



# CITY OF COLUMBIA, MISSOURI

UTILITIES DEPARTMENT  
SOLID WASTE DIVISION

October 25, 2016

Northeast Regional Office  
Water Pollution Control Unit  
Missouri Department of Natural Resources  
1709 Prospect Dr.  
Macon, MO 63552

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 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](mailto:adam.white@como.gov).

Sincerely,

A handwritten signature in black ink that reads "Steve S. Hunt". The signature is written in a cursive style with a large, stylized "S" at the beginning.

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
<b>Monthly Total</b>		<b>9.31</b>

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
<b>Monthly Total</b>		<b>5.46</b>

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
<b>Monthly Total</b>		<b>5.53</b>

**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.



**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

(800) 333-3278

### ANALYTICAL RESULTS

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

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

Parameter	Result	Unit	Qualifier	Analyzed	Analyst	Method
Ethylbenzene	< 5.0	ug/L		07/13/16 15:38	MAB	SW 8260B
o-Xylene	< 5.0	ug/L		07/13/16 15:38	MAB	SW 8260B
m,p-Xylene	< 5.0	ug/L		07/13/16 15:38	MAB	SW 8260B
Xylenes- Total	< 15	ug/L		07/13/16 15:38	MAB	SW 8260B



**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

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## NOTES

Specific method revisions used for analysis are available upon request.

### Certifications

#### PIA - Peoria, IL

TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230

Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553

Missouri Department of Natural Resources Certificate of Approval for Microbiological Laboratory Service No. 870

Drinking Water Certifications: Iowa (240); Kansas (E-10338); Missouri (870)

Wastewater Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

Hazardous/Solid Waste Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

#### SPMO - Springfield, MO

USEPA DMR-QA Program

#### STL - St. Louis, MO

TNI Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS Lab No. E-10389

Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 171050

Drinking Water Certifications: Missouri (1050)

Missouri Department of Natural Resources

\* Not a TNI accredited analyte

### Qualifiers

B2 Contamination does not impact data since sample result is greater than ten times the contamination level found in the blank.

*Barbara G Pandolfo*

Certified by: Barb Pandolfo For Roxann Shull, Client Services Supervisor





**SUBCONTRACT ORDER**  
**Transfer Chain of Custody**

PDC Laboratories, Inc.  
**6071175**

**SENDING LABORATORY**

PDC Laboratories, Inc.  
 3278 N Highway 67  
 Florissant, MO 63033  
 (800) 333-3278

**RECEIVING LABORATORY**

PDC Laboratories, Inc.  
 2231 W Altorfer Dr  
 Peoria, IL 61615  
 (309) 692-9688

**Sample: 6071175-01**  
**Name: 002 Grab**

**Sampled: 07/07/16 15:10**  
**Matrix: Water**

Analysis	Due	Expires	Comments
M8260 BTEX	07/20/16 16:00	07/21/16 15:10	

Please email results to Roxann Shull at [rshull@pdclab.com](mailto:rshull@pdclab.com)

Date Shipped: 7/11/16 Total # of Containers: 3 Sample Origin (State): \_\_\_\_\_ PO #: \_\_\_\_\_  
 Turn-Around Time Requested  NORMAL  RUSH Date Results Needed: \_\_\_\_\_

Relinquished By: <u>H. Carter</u> Date/Time: <u>7/8/16</u>				Sample Temperature Upon Receipt: <u>14</u> °C
Received By: <u>M. Shull</u> Date/Time: <u>7/12/16 9:40</u>				Sample(s) Received on Ice: <u>Y</u> or N
Relinquished By: _____ Date/Time: _____				Proper Bottles Received in Good Condition: <u>Y</u> or N
Received By: _____ Date/Time: _____				Bottles Filled with Adequate Volume: <u>Y</u> or N
Relinquished By: _____ Date/Time: _____				Samples Received Within Hold Time: <u>Y</u> or N
Received By: _____ Date/Time: _____				Date/Time Taken From Sample Bottle: <u>Y</u> or N



# 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 **6071185**. 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:** 6071185-01  
**Name:** 003 Grab  
**Matrix:** Waste Water - Grab

**Sampled:** 07/07/16 15:40  
**Received:** 07/08/16 10:00

Parameter	Result	Unit	Qualifier	Analyzed	Analyst	Method
<b><u>Anions - STL</u></b>						
Chloride	6.7	mg/L		07/14/16 23:58	KLA	EPA 300.0
Fluoride	< 0.50	mg/L		07/14/16 23:58	KLA	EPA 300.0*
Sulfate	130	mg/L		07/14/16 23:16	KLA	EPA 300.0
<b><u>Distilled Nutrients - STL</u></b>						
Ammonia-N	< 0.30	mg/L		07/19/16 17:14	KMM	EPA 350.1*
<b><u>General Chemistry - STL</u></b>						
BOD	< 6.0	mg/L		07/08/16 09:27	HKR	SM 5210B
COD	< 5.0	mg/L		07/14/16 15:19	KLA	SM 5220D
Hexavalent chromium	< 0.005	mg/L		07/08/16 12:59	KMM	SM 3500-Cr B*
Oil & Grease - total	< 6.6	mg/L		07/20/16 11:14	KLA	EPA 1664
Solids - settleable solids (SS)	< 0.10	mL/L		07/08/16 12:03	KLA	SM 2540F*
Solids - total suspended solids (TSS)	33	mg/L		07/14/16 13:19	RMD	SM 2540D
<b><u>Soluble Metals - STL</u></b>						
Iron	0.014	mg/L		07/14/16 13:57	WPS	EPA 200.7
<b><u>Total Metals - STL</u></b>						
Aluminum	0.89	mg/L		07/14/16 13:55	WPS	EPA 200.7*
Mercury	< 0.0002	mg/L		07/15/16 13:14	WPS	EPA 245.1 / SW 7470
Antimony	< 0.010	mg/L		07/14/16 13:55	WPS	EPA 200.7
Arsenic	< 0.015	mg/L		07/14/16 13:55	WPS	EPA 200.7
Beryllium	< 0.0010	mg/L		07/14/16 13:55	WPS	EPA 200.7
Hardness	180	mg/L		07/14/16 13:55	WPS	SM 2340B
Cadmium	< 0.0020	mg/L		07/14/16 13:55	WPS	EPA 200.7
Calcium	59	mg/L		07/14/16 13:43	WPS	EPA 200.7
Chromium	< 0.0020	mg/L		07/14/16 13:55	WPS	EPA 200.7
Cobalt	< 0.0020	mg/L		07/14/16 13:55	WPS	EPA 200.7
Copper	0.0037	mg/L		07/14/16 13:55	WPS	EPA 200.7
Iron	0.78	mg/L	B2	07/14/16 13:55	WPS	EPA 200.7
Lead	< 0.010	mg/L		07/14/16 13:55	WPS	EPA 200.7
Magnesium	7.0	mg/L		07/14/16 13:55	WPS	EPA 200.7
Nickel	0.0049	mg/L		07/14/16 13:55	WPS	EPA 200.7
Selenium	< 0.010	mg/L		07/14/16 13:55	WPS	EPA 200.7
Silver	< 0.0020	mg/L		07/14/16 13:55	WPS	EPA 200.7
Thallium	< 0.020	mg/L		07/14/16 13:55	WPS	EPA 200.7
Zinc	0.061	mg/L		07/14/16 13:55	WPS	EPA 200.7
<b><u>Volatile Organics - PIA</u></b>						
Benzene	< 5.0	ug/L		07/13/16 16:06	MAB	SW 8260B
Toluene	< 5.0	ug/L		07/13/16 16:06	MAB	SW 8260B



**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

(800) 333-3278

### ANALYTICAL RESULTS

**Sample:** 6071185-01  
**Name:** 003 Grab  
**Matrix:** Waste Water - Grab

**Sampled:** 07/07/16 15:40  
**Received:** 07/08/16 10:00

Parameter	Result	Unit	Qualifier	Analyzed	Analyst	Method
Ethylbenzene	< 5.0	ug/L		07/13/16 16:06	MAB	SW 8260B
o-Xylene	< 5.0	ug/L		07/13/16 16:06	MAB	SW 8260B
m,p-Xylene	< 5.0	ug/L		07/13/16 16:06	MAB	SW 8260B
Xylenes- Total	< 15	ug/L		07/13/16 16:06	MAB	SW 8260B



**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

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**NOTES**

Specific method revisions used for analysis are available upon request.

**Certifications**

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TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230

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Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 171050

Drinking Water Certifications: Missouri (1050)

Missouri Department of Natural Resources

\* Not a TNI accredited analyte

**Qualifiers**

B2 Contamination does not impact data since sample result is greater than ten times the contamination level found in the blank.

*Barbara G Pandolfo*



Certified by: Barb Pandolfo For Roxann Shull, Client Services Supervisor



**SUBCONTRACT ORDER**  
**Transfer Chain of Custody**

PDC Laboratories, Inc.  
**6071185**

**SENDING LABORATORY**

PDC Laboratories, Inc.  
 3278 N Highway 67  
 Florissant, MO 63033  
 (800) 333-3278

**RECEIVING LABORATORY**

PDC Laboratories, Inc.  
 2231 W Altorfer Dr  
 Peoria, IL 61615  
 (309) 692-9688



**Sample: 6071185-01**  
**Name: 003 Grab**

**Sampled: 07/07/16 15:40**  
**Matrix: Water**

Analysis	Due	Expires	Comments
M8260 BTEX	07/20/16 16:00	07/21/16 15:40	

Please email results to Roxann Shull at [rshull@pdclab.com](mailto:rshull@pdclab.com)

Date Shipped: 7/8/16 Total # of Containers: 3 Sample Origin (State): \_\_\_\_\_ PO #: \_\_\_\_\_  
 Turn-Around Time Requested  NORMAL  RUSH Date Results Needed: \_\_\_\_\_

Relinquished By	Date/Time	Received By	Date/Time	Sample Temperature Upon Receipt	14 °C
<u>Heather Kalant</u>	<u>7/8/16</u>	<u>Anode Selc</u>	<u>7/12/16</u>	Sample(s) Received on Ice	<u>Y</u> or N
				Proper Bottles Received in Good Condition	<u>Y</u> or N
				Bottles Filled with Adequate Volume	<u>Y</u> or N
				Samples Received Within Hold Time	<u>Y</u> or N
				Date/Time Taken From Sample Bottle	<u>Y</u> or N



# PDC Laboratories, Inc.

PROFESSIONAL • DEPENDABLE • COMMITTED

August 05, 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 **7/26/16 10:00 am** and logged in under work order **6074022**. 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: 6074022-01
Name: 004 Grab
Matrix: Waste Water - Grab

Sampled: 07/25/16 15:00
Received: 07/26/16 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, Total Metals - STL, and Volatile Organics - PIA.



**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

(800) 333-3278

**ANALYTICAL RESULTS**

**Sample:** 6074022-01  
**Name:** 004 Grab  
**Matrix:** Waste Water - Grab

**Sampled:** 07/25/16 15:00  
**Received:** 07/26/16 10:00

Parameter	Result	Unit	Qualifier	Analyzed	Analyst	Method
o-Xylene	< 5.0	ug/L		08/02/16 14:22	MAB	SW 8260B
m,p-Xylene	< 5.0	ug/L		08/02/16 14:22	MAB	SW 8260B
Xylenes- Total	< 15	ug/L		08/02/16 14:22	MAB	SW 8260B



**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

(800) 333-3278

**NOTES**

Specific method revisions used for analysis are available upon request.

**Certifications**

**PIA - Peoria, IL**

TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230

Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553

Missouri Department of Natural Resources Certificate of Approval for Microbiological Laboratory Service No. 870

Drinking Water Certifications: Iowa (240); Kansas (E-10338); Missouri (870)

Wastewater Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

Hazardous/Solid Waste Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

**SPMO - Springfield, MO**

USEPA DMR-QA Program

**STL - St. Louis, MO**

TNI Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS Lab No. E-10389

Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 171050

Drinking Water Certifications: Missouri (1050)

Missouri Department of Natural Resources

\* Not a TNI accredited analyte

**Qualifiers**

- B Present in the method blank at 0.004.
- B2 Contamination does not impact data since sample result is greater than ten times the contamination level found in the blank.
- H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.
- X Primary QC failed (high GGA). However, the secondary QC was within the acceptance criteria

*Roxann Shull*

Certified by: Roxann Shull, Client Services Supervisor





**PDC Laboratories, Inc. – St. Louis**  
 3278 N. Highway 67 (Lindbergh)  
 Florissant, MO 63033  
 www.pdc-lab.com

**CHAIN OF CUSTODY RECORD**  
 Phone (314) 432-0550  
 Fax (314) 432-4977

State where samples collected \_\_\_\_\_

(Instructions/Sample Acceptance Policy on Reverse)

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

CLIENT <b>City of Columbia, MO Public Works</b>		PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED	ANALYSIS REQUESTED <b>3</b>							4 (FOR LAB USE ONLY)
ADDRESS <b>5700 Peabody Rd. P.O. Box 6015</b>		PHONE NUMBER	FAX NUMBER	EMAIL ADDRESS <b>awhite@gocolumbiamo.com</b> <b>cmmitche@gocolumbiamo.com</b>	Matrix Types: WW-WASTEWATER DW-DRAINING WATER GW-GROUND WATER WWL-SLUDGE NAS-SOLID LCHT-LEACHATE NAL-NON-AQUEOUS LIQUID SOL-SOILS							LOGIN # <b>6074022</b>
CITY	STATE <b>Columbia, MO 65205</b>	SAMPLER <b>Adam White</b>		LOGGED BY: <b>He</b>								
ZIP	CONTACT PERSON <b>Adam White</b>	SAMPLER'S SIGNATURE <i>Adam White</i>		LAB PROJ #								
2		SAMPLER'S SIGNATURE		TEMPLATE:	Ammonia COD Cl, F, SO4 Cr+6 Metals Settleable Solids VOA 8260 BTEX							PROJ. MGR:
7		RELIQUISHED BY: (SIGNATURE) <i>Adam White</i>		DATE	TIME	REMARKS Quarterly Field pH						
8		RELIQUISHED BY: (SIGNATURE)		DATE	TIME	CHILL PROCESS STARTED PRIOR TO RECEIPT SAMPLE(S) RECEIVED ON ICE PROPER BOTTLES RECEIVED IN GOOD CONDITION BOTTLES FILLED WITH ADEQUATE VOLUME SAMPLES RECEIVED WITHIN HOLD TIME(S) (EXCLUDES TYPICAL FIELD PARAMETERS) DATE AND TIME TAKEN FROM SAMPLE BOTTLE						
9		RELIQUISHED BY: (SIGNATURE)		DATE	TIME	CHILL PROCESS STARTED PRIOR TO RECEIPT SAMPLE(S) RECEIVED ON ICE PROPER BOTTLES RECEIVED IN GOOD CONDITION BOTTLES FILLED WITH ADEQUATE VOLUME SAMPLES RECEIVED WITHIN HOLD TIME(S) (EXCLUDES TYPICAL FIELD PARAMETERS) DATE AND TIME TAKEN FROM SAMPLE BOTTLE						
10		RELIQUISHED BY: (SIGNATURE)		DATE	TIME	CHILL PROCESS STARTED PRIOR TO RECEIPT SAMPLE(S) RECEIVED ON ICE PROPER BOTTLES RECEIVED IN GOOD CONDITION BOTTLES FILLED WITH ADEQUATE VOLUME SAMPLES RECEIVED WITHIN HOLD TIME(S) (EXCLUDES TYPICAL FIELD PARAMETERS) DATE AND TIME TAKEN FROM SAMPLE BOTTLE						

**SUBCONTRACT ORDER**  
**Transfer Chain of Custody**

**PDC Laboratories, Inc.**  
**6074022**

*YH*

**SENDING LABORATORY**

PDC Laboratories, Inc.  
3278 N Highway 67  
Florissant, MO 63033  
(800) 333-3278

**RECEIVING LABORATORY**

PDC Laboratories, Inc.  
2231 W Altorfer Dr  
Peoria, IL 61615  
(309) 692-9688

**Sample: 6074022-01**  
**Name: 004 Grab**

**Sampled: 07/25/16 15:00**  
**Matrix: Water**

Analysis	Due	Expires	Comments
M8260 BTEX	08/05/16 16:00	08/08/16 15:00	

Please email results to Roxann Shull at [rshull@pdclab.com](mailto:rshull@pdclab.com)

Date Shipped: 7/26/16 Total # of Containers: 3 Sample Origin (State): \_\_\_\_\_ PO #: \_\_\_\_\_  
Turn-Around Time Requested  NORMAL  RUSH Date Results Needed: \_\_\_\_\_

Relinquished By	Date/Time	Received By	Date/Time	Sample Temperature Upon Receipt	<u>7</u> °C
<u>Hester Carls</u>	<u>7/26/16</u>	<u>[Signature]</u>	<u>7/26/16 9:30</u>	Sample(s) Received on Ice	<u>N</u>
				Proper Bottles Received in Good Condition	<u>Y</u>
				Bottles Filled with Adequate Volume	<u>Y</u>
				Samples Received Within Hold Time	<u>Y</u>
				Date/Time Taken From Sample Bottle	<u>Y</u>



# PDC Laboratories, Inc.

PROFESSIONAL • DEPENDABLE • COMMITTED

August 15, 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 **8/3/16 10:00 am** and logged in under work order **6080559**. 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





**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

(800) 333-3278

### ANALYTICAL RESULTS

**Sample:** 6080559-01  
**Name:** 005 Grab  
**Matrix:** Waste Water - Grab

**Sampled:** 08/02/16 11:40  
**Received:** 08/03/16 10:00

Parameter	Result	Unit	Qualifier	Analyzed	Analyst	Method
<b><u>Distilled Nutrients - STL</u></b>						
Ammonia-N	< 0.30	mg/L		08/09/16 15:19	KMM	EPA 350.1*
<b><u>Field - STL</u></b>						
pH	8.06	pH Units		08/02/16 11:40	FIELD	SM*
<b><u>General Chemistry - STL</u></b>						
BOD	< 6.0	mg/L		08/04/16 07:51	NMS	SM 5210B
Oil & Grease - total	< 5.1	mg/L		08/09/16 07:54	JS	EPA 1664
Solids - total suspended solids (TSS)	39	mg/L		08/04/16 13:21	RMD	SM 2540D



**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

(800) 333-3278

**NOTES**

Specific method revisions used for analysis are available upon request.

**Certifications**

**PIA - Peoria, IL**

TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230

Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553

Missouri Department of Natural Resources Certificate of Approval for Microbiological Laboratory Service No. 870

Drinking Water Certifications: Iowa (240); Kansas (E-10338); Missouri (870)

Wastewater Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

Hazardous/Solid Waste Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

**SPMO - Springfield, MO**

USEPA DMR-QA Program

**STL - St. Louis, MO**

TNI Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS Lab No. E-10389

Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 171050

Drinking Water Certifications: Missouri (1050)

Missouri Department of Natural Resources

\* Not a TNI accredited analyte

*Roxann Shull*

Certified by: Roxann Shull, Client Services Supervisor





**PDC Laboratories, Inc. – St. Louis**  
**3278 N. Highway 67 (Lindbergh)**  
**Florissant, MO 63033**  
 www.pdcclab.com

**CHAIN OF CUSTODY RECORD**  
 Phone (314) 432-0550  
 Fax (314) 432-4977

State where samples collected \_\_\_\_\_

(Instructions/Sample Acceptance Policy on Reverse)

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

CLIENT <b>City of Columbia, MO Public Works</b>		PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED	ANALYSIS REQUESTED			3		4 (FOR LAB USE ONLY)	
ADDRESS <b>5700 Peabody Rd. P.O. Box 6015</b>		PHONE NUMBER	FAX NUMBER	EMAIL ADDRESS awhite@gocolumbiamo.com cmmitch@cocolumbiamo.com	BOD TSS		HEM		Ammonia		LOGIN # <b>6080559</b>
CITY <b>Columbia, MO 65205</b>		SAMPLER <b>VINEET KAPILA</b>		MATRIX TYPES: WW-WASTEWATER DW-DRINKING WATER GW-GROUND WATER WW-SLUDGE NAS-SOLID LQHT-LEACHATE NAL- NONAQUEOUS LIQUID SOIL-SOILS					LOGGED BY: <b>HE</b>		
CONTACT PERSON <b>Adam White</b>		SAMPLER'S SIGNATURE							LAB PROJ #		
2 SAMPLE DESCRIPTION AS YOU WANT ON REPORT		DATE COLLECTED	TIME COLLECTED	MATRIX TYPE	Bottle Count					TEMPLATE:	
005		8/2/16	11:40	GRAB	Storm W	x					REMARKS
↓		↓	↓	↓	Storm W		x				FIELD PA-8.06
					Storm W			x			
5 TURNAROUND TIME (RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)		RESULTS BY: <input checked="" type="checkbox"/> E-MAIL <input type="checkbox"/> FAX <input type="checkbox"/> PHONE CALL		PHONE/FAX # IF DIFFERENT FROM ABOVE		6 The sample temperature will be measured upon receipt at the lab. By initialing this area, you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area, you allow the lab to proceed with analytical testing regardless of the sample temperature.					
DATE DUE _____		7 RELINQUISHED BY: (SIGNATURE)		DATE <b>8/2/16</b>	TIME <b>16:30</b>	RECEIVED BY: <b>H. Galtner</b>	DATE <b>8/3/16</b>	TIME <b>10:00</b>	8 COMMENTS: (FOR LAB USE ONLY)		
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY:	DATE	TIME	SAMPLE TEMPERATURE UPON RECEIPT <b>4.1 °C</b>				
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY:	DATE	TIME	CHILL PROCESS STARTED PRIOR TO RECEIPT				
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY:	DATE	TIME	SAMPLE(S) RECEIVED ON ICE				
							PROPER BOTTLES RECEIVED IN GOOD CONDITION				
							BOTTLES FILLED WITH ADEQUATE VOLUME				
							SAMPLES RECEIVED WITHIN HOLD TIME(S)				
							(EXCLUDES TYPICAL FIELD PARAMETERS)				
							DATE AND TIME TAKEN FROM SAMPLE BOTTLE				



# 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 **6071200**. 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





**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

(800) 333-3278

### ANALYTICAL RESULTS

**Sample:** 6071200-01  
**Name:** 005 Grab  
**Matrix:** Waste Water - Grab

**Sampled:** 07/07/16 14:05  
**Received:** 07/08/16 10:00

Parameter	Result	Unit	Qualifier	Analyzed	Analyst	Method
<b><u>Distilled Nutrients - STL</u></b>						
Ammonia-N	< 0.30	mg/L		07/19/16 17:11	KMM	EPA 350.1*
<b><u>General Chemistry - STL</u></b>						
BOD	< 6.0	mg/L		07/08/16 09:27	HKR	SM 5210B
Oil & Grease - total	< 5.1	mg/L		07/20/16 11:36	KLA	EPA 1664
Solids - total suspended solids (TSS)	9.6	mg/L		07/14/16 13:19	RMD	SM 2540D



**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

(800) 333-3278

**NOTES**

Specific method revisions used for analysis are available upon request.

**Certifications**

**PIA - Peoria, IL**

TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230

Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553

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Drinking Water Certifications: Iowa (240); Kansas (E-10338); Missouri (870)

Wastewater Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

Hazardous/Solid Waste Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

**SPMO - Springfield, MO**

USEPA DMR-QA Program

**STL - St. Louis, MO**

TNI Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS Lab No. E-10389

Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 171050

Drinking Water Certifications: Missouri (1050)

Missouri Department of Natural Resources

\* Not a TNI accredited analyte

*Barbara G Pandolfo*



Certified by: Barb Pandolfo For Roxann Shull, Client Services Supervisor





120 East Davis Street  
Fayette, MO 65248-1405  
(660) 248-1911  
www.inovatia.com

10/4/2016

Page Number: 1 of 2

City of Columbia  
5700 Peabody Road PO Box 6015  
Columbia, MO 65205  
Adam White

RE: Project Name/Number: N/A/N/A  
Chain of Custody Number: 16-1061

Date Received: September 16, 2016  
Time Received 13:50  
Relinquished by: Vineet Kapila  
Sampler: Vineet Kapila

Enclosed please find analytical results for sample(s) received as described above. The values reported are in conformance with internal and method quality control guidelines, unless otherwise noted. If you have questions or need more information, please contact us.

Thank you for your interest in working with Inovatia Laboratories.

Sincerely,

A handwritten signature in black ink that reads "Jennifer Vandelicht". The signature is written in a cursive, flowing style.

Jennifer Vandelicht  
Quality Assurance

Enclosures: Chain of Custody Record(s)



120 East Davis Street  
 Fayette, MO 65248-1405  
 (660) 248-1911  
 www.inovatia.com

**ANALYSIS REPORT**

**Chain of Custody Number:** 16-1061  
**Project Name / Number:** N/A / N/A  
**Date Collected:** 09/16/16  
**Time Collected:** 11:05

**Sample Number:**  
**Lab Number:** 163899  
**Sample Matrix:** Water  
**Sample Type:** Water

Analyte	Result	Units	Reporting Limit	Analysis Method	Analyst - Date
Ethylbenzene	< 5	µg/L	5	EPA 8260B	DS - 09/20/16
<b>Surrogate</b>					
Toluene-d8	102	%	80% - 120%	EPA 8260B	DS - 09/20/16
<b>Total Extractable Hydrocarbons</b>					
TEH as Gasoline	< 0.1	mg/L	0.1	3510C/OA-2	BD - 09/27/16
TEH as Diesel	0.1	mg/L	0.1	3510C/OA-2	BD - 09/27/16
TEH as Kerosene	< 0.1	mg/L	0.1	3510C/OA-2	BD - 09/27/16
TEH as Mineral Spirits	< 0.1	mg/L	0.1	3510C/OA-2	BD - 09/27/16
Analyte	Result	Units	Reporting Limit	Analysis Method	Analyst - Date
Chemical Oxygen Demand (COD)	< 25	mg/L	25	SM 5220D	DS - 09/26/16
Hexane Extractable Material (HEM)	< 5	mg/L	5	EPA 1664 A	BD - 09/29/16
Total Suspended Solids (TSS)	15	mg/L	5	SM 2540 D	HH/BD - 09/23/16
Settleable Matter	< 0.2	mL/L/hr	0.2	EPA 160.5	BD - 09/16/2016
Iron, Total	0.640	mg/L	0.250	EPA 200.8	DS - 09/22/16

Report Date: 10/04/16  
 Page Number: 2 of 2

This report has been produced for the exclusive and confidential use of our clients. Reference to the analyses, the results, or the company in any news releases, advertising, or other public announcement is prohibited without obtaining prior written consent.



**PDC Laboratories, Inc. – St. Louis**  
**3278 N. Highway 67 (Lindbergh)**  
**Florissant, MO 63033**  
[www.pdcclab.com](http://www.pdcclab.com)

**CHAIN OF CUSTODY RECORD**  
 Phone (314) 432-0550  
 Fax (314) 432-4977

State where samples collected MO

(Instructions/Sample Acceptance Policy on Reverse)

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

CLIENT <b>City of Columbia, MO Public Works</b>		PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED <b>DELIVERED BY HAND</b>	3 ANALYSIS REQUESTED					4 (FOR LAB USE ONLY)	
ADDRESS <b>5700 Peabody Rd. P.O. Box 6015</b>		PHONE NUMBER <b>573-574-7555</b>	FAX NUMBER <b>573-214-0141</b>	EMAIL ADDRESS <b>awhite@gocolumbiamo.com</b> <b>cmmitche@gocolumbiamo.com</b>	TSS	HEM	COD	Settleable Solids	Fe Total Rec	GRO ethylbenzene	LOGIN # <u>110-1061</u>
CITY <b>Columbia, MO 65205</b>		SAMPLER <b>VINEET KAPILA</b>		MATRIX TYPES: <small>         W-WASTEWATER          DW-DRINKING WATER          GW-GROUND WATER          WW-SLUDGE          NS-SOLID          LCHT-LEACHATE          NAL-NONAQUEOUS LIQUID          SOIL-SOILS       </small>							LOGGED BY:
CONTACT PERSON <b>Adam White</b>		SAMPLER'S SIGNATURE 									LAB PROJ # <u>163899</u>
2 SAMPLE DESCRIPTION AS YOU WANT ON REPORT		DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB COMP	MATRIX TYPE	Bottle Count					TEMPLATE: <u>Reported</u>
006		<u>9/16/16</u>	<u>11:05AM</u>	<u>GRAB</u>	<u>Storm W</u>						PROJ. MGR: <u>Reported</u>
↓		↓	↓	↓	Storm W						REMARKS
					Storm W		x				Quarterly
					Storm W				x		Field pH <u>8.09</u>
					Storm W					x	
					Storm W						x
5 TURNAROUND TIME (RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)				6 The sample temperature will be measured upon receipt at the lab. By initialing this area, you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area, you allow the lab to proceed with analytical testing regardless of the sample temperature. <u>20.2</u>							
<input checked="" type="checkbox"/> Normal (8-10 Bus. Days) <input type="checkbox"/> Rush (5 Bus. Days) <input type="checkbox"/> <i>Fastrak™</i> (3 Bus. Days) <input type="checkbox"/> 1-2 Bus. Days <input type="checkbox"/> Same Day DATE DUE _____				RESULTS BY: <input checked="" type="checkbox"/> E-MAIL <input type="checkbox"/> FAX <input type="checkbox"/> PHONE CALL PHONE/FAX # IF DIFFERENT FROM ABOVE _____							
7 RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY:	DATE	TIME	8 SAMPLE TEMPERATURE UPON RECEIPT _____ °C				
		<u>9/16/16</u>	<u>1350</u>	<u>Jimmy Voelker</u>	<u>9/16/16</u>	<u>1350</u>	CHILL PROCESS STARTED PRIOR TO RECEIPT _____ Y OR N SAMPLE(S) RECEIVED ON ICE _____ Y OR N PROPER BOTTLES RECEIVED IN GOOD CONDITION _____ Y OR N BOTTLES FILLED WITH ADEQUATE VOLUME _____ Y OR N SAMPLES RECEIVED WITHIN HOLD TIME(S) _____ Y OR N (EXCLUDES TYPICAL FIELD PARAMETERS) DATE AND TIME TAKEN FROM SAMPLE BOTTLE _____				
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY:	DATE	TIME					
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY:	DATE	TIME					



# PDC Laboratories, Inc.

PROFESSIONAL • DEPENDABLE • COMMITTED

August 22, 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 **8/3/16 10:00 am** and logged in under work order **6080538**. 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: 6080538-01
Name: 007 Grab
Matrix: Waste Water - Grab

Sampled: 08/02/16 13:30
Received: 08/03/16 10:00

Table with 7 columns: Parameter, Result, Unit, Qualifier, Analyzed, Analyst, Method. Rows include Anions - STL (Chloride, Fluoride, Sulfate), Distilled Nutrients - STL (Ammonia-N), General Chemistry - STL (BOD, COD, Hexavalent chromium, Oil & Grease - total, Solids - settleable solids (SS), Solids - total suspended solids (TSS)), Total Metals - STL (Aluminum, Mercury, Antimony, Arsenic, Beryllium, Hardness, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Nickel, Selenium, Silver, Thallium, Zinc), and Volatile Organics - PIA (Benzene, Toluene, Ethylbenzene, o-Xylene, m,p-Xylene).



**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

(800) 333-3278

### ANALYTICAL RESULTS

**Sample:** 6080538-01  
**Name:** 007 Grab  
**Matrix:** Waste Water - Grab

**Sampled:** 08/02/16 13:30  
**Received:** 08/03/16 10:00

Parameter	Result	Unit	Qualifier	Analyzed	Analyst	Method
Xylenes- Total	< 15	ug/L		08/05/16 14:57	MAB	SW 8260B



**PDC Laboratories, Inc.**

3278 North Highway 67

Florissant, MO 63033

(800) 333-3278

**NOTES**

Specific method revisions used for analysis are available upon request.

**Certifications**

**PIA - Peoria, IL**

TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230

Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553

Missouri Department of Natural Resources Certificate of Approval for Microbiological Laboratory Service No. 870

Drinking Water Certifications: Iowa (240); Kansas (E-10338); Missouri (870)

Wastewater Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

Hazardous/Solid Waste Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

**SPMO - Springfield, MO**

USEPA DMR-QA Program

**STL - St. Louis, MO**

TNI Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS Lab No. E-10389

Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 171050

Drinking Water Certifications: Missouri (1050)

Missouri Department of Natural Resources

\* Not a TNI accredited analyte



Certified by: Roxann Shull, Client Services Supervisor



**PDC Laboratories, Inc. – St. Louis**  
**3278 N. Highway 67 (Lindbergh)**  
**Florissant, MO 63033**  
 www.pdc-lab.com

**CHAIN OF CUSTODY RECORD**  
 Phone (314) 432-0550  
 Fax (314) 432-4977

State where samples collected \_\_\_\_\_

(Instructions/Sample Acceptance Policy on Reverse)

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

<b>CLIENT</b> City of Columbia, MO Public Works		<b>PROJECT NUMBER</b>	<b>P.O. NUMBER</b>	<b>MEANS SHIPPED</b>	<b>ANALYSIS REQUESTED</b>							<b>4</b> (FOR LAB USE ONLY)	
<b>ADDRESS</b> 5700 Peabody Rd. P.O. Box 6015		<b>PHONE NUMBER</b>	<b>FAX NUMBER</b>	<b>EMAIL ADDRESS</b> awhite@gocolumbiamo.com ommitch@cocolumbiamo.com	<b>3</b>							<b>LOGIN #</b> 6080528	
<b>CITY</b> <b>STATE</b> Columbia, MO 65205 <b>ZIP</b>		<b>SAMPLER</b> VINCEY KAPILA		<b>MATRIX TYPES:</b> WW-WASTEWATER DW-DRINKING WATER GW-GROUND WATER WW-SLUDGE NS-SOLID LCHT-LEACHATE NAL-NONAQUEOUS LIQUID SOL-SOILS	<b>BOD TSS</b>	<b>HEM</b>	<b>Ammonia COD</b>	<b>Cl, F, SO4</b>	<b>Cr+6</b>	<b>Metals</b>	<b>Settleable Solids</b>	<b>VOA 8260 BTEX</b>	<b>LOGGED BY:</b> HE
<b>CONTACT PERSON</b> Adam White		<b>SAMPLER'S SIGNATURE</b> 											<b>LAB PROJ #</b>
<b>2</b>		<b>DATE COLLECTED</b> 8/2/16		<b>TIME COLLECTED</b> 12:30	<b>MATRIX TYPE</b> Storm W	<b>Bottle Count</b>	<b>REMARKS</b>						
<b>5</b>		<b>DATE DUE</b>		<b>TURNAROUND TIME</b> (RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE) <input checked="" type="checkbox"/> Normal (5-10 Bus. Days) <input type="checkbox"/> Rush (5 Bus. Days) <input type="checkbox"/> FastTrack (3 Bus. Days) <input type="checkbox"/> 1-2 Bus. Days <input type="checkbox"/> Same Day									
<b>7</b>		<b>RELINQUISHED BY: (SIGNATURE)</b> 		<b>DATE</b> 8/2/16	<b>TIME</b> 12:30	<b>RECEIVED BY:</b> Heather Calvert	<b>DATE</b> 8/3/16	<b>TIME</b> 10:00	<b>6</b>				<b>8</b>
<b>RESULTS BY:</b> <input checked="" type="checkbox"/> E-MAIL <input type="checkbox"/> FAX <input type="checkbox"/> PHONE CALL		<b>PHONE/FAX # IF DIFFERENT FROM ABOVE</b>		The sample temperature will be measured upon receipt at the lab. By initialing this area, you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-8.0°C. By not initialing this area, you allow the lab to proceed with analytical testing regardless of the sample temperature.									
<b>RELINQUISHED BY: (SIGNATURE)</b>		<b>DATE</b>	<b>TIME</b>	<b>RECEIVED BY:</b>	<b>DATE</b>	<b>TIME</b>	<b>Metals</b> Sb,As,Pb,Tl,Al,Be,Cd,Cr,Co,Cu,Fe,Ni,Se,Ag,Zn,Hg, (Ca,Mg Hardness calc) SAMPLE TEMPERATURE UPON RECEIPT 3.0°C CHILL PROCESS STARTED PRIOR TO RECEIPT SAMPLE(S) RECEIVED ON ICE PROPER BOTTLES RECEIVED IN GOOD CONDITION BOTTLES FILLED WITH ADEQUATE VOLUME SAMPLES RECEIVED WITHIN HOLD TIME(S) (EXCLUDES TYPICAL FIELD PARAMETERS) DATE AND TIME TAKEN FROM SAMPLE BOTTLE						
<b>RELINQUISHED BY: (SIGNATURE)</b>		<b>DATE</b>	<b>TIME</b>	<b>RECEIVED BY:</b>	<b>DATE</b>	<b>TIME</b>	YORN YORN YORN YORN YORN						
<b>RELINQUISHED BY: (SIGNATURE)</b>		<b>DATE</b>	<b>TIME</b>	<b>RECEIVED BY:</b>	<b>DATE</b>	<b>TIME</b>	YORN YORN YORN YORN YORN						

**SUBCONTRACT ORDER**  
**Transfer Chain of Custody**

PDC Laboratories, Inc.  
**6080538**

*VPH*

**SENDING LABORATORY**

PDC Laboratories, Inc.  
 3278 N Highway 67  
 Florissant, MO 63033  
 (800) 333-3278

**RECEIVING LABORATORY**

PDC Laboratories, Inc.  
 2231 W Altorfer Dr  
 Peoria, IL 61615  
 (309) 692-9688

**Sample: 6080538-01**  
**Name: 007 Grab**

**Sampled: 08/02/16 13:30**  
**Matrix: Water**

Analysis	Due	Expires	Comments
M8260 BTEX	08/15/16 16:00	08/16/16 13:30	

Please email results to Roxann Shull at [rshull@pdclab.com](mailto:rshull@pdclab.com)

Date Shipped: 8/3/16 Total # of Containers: 3 Sample Origin (State): \_\_\_\_\_ PO #: \_\_\_\_\_  
 Turn-Around Time Requested  NORMAL  RUSH Date Results Needed: \_\_\_\_\_

Relinquished By	Date/Time	Received By	Date/Time	Sample Temperature Upon Receipt	<u>3</u> °C
<i>Heather Carhart</i>	<u>8/3/16</u>	<i>[Signature]</i>	<u>8/4/16</u>	Sample(s) Received on Ice	<u>Y</u> or N
			<u>1000</u>	Proper Bottles Received in Good Condition:	<u>Y</u> or N
				Bottles Filled with Adequate Volume	<u>Y</u> or N
				Samples Received Within Hold Time	<u>Y</u> or N
				Date/Time Taken From Sample Bottle	<u>Y</u> or N