

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, 92<sup>nd</sup> Congress) as amended,

Permit No. MO-0117463

Owner: Butler County Landfill, LLC  
Address: 15250 Old Bloomfield Road, Dexter, MO 63841

Continuing Authority: Allied Waste  
Address: 18500 North Allied Way, Phoenix, AZ 85054

Facility Name: Butler County Sanitary Landfill  
Facility Address: 6038 Highway T, Poplar Bluff, MO 63901

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

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

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

**FACILITY DESCRIPTION**

Outfall #001, #002, and #004 - Sanitary Waste Landfill/Stormwater runoff- SIC # 4953

Outfall #003 - Sanitary Waste Landfill/Borrow Area/Stormwater runoff – SIC #4953

Leachate Storage Pond – “No discharge authorized”

Actual flow is dependent upon precipitation.

**Leachate cannot be discharged. Stormwater that has come into contact with leachate is considered leachate and cannot be discharged. Leachate and stormwater that has come into contact with leachate must be managed in accordance with the provisions contained in the Missouri Solid Waste Management Laws, regulations and Sanitary Landfill Operating Permit; and Hazardous Waste Program (if applicable).**

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

December 5, 2008      December 19, 2008  
Effective Date      Revised

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

December 4, 2013  
Expiration Date  
MO 780-0041 (10-93)

Gary L. Gaines, P.E., Director, Southeast Regional Office

FACILITY DESCRIPTION (continued)

**Outfall #001 - Sanitary Waste Landfill/Stormwater runoff- SIC # 4953**

Legal Description: SE ¼, Sec 21, T26N, R7E Butler County  
Latitude/Longitude: +3652593/-09017506  
Receiving Stream: Unnamed Tributary to Mud Creek (U)  
First Classified Stream and ID: Mud Creek (C) (03003)  
USGS Basin & Sub-watershed No.: 08020203-020004

**Outfall #002 - Sanitary Waste Landfill/Stormwater runoff- SIC # 4953**

Legal Description: SE ¼, Sec 21, T26N, R7E Butler County  
Latitude/Longitude: +3652583/-09018020  
Receiving Stream: Unnamed Tributary to Mud Creek (U)  
First Classified Stream and ID: Mud Creek (C) (03003)  
USGS Basin & Sub-watershed No.: 08020203-020004

**Outfall #003 - Sanitary Waste Landfill/Borrow Area/Stormwater runoff – SIC #4953**

Legal Description: SE ¼, Sec 21, T26N, R7E Butler County  
Latitude/Longitude: +3653026/-09017592  
Receiving Stream: Unnamed Tributary to Mud Creek (U)  
First Classified Stream and ID: Mud Creek (C) (03003)  
USGS Basin & Sub-watershed No.: 08020203-020004

**Outfall #004 - Sanitary Waste Landfill/Stormwater runoff- SIC # 4953**

Legal Description: SE ¼, Sec 21, T26N, R7E Butler County  
Latitude/Longitude: +3652551/-09017506  
Receiving Stream: Mud Creek (C)  
First Classified Stream and ID: Mud Creek (C) (03003)  
USGS Basin & Sub-watershed No.: 08020203-020004

**Leachate Storage Pond – “No discharge authorized”**

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

PERMIT NUMBER MO-0117463

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until one (1) year after the effective date of this permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001, #002, #004</u>						
Flow	MGD	*		*	once/quarter***	grab*****
Rainfall	Inches	*		*	once/day	guage
Chemical Oxygen Demand	mg/L	120		90	once/quarter***	grab*****
Biochemical Oxygen Demand <sub>5</sub>	mg/L	60		45	once/quarter***	grab*****
Total Suspended Solids	mg/L	80		60	once/quarter***	grab*****
pH	SU	**		**	once/quarter***	grab*****
Settleable Solids	mL/L/hr	1.5		1.0	once/quarter***	grab*****
Chloride + Sulfate	mg/L	1000		1000	once/quarter***	grab*****
Benzene	µg/L	*		*	once/quarter***	grab*****
Ethylbenzene	µg/L	*		*	once/quarter***	grab*****
Toluene	µg/L	*		*	once/quarter***	grab*****
Total Xylene	µg/L	*		*	once/quarter***	grab*****
Iron, Total Recoverable	µg/L	*		*	once/quarter***	grab*****
Zinc, Total Recoverable	µg/L	*		*	once/quarter***	grab*****
MONITORING REPORTS SHALL BE SUBMITTED <u>Quarterly</u> ; THE FIRST REPORT IS DUE <u>April 28, 2009</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Oil & Grease	mg/L	15		10	Once/year	grab*****
Ammonia as N	mg/L	*		*	Once/year	grab*****
Temperature	°C	*		*	Once/year	grab*****
Nitrate as N	mg/L	*		*	Once/year	grab*****
Total Phosphorous	mg/L	*		*	Once/year	grab*****
Chloride	mg/L	*		*	Once/year	grab*****
Sulfate	mg/L	*		*	Once/year	grab*****
Fluoride	mg/L	*		*	Once/year	grab*****
Total Hardness	mg/L	*		*	Once/year	grab*****
Antimony, Total Recoverable	µg/L	*		*	Once/year	grab*****
Parameters continued on next page.						

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

PERMIT NUMBER MO-0117463

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until one (1) year after the effective date of this permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001, #002, and #004</u>						
Arsenic, Total Recoverable	µg/L	*		*	Once/year	grab*****
Barium, Total Recoverable	µg/L	*		*	Once/year	grab*****
Beryllium, Total Recoverable	µg/L	*		*	Once/year	grab*****
Boron, Total Recoverable	µg/L	*		*	Once/year	grab*****
Cadmium, Total Recoverable	µg/L	*		*	Once/year	grab*****
Chromium (III), Total Recoverable	µg/L	*		*	Once/year	grab*****
Chromium (VI), Total Recoverable	µg/L	*		*	Once/year	grab*****
Cobalt, Total Recoverable	µg/L	*		*	Once/year	grab*****
Copper, Total Recoverable	µg/L	*		*	Once/year	grab*****
Lead, Total Recoverable	µg/L	*		*	Once/year	grab*****
Manganese, Total Recoverable	µg/L	*		*	Once/year	grab*****
Mercury, Total Recoverable	µg/L	*		*	Once/year	grab*****
Nickel, Total Recoverable	µg/L	*		*	Once/year	grab*****
Selenium, Total Recoverable	µg/L	*		*	Once/year	grab*****
Silver, Total Recoverable	µg/L	*		*	Once/year	grab*****
Thallium, Total Recoverable	µg/L	*		*	Once/year	grab*****

MONITORING REPORTS SHALL BE SUBMITTED Annually; THE FIRST REPORT IS DUE October 28, 2009. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

<u>Outfall #003</u>						
Flow	MGD	*		*	Once/month	24 hr. estimate
Settleable Solids	mL/L/hr	1.5		1.0	Once/month	grab*****
pH	SU	**		**	Once/month	grab*****

MONITORING REPORTS SHALL BE SUBMITTED Monthly; THE FIRST REPORT IS DUE January 28, 2009. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

**B. STANDARD CONDITIONS**

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

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

PERMIT NUMBER MO-0117463

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 one (1) year after the effective date of this permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001, #002, #004</u>						
Flow	MGD	*		*	once/quarter***	grab****
Rainfall	Inches	*		*	once/day	guage
Chemical Oxygen Demand	mg/L	90		60	once/quarter***	grab****
Biochemical Oxygen Demand <sub>5</sub>	mg/L	45		30	once/quarter***	grab****
Total Suspended Solids	mg/L	80		50	once/quarter***	grab****
pH	SU	*****		*****	once/quarter***	grab****
Settleable Solids	mL/L/hr	1.5		1.0	once/quarter***	grab****
Chloride + Sulfate	mg/L	1000		1000	once/quarter***	grab****
Benzene	µg/L	*		*	once/quarter***	grab****
Ethylbenzene	µg/L	*		*	once/quarter***	grab****
Toluene	µg/L	*		*	once/quarter***	grab****
Total Xylene	µg/L	*		*	once/quarter***	grab****
Iron, Total Recoverable	µg/L	998		498	once/quarter***	grab****
Zinc, Total Recoverable	µg/L	184		92	once/quarter***	grab****
MONITORING REPORTS SHALL BE SUBMITTED <u>Quarterly</u> ; THE FIRST REPORT IS DUE <u>April 28, 2010</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Oil & Grease	mg/L	15		10	Once/year	grab****
Ammonia as N	mg/L	*		*	Once/year	grab****
Temperature	°C	*		*	Once/year	grab****
Nitrate as N	mg/L	*		*	Once/year	grab****
Total Phosphorous	mg/L	*		*	Once/year	grab****
Chloride	mg/L	*		*	Once/year	grab****
Sulfate	mg/L	*		*	Once/year	grab****
Fluoride	mg/L	*		*	Once/year	grab****
Total Hardness	mg/L	*		*	Once/year	grab****
Antimony, Total Recoverable	µg/L	*		*	Once/year	grab****
Parameters continued on next page.						

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

PERMIT NUMBER MO-0117463

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 one (1) year after the effective date of this permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001, #002, #004</u>						
Arsenic, Total Recoverable	µg/L	*		*	Once/year	grab*****
Barium, Total Recoverable	µg/L	*		*	Once/year	grab*****
Beryllium, Total Recoverable	µg/L	*		*	Once/year	grab*****
Boron, Total Recoverable	µg/L	*		*	Once/year	grab*****
Cadmium, Total Recoverable	µg/L	*		*	Once/year	grab*****
Chromium (III), Total Recoverable	µg/L	*		*	Once/year	grab*****
Chromium (VI), Total Recoverable	µg/L	*		*	Once/year	grab*****
Cobalt, Total Recoverable	µg/L	*		*	Once/year	grab*****
Copper, Total Recoverable	µg/L	*		*	Once/year	grab*****
Lead, Total Recoverable	µg/L	*		*	Once/year	grab*****
Manganese, Total Recoverable	µg/L	*		*	Once/year	grab*****
Mercury, Total Recoverable	µg/L	*		*	Once/year	grab*****
Nickel, Total Recoverable	µg/L	*		*	Once/year	grab*****
Selenium, Total Recoverable	µg/L	*		*	Once/year	grab*****
Silver, Total Recoverable	µg/L	*		*	Once/year	grab*****
Thallium, Total Recoverable	µg/L	*		*	Once/year	grab*****
MONITORING REPORTS SHALL BE SUBMITTED <u>Annually</u> ; THE FIRST REPORT IS DUE <u>October 28, 2010</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<u>Outfall #003</u>						
Flow	MGD	*		*	Once/month	24 hr. estimate
Settleable Solids	mL/L/hr	1.5		1.0	Once/month	grab*****
pH	SU	*****		*****	Once/month	grab*****
MONITORING REPORTS SHALL BE SUBMITTED <u>Monthly</u> ; THE FIRST REPORT IS DUE <u>January 28, 2010</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I</u> , STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- \* Monitoring requirement only.
- \*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
- \*\*\*

Sample discharge at least once for the months of:	Report is due:
January, February, March (1 <sup>st</sup> Quarter)	April 28
April, May, June (2 <sup>nd</sup> Quarter)	July 28
July, August, September (3 <sup>rd</sup> Quarter)	October 28
October, November, December (4 <sup>th</sup> Quarter)	January 28

- \*\*\*\* A representative grab sample shall be taken 30 to 60 minutes after stormwater discharge begins.
- \*\*\*\*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.

D. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

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

2. All outfalls must be clearly marked in the field.
3. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge 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; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
    - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
    - (4) The level established in Part A of the permit by the Director.
  - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
  - (c) That the effluent limit established in part A of the permit will be exceeded.
4. Report as no-discharge when a discharge does not occur during the report period.
  5. Water Quality Standards
    - (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
    - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

- (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;

D. SPECIAL CONDITIONS- (continued)

- (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (5) There shall be no significant human health hazard from incidental contact with the water;
  - (6) There shall be no acute toxicity to livestock or wildlife watering;
  - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
6. The permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be prepared within 30 days and implemented within 90 days of permit issuance. The SWPPP must be kept on-site and should not be sent to DNR unless specifically requested. The SWPPP must be reviewed and updated, if needed, every five (5) 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 the following document:

Storm Water Management For Industrial Activities, Developing Pollution Prevention Plans and Best Management Activities, (Document number EPA 832-R-92-006) published by the United States Environmental Protection Agency (USEPA) in September 1992.

The SWPPP must include the following:

- (a) A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter storm water. Minimum BMPs are listed in SPECIAL CONDITIONS #7 below.
  - (b) The SWPPP must include a schedule for a bi-monthly site inspection and a brief written report. The inspections must include observation and evaluation of BMP effectiveness. Deficiencies must be corrected within seven (7) days and the actions taken to correct the deficiencies shall be included with the written report, including photographs. Any corrective measure that necessitates major construction may also need a construction permit. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to DNR personnel upon request.
  - (c) A provision for designating an individual to be responsible for environmental matters.
  - (d) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of DNR.
7. Permittee shall adhere to the following minimum Best Management Practices:
- (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of storm water from these substances.
  - (b) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
  - (c) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water or provide other prescribed BMP's such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
  - (d) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
  - (e) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.

D. SPECIAL CONDITIONS- (continued)

8. The purpose of the SWPPP and the BMPs listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR 20-2.010(56)] of waters of the state, and corrective actions means the facility took steps to eliminate the deficiency.
9. All fueling facilities present on the site shall adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers, including spill prevention, control and counter measures.
10. Before releasing water that has accumulated in secondary containment areas it must be examined for hydrocarbon odor and presence of a sheen. When the presence of hydrocarbons is indicated, and at a minimum of once/quarter, this water must be tested for Total Petroleum Hydrocarbons (TPH). The suggested analytical method for testing TPH is non-Halogenated Organic by Gas Chromatography method 8015 (also known as OA1 and OA2). However, if the permittee so desires to use other approved testing methods (i.e. EPA 1664), they may do so. If the concentration for TPH exceeds 10mg/L, the water shall be taken to a permitted wastewater treatment plant for treatment.
11. Substances, regulated by federal law under the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERLA), that are transported, stored, or used for maintenance, cleaning or repair, shall be managed according to RCRA and CERLA.

REPORTING OF EFFLUENT VIOLATIONS

If any of the sampling results from any of the outfalls show any violation of the permit discharge limitations, written notification shall be made to the Department of Natural Resources within five (5) days of notification of analytical results. Notification shall indicate the date(s) of sample collection, the analytical results, and permit number, and shall include a statement concerning the revisions or modifications in management practices that are being implemented to address the violation of the limitations that occurred.

After a violation has been reported, a sample of storm water runoff resulting from the next rainfall greater than 0.1 inches shall be collected at outfall(s) for which the violation occurred. Analytical results of this sample shall be submitted in writing to the Department of Natural Resources (this paragraph supersedes Part I, Section B: e.A. Noncompliance Notification).

**MISSOURI DEPARTMENT OF NATURAL RESOURCES  
FACT SHEET  
INDUSTRIAL STORM WATER RUNOFF FROM LANDFILL ACTIVITIES  
STANDARD INDUSTRIAL CLASSIFICATION (SIC): 4953  
FOR THE PURPOSE OF RENEWAL  
OF  
MO-0117463  
BUTLER COUNTY LANDFILL**

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. 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 (MCWL)" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Fact Sheet 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 (operating permit) listed below.

A Fact Sheet is not an enforceable part of an operating permit.

**Part A – Applicability & Facility Description**

Landfill are to obtain a MSOP in accordance the MCWL, documented above, and its implementing regulations 10 CSR 20-6.010(1)(A); 10 CSR 20-6.010(5)(A); and 10 CSR 20-6.200(1)(A). Storm water runoff from landfills are considered Industrial activities in accordance with 10 CSR 20-6.200(2)(B)3.B. Closed landfills may also be required to maintain a MSOP in accordance with 10 CSR 20.600(1)(B)10.

Facility Description:

Outfall #001, #002, and #004 - Sanitary Waste Landfill/Stormwater runoff- SIC # 4953

Outfall #003 - Sanitary Waste Landfill/Borrow Area/Stormwater runoff – SIC #4953

Leachate Storage Pond – “No discharge authorized”

Actual flow is dependent upon precipitation.

**Leachate cannot be discharged. Stormwater that has come into contact with leachate is considered leachate and cannot be discharged. Leachate and stormwater that has come into contact with leachate must be managed in accordance with the provisions contained in the Missouri Solid Waste Management Laws, regulations and Sanitary Landfill Operating Permit; and Hazardous Waste Program (if applicable).**

Facility contact: Dan Rigazio (573) 624-8135

**Part B – Outfall Information & Descriptions**

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	Variable	BMP*	Industrial – Storm water runoff	.1
002	Variable	BMP*	Industrial – Storm water runoff	.1
003	Variable	BMP*	Industrial – Storm water runoff	.1
004	Variable	BMP*	Industrial – Storm water runoff	.05

\* - BMP means Best Management Practices

Outfall #001 - Sanitary Waste Landfill/Stormwater runoff- SIC # 4953

Legal Description: SE ¼, Sec 21, T26N, R7E Butler County

Latitude/Longitude: +3652593/-09017506

Receiving Stream: Unnamed Tributary to Mud Creek (U)

First Classified Stream and ID: Mud Creek (C) (03003)

USGS Basin & Sub-watershed No.: 08020203-020004

**Outfall #002** - Sanitary Waste Landfill/Stormwater runoff- SIC # 4953

Legal Description: SE ¼, Sec 21, T26N, R7E Butler County  
Latitude/Longitude: +3652583/-09018020  
Receiving Stream: Unnamed Tributary to Mud Creek (U)  
First Classified Stream and ID: Mud Creek (C) (03003)  
USGS Basin & Sub-watershed No.: 08020203-020004

**Outfall #003** - Sanitary Waste Landfill/Borrow Area/Stormwater runoff – SIC #4953

Legal Description: SE ¼, Sec 21, T26N, R7E Butler County  
Latitude/Longitude: +3653026/-09017592  
Receiving Stream: Unnamed Tributary to Mud Creek (U)  
First Classified Stream and ID: Mud Creek (C) (03003)  
USGS Basin & Sub-watershed No.: 08020203-020004

**Outfall #004** - Sanitary Waste Landfill/Stormwater runoff- SIC # 4953

Legal Description: SE ¼, Sec 21, T26N, R7E Butler County  
Latitude/Longitude: +3652551/-09017506  
Receiving Stream: Mud Creek (C)  
First Classified Stream and ID: Mud Creek (C) (03003)  
USGS Basin & Sub-watershed No.: 08020203-020004

**Leachate Storage Pond – “No discharge authorized”**

**Water Quality History:**

Past discharge monitoring reports were viewed and compared to water quality standards. Minor exceedances for Iron and Zinc were found at Outfalls #001, #002, and #004. Effluent limitations for these two metals will be added to the permit and development of these limits are explained below.

**Comments:**

Iron water quality standards for Outfall #001 were exceeded on 5/27/2007, 5/4/2006, and 3/14/2006.  
Zinc water quality standards for Outfall #001 were exceeded on 10/27/2006.  
Iron water quality standards for Outfall #002 were exceeded on 3/28/2008, 5/27/2007, and 11/14/2006.  
Zinc water quality standards for Outfall #002 were exceeded on 10/27/2006.  
Iron water quality standards for Outfall #004 were exceeded on 5/27/2007.  
Zinc water quality standards for Outfall #004 were exceeded on 10/27/2006.

**Part C – Receiving Stream Information**

**APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:**

As per Missouri’s Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category list effluent limitations for specific parameters, which are presented in each outfall’s Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

- Missouri or Mississippi River [10 CSR 20-7.015(2)]:
- Lake or Reservoir [10 CSR 20-7.015(3)]:
- Losing [10 CSR 20-7.015(4)]:
- Metropolitan No-Discharge [10 CSR 20-7.015(5)]:
- Special Stream [10 CSR 20-7.015(6)]:
- Subsurface Water [10 CSR 20-7.015(7)]:
- All Other Waters [10 CSR 20-7.015(8)]:

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

**RECEIVING STREAM(S) TABLE:**

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Unnamed Tributary to Mud Creek	U	---	General Criteria	08020203	Mississippi Alluvial Plan/Little Drainage/ Lower Mississippi/ St. John's Bayou/ White/ Black Drainages
Mud Creek	C	03003	LWW, AQL, WBC(B)***		

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

\*\* - Ecological Drainage Unit

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

**Part D – Rationale and Derivation of Effluent Limitations & Permit Conditions****ANTI-BACKSLIDING:**

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

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

**ANTIDegradation:**

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

As per [10 CSR 20-7.031(2)(D)], the three (3) levels of protection provided by the antidegradation policy in subsections (A), (B), and (C) of this section shall be implemented according to procedures developed by the department. On April 20, 2007, the Missouri Clean Water Commission approved *Missouri Antidegradation Rule and Implementation Procedure* (Antidegradation Rule), which is applicable to new or upgraded/expanded facilities. The implementation of the Antidegradation Rule will be implemented upon promulgation, which is scheduled for August 2008.

- Renewal no degradation proposed and no further review necessary.

**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.

**FLOW BASED PERMITTING:**

A standard mass-balance equation cannot be calculated for storm water from this facility because the flow from the facility and flow in the receiving stream cannot be determined for conditions on any given day. The amount of storm water discharged from the facility will vary based on previous rainfall, soil saturation, humidity, detention time, BMPs, surface permeability, etc. Flow in the receiving stream will vary based on similar climactic conditions, size of watershed, amount of surfaces with reduced permeability (houses, parking lots, and the like) in the watershed, hydrogeology, topography, etc.

It is likely that sufficient rainfall to cause a discharge for four continuous days from a facility will also cause some significant amount of flow in the receiving stream. Chronic WQs are based on a four-day exposure (except Ammonia, which is based on a thirty day exposure). In the event that discharge does occur from this facility for four continuous days, some amount of flow will occur in the receiving stream. This flow will dilute storm water discharges from a facility. For these reasons, most industrial storm water facilities have limited potential to cause a violation of chronic water quality standards in the receiving stream.

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 WQs are based on a one hour of exposure, and must be protected at all times in unclassified streams, and within mixing zones of class P streams [10 CSR 20-7.031(3) and (4)]. Therefore, industrial storm water facilities with toxic contaminants do have the potential to cause a violation of acute WQs if those toxic contaminants occur in sufficient amounts.

It is due to the items stated above that staff drafting this fact sheet are unable to perform statistical Reasonable Potential Analysis and calculate Wasteload Allocations via a mass-balance equation for effluent limit determination. However, staff may use their best professional judgment in determining if a facility has a potential to violate Missouri's Water Quality Standards. Effluent limitations are based on actual criteria that are subjected to Long Term Averages and then converted into Maximum Daily Limits or Average Monthly Limits.

**SCHEDULE OF COMPLIANCE (SOC):**

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

Applicable ;

The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations where established in accordance with [10 CSR 20-7.031(10)] to allow the permittee to develop more appropriate BMPs.

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

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

Applicable ;

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

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

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

Applicable ;

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

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

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

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

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

**WLA MODELING:**

Not Applicable ;

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

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

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

Not Applicable ;

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

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

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

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

Not Applicable ;

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

**Part E – Effluent Limits Determination*****Outfall #001, #002, #004 – Effluent Limitation Table:***

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	gpd	1	*		*	NO	S
RAINFALL	Inches	9	*		*	NO	S
COD	mg/L	9	90		60	YES	120-90
BOD	mg/L	9	45		30	NO	S
TSS	mg/L	1/9	80		50	YES	80-60
pH	SU	1	6.5 – 9.0		6.5 – 9.0	YES	6-9
SETTLABLE SOLIDS	mL/L/hr	1/9	1.5		1.0	NO	S
CHLORIDE + SULFATES	mg/L	1/2/9	1000		1000	NO	S
OIL & GREASE	mg/L	1/2/9	15		10	NO	S
TOTAL AMMONIA AS N	mg/L	1/5/9	*		*	NO	S
TEMPERATURE	°C	9	*		*	YES	**
NITRATE AS N	mg/L	1/9	*		*	NO	S
TOTAL PHOSPHORUS	mg/L	1/9	*		*	NO	S
CHLORIDE	mg/L	1/9	*		*	YES	**
SULFATE	mg/L	1/9	*		*	NO	S
FLUORIDE	mg/L	1/9	*		*	NO	S
BENZENE	µg/L	1/9	*		*	YES	TOTAL BETX
ETHYLBENZENE	µg/L	1/9	*		*	YES	TOTAL BETX
TOLUENE	µg/L	1/9	*		*	YES	TOTAL BETX
TOTAL XYLENE	µg/L	1/9	*		*	YES	TOTAL BETX
TOTAL HARDNESS	mg/L	9	*		*	NO	*
ANTIMONY, TR	µg/L	1/9	*		*	NO	S
ARSENIC, TR	µg/L	1/9	*		*	NO	S
BARIUM, TR	µg/L	1/9	*		*	NO	S
BERYLLIUM, TR	µg/L	1/9	*		*	NO	S
BORON, TR	µg/L	1/9	*		*	NO	S
CADMIUM, TR	µg/L	1/9	*		*	NO	S
CHROMIUM (III), TR	µg/L	1/9	*		*	YES	TOTAL CHROMIUM
CHROMIUM (VI), TR	µg/L	1/9	*		*	YES	TOTAL CHROMIUM
COBALT, TR	µg/L	1/9	*		*	NO	S

COPPER, TR	µg/L	1/9	*		*	NO	S
IRON, TR	µg/L	1/3/9	998		498	YES	*
LEAD, TR	µg/L	1/9	*		*	NO	S
MANGANESE, TR	µg/L	1/9	*		*	NO	S
MERCURY, TR	µg/L	1/9	*		*	NO	S
NICKEL, TR	µg/L	1/9	*		*	NO	S
SELENIUM, TR	µg/L	1/9	*		*	NO	S
SILVER, TR	µg/L	1/9	*		*	NO	S
THALLIUM, TR	µg/L	1/9	*		*	NO	S
ZINC, TR	µg/L	1/3/9	184		92	YES	*
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

\* - Monitoring requirement only

\*\* - Parameter not previously established in previous state operating permit.

TR – means Total Recoverable

#### Basis for Limitations Codes:

- |  |                                    |
|--|------------------------------------|
| 1. State or Federal Regulation/Law       | 7. Antidegradation Policy          |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model             |
| 3. Water Quality Based Effluent Limits   | 9. Best Professional Judgment      |
| 4. Lagoon Policy                         | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy                        | 11. WET Test Policy                |
| 6. Dissolved Oxygen Policy               |                                    |

#### OUTFALL #001, #002, #004 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** Monitoring only requirement 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 to determine an alternate location for flow monitoring.
- **Rainfall.** Monitoring only requirement. Precipitation data obtained from DMRs is used to aid in the determination of this facilities specific runoff coefficient and theoretical loading in the watershed. Data is also useful in correlating effectiveness of Best Management Practices.
- **Chemical Oxygen Demand (COD).** Effluent limitations of 90 mg/L as a Daily Maximum and 60 mg/L as a Monthly Average are applicable to this facility and are consistent with other landfill operating permits.
- **Biochemical Oxygen Demand (BOD<sub>5</sub>).** Effluent limitations of 45 mg/L as a Daily Maximum and 30 mg/L as a Monthly Average are applicable to this facility and are consistent with other landfill operating permits.
- **Total Suspended Solids (TSS).** Effluent limitations of 100 mg/L as a Daily Maximum and 50 mg/L as a Monthly Average are applicable to this facility and are consistent with other landfill operating permits. The monthly average of 60 mg/L is being lowered and the existing daily maximum is being retained from the previous permit as 80 mg/L to comply with backsliding regulations.
- **pH.** Effluent limitation range is from 6.5 to 9.0 Standard pH Units (SU), as per [10 CSR 20-7.031(4)(E)]. pH is not to be averaged.
- **Settleable Solids.** Effluent limitations of 1.5 mL per L per hour as a Daily Maximum and 1.0 mL per L per hour as a Monthly Average are applicable and are consistent with other landfill operating permits.
- **Chlorides + Sulfate.** Effluent limitation of 1000 mg/L as a Daily Maximum is applicable as per [10 CSR 20-7.031(L)1.].
- **Benzene.** Monitoring of Total BETX is to be performed for the individual components of Benzene, Ethylbenzene, Toluene, and Xylene so that a direct comparison of results can be made to the water quality standards. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Ethylbenzene.** Monitoring of Total BETX is to be performed for the individual components of Benzene, Ethylbenzene, Toluene, and Xylene so that a direct comparison of results can be made to the water quality standards. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.

- **Toluene.** Monitoring of Total BETX is to be performed for the individual components of Benzene, Ethylbenzene, Toluene, and Xylene so that a direct comparison of results can be made to the water quality standards. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Total Xylene.** Monitoring of Total BETX is to be performed for the individual components of Benzene, Ethylbenzene, Toluene, and Xylene so that a direct comparison of results can be made to the water quality standards. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Total Ammonia Nitrogen, Temperature.** Monitoring requirement only. Monitoring for temperature and ammonia are included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Nitrate as N.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Phosphorous.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Chlorides.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Sulfate.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Fluoride.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.

### **Metals**

Effluent limitations for total recoverable metals were developed using methods and procedures outlined in EPA/505/2-90-001 and “The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion” (EPA 823-B-96-007). General warm-water fishery criteria apply and hardness of 193 mg/L.

Due to the absence of contemporaneous effluent and instream data for total recoverable metals, dissolved metals, hardness, and total suspended solids with which to calculate metals translators, partitioning between the dissolved and absorbed phases was assumed to be minimal (Section 5.7.3, EPA/505/2-90-001). Freshwater criteria conversion factors for dissolved metals were used as the metals translator as recommended in guidance (Section 1.3, 1.5.3, and Table 1, EPA 823-B-96-007). If concurrent site-specific data for total recoverable metals, dissolved metals, hardness, and total suspended solids are provided to the department, partitioning evaluations may be considered and site-specific translators developed.

METAL	CONVERSION FACTORS
	ACUTE
Arsenic	1.0
Cadmium	0.916
Chromium III	0.316
Chromium VI	0.982
Copper	0.960
Lead	0.695
Mercury	0.85
Nickel	0.998
Silver	0.85
Zinc	0.978

Conversion factors for Cd and Pb are hardness dependent. Values calculated using equation found in Section 1.3 of EPA 823-B-96-007 and hardness = 193 mg/L.

- **Iron, Total Recoverable.** Past discharge monitoring reports were viewed and compared to water quality standards. Minor exceedances for Iron were found at Outfalls #001, #002, and #004. Protection of Aquatic Life Acute Criteria (CMC) = 1000 µg/L. No mixing allowed; therefore, the CMC = the WLA

$$WLA_a = 1000 \mu\text{g/L}$$

$$LTA_a = 1000 \mu\text{g/L} (0.321) = 321 \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{MDL} = 321 \mu\text{g/L} (3.11) = 998.3 \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{AML} = 321 \mu\text{g/L} (1.55) = 497.6 \mu\text{g/L} \quad [\text{CV} = 0.6, 95^{\text{th}} \text{ Percentile}, n = 4]$$

- **Zinc, Total Recoverable.** Past discharge monitoring reports were viewed and compared to water quality standards. Minor exceedances for Zinc were found at Outfalls #001, #002, and #004. Protection of Aquatic Life Acute Criteria (CMC) = 188  $\mu\text{g/L}$ . No mixing allowed; therefore, the CMC = the WLA (after conversion). Effluent limitations for total recoverable metals were developed using methods and procedures outlined in EPA/505/2-90-001 and “The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion” (EPA 823-B-96-007). General warm-water fishery criteria apply and hardness of 193  $\text{mg/L}$  was used for industrial stormwater discharges since sufficient hardness data was not available.

$$\text{Conversion for CMC} = 188/0.978 = 183.9 \mu\text{g/L}$$

$$WLA_a = 183.9 \mu\text{g/L}$$

$$LTA_a = 183.9 \mu\text{g/L} (0.321) = 59 \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{MDL} = 59 \mu\text{g/L} (3.11) = 183.5 \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{AML} = 59 \mu\text{g/L} (1.55) = 91.5 \mu\text{g/L} \quad [\text{CV} = 0.6, 95^{\text{th}} \text{ Percentile}, n = 4]$$

- **Total Hardness.** Monitoring only requirement due to the fact that Metals toxicity varies by hardness.
- **Antimony, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Arsenic, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Barium.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Beryllium.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Boron.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Cadmium, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Chromium (III), Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Chromium (VI), Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Cobalt, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Copper, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Lead, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Manganese, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.

- **Mercury, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Nickel, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Selenium, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Silver, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Thallium, Total Recoverable.** Monitoring requirement only. Monitoring is included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Total Dissolved Solids, Conductivity, Magnesium, and Vanadium.** No numeric water quality standards in 10 CSR 20-7.031. Parameters are being removed from the permit.
- **Cadmium, Total Recoverable.** Parameter is being removed from the permit and replaced by Chromium (III) and Chromium (VI) for direct comparison to the water quality standards.
- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been retained from previous state operating permit with the exception of Zinc. Monitoring of zinc was increased to quarterly as a result of establishing effluent limitations.

***Outfall #003 – Effluent Limitation Table:***

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	gpd	1	*		*	NO	S
PH	SU	1	6.5 – 9.0		6.5 – 9.0	YES	6-9
SETTLABLE SOLIDS	mL/L/hr	1/9	1.5		1.0	NO	S
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

\* - Monitoring requirement only

\*\* - Parameter not previously established in previous state operating permit.

TR – means Total Recoverable

**Basis for Limitations Codes:**

- |  |                                    |
|--|------------------------------------|
| 1. State or Federal Regulation/Law       | 7. Antidegradation Policy          |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model             |
| 3. Water Quality Based Effluent Limits   | 9. Best Professional Judgment      |
| 4. Lagoon Policy                         | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy                        | 11. WET Test Policy                |
| 6. Dissolved Oxygen Policy               |                                    |

**OUTFALL #003 – DERIVATION AND DISCUSSION OF LIMITS:**

- **Flow.** Monitoring only requirement 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 to determine an alternate location for flow monitoring.
- **pH.** Effluent limitation range is from 6.5 to 9.0 Standard pH Units (SU), as per [10 CSR 20-7.031(4)(E)]. pH is not to be averaged.
- **Settleable Solids.** Effluent limitations of 1.5 mL per L per hour as a Daily Maximum and 1.0 mL per L per hour as a Monthly Average are applicable and are consistent with other landfill operating permits.

- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been retained from previous state operating permit.

## **Part F – Administrative Requirements**

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

### **PUBLIC NOTICE:**

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

**DATE OF FACT SHEET:** OCTOBER 3, 2008

**COMPLETED BY:**

**MICHAEL HEFNER,  
ENVIRONMENTAL ENGINEER  
SOUTHEAST REGIONAL OFFICE  
MISSOURI DEPARTMENT OF NATURAL RESOURCES  
(573)840-9750**