

January 11, 2020

Ms. Heather Hoggard
Pretreatment Inspector
Springfield Clean Water Services
755 N. Franklin Avenue
Springfield, MO 65802

**Re: Semi-Annual Leachate Report
Second Half 2020
NABORS Landfill
Mountain Home, Arkansas
Wastewater Contribution Permit No. 593**

Dear Ms. Hoggard:

On behalf of the Arkansas Department of Environmental Quality (ADEQ), please find attached the results of leachate analysis for the Second Half 2020 reporting period for the referenced facility. A total of 168,000 gallons of leachate was generated during the reporting period.

The leachate generated at the NABORS Landfill is transported to the City of Springfield, MO wastewater collection system under Wastewater Contribution Permit #593. A sample of the leachate plus a duplicate sample was collected and submitted for laboratory analysis. Table 1 below summarizes the analytical methods and results of the analyses.

Table 1 – Summary of Leachate Analytical Results – October 2020

Parameter	Analytical Method	Units	Permit Requirement	Leachate	Leachate Duplicate
Ammonia as N	SM 4500-NH ₃ B,D,C-2011	mg/L	Monitoring Requirement Only	314	278
Cyanide (total)	SM 4500-CN B,E-2011	mg/L	0.33	<0.010	<0.010
Flashpoint	SW 1010A, Rev 1, 2004	°C	<140°F	Did Not Flash	Did Not Flash
Oil and Grease	EPA 1664 Mod, Rev. B 2010	mg/L	100	<5.38	<5.26
pH	EPA 150.2 (1982)	S.U.	5.0 (minimum) 12.5 (maximum)	10.5	—
Arsenic	EPA 200.8 Rev 5.4 (1994)	µg/L	0.51	36.5	35.5
Cadmium	EPA 200.8 Rev 5.4 (1994)	µg/L	0.13	<0.260	<0.260
Chromium	EPA 200.8 Rev 5.4 (1994)	µg/L	2.91	16.0	15.3
Copper	EPA 200.8 Rev 5.4 (1994)	µg/L	2.44	14.7	9.86
Lead	EPA 200.8 Rev 5.4 (1994)	µg/L	0.53	0.540	0.379

Table 1 – Summary of Leachate Analytical Results – October 2020 (Continued)

Parameter	Analytical Method	Units	Permit Requirement	Leachate	Leachate Duplicate
Mercury	SW7470A/EPA245.1,3.0 (1994)	µg/L	0.02	<0.200	<0.200
Nickel	EPA 200.8 Rev 5.4 (1994)	µg/L	5.79	133	129
Phosphorus	EPA 200.8 Rev 5.4 (1994)	mg/L	Monitoring Requirement Only	0.757	0.758
Zinc	EPA 200.8 Rev 5.4 (1994)	µg/L	6.54	<20.8	<20.8

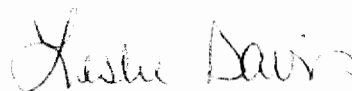
Notes: S.U. – standard units; °C – degrees Celsius; mg/L – milligrams per liter; µg/L – micrograms per liter

Also attached is the signed Certification Statement. Let me know if you have any questions or need additional information. Please contact either of the undersigned at 501-663-8800 or via email.

Sincerely,



Thomas A. Huetter, P.G.
Senior Project Manager
thuetter@harborenv.com



Leslie Davis
Principal
ldavis@harborenv.com

cc: Dr. Robert Blanz, P.E., PhD.
ADEQ Chief Technical Officer
5301 Northshore Drive
North Little Rock, AR 72118-5317

Attachments: *Laboratory Analytical Report*
Certification Statement



8100 National Dr. - Little Rock, AR 72209
501-455-3233 Fax 501-455-6118

03 November 2020

Tom Huetter
Harbor Environmental & Safety
5800 Evergreen Dr.
Little Rock, AR 72205

Project: NABORS Landfill Leachate Sample(s)
Project Number: October 2020
SDG Number: 2010406

Enclosed are the results of analyses for samples received by the laboratory on
26-Oct-20 09:55. If you have any questions concerning this report, please feel free to
contact me.

Sample Receipt Information:

Custody Seals	✓
Containers Correct	✓
COC/Labels Agree	✓
Received On Ice	✓
Temperature on Receipt	1.0°C

Sincerely,

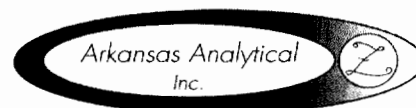
Norma James / Teresa Coins

Norma James and/or Teresa Coins
Technical Director and/or QA Officer

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03 November 2020

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Harbor Environmental & Safety
5800 Evergreen Dr.
Little Rock, AR 72205
Project: NABORS Landfill Leachate Sample(s)
Project Number: October 2020
Date Received: 26-Oct-20 09:55



CASE NARRATIVE

Sample Delivery Group – 2010406

One OR more of the qualifiers described below may appear in this report. Qualifiers in RED apply to this SDG (Sample Delivery Group).

FLASHPOINT QUALIFIER:

<u>Qualifier</u>	<u>Description</u>
DNF	Did Not Flash at or below method required temperature of 100 degrees C or 212 degrees F

ANALYTICAL QUALIFIERS:

<u>Qualifier</u>	<u>Description</u>
EDL	Result was non-detect at an elevated detection limit due to one or more of the following: Sample Matrix, Sample Dilution, or Limited Sample Volume.
EX	Result exceeds DAILY MAXIMUM and/or MONTHLY AVERAGE.
EX2	The result exceeds the TCLP limit.
J	At client request, J-Values are reported. J-Values are considered "estimated" results as they are below the limit of quantitation yet above the method detection limit (MDL).
N	Insufficient Sample Weight as Required by Method.
T40	The ambient temperature exceeded 23 +/- 2oC during the TCLP rotation process
TCLP-1	TCLP extraction done in alternate ZHE due to sample matrix.

SAMPLE RECEIPT QUALIFIERS:

<u>Qualifier</u>	<u>Description</u>
ET	Samples received above required temperature.
ET	Samples received above required temperature. Although collected and received the same day, no ice was present to indicate the cooling preservation was attempted.
E2	Result qualified as it was received and analyzed outside of holding time. Analysis is considered a "Field" analysis.
E2	Result qualified as it was analyzed outside of holding time.
E3	Result qualified as it was received in the incorrect container and/or preservation.

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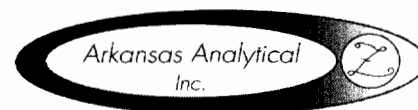
ANALYTICAL RESULTS

Lab Number: 2010406-01
Sample Name: Leachate
Date/Time Collected: 10/22/20 15:20
Sample Matrix: Leachate

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	988		10/27/20 10:13	B010489	EPA 300.0, 2.1-1993
Sulfate as SO4	mg/L	3.56		10/27/20 8:35	B010489	EPA 300.0, 2.1-1993
<u>Total Metals</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Antimony	ug/L	< 2.08		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Arsenic	ug/L	36.5		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Barium	ug/L	2600		10/28/20 15:40	B010543	EPA 200.8, Rev. 5.4(1994)
Beryllium	ug/L	< 0.260		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Cadmium	ug/L	< 0.260		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Chromium	ug/L	16.0		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Cobalt	ug/L	31.7		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Copper	ug/L	14.7		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Iron	ug/L	14500		10/28/20 15:40	B010543	EPA 200.8, Rev. 5.4(1994)
Lead	ug/L	0.540		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Manganese	ug/L	596		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Mercury	ug/L	< 0.200		10/27/20 14:26	B010438	SW7470A/EPA245.1,3.0- 1994
Nickel	ug/L	133		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Phosphorus	mg/L	0.757		10/30/20 11:23	B010560	EPA 200.7, Rev. 4.4 (1994)
Selenium	ug/L	< 5.20		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Silver	ug/L	< 0.312		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Thallium	ug/L	< 0.260		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Tin	ug/L	< 20.8		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Vanadium	ug/L	9.37		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
Zinc	ug/L	< 20.8		10/28/20 14:31	B010543	EPA 200.8, Rev. 5.4(1994)
<u>Volatiles</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
1,1-Dichloroethane	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
1,1-Dichloroethene	ug/L	< 400	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
1,1,1-Trichloroethane	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
1,1,2-Trichloroethane	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
1,1,2,2-Tetrachloroethane	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
1,2-Dichlorobenzene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
1,2-Dichloropropane	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
1,2-Dichloroethane	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
1,3-Dichlorobenzene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
1,4-Dichlorobenzene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
2-Chloroethyl Vinyl Ether	ug/L	< 400	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Acrylonitrile	ug/L	< 400	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Benzene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Bromodichloromethane	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Bromoform	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Acrolein	ug/L	< 800	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Bromomethane	ug/L	< 400	EDL	10/27/20 10:03	B010485	EPA 624.1-2016

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5800 Evergreen Dr.
Little Rock, AR 72205
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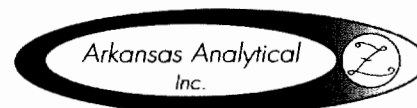


ANALYTICAL RESULTS

Lab Number: 2010406-01
Sample Name: Leachate
Date/Time Collected: 10/22/20 15:20
Sample Matrix: Leachate

<u>Volatiles</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Carbon tetrachloride	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Chlorobenzene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Dibromochloromethane	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Chloroethane	ug/L	< 800	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Chloroform	ug/L	< 400	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Chloromethane	ug/L	< 600	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
cis-1,3-Dichloropropene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Ethylbenzene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Methylene chloride	ug/L	< 600	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Tetrachloroethene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Toluene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
trans-1,2-Dichloroethene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Trichloroethene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
trans-1,3-Dichloropropene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Vinyl chloride	ug/L	< 400	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
Trichlorofluoromethane	ug/L	< 400	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
cis-1,2-Dichloroethene	ug/L	< 200	EDL	10/27/20 10:03	B010485	EPA 624.1-2016
4-Bromofluorobenzene [surr]	%	96.1		10/27/20 10:03	B010485	EPA 624.1-2016
1,2-Dichloroethane-d4 [surr]	%	115		10/27/20 10:03	B010485	EPA 624.1-2016
Toluene-d8 [surr]	%	96.1		10/27/20 10:03	B010485	EPA 624.1-2016
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	314		10/29/20 7:50	B010556	SM 4500-NH3 B.D.C-2011
Cyanide (total)	mg/L	< 0.010		10/29/20 12:53	B010571	SM 4500-CN B.E-2011
Flashpoint	°C	Did Not Flash	DNF*	10/28/20 16:36	B010542	SW 1010A, Rev 1, 2004
Oil and Grease	mg/L	< 5.38		10/27/20 7:44	B010499	EPA1664 Mod, Rev B 2010
Sulfide	mg/L	< 0.150	E2	10/30/20 13:04	B010597	SM 4500-S2 D-2011
TDS	mg/L	3460		10/27/20 14:13	B010519	SM 2540 C-2011
TOC	mg/L	240		10/31/20 7:31	B010603	SM 5310 B-2011

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 Harbor Environmental & Safety
 5800 Evergreen Dr.
 Little Rock, AR 72205
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ANALYTICAL RESULTS

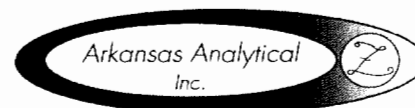
Lab Number: 2010406-02
 Sample Name: Leachate Duplicate
 Date/Time Collected: 10/22/20 15:20
 Sample Matrix: Leachate

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chloride	mg/L	1020		10/27/20 10:33	B010489	EPA 300.0, 2.1-1993
Sulfate as SO4	mg/L	3.54		10/27/20 8:56	B010489	EPA 300.0, 2.1-1993

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Antimony	ug/L	< 2.08		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Arsenic	ug/L	35.5		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Barium	ug/L	6460		10/28/20 15:44	B010543	EPA 200.8, Rev. 5.4(1994)
Beryllium	ug/L	< 0.260		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Cadmium	ug/L	< 0.260		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Chromium	ug/L	15.3		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Cobalt	ug/L	30.9		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Copper	ug/L	9.86		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Iron	ug/L	10200		10/28/20 15:44	B010543	EPA 200.8, Rev. 5.4(1994)
Lead	ug/L	0.379		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Manganese	ug/L	589		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Mercury	ug/L	< 0.200		10/27/20 14:33	B010438	SW7470A/EPA245.1,3.0- 1994
Nickel	ug/L	129		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Phosphorus	mg/L	0.758		10/30/20 11:26	B010560	EPA 200.7, Rev. 4.4 (1994)
Selenium	ug/L	< 5.20		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Silver	ug/L	< 0.312		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Thallium	ug/L	< 0.260		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Tin	ug/L	< 20.8		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Vanadium	ug/L	9.01		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)
Zinc	ug/L	< 20.8		10/28/20 14:35	B010543	EPA 200.8, Rev. 5.4(1994)

Volatiles	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
1,1-Dichloroethane	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
1,1-Dichloroethene	ug/L	< 400	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
1,1,1-Trichloroethane	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
1,1,2-Trichloroethane	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
1,1,2,2-Tetrachloroethane	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
1,2-Dichlorobenzene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
1,2-Dichloropropane	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
1,2-Dichloroethane	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
1,3-Dichlorobenzene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
1,4-Dichlorobenzene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
2-Chloroethyl Vinyl Ether	ug/L	< 400	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Acrylonitrile	ug/L	< 400	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Benzene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Bromodichloromethane	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Bromoform	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Acrolein	ug/L	< 800	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Bromomethane	ug/L	< 400	EDL	10/27/20 10:32	B010485	EPA 624.1-2016

03 November 2020



Tom Huetter

Harbor Environmental & Safety

5800 Evergreen Dr.

Little Rock, AR 72205

Project: NABORS Landfill Leachate Sample(s)

Project Number: October 2020

Date Received: 26-Oct-20 09:55

ANALYTICAL RESULTS

Lab Number:	2010406-02					
Sample Name:	Leachate Duplicate					
Date/Time Collected:	10/22/20 15:20					
Sample Matrix:	Leachate					
<u>Volatiles</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Carbon tetrachloride	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Chlorobenzene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Dibromochloromethane	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Chloroethane	ug/L	< 800	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Chloroform	ug/L	< 400	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Chloromethane	ug/L	< 600	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
cis-1,3-Dichloropropene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Ethylbenzene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Methylene chloride	ug/L	< 600	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Tetrachloroethene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Toluene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
trans-1,2-Dichloroethene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Trichloroethene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
trans-1,3-Dichloropropene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Vinyl chloride	ug/L	< 400	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
Trichlorofluoromethane	ug/L	< 400	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
cis-1,2-Dichloroethene	ug/L	< 200	EDL	10/27/20 10:32	B010485	EPA 624.1-2016
4-Bromofluorobenzene [surr]	%	95.0		10/27/20 10:32	B010485	EPA 624.1-2016
1,2-Dichloroethane-d4 [surr]	%	115		10/27/20 10:32	B010485	EPA 624.1-2016
Toluene-d8 [surr]	%	95.1		10/27/20 10:32	B010485	EPA 624.1-2016
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	278		10/29/20 7:50	B010556	SM 4500-NH3 B,D,C-2011
Cyanide (total)	mg/L	< 0.010		10/29/20 12:53	B010571	SM 4500-CN B,E-2011
Flashpoint	°C	Did Not Flash	DNF*	10/28/20 16:36	B010542	SW 1010A, Rev 1, 2004
Oil and Grease	mg/L	< 5.26		10/27/20 7:44	B010499	EPA1664 Mod, Rev B 2010
Sulfide	mg/L	< 0.150	E2	10/30/20 13:04	B010597	SM 4500-S2 D-2011
TDS	mg/L	3360		10/27/20 14:13	B010519	SM 2540 C-2011
TOC	mg/L	240		10/31/20 7:31	B010603	SM 5310 B-2011

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QUALITY CONTROL RESULTS**Total Metals -- Batch: B010438 (Water)**

Prepared: 27-Oct-20 09:09 By: ST -- Analyzed: 27-Oct-20 13:57 By: ST

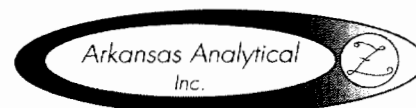
Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Mercury	<0.200 ug/L	107% / NA	109% / 110%		1.31%	

Volatiles -- Batch: B010485 (Water)

Prepared: 26-Oct-20 09:13 By: CT -- Analyzed: 27-Oct-20 09:06 By: ct

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
1,1,1-Trichloroethane	<0.319 ug/L	89.3% / NA	88.6% / 89.1%		0.496%	
1,1,2,2-Tetrachloroethane	<0.290 ug/L	78.4% / NA	63.9% / 70.7%		10.1%	
1,1,2-Trichloroethane	<0.238 ug/L	93.1% / NA	92.7% / 93.1%		0.468%	
1,1-Dichloroethane	<0.200 ug/L	110% / NA	110% / 111%		0.399%	
1,1-Dichloroethene	<0.355 ug/L	99.3% / NA	100% / 102%		2.00%	
1,2-Dichlorobenzene	<0.206 ug/L	97.8% / NA	99.7% / 98.5%		1.23%	
1,2-Dichloroethane	<0.248 ug/L	117% / NA	118% / 118%		0.0392%	
1,2-Dichloropropane	<0.220 ug/L	117% / NA	118% / 117%		1.14%	
1,3-Dichlorobenzene	<0.249 ug/L	97.9% / NA	100% / 98.5%		1.83%	
1,4-Dichlorobenzene	<0.187 ug/L	96.9% / NA	98.7% / 98.4%		0.350%	
2-Chloroethyl Vinyl Ether	<0.328 ug/L	94.2% / NA	96.9% / 95.2%		1.69%	
Acrolein	<1.10 ug/L	115% / NA	113% / 116%		2.69%	
Acrylonitrile	<0.539 ug/L	121% / NA	117% / 120%		2.20%	
Benzene	<0.174 ug/L	91.0% / NA	92.1% / 92.6%		0.563%	
Bromodichloromethane	<0.278 ug/L	99.4% / NA	100% / 100%		0.0498%	
Bromoform	<0.160 ug/L	91.2% / NA	91.9% / 90.6%		1.40%	
Bromomethane	<0.579 ug/L	98.4% / NA	103% / 97.6%		5.64%	
Carbon tetrachloride	<0.170 ug/L	92.0% / NA	92.8% / 95.1%		2.46%	
Chlorobenzene	<0.100 ug/L	104% / NA	107% / 109%		1.60%	
Chloroethane	<0.993 ug/L	103% / NA	103% / 101%		1.80%	
Chloroform	<0.591 ug/L	92.4% / NA	93.5% / 93.9%		0.423%	
Chloromethane	<0.660 ug/L	101% / NA	101% / 101%		0.465%	
cis-1,2-Dichloroethene	<0.258 ug/L	92.4% / NA	91.5% / 92.5%		1.10%	
cis-1,3-Dichloropropene	<0.258 ug/L	84.8% / NA	82.3% / 81.7%		0.770%	
Dibromochloromethane	<0.130 ug/L	91.8% / NA	92.1% / 92.6%		0.525%	
Ethylbenzene	<0.216 ug/L	102% / NA	104% / 105%		1.21%	
Methylene chloride	<0.751 ug/L	91.3% / NA	92.3% / 94.4%		2.25%	
Tetrachloroethene	<0.280 ug/L	102% / NA	105% / 104%		1.67%	
Toluene	<0.245 ug/L	94.6% / NA	95.3% / 94.3%		1.06%	
trans-1,2-Dichloroethene	<0.258 ug/L	97.0% / NA	97.7% / 97.3%		0.368%	
trans-1,3-Dichloropropene	<0.287 ug/L	81.4% / NA	80.3% / 80.1%		0.233%	
Trichloroethene	<0.280 ug/L	117% / NA	127% / 120%		5.45%	
Trichlorofluoromethane	<0.465 ug/L	90.6% / NA	96.3% / 97.1%		0.765%	
Vinyl chloride	<0.373 ug/L	109% / NA	108% / 107%		0.704%	
1,2-Dichloroethane-d4 [surr]	114 %	114% / NA	113% / 114%		NA	
4-Bromofluorobenzene [surr]	95.4 %	94.1% / NA	95.2% / 94.2%		NA	
Toluene-d8 [surr]	94.9 %	97.4% / NA	96.4% / 96.0%		NA	

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QUALITY CONTROL RESULTS

Anions -- Batch: B010489 (Water)

Prepared: 26-Oct-20 10:03 By: MB -- Analyzed: 26-Oct-20 15:41 By: MB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Chloride	<0.500 mg/L	93.6% / NA	102% / 100%		0.348%	
Sulfate as SO4	<0.500 mg/L	93.5% / NA	96.7% / 96.8%		0.0651%	

Wet Chemistry -- Batch: B010499 (Water)

Prepared: 27-Oct-20 07:44 By: SP -- Analyzed: 27-Oct-20 07:44 By: SP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Oil and Grease	<5.00 mg/L	85.0% / 78.2%	79.5% / NA		8.27%	

Wet Chemistry -- Batch: B010519 (Water)

Prepared: 27-Oct-20 14:13 By: ALA -- Analyzed: 27-Oct-20 14:13 By: MB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TDS	<5.00 mg/L	104% / 105%	NA / NA		1.27%	

Wet Chemistry -- Batch: B010542 (Water)

Prepared: 28-Oct-20 11:09 By: CNW -- Analyzed: 28-Oct-20 13:11 By: CNW

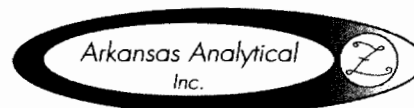
Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Flashpoint	NA	115% / 111%	NA / NA		3.28%	Pass1

Total Metals -- Batch: B010543 (Water)

Prepared: 28-Oct-20 11:22 By: ST -- Analyzed: 28-Oct-20 14:11 By: ST

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Antimony	<2.08 ug/L	101% / NA	102% / 103%		0.160%	
Arsenic	<0.260 ug/L	102% / NA	110% / 112%		1.29%	
Barium	<0.260 ug/L	104% / NA	99.9% / 100%		0.337%	
Beryllium	<0.260 ug/L	92.7% / NA	92.3% / 94.3%		2.12%	
Cadmium	<0.260 ug/L	103% / NA	101% / 102%		1.84%	
Chromium	<0.260 ug/L	104% / NA	103% / 105%		1.70%	
Cobalt	<0.260 ug/L	106% / NA	110% / 110%		0.791%	
Copper	<0.395 ug/L	104% / NA	104% / 105%		1.21%	
Iron	<20.8 ug/L	113% / NA	102% / 107%		2.39%	
Lead	<0.260 ug/L	105% / NA	105% / 106%		1.13%	
Manganese	<1.56 ug/L	104% / NA	105% / 107%		1.51%	
Nickel	<0.52 ug/L	103% / NA	104% / 104%		0.0627%	
Selenium	<5.20 ug/L	105% / NA	114% / 114%		0.0537%	
Silver	<0.312 ug/L	105% / NA	101% / 103%		1.79%	
Thallium	<0.260 ug/L	105% / NA	106% / 106%		0.153%	
Tin	<20.8 ug/L	101% / NA	101% / 102%		0.909%	
Vanadium	<0.260 ug/L	107% / NA	103% / 104%		1.02%	
Zinc	<20.8 ug/L	105% / NA	111% / 113%		0.593%	

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QUALITY CONTROL RESULTS

Wet Chemistry -- Batch: B010556 (Water)

Prepared: 29-Oct-20 07:50 By: AA -- Analyzed: 29-Oct-20 07:50 By: AA

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.500 mg/L	91.1% / NA	87.2% / 89.9%		3.08%	

Total Metals -- Batch: B010560 (Water)

Prepared: 29-Oct-20 08:24 By: SPS -- Analyzed: 30-Oct-20 10:37 By: SPS

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Phosphorus	<0.035 mg/L	101% / NA	102% / 103%		0.746%	

Wet Chemistry -- Batch: B010571 (Water)

Prepared: 29-Oct-20 12:53 By: JH -- Analyzed: 29-Oct-20 12:53 By: JH

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Cyanide (total)	<0.010 mg/L	96.0% / NA	98.0% / 103%		4.98%	

Wet Chemistry -- Batch: B010597 (Water)

Prepared: 30-Oct-20 13:04 By: JH -- Analyzed: 30-Oct-20 13:04 By: JH

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Sulfide	<0.0750 mg/L	127% / NA	90.0% / 128%		34.9%	D

Wet Chemistry -- Batch: B010603 (Water)

Prepared: 31-Oct-20 07:31 By: SPS -- Analyzed: 31-Oct-20 07:31 By: SPS

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TOC	<1.00 mg/L	95.4% / NA	110% / 105%		0.817%	

QUALIFIER(S)

- *D: RPD Value Does Not Meet Laboratory Acceptance Criteria
- *DNF*: Did not flash at or below method required temperature of 100 degrees C or 212 degrees F.
- *E2: Estimated Result; Analyzed Outside of Holding Time
- *EDL: Elevated Detection Limit Due to one or more of the following: Sample Matrix, Sample Dilution, or Limited Sample Volume
- *Pass1: Quality Control Meets Lab Acceptability Requirements

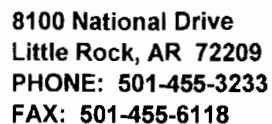
All Analysis performed according to EPA approved methodology when available:

SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods.

Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James / Teresa Coins
Norma James and/or Teresa Coins
Technical Director and/or QA Officer

[illegible]

Discharge Monitoring Report Certification Statement

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

All samples and measurements taken are to the best of my knowledge representative of the permitted wastewater discharge.

All sampling, measurements, and analyses were conducted in accordance with guidelines prescribed in 40 CFR 136 and the Wastewater Contribution Permit obtained from the City of Springfield, Missouri.

Signature (Legible)

 JARROD ZWEIFEL

Title

ASSOCIATE DIRECTOR, DEQ

XLABORS

LANDFILL

Name of Facility

Date

1/19/21