



January 5, 2016

Ms. Charlene Fitch  
Missouri Department of Natural Resources  
Division of Environmental Quality  
1730 East Elm Street  
Jefferson City, Missouri 65101

**Re: Fourth Quarter 2015 Assessment Monitoring Event Summary Report  
Bridgeton Landfill, LLC - Bridgeton Landfill  
Missouri DNR Permit #MO -118912  
Bridgeton, Missouri**

Dear Ms. Fitch:

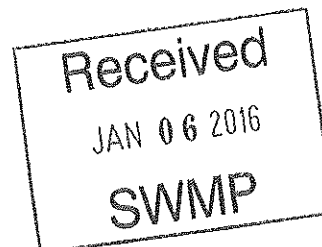
On behalf of Bridgeton Landfill, LLC, Jett Environmental Consulting is submitting the *Assessment Monitoring Event Summary Report* (Summary Report) for the Fourth Quarter 2015 groundwater assessment monitoring event at the Bridgeton Landfill.

In accordance with the December 17, 2013 *Assessment Monitoring Plan – Wells 104-SS and 104-SD* (AMP) and the August 18, 2014 addendum to the AMP, a groundwater assessment monitoring event was performed at the Bridgeton Landfill during the Fourth Quarter of 2015. Sampling was performed by Herst & Associates, Inc. and Feezor Engineering, Inc. on November 18-19 and December 1-3, 2015, concurrently with the facility's quarterly groundwater detection monitoring event. Laboratory analysis of groundwater samples was performed by Pace Analytical Services, Inc.

As specified in Section 4.4 of the AMP, the following groundwater monitoring wells constitute the facility's assessment wells: 104-SS, 104-SD, 104-KS, 209-SS, 209-SD, 210-SS, 210-SD, 211-SS, and 211-SD. **Figure 1** illustrates the locations of the facility's assessment wells.

During the first assessment event in September 2014, the assessment wells were sampled for the constituents listed in Title 10 of the Missouri Code of State Regulations (CSR) 80-3 Appendix II (hereafter, App II). The following six App II constituents were detected in September 2014, but had not previously been detected in wells 104-SS or 104-SD between May 2012 and May 2014:

- Beryllium, Total
- Cadmium, Total
- Copper, Total
- Lead, Total
- Selenium, Total
- Zinc, Total



The following four App II constituents were detected in September 2014, but had not previously been analyzed in wells 104-SS or 104-SD between May 2012 and May 2014:

- Sulfide
- p-Cresol
- PCB Aroclor 1221
- Phenol



In accordance with Section 4.6 and Table 4-1 of the AMP, the assessment wells were sampled for the following in November/December 2015:

- The ten new App II constituents detected during September 2014 and listed above.
- The fifteen assessment constituents initially identified in the AMP:
  - Arsenic, Total
  - Barium, Total
  - Chromium, Total
  - Cobalt, Total
  - Nickel, Total
  - Vanadium, Total
  - 1,2-Dichloroethane
  - 1,4-Dichlorobenzene
  - 4-Methyl-2-pentanone
  - Acetone
  - Benzene
  - Ethylbenzene
  - Methyl Ethyl Ketone
  - Toluene
  - Xylenes, Total
- The seven non-App II constituents identified by Missouri Department of Natural Resources' (MDNR) November 2012 split sampling of 104-SD:
  - 1,2,4-Trimethylbenzene
  - 1,3,5-Trimethylbenzene
  - 1-Chlorobutane
  - Isopropylbenzene
  - Methyl-tert-butyl Ether
  - p-Isopropyltoluene
  - Tetrahydrofuran

In addition, the following two background wells were also sampled for 1-chlorobutane in November/December 2015:

- 212-SS
- 212-SD

The two background wells are located 1,050 ft to the east of the facility, and are representative of upgradient groundwater quality. Results from the background wells may be used to determine background concentrations for constituents.

The results of the November/December 2015 assessment event are summarized on the attached **Table 1**.

Well 104-SD was the only assessment well that exhibited detections of App II constituents and/or MDNR-identified non-App II constituents during the November/December 2015 assessment event. Methyl-tert-butyl ether, p-cresol, and tetrahydrofuran were detected at 104-SD.

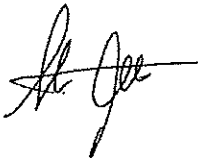
During the previous assessment monitoring events in September 2014, November 2014, and February 2015, the laboratory's mass spectrometer used to analyze for volatile organic compounds (VOCs) was not calibrated to report the non-App II constituent 1-chlorobutane (also known as n-butyl chloride). Pace was able to calibrate its instruments to report 1-chlorobutane beginning with the May 2015 assessment event. Quarterly sampling of the assessment and background wells for 1-chlorobutane was conducted in August and November/December 2015. Background sampling for 1-chlorobutane will continue for one quarter (First Quarter 2016).

**Table 2** summarizes the anticipated assessment sampling schedules for February 2016 and May 2016.

In accordance with Section 4.7 of the AMP, the results of the assessment monitoring will be discussed in more detail in the facility's first *Annual Assessment Monitoring Report*, which will be submitted to the SWMP by August 31, 2016.

If you have any questions or comments, please contact me at [steve.jett@jettenviro.com](mailto:steve.jett@jettenviro.com) or 314-496-4654.

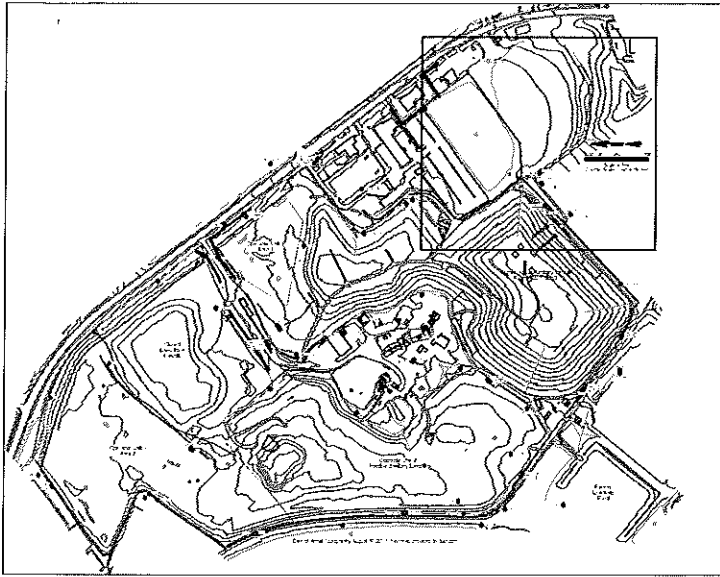
Sincerely,





Steve Jett, P.G.  
Owner

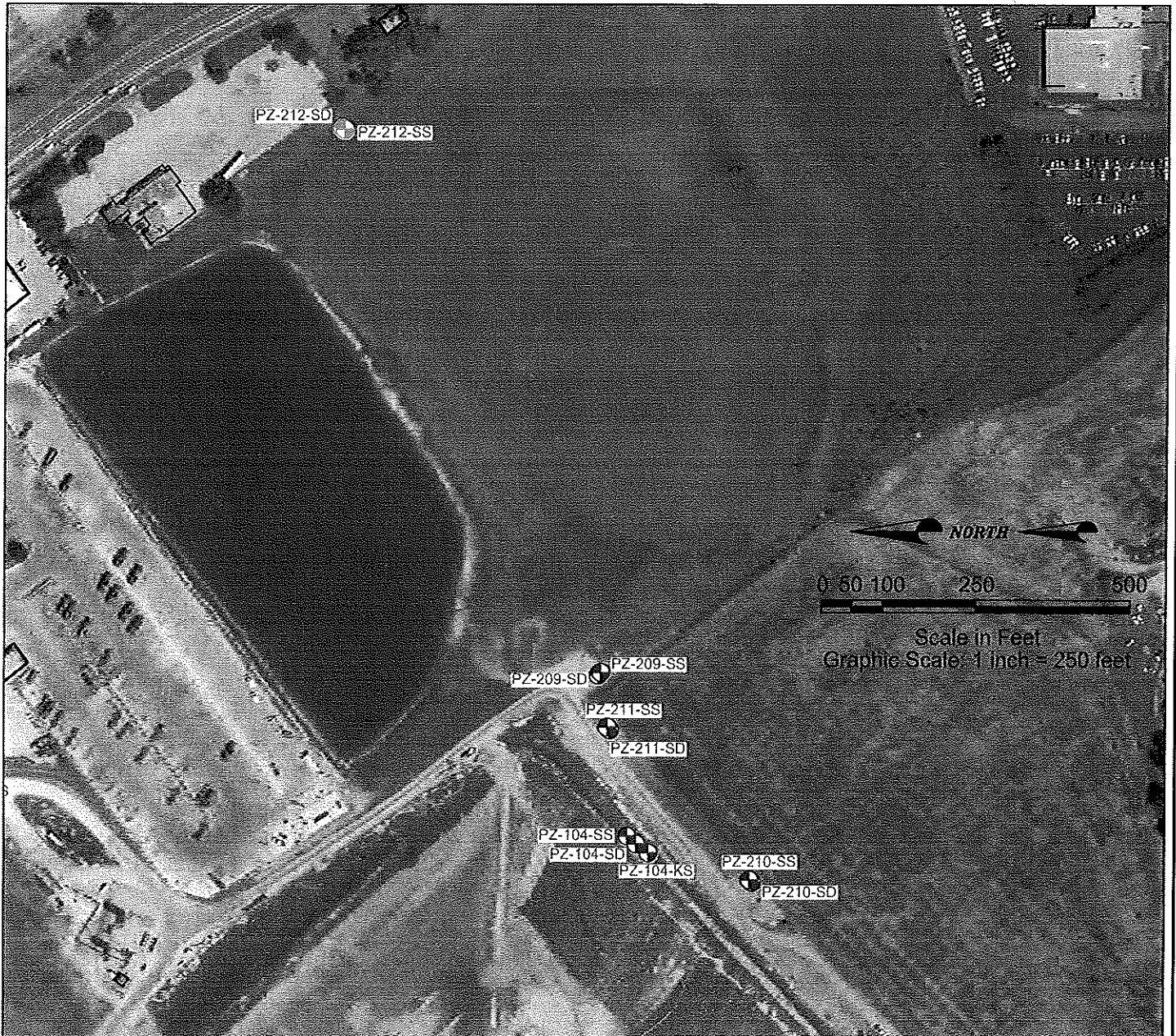
cc: *Derek Bouchard – Bridgeton Landfill, LLC*  
*Bob Lambrechts – Lathrop & Gage*  
*Victoria Warren – Republic Services*

Attachments: *Figure 1 – Assessment Monitoring Wells*  
*Table 1 – Assessment Monitoring Results*  
*Table 2 – Anticipated Assessment Sampling Schedule*



### LEGEND

- 
 Assessment Groundwater Monitoring Well
- 
 Background Groundwater Monitoring Well



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Figure 1: Assessment Monitoring Wells  
 Bridgeton Landfill, LLC  
 Bridgeton, Missouri

Table 1  
Assessment Monitoring Results, November 2015 Event  
Bridgeton Landfill, LLC

Constituent	Units	Constituent Type	PZ-104-SS 11/18/15	PZ-104-SD 11/18/15	PZ-104-SD Dup. 11/18/15	PZ-104-KS 11/18/15	PZ-209-SS 12/02/15	PZ-209-SD 12/02/15	PZ-210-SS 11/19/15	PZ-210-SD 11/19/15	PZ-211-SS 12/01/15	PZ-211-SD 12/01/15	PZ-212-SS 12/03/15	PZ-212-SD 12/03/15
<b>Inorganic Constituents</b>														
Arsenic, Total	ug/L	Initially Identified Assessment	<10	22.5	22.6	<10	<10	<10	<10	<10	<10	<10	<10	10.2
Barium, Total	ug/L	Initially Identified Assessment	106	553	548	100	83.5	41.6	75.8	74.4	77.3	27.5	141	180
Beryllium, Total	ug/L	New App II, Not Prev.	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Cadmium, Total	ug/L	New App II, Not Prev.	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chromium, Total	ug/L	Initially Identified Assessment	<10	14.7	15.3	<10	<10	<10	<10	<10	<10	<10	<10	<10
Cobalt, Total	ug/L	Initially Identified Assessment	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5.8	<5
Copper, Total	ug/L	New App II, Not Prev.	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Lead, Total	ug/L	New App II, Not Prev.	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	12.2	10.2
Nickel, Total	ug/L	Initially Identified Assessment	<10	64	66.4	<10	<10	<10	<10	<10	<10	<10	14.1	<10
Selenium, Total	ug/L	New App II, Not Prev.	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sulfide	mg/L	New App II, Not Prev.	<1	<1	<1	<5	<2	<5	<1	<1	<1	<2	<1	<1
Vanadium, Total	ug/L	Initially Identified Assessment	<10	16.8	17.9	<10	<10	<10	<10	<10	<10	<10	14.6	17.3
Zinc, Total	ug/L	New App II, Not Prev.	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	25.2	<20
<b>Organic Constituents</b>														
1,2,4-Trimethylbenzene	ug/L	Non-App II from MDNR Split	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA
1,2-Dichloroethane	ug/L	Initially Identified Assessment	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,3,5-Trimehylbenzene	ug/L	Non-App II from MDNR Split	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA
1,4-Dichlorobenzene	ug/L	Initially Identified Assessment	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1-Chlorobutane	ug/L	Non-App II from MDNR Split	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	ug/L	Initially Identified Assessment	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	ug/L	Initially Identified Assessment	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzene	ug/L	Initially Identified Assessment	469	640	569	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	ug/L	Initially Identified Assessment	8.7	5.4	5.8	<5	<5	<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	ug/L	Non-App II from MDNR Split	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA
Methyl Ethyl Ketone	ug/L	Initially Identified Assessment	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Methyl-tert-butyl Ether	ug/L	Non-App II from MDNR Split	<5	5.4	5.3	<5	<5	<5	<5	<5	<5	<5	NA	NA
PCB Aroclor 1221	ug/L	New App II, Not Prev.	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p-Cresol*	ug/L	New App II, Not Prev.	<10	67.6	65.8	<10	<10	<10	<10	<10	<10	<10	<10	45.3
Phenol	ug/L	New App II, Not Prev.	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	25.7
p-Isopropyltoluene	ug/L	Non-App II from MDNR Split	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA
Tetrahydrofuran	ug/L	Non-App II from MDNR Split	<100	1560	1630	<100	<100	<100	<100	<100	<100	<100	NA	NA
Toluene	ug/L	Initially Identified Assessment	5.2	10.5	10	<5	<5	<5	<5	<5	<5	<5	<5	<5
Xylenes, Total	ug/L	Initially Identified Assessment	23.1	19.1	20.6	<5	<5	<5	<5	<5	<5	<5	<5	<5

Notes:

Constituent detected above laboratory reporting limit.

NA: Constituent not analyzed at this well, in accordance with the AMP and First Quarter 2015 Assessment Monitoring Event Summary Report.

\* p-Cresol reported by laboratory as m+p-Cresols.

