



CITY OF COLUMBIA, MISSOURI

UTILITIES DEPARTMENT
SOLID WASTE DIVISION

October 25, 2016

Paul Dickerson, Chief
Water Pollution Compliance/ Enforcement
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102

RE: Third Quarter 2016 NPDES Monitoring Report, Columbia Sanitary Landfill and Compost Facility, MDNR permit # MO-0112640, Boone County

This letter represents the Third Quarter 2016 NPDES Monitoring Report for permit number MO-0112640 for Outfalls 002, 003, 004, 005, 006 and 007. Monthly samples were collected from Outfall 005 on July 7, 2016, and August 2, 2016. Discharges were not observed flowing from Outfall 005 in September of 2016. Quarterly samples were collected from Outfalls 002 and 003 on July 7, 2016, Outfall 004 on July 25, 2016, Outfall 007 on August 2, 2016, and Outfall 006 on September 16, 2016. Daily site precipitation amounts for the Third Quarter of 2016 are enclosed with this letter. The precipitation summarized by month is as follows:

Month	Recorded Precipitation
July, 2016	9.31"
August, 2016	5.46"
September, 2016	5.53"

One exceedance was identified from the monthly sample taken from Outfall 004 on July 25, 2016. The Iron result from the July 25, 2016 sample was 870 ug/L, slightly above the monthly average limit of 819 ug/L and below the daily maximum limit of 1,643 ug/L. The Missouri Department of Natural Resources (MoDNR) Northeast Regional Office (NERO) was notified by phone call within 24 hours of receiving the laboratory report associated with the July 25, 2016 Outfall 004 sample results. Due to the results of Outfall 004 being received on August 5, 2016, an additional monthly sample was not able to be taken. The elevated iron level in the July 2016 sample from Outfall 004 was within the naturally occurring iron levels found throughout Missouri. Based on the naturally occurring iron levels found in the state of Missouri, the NPDES permit renewal associated with the City of Columbia Sanitary Landfill, effective October 1, 2016 includes iron limits increased to 4,000 ug/L.

The results of the quarterly samples collected from Outfalls 002, 003, 005, 006, and 007, enclosed, indicate no exceedances.

Areas of previous re-vegetative efforts have continued to establish with an overall increase in the density of the vegetative cover. Fall seeding activities have been initiated at the facility and will be continued during the fourth quarter of 2016.

If you have any questions please contact Adam J. White, Landfill Superintendent, at (573)874-7555 or adam.white@como.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve S. Hunt". The signature is written in a cursive, flowing style.

Steve S. Hunt, P.E.
Solid Waste Utility Manager

SSH:vbk

Enclosures

c: David A. Sorrell, P.E., Assistant Director
Adam J. White, Landfill Superintendent

3rd Quarter 2016 Precipitation Recorded at the City of Columbia Landfill

2016	Day	Daily Rainfall (inches)
July	1	0
	2	0.57
	3	5.07
	4	0.01
	5	0
	6	0.39
	7	0.5
	8	0.04
	9	0
	10	0
	11	0
	12	0.35
	13	1.48
	14	0
	15	0
	16	0
	17	0
	18	0
	19	0
	20	0.08
	21	0
	22	0.13
	23	0
	24	0
	25	0.22
	26	0.01
	27	0
	28	0.3
	29	0.01
	30	0
	31	0.15
Monthly Total		9.31

2016	Day	Daily Rainfall (inches)
August	1	0.56
	2	2.49
	3	0
	4	0
	5	0.25
	6	0
	7	0
	8	0.19
	9	0
	10	1.18
	11	0
	12	0.09
	13	0
	14	0
	15	0
	16	0
	17	0
	18	0
	19	0.01
	20	0.09
	21	0
	22	0
	23	0
	24	0.01
	25	0.27
	26	0.05
	27	0
	28	0
	29	0
	30	0.08
	31	0.19
Monthly Total		5.46

2016	Day	Daily Rainfall (inches)
September	1	0
	2	0
	3	0
	4	0
	5	0
	6	0
	7	0
	8	2.04
	9	0.87
	10	0.79
	11	0
	12	0
	13	0
	14	1.02
	15	0
	16	0.8
	17	0
	18	0
	19	0
	20	0
	21	0
	22	0
	23	0
	24	0
	25	0.01
	26	0
	27	0
	28	0
	29	0
	30	0
Monthly Total		5.53

Table 1
NPDES Monitoring for Non-Municipal Wastewater Discharges
Outfall 005
Third Quarter 2016

Facility Name: Columbia Sanitary Landfill & Yard Waste Compost
 Permit Number: MO-0112640
 County: Boone
 Owner: City of Columbia, Missouri
 Type of Facility: Sanitary Landfill & Yard Waste Compost Facility

Required Frequency of Monitoring: Monthly
 Report Period: Third Quarter 2016

July Sample

Parameters	Units	Daily Maximum	Monthly Average	Sample Type	Outfall 005 Results Collected 7/7/2016 Reported 7/20/2016
Flow	MGD			Est	0.061
BOD5	mg/L	45	30	Grab	<6.0
Total Suspended Solids	mg/L	100	50	Grab	9.6
pH (field)	SU			Grab	8.05
Oil & Grease	mg/L	15	10	Grab	<5.1
Ammonia as N	mg/L			Grab	<0.30

August Sample

Parameters	Units	Daily Maximum	Monthly Average	Sample Type	Outfall 005 Results Collected 8/2/2016 Reported 8/15/2016
Flow	MGD			Est	0.087
BOD5	mg/L	45	30	Grab	<6.0
Total Suspended Solids	mg/L	100	50	Grab	39
pH (field)	SU			Grab	8.06
Oil & Grease	mg/L	15	10	Grab	<5.1
Ammonia as N	mg/L			Grab	<0.30

Highlighted cell indicated an exceedance of the daily maximum or monthly average limits

NS - Not Sampled

Table 1 (Continued)
NPDES Monitoring for Non-Municipal Wastewater Discharges
Outfall 005
Third Quarter 2016

Facility Name: Columbia Sanitary Landfill & Yard Waste Compost

Required Frequency of Monitoring: Monthly

Permit Number: MO-0112640

Report Period: Third Quarter 2016

County: Boone

Owner: City of Columbia, Missouri

Type of Facility: Sanitary Landfill & Yard Waste Compost Facility

September Sample

Parameters	Units	Daily Maximum	Monthly Average	Sample Type	Outfall 005 Results
Flow	MGD			Est	NS
BOD5	mg/L	45	30	Grab	NS
Total Suspended Solids	mg/L	100	50	Grab	NS
pH (field)	SU			Grab	NS
Oil & Grease	mg/L	15	10	Grab	NS
Ammonia as N	mg/L			Grab	NS

NS - Not Sampled

Highlighted cell indicated an exceedance of the daily maximum or monthly average limits

NPDES Monitoring for Non-Municipal Wastewater Discharges
Outfalls 002, 003, 004, and 007
Third Quarter 2016

Facility Name: Columbia Sanitary Landfill & Yard Waste Compost
Permit Number: MO-0112640
County: Boone
Owner: City of Columbia, Missouri
Type of Facility: Sanitary Landfill & Yard Waste Compost Facility

Required Frequency of Monitoring: Quarterly
Report Period: Third Quarter 2016

Third Quarter Samples

Parameters	Units	Daily Maximum	Monthly Average	Sample Type	Outfall 002 Results Collected 7/7/2016 Reported 7/20/2016	Outfall 003 Results Collected 7/7/2016 Reported 7/20/2016	Outfall 004 Results Collected 7/25/2016 Reported 8/5/2016	Outfall 007 Results Collected 8/2/2016 Reported 8/22/2016
Flow	MGD			Est	0.006	0.018	0.018	0.008
Chemical Oxygen Demand	mg/L	90	60	Grab	29	<5.0	25	19.0
BOD5	mg/L	45	30	Grab	<6.0	<6.0	<6.0	<6.0
Total Suspended Solids	mg/L	80	50	Grab	10	33	6	10.0
pH (field)	SU			Grab	7.76	8.00	7.96	8.07
Settleable solids	mL/L	1.5	1	Grab	<0.10	<0.10	<0.10	<0.10
Ammonia as N	mg/L			Grab	<0.30	<0.30	<0.30	<0.30
Oil & Grease	mg/L	15	10	Grab	5.2	<6.6	<5.1	<4.7
Chloride + Sulfates	mg/L	1000		Grab	209.2	136.7	420	384.8
Chloride	mg/L			Grab	9.2	6.7	20	4.8
Fluoride	mg/L			Grab	<0.50	<0.50	<0.50	<0.50
Benzene	ug/L			Grab	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	ug/L			Grab	<5.0	<5.0	<5.0	<5.0
Toluene	mg/L			Grab	<0.005	<0.005	<0.005	<0.005
Aluminum	ug/L			Grab	380	890	350	620
Total Hardness	mg/L			Grab	270	180	480	420
Antimony	mg/L			Grab	<0.010	<0.010	<0.010	<0.010
Arsenic	ug/L			Grab	<15	<15	<15	<15
Beryllium	ug/L			Grab	<1.0	<1.0	<1.0	<1.0
Cadmium	ug/L			Grab	<2.0	<2.0	<2.0	<2.0
Chromium	ug/L			Grab	<2.0	<2.0	<2.0	<2.0
Hexavalent Chromium	ug/L			Grab	<5.0	<5.0	<5.0	<5.0
Cobalt	ug/L			Grab	<2.0	<2.0	2.0	<2.0
Copper	ug/L			Grab	2.8	3.7	4.3	2.9
Iron	ug/L	1643	819	Grab	530	780	870	490
Lead	ug/L			Grab	<10	<10	<10	<10
Mercury	ug/L			Grab	<0.2	<0.2	<0.2	<0.2
Nickel	ug/L			Grab	4.1	4.9	11	3.9
Selenium	ug/L			Grab	<10	<10	<10	<10
Silver	ug/L			Grab	<2.0	<2.0	<2.0	<2.0
Thallium	ug/L			Grab	<20	<20	<20	<20
Zinc	ug/L			Grab	10	61	48	<10

NA - Not analyzed

NS - Not Sampled

Highlighted cell indicated an exceedance of the daily maximum or monthly average limits

MDNR was notified within 24 hours of Iron exceedance on Outfall 004

* Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time

Table 3
NPDES Monitoring for Non-Municipal Wastewater Discharges
Outfall 006
Third Quarter 2016

Facility Name: Columbia Sanitary Landfill & Yard Waste Compost
 Permit Number: MO-0112640
 County: Boone
 Owner: City of Columbia, Missouri
 Type of Facility: Sanitary Landfill & Yard Waste Compost Facility

Required Frequency of Monitoring: Quarterly
 Report Period: Third Quarter 2016

First Quarter Sample

Parameters	Units	Daily Maximum	Monthly Average	Sample Type	Outfall 006
					Collected 9/16/2016 Reported 10/4/2016
Flow	MGD			Est	0.1268
COD	mg/L	90	60	Grab	<25
Settleable Solids	mg/L			Grab	<0.2
Total Suspended Solids	mg/L	100	50	Grab	15
pH (field)	SU			Grab	8.09
Ethylbenzene	mg/L	0.32	0.32	Grab	<0.005
Oil & Grease	mg/L	15	10	Grab	<5
TPH	mg/L	10	10	Grab	<0.1
Iron	mg/L			Grab	0.64

NS - Not Sampled



PDC Laboratories, Inc.

PROFESSIONAL • DEPENDABLE • COMMITTED

July 20, 2016

Adam White
Columbia, City of - Public Works
5700 Peabody Rd
Columbia, MO 65205

Dear Adam White:

Please find enclosed the analytical results for the sample(s) the laboratory received on **7/8/16 10:00 am** and logged in under work order **6071175**. All testing is performed according to our current TNI certifications unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of PDC Laboratories, Inc.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

PDC Laboratories, Inc. appreciates the opportunity to provide you with analytical expertise. We are always trying to improve our customer service and we welcome you to contact the Vice President, John LaPayne with any feedback you have about your experience with our laboratory.

Sincerely,

Roxann Shull
Client Services Supervisor
(314) 432-0550
rshull@pdclab.com





ANALYTICAL RESULTS

Sample: 6071175-01
Name: 002 Grab
Matrix: Waste Water - Grab

Sampled: 07/07/16 15:10
Received: 07/08/16 10:00

Table with 7 columns: Parameter, Result, Unit, Qualifier, Analyzed, Analyst, Method. Rows include sections for Anions - STL, Distilled Nutrients - STL, General Chemistry - STL, Soluble Metals - STL, Total Metals - STL, and Volatile Organics - PIA.