutes) in any calendar month, and any single excursion is prohibited when greater than 60 minutes.

Total Suspended Solids (TSS)

41 mg/L daily maximum; 16 mg/L monthly average. Previous permit limits were 41 mg/L daily maximum, 16 mg/L monthly average as applied though best professional judgment. The facility reported between 0.9 and 11 mg/L. The technology installed at the facility can continue to meet the limitations therefore the limitations are continued.

METALS:

Previous permit used 200 mg/L as hardness for the metals; however, data for Missouri River hardness was submitted with the permit renewal application therefore the hardness of 266 mg/L was used.

Antimony, Total Recoverable

The previous permit required monitoring; there is no RP; see Part III: REASONABLE POTENTIAL. However, this is a pollutant of concern in the ELG. Monitoring continued. Units changed from mg/L to µg/L to more easily determine compliance with Missouri WQS.

Arsenic, Total Recoverable

The previous permit required monitoring; there is no RP; see Part III: REASONABLE POTENTIAL. However, this is a pollutant of concern in the ELG. Monitoring continued. Units changed from mg/L to µg/L to more easily determine compliance with Missouri WQS.

Cadmium, Total Recoverable

Water quality limits: 148.3 µg/L daily maximum; 50.6 µg/L monthly average after SOC. Parameter established for monitoring in previous permit; RP was found from the data supplied in the DMRs; see Part III: REASONABLE POTENTIAL. The facility reported between 0.1 and 145 µg/L for this parameter; next highest value was 142, the third highest was 80.5 µg/L. Max flow used to remain protective of receiving waters (0.837 cfs); background average 0.185 µg/L. The facility reported 2 values above the proposed monthly average which was 5 % of the time; a schedule of compliance (SOC) is afforded; see permit Part B and fact sheet Part III: SCHEDULE OF COMPLIANCE.

Acute AQL WQS:	$e^{(1.0166 * \ln 266 - 3.062490)} * (1.136672 - \ln 266 * 0.041838) = 12.326$	[at Hardness 266]
Chronic AQL WQS:	$e^{(0.7409 * \ln 266 - 4.719948)} * (1.101672 - \ln 266 * 0.041838) = 0.485$	[at Hardness 266]
Acute TR WQS:	$12.326 \div 0.903 = 13.649$	[Total Recoverable Conversion]
Chronic TR WQS:	$0.485 \div 0.868 = 0.558$	[Total Recoverable Conversion]
Acute WLA:	$C_e = ((0.837 \text{ cfs}_{df} + 8.37 \text{ cfs}_{ZID}) * 13.649) \div 0.837 \text{ cfs}_{df} = 148.293$	
Chronic WLA:	$C_e = ((0.837 \text{ cfs}_{df} + 3178 \text{ cfs}_{MZ}) * 0.558) \div 0.837 \text{ cfs}_{df} = 7075.320$	
LTA _a :	$148.293 (0.134) = 20.373$	[CV = 1.597, 99 th Percentile]
LTA _c :	$7075.320 (0.250) = 1767.119$	[CV = 1.597, 99 th Percentile]
	Use most protective number of LTA _a or LTA _c .	
MDL:	$20.373 (7.28) = 148.293 \text{ µg/L}$	[CV = 1.597, 99 th Percentile]
AML:	$20.373 (2.48) = 50.556 \text{ µg/L}$	[CV = 1.597, 95 th Percentile, n = 4]

Chromium IV, Dissolved

The previous permit required monitoring; there is no RP, sampling removed; see Part III: ANTIBACKSLIDING and REASONABLE POTENTIAL.

Copper, Total Recoverable

The previous permit required monitoring; there is no RP, sampling removed; see Part III: ANTIBACKSLIDING and REASONABLE POTENTIAL.

Selenium, Total Recoverable

The previous permit required monitoring; there is no RP, sampling removed; see Part III: ANTIBACKSLIDING and REASONABLE POTENTIAL.

Lead, Total Recoverable

The previous permit required monitoring; there is no RP. However, this is a pollutant of concern in the ELG. Monitoring continued. Units changed from mg/L to µg/L to more easily determine compliance with Missouri WQS.

Zinc, Total Recoverable

The previous permit required monitoring; there is no RP. However, this is a pollutant of concern in the ELG. Monitoring continued. Units changed from mg/L to µg/L to more easily determine compliance with Missouri WQS.

NUTRIENTS:

Ammonia as N

The previous permit required monitoring; there is no RP, sampling removed; see Part III: ANTIBACKSLIDING. The facility reported between 0.2 to 4.6 mg/L for this parameter; the relevant effluent limitations would be 133 mg/L daily maximum and 50.8 mg/L monthly average. While this is a pollutant of concern in the ELG, the permit writer added the ELG limitations as best professional judgment at outfall #001. The facility has indicated no ammonia is stored on-site but is an allowance for the landfill leachate treated at #001. Landfill leachate is not permissible for discharge through any outfall other than #001, therefore is not required in this outfall.

OTHER:

Chloride

The facility supplied the chloride values to the department upon request on 11/19/2018. Data was used to determine there was no reasonable potential for chloride at this time; see Part III, REASONABLE POTENTIAL.

Sulfate plus Chloride

The previous permit required monitoring of chloride and sulfate. Values in the DMRs range from 48.9 to 1450 mg/L. The proposed limit using the 60Q10 of the stream flow and background average of 169 mg/L would be 14,485 mg/L. There is no RP for this parameter. The spreadsheet used for this calculation is available upon request. Monitoring removed; see Part III: ANTIBACKSLIDING.

Whole Effluent Testing, Acute

Previous permit required WET testing for outfall #003. However, the permit writer has reviewed the processes and other factors associated with this outfall. Because this is a stormwater outfall, is being treated, and discharges to the Missouri River, the permit writer has used best professional judgment and not continued this requirement. Data supplied in past tests indicate no toxicity.

OUTFALLS #004, #006, AND #007 – STORMWATER

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	BENCH- MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	-	*/*	ONCE/QUARTER	ONCE/QUARTER	24 HR. ESTIMATE
PRECIPITATION	inches	* DAILY TOTAL	* MONTHLY TOTAL	NEW	DAILY	ONCE/MONTH	RECORD
CONVENTIONAL							
pH Ω	SU	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
SETTLABLE SOLIDS	mL/L/hr	**	2.5	*/*	ONCE/QUARTER	ONCE/QUARTER	GRAB
TSS	mg/L	**	100	*/*	ONCE/QUARTER	ONCE/QUARTER	GRAB
METALS							
CADMIUM, TR	μ g/L	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
COPPER, TR	μ g/L	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
LEAD, TR	μ g/L	**	271	*/*	ONCE/QUARTER	ONCE/QUARTER	GRAB
SELENIUM, TR	μ g/L	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
ZINC, TR	μ g/L	**	369	*/*	ONCE/QUARTER	ONCE/QUARTER	GRAB

- * Monitoring and reporting requirement only
- ** Monitoring with associated benchmark
- Ω Report the minimum and maximum pH values; pH is not to be averaged
- NEW Parameter not established in previous state operating permit
- TR Total Recoverable

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). Quarterly measurements required; continued from previous permit.

CONVENTIONAL:

Settleable Solids

The application for permit renewal suggests a benchmark of 2.5 mL/L/hr. The permit writer has accepted this request and implemented a benchmark for this parameter. The facility reported between 0.1 and 2.8 at the stormwater outfalls during the last five years.

Total Suspended Solids (TSS)

Monitoring with a daily maximum benchmark of 100 mg/L; this value was suggested by the permittee in the application and is the typical TSS value for almost all stormwater discharges. There is no numeric water quality standard for TSS; however, sediment discharges can negatively impact aquatic life habitat. TSS is also a valuable indicator parameter. TSS monitoring allows the permittee to identify increases in TSS indicating uncontrolled materials leaving the site. Increased suspended solids in runoff can lead to decreased available oxygen for aquatic life and an increase of surface water temperatures in a receiving stream. Suspended solids can also be carriers of toxins, which can adsorb to the suspended particles; therefore, total suspended solids are a valuable indicator parameter for other pollution. The benchmark is achievable through proper operational and maintenance of BMPs and falls within the range of values implemented in other permits having similar industrial activities. The facility reported outfall #004: 159-920 mg/L; outfall #006: 72-277 mg/L; outfall #007: 8-545 mg/L. Schedules of compliance are not allowed for technology requirements, of which benchmarks are technological goals, not limits. The facility must work toward improving BMPs on site to reduce the solids in the receiving stream. The facility has not disclosed the current BMPs on site but, in the application materials, did state they would be evaluating and improving the BMPs to meet the benchmark.

METALS:

Upstream hardness 25th percentile is 386.5 mg/L; previous permit used 162 mg/L. Stream WLAs below were developed using the following formula: “Acute WQS * total recoverable conversion factor” using a departmentally developed spreadsheet available upon request. All WLAs below are hardness dependent.

Cadmium, Total Recoverable

Added after public notice comment period in response to a comment, see Part VI below; the application submitted to the WPP on 2/3/2017 indicated this pollutant was absent. Quarterly monitoring required at all NPDES outfalls.

Copper, Total Recoverable

Added after public notice comment period in response to a comment, see Part VI below; the application submitted to the WPP on 2/3/2017 indicated this pollutant was absent. Quarterly monitoring required at all NPDES outfalls.

Lead, Total Recoverable

The application for permit renewal suggests a benchmark of 271 µg/L. The permit writer has reviewed and accepted this request. The facility reported between 10.6 and 1250 µg/L at the stormwater outfalls during the last five years. The permit writer has reviewed the in-stream sampling data; the WLA for Canon Creek is 456 µg/L. The highest in-stream sampled lead value was 21.3 µg/L. Within the DMRs, the permit writer noted an entry of 418 µg/L for lead downstream; however, as evidenced by the laboratory report, the entry was incorrect for the quarter, 418 was for hardness, and it was upstream. This data entry error occurred prior to the facility being entered into the eDMR system.

**Canon Creek - Upstream S-1
1C61503-01(Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Keystone Laboratories, Inc. - Newton

Determination of Conventional Chemistry Parameters

Solids, total suspended	4	2	2	mg/L	2.5	1ZC0954	03/25/16	03/25/16	USGS I-3765-85	
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Determination of Total Metals

Hardness, Total as CaCO3	418	1	1	mg/L	1	1ZC1167	03/31/16	03/31/16	EPA 200.7	
Lead, total	0.0007	0.00005	0.0008	"	4	1ZC1099	03/30/16	04/01/16	EPA 200.8	J
Selenium, total	0.0011	0.0011	0.0040	"	"	"	"	"	"	J
Zinc, total	ND	0.0020	0.0080	"	"	"	"	"	"	

Selenium, Total Recoverable

Selenium was found in the monitoring wells at this site and was noted as a parameter of concern in the meeting held 4/4/2019 between WMP and WPP. The chronic in-stream standard for selenium is 5 µg/L; Canon Creek upstream and downstream values show in-stream increases from the facility; see Part VI for additional information. Quarterly monitoring required.

Zinc, Total Recoverable

The application for permit renewal suggests a benchmark of 369 µg/L. The permit writer has accepted this request and implemented a benchmark for this parameter. The WLA for Canon Creek is 377 µg/L. The facility reported between 11.9 and 169 µg/L at the stormwater outfalls during the last five years. In-stream data ranges from 1.1 to 14.6 µg/L. The benchmark is protective and achievable.

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. Additionally, see Standard Conditions Part I attached at the end of this permit and fully incorporated within.

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. The 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 not 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. 40 CFR 122.45(d)(1) indicates all continuous discharges shall be permitted with daily maximum and monthly average limits. Minimum sampling frequency for all parameters is annually per 40 CFR 122.44(i)(2).

Sampling frequency for stormwater-only outfalls is typically quarterly even though BMP inspection occurs monthly. The facility may sample more frequently if additional data is required to determine if best management operations and technology are performing as expected.

SAMPLING TYPE JUSTIFICATION:

Sampling type was continued from the previous permit. The sampling types are representative of the discharges, and are 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, volatile organic compounds, and others.

SUFFICIENTLY SENSITIVE ANALYTICAL METHODS:

Please review Standard Conditions Part 1, section A, number 4. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 and/or 40 CFR 136 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 the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations 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 quantifies the pollutant below the level of the applicable water quality criterion 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 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 and or 40 CFR 136. These methods are also required for parameters listed as monitoring only, as the data collected may be used to determine if numeric limitations need to be established. A permittee is responsible for working with their contractors to ensure the analysis performed is sufficiently sensitive. 40 CFR 136 lists the approved methods accepted by the Department. Tables A1-B3 at 10 CSR 20-7.031 shows water quality standards.

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 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 two years old, such 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.

- ✓ If the Department issues the permit at this time, the effective period of the permit would be less than one year in length (3rd Quarter 2019). To ensure efficient use of Department staff time, reduce the Department’s permitting back log, and to provide better service to the permittee by avoiding another renewal application to be submitted in such a short time period, this operating permit will be issued for the maximum timeframe of five years and synced with other permits in the watershed at a later date.

PUBLIC NOTICE:

The Department shall give public notice 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 or with 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 Public Notice period for this draft operating permit was from 2/22/2019 to 3/25/2019. One comment letter was received from the Waste Management Program (WMP) dated 3/7/2019. The WMP provided surface sampling results for the facility indicating several parameters were present in the stormwater at the site which were marked “not present” on the 2/3/2017 application for renewal.
- ✓ Due to this new information, a meeting on 4/4/2019 between WMP and WPP occurred. The Water Protection Program (WPP) learned the facility requested stormwater sampling be removed from the RCRA sampling requirements under MOD030712822 Missouri Hazardous Waste Management Facility Part I Permit. The WPP has agreed to accepting primary responsibility for stormwater at the site at this time, including stormwater surrounding the hazardous waste landfill therefore the permit writer has applied additional metal sampling requirements to the stormwater discharges.
- ✓ During a follow-up phone meeting, the WMP shared additional data for the surface water monitoring performed for the WMP. These data were also used to determine additional sampling requirements. In light of the new parameter information, the Water Protection Program has determined adding sampling for these metals to the stormwater outfalls is obligatory to account for the WPP application deficiencies. The WPP has authority to include all valid wastewater and stormwater information in NPDES permits. Parameters added were: total recoverable cadmium and total recoverable copper. These were found in varying quantities in the stormwater and need to be evaluated at the outfalls to determine reasonable potential in the future.

PARAMETER	SW1*	SW2*	SW3*	SW4*	SW5*	SW1**	SW5**	TYPICAL DAILY MAX LIMIT	CONTAMINANT OF CONCERN
Antimony	3.1	5.7	2.2	5.7	18.9	2.7	1.1	7,063	no
Arsenic	2.8	2.9	0.7	2.4	7.3	7.3	4.1	38.2	no
Cadmium	0.3	0.7	0.1	0.5	2.8	0.8	0.3	0.7	yes
Chromium	4.8	3.1	3.2	3.8	0.6	7.2	2.9	244	no
Copper	5.6	4	3.1	3.6	29.6	29.2	10.5	22.4	yes

PARAMETER	SW1*	SW2*	SW3*	SW4*	SW5*	SW1**	SW5**	TYPICAL DAILY MAX LIMIT	CONTAMINANT OF CONCERN
Lead	71.4	103	16.7	88.3	844	136	26.7	11.2	yes
Mercury	0.11	0.18	0.16	0.3	0.3	ND	ND	1	no
Nickel	5	1.8	2.4	1.6	6.6	10.8	5	150	no
Zinc	8.2	72.8	2.7	4.1	7.3	673	322	183.6	yes
Sulfate mg/L	11.8	7.4	7.5	5.8	312	19.2	27.9	1000	no

units are µg/L; sulfate is in mg/L

* 4/17/2013 sample; NOAA historical rainfall for Oregon MO (about 5 miles away) was 0.1 inch at 10 AM, and 0.2 inches at 11 AM; all samples were identified as collected between 10:30 and 11:10 AM.

** 7/17/2018 sample; US Climate Data historical rainfall for Oregon MO was recorded as 0 inches using the website <https://www.usclimatedata.com/climate/oregon/missouri/united-states/usmo0662/2018/7>; the weather station in Corning (Atchison Co.) reported 0.59 inches at noon, and 0.16 inches at 1 pm according to The MU Extension Service Agricultural Electronic Blackboard (AgEBB) http://agebb.missouri.edu/weather/history/report.asp?station_prefix=crn&start_month=7&end_month=7&start_day=17&end_day=17&start_year=2018&end_year=2018&period_type=2&convert=1&field_elements=75

- ✓ Because of the discrepancies associated with the stormwater sampling at the site, the permit writer has added a stormwater monitoring requirement. The facility may use data collected from Oregon, MO (or another nearby location) or use an on-site device as long as it can measure accurately. As with any stormwater measurement, the facility will need to use an appropriate station which represents the actual conditions at the site. In the example above for the 7/17/2018 sampling event, the stations have conflicting information and the facility shall assure the stations used for complying with permit requirements reflect similar on-site conditions.
- ✓ Total recoverable selenium was added to the stormwater outfall monitoring list (outfalls #004, #006, and #007) because the facility has found this parameter in groundwater at the site. It was unknown at the time of original drafting of the permit why in-stream monitoring included selenium but there was no selenium monitoring at the outfalls. To maintain and assure the facility is in compliance with all surface water limits, and to provide a surface indicator of possible leachate discharges, selenium was added to the outfall parameters at the request of WMP. This parameter requires a low-detection analytical method be used.
- ✓ Limit set designators were added to each table in Part A of the permit to assist the permittee in entering data into the eDMR system.

DATE OF FACT SHEET: MAY 3, 2019

COMPLETED BY:

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MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
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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.



STANDARD CONDITIONS FOR NPDES PERMITS
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- 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.
- 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 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.

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



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- 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 permittee 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.



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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.

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**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 Act 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 factor¹).
¹Volatilization 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:
$$(\text{Nitrate} + \text{nitrite nitrogen}) + (\text{organic nitrogen} \times 0.2) + (\text{ammonia nitrogen} \times \text{volatilization factor}^1).$$

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 $\geq 70\%$ 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 $\geq 70\%$ 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

- 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.

- 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.
- 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.
- 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

- 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.
- Reporting period
 - 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.
 - 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.
- Report Forms. The annual report shall be submitted on report forms provided by the Department or equivalent forms approved by the Department.
- 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.

FEB 03 2017



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 <u>2-3-17</u>	FEE SUBMITTED <u>0</u>

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- 0101702 Expiration Date July 31, 2017

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 Exide Technologies, Canon Hollow Smelter		TELEPHONE NUMBER WITH AREA CODE (660) 446-3321	
		FAX (660) 446-3324	
ADDRESS (PHYSICAL) 25102 Exide Drive	CITY Forest City	STATE MO	ZIP CODE 64451

3. OWNER

NAME Exide Technologies		TELEPHONE NUMBER WITH AREA CODE	
		FAX	
ADDRESS (MAILING) 13000 Deerfield Parkway	CITY Milton	STATE GA	ZIP CODE 30004

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

4. CONTINUING AUTHORITY

NAME Steve Carter Plant Manager		TELEPHONE NUMBER WITH AREA CODE (660) 446-3321	
EMAIL ADDRESS steve.carter@exide.com		FAX (660) 446-3324	
ADDRESS (MAILING) P.O. Box 159	CITY Forest City	STATE MO	ZIP CODE 64451

5. OPERATOR

NAME Certified WWTP operator not required.		TELEPHONE NUMBER WITH AREA CODE	
CERTIFICATE NUMBER		FAX	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE

6. FACILITY CONTACT

NAME John Wheeler		TELEPHONE NUMBER WITH AREA CODE (660) 446-3321	
TITLE Environmental Manager		FAX (660) 446-3324	
E-MAIL ADDRESS John.Wheeler2@na.exide.com			

7. ADDITIONAL FACILITY INFORMATION

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.) Refer also to Attachment 1.

001 SW ¼ NE ¼ Sec 10 T 59N R 39W Holt County
 UTM Coordinates Easting (X): 306619 Northing (Y): 4433753
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

002 - ¼ - ¼ Sec - T - R - - County
 UTM Coordinates Easting (X): - Northing (Y): -

003 SW ¼ NE ¼ Sec 10 T 59N R 39W Holt County
 UTM Coordinates Easting (X): 306619 Northing (Y): 4426487

004 NW ¼ SW ¼ Sec 12 T 60N R 39W Holt County
 UTM Coordinates Easting (X): 309588 Northing (Y): 4433846

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

001 – SIC 3341 and NAICS 331314 002 – SIC _____ and NAICS _____
 003 – SIC _____ and NAICS _____ 004 – SIC _____ and NAICS _____

MO 780-1479 (09-16)

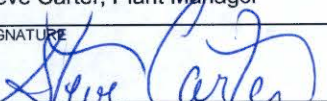
8. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION (Complete all forms that are applicable.)		
A.	Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? If yes, complete Form C or 2F. (2F is the U.S. EPA's Application for Storm Water Discharges Associate with Industrial Activity.)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
B.	Is application for storm water discharges only? If yes, complete Form C or 2F.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
C.	Is your facility considered a "Primary Industry" under EPA guidelines: If yes, complete Forms C or 2F and D.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
D.	Is wastewater land applied? If yes, complete Form I.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
E.	Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? If yes, complete Form R. All sludges are stabilized in the Pug Mill, and then disposed in the on-site permitted hazardous waste landfill. Thus Form R is not applicable.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
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. Refer to Figure 1.	

9. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM	
Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data. One of the following must be checked in order for this application to be considered complete. Please visit http://dnr.mo.gov/env/wpp/edmr.htm to access the Facility Participation Package.	
<input type="checkbox"/> - You have completed and submitted with this permit application the required documentation to participate in the eDMR system.	
<input checked="" type="checkbox"/> - You have previously submitted the required documentation to participate in the eDMR system and/or you are currently using the eDMR system.	
<input type="checkbox"/> - You have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.	

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

NAME Refer to Attachment 2.			
ADDRESS	CITY	STATE	ZIP CODE

11. 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) Steve Carter, Plant Manager	TELEPHONE NUMBER WITH AREA CODE (660) 446-3321
SIGNATURE 	DATE SIGNED 1/31/2017

MO 780-1479 (09-16)

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:

- | | |
|--|---|
| <input type="checkbox"/> Appropriate Fees? | <input type="checkbox"/> Form I (Irrigation), if applicable? |
| <input checked="" type="checkbox"/> Map at 1" = 2000' scale? | <input type="checkbox"/> Form R (Sludge), if applicable? |
| <input checked="" type="checkbox"/> Signature? | <input type="checkbox"/> Revised Nutrient Management Plan, if applicable? |
| <input checked="" type="checkbox"/> Form C or 2F, if applicable? | |
| <input checked="" type="checkbox"/> Form D, if applicable? | |

FEB 03 2017



MISSOURI DEPARTMENT OF NATURAL RESOURCES **Water Protection Program**
 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
 Exide Technologies, Canon Hollow Smelter

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER
 MO-0101702

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).
 --

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

A. FIRST 3341 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 _____
 Refer to Attachment 1.

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER

OUTFALL NUMBER (LIST)	RECEIVING WATER
Outfall 001 and Outfall 003	Missouri River
Outfall 004, Outfall 005, Outfall 006, and Outfall 007	Canon Creek

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS

Exide Technologies owns and operates a secondary lead smelting plant, the Canon Hollow Smelter, which is located approximately four miles north of Forest City, Missouri. The plant receives automotive and industrial lead-acid batteries, as well as other lead-bearing raw materials from off-site sources for recycling. These materials are recycled through crushing and recovering of the lead into new metallic lead pig and block ingots. Finished lead product is then stored prior to being loaded on tractor-trailers for shipment off-site.

Structures on the plant site consist of an office, production buildings, storage buildings, a wastewater treatment plant (WWTP), baghouse/scrubber building, and a maintenance shop. An on-site hazardous waste landfill is used to dispose of the treated slag and sludge by-products. All process wastewater associated with production and stormwater that comes in contact with landfill leachate are routed to the WWTP. Stormwater that does not contact landfilled waste is discharged directly through a facility outfall. Stormwater from the plant site is collected in a stormwater collection basin and pumped to the WWTP to be treated in the stormwater treatment system.

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. DAYS PER WEEK (specify average)	B. MONTHS PER YEAR (specify average)	A. FLOW RATE (in mgd)		B. TOTAL VOLUME (specify with units)		
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	

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)	
0.14	millions lbs/day	Lead scrap production [40 CFR 421.132 (a)&(h)]	001
0.324	millions lbs/day	Lead produced from smelting [40 CFR 421.132 (b),(f),(g),(i),(j),&(k)]	001
0.216	millions lbs/day	Lead produced from refining [40 CFR 421.132 (c)]	001
0.216	millions lbs/day	Pounds of lead cast [40 CFR 421.132 (e)]	001

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

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			

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)

Whole Effluent Toxicity (WET) tests are required under the facility's MSOP (issued August 1, 2012). In accordance with the facility's MSOP, tests are conducted quarterly on 24-hour composite samples collected from Outfall 001 and Outfall 003 effluent to the Missouri River for the purpose of assessing aquatic toxicity from these discharge locations. Acute static non-renewal WET tests are conducted on Ceriodaphnia dubia and Pimephales promelas for 48 hours. Both single-dilution and multiple-dilution tests are conducted. Throughout the current permit term all WET tests have successfully passed.

3.20 CONTRACT ANALYSIS INFORMATION

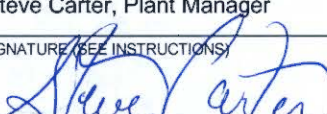
WERE ANY OF THE ANALYSES REPORTED PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

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)
Keystone Laboratories, Inc.	600 East 17th Street South Newton, IA 50208	(641) 792-8451	All permit-required pollutants and Form C, Table 1 for Part 3.00 Item A and B
Huther & Associates, Inc.	1156 North Bonnie Brae Denton, TX 76201	(940) 387-1025	WET testing as specified by current MSOP

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) Steve Carter, Plant Manager	TELEPHONE NUMBER WITH AREA CODE (660) 446-3321
SIGNATURE (SEE INSTRUCTIONS) 	DATE SIGNED 1/31/2017

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. 001
--	--------------------

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						D. NO. OF ANALYSES	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)			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	
A. Biochemical Oxygen Demand (BOD)	12	9.6	-	-	-	-	1	mg/L	lbs/day	-	-	-
B. Chemical Oxygen Demand (COD)	11	8.8	-	-	-	-	1	mg/L	lbs/day	-	-	-
C. Total organic Carbon (TOC)	4.44	3.6	-	-	-	-	1	mg/L	lbs/day	-	-	-
D. Total Suspended Solids (TSS)	111	78.7	28.4	22.7	5.4	2.5	52	mg/L	lbs/day	-	-	-
E. Ammonia (as N)	10.3	8.2	10.3	8.2	1.7	0.8	51	mg/L	lbs/day	-	-	-
F. Flow	VALUE 0.239		VALUE 0.096		VALUE 0.056		52	MGD	-	VALUE -		-
G. Temperature (winter)	VALUE 21.1		VALUE -		VALUE 18.5		7	°C		VALUE -		-
H. Temperature (summer)	VALUE -		VALUE -		VALUE -		-	°C		VALUE -		-
I. pH	MINIMUM 2.20	MAXIMUM 11.78	MINIMUM 7.43	MAXIMUM 7.96			Continuous	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. 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	

CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS

A. Bromide (24959-67-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
B. Chlorine, Total Residual		X	-	-	-	-	-	-	-	-	-	-	-	-
C. Color		X	-	-	-	-	-	-	-	-	-	-	-	-
D. Fecal Coliform		X	-	-	-	-	-	-	-	-	-	-	-	-
E. Fluoride (16984-48-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
F. Nitrate - Nitrate (as N)		X	-	-	-	-	-	-	-	-	-	-	-	-

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	
G. Nitrogen, Total Organic (as N)		X	-	-	-	-	-	-	-	-	-	-	-	-
H. Oil and Grease	X		ND (<4)	-	-	-	-	-	1	mg/L	-	-	-	-
I. Phosphorus (as P), Total (7723-14-0)		X	ND (<0.40)	-	-	-	-	-	1	mg/L	-	-	-	-
J. Sulfate (as SO ⁴) (14808-79-8)	X		4,460	12,350	4,460	12,350	1,996	2,148	32	mg/L	lbs/day			
K. Sulfide (as S)		X	ND (<0.10)	-	-	-	-	-	1	mg/L	-	-	-	-
L. Sulfite (as SO ³) (14265-45-3)		X	-	-	-	-	-	-	-	-	-	-	-	-
M. Surfactants		X	-	-	-	-	-	-	-	-	-	-	-	-
N. Aluminum, Total (7429-90-5)		X	0.124	0.0993	-	-	-	-	1	mg/L	lbs/day	-	-	-
O. Barium, Total (7440-39-3)	X		0.045	0.036	-	-	-	-	1	mg/L	lbs/day	-	-	-
P. Boron, Total (7440-42-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
Q. Cobalt, Total (7440-48-4)		X	-	-	-	-	-	-	-	-	-	-	-	-
R. Iron, Total (7439-89-6)	X		1.20	0.96	-	-	-	-	1	mg/L	lbs/day	-	-	-
S. Magnesium, Total (7439-95-4)	X		43.3	34.7	-	-	-	-	1	mg/L	lbs/day	-	-	-
T. Molybdenum, Total (7439-98-7)		X	0.0109	0.0087	-	-	-	-	1	mg/L	lbs/day	-	-	-
U. Manganese, Total (7439-96-5)		X	-	-	-	-	-	-	-	-	-	-	-	-
V. Tin, Total (7440-31-5)	X		ND (<0.25)	-	-	-	-	-	1	mg/L	-	-	-	-
W. Titanium, Total (7440-32-6)		X	ND (<0.050)	-	-	-	-	-	1	mg/L	-	-	-	-

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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)	X		0.53	0.43	0.41	0.33	0.28	0.13	52	mg/L	lbs/day	-	-	-
2M. Arsenic, Total (7440-38-2)	X		0.12	0.1	0.12	0.1	0.022	0.01	52	mg/L	lbs/day	-	-	-
3M. Beryllium, Total (7440-41-7)		X	ND (<0.0020)	-	-	-	-	-	1	mg/L	-	-	-	-
4M. Cadmium, Total (7440-43-9)	X		0.041	0.033	0.041	0.033	0.0059	0.0027	51	mg/L	lbs/day	-	-	-
5M. Chromium III (16065-83-1)	X		ND (<0.0120)	-	-	-	-	-	1	mg/L	-	-	-	-
6M. Chromium VI (18540-29-9)	X		0.2	0.9	0.2	0.16	0.012	0.006	51	mg/L	lbs/day	-	-	-
7M. Copper, Total (7440-50-8)	X		0.0126	0.010	0.011	0.0089	0.0044	0.0020	51	mg/L	lbs/day	-	-	-
8M. Lead, Total (7439-92-1)	X		0.94	0.75	0.24	0.19	0.035	0.016	52	mg/L	lbs/day	-	-	-
9M. Mercury, Total (7439-97-6)		X	ND (<0.00050)	-	-	-	-	-	1	mg/L	-	-	-	-
10M. Nickel, Total (7440-02-0)	X		0.0063	0.0050	-	-	-	-	1	mg/L	lbs/day	-	-	-
11M. Selenium, Total (7782-49-2)	X		0.22	0.18	0.10	0.08	0.04	0.02	52	mg/L	lbs/day	-	-	-
12M. Silver, Total (7440-22-4)		X	ND (<0.0020)	-	-	-	-	-	1	mg/L	-	-	-	-
13M. Thallium, Total (7440-28-0)		X	0.0383	0.0307	-	-	-	-	1	mg/L	lbs/day	-	-	-
14M. Zinc, Total (7440-66-6)	X		0.25	0.2	0.14	0.11	0.019	0.0089	52	mg/L	lbs/day	-	-	-
15M. Cyanide, Amenable to Chlorination		X	ND (<0.005)	-	-	-	-	-	1	mg/L	-	-	-	-
16M. Phenols, Total		X	ND (<0.035)	-	-	-	-	-	1	mg/L	-	-	-	-
RADIOACTIVITY														
(1) Alpha Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(2) Beta Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(3) Radium Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(4) Radium 226 Total		X	-	-	-	-	-	-	-	-	-	-	-	-

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. 003
--	--------------------

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						D. NO. OF ANALYSES	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)			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	
A. Biochemical Oxygen Demand (BOD)	ND (<5)	-	-	-	-	-	1	mg/L	-	-	-	-
B. Chemical Oxygen Demand (COD)	11	15.2	-	-	-	-	1	mg/L	lbs/day	-	-	-
C. Total organic Carbon (TOC)	4.58	6.31	-	-	-	-	1	mg/L	lbs/day	-	-	-
D. Total Suspended Solids (TSS)	11	15.2	11	15.2	2.6	1.0	36	mg/L	lbs/day	-	-	-
E. Ammonia (as N)	4.6	6.3	4.6	6.3	1.1	0.40	36	mg/L	lbs/day	-	-	-
F. Flow	VALUE 0.165		VALUE 0.214		VALUE 0.0447		37	MGD	-	VALUE -	-	-
G. Temperature (winter)	VALUE 18.0		VALUE -		VALUE 16.3		3	°C	-	VALUE -	-	-
H. Temperature (summer)	VALUE -		VALUE -		VALUE -		-	°C	-	VALUE -	-	-
I. pH	MINIMUM 4.74	MAXIMUM 9.32	MINIMUM 7.28	MAXIMUM 7.69			Continuous	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. 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	

CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS

A. Bromide (24959-67-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
B. Chlorine, Total Residual		X	-	-	-	-	-	-	-	-	-	-	-	-
C. Color		X	-	-	-	-	-	-	-	-	-	-	-	-
D. Fecal Coliform		X	-	-	-	-	-	-	-	-	-	-	-	-
E. Fluoride (16984-48-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
F. Nitrate - Nitrate (as N)		X	-	-	-	-	-	-	-	-	-	-	-	-

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	
G. Nitrogen, Total Organic (as N)		X	-	-	-	-	-	-	-	-	-	-	-	-
H. Oil and Grease	X		ND (<4)	-	-	-	-	-	1	mg/L	-	-	-	-
I. Phosphorus (as P), Total (7723-14-0)		X	ND (<0.40)	-	-	-	-	-	1	mg/L	-	-	-	-
J. Sulfate (as SO ₄) (14808-79-8)	X		1,450	2,200	1,450	2,200	282	118	29	mg/L	lbs/day	-	-	-
K. Sulfide (as S)	X		ND (<0.10)	-	-	-	-	-	1	mg/L	-	-	-	-
L. Sulfite (as SO ₃) (14265-45-3)		X	-	-	-	-	-	-	-	-	-	-	-	-
M. Surfactants		X	-	-	-	-	-	-	-	-	-	-	-	-
N. Aluminum, Total (7429-90-5)	X		ND (<0.050)	-	-	-	-	-	1	mg/L	-	-	-	-
O. Barium, Total (7440-39-3)	X		0.062	0.085	-	-	-	-	1	mg/L	lbs/day	-	-	-
P. Boron, Total (7440-42-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
Q. Cobalt, Total (7440-48-4)		X	-	-	-	-	-	-	-	-	-	-	-	-
R. Iron, Total (7439-89-6)	X		0.177	0.244	-	-	-	-	1	mg/L	lbs/day	-	-	-
S. Magnesium, Total (7439-95-4)	X		35.1	48.4	-	-	-	-	1	mg/L	lbs/day	-	-	-
T. Molybdenum, Total (7439-98-7)		X	-	-	-	-	-	-	-	-	-	-	-	-
U. Manganese, Total (7439-96-5)		X	-	-	-	-	-	-	-	-	-	-	-	-
V. Tin, Total (7440-31-5)	X		ND (<0.25)	-	-	-	-	-	1	mg/L	-	-	-	-
W. Titanium, Total (7440-32-6)		X	-	-	-	-	-	-	-	-	-	-	-	-

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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)	X		0.2	0.27	0.182	0.25	0.050	0.019	36	mg/L	lbs/day	-	-	-
2M. Arsenic, Total (7440-38-2)	X		0.102	0.14	0.102	0.14	0.017	0.0062	36	mg/L	lbs/day	-	-	-
3M. Beryllium, Total (7440-41-7)		X	-	-	-	-	-	-	-	-	-	-	-	-
4M. Cadmium, Total (7440-43-9)	X		0.145	0.200	0.145	0.200	0.021	0.0077	36	mg/L	lbs/day	-	-	-
5M. Chromium III (16065-83-1)		X	-	-	-	-	-	-	-	-	-	-	-	-
6M. Chromium VI (18540-29-9)	X		0.02	0.03	0.02	0.03	0.009	0.003	35	mg/L	lbs/day	-	-	-
7M. Copper, Total (7440-50-8)	X		0.231	0.318	0.231	0.318	0.018	0.0068	36	mg/L	lbs/day	-	-	-
8M. Lead, Total (7439-92-1)	X		0.844	1.16	0.844	1.16	0.102	0.0379	36	mg/L	lbs/day	-	-	-
9M. Mercury, Total (7439-97-6)		X	-	-	-	-	-	-	-	-	-	-	-	-
10M. Nickel, Total (7440-02-0)		X	-	-	-	-	-	-	-	-	-	-	-	-
11M. Selenium, Total (7782-49-2)	X		0.054	0.074	0.044	0.061	0.011	0.0041	36	mg/L	lbs/day	-	-	-
12M. Silver, Total (7440-22-4)	X		ND (<0.005)	-	-	-	-	-	1	mg/L	-	-	-	-
13M. Thallium, Total (7440-28-0)		X	-	-	-	-	-	-	-	-	-	-	-	-
14M. Zinc, Total (7440-66-6)	X		0.141	0.194	0.141	0.194	0.021	0.0079	36	mg/L	lbs/day	-	-	-
15M. Cyanide, Amenable to Chlorination		X	-	-	-	-	-	-	-	-	-	-	-	-
16M. Phenols, Total		X	-	-	-	-	-	-	-	-	-	-	-	-
RADIOACTIVITY														
(1) Alpha Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(2) Beta Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(3) Radium Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(4) Radium 226 Total		X	-	-	-	-	-	-	-	-	-	-	-	-

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. 004
--	--------------------

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						D. NO. OF ANALYSES	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)			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	
A. Biochemical Oxygen Demand (BOD)	-	-	-	-	-	-	-	-	-	-	-	-
B. Chemical Oxygen Demand (COD)	-	-	-	-	-	-	-	-	-	-	-	-
C. Total organic Carbon (TOC)	-	-	-	-	-	-	-	-	-	-	-	-
D. Total Suspended Solids (TSS)	742	51	-	-	348	6.5	4	mg/L	lbs/day	-	-	-
E. Ammonia (as N)	-	-	-	-	-	-	-	-	-	-	-	-
F. Flow	VALUE 0.25		VALUE -		VALUE 0.0022		4	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						D. NO. OF ANALYSES	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)			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	

CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS

A. Bromide (24959-67-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
B. Chlorine, Total Residual		X	-	-	-	-	-	-	-	-	-	-	-	-
C. Color		X	-	-	-	-	-	-	-	-	-	-	-	-
D. Fecal Coliform		X	-	-	-	-	-	-	-	-	-	-	-	-
E. Fluoride (16984-48-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
F. Nitrate - Nitrate (as N)		X	-	-	-	-	-	-	-	-	-	-	-	-

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)		X	-	-	-	-	-	-	-	-	-	-	-	-
H. Oil and Grease		X	-	-	-	-	-	-	-	-	-	-	-	-
I. Phosphorus (as P), Total (7723-14-0)		X	-	-	-	-	-	-	-	-	-	-	-	-
J. Sulfate (as SO ₄) (14808-79-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
K. Sulfide (as S)		X	-	-	-	-	-	-	-	-	-	-	-	-
L. Sulfite (as SO ₃) (14265-45-3)		X	-	-	-	-	-	-	-	-	-	-	-	-
M. Surfactants		X	-	-	-	-	-	-	-	-	-	-	-	-
N. Aluminum, Total (7429-90-5)		X	-	-	-	-	-	-	-	-	-	-	-	-
O. Barium, Total (7440-39-3)		X	-	-	-	-	-	-	-	-	-	-	-	-
P. Boron, Total (7440-42-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
Q. Cobalt, Total (7440-48-4)		X	-	-	-	-	-	-	-	-	-	-	-	-
R. Iron, Total (7439-89-6)		X	-	-	-	-	-	-	-	-	-	-	-	-
S. Magnesium, Total (7439-95-4)		X	-	-	-	-	-	-	-	-	-	-	-	-
T. Molybdenum, Total (7439-98-7)		X	-	-	-	-	-	-	-	-	-	-	-	-
U. Manganese, Total (7439-96-5)		X	-	-	-	-	-	-	-	-	-	-	-	-
V. Tin, Total (7440-31-5)		X	-	-	-	-	-	-	-	-	-	-	-	-
W. Titanium, Total (7440-32-6)		X	-	-	-	-	-	-	-	-	-	-	-	-

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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)		X	-	-	-	-	-	-	-	-	-	-	-	-
2M. Arsenic, Total (7440-38-2)		X	-	-	-	-	-	-	-	-	-	-	-	-
3M. Beryllium, Total (7440-41-7)		X	-	-	-	-	-	-	-	-	-	-	-	-
4M. Cadmium, Total (7440-43-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
5M. Chromium III (16065-83-1)		X	-	-	-	-	-	-	-	-	-	-	-	-
6M. Chromium VI (18540-29-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
7M. Copper, Total (7440-50-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
8M. Lead, Total (7439-92-1)	X		0.45	0.031	-	-	0.13	0.0024	4	mg/L	lbs/day	-	-	-
9M. Mercury, Total (7439-97-6)		X	-	-	-	-	-	-	-	-	-	-	-	-
10M. Nickel, Total (7440-02-0)		X	-	-	-	-	-	-	-	-	-	-	-	-
11M. Selenium, Total (7782-49-2)		X	-	-	-	-	-	-	-	-	-	-	-	-
12M. Silver, Total (7440-22-4)		X	-	-	-	-	-	-	-	-	-	-	-	-
13M. Thallium, Total (7440-28-0)		X	-	-	-	-	-	-	-	-	-	-	-	-
14M. Zinc, Total (7440-66-6)	X		0.0975	0.0067	-	-	0.0439	0.00081	4	mg/L	lbs/day	-	-	-
15M. Cyanide, Amenable to Chlorination		X	-	-	-	-	-	-	-	-	-	-	-	-
16M. Phenols, Total		X	-	-	-	-	-	-	-	-	-	-	-	-
RADIOACTIVITY														
(1) Alpha Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(2) Beta Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(3) Radium Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(4) Radium 226 Total		X	-	-	-	-	-	-	-	-	-	-	-	-

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. 006
--	--------------------

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. 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	
A. Biochemical Oxygen Demand (BOD)	-	-	-	-	-	-	-	-	-	-	-	-
B. Chemical Oxygen Demand (COD)	-	-	-	-	-	-	-	-	-	-	-	-
C. Total organic Carbon (TOC)	-	-	-	-	-	-	-	-	-	-	-	-
D. Total Suspended Solids (TSS)	134	0.019	-	-	93	0.012	3	mg/L	lbs/day	-	-	-
E. Ammonia (as N)	-	-	-	-	-	-	-	-	-	-	-	-
F. Flow	VALUE 0.0005		VALUE -		VALUE 0.0000149		3	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. 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	

CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS

A. Bromide (24959-67-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
B. Chlorine, Total Residual		X	-	-	-	-	-	-	-	-	-	-	-	-
C. Color		X	-	-	-	-	-	-	-	-	-	-	-	-
D. Fecal Coliform		X	-	-	-	-	-	-	-	-	-	-	-	-
E. Fluoride (16984-48-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
F. Nitrate - Nitrate (as N)		X	-	-	-	-	-	-	-	-	-	-	-	-

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)		X	-	-	-	-	-	-	-	-	-	-	-	-
H. Oil and Grease		X	-	-	-	-	-	-	-	-	-	-	-	-
I. Phosphorus (as P), Total (7723-14-0)		X	-	-	-	-	-	-	-	-	-	-	-	-
J. Sulfate (as SO ⁴) (14808-79-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
K. Sulfide (as S)		X	-	-	-	-	-	-	-	-	-	-	-	-
L. Sulfite (as SO ³) (14265-45-3)		X	-	-	-	-	-	-	-	-	-	-	-	-
M. Surfactants		X	-	-	-	-	-	-	-	-	-	-	-	-
N. Aluminum, Total (7429-90-5)		X	-	-	-	-	-	-	-	-	-	-	-	-
O. Barium, Total (7440-39-3)		X	-	-	-	-	-	-	-	-	-	-	-	-
P. Boron, Total (7440-42-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
Q. Cobalt, Total (7440-48-4)		X	-	-	-	-	-	-	-	-	-	-	-	-
R. Iron, Total (7439-89-6)		X	-	-	-	-	-	-	-	-	-	-	-	-
S. Magnesium, Total (7439-95-4)		X	-	-	-	-	-	-	-	-	-	-	-	-
T. Molybdenum, Total (7439-98-7)		X	-	-	-	-	-	-	-	-	-	-	-	-
U. Manganese, Total (7439-96-5)		X	-	-	-	-	-	-	-	-	-	-	-	-
V. Tin, Total (7440-31-5)		X	-	-	-	-	-	-	-	-	-	-	-	-
W. Titanium, Total (7440-32-6)		X	-	-	-	-	-	-	-	-	-	-	-	-

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)		X	-	-	-	-	-	-	-	-	-	-	-	-
2M. Arsenic, Total (7440-38-2)		X	-	-	-	-	-	-	-	-	-	-	-	-
3M. Beryllium, Total (7440-41-7)		X	-	-	-	-	-	-	-	-	-	-	-	-
4M. Cadmium, Total (7440-43-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
5M. Chromium III (16065-83-1)		X	-	-	-	-	-	-	-	-	-	-	-	-
6M. Chromium VI (18540-29-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
7M. Copper, Total (7440-50-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
8M. Lead, Total (7439-92-1)	X		0.0744	0.000001	-	-	0.0423	0.000005	3	mg/L	lbs/day	-	-	-
9M. Mercury, Total (7439-97-6)		X	-	-	-	-	-	-	-	-	-	-	-	-
10M. Nickel, Total (7440-02-0)		X	-	-	-	-	-	-	-	-	-	-	-	-
11M. Selenium, Total (7782-49-2)		X	-	-	-	-	-	-	-	-	-	-	-	-
12M. Silver, Total (7440-22-4)		X	-	-	-	-	-	-	-	-	-	-	-	-
13M. Thallium, Total (7440-28-0)		X	-	-	-	-	-	-	-	-	-	-	-	-
14M. Zinc, Total (7440-66-6)	X		0.015	0.000002	-	-	0.0091	0.00001	3	mg/L	lbs/day	-	-	-
15M. Cyanide, Amenable to Chlorination		X	-	-	-	-	-	-	-	-	-	-	-	-
16M. Phenols, Total		X	-	-	-	-	-	-	-	-	-	-	-	-
RADIOACTIVITY														
(1) Alpha Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(2) Beta Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(3) Radium Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(4) Radium 226 Total		X	-	-	-	-	-	-	-	-	-	-	-	-

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. 007
--	--------------------

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. 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	
A. Biochemical Oxygen Demand (BOD)	-	-	-	-	-	-	-	-	-	-	-	-
B. Chemical Oxygen Demand (COD)	-	-	-	-	-	-	-	-	-	-	-	-
C. Total organic Carbon (TOC)	-	-	-	-	-	-	-	-	-	-	-	-
D. Total Suspended Solids (TSS)	545	5.8	-	-	215	0.027	5	mg/L	lbs/day	-	-	-
E. Ammonia (as N)	-	-	-	-	-	-	-	-	-	-	-	-
F. Flow	VALUE 0.00127		VALUE -		VALUE 0.000268		5	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. 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	

CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS

A. Bromide (24959-67-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
B. Chlorine, Total Residual		X	-	-	-	-	-	-	-	-	-	-	-	-
C. Color		X	-	-	-	-	-	-	-	-	-	-	-	-
D. Fecal Coliform		X	-	-	-	-	-	-	-	-	-	-	-	-
E. Fluoride (16984-48-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
F. Nitrate - Nitrate (as N)		X	-	-	-	-	-	-	-	-	-	-	-	-

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	
G. Nitrogen, Total Organic (as N)		X	-	-	-	-	-	-	-	-	-	-	-	-
H. Oil and Grease		X	-	-	-	-	-	-	-	-	-	-	-	-
I. Phosphorus (as P), Total (7723-14-0)		X	-	-	-	-	-	-	-	-	-	-	-	-
J. Sulfate (as SO ₄) (14808-79-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
K. Sulfide (as S)		X	-	-	-	-	-	-	-	-	-	-	-	-
L. Sulfite (as SO ₃) (14265-45-3)		X	-	-	-	-	-	-	-	-	-	-	-	-
M. Surfactants		X	-	-	-	-	-	-	-	-	-	-	-	-
N. Aluminum, Total (7429-90-5)		X	-	-	-	-	-	-	-	-	-	-	-	-
O. Barium, Total (7440-39-3)		X	-	-	-	-	-	-	-	-	-	-	-	-
P. Boron, Total (7440-42-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
Q. Cobalt, Total (7440-48-4)		X	-	-	-	-	-	-	-	-	-	-	-	-
R. Iron, Total (7439-89-6)		X	-	-	-	-	-	-	-	-	-	-	-	-
S. Magnesium, Total (7439-95-4)		X	-	-	-	-	-	-	-	-	-	-	-	-
T. Molybdenum, Total (7439-98-7)		X	-	-	-	-	-	-	-	-	-	-	-	-
U. Manganese, Total (7439-96-5)		X	-	-	-	-	-	-	-	-	-	-	-	-
V. Tin, Total (7440-31-5)		X	-	-	-	-	-	-	-	-	-	-	-	-
W. Titanium, Total (7440-32-6)		X	-	-	-	-	-	-	-	-	-	-	-	-

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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	
METALS, AND TOTAL PHENOLS														
1M. Antimony, Total (7440-36-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
2M. Arsenic, Total (7440-38-2)		X	-	-	-	-	-	-	-	-	-	-	-	-
3M. Beryllium, Total (7440-41-7)		X	-	-	-	-	-	-	-	-	-	-	-	-
4M. Cadmium, Total (7440-43-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
5M. Chromium III (16065-83-1)		X	-	-	-	-	-	-	-	-	-	-	-	-
6M. Chromium VI (18540-29-9)		X	-	-	-	-	-	-	-	-	-	-	-	-
7M. Copper, Total (7440-50-8)		X	-	-	-	-	-	-	-	-	-	-	-	-
8M. Lead, Total (7439-92-1)	X		1.25	0.013	-	-	0.275	0.00062	5	mg/L	lbs/day	-	-	-
9M. Mercury, Total (7439-97-6)		X	-	-	-	-	-	-	-	-	-	-	-	-
10M. Nickel, Total (7440-02-0)		X	-	-	-	-	-	-	-	-	-	-	-	-
11M. Selenium, Total (7782-49-2)		X	-	-	-	-	-	-	-	-	-	-	-	-
12M. Silver, Total (7440-22-4)		X	-	-	-	-	-	-	-	-	-	-	-	-
13M. Thallium, Total (7440-28-0)		X	-	-	-	-	-	-	-	-	-	-	-	-
14M. Zinc, Total (7440-66-6)	X		0.169	0.0018	-	-	0.060	0.000007	5	mg/L	lbs/day	-	-	-
15M. Cyanide, Amenable to Chlorination		X	-	-	-	-	-	-	-	-	-	-	-	-
16M. Phenols, Total		X	-	-	-	-	-	-	-	-	-	-	-	-
RADIOACTIVITY														
(1) Alpha Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(2) Beta Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(3) Radium Total		X	-	-	-	-	-	-	-	-	-	-	-	-
(4) Radium 226 Total		X	-	-	-	-	-	-	-	-	-	-	-	-

FEB 03 2017

Water Protection Program



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
 Exide Technologies, Canon Hollow Smelter

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER
MO -0101702

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

**APPLICATION FOR DISCHARGE PERMIT
FORM D – PRIMARY INDUSTRIES**

TABLE II	
NPDES # (IF ASSIGNED) MO-0101702	OUTFALL NUMBER 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. BELIEVE D PRESENT	C. BELIEVE D 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)	✓	└	└	0.53	0.43	0.41	0.33	0.28	0.13	52	mg/L	lbs/day	-	-	-
2M. Arsenic, Total (7440-38-2)	✓	└	└	0.12	0.1	0.12	0.1	0.022	0.01	52	mg/L	lbs/day	-	-	-
3M. Beryllium, Total (7440-41-7)	✓	└	└	ND (<0.0020)	-	-	-	-	-	1	mg/L	-	-	-	-
4M. Cadmium, Total (7440-43-9)	✓	└	└	0.041	0.033	0.041	0.033	0.0059	0.0027	51	mg/L	lbs/day	-	-	-
5M. Chromium III (16065-83-1)	✓	└	└	ND (<0.0120)	-	-	-	-	-	1	mg/L	-	-	-	-
6M. Chromium VI (18540-29-9)	✓	└	└	0.2	0.9	0.2	0.16	0.012	0.006	51	mg/L	lbs/day	-	-	-
7M. Copper, Total (7440-50-8)	✓	└	└	0.0126	0.010	0.011	0.0089	0.0044	0.0020	51	mg/L	lbs/day	-	-	-
8M. Lead, Total (7439-92-1)	✓	└	└	0.94	0.75	0.24	0.19	0.035	0.016	52	mg/L	lbs/day	-	-	-
9M. Magnesium Total (7439-95-4)	✓	└	└	43.3	34.7	-	-	-	-	1	mg/L	lbs/day	-	-	-
10M. Mercury, Total (7439-97-6)	✓	└	└	ND (<0.0005)	-	-	-	-	-	1	mg/L	-	-	-	-
11M. Molybdenum Total (7439-98-7)	✓	└	└	0.0109	0.0087	-	-	-	-	1	mg/L	lbs/day	-	-	-
12M. Nickel, Total (7440-02-0)	✓	└	└	0.0063	0.0050	-	-	-	-	1	mg/L	lbs/day	-	-	-
13M. Selenium, Total (7782-49-2)	✓	└	└	0.22	0.18	0.10	0.08	0.04	0.02	52	mg/L	lbs/day	-	-	-
14M. Silver, Total (7440-22-4)	✓	└	└	ND (<0.0020)	-	-	-	-	-	1	mg/L	-	-	-	-
15M. Thallium, Total (7440-28-0)	✓	└	└	0.0383	0.0307	-	-	-	-	1	mg/L	lbs/day	-	-	-
16M. Tin Total (7440-31-5)	✓	└	└	ND (<0.25)	-	-	-	-	-	1	mg/L	-	-	-	-
17M. Titanium Total (7440-32-6)	✓	└	└	ND (<0.050)	-	-	-	-	-	1	mg/L	-	-	-	-
18M. Zinc, Total (7440-66-6)	✓	└	└	0.25	0.2	0.14	0.11	0.019	0.0089	52	mg/L	lbs/day	-	-	-

CONTINUED FROM PAGE 3

19M. Cyanide, Amenable to Chlorination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<0.005)	-	-	-	-	-	1	mg/L	-	-	-	-
20M. Phenols, Total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<0.035)	-	-	-	-	-	1	mg/L	-	-	-	-
DIOXIN															
2,3,7,8 – Tetra – chlorodibenzo-P-Dioxin (1764-01-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10.0)	-	-	-	-	-	1	ug/L	-	-	-	-
2V. Acrylonitrile (107-13-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<5.0)	-	-	-	-	-	1	ug/L	-	-	-	-
3V. Benzene (71-43-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
4V. Bis (Chloromethyl) Ether (542-88-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-	-	-	-	-	-	-	-	-	-
5V. Bromoform (75-25-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13.4	0.0107	-	-	-	-	1	ug/L	lbs/day	-	-	-
6V. Carbon Tetrachloride (56-23-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
7V. Chlorobenzene (108-90-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
8V. Chlorodibromomethane (124-48-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.8	0.0030	-	-	-	-	1	ug/L	lbs/day	-	-	-
9V. Chloroethane (75-00-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
10V. 2-Chloroethylvinyl Ether (110-75-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10.0)	-	-	-	-	-	1	ug/L	-	-	-	-
11V. Chloroform (67-66-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.3	0.0010	-	-	-	-	1	ug/L	lbs/day	-	-	-
12V. Dichlorobromomethane (75-27-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.8	0.0014	-	-	-	-	1	ug/L	lbs/day	-	-	-
13V. Dichlorodifluoromethane (75-71-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
14V. 1,1 – Dichloroethane (75-34-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
15V. 1,2 – Dichloroethane (107-06-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
16V. 1,1 – Dichloroethylene (75-35-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
17V. 1,3 – Dichloropropane (78-87-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
18V. 1,2 – Dichloropropylene (542-75-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
19V. Ethylbenzene (100-41-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
20V. Methyl Bromide (74-83-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
21V. Methyl Chloride (74-87-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	A. TESTING RE-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 – VOLATILE COMPOUNDS (continued)														
22V. Methylene Chloride (75-09-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<5.0)	-	-	-	-	-	1	ug/L	-	-	-	-
23V. 1,1,2,2 – Tetra-chloroethane (79-34-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
24V. Tetrachloroethylene (127-18-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
25V. Toluene (108-88-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
26V. 1,2 – Trans Dichloroethylene (156-60-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
27V. 1,1,1 – Tri – chloroethane (71-55-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
28V. 1,1,2 – Tri-chloroethane (79-00-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
29V. Trichloro – ethylene (79-01-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
30V. Trichloro – fluoromethane (75-69-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
31V. Vinyl Chloride (75-01-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2 – Chlorophenol (95-57-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
2A. 2,4 – Dichloro – phenol (120-83-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
3A. 2,4 – Dimethyl – phenol (105-67-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
4A. 4,6 – Dinitro – O- Cresol (534-52-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<20)	-	-	-	-	-	1	ug/L	-	-	-	-
5A. 2,4 – Dinitro – phenol (51-28-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<20)	-	-	-	-	-	1	ug/L	-	-	-	-
6A. 2-Nitrophenol (88-75-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
7A. 4-Nitrophenol (100-02-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
8A. P – Chloro – M Cresol (59-50-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
9A. Pentachloro – phenol (87-86-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<20)	-	-	-	-	-	1	ug/L	-	-	-	-
10A. Phenol (108-952)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
11A. 2,4,6 – Trichloro-phenol (88-06-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
12A. 2 - methyl – 4,6 dinitrophenol (534-52-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<20)	-	-	-	-	-	1	ug/L	-	-	-	-

CONTINUED FROM THE FRONT

1. POLLUTANT AND GAS 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 - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
2B. Acenaphthylene (208-96-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
3B. Anthracene (120-12-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
4B. Benzidine (92-87-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<50)	-	-	-	-	-	1	ug/L	-	-	-	-
5B. Benzo (a) Anthracene (56-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
6B. Benzo (a) Pyrene (50-32-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
7B. 3,4 - Benzofluoranthene (205-99-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
8B. Benzo (ghi) Perylene (191-24-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
9B. Benzo (k) Fluoranthene (207-08-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
11B. Bis (2-Chloroethyl) Ether (111-44-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22	0.018	-	-	-	-	1	ug/L lbs/day	-	-	-	-
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
15B. Butyl Benzyl Phthalate (85-68-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
16B. 2-Chloronaphthalene (91-58-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
18B. Chrysene (218-01-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
19B. Dibenzo (a,h) Anthracene (53-70-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
20B. 1,2 - Dichlorobenzene (95-50-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-
21B. 1,3 - Dichlorobenzene (54-73-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	-

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED) MO-0101702 OUTFALL NUMBER 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)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	
23B. 3, 3'-Dichlorobenzidine (91-94-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<20)	-	-	-	-	-	1	ug/L	-	-	-	
24B. Diethyl Phthalate (84-66-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
25B. Dimethyl Phthalate (131-11-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
26B. Di-N-butyl Phthalate (84-74-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
27B. 2,4-Dinitrotoluene (121-14-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
28B. 2,6-Dinitrotoluene (606-20-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
29B. Di-N-Octylphthalate (117-84-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
31B. Fluoranthene (206-44-0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
32B. Fluorene (86-73-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
33B. Hexachlorobenzene (87-68-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
34B. Hexachlorobutadiene (87-68-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
35B. Hexachloro-cyclopentadiene (77-47-4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<20)	-	-	-	-	-	1	ug/L	-	-	-	
36B. Hexachloroethane (67-72-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
37B. Indeno (1,2,3-c-d) Pyrene (193-39-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
38B. Isophorone (78-59-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
39B. Naphthalene (91-20-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<1.0)	-	-	-	-	-	1	ug/L	-	-	-	
40B. Nitrobenzene (98-95-3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	
41B. N-Nitro-sodimethylamine (62-75-9)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	

MO 780-1516 (06-13)

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	A. YES-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	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
42B. N-Nitroso N-Propylamine (621-64-7)	✓	┘	┘	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
43B. N-Nitro-sodiiphenylamine (86-30-6)	✓	┘	┘	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
44B. Phenanthrene (85-01-8)	✓	┘	┘	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
45B. Pyrene (129-00-0)	✓	┘	┘	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
46B. 1,2,4-Tr chlorobenzene (120-82-1)	✓	┘	┘	ND (<10)	-	-	-	-	-	1	ug/L	-	-	-	-
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
2P. α-BHC (319-84-6)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
3P. β-BHC (319-84-6)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
4P. γ-BHC (58-89-9)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
5P. δ-BHC (319-86-8)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
6P. Chlordane (57-74-9)	✓	┘	┘	ND (<0.10)	-	-	-	-	-	1	ug/L	-	-	-	-
7P. 4,4'-DDT (50-29-3)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
8P. 4,4'-DDE (72-55-9)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
9P. 4,4'-DDD (72-54-8)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
10P. Dieldrin (60-57-1)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
11P. α-Endosulfan (115-29-7)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
12P. β-Endosulfan (115-29-7)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
13P. Endosulfan Sulfate (1031-07-8)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
14P. Endrin (72-20-8)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
15P. Endrin Aldehyde (7421-93-4)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
16P. Heptachlor (76-44-8)	✓	┘	┘	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
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				(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)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<0.05)	-	-	-	-	-	1	ug/L	-	-	-	-
18P. PCB-1242 (53469-21-8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<0.20)	-	-	-	-	-	1	ug/L	-	-	-	-
19P. PBC-1254 (11097-89-1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<0.10)	-	-	-	-	-	1	ug/L	-	-	-	-
20P. PCB-1221 (11104-28-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<0.20)	-	-	-	-	-	1	ug/L	-	-	-	-
21P. PCB-1232 (11141-16-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<0.20)	-	-	-	-	-	1	ug/L	-	-	-	-
22P. PCB-1248 (12672-29-6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<0.20)	-	-	-	-	-	1	ug/L	-	-	-	-
23P. PCB-1280 (11096-82-5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<0.10)	-	-	-	-	-	1	ug/L	-	-	-	-
24P. PCB-1016 (12674-11-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<0.10)	-	-	-	-	-	1	ug/L	-	-	-	-
25P. Toxaphene (8001-35-2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ND (<0.10)	-	-	-	-	-	1	ug/L	-	-	-	-
J. RADIOACTIVITY															
(1) Alpha Total	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	-	-	-	-	-	-	-	-	-	-
(2) Beta Total	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	-	-	-	-	-	-	-	-	-	-
(3) Radium Total	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	-	-	-	-	-	-	-	-	-	-
(4) Radium 226 Total	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	-	-	-	-	-	-	-	-	-	-

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 ABILITY 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)
Keystone Laboratories, Inc.	600 East 17th Street South	(641) 792-8451	Permit-required pollutants
	Newton, IA 50208		All pollutants in Part 1.30

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)

Steve Carter, Plant Manager

PHONE NUMBER (AREA CODE AND NUMBER)

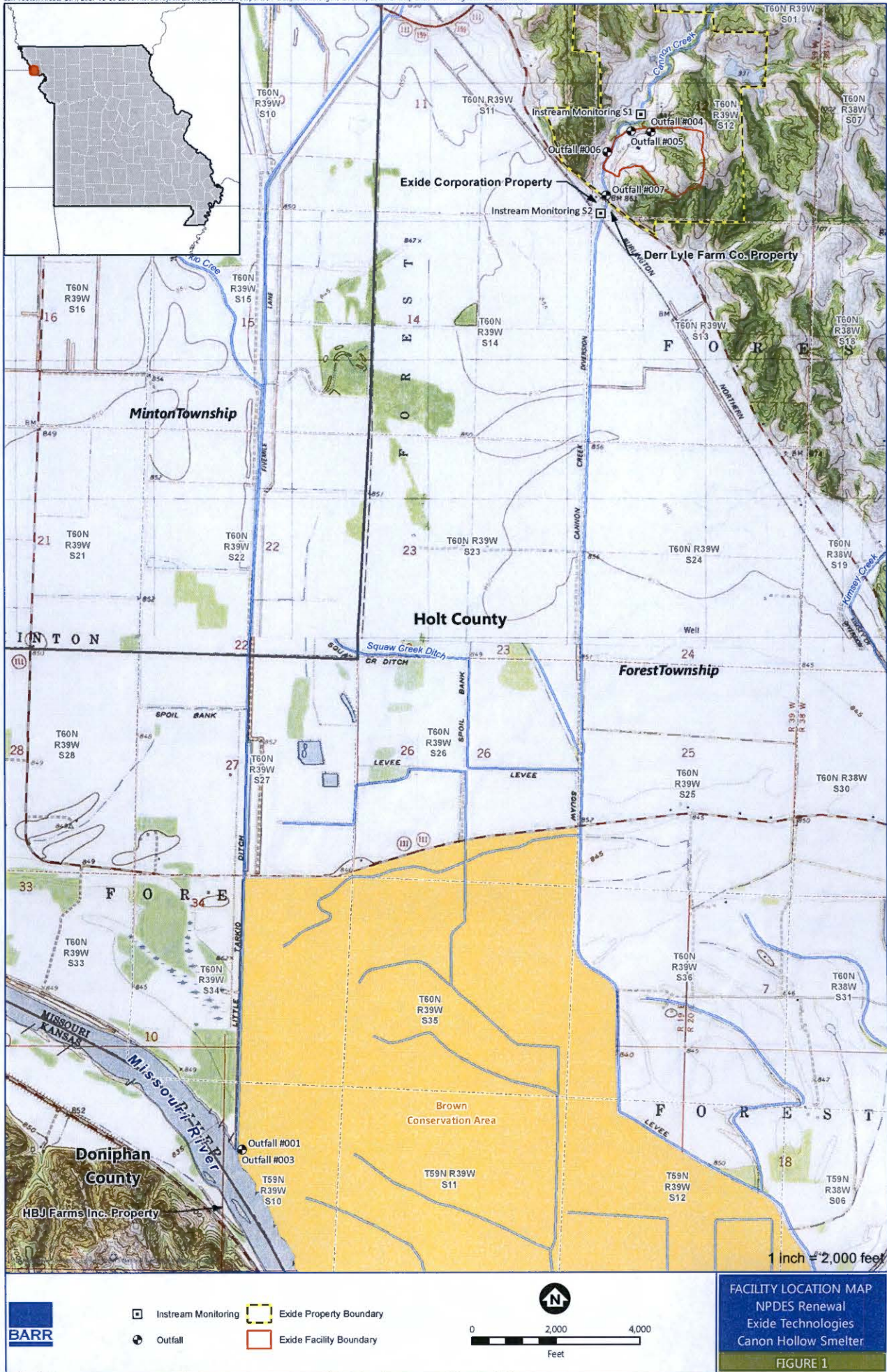
(660) 446-3321

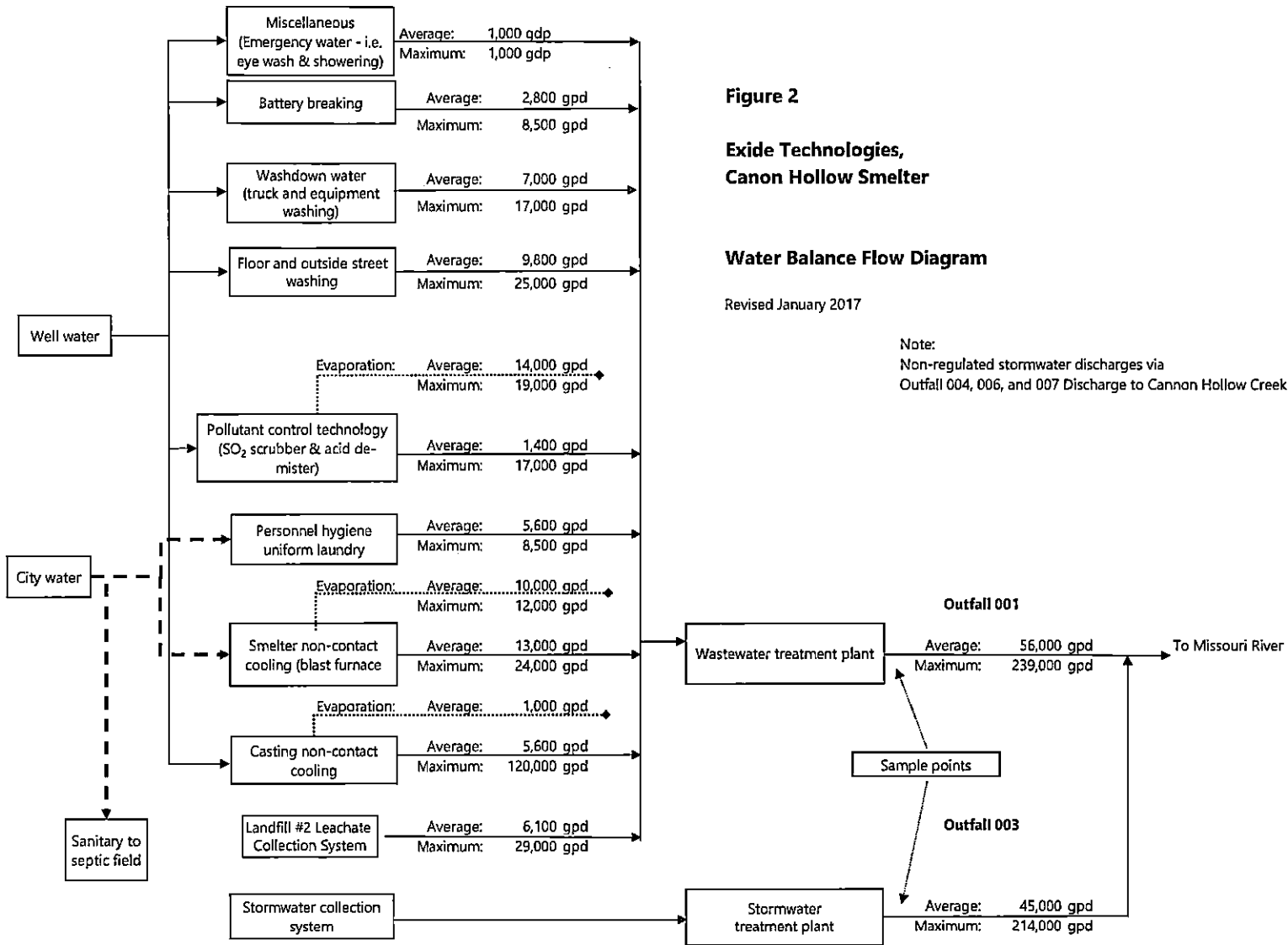
SIGNATURE

DATE SIGNED

1/31/2017

Figures





Attachment 1

Outfall Legal Descriptions

Attachment 1
Exide Technologies, Canon Hollow Smelter
NPDES Permit Renewal Application

Outfall Legal Descriptions

Form A. Part 7.1
Form C. Part 2.10

Outfall Name	¼ Section	¼ Section	Section	Township	Range	County
001	SW	NE	10	59N	39W	Holt County
003	SW	NE	10	59N	39W	
004	NW	SW	12	60N	39W	
005	NW	SW	12	60N	39W	
006	NW	SW	12	60N	39W	
007	SW	SW	12	60N	39W	

Attachment 2

Downstream Landowners

Attachment 2
Exide Technologies, Canon Hollow Smelter
NPDES Permit Renewal Application

Downstream Landowners

Form A. Part 10.

Landowner/Entity Name	Property Address	City	State	Zip Code	Applicable Downstream Waterbody
HBJ Farms Inc.	00000 Hwy 7	White Cloud	KS	66094	Missouri River (downstream of Outfall 001 and 003)
Brown Conservation Area	29561 Inlet Rd.	Forest City	MO	64451	Missouri River (downstream of Outfall 001 and 003)
Derr Lyle Farm Co.	25942 Hwy 111	Forest City	MO	64451	Canon Creek (downstream of Outfall 004, 006, and 007) ⁽¹⁾

Notes:

(1) Land owner is also downstream of Outfall 005, which is being requested to be removed in the reissued permit.

Attachment 3

Operations Contributing Wastewater to Effluent and Treatment Used

Attachment 3
Exide Technologies, Canon Hollow Smelter
NPDES Permit Renewal Application

OPERATIONS CONTRIBUTING WASTEWATER TO EFFLUENT AND TREATMENT USED

Form C. Part 2.40.B.

1. OUTFALL NO. (LIST)	2. OPERATION(S) CONTRIBUTING TO FLOW		TREATMENT	
	A. OPERATION (LIST)	B. AVERAGE FLOW (MAXIMUM FLOW)	A. DESCRIPTION	B. LIST CODES FROM TABLE A
Outfall 001	Battery breaking	2,800 gpd (8,500 gpd)	Chemical precipitation ⁽²⁾ Neutralization/pH adjustment Coagulation Settling/Clarification Filter press/Landfill of filtered solids Discharge to surface water ⁽³⁾	2-C 2-K 2-D 1-U 5-Q 4-A
	Washdown water from truck, and equipment washing	7,000 gpd (17,000 gpd)		
	Floor and outside street washing	9,800 gpd (25,000 gpd)		
	Pollutant control technology, including the SO ₂ scrubber, acid de-mister	1,400 gpd (17,000 gpd)		
	Personnel hygiene and uniform laundry	5,600 gpd (8,500 gpd)		
	Non-contact cooling water from smelter (blast furnace granulation water)	13,000 gpd (24,000 gpd)		
	Non-contact cooling water from casting	5,600 gpd (120,000 gpd)		
	Miscellaneous (includes emergency water from eye washing, showers, etc.)	1,000 gpd (1,000 gpd)		
	Landfill #2 Leachate Collection System (includes precipitation that falls on portions of hazardous waste landfill (Landfill 2), and slag pile ⁽¹⁾)	6,100 gpd (29,000 gpd)		

Attachment 3
Exide Technologies, Canon Hollow Smelter
NPDES Permit Renewal Application

OPERATIONS CONTRIBUTING WASTEWATER TO EFFLUENT AND TREATMENT USED

Form C. Part 2.40.B.

3. OUTFALL NO.	4. OPERATION(S) CONTRIBUTING TO FLOW	TREATMENT			
		(LIST)	B. OPERATION (LIST)	B. AVERAGE FLOW (MAXIMUM FLOW)	A. DESCRIPTION
Outfall 003	Stormwater derived from haul road leading to the landfills that reports to the stormwater collection basin	45,000 gpd (214,000 gpd)	Intermittent, depending precipitation and discharge volume from stormwater collection basin.	Settling in stormwater collection system	1-U
	Stormwater derived from up-gradient areas that reports to the stormwater collection basin			Chemical precipitation (magnesium hydroxide)	2-C
	Stormwater derived from paved areas in the main plant area that reports to the stormwater collection basin			Coagulation	2-D
Outfall 004	Stormwater flow from closed Landfill 1 and non-contact stormwater flow from capped areas of active Landfill 2	Intermittent, dependent upon precipitation	Filtration through vegetation	Filter press/Landfill of filtered solids	5-Q
				Discharge to surface water ⁽³⁾	4-A
Outfall 006	Stormwater runoff from vegetated portions of the site, west of the main plant area.	Intermittent, dependent upon precipitation	Filtration through vegetation	Discharge to surface water ⁽⁴⁾	4-A
				Discharge to surface water ⁽⁴⁾	4-A
Outfall 007	Stormwater runoff from vegetated portions of the site, south of the main plant area, including stormwater flow from closed battery case disposal area.	Intermittent, dependent upon precipitation	Filtration through vegetation	Discharge to surface water ⁽⁴⁾	4-A
				Discharge to surface water ⁽⁴⁾	4-A

Notes:

- (1) Stormwater that falls directly on the slag pile and Landfill 2 is treated as process water and is routed to the leachate collection system prior to reporting to the wastewater treatment plant.
- (2) Currently lime precipitation is used, but Exide plans to switch to magnesium oxide precipitation during permit term.
- (3) Discharge to Missouri River.
- (4) Discharge to Canon Creek.



Background Information for National Pollutant Discharge Elimination System (NPDES) Permit Renewal

Missouri State Operating Permit (MSOP) MO-0101702

Prepared for
Exide Technologies
Forest City, Missouri 64451

June 2017

Background Information for National Pollutant Discharge Elimination System (NPDES) Permit Renewal

June 2017

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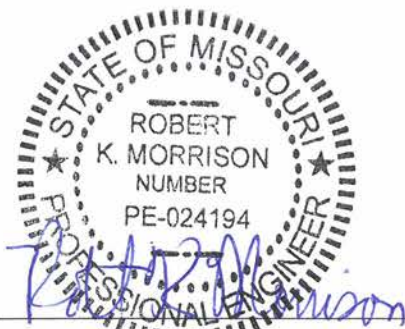
Figure 1	Facility Location Map
Figure 2	Water Balance Flow Diagram

List of Appendices, Attachments, or Exhibits

Appendix A	ELG-Based Effluent Limits
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Certifications

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Robert K Morrison

PE #: 24194

5/31/17

Date

1.0 Background

The purpose of this report is to provide water quality information in support of the renewal application for Exide Technology's (Exide) Canon Hollow Smelter's Missouri State Operating Permit (MSOP) (MO-0101702). The current permit, issued August 1, 2012, will expire on July 31, 2017.

1.1 Facility Description

Exide owns and operates the Canon Hollow Smelter, which is a secondary lead smelting plant located in Holt County, Missouri approximately four miles north of Forest City, Missouri. The plant recycles lead-acid storage batteries and other lead-bearing raw materials into new metallic lead pig and block ingots. A map of the plant location, including the property boundary and outfalls, is provided in Figure 1.

The plant site consist of an office, production and storage buildings, a wastewater treatment plant (WWTP), a baghouse/scrubber building, and a maintenance shop. The plant also has an onsite hazardous waste landfill, which stores treated slag and sludge. The plant property is approximately 600 acres. However, the plant operations, including the landfill, only occupy approximately 50 of those acres. Other than the area immediately surrounding the plant, most of the acreage is wooded. Land use of adjoining property includes farming and private recreational/residential use. The closest body of water is Canon Creek.

The WWTP consists of two separate treatment processes and is located in the plant area north of the office building. The WWTP treats industrial process water as well as portions of the site's stormwater in two separate treatment processes. The treatment process used to treat process water consists of lime precipitation, coagulation/settling, pH adjustment, and filtration. The treatment of stormwater consists of coagulation, settling, and filtration. Solids from the filter press are disposed of in the onsite landfill.

The WWTP primarily treats process wastewater from industrial activities, including cooling water used at the plant and wash-down water used for equipment and floors of the facility. Stormwater that falls on filled portions of the onsite hazardous waste landfill is collected in the leachate collection system and conveyed to the WWTP for treatment. Treated process wastewater is discharged into the Missouri River at Outfall 001.

Stormwater treated at the WWTP consists of runoff from industrial areas, which includes any runoff from paved areas in the main plant, the haul road leading to the landfills, and any other areas upgradient of the main plant and the haul road. Runoff is collected in the stormwater collection basin located southwest of the office building and pumped from the stormwater collection basin as needed to the WWTP to be treated in the stormwater treatment system by lime sedimentation. Treated stormwater is piped to the wet well of the effluent pump station and discharged at Outfall 003. Treated stormwater from Outfall 003 is combined with the treated process water of Outfall 001 at the effluent pump station prior to being discharged to the Missouri River.

Stormwater from the industrial areas that is not collected for treatment and does not come into contact with landfill waste is discharged directly through one of the facility stormwater outfalls (004, 005, 006, or 007). Table 1 summarizes the locations of facility outfalls, source of discharge, and receiving waters.

Table 1 Basic Outfall Information

Outfall	Source of Discharge	UTM	Receiving Water
001	Process Wastewater and Stormwater	X=306619, Y=4426487	Missouri River
003	Stormwater Treatment System	X=306619, Y=4426487	Missouri River
004	Stormwater	X=309588, Y=4433846	Canon Creek
005 ⁽¹⁾	Stormwater	X=309445, Y=4433850	Canon Creek
006	Stormwater	X=309276, Y=4433699	Canon Creek
007	Stormwater	X=309265, Y=4433384	Canon Creek
S1	Instream Monitoring – Canon Creek (Upstream)	X=309517, Y=4433977	NA
S2	Instream Monitoring – Canon Creek (Downstream)	X=309225, Y=4433258	NA

Notes:

- (1) Exide is requesting removal of Outfall 005 because it has not discharged stormwater and is unlikely to discharge stormwater. Refer to Section 1.2 for more information.

1.2 Sources of Wastewater and Flow Rate

A water balance flow diagram identifying all sources and flow rates of process wastewater at the facility was submitted in the permit renewal application. The flow diagram applies to Outfalls 001 and 003 and is included as Figure 2. The maximum design flow for Outfall 001 is 0.078 million gallons per day (MGD), while the average daily flow is 0.056 MGD. The maximum design flow for Outfall 003 is 0.138 MGD, while the average daily flow is 0.077 MGD. The maximum design flow was used in the calculation of effluent limitations. Flows from Outfalls 004-007 are dependent upon precipitation. Outfall 005, included in the facility’s current MSOP as a permitted stormwater outfall, has not discharged stormwater throughout the permit term. Visual monitoring of the outfall and surrounding watershed during storm events has shown that even under high volume runoff events it is highly unlikely that Outfall 005 would have enough flow to collect a sample of stormwater. For these reasons, Exide is requesting removal of Outfall 005. Table 2 outlines applicable flow information for each outfall.

Table 2 Outfall Sources and Flows

Outfall	Source of Discharge	Receiving Water	Design Flow	DMR Flows (2012-2016) ⁽¹⁾		
				Average ⁽²⁾	Maximum ⁽³⁾	Minimum ⁽⁴⁾
001	Process Wastewater and Stormwater	Missouri River	0.078 MGD	0.056	0.239 ⁽⁵⁾	0.019
003	Stormwater Treatment System	Missouri River	0.138 MGD	0.045	0.214 ⁽⁶⁾	0.0322
004	Stormwater	Canon Creek	⁽⁷⁾	0.0022	0.25	0.000008
005 ⁽⁸⁾	Stormwater	Canon Creek	⁽⁷⁾	No flow	No flow	No flow
006	Stormwater	Canon Creek	⁽⁷⁾	0.000015	0.0005	0.000014
007	Stormwater	Canon Creek	⁽⁷⁾	0.00027	0.00127	0.000014

Notes:

- (1) Data range is August 2012 through November 2016.
- (2) Average values reported are the average of the monthly average flows from discharge monitoring reports (DMRs) for the specified date range.
- (3) Maximum values reported are the maximum of the daily maximum flow from DMRs for the specified date range.
- (4) Minimum values reported are the minimum of the monthly average flow from DMRs for the specified date range.
- (5) The maximum flow value reported on DMRs during the data range was 0.54 MGD in November 2013. This flow was reported in error; the maximum flow for November 2013 was 0.107 MGD.
- (6) The maximum flow value reported on DMRs during the data range was 2.11 MGD in September 2012. This flow was reported in error and removed from the data set.
- (7) Flow is dependent upon precipitation.
- (8) Exide is requesting removal of Outfall 005 because it has not discharged stormwater and is unlikely to discharge stormwater. Refer to Section 1.2 for more information.

1.3 Pollutants of Concern (POC)

Pollutants that are likely to be present in the discharge and are regulated by the Missouri Department of Natural Resources (MDNR) under 10 CSR 20-7.031 have been identified as POC based on sampling conducted as part of permit reissuance.

The following POC have been identified for Outfalls 001 and 003:

- Sulfate
- Ammonia as N
- Antimony, total
- Arsenic, total
- Cadmium, total
- Chromium VI
- Copper, total

-
- Lead, total
 - Selenium, total
 - Zinc, total

The following POC have been identified for Outfalls 004, 006, and 007:

- Lead, total
- Zinc, total

Table 3 outlines the water quality criteria (WQC) for each of these pollutants and provides an explanation for their applicability to the receiving water body and the permitting process. For pollutants identified as POC that have had sample results equal to or greater than 70 percent of the WQC or waste load allocation (WLA), a reasonable potential analysis (RPA) has been completed to further assess the pollutants' impact on the receiving water body (where sufficient data exists).

1.3.1 Parameters Determined not to be POC

Some of the parameters listed in the permit application (Forms C and D), but not listed as POC, have sample results above detection limits. For the purpose of this permit renewal, these additional parameters were not considered POC; therefore, no RPA or calculation of water quality-based effluent limitations (WQBEL) has been conducted. In addition, no monitoring of these parameters is proposed. The basis for this determination is that the sample results met one or more of the following criteria:

- The parameter is not a chemical or constituent that is managed onsite at this facility.
- The sample results were significantly below the WQC and/or the WLA for the Missouri River.
- Insufficient sample results exist to conduct an RPA.
- No Missouri WQC exists (i.e., molybdenum, magnesium).

2.0 Receiving Water Information

This section will identify the water body classifications, WQC, background water quality data, and low-flow evaluations of the receiving waters. As detailed in Table 1, the facility discharges to two receiving waters, Canon Creek and the Missouri River. Outfalls 001 and 003 discharge to the Missouri River (WBID 0226) via a pipe. Outfalls 004, 005, 006, and 007 discharge to Canon Creek (unclassified), which flows to the south to Kimsey Creek (WBID 0262) approximately 4.7 miles downstream from the plant. Kimsey Creek continues to flow to the south for 0.7 mile before it enters the Missouri River.

2.1 Water Body Classifications/Designated Beneficial Use

Canon Creek is an unclassified water body with no designated uses; however, Kimsey Creek at the confluence with Canon Creek is a Class P water body with designated uses of warm water aquatic life and human health-fish consumption (AQL), livestock and wildlife watering (LWW), and whole body contact recreation Class B (WBC).

The Missouri River is a Class P water body with designated uses of AQL, LWW, WBC Class B, irrigation (IRR), secondary contact recreation (SCR), drinking water supply (DWS), and industrial (IND).

2.2 Water Quality Criteria (WQC)

2.2.1 Numeric Criteria

Numeric criteria are established in Table A of 10 CSR 20-7.031 and are used for the calculation of WQBEL for the facility. Table 3 outlines the applicable numeric WQC for the POC identified in Section 1.3. Table 4 lists the calculated WQC for hardness-dependent metals for the protection of aquatic life. Site-specific hardness for the Missouri River (266 mg/L) and Canon Creek (387 mg/L) were used to determine hardness-dependent metals criteria.

Table 3 Numeric WQC

POC	Units	Protected Use						Citation
		AQL ⁽⁴⁾		HHF	DWS	IRR	LWW	
		CMC ⁽²⁾	CCC ⁽³⁾					
Ammonia (as N) ⁽⁵⁾	mg/L	4.7 winter 5.7 summer	1.5 winter 1.1 summer	-	-	-	-	Tables B1 and B3
Antimony	µg/L	-	-	4,300	6	-	-	Table A
Arsenic	µg/L	-	20	-	50	100	-	Table A
Cadmium	µg/L	(1)	(1)	-	5	-	-	Table A
Chromium VI	µg/L	15	10	-	-	-	1,000	Table A
Copper	µg/L	(1)	(1)	-	1,300	-	500	Table A
Lead	µg/L	(1)	(1)	-	15	-	-	Table A
pH	SU	6.5-9.0						10 CSR 20-7.031(5)(E)
Selenium	µg/L	-	5	-	50	-	-	Table A
Chloride + Sulfate	mg/L	-	-	-	1,000	-	-	10 CSR 20-7.031(4)(L) ⁽⁶⁾
Zinc	µg/L	(1)	(1)	-	5,000	-	-	Table A

Notes:

- (1) Criteria is dependent upon site-specific hardness calculations. Refer to Table 4 for calculated hardness-dependent criteria.
- (2) Criteria maximum concentration (acute).
- (3) Criteria continuous concentration (chronic).
- (4) Metals criteria for AQL are dissolved. Metals criteria for all other uses are total.
- (5) Criteria derived from pH and temperature data from USGS Gage 06818000 at St. Joseph on the Missouri River for Outfall 001 and 003.
- (6) Citation based upon the May 31, 2010 Code of State Regulations.

Table 4 Hardness-Dependent AQL Criteria by Water Body

POC	Units	Missouri River Outfalls 001 and 003		Canon Creek Outfalls 004, 005, 006, and 007	
		CMC ⁽²⁾	CCC ⁽³⁾	CMC	CCC
Cadmium	µg/L	12.3	0.50	17.7	0.63
Copper	µg/L	34	21	48	28
Lead	µg/L	184	7.0	271	11
Zinc	µg/L	269	269	370	370

Notes:

- (1) Criteria were calculated using a site-specific hardness of 266 mg/L for the Missouri River and site-specific hardness of 387 mg/L for Canon Creek. Site-specific hardness values are calculated using the 25th percentile as defined in 10 CSR 20-7.030(1)(BB).
- (2) Criteria maximum concentration (acute).
- (3) Criteria continuous concentration (chronic).
- (4) Metals criteria for AQL are dissolved.

2.2.2 Narrative Criteria

All waters of the state in Missouri are subject to narrative WQC as outlined in 10 CSR 20-7.031(4)(D). The narrative criteria states that surface waters shall be free from substances in sufficient amounts that would degrade the aesthetic value, degrade the aquatic habitat, or negatively impact uses of the water by public water supplies, industries, agriculture, plant life, or wildlife. The narrative criteria also prohibits substances that produce offensive odor or unsightly color that would "prevent full maintenance of beneficial uses." Discharges from Exide have not led to degradation of any of the narrative criteria, and thus support the attainment of narrative standards within the receiving waters.

2.2.3 Special Protections

Canon Creek has no known impairments or special protections as outstanding resource water, cold-water fishery, or other applicable categories.

There are no known special protections for the Missouri River at the proposed discharge location. However, a total maximum daily load (TMDL) has been completed for the entire length of the river in Missouri that spans from Atchison County to St. Louis County (WBIDs 00226, 00356, 00701, and 01604) (MDNR, 2006). The MDNR determined these segments of the Missouri River to have an impaired use of aquatic life protection and human health fish consumption. These Missouri River segments have fish tissue sampling data that indicates that the concentration of polychlorinated biphenyls (PCBs) and chlordane exceeds criteria established for the protection of human health. The existing discharges from Exide are not anticipated to contribute to the impairment for PCBs and chlordane.

2.3 Background Water Quality Data

Table 5 Receiving Water Quality Data – Missouri River

POC	Units	Missouri River ⁽¹⁾		
		Average	Maximum	Minimum
Ammonia, winter	mg/L	0.09	0.66	0.005
Ammonia, summer	mg/L	0.03	0.29	0.005
Antimony ⁽³⁾	µg/L	No data available.		
Arsenic	µg/L	3.15	5.8	1.6
Cadmium	µg/L	0.185	1.06	0.044
Chromium VI ⁽³⁾	µg/L	No data available.		
Copper	µg/L	1.81	8.6	0.83
Lead	µg/L	6.12	71	0.33
pH ⁽²⁾	SU	8.2	8.7	6.7
Selenium	µg/L	2.68	4.0	0.46
Chloride + sulfate	mg/L	169	259	16
Zinc	µg/L	17.7	115	2.9

Notes:

(1) Missouri River water quality data is from USGS Gage 06818000 at St. Joseph from January 2000 through October 2016.

(2) The pH "Average" value is the median of the data set since these values should not be averaged.

(3) No nearby or recent data was available for this parameter. For the purpose of the WLA, half of the detection limit was used.

Table 6 Receiving Water Quality Data – Canon Creek

POC	Units	Canon Creek – S1 ⁽¹⁾			Canon Creek – S2 ⁽²⁾		
		Average	Maximum	Minimum	Average	Maximum	Minimum
Lead	µg/L	3.29	21.3	0.050	22.7	462	0.8
pH ⁽³⁾	SU	7.8	8.5	7.0	8.0	8.6	6.7
Selenium	µg/L	2.4	15	0.2	3.83	20	0.05
Zinc	µg/L	4.96	14.5	1.5	5.19	12.1	1.1

Notes:

(1) Water quality data is based on DMRs, January 2012–December 2016, from the upstream instream monitoring location S1.

(2) Water quality data is based on DMRs, January 2012–December 2016, from the downstream instream monitoring location S2.

(3) The pH "Average" value is the median of the data set since these values should not be averaged.

2.4 Low-Flow Evaluation

Flow values used to calculate the WLAs were derived using data from USGS Gage 06813500 at Rulo, NE for the Missouri River. Low-flow statistics were obtained using this data with the United States Environmental Protection Agency's (USEPA) DFlow program. Results of this analysis are shown in Table 7. Only the most recent 15 years of data were used for this calculation because of the long period of record

for this gage. The basis for this is that modifications to the US Army Corps of Engineers' operation of the Missouri River and changes in watershed runoff conditions cause an older data set to be less representative of current low-flow conditions. It should also be noted that the current permit cites the use of flow data from Gavin's Point as the basis for low flow. Flow measurements at Gavin's Point would not be representative of flow conditions near Outfalls 001 and 003 on the Missouri River.

Table 7 Low-Flow Analysis Results

Statistic ⁽¹⁾	Missouri River	
	Cubic Feet per Second (CFS)	Gallons per Minute (GPM)
1Q10	14,000	6.28x10 ⁶
2Q10	14,300	6.41 x10 ⁶
3Q10	14,600	6.55 x10 ⁶
7Q10	16,200	7.27 x10 ⁶
10Q10	17,000	7.63 x10 ⁶
30Q10	17,900	8.03 x10 ⁶
60Q10	18,400	8.25 x10 ⁶

Notes:

- (1) "Statistic" is defined as the average low flow occurring "[duration in days] Q [recurrence interval in years]". For example, 7Q10 represents the lowest 7-day average flow occurring once every 10 years.
- (2) Calculations were performed using the USEPA's DFlow program with data from USGS Gage 06813500 at Rulo, NE for the Missouri River.

3.0 Effluent Limitation Guidelines (ELG)

Process wastewater discharges from Outfall 001 are subject to the ELG under 40 CFR 421, Subpart M – Secondary Lead Subcategory. The secondary lead ELG establishes effluent limits in terms of maximum daily and average monthly limits (AMLs) for applicable pollutants, including antimony, arsenic, lead, zinc, ammonia (as N), total suspended solids (TSS), and pH. The limits are divided into those attainable by best practicable control technology (BPT) and best available technology (BAT) economically achievable. These categories were established by the USEPA based on a review of the best technologies available, the technologies currently employed by secondary lead manufacturers, and the economic feasibility of the technologies. Technologies can include in-plant controls as well as end-of-manufacturing controls. The applicability of BPT and BAT for Outfall 001 was evaluated, and it was determined BAT is applicable to the facility. BAT is generally established by three treatment schemes identified by the USEPA for existing facilities (Options A, B, and C). Exide’s current treatment scheme is consistent with Option C, which includes in-process flow reduction, precipitation, sedimentation, and multimedia filtration. BAT includes limits for antimony, lead, zinc, and ammonia; however, Exide proposes the inclusion of mass-based limits for TSS based on BPT effluent limits.

ELG limitations from BPT and BAT were developed using a “building block” approach, as outlined in the USEPA’s *Guidance Document for Development of ELG and Standards for Non-Ferrous Metals Manufacturing Point Source Category*, Volume I (USEPA 1989a). Mass-based effluent limits are calculated based on eleven activities identified by the USEPA as potential sources of process wastewater (see Table 8). A pollutant load is allocated to each of the wastewater streams, which are then normalized using applicable production rates. The sum of these activities/streams results in the applicable effluent limitation. The following table outlines the applicability for Parts (a)-(k) of Subpart M. It also identifies the applicable production rate for each effluent limitation.

Table 8 ELG Applicability Summary

40 CFR 421.132	Applicable (Yes/No)	Applicable Production Rate
(a) Battery Cracking	Yes	Lead scrap production
(b) Blast, Reverberatory, or Rotary Furnace Wet Air Pollution Control	Yes	Lead produced from smelting
(c) Kettle Wet Air Pollution Control	Yes	Lead produced from refining
(d) Lead Paste Desulfurization	No	Lead processed through desulfurization
(e) Casting Contact Cooling	Yes	Pounds of lead cast
(f) Truck Wash	Yes	Lead produced from smelting
(g) Facility Washdown	Yes	Lead produced from smelting
(h) Battery Case Classification	Yes	Lead scrap production
(i) Employee Hand Wash	Yes	Lead produced from smelting
(j) Employee Respirator Wash	Yes	Lead produced from smelting
(k) Laundering Uniforms	Yes	Lead produced from smelting

If an activity that contributes to wastewater is not accounted for in the 11 categories identified by the USEPA, it may be incorporated into the effluent limits using best professional judgment (BPJ) and the building block approach. Exide proposes the addition of mass-based limits for landfill leachate, which is generated by the onsite landfill and treated in the WWTP prior to discharge through Outfall 001. Using the building block approach outlined in Volume I of the ELG guidance document, the values in Table VII-21 for Treatment Scheme C (lime softening and filtration [LS&F]) can be applied to the daily maximum landfill leachate flow treated at the facility WWTP (USEPA 1989a). More detail on these calculations and the results of all ELG-based limits are included in Section 4.1 of this report.

4.0 Calculation of Effluent Limits

The following subsections outline the calculations of WQBEL.

4.1 Effluent Limit Guidelines-Based Effluent Limits

Outfall 001 mass-based effluent limits for antimony, arsenic, lead, zinc, and TSS are based on the ELG previously discussed in Section 3.0 of this report. Average monthly and maximum daily effluent limits are calculated by multiplying the applicable production values by the specified rates included in the tables of 40 CFR 421.132. The effluent limit is the sum of all applicable subparts and is given as a mass loading (lbs/day). Table 9 outlines the production values used in the ELG calculations, as well as the source of data.

Table 9 Production Rates Associated with ELG

Applicable Production Rate	40 CFR 421.132	Production Value	Source
Lead scrap production	(a) and (h)	24,667 tons/yr	Average annual value from 2014-2016 for tons of batteries broken, assuming 60 percent of total weight is lead scrap.
Lead produced from smelting	(b), (f), (g), (i), (j), and (k)	59,035 tons/yr	Average of production values from 2012, 2014, and 2015 emissions inventory questionnaire (EIQ) calculations multiplied by the production to charge ratio of 1.498.
Lead produced from refining	(c)	39,409 tons/yr	Average of production values from 2012, 2014, and 2015 EIQ calculations.
Lead processed through desulfurization	(d)	Not applicable.	
Pounds of lead cast	(e)	39,409 tons/yr	Average of production values from 2012, 2014, and 2015 EIQ calculations.
Non-scope flow/landfill leachate flow to WWTP	BPJ	20,571 gpd	Average of maximum daily values from 2015 and 2016.

Appendix A of this report includes the spreadsheets used to calculate the ELG-based effluent limits. BAT was applied for antimony, arsenic, lead, and zinc. However, BPT was used for TSS, as there is no BAT value for TSS. Table 10 includes the total production-based effluent limits for all applicable pollutants.

The ammonia ELG is not applicable to Exide because ammonia is not used in this facility for pH control. The technology-based effluent limit was developed to discourage the use of ammonia for pH control. However, ammonia is generated (likely from nitrogen in the air and reducing conditions) and captured by scrubbers. This results in very low but detectable levels of ammonia in the effluent. Because the detection of ammonia is not a result of the industrial process and no ammonia is kept onsite, technology-based limits do not apply.

Table 10 ELG-Based Proposed Effluent Limits

Pollutant	Building Blocks (a)-(k) (lbs/day)		Non-Scope/BPJ Landfill Leachate (lbs/day)		Total (lb/day)	
	Max Daily	Max Monthly Average	Max Daily	Max Monthly Average	Max Daily	Max Monthly Average
Antimony	1.97	0.878	0.331	0.130	2.30	1.01
Arsenic	1.42	0.582	0.239	0.094	1.658	0.677
Lead	0.286	0.133	0.048	0.019	0.334	0.152
Zinc	1.04	0.429	0.175	0.053	1.22	0.48
Ammonia (as N)	0	0	22.9	8.94	22.9	8.94
TSS	30.9	14.7	2.56	1.72	33.4	16.4

4.2 Water Quality-Based Effluent Limits (WQBEL)

4.2.1 Calculating WLAs for POC

An RPA was conducted for each of the POC (listed in Section 1.3) at Outfall 001 and 003. The results of the RPA are listed in Table 11. From this analysis, only one parameter at Outfall 003, cadmium, has a calculated receiving water concentration (RWC) with reasonable potential to exceed WQC, given mixing considerations on the Missouri River. WQBEL for cadmium at Outfall 003 are listed in Table 15. At Outfall 001, selenium is currently listed in the MSOP with WQBEL; although the analysis shows that no reasonable potential exists to exceed WQC, revised WQBEL for selenium were calculated and listed in Table 14.

For selenium at Outfall 001 and cadmium at Outfall 003, WLAs were calculated for the Missouri River. Calculations were based on the WQC as outlined in Tables 3 and 4. Both acute and chronic WLAs were calculated through mass balance equations, taking into account the existing concentration of the POC in the receiving stream (Table 5), the receiving stream flow (Table 7), and the design flow of Outfall 001 and 003.

For the Missouri River, the mixing zone used was one-quarter the volume of flow, and the ZID was limited to ten times the facility design flow (10 CSR 20-7.031(5)(A)4.B.(III)).

Table 11 RPA Results for POC at Outfall 001 and 003

Parameter	Units	Outfall	CMC	RWC Acute	CCC	RWC Chronic(1)	Reasonable Potential
Arsenic, total	ug/L	Outfall 001	(2)	—	20	3.2	NO
		Outfall 003		—		—	NO
Antimony, total	ug/L	Outfall 001	(2)	—	6	4.0	NO
		Outfall 003		—		—	NO
Cadmium, total	ug/L	Outfall 001	12.3	8.2	0.48	0.19	NO
		Outfall 003		28.9		—	YES
Chromium VI	ug/L	Outfall 001	15	4.0	10	2.0	NO
		Outfall 003		4.1		—	NO
Copper, total	ug/L	Outfall 001	33.7	3.1	20.6	3.1	NO
		Outfall 003		12.6		—	NO
Lead, total	ug/L	Outfall 001	184	81	7.16	6.15	NO
		Outfall 003		159		—	NO
Zinc, total	ug/L	Outfall 001	269	94.6	269	17.7	NO
		Outfall 003		40.4		—	NO
Selenium, total	ug/L	Outfall 001	(2)	—	5	2.7	NO
		Outfall 003		—		—	NO
Chloride + sulfate	mg/L	Outfall 001	(2)	—	1000	169.6	NO
		Outfall 003		—		—	NO
Ammonia as N	mg/L	Outfall 001, summer	5.70	1.65	1.10	0.060	NO
		Outfall 003, summer		0.741		—	NO
		Outfall 001, winter	4.70	1.65	1.50	0.060	NO
		Outfall 003, winter		0.741		—	NO

Notes:

- (1) Chronic criteria does not apply to Outfall 003 since it is dependent on precipitation and is not a continuous discharge; therefore, no chronic RWC was calculated for Outfall 003.
- (2) No acute criteria exists for this parameter.

4.2.2 Calculating Long-Term Average (LTA)

The LTA is calculated as the WLA for chronic or acute multiplied by the LTA multiplier. For the Missouri River, the multipliers for selenium and cadmium are outlined in Table 12.

Table 12 LTA Multipliers

Multiplier	Selenium Outfall 001	Cadmium Outfall 003
Acute LTA	0.380	0.134
Chronic LTA	0.589	0.243

Notes:

(1) There is no acute WQC for selenium; therefore, WLAs used to calculate the maximum daily limits (MDL) and AML are based on the lowest of the chronic criteria and the chronic LTA multiplier.

4.2.3 Calculating AMLs and MDLs

The following sections outline the methods used to calculate the AMLs and MDLs for Canon Creek and the Missouri River.

4.2.3.1 AML and MDL Multipliers

The AML and MDL are both calculated by multiplying the smallest LTA value (chronic or acute) by the AML or MDL multiplier. For the Missouri River, the AML and MDL multipliers for selenium and cadmium are shown in Table 13.

Table 13 AML and MDL Multipliers

Multiplier	Selenium Outfall 001	Cadmium Outfall 003
AML	1.44	2.52
MDL	2.63	7.46

4.2.3.2 AML and MDL Calculations

The results of the effluent limitation calculations are outlined in the tables below. Note, currently certain parameters are “monitoring only” at each outfall. Calculation of hypothetical effluent limitations for these parameters is for planning purposes only, and it is not intended to suggest that effluent limits are needed for the parameters.

Mixing zone considerations for the Missouri River were used to determine reasonable potential and WQBEL. The Missouri River flows used for this calculation were derived using low-flow statistics from the USEPA’s DFlow program using flow data from the USGS Gage 06813500 at Rulo, NE on the Missouri River. The results of this analysis are listed in Table 7.

Table 14 Outfall 001 Effluent Limitations

POC	Units	MSOP Effluent Limits		Calculated Effluent Limits	
		MDL	AML	MDL	AML
Flow	MGD	(1)	(1)	(1)	(1)
Ammonia as N, summer	mg/L	(1)	(1)	(4)	(4)
Ammonia as N, winter	mg/L			(4)	(4)
Antimony, total	lbs/day	1.71	0.76	(4)	(4)
Arsenic, total	lbs/day	1.23	0.51	(4)	(4)
Cadmium, total	mg/L	(1)	(1)	(4)	(4)
Chromium VI, total	mg/L	(1)	(1)	(4)	(4)
Copper, total	mg/L	(1)	(1)	(4)	(4)
Lead, total	lbs/day	0.249	0.115	(4)	(4)
pH, Minutes of excursion ⁽²⁾ per month	minutes	-	446	-	446
pH, Excursions ⁽²⁾ lasting more than 60 minutes per month	number	-	0	-	0
Selenium, total	mg/L	39	20	121 ⁽⁴⁾	66 ⁽⁴⁾
Sulfate as SO ₄ plus chlorides	mg/L	(1)	(1)	(4)	(4)
TSS	lbs/day	36.4	17.3	NA ⁽³⁾	NA ⁽³⁾
Zinc, total	lbs/day	0.91	0.37	(4)	(4)

Notes:

- (1) Parameter is monitoring only.
- (2) A pH "excursion" is any value that falls outside the range of 6.5 to 9.0 SU.
- (3) "NA" indicates that the calculation of an effluent limit was not necessary, as the effluent limits are predetermined and not variable.
- (4) Analysis resulted in no reasonable potential to exceed the WQC for this parameter.

Table 15 Outfall 003 Effluent Limitations

POC	Units	MSOP Effluent Limits		Calculated Effluent Limits	
		MDL	AML	MDL	AML
Flow	MGD	(1)	(1)	(1)	(1)
Ammonia as N, summer	mg/L	(1)	(1)	(4)	(4)
Ammonia as N, winter	mg/L			(4)	(4)
Antimony, total	mg/L	(1)	(1)	(4)	(4)
Arsenic, total	mg/L	(1)	(1)	(4)	(4)
Cadmium, total	mg/L	(1)	(1)	0.15	0.050
Chromium VI, total	mg/L	(1)	(1)	(4)	(4)
Copper, total	mg/L	(1)	(1)	(4)	(4)
Lead, total	mg/L	(1)	(1)	(4)	(4)
pH, Minutes of excursion per month	minutes	–	446	–	446
pH, Excursions lasting more than 60 minutes per month	number	–	0	–	0
Selenium, total	mg/L	(1)	(1)	(4)	(4)
Sulfate as SO ₄ plus chlorides	mg/L	(1)	(1)	(4)	(4)
TSS	mg/L	41	16	NA ⁽³⁾	NA ⁽³⁾
Zinc, total	mg/L	(1)	(1)	(4)	(4)

Notes:

- (1) Parameter is monitoring only.
- (2) A pH “excursion” is any value that falls outside the range of 6.5 to 9.0 SU.
- (3) “NA” indicates that the calculation of an effluent limit was not necessary, as the effluent limits are predetermined and not variable.
- (4) Analysis resulted in no reasonable potential to exceed the WQC for this parameter.

Table 16 Outfalls 004, 005, 006, and 007 Effluent Limitations

POC	Units	MSOP Effluent Limits		Benchmarks
		MDL	AML	MDL
Flow	MGD	(1)		–
Lead, total	µg/L	(1)	(1)	271
Settleable solids	mL/L/hr	(1)	(1)	2.5
TSS	mg/L	(1)	(1)	100
Zinc, total	µg/L	(1)	(1)	369

Notes:

- (1) Parameter is monitoring only.

5.0 Industrial Stormwater

As mentioned in Section 1.1, stormwater treated at the WWTP consists of runoff from industrial areas, which includes any runoff from paved areas in the main plant, the haul road leading to the landfills, and any other areas upgradient of the main plant and the haul road. Runoff is collected in the stormwater collection basin located southwest of the office building and treated by sedimentation. Water is pumped from the basin as needed to the WWTP to be treated in the stormwater treatment system. Treated stormwater is piped to the wet well of the effluent pump station and discharged at Outfall 003. Treated stormwater from Outfall 003 is combined with the treated process water of Outfall 001 at the effluent pump station prior to being discharged directly to the Missouri River.

Stormwater from the industrial areas that is not collected for treatment and does not come in contact with landfill waste is discharged directly through one of the facility stormwater outfalls (004, 005, 006, and 007). Table 1 summarizes the locations of facility outfalls, source of discharge, and receiving waters.

5.1 Stormwater Pollution Prevention Plan (SWPPP)

The facility's SWPPP identifies sources of potential stormwater pollutants for the facility, stormwater runoff flow patterns, and best management practices (BMPs) to control the pollutants contained in the runoff for the facility. The BMPs utilized at the facility are intended to control, treat, and reduce pollutants contained in stormwater runoff discharged from the facility outfalls to concentrations that are protective of the WQC of the receiving water body.

5.2 Sampling of Stormwater

By design, much of the stormwater runoff from the active operational portion of the facility is collected, treated in the facility's WWTP, sampled, and then discharged via Outfall 003 to the Missouri River.

For the other industrial stormwater outfalls (004, 005, 006, and 007), the facility analyzed each outfall that had a recorded discharge during the permit period for a list of pollutants. The results of the analysis are summarized below in Table 17. Concentrations of benchmark parameters indicate that sufficient BMPs and stormwater management processes are in place for Outfall 006. However, for Outfalls 004 and 007, the results indicate that additional assessment of the source of pollutants within the drainage area of each outfall is needed along with the implementation of additional BMPs.

Table 17 Typical Stormwater Benchmark Limits and Facility Sampling Results

Parameter	Outfall 004 Sampling Results		Outfall 006 Sampling Results		Outfall 007 Sampling Results		Typical Benchmark Limits ⁽¹⁾
	Average	Maximum	Average	Maximum	Average	Maximum	
TSS (mg/l)	279	742	77	134	187	545	100
Settleable solids (mL/L/hr)	0.4	1.3	0.2	0.2	0.7	2.8	2.5
Lead, total recoverable (ug/l)	119	450	47	74	293	1250	271
Zinc, total recoverable (ug/l)	44	98	9	15	60	169	369

Notes:

(1) Benchmark limits are daily maximum and based upon the CMC or effluent limits from other MSOPs.

(2) Data averages and maximums were calculated from DMRs, January 2012 through December 2016.

Additional sampling results were summarized on Form C of the permit renewal application and the laboratory reports were included in Attachment 7 of the permit renewal application.

5.3 Stormwater Benchmarks

The facility’s SWPPP and BMPs have been successful and are capable of treating stormwater to meet permit benchmarks as evidenced by the results for Outfall 006. For Outfalls 004 and 007, Exide will be conducting an evaluation of the source of pollutants within the respective drainage areas and implementing BMPs that are designed to reduce the pollutants in the runoff. Exide expects to focus our efforts on treating the first flush of stormwater, which is expected to contain the highest levels of pollutants.

Exide expends a significant amount of resources to collect and treat the first flush; sometimes Exide treats the entire rainfall event and always treats stormwater accumulated in secondary containment areas of tanks and unloading pads from the active operational area of the facility. Overall, Exide believes that the collection and treatment of stormwater runoff from the active operational area accounts for a significant portion of the pollutants that have the potential to be discharged from the facility. Exide is confident that additional analysis of the source of pollutants in the drainage areas of Outfalls 004 and 007 coupled with implementation of additional BMPs will result in reduction of pollutants to levels that are at or below benchmark values. This will help ensure that stormwater discharges are protective of the state’s WQC; thus, are functioning to protect beneficial uses of the receiving water bodies.

Exide proposes that sampling continue to occur on a monthly basis for Outfall 003 and a quarterly basis for Outfalls 004, 006, and 007 in the reissued MSOP. At Outfall 003, an analysis showed that cadmium has reasonable potential to exceed WQC for the Missouri River. As a result, Exide plans to examine and evaluate BMPs and cadmium sampling data for any issues or improvements that can be made. With the exception of the consideration of cadmium at Outfall 003, Exide recommends the same effluent limits/benchmark parameters as those included in the current MSOP issued on August 1, 2012.

6.0 Summary

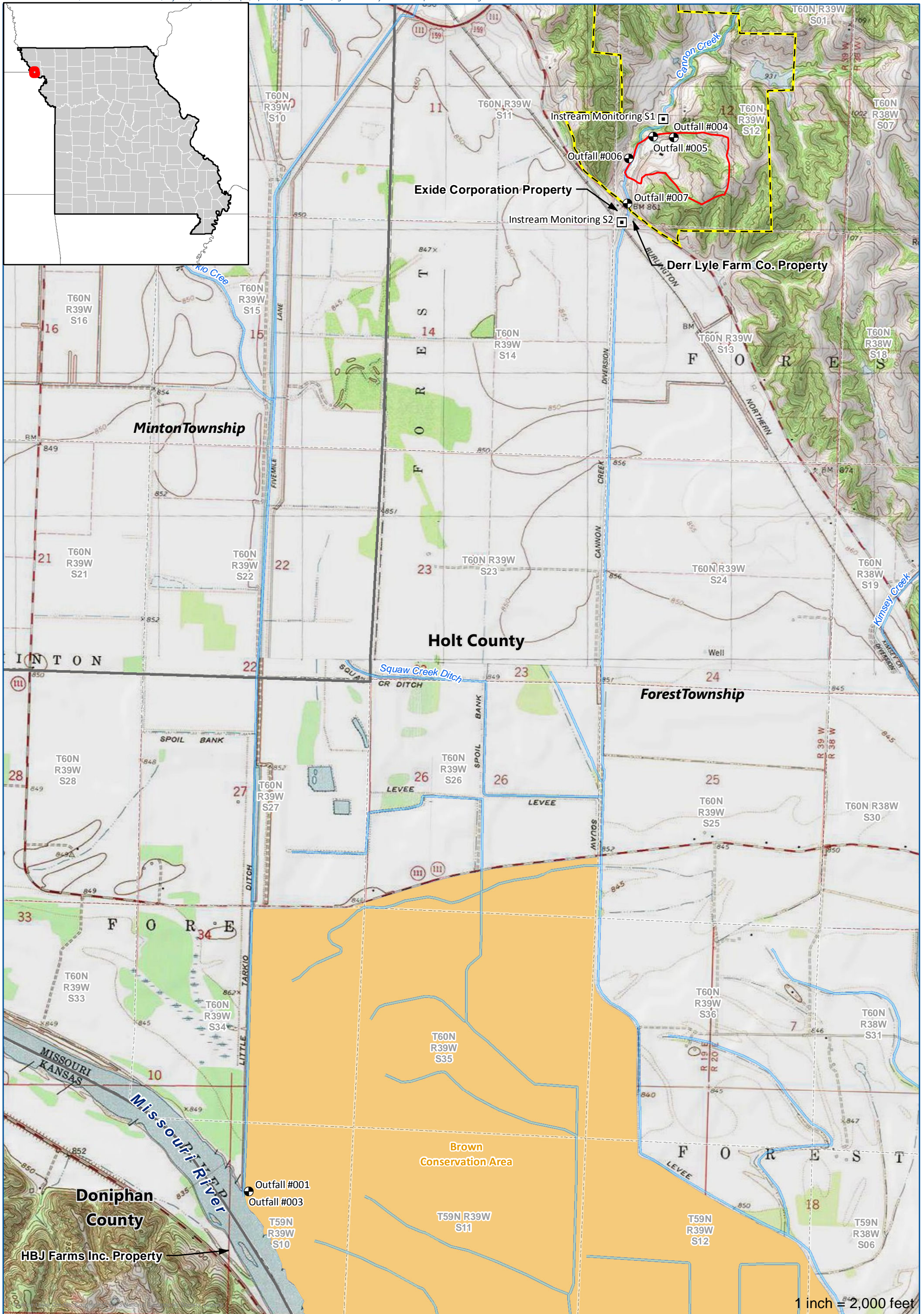
This section includes a high-level summary of Exide's proposed changes to the active, existing MSOP issued on August 1, 2012 as described within this background information document and the permit renewal application. The following list summarizes Exide's proposed additions, revisions, and changes:

- The WQBEL for selenium at Outfall 001 were revised based upon new low-flow data obtained from the USGS Gage 06813500 located near Rulo, NE on the Missouri River. A summary of these calculations are located in Table 14 in Section 4.2.3.2.
- WQBEL were calculated (see Table 15) for cadmium at Outfall 003 as a result of the RPA from the last five years of DMR data. Two exceptionally high (an order of magnitude above other data) data points are driving the analysis results. The addition of water quality based limits in the MSOP renewal may not be necessary should it be determined from a lab report review that these DMRs contained errors and no reasonable potential actually exists.
- Exide requests the removal of Outfall 005 from the MSOP. This discussion is included in Section 1.2.
- The mass-based effluent limits from the ELG at 40 CFR Part 421 Subpart M have been recalculated based upon revised production values, revised applicable effluent loading factors, and by the inclusion of (through BPJ) non-scope flows from the landfill leachate. The ELG mass-based limits are listed in Table 10.

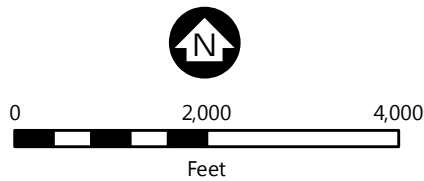
7.0 References

- MDNR, 2006. Total Maximum Daily Loads for Chlordane and Polychlorinated Biphenyls in the Missouri River. Missouri Department of Natural Resources, Water Protection Program. October 5, 2006. <https://dnr.mo.gov/env/wpp/tmdl/docs/0226-0356-0701-1604-missouri-r-tmdl.pdf>. Accessed January 11, 2017.
- USEPA, 1989a. *Guidance Document for Development of ELG and Standards for Non-Ferrous Metals Manufacturing Point Source Category*, Volume I. EPA 440/1-89-019.1. United States Environmental Protection Agency Office of Water. May 1989.
- USEPA, 1989b. *Nonferrous Metals Manufacturing Point Source Category Development Document Supplement for the Secondary Lead Subcategory*. United States Environmental Protection Agency Office of Water. May 1989.

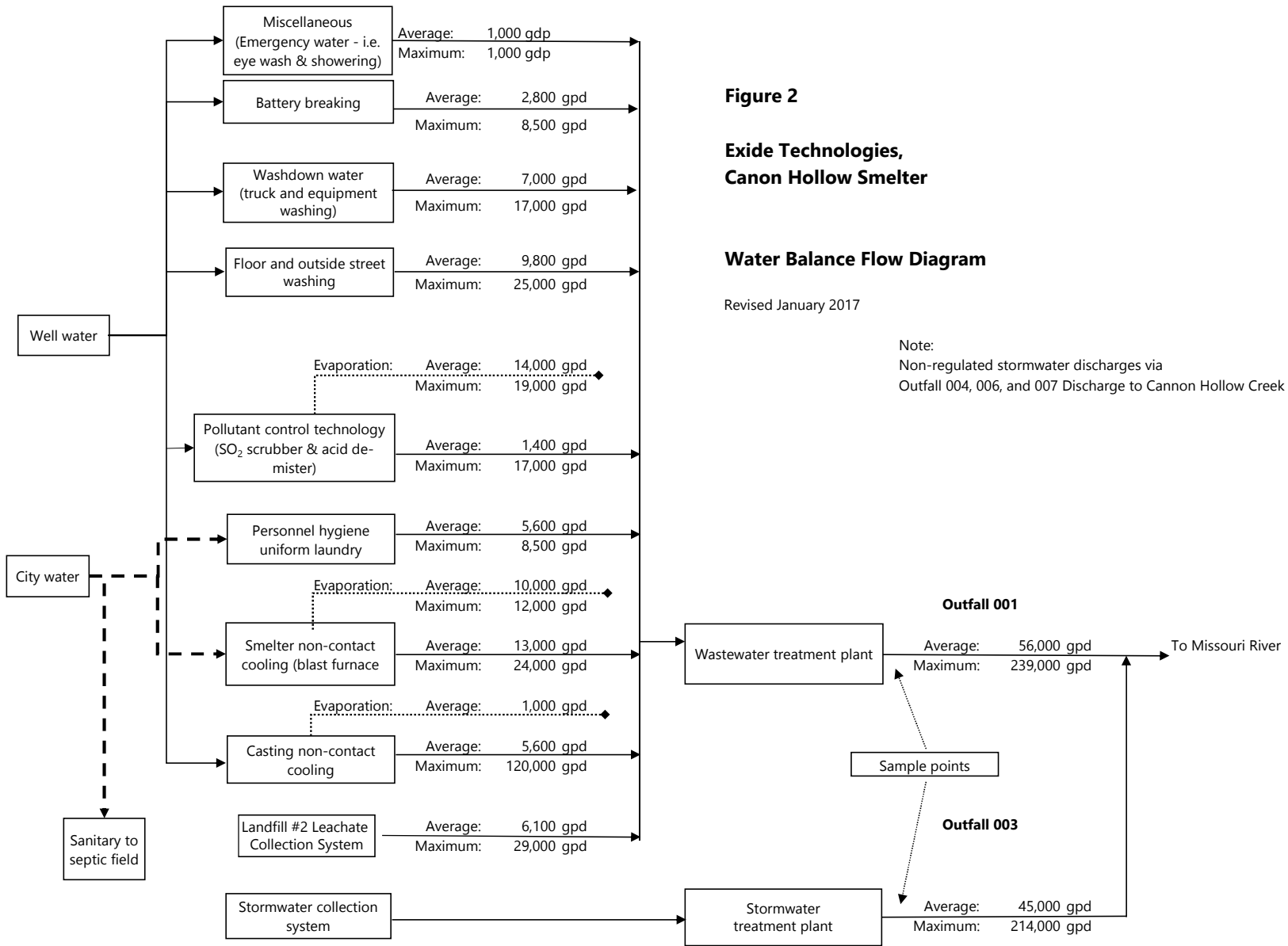
Figures



- Instream Monitoring
- Exide Property Boundary
- Outfall
- Exide Facility Boundary



FACILITY LOCATION MAP
NPDES Renewal
Exide Technologies
Canon Hollow Smelter
FIGURE 1



Appendix A

ELG-Based Limits

Metals - BAT Effluent Limitations by Subpart

Total of Subparts

Pollutant or pollutant property	Building Blocks (a)-(k) (lbs/day)		BPJ Landfill Leachate (lbs/day)		TOTAL (lb/day)	
	Max Daily	Max Monthly Avg.	Max Daily	Max Monthly Avg.	Max Daily	Max Monthly Avg.
Antimony	1.97	0.878	0.331	0.130	2.30	1.01
Arsenic	1.42	0.582	0.239	0.094	1.658	0.677
Lead	0.286	0.133	0.048	0.019	0.334	0.152
Zinc	1.04	0.429	0.175	0.053	1.22	0.48
Ammonia (as N)	0	0	22.9	8.94	22.9	8.94

*Concentrations calculated based on an average flow of 0.056MGD

(a) Subpart M—Battery Cracking

Pollutant or pollutant property	Max for any one day*	Max for monthly avg.*	Lead Scrap Produced (tons/day)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	1.299	0.579	68	0.176	0.078
Arsenic	0.936	0.384		0.127	0.052
Lead	0.189	0.087		0.026	0.012
Zinc	0.687	0.283		0.093	0.038
Ammonia (as N)	0	0		0	0

*mg/kg (pounds per million pounds) of lead scrap produced

(b) Subpart M—Blast, Reverberatory, or Rotary Furnace Wet Air Pollution Control.

Pollutant or pollutant property	Max for any one day*	Max for monthly avg.*	Lead Produced from Smelting (tons/day)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	5.038	2.245	162	1.63	0.726
Arsenic	3.628	1.488		1.174	0.481
Lead	0.731	0.339		0.236	0.110
Zinc	2.662	1.096		0.861	0.355
Ammonia (as N)	0	0		0	0

*mg/kg (pounds per million pounds) of lead produced from smelting

(c) Subpart M—Kettle Wet Air Pollution Control.

Pollutant or pollutant property	Max for any one day*	Max for monthly avg.*	Lead Produced from Refining (tons/day)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	0.087	0.039	108	0.019	0.008
Arsenic	0.063	0.026		0.014	0.006
Lead	0.013	0.006		0.003	0.001
Zinc	0.046	0.019		0.010	0.004
Ammonia (as N)	0	0		0	0

*mg/kg (pounds per million pounds) of lead produced from refining

(d) Subpart M—Lead Paste Desulfurization.

Pollutant or pollutant property	Max for any one day*	Max for monthly avg.*	Lead Processed through Desulfurization (tons/day)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	0	0	N.A.	-	-
Arsenic	0	0		-	-
Lead	0	0		-	-
Zinc	0	0		-	-
Ammonia (as N)	0	0		-	-

*mg/kg (pounds per million pounds) of lead processed through desulfurization

(e) Subpart M—Casting Contact Cooling.

Pollutant or pollutant property	Max for any one day*	Max for monthly avg.*	Lead Cast (tons/day)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	0.042	0.019	108	0.009	0.004
Arsenic	0.031	0.013		0.007	0.003
Lead	0.006	0.003		0.001	0.001
Zinc	0.022	0.009		0.005	0.002
Ammonia (as N)	0	0		0	0

*mg/kg (pounds per million pounds) of lead cast

(f) Subpart M—Truck Wash.

Pollutant or pollutant property	Max for any one day*	Max for monthly avg.*	Lead Produced from Smelting (tons/day)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	0.041	0.018	162	0.013	0.006
Arsenic	0.029	0.012		0.009	0.004
Lead	0.006	0.003		0.002	0.001
Zinc	0.021	0.009		0.007	0.003
Ammonia (as N)	0	0		0	0

*mg/kg (pounds per million pounds) of lead produced from smelting

(g) Subpart M—Facility Washdown.

Pollutant or pollutant property	Max for any one day*	Max for monthly avg.*	Lead Produced from Smelting (tons/day)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	0	0	162	0	0
Arsenic	0	0		0	0
Lead	0	0		0	0
Zinc	0	0		0	0
Ammonia (as N)	0	0		0	0

*mg/kg (pounds per million pounds) of lead produced from smelting

(h) Subpart M—Battery Case Classification.

Pollutant pollutant property	Max for any one day*	Max for monthly avg.*	Lead Scrap Produced (tons/day)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	0	0	68	0	0
Arsenic	0	0		0	0
Lead	0	0		0	0
Zinc	0	0		0	0
Ammonia (as N)	0	0		0	0

*mg/kg (pounds per million pounds) of lead scrap produced

(i) Subpart M—Employee Handwash.

Pollutant or pollutant property	Max for any one day*	Max for monthly avg.*	Lead Produced from Smelting (tons/day)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	0.052	0.023	162	0.017	0.007
Arsenic	0.038	0.015		0.012	0.005
Lead	0.008	0.004		0.003	0.001
Zinc	0.028	0.011		0.009	0.004
Ammonia (as N)	0	0		0	0

*mg/kg (pounds per million pounds) of lead produced from smelting

(j) Subpart M—Employee Respirator Wash.

Pollutant or pollutant property	Max for any one day*	Max for monthly avg.*	Lead Produced from Smelting (tons/day)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	0.085	0.038	162	0.027	0.012
Arsenic	0.061	0.025		0.020	0.008
Lead	0.012	0.006		0.004	0.002
Zinc	0.045	0.018		0.015	0.006
Ammonia (as N)	0	0		0	0

*mg/kg (pounds per million pounds) of lead produced from smelting

(k) Subpart M—Laundering of Uniforms.

Pollutant or pollutant property	Max for any one day*	Max for monthly avg.*	Lead Produced from Smelting (tons/day)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	0.247	0.11	162	0.080	0.036
Arsenic	0.178	0.073		0.058	0.024
Lead	0.036	0.017		0.012	0.005
Zinc	0.131	0.054		0.042	0.017
Ammonia (as N)	0	0		0	0

*mg/kg (pounds per million pounds) of lead produced from smelting

Non-Scope Flows/Landfill Leachate - Best Professional Judgment

Pollutant or pollutant property	Max for any one day* (mg/L)	Max for monthly avg.* (mg/L)	Max Daily Leachate Volume (gpd)	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
Antimony	1.93	0.76	20,571	0.331	0.130
Arsenic	1.39	0.55		0.239	0.094
Lead	0.28	0.11		0.048	0.019
Zinc	1.02	0.31		0.175	0.053
Ammonia (as N)	133.3	52.1		22.885	8.944

*Landfill leachate value has been determined using BPJ based on the values in Table VII-21 of the EPA's Development Document for ELGs and Standards for the Nonferrous Metals Manufacturing Point Source.

TSS - BPT Effluent Limitations by Subpart

Subpart M Category	Production Unit	Production (tons/day)	Max for any one day^A	Max for monthly avg.^A	Max Daily Load (lbs/day)	Max Monthly Avg. Load (lbs/day)
(a) Battery Cracking	Lead Scrap Produced	68	27.600	13.130	3.730	1.775
(b) Blast, Reverberatory, or Rotary Furnace Wet Air Pollution Control.	Lead Produced from Smelting	102	107.000	50.900	21.8	10.4
(c) Kettle Wet Air Pollution Control.	Lead Produced from Refining	108	1.845	0.878	0.398	0.190
(d) Lead Paste Desulfurization.	Lead Processed through Desulfurization	N.A.	0	0	-	-
(e) Casting Contact Cooling.	Lead Cast	108	9.061	4.310	1.957	0.931
(f) Truck Wash.	Lead Produced from Smelting	162	0.861	0.410	0.279	0.133
(g) Facility Washdown.	Lead Produced from Smelting	162	0	0	0	0
(h) Battery Case Classification.	Lead Scrap Produced	68	0	0	0	0
(i) Employee Handwash.	Lead Produced from Smelting	162	1.107	0.527	0.358	0.170
(j) Employee Respirator Wash.	Lead Produced from Smelting	162	1.804	0.858	0.584	0.278
(k) Laundering of Uniforms.	Lead Produced from Smelting	162	5.248	2.469	1.698	0.799
Non-Scope Flows/Landfill Leachate ^C	NA	20,571 gpd	15 mg/L	10 mg/L	2.575	1.717
TOTAL			Mass (lb/day)		33.4	16.4

Notes:

A - mg/kg (pounds per million pounds) of production unit

B - Concentrations are calculated based on an average flow of 0.056 MGD

C - Landfill leachate value has been determined using BPJ based on the values in Table VII-21 of the EPA's *Development Document for ELGs and Standards for the Nonferrous Metals Manufacturing Point Source*. The max daily value was 10 mg/L and the average monthly was 15 mg/L.