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NOV 1 8 2014

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Mr. Brian J. Power, Environmental Manager Bridgeton Landfill, LLC 13570 St. Charles Rock Road Bridgeton, MO 63044-2430

RE: Bridgeton Sanitary Landfill, Permit Number 118912, Subsurface Fire

Notice of Violation #30447

Dear Mr. Power:

The Missouri Department of Natural Resources continues to review data submitted regarding the ongoing conditions at the Bridgeton Sanitary Landfill. This data, in addition to information obtained at meetings and observations of the landfill property, demonstrates that the landfill continues to experience a subsurface fire. Due to the ongoing nature and intensifying conditions at the landfill, the Department is formally documenting with this Notice of Violation letter these events and other related violations. Individual violations are discussed in more detail below:

Missouri Solid Waste Management Law

- 1. Section 260.210.1(4) of the Revised Statutes of Missouri (RSMo) prohibits the storage or disposal of solid waste in a manner that creates a public nuisance or adversely affects public health. Since at least December 2010, and as documented in Notices of Violation issued July 23, 2012 (NOV#30428) and April 11, 2014 (NOV #SLR11434218) and continuing to the present date, a subsurface fire has been occurring and the landfill owner/operator has failed to control and extinguish the subsurface fire which has been allowed to expand, at least, within the South Quarry of the landfill. The subsurface fire has created odors which continue to migrate offsite and have resulted in numerous odor complaints received by the Department. Further, offsite monitoring conducted by the Department has documented odors attributable to Bridgeton Sanitary Landfill at several established offsite monitoring locations on a routine basis.
- 2. 10 CSR 80-2.020(1)(F) requires that the operation of solid waste disposal areas comply with the terms and conditions set forth in the permit to prevent or minimize potential health hazards or conditions that could create a public nuisance or environmental

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pollution. Since at least December 2010, and as documented in Notices of Violation issued July 23, 2012 (NOV#30428) and April 11, 2014 (NOV #SLR11434218) and continuing to the present date, a subsurface fire has been occurring and the landfill owner/operator has failed to control and extinguish the subsurface fire which has been allowed to expand within, at least, the South Quarry of the landfill. Permit #118912 does not allow for solid waste to be burned. The subsurface fire has created conditions that have and continue to damage the environmental control systems infrastructure at the landfill, including the leachate collection system and the gas collection and control system allowing for uncontrolled emissions, including odor, from the facility that extend beyond the permitted boundary of the facility into the surrounding communities.

Condition 6D of Permit #118912 requires that leachate levels in the leachate collection sumps located in the South Quarry not exceed 30 feet from the landfill's bottom and not exceed 50 feet from the landfill's bottom in the North Quarry. Over the past year, liquid levels in LCS-1D, LCS-2D, LCS-3D, LCS-5A and LCS-6B have either exceeded these levels due to pump failures or the sump monitoring systems have failed due to excess temperature and pressure. As a result of these operational issues, the facility has been unable to demonstrate compliance.

- 3. 10 CSR 80-3.010(5)(C)1 requires that the landfill be constructed and operated in accordance with the approved plans and specifications. Since at least December 2010, and as documented in Notices of Violation issued July 23, 2012 (NOV#30428) and April 11, 2014 (NOV #SLR11434218) and continuing to the present date, a subsurface fire has been occurring and the landfill owner/operator has failed to control and extinguish the subsurface fire which has been allowed to expand within, at least, the South Quarry of the landfill. Further, 10 CSR 80-3.010(9)(C)1 requires that the leachate collection system be properly installed, operated and maintained per the permit and approved plans. Specifically, such operation of a leachate collection system is to limit spills, breaks and releases minimizing pollution of groundwater, surface waters and soil.
- 4. 10 CSR 80-3.010(13)(C) prohibits the burning of solid waste at a sanitary landfill, except in accordance with Chapter 643 RSMo, its corresponding rules, the terms, conditions, or both, of the plans, permit, or both, and all local requirements. Further, Section 260.210.1.(3) prohibits solid waste burning operations in violation of the rules and regulations of the Missouri Air Conservation Commission or the Department. Since at least December 2010, and as documented in Notices of Violation issued July 23, 2012 (NOV#30428) and April 11, 2014 (NOV #SLR11434218) and continuing to the present date, a subsurface fire has resulted in solid waste being burned in, at least, the South Quarry of the landfill. As a result of the solid waste burning, there have been emissions documented leaving the property boundary. Additionally, significant settlement has been

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observed in the South Quarry. The amount and duration of the settlement indicates that a significant amount of waste has been and continues to be consumed by the subsurface fire. Additionally, on at least one (1) occasion a surface fire occurred at this facility as previously documented during a site investigation on February 16, 2014.

- 5. 10 CSR 80-3.010(14)(C)2 prohibits methane from exceeding two and one half percent (2.5%) by volume in the soil at the property boundary. Further, 10 CSR 80-3.010(14)(C)1 prohibits decomposition gases from migrating laterally from the landfill. Since January 17, 2011 and continuing to the present date, and as documented in Notices of Violation issued July 23, 2012 (NOV#30428) and April 11, 2014 (NOV #SLR11434218), weekly monitoring data submitted by Bridgeton Sanitary Landfill shows decomposition gases in one (1) or more of the following gas monitoring/compliance wells or probes at the property boundary have contained methane gas above the regulatory limit: GMP-01, GMP-02, GMP-03, GMP-4S, GMP-5S, GMP-14S, and GMP-14D. A list of regulatory exceedances is provided within the gas data tables in the July and October Quarterly Landfill Gas Corrective Action Updates submitted on behalf of Bridgeton Landfill, LLC.
- 6. 10 CSR 80-3.010(19)(A) requires that sanitary landfills be operated in a manner which protects the health and safety of personnel and others associated with and affected by its operation. Since at least December 2010, and as documented in Notices of Violation issued July 23, 2012 (NOV#30428) and April 11, 2014 (NOV #SLR11434218) and continuing to the present date, a subsurface fire has been occurring and the landfill owner/operator has failed to control and extinguish the subsurface fire which has been allowed to expand within, at least, the South Quarry of the landfill. Due to the subsurface fire, several hazards exist and have been documented, on an on-going or periodic basis, at the site including, but not limited to, elevated carbon monoxide, benzene and hydrogen levels, excessive heat and pressure, steam releases, leachate outbreaks and spills, and collapse potential from waste mass reduction at or in proximity to the subsurface fire impacted areas.

Missouri Hazardous Waste Management Law

1. Chapter 5 of Title 10, Division 25 of the Code of State Regulations, which incorporates Title 40 part 262 Section 262.11 of the Code of Federal Regulations (CFR) requires that "a person who generates a solid waste, as defined in 40 CFR 261.2, must determine if that waste is a hazardous waste" utilizing the prescribed method. Bridgeton Sanitary Landfill was ordered to cease discharge to the Metropolitan Sewer District (MSD) on or around January 10, 2013. Once the landfill began storing their generated solid waste onsite, they were required to conduct a proper hazardous waste determination. Records

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show that a sample of the untreated comingled leachate was not collected until April 5, 2013 and not properly analyzed until April 15, 2013, 95 days after the landfill ceased discharge to MSD.

Air Conservation Law

- 1. 10 CSR 10-6.165 requires that "no person may cause, permit, or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one (1) volume of odorous air is diluted with seven (7) volumes of odorfree air for two (2) separate trials not less than fifteen (15) minutes apart within the period of one (1) hour." Since at least January 1, 2013, and continuing to the present date, and as initially documented in a Notice of Violation issued February 6, 2013, (NOV#8049), the Department has documented hundreds of exceedances of the 7:1 Dilution-to-Threshold (D/L) ratio on two monitoring events within one hour.
- 2. 10 CSR 10-6.060(1)(C) requires that "No owner or operator shall commence construction or modification of any installation subject to this rule, begin operation after that construction or modification, or begin operation of any installation...without first obtaining a permit from the permitting authority under this rule." On July 14, 2014, the St. Louis County Department of Health's Air Pollution Control Program (STLCO) received a permit application for authority to construct for the installation of two (2) permanent 2.75 million British Thermal Units per hour (mmbtu/hr) regenerative thermal oxidizers to control odors and emissions from the leachate management system. On July 29, 2014, the STLCO verified that construction of the equipment commenced prior to permit application submittal and operation of the equipment commenced prior to permit issuance. STLCO's NOV issued August 18, 2014, (NOV#8096) documented these violations of 10 CSR 10-6.060.

10 CSR 10-6.060(5)(B)3. also states, "Net emissions do not increase above the de minimis levels at an installation having a de minimis permit under this section. If net emissions at the installation do increase above the de minimis levels, the installation shall be in violation of this rule until it obtains a permit under the other applicable requirements of this rule." The Bridgeton Sanitary Landfill applied for and received Construction Permits and an Operating Permit which, based upon the available data as submitted, predicted that emissions of Sulfur Dioxide (SO₂) would be less than de minimis levels as defined in 10 CSR 10-6.020 and, therefore, in compliance with 10 CSR 10-6.260. On August 26, 2014, STLCO received verbal notification that testing had documented that the landfill may have actual and potential emissions at greater than major source levels for SO₂ STLCO received additional information on September 9, 2014, that indicated that further testing and analyses continued to show that emissions of

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SO₂ exceed levels as considered in the landfill's permits. Additional documentation may confirm further violations of 10 CSR 10-6.060 and 10-6.260, which will be noted in a future NOV.

- 3. 10 CSR 10-6.080 which adopts by reference 40 CFR Part 61, Subpart M and 10 CSR 10-6.250 require that any regulated structure that will be demolished must first be inspected for asbestos by a Missouri certified asbestos inspector, any regulated materials must be removed, as appropriate, and notification of demolition must be submitted at least ten (10) working days prior to the demolition. On September 5, 2013, the STLCO documented that a concrete plant and Building #1 located on the Bridgeton site, had been dismantled and/or demolished without a thorough asbestos inspection and without notification submitted. STLCO's NOV issued September 5, 2013 (NOV#8049) documented these violations.
- 4. Construction Permits #7839 and #7840, Special Condition #3, as authorized under 10 CSR 10-6.060, states that Bridgeton Landfill shall demonstrate compliance with 40 CFR Part 60 §60.18(c)(3) by performing monthly sampling from each open flare for percent hydrogen, percent methane, and heating value. Bloating of the landfill liner near the east flare due to GCCS downtime on July 26, 2014, made operation of the east flare necessary, however, the flare had not been sampled as required.

Missouri Clean Water Law

- 1. Section 644.076.1, RSMo, and 10 CSR 20-7.015(9)(D)1 require all operating permit holders to submit reports at intervals established by the permit or at any other reasonable intervals required by the Department. Missouri State Operating Permit (MSOP) number MO-0112771 requires the landfill to collect a grab sample of at least one (1) stormwater runoff event from each permitted outfall within each monitoring period that runoff occurs, and submit to the Department sample results for parameters listed in the permit on a quarterly discharge monitoring report (DMR). Table 1 provides a list of parameters the landfill failed to report on quarterly DMRs between December 2010 and present.
- 2. Sections 644.051.1(3) and 644.076.1, RSMo, make it unlawful for any person to discharge any water contaminants into waters of the state which exceed effluent regulations or permit provisions as established by the Missouri Clean Water Commission. As previously documented in NOVs issued August 23, 2011 (NOV#2885SL) and May 24, 2012 (NOV#2969SL), stormwater discharges from the landfill have exceeded effluent limitations established in MSOP number MO-0112771. Table 2 provides a list of parameters and concentrations reported by the landfill on quarterly DMRs that exceeded monthly average and/or daily maximum limitations between December 2010 and present.

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- 3. Sections 644.051.1(1) and 644.076.1, RSMo, make it unlawful for any person to cause pollution of any waters of the state or to place or cause or permit to be placed any water contaminant in a location where it is reasonably certain to cause pollution of any waters of the state. As previously documented in NOVs issued August 23, 2011 (NOV#2885SL), and May 24, 2012 (NOV#2969SL), each exceedance of permitted effluent limitations, including those listed in Table 2, constitutes a violation of Sections 644.051(1) and 644.076.1, RSMo, and MSOP number MO-0112771. Furthermore, on February 2, 2013, Department staff observed leachate discharged from Outfall #003 in a tributary to Fee Fee Creek. Also, on May 7, 2013, Department staff documented that water flowing in a tributary to Fee Fee Creek immediately downstream of Outfall #003 had a sharp, isopropyl alcohol-like odor.
- 4. Sections 644.051.1(2) and 644.076.1, RSMo, and 10 CSR 20-7.031 make it unlawful for any person to discharge water contaminants into any waters of the state which reduce the quality of such waters below the water quality standards (WQS) established by the Missouri Clean Water Commission. On February 2, 2013, Department staff observed leachate discharged from Outfall #003 in a tributary to Fee Fee Creek in violation of general WQS. Furthermore, water analyses indicated exceedances of specific WQS for benzene, biochemical oxygen demand, chemical oxygen demand and phenol. On May 7, 2013, Department staff documented that water flowing in a tributary to Fee Fee Creek immediately downstream of Outfall #003 had a sharp, isopropyl alcohol-like odor in violation of general WQS. Lastly, groundwater samples collected from the landfill's monitoring wells between November 2012 and May 2014 indicate exceedances of specific WQS for groundwater (see Table 3).

Should you have any questions concerning this Notice of Violation, please contact me at Missouri Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102-0176, (573) 751-0763 or aaron.schmidt@dnr.mo.gov. Thank you.

Sincerely,

DIVISION OF ENVIRONMENTAL QUALITY

Aaron Schmidt Deputy Director

AS:11k

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Enclosure

c: Mr. Jim Teter, Republic Services, Inc.

Ms. Jessie Merrigan, Lathrop & Gage

Mr. John Haasis, St. Louis County Department of Health- Solid Waste Management Program

Ms. Kathrina Donegan, St. Louis County Department of Health- Air Program

Mr. Tom Phillips, Assistant Attorney General

Mr. Chris Nagel, Solid Waste Management Program

Mr. David Lamb, Hazardous Waste Program

Ms. Kyra Moore, Air Pollution Control Program

Mr. John Madras, Water Protection Program

St. Louis Regional Office via Shared Electronic Files

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Table 1. Non-reporting violations. Parameters missing from discharge monitoring reports (DMRs) required by MSOP number MO-0112771.

Outfall	Designator	Monitoring Period	Parameter
004	В	06/30/2011	Calcium, total (as Ca)
004	В	06/30/2014	Calcium, total (as Ca)
006	A	03/31/2014	Ammonia (as N) + unionized ammonia
006	Α	03/31/2014	BOD, 5-day, 20 deg. C
006	A	03/31/2014	Chemical Oxygen Demand (COD)
006	Α	03/31/2014	Chlorides and sulfates
			Flow, in conduit or thru treatment
006	Α	03/31/2014	plant
006	Α	03/31/2014	Oil and grease
006	A	03/31/2014	pH
006	Α	03/31/2014	Rainfall
006	A	03/31/2014	Settleable Solids (SS)
006	Α	03/31/2014	Total Suspended Solids (TSS)
006	В	09/30/2014	Boron, total recoverable

Table 2. Effluent exceedances. Parameters reported on discharge monitoring reports (DMR) with concentrations greater than monthly average and/or daily maximum effluent limitations established in MSOP number MO-0112771.

Outfall Designator	Monitoring or Period	Parameter	Unit	Mo. Avg	Daily Max	DMR
- 1	03/31/2012	Ammonia (as N) + unionized ammonia	mg/L	2.8	7.5	6.87
		Benzene, ethylbenzene, toluene, xylene				
	03/31/2011	combination	mg/L	0.75	0.75	1.9
	03/31/2011	BOD, 5-day, 20 deg. C	mg/L	45	09	95.1
	03/31/2012	BOD, 5-day, 20 deg. C	mg/L	30	45	274
	03/31/2013	BOD, 5-day, 20 deg. C	mg/L	30	45	94
	03/31/2014	BOD, 5-day, 20 deg. C	mg/L	30	45	46
	03/31/2012	Chemical Oxygen Demand (COD)	mg/L	06	120	540
	03/31/2013	Chemical Oxygen Demand (COD)	mg/L	06	120	270
	06/30/2013	Chemical Oxygen Demand (COD)	mg/L	06	120	120
	06/30/2011	Oil and grease	mg/L	10	15	10.5
	03/31/2011	Total Suspended Solids (TSS)	mg/L	09	80	61
	03/31/2013	Total Suspended Solids (TSS)	mg/L	09	80	<i>L</i> 9
	12/31/2013	Total Suspended Solids (TSS)	mg/L	09	80	100
	06/30/2014	Total Suspended Solids (TSS)	mg/L	09	80	120
	06/30/2011	Iron, total recoverable	ng/L	817	1639	915
	03/31/2012	Iron, total recoverable	ng/L	817	1639	4570
	12/31/2012	Iron, total recoverable	ng/L	817	1639	2300
	03/31/2013	Iron, total recoverable	ng/L	817	1639	5500
	06/30/2013	Iron, total recoverable	ng/L	817	1639	2300
	09/30/2013	Iron, total recoverable	ng/L	817	1639	3300
	12/31/2013	Iron, total recoverable	ng/L	817	1639	3000
	03/31/2014	Iron, total recoverable	ng/L	817	1639	2000
45	06/30/2014	Iron, total recoverable	T/gn	817	1639	3400
	06/30/2011	Total Suspended Solids (TSS)	mg/L	09	80	161
	06/30/2011	Iron, total recoverable	T/gn	817	1639	1580

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mg/L	mg/L	I/gm	T/gu	J/gn	I/gu	J/gn	I/gu	ng/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
Total Suspended Solids (TSS)	Total Suspended Solids (TSS)	Total Suspended Solids (TSS)	Iron, total recoverable	fron, total recoverable	BOD, 5-day, 20 deg. C	Chemical oxygen demand (COD)	Fotal Suspended Solids (TSS)																			
	•	4	06/30/2011	~1		06/30/2014		4		01	2	09/30/2013	~	09/30/2014	06/30/2011		7	06/30/2012	m		4			12/31/2011	6)	12/31/2013
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002	900	005	900	900	900	900	005	900	007	200	200	007	007	007	200	200	002	007	007	007	007	007	200	200	200	200

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200	A	03/31/2014	Total Suspended Solids (TSS)	mg/L	09	80	160
200	A	06/30/2014	Total Suspended Solids (TSS)	mg/L	09	80	440
200	A	09/30/2014	Total Suspended Solids (TSS)	mg/L	09	80	700
200	В	06/30/2011	Iron, total recoverable	T/gn	817	1639	48200
200	В	09/30/2011	Iron, total recoverable	ng/L	817	1639	4600
200	В	12/31/2011	Iron, total recoverable	ng/L	817	1639	2570
007	В	03/31/2012	Iron, total recoverable	ng/L	817	1639	5050
200	В	06/30/2012	Iron, total recoverable	ng/L	817	1639	2200
007	В	12/31/2012	Iron, total recoverable	ng/L	817	1639	2200
200	В	03/31/2013	Iron, total recoverable	ng/L	817	1639	1800
200	В	06/30/2013	Iron, total recoverable	ng/L	817	1639	1900
007	В	09/30/2013	Iron, total recoverable	ng/L	817	1639	1900
200	В	12/31/2013	Iron, total recoverable	ng/L	817	1639	4100
200	В	03/31/2014	Iron, total recoverable	ng/L	817	1639	5100
200	В	06/30/2014	Iron, total recoverable	ng/L	817	1639	20000
200	В	09/30/2014	Iron, total recoverable	T/gn	817	1639	11000

Table 3. Groundwater Exceedances. Groundwater monitoring wells that exceeded water quality standards established in 10 CSR 20-7.031.

			~~	Reported	
Well	Parameter	Date	Unit	Value	WQS
104-SD	1,2-Dichloroethane	11/27/2012	ug/l	6.7	5
104-SD	1,2-Dichloroethane	4/11/2013	ug/l	24	5
104-SD	Benzene	5/11/2012	ug/l	57	5
104-SD	Benzene	11/27/2012	ug/l	350	5
104-SD	Benzene	4/11/2013	ug/l	1,000	5
104-SD	Benzene	10/7/2013	ug/l	920	5
104-SD	Benzene	5/28/2014	ug/l	1,300	5
104-SD	Toluene	4/11/2013	ug/l	1,800	1,000
104-SS	1,2-Dichloroethane	11/27/2012	ug/l	20	5
104-SS	1,2-Dichloroethane	4/11/2013	ug/l	43	5
104-SS	1,2-Dichloroethane	10/9/2013	ug/l	43	5
104-SS	Benzene	11/27/2012	ug/l	1,100	5
104-SS	Benzene	4/11/2013	ug/l	2,400	5
104-SS	Benzene	10/9/2013	ug/l	2,200	5
104-SS	Benzene	5/28/2014	ug/l	1,200	5
114-AS	Arsenic	5/11/2011	ug/l	130	50
114-AS	Arsenic	11/18/2011	ug/l	110	50
114-AS	Arsenic	5/10/2012	ug/l	130	50
114-AS	Arsenic	11/27/2012	ug/l	270	50
114-AS	Arsenic	4/8/2013	ug/l	400	50
114-AS	Arsenic	10/8/2013	ug/l	200	50
114-AS	Arsenic	5/28/2014	ug/l	220	50
114-AS	Benzene	4/8/2013	ug/l	8.9	5
114-AS	Benzene	5/28/2014	ug/l	6.7	5