



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

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MEMORANDUM



DATE: March 18, 2013

TO: Bridgeton Sanitary Landfill Solid Waste Enforcement File
Solid Waste Permit #118912

FROM: Dan Norris, Environmental Specialist
Hazardous Waste Program *Dan Norris*

SUBJECT: March 13, 2013 Air sampling around Bridgeton Sanitary Landfill

On March 13, 2013, during gas extraction well drilling activities, odors in the vicinity of the landfill were elevated. Due to the elevated odors, coupled with wind conditions favorable for sampling, I made the decision to collect SUMMA® canister air samples in the vicinity of the Bridgeton Sanitary Landfill. I arrived at the trailer around 14:30 and met Mr. Michael Ruddy. Weather information from the National Weather Service's Lambert-St. Louis monitoring station, along with field observations, were used to determine placement of samples. Wind direction was consistently out of the northwest during the sampling. Winds were between 8 and 18 miles per hour, with occasional stronger gusts. By approximately 21:00 winds were becoming calmer at the site.

Samples were collected at 3 locations between 15:10 and 20:45. Flow controllers were installed on the SUMMA® canisters to regulate the sampling time to collect for approximately 4 hours. However, the flow controllers limited the flow such that samples were actually collecting over approximately a 5 hour period. During sampling, we observed 3 drill rigs operating at the site. The closest drilling activity occurring near our samples was along the toe of the southeast sideslope of the landfill. A small steam or water vapor plume was visible at times from this area. We also observed a vacuum truck pumping from a frac tank located near leachate collection sump 3. We occasionally observed what appeared to be a fine mist from this truck during pumping. A description of the location of the samples and odors encountered during sampling is below.

<u>Sample</u>	<u>Location</u>	<u>Odors observed during sampling</u>
131077	Upwind along Old St. Charles Rock Road	None
131078	Downwind southeast of landfill	Moderate-strong odors associated with landfill
131079	Downwind southeast of landfill	Moderate-very strong odors associated with landfill

As we were concluding the sampling event, we noticed a slight odor similar to isopropyl alcohol while walking near stormwater outfall 003 along Old St. Charles Rock Road. We could not determine with certainty if this odor was originating on the Bridgeton Sanitary Landfill site. We also observed a vacuum truck just north of the existing leachate tank. The next day, I contacted Mr. Craig Almanza of Republic Services to inquire the purpose of the vacuum truck. Mr. Sean Torrey of Republic Services responded by explaining that the vacuum truck was used to pump liquids that accumulate underneath a plastic cap installed near leachate collection sump 4. Mr. Almanza and Mr. Torrey were unaware of any sources that could cause odors similar to isopropyl alcohol at the time we sampled.

I transported the sample containers back to Jefferson City that evening for shipment the following day. All samples remained in my possession until packaged for shipment on March 14, 2013. The afternoon of March 14, 2013, the samples were shipped to Eurofins/Air Toxics Limited in Folsom, California for analysis. When we receive the results of the sampling, I will forward them to staff involved with interpreting air sampling data associated with this project.

DFN/dg

Attachments: Select photographs from March 13, 2013 air sampling event
Map of March 13, 2013 air sampling locations
Copy of chain-of-custody records used for sample collection
National Weather Service weather observations at Lambert-St. Louis airport

c: Mr. Brian Allen, Environmental Services Program
Mr. Chris Nagel, Director, Solid waste Management Program (SWMP)
St. Louis Regional Office

Attachment A
Select photographs from March 13, 2013 air sampling
Bridgeton Sanitary Landfill



Photo A – Sample 131077 collected upwind of landfill along vacant Old St. Charles Rock Road corridor.



Photo B – Sample 131078 collected downwind of landfill on property to the southeast.



Photo C – Sample 131079 collected downwind of the landfill on property to the southeast.

Bridgeton Sanitary Landfill March 13, 2013 Air Sampling



Last Updated 3/14/2013 nrrordr





Missouri Department of Natural Resources
Division of Environmental Quality
Solid Waste Management Program


0 375 750 1,500 Feet

Although data sets used to create this map have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.

Legend

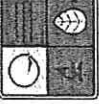
3-13-13 Air Sample

-  Downwind, 5 Hour
-  Upwind, 5 Hour

 Waste Areas (approximate)



MISSOURI DEPARTMENT OF NATURAL RESOURCES
FIELD SHEET AND CHAIN-OF-CUSTODY RECORD



Sample A	LDPR:	Job Code: <u>NT13BRMN/FEABL</u>	Sample Reference ID:
Facility ID: <u>118912</u>	Site/Study Name: <u>Bridgeton Sanitary Landfill</u>	County: <u>St. Louis</u>	Sample Event Type: (circle one) <u>Air</u>
Sample Comment (where and how the sample was collected): <u>UPwind of landfill along closed portion of old St. Charles Rock Road. Canister 32113. 7-30 in Hg at start. -5.5 in Hg at 20:45 when stopped. No odors in this area during sample collection.</u>	Grab Composite Modified <u>Other: Timed</u>	Accuracy <u>PDOP</u>	Sample Type: (circle one) Soil Spill Storm Water Surface Water Wipes
GPS Coordinates (UTM Zone 15 NAD83 Only)	X Easting <u>721606.21</u>	Y Northing <u>4293800.12</u>	Drinking Water Supply
	Accuracy <u>2.06</u>	EPE (meters) <u>PDOP</u>	

Sample B	LDPR:	Job Code: <u>NT13BRMN/FEABL</u>	Sample Reference ID:
Facility ID: <u>118912</u>	Site/Study Name: <u>Bridgeton Sanitary Landfill</u>	County: <u>St. Louis</u>	Sample Event Type: (circle one) <u>Air</u>
Sample Comment (where and how the sample was collected): <u>Downwind of landfill on property to southeast. Canister 12083 -27.5 in Hg at start. -6 in Hg at 20:20 when stopped. Consistently smelled odors in this area during sample collection.</u>	Grab Composite Modified <u>Other: Timed</u>	Accuracy <u>PDOP</u>	Sample Type: (circle one) Soil Spill Storm Water Surface Water Wipes
GPS Coordinates (UTM Zone 15 NAD83 Only)	X Easting <u>722453.37</u>	Y Northing <u>4293459.83</u>	Drinking Water Supply
	Accuracy <u>2.06</u>	EPE (meters) <u>PDOP</u>	

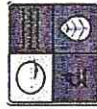
Sample C	LDPR:	Job Code: <u>NT13BRMN/FEABL</u>	Sample Reference ID:
Facility ID: <u>118912</u>	Site/Study Name: <u>Bridgeton Sanitary Landfill</u>	County: <u>St. Louis</u>	Sample Event Type: (circle one) <u>Air</u>
Sample Comment (where and how the sample was collected): <u>Downwind of landfill on property to southeast. Canister 10226. -30 in Hg at start. -7 in Hg at 20:25 when stopped. Consistently smelled odors in this area during sample collection.</u>	Grab Composite Modified <u>Other: Timed</u>	Accuracy <u>PDOP</u>	Sample Type: (circle one) Soil Spill Storm Water Surface Water Wipes
GPS Coordinates (UTM Zone 15 NAD83 Only)	X Easting <u>722502.07</u>	Y Northing <u>4293599.58</u>	Drinking Water Supply
	Accuracy <u>1.83</u>	EPE (meters) <u>PDOP</u>	

Sample D	LDPR:	Job Code:	Sample Reference ID:
Facility ID:	Site/Study Name:	County:	Sample Event Type: (circle one)
Sample Comment (where and how the sample was collected):	Grab Composite Modified	Other:	Sample Type: (circle one) Air Soil Spill Storm Water Surface Water Wipes
GPS Coordinates (UTM Zone 15 NAD83 Only)	X Easting	Y Northing	Drinking Water Supply
	Accuracy	EPE (meters)	
		<u>PDOP</u>	

Remarks:



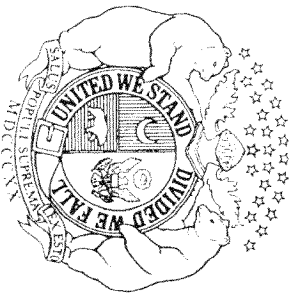
MISSOURI DEPARTMENT OF NATURAL RESOURCES
FIELD SHEET AND CHAIN-OF-CUSTODY RECORD



Description of Delivery
Total No. Of Containers: _____
Carrier: _____
By: _____

Taps sealed and initialed
Shipped _____
Hand Delivered _____

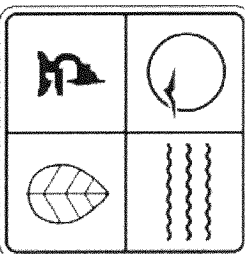
Collector's Name: <i>Dan Norris</i>		LAB USE ONLY!				Location:			
(Please Print)		Laboratory ID:							
Affiliation: _____		KERO SERO		DGLS		ESP		MoDOT	
(circle one)		MDC		SWRO		WPP			
Sample Number		Analyses Requested		Disinfect. Type (circle one)		Field Parameters (include units)		Matrix (circle one)	
Date:		Date:		D.O.		D.O.		Water	
Time:		Time:		Flow		Flow		Soil	
				pH		pH		Organic	
				Cond.		Cond.		Sludge	
				Temp.		Temp.		Other:	
				Other:		Other:			
131077	3/13/13	70-15	None	D.O.					
(Sample A)			Cl ₂	Flow					
For Lab Use Only	15:10		UV	pH					
			Ozone	Cond.					
			Other:	Temp.					
				Other:					
131078	3/13/13	70-15	None	D.O.					
(Sample B)			Cl ₂	Flow					
For Lab Use Only	15:30		UV	pH					
			Ozone	Cond.					
			Other:	Temp.					
				Other:					
131079	3/13/13	70-15	None	D.O.					
(Sample C)			Cl ₂	Flow					
For Lab Use Only	15:45		UV	pH					
			Ozone	Cond.					
			Other:	Temp.					
				Other:					
(Sample D)			None	D.O.					
For Lab Use Only			Cl ₂	Flow					
			UV	pH					
			Ozone	Cond.					
			Other:	Temp.					
				Other:					
Relinquished By: <i>Daniel Norris</i>			Received By:						
Relinquished By:			Received By:						
Relinquished By:			Received By:						
				Date: 3/14/13					Time: 0918
				Date:					Time:
				Date:					Time:



Environmental Services Program

Order ID 130325001 Program, Contact: APCP Stephen Hall

Report Date: 03/25/2013 LDPR/JobCode: FEABL / NU13BRMN



Sample: AB94607



Customer #: 131077

UTM-Easting 721606.21E Northing 4293800.12N

Facility ID: 118912 County: St. Louis Site: Bridgeton Sanitary Landfill
Collector: DAN NORRIS Sample Reference ID:
Entry Point: Precision 2.06ft Affiliation: HWP Collect Date: 3/13/2013 3:10:00PM
Sample Comment: Timed, upwind of landfill along closed portion of Old St. Charles Rock Road. Canister 32113, > -30 in Hg at start, -5.5 in Hg at 20.45 when stopped. No odors in this area during sample collection.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
TO-15	1,1,1-Trichloroethane	<0.15	ND, 04	ppbv		TO-15
TO-15	1,1,2,2-Tetrachloroethane	<0.15	ND, 04	ppbv		TO-15
TO-15	1,1,2-Trichloroethane	<0.15	ND, 04	ppbv		TO-15
TO-15	1,1-Dichloroethane	<0.15	ND, 04	ppbv		TO-15
TO-15	1,1-Dichloroethene	<0.15	ND, 04	ppbv		TO-15
TO-15	1,2,4-Trichlorobenzene	<0.73	ND, 04	ppbv		TO-15
TO-15	1,2,4-Trimethylbenzene	<0.15	ND, 04	ppbv		TO-15
TO-15	1,2-Dibromoethane (EDB)	<0.15	ND, 04	ppbv		TO-15
TO-15	1,2-Dichlorobenzene	<0.15	ND, 04	ppbv		TO-15
TO-15	1,2-Dichloroethane	<0.15	ND, 04	ppbv		TO-15
TO-15	1,2-Dichloropropane	<0.15	ND, 04	ppbv		TO-15
TO-15	1,3,5-Trimethylbenzene	<0.15	ND, 04	ppbv		TO-15
TO-15	1,3-Butadiene	<0.15	ND, 04	ppbv		TO-15
TO-15	1,3-Dichlorobenzene	<0.15	ND, 04	ppbv		TO-15
TO-15	1,4-Dichlorobenzene	<0.15	ND, 04	ppbv		TO-15
TO-15	1,4-Dioxane	<0.15	ND, 04	ppbv		TO-15
TO-15	2,2,4-Trimethylpentane	<0.73	ND, 04	ppbv		TO-15
TO-15	2-Butanone (MEK)	<0.73	ND, 04	ppbv		TO-15
TO-15	2-Hexanone	<0.73	ND, 04	ppbv		TO-15
TO-15	2-Propanol	<0.73	ND, 04	ppbv		TO-15
TO-15	3-Chloropropene	<0.73	ND, 04	ppbv		TO-15
TO-15	4-Ethyltoluene	<0.15	ND, 04	ppbv		TO-15
TO-15	4-Methyl-2-pentanone(MIBK)	<0.15	ND, 04	ppbv		TO-15
TO-15	Acetone	1.40	04	ppbv		TO-15
TO-15	Benzene	<0.15	ND, 04	ppbv		TO-15

Sample: AB94607



Customer #: 131077

Facility ID: 118912

County: St. Louis

Site: Bridgeton Sanitary Landfill

Sample Reference ID:

Collector: DAN NORRIS

Affiliation: HWP

Entry Point:

Collect Date: 3/13/2013 3:10:00PM

Sample Comment: Timed, upwind of landfill along closed portion of Old St. Charles Rock Road. Canister 32113, > -30 in Hg at start. -5.5 in Hg at 20:45 when stopped. No odors in this area during sample collection.

UTM-Easting

721606.21E

Northing

4293800.12N

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
TO-15	Bromodichloromethane	<0.15	ND, 04	ppbv		TO-15
TO-15	Bromoform	<0.15	ND, 04	ppbv		TO-15
TO-15	Bromomethane	<0.73	ND, 04	ppbv		TO-15
TO-15	Carbon Disulfide	<0.73	ND, 04	ppbv		TO-15
TO-15	Carbon Tetrachloride	<0.15	ND, 04	ppbv		TO-15
TO-15	Chlorobenzene	<0.15	ND, 04	ppbv		TO-15
TO-15	Chloroethane	<0.73	ND, 04	ppbv		TO-15
TO-15	Chloroform	<0.15	ND, 04	ppbv		TO-15
TO-15	Chloromethane	0.51	04	ppbv		TO-15
TO-15	Chlorotoluene	<0.15	ND, 04	ppbv		TO-15
TO-15	cis-1,2-dichloroethene	<0.15	ND, 04	ppbv		TO-15
TO-15	cis-1,3-Dichloropropene	<0.15	ND, 04	ppbv		TO-15
TO-15	Cumene	<0.15	ND, 04	ppbv		TO-15
TO-15	Cyclohexane	<0.15	ND, 04	ppbv		TO-15
TO-15	Dibromochloromethane	<0.15	ND, 04	ppbv		TO-15
TO-15	Ethanol	<0.73	ND, 04	ppbv		TO-15
TO-15	Ethylbenzene	<0.15	ND, 04	ppbv		TO-15
TO-15	Freon 11	0.22	04	ppbv		TO-15
TO-15	Freon 113	<0.15	ND, 04	ppbv		TO-15
TO-15	Freon 114	<0.15	ND, 04	ppbv		TO-15
TO-15	Freon 12	0.48	04	ppbv		TO-15
TO-15	Heptane	<0.15	ND, 04	ppbv		TO-15
TO-15	Hexachlorobutadiene	<0.73	ND, 04	ppbv		TO-15
TO-15	Hexane	<0.15	ND, 04	ppbv		TO-15
TO-15	m&p-Xylenes	<0.15	ND, 04	ppbv		TO-15
TO-15	Methylene chloride	<0.29	ND, 04	ppbv		TO-15
TO-15	Methyl-t-butyl ether	<0.15	ND, 04	ppbv		TO-15
TO-15	o-Xylene	<0.15	ND, 04	ppbv		TO-15
TO-15	Propylbenzene	<0.15	ND, 04	ppbv		TO-15
TO-15	Styrene	<0.15	ND, 04	ppbv		TO-15
TO-15	Tetrachloroethene	<0.15	ND, 04	ppbv		TO-15
TO-15	Tetrahydrofuran	<0.73	ND, 04	ppbv		TO-15
TO-15	Toluene	<0.15	ND, 04	ppbv		TO-15
TO-15	trans-1,2-Dichloroethene	<0.15	ND, 04	ppbv		TO-15
TO-15	trans-1,3-Dichloropropene	<0.15	ND, 04	ppbv		TO-15

Sample: AB94607

Customer #: 131077

Facility ID: 118912
County: St. Louis
Collector: DAN NORRIS

Site: Bridgeton Sanitary Landfill
Sample Reference ID:
Affiliation: HWP


Collect Date: 3/13/2013 3:10:00PM

UTM-Easting 4293800.12N
721606.21E 4293800.12N

Entry Point:
Sample Comment: Timed, upwind of landfill along closed portion of Old St. Charles Rock Road
Precision 2.06ft
 No odors in this area during sample collection.

Canister 32113. > -30 in Hg at start. -5.5 in Hg at 20:45 when stopped.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
TO-15	Trichloroethene	<0.15	ND, 04	ppbv		TO-15
TO-15	Vinyl Chloride	<0.15	ND, 04	ppbv		TO-15

Sample: AB94608

Customer #: 131078

Facility ID: 118912
County: St. Louis
Collector: DAN NORRIS

Site: Bridgeton Sanitary Landfill
Sample Reference ID:
Affiliation: HWP

Collect Date: 3/13/2013 3:30:00PM

UTM-Easting 4293459.83N
722453.37E 4293459.83N

Entry Point:
Sample Comment: Timed, downwind of landfill on property to southeast. Canister 12083, -27.5 in Hg at start. -6 in Hg at 20:20 when stopped.
Precision 2.06ft
 Consistently smelled odors in this area during sample collection.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
TO-15	1,1,1-Trichloroethane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,1,2,2-Tetrachloroethane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,1,2-Trichloroethane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,1-Dichloroethane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,1-Dichloroethene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,2,4-Trichlorobenzene	<0.78	ND, 04	ppbv		TO-15
TO-15	1,2,4-Trimethylbenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,2-Dibromoethane (EDB)	<0.16	ND, 04	ppbv		TO-15
TO-15	1,2-Dichlorobenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,2-Dichloroethane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,2-Dichloropropane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,3,5-Trimethylbenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,3-Butadiene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,3-Dichlorobenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,4-Dichlorobenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,4-Dioxane	<0.16	ND, 04	ppbv		TO-15
TO-15	2,2,4-Trimethylpentane	<0.78	ND, 04	ppbv		TO-15
TO-15	2-Butanone (MEK)	<0.78	ND, 04	ppbv		TO-15
TO-15	2-Hexanone	<0.78	ND, 04	ppbv		TO-15
TO-15	2-Propanol	<0.78	ND, 04	ppbv		TO-15
TO-15	3-Chloropropene	<0.78	ND, 04	ppbv		TO-15
TO-15	4-Ethyltoluene	<0.16	ND, 04	ppbv		TO-15
TO-15	4-Methyl-2-pentanone(MIBK)	<0.16	ND, 04	ppbv		TO-15
TO-15	Acetone	1.20	04	ppbv		TO-15

Sample: AB94608



Customer #: 131078

Facility ID: 118912
County: St. Louis

Collector: DAN NORRIS
Entry Point:

Sample Comment:
Precision
2.06ft

UTM-Easting
722453.37E
Northing
4293459.83N

Site: Bridgeton Sanitary Landfill
Sample Reference ID:

Affiliation: HWP

Collect Date: 3/13/2013 3:30:00PM

Timed, downwind of landfill on property to southeast. Canister 12083, -27.5 in Hg at start, -6 in Hg at 20:20 when stopped.
Consistently smelled odors in this area during sample collection.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
TO-15	Benzene	0.69	04	ppbv		TO-15
TO-15	Bromodichloromethane	<0.16	ND, 04	ppbv		TO-15
TO-15	Bromoform	<0.16	ND, 04	ppbv		TO-15
TO-15	Bromomethane	<0.78	ND, 04	ppbv		TO-15
TO-15	Carbon Disulfide	<0.78	ND, 04	ppbv		TO-15
TO-15	Carbon Tetrachloride	<0.16	ND, 04	ppbv		TO-15
TO-15	Chlorobenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	Chloroethane	<0.78	ND, 04	ppbv		TO-15
TO-15	Chloroform	<0.16	ND, 04	ppbv		TO-15
TO-15	Chloromethane	0.40	04	ppbv		TO-15
TO-15	Chlorotoluene	<0.16	ND, 04	ppbv		TO-15
TO-15	cis-1,2-dichloroethene	<0.16	ND, 04	ppbv		TO-15
TO-15	cis-1,3-Dichloropropene	<0.16	ND, 04	ppbv		TO-15
TO-15	Cumene	<0.16	ND, 04	ppbv		TO-15
TO-15	Cyclohexane	<0.16	ND, 04	ppbv		TO-15
TO-15	Dibromochloromethane	<0.16	ND, 04	ppbv		TO-15
TO-15	Ethanol	<0.78	ND, 04	ppbv		TO-15
TO-15	Ethylbenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	Freon 11	0.22	04	ppbv		TO-15
TO-15	Freon 113	<0.16	ND, 04	ppbv		TO-15
TO-15	Freon 114	<0.16	ND, 04	ppbv		TO-15
TO-15	Freon 12	0.49	04	ppbv		TO-15
TO-15	Heptane	<0.16	ND, 04	ppbv		TO-15
TO-15	Hexachlorobutadiene	<0.78	ND, 04	ppbv		TO-15
TO-15	Hexane	<0.16	ND, 04	ppbv		TO-15
TO-15	m&p-Xylenes	<0.16	ND, 04	ppbv		TO-15
TO-15	Methylene chloride	<0.31	ND, 04	ppbv		TO-15
TO-15	Methyl-t-butyl ether	<0.16	ND, 04	ppbv		TO-15
TO-15	o-Xylene	<0.16	ND, 04	ppbv		TO-15
TO-15	Propylbenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	Styrene	<0.16	ND, 04	ppbv		TO-15
TO-15	Tetrachloroethene	<0.16	ND, 04	ppbv		TO-15
TO-15	Tetrahydrofuran	<0.78	ND, 04	ppbv		TO-15
TO-15	Toluene	<0.16	ND, 04	ppbv		TO-15
TO-15	trans-1,2-Dichloroethene	<0.16	ND, 04	ppbv		TO-15

Sample: AB94608
Customer #: 131078

Facility ID: 118912
County: St. Louis

Site: Bridgeton Sanitary Landfill
Sample Reference ID:

Collect Date: 3/13/2013 3:30:00PM

UTM-Easting 722453.37E
Northing 4293459.83N

Collector: DAN NORRIS
Entry Point:
Sample Comment: Timed, downwind of landfill on property to southeast. Consistently smelled odors in this area during sample collection.

Affiliation: HWP
Canister 12083, -27.5 in Hg at start, -6 in Hg at 20:20 when stopped.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
TO-15	trans-1,3-Dichloropropene	<0.16	ND, 04	ppbv		TO-15
TO-15	Trichloroethene	<0.16	ND, 04	ppbv		TO-15
TO-15	Vinyl Chloride	<0.16	ND, 04	ppbv		TO-15

Sample: AB94609

Facility ID: 118912
County: St. Louis

Site: Bridgeton Sanitary Landfill
Sample Reference ID:

Collect Date: 3/13/2013 3:45:00PM

UTM-Easting 722502.07E
Northing 4293599.58N

Collector: DAN NORRIS
Entry Point:
Sample Comment: Timed, downwind of landfill on property to southeast. Consistently smelled odors in this area during sample collection.

Affiliation: HWP
Canister 11026, -30 in Hg at start, -7 in Hg at 20:25 when stopped.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
TO-15	1,1,1-Trichloroethane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,1,2,2-Tetrachloroethane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,1,2-Trichloroethane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,1-Dichloroethane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,1-Dichloroethane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,2,4-Trichlorobenzene	<0.78	ND, 04	ppbv		TO-15
TO-15	1,2,4-Trimethylbenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,2-Dibromoethane (EDB)	<0.16	ND, 04	ppbv		TO-15
TO-15	1,2-Dichlorobenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,2-Dichloroethane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,2-Dichloropropane	<0.16	ND, 04	ppbv		TO-15
TO-15	1,3,5-Trimethylbenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,3-Butadiene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,3-Dichlorobenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,4-Dichlorobenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	1,4-Dioxane	<0.16	ND, 04	ppbv		TO-15
TO-15	2,2,4-Trimethylpentane	<0.78	ND, 04	ppbv		TO-15
TO-15	2-Butanone (MEK)	<0.78	ND, 04	ppbv		TO-15
TO-15	2-Hexanone	<0.78	ND, 04	ppbv		TO-15
TO-15	2-Propanol	<0.78	ND, 04	ppbv		TO-15
TO-15	3-Chloropropene	<0.78	ND, 04	ppbv		TO-15
TO-15	4-Ethyltoluene	<0.16	ND, 04	ppbv		TO-15
TO-15	4-Methyl-2-pentanone(MIBK)	<0.16	ND, 04	ppbv		TO-15

Sample: AB94609



Customer #: 131079

Facility ID: 118912

County: St. Louis

Collector: DAN NORRIS

Entry Point:

Site: Bridgeton Sanitary Landfill

Sample Reference ID:

Affiliation: HWP

Collect Date: 3/13/2013 3:45:00PM

Sample Comment: Timed, downwind of landfill on property to southeast. Canister 11026, -30 in Hg at start, -7 in Hg at 20:25 when stopped. Consistently smelled odors in this area during sample collection.

UTM-Easting
722502.07E
Northing
4293599.58N

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
TO-15	Acetone	2.20	04	ppbv		TO-15
TO-15	Benzene	1.40	04	ppbv		TO-15
TO-15	Bromodichloromethane	<0.16	ND, 04	ppbv		TO-15
TO-15	Bromoform	<0.16	ND, 04	ppbv		TO-15
TO-15	Bromomethane	<0.78	ND, 04	ppbv		TO-15
TO-15	Carbon Disulfide	<0.78	ND, 04	ppbv		TO-15
TO-15	Carbon Tetrachloride	<0.16	ND, 04	ppbv		TO-15
TO-15	Chlorobenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	Chloroethane	<0.78	ND, 04	ppbv		TO-15
TO-15	Chloroform	<0.16	ND, 04	ppbv		TO-15
TO-15	Chloromethane	0.43	04	ppbv		TO-15
TO-15	Chlorotoluene	<0.16	ND, 04	ppbv		TO-15
TO-15	cis-1,2-dichloroethene	<0.16	ND, 04	ppbv		TO-15
TO-15	cis-1,3-Dichloropropene	<0.16	ND, 04	ppbv		TO-15
TO-15	Cumene	<0.16	ND, 04	ppbv		TO-15
TO-15	Cyclohexane	<0.16	ND, 04	ppbv		TO-15
TO-15	Dibromochloromethane	<0.16	ND, 04	ppbv		TO-15
TO-15	Ethanol	1.50	06, 04	ppbv		TO-15
TO-15	Ethylbenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	Freon 11	0.20	04	ppbv		TO-15
TO-15	Freon 113	<0.16	ND, 04	ppbv		TO-15
TO-15	Freon 114	<0.16	ND, 04	ppbv		TO-15
TO-15	Freon 12	0.46	04	ppbv		TO-15
TO-15	Heptane	<0.16	ND, 04	ppbv		TO-15
TO-15	Hexachlorobutadiene	<0.78	ND, 04	ppbv		TO-15
TO-15	Hexane	<0.16	ND, 04	ppbv		TO-15
TO-15	m&p-Xylenes	0.32	04	ppbv		TO-15
TO-15	Methylene chloride	<0.31	ND, 04	ppbv		TO-15
TO-15	Methyl-t-butyl ether	<0.16	ND, 04	ppbv		TO-15
TO-15	o-Xylene	<0.16	ND, 04	ppbv		TO-15
TO-15	Propylbenzene	<0.16	ND, 04	ppbv		TO-15
TO-15	Styrene	<0.16	ND, 04	ppbv		TO-15
TO-15	Tetrachloroethene	<0.16	ND, 04	ppbv		TO-15
TO-15	Tetrahydrofuran	<0.78	ND, 04	ppbv		TO-15
TO-15	Toluene	0.35	04	ppbv		TO-15

Sample: AB94609
Customer #: 131079

Facility ID: 118912
County: St. Louis
Collector: DAN NORRIS

Site: Bridgeton Sanitary Landfill
Sample Reference ID:
Affiliation: HWP

Collect Date: 3/13/2013 3:45:00PM

UTM-Easting 4293599.58N
722502.07E

Entry Point:
Sample Comment: Timed, downwind of landfill on property to southeast. Canister 11026, -30 in Hg at start, -7 in Hg at 20:25 when stopped.
Precision 1.83ft
Consistently smelled odors in this area during sample collection.

Test	Parameter	Result	Qualifier	Units	QC Batch ID	Method
TO-15	trans-1,2-Dichloroethene	<0.16	ND, 04	ppbv		TO-15
TO-15	trans-1,3-Dichloropropene	<0.16	ND, 04	ppbv		TO-15
TO-15	Trichloroethene	<0.16	ND, 04	ppbv		TO-15
TO-15	Vinyl Chloride	<0.16	ND, 04	ppbv		TO-15

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S. Environmental Protection Agency.

Qualifier Descriptions

- 01 Improper collection method
- 02 Improper preservation
- 03 Exceeded holding time
- 04 Analyzed by Contract Laboratory
- 05 Estimated value, detected below PQL
- 06 Estimated value, QC data outside limits
- 07 Estimated value, analyte outside calibration range
- 08 Analyte present in blank at > 1/2 reported value
- 09 Sample was diluted during analysis
- 10 Laboratory error
- 11 Estimated value, matrix interference
- 12 Insufficient quantity
- 13 Estimated value, true result is >= reported value
- 14 Estimated value, non-homogeneous sample
- 15 No Result - Failed Quality Controls Requirements
- 16 Not analyzed - related analyte not detected
- 17 Results in dry weight
- 18 Sample pH is outside the acceptable range
- 19 Estimated value
- 20 Not analyzed - instrument failure
- 21 No result - spectral interference
- 22 pH was performed at the Laboratory
- 23 Contract Lab specific qualifier - see sample comments
- 24 No result - matrix interference
- 25 No Result: Excessive Chlorination
- 26 No Result: Excessive Dechlorination
- ND Not detected at reported value

Chris Boldt, Laboratory Manager
Environmental Services Program
Division of Environmental Quality

