05-May-2022

Jeff Ranes
Delhi Charter Twp POTW
5961 McCue Rd
Holt, MI 48842-9646

Re: **2nd Quarter Biosolids 2022** Work Order: **22041827**

Dear Jeff,

ALS Environmental received 1 sample on 21-Apr-2022 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 44.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Julienn C. Williams

Electronically approved by: Julienn Williams

Julienn Williams
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS Group, USA

Date: 05-May-22

Client: Delhi Charter Twp POTW
Project: 2nd Quarter Biosolids 2022
Work Order: **22041827**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
22041827-01	2nd Quarter Biosolids 2022	Sludge		4/20/2022 13:30	4/21/2022 10:00	☐

Client:	Delhi Charter Twp POTW
Project:	2nd Quarter Biosolids 2022
WorkOrder:	**22041827**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Analyte accreditation is not offered
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
°C	Degrees Celcius
µg/Kg	Micrograms per Kilogram
BTU/lb as recd.	British Thermal Units per Pound as Received
lbs/gallon	Pounds per Gallon
mg/Kg-dry	Milligrams per Kilogram Dry Weight

mg/L	Milligrams per Liter
s.u.	Standard Units

Client:	Delhi Charter Twp POTW
Project:	2nd Quarter Biosolids 2022
Work Order:	22041827

Case Narrative

The attached "Sample Receipt Checklist" documents the date of receipt, status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. A copy of the laboratory's scope of accreditation is available upon request.

Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

Any flags on MS/MSD samples not addressed in this narrative are unrelated to samples in this report.

With the following exceptions, all sample analyses achieved analytical criteria.

Batch 195080, Method A9222 D-06, Sample 2nd Quarter Biosolids 2022 (22041827-01A): Sample was logged in after hold time expired

Batch 195481, Method D7968-17a, Sample 2nd Quarter Biosolids 2022 (22041827-01D): One or more surrogate recoveries were below the lower control limits. The sample results may be biased low. 13C2-PFTeA, 13C4-PFOS

Batch 195481, Method D7968-17a, Sample 2nd Quarter Biosolids 2022 (22041827-01D): One or more surrogate recoveries were below the lower control limits. The sample results may be biased low. 13C2-PFDoA

Batch 195481, Method D7968-17a, Sample LCSD2-195481: The RPD between the LCS2 and LCSD2 was outside of the control limit. The sample results should be considered estimated for this analyte: FTS 8:2

Batch 195240, Method A4500-NO2 B-11, Sample 22041827-01A MS/MSD: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte:

Batch 195241, Method E353.2, Sample 22041827-01A MS: The MS/MSD recovery was

below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte:

Batch 195357, Method E365.1 R2.0, Sample 22041827-01A MS: The MS/MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte:

Batch 195357, Method E365.1 R2.0, Sample 22041827-01A MS/MSD: Matrix spike value was outside upper limit of calibration. Processed at equivalent dilution level as the parent.

Batch 195241, Method E353.2, Sample 22041827-01A MSD: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte:

ALS Group, USA

Date: *05-May-2022*

Client: Delhi Charter Twp POTW
Project: 2nd Quarter Biosolids 2022
Work Order: 22041827
Sample ID: 2nd Quarter Biosolids 2022
Lab ID: 22041827-01
Collection Date: 4/20/2022 01:30 PM
Matrix: SLUDGE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471B**	Prep: SW7471 5/2/22 13:01		Analyst: **EJC**
Mercury	**0.30**		**0.26**	**mg/Kg-dry**	1	5/2/2022 05:05 PM
METALS BY ICP-MS			**SW6020B**	Prep: SW3050B 4/22/22 13:43		Analyst: **DSC**
Arsenic	**13**		**5.0**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Barium	**480**		**5.0**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Cadmium	ND		2.0	mg/Kg-dry	1	4/22/2022 10:55 PM
Calcium	**35,000**		**500**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Chromium	**110**		**5.0**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Copper	**440**		**5.0**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Iron	**130,000**		**200**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Lead	**7.4**		**1.2**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Magnesium	**3,500**		**200**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Molybdenum	**14**		**5.0**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Nickel	**22**		**1.2**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Potassium	**1,300**		**200**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Selenium	**6.7**		**1.6**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Silver	**1.3**		**1.2**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Sodium	**2,500**		**200**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
Zinc	**880**		**10**	**mg/Kg-dry**	1	4/22/2022 10:55 PM
PFAS BY LC-MS-MS			**D7968-17A**	Prep: D7968-17a 4/28/22 17:10		Analyst: **ENS**
Perfluorobutanoic Acid (PFBA)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluoropentanoic Acid (PFPeA)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluorohexanoic Acid (PFHxA)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluoroheptanoic Acid (PFHpA)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluorooctanoic Acid (PFOA)	**500**		**380**	**ng/Kg-dry**	1	5/3/2022 01:47 AM
Perfluorononanoic Acid (PFNA)	ND		380	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluorodecanoic Acid (PFDA)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluoroundecanoic Acid (PFUnA)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluorododecanoic Acid (PFDoA)	ND		1,900	ng/Kg-dry	1	5/4/2022 03:01 AM
Perfluorotridecanoic Acid (PFTriA)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluorotetradecanoic Acid (PFTeA)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluorobutanesulfonic Acid (PFBS)	ND		380	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluoropentanesulfonic Acid (PFPeS)	ND		380	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluorohexanesulfonic Acid (PFHxS)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluorooctanesulfonic Acid (PFOS)	**2,800**		**380**	**ng/Kg-dry**	1	5/3/2022 01:47 AM
Perfluorononanesulfonic Acid (PFNS)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluorodecanesulfonic Acid (PFDS)	ND		380	ng/Kg-dry	1	5/3/2022 01:47 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Delhi Charter Twp POTW
Project: 2nd Quarter Biosolids 2022 **Work Order:** 22041827
Sample ID: 2nd Quarter Biosolids 2022 **Lab ID:** 22041827-01
Collection Date: 4/20/2022 01:30 PM **Matrix:** SLUDGE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorotelomer Sulphonic Acid 4:2 (FtS 4:2)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Fluorotelomer Sulphonic Acid 6:2 (FtS 6:2)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Fluorotelomer Sulphonic Acid 8:2 (FtS 8:2)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
Perfluorooctanesulfonamide (PFOSA)	**560**		**380**	**ng/Kg-dry**	1	5/3/2022 01:47 AM
N-Ethylperfluorooctanesulfonamidoacetic Acid	**2,900**		**1,900**	**ng/Kg-dry**	1	5/4/2022 03:01 AM
N-Methylperfluorooctanesulfonamidoacetic Acid	**6,400**		**1,900**	**ng/Kg-dry**	1	5/3/2022 01:47 AM
11Cl-Pf3OUdS	ND		380	ng/Kg-dry	1	5/3/2022 01:47 AM
4,8-Dioxa-3H-perfluorononanoic Acid (DONA)	ND		380	ng/Kg-dry	1	5/3/2022 01:47 AM
9Cl-PF3ONS	ND		380	ng/Kg-dry	1	5/3/2022 01:47 AM
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND		1,900	ng/Kg-dry	1	5/3/2022 01:47 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035A 4/22/22 11:16		Analyst: **HJ**
Toluene	ND		4,700	µg/Kg	1	4/29/2022 04:37 AM
FECAL COLIFORM			**A9222 D-06**	Prep: EXTRACT 4/21/22 15:05		Analyst: **JB**
Fecal Coliform	ND	H	150	cfu/gram-dry	10	4/22/2022 01:25 PM
BIOCHEMICAL OXYGEN DEMAND (MODIFIED)			**A5210B-11**	Prep: A5210B 4/21/22 16:49		Analyst: **KNC**
Biochemical Oxygen Demand	**88,000**		**300**	**mg/Kg-dry**	1	4/26/2022 09:45 AM
CALORIFIC VALUE (BTUS)			**D240**			Analyst: **RZM**
Calorific Value (BTU)	**6,100**		**100**	**BTU/lb as recd.**	1	5/2/2022 09:30 AM
CYANIDE, TOTAL			**SW9012B**	Prep: SW9012B 4/22/22 11:50		Analyst: **JMT**
Cyanide, Total	ND		0.45	mg/Kg-dry	1	4/22/2022 02:12 PM
CHEMICAL OXYGEN DEMAND			**E410.4 R2.0**	Prep: EXTRACT 5/1/22 12:40		Analyst: **SG**
Chemical Oxygen Demand	**21,000**		**7,400**	**mg/Kg-dry**	1	5/4/2022 11:01 AM
DENSITY			**A2710 F**			Analyst: **TJH**
Density	**1.0**			**lbs/gallon**	1	4/25/2022 02:15 PM
ANIONS BY ION CHROMATOGRAPHY			**SW9056A**	Prep: EXTRACT 4/25/22 16:49		Analyst: **QTN**
Chloride	**1,600**		**140**	**mg/Kg-dry**	1	4/27/2022 03:38 AM
Sulfate	**310**		**140**	**mg/Kg-dry**	1	4/27/2022 03:38 AM
MOISTURE			**SW3550C**			Analyst: **ALG**
Moisture	**93**		**0.10**	**% of sample**	1	4/22/2022 01:27 PM
AMMONIA AS NITROGEN (DISTILLED)			**A4500-NH3 G-11**	Prep: A4500-NH3 B 4/22/22 12:01		Analyst: **JMT**

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Delhi Charter Twp POTW
Project: 2nd Quarter Biosolids 2022 **Work Order:** 22041827
Sample ID: 2nd Quarter Biosolids 2022 **Lab ID:** 22041827-01
Collection Date: 4/20/2022 01:30 PM **Matrix:** SLUDGE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Ammonia as Nitrogen	**14,000**		**4,100**	**mg NH3-N/L-dry**	20	4/22/2022 02:02 PM
NITROGEN, NITRITE			**A4500-NO2 B-11**	Prep: EXTRACT 4/25/22 13:37		Analyst: **AML**
Nitrogen, Nitrite	**8.5**		**4.8**	**mg/Kg-dry**	1	4/25/2022 02:58 PM
NITROGEN, NITRATE			**E353.2**	Prep: EXTRACT 4/25/22 13:38		Analyst: **JMT**
Nitrogen, Nitrate	ND		7.3	mg/Kg-dry	1	4/26/2022 10:55 AM
OIL AND GREASE			**SW9071B**	Prep: SW9071B 4/26/22 08:50		Analyst: **JMJ**
Oil and Grease	**6,100**		**4,300**	**mg/Kg-dry**	1	4/26/2022 08:50 AM
PHOSPHORUS, TOTAL			**E365.1 R2.0**	Prep: E365.1 R2.0 4/26/22 11:00		Analyst: **JMT**
Phosphorus, Total	**8,500**		**3,700**	**mg/Kg-dry**	10	4/28/2022 12:02 PM
SOIL PH MEASURED IN WATER AT NOTED TEMP.			**SW9045D**	Prep: SW9045D 4/25/22 18:41		Analyst: **KNC**
pH	**7.62**		**0.10**	**s.u.**	1	4/26/2022 10:30 AM
Temperature	**20.2**		**0.10**	**°C**	1	4/26/2022 10:30 AM
PHENOLICS, TOTAL			**SW9066**	Prep: SW9066 5/3/22 11:57		Analyst: **RZM**
Phenolics, Total	**8.7**		**7.5**	**mg/Kg-dry**	1	5/3/2022 12:50 PM
NITROGEN, TOTAL KJELDAHL			**A4500-NH3 G-11**	Prep: A4500-N B 4/27/22 15:11		Analyst: **JMT**
Nitrogen, Total Kjeldahl	**43,000**		**14,000**	**mg/Kg-dry**	5	4/28/2022 11:48 AM
TOTAL SOLIDS			**A2540 G-11**			Analyst: **ALG**
Total Solids	**6.7**		**0.050**	**% of sample**	1	4/22/2022 01:27 PM
TOTAL SUSPENDED SOLIDS			**A2540 D-11**	Prep: FILTER 4/27/22 12:44		Analyst: **SRN**
Total Suspended Solids	**35,900**		**600**	**mg/L**	1	4/28/2022 12:37 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 05-May-22

Client: Delhi Charter Twp POTW

Work Order: 22041827

Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195598** Instrument ID **HG4** Method: **SW7471B**

MBLK Sample ID: **MBLK-195598-195598** Units: **mg/Kg** Analysis Date: **5/2/2022 04:46 PM**

Client ID: Run ID: **HG4_220502A** SeqNo: **8380890** Prep Date: **5/2/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.020								

LCS Sample ID: **LCS-195598-195598** Units: **mg/Kg** Analysis Date: **5/2/2022 04:48 PM**

Client ID: Run ID: **HG4_220502A** SeqNo: **8380891** Prep Date: **5/2/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1725	0.020	0.1665	0	104	80-120	0			

MS Sample ID: **22042336-03AMS** Units: **mg/Kg** Analysis Date: **5/2/2022 05:36 PM**

Client ID: Run ID: **HG4_220502A** SeqNo: **8380917** Prep Date: **5/2/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.173	0.018	0.1516	0.01853	102	75-125	0			

MSD Sample ID: **22042336-03AMSD** Units: **mg/Kg** Analysis Date: **5/2/2022 05:38 PM**

Client ID: Run ID: **HG4_220502A** SeqNo: **8380918** Prep Date: **5/2/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1748	0.018	0.1518	0.01853	103	75-125	0.173	1.03	35	

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **195137** Instrument ID **ICPMS3** Method: **SW6020B**

MBLK Sample ID: **MBLK-195137-195137** Units: **mg/Kg** Analysis Date: **4/22/2022 10:44 PM**
Client ID: Run ID: **ICPMS3_220422B** SeqNo: **8354614** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Calcium	ND	25								
Chromium	ND	0.25								
Copper	ND	0.25								
Iron	ND	10								
Lead	ND	0.25								
Magnesium	ND	10								
Molybdenum	ND	0.25								
Nickel	ND	0.25								
Potassium	ND	10								
Selenium	ND	0.25								
Silver	ND	0.25								
Sodium	ND	15								
Zinc	ND	0.50								

LCS Sample ID: **LCS-195137-195137** Units: **mg/Kg** Analysis Date: **4/22/2022 10:46 PM**
Client ID: Run ID: **ICPMS3_220422B** SeqNo: **8354615** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.925	0.25	5	0	98.5	80-120	0			
Barium	5.044	0.25	5	0	101	80-120	0			
Cadmium	5.071	0.10	5	0	101	80-120	0			
Calcium	516.6	25	500	0	103	80-120	0			
Chromium	5.285	0.25	5	0	106	80-120	0			
Copper	5.084	0.25	5	0	102	80-120	0			
Iron	510.5	10	500	0	102	80-120	0			
Lead	5.008	0.25	5	0	100	80-120	0			
Magnesium	516.2	10	500	0	103	80-120	0			
Molybdenum	5.146	0.25	5	0	103	80-120	0			
Nickel	5.097	0.25	5	0	102	80-120	0			
Potassium	520.5	10	500	0	104	80-120	0			
Selenium	5.068	0.25	5	0	101	80-120	0			
Silver	4.889	0.25	5	0	97.8	80-120	0			
Sodium	518.6	15	500	0	104	80-120	0			
Zinc	5.093	0.50	5	0	102	80-120	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195137** Instrument ID **ICPMS3** Method: **SW6020B**

MS Sample ID: **22041691-10CMS** Units: **mg/Kg** Analysis Date: **4/22/2022 10:50 PM**

Client ID: Run ID: **ICPMS3_220422B** SeqNo: **8354617** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.244	0.38	7.645	1.565	74.3	75-125	0			S
Barium	55.39	0.38	7.645	42.52	168	75-125	0			SO
Cadmium	6.745	0.15	7.645	-0.1856	90.7	75-125	0			
Calcium	1822	38	764.5	1263	73.1	75-125	0			S
Chromium	58.89	0.38	7.645	49.17	127	75-125	0			SO
Copper	41.1	0.38	7.645	28.97	159	75-125	0			S
Iron	60010	15	764.5	59700	40.4	75-125	0			SEO
Lead	9.794	0.38	7.645	1.955	103	75-125	0			
Magnesium	1704	15	764.5	950.1	98.6	75-125	0			
Molybdenum	5.811	0.38	7.645	0.2231	73.1	75-125	0			S
Nickel	13.69	0.38	7.645	4.446	121	75-125	0			
Potassium	715.2	15	764.5	108.5	79.4	75-125	0			
Selenium	6.342	0.38	7.645	0.5326	76	75-125	0			
Silver	6.43	0.38	7.645	0.01073	84	75-125	0			
Sodium	659.5	23	764.5	82.3	75.5	75-125	0			
Zinc	21.75	0.76	7.645	10.33	149	75-125	0			S

MSD Sample ID: **22041691-10CMSD** Units: **mg/Kg** Analysis Date: **4/22/2022 10:52 PM**

Client ID: Run ID: **ICPMS3_220422B** SeqNo: **8354618** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.81	0.38	7.564	1.565	69.3	75-125	7.244	6.17	20	S
Barium	56.41	0.38	7.564	42.52	184	75-125	55.39	1.82	20	SO
Cadmium	6.777	0.15	7.564	-0.1856	92	75-125	6.745	0.471	20	
Calcium	1699	38	756.4	1263	57.6	75-125	1822	6.99	20	S
Chromium	57.15	0.38	7.564	49.17	106	75-125	58.89	3	20	O
Copper	40.88	0.38	7.564	28.97	157	75-125	41.1	0.536	20	S
Iron	56220	15	756.4	59700	-460	75-125	60010	6.52	20	SEO
Lead	9.763	0.38	7.564	1.955	103	75-125	9.794	0.317	20	
Magnesium	1705	15	756.4	950.1	99.8	75-125	1704	0.0604	20	
Molybdenum	5.81	0.38	7.564	0.2231	73.9	75-125	5.811	0.00843	20	S
Nickel	13.87	0.38	7.564	4.446	125	75-125	13.69	1.29	20	
Potassium	714.4	15	756.4	108.5	80.1	75-125	715.2	0.113	20	
Selenium	6.308	0.38	7.564	0.5326	76.4	75-125	6.342	0.529	20	
Silver	6.311	0.38	7.564	0.01073	83.3	75-125	6.43	1.88	20	
Sodium	644.7	23	756.4	82.3	74.3	75-125	659.5	2.27	20	S
Zinc	22.29	0.76	7.564	10.33	158	75-125	21.75	2.46	20	S

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195481** Instrument ID **LCMS1** Method: **D7968-17a**

MBLK1	Sample ID: **MBLK1-195481-195481**				Units: **ng/Kg**			Analysis Date: **5/3/2022 12:23 AM**			
Client ID:		Run ID: **LCMS1_220502C**			SeqNo: **8381764**			Prep Date: **4/28/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Perfluorobutanoic Acid (PFBA)	ND	120	0	0	0		0			
Perfluoropentanoic Acid (PFPeA)	ND	120	0	0	0		0			
Perfluorohexanoic Acid (PFHxA)	ND	120	0	0	0		0			
Perfluoroheptanoic Acid (PFHpA)	ND	120	0	0	0		0			
Perfluorooctanoic Acid (PFOA)	ND	25	0	0	0		0			
Perfluorononanoic Acid (PFNA)	ND	25	0	0	0		0			
Perfluorodecanoic Acid (PFDA)	ND	120	0	0	0		0			
Perfluoroundecanoic Acid (PFUnA)	ND	120	0	0	0		0			
Perfluorododecanoic Acid (PFDoA)	ND	120	0	0	0		0			
Perfluorotridecanoic Acid (PFTriA)	ND	120	0	0	0		0			
Perfluorotetradecanoic Acid (PFTeA)	ND	120	0	0	0		0			
Perfluorobutanesulfonic Acid (PFBS)	ND	25	0	0	0		0			
Perfluoropentanesulfonic Acid (PFPeS	ND	25	0	0	0		0			
Perfluorohexanesulfonic Acid (PFHxS)	ND	120	0	0	0		0			
Perfluoroheptanesulfonic Acid (PFHpS	ND	120	0	0	0		0			
Perfluorooctanesulfonic Acid (PFOS)	ND	25	0	0	0		0			
Perfluorononanesulfonic Acid (PFNS)	ND	120	0	0	0		0			
Perfluorodecanesulfonic Acid (PFDS)	ND	25	0	0	0		0			
Fluorotelomer Sulphonic Acid 4:2 (FtS	ND	120	0	0	0		0			
Fluorotelomer Sulphonic Acid 6:2 (FtS	ND	120	0	0	0		0			
Fluorotelomer Sulphonic Acid 8:2 (FtS	ND	120	0	0	0		0			
Perfluorooctanesulfonamide (PFOSA)	ND	25	0	0	0		0			
N-Ethylperfluorooctanesulfonamidoace	ND	120	0	0	0		0			
N-Methylperfluorooctanesulfonamidoa	ND	120	0	0	0		0			
11Cl-Pf3OUdS	ND	25	0	0	0		0			
4,8-Dioxa-3H-perfluorononanoic Acid (	ND	25	0	0	0		0			
9Cl-PF3ONS	ND	25	0	0	0		0			
Hexafluoropropylene oxide dimer acid	ND	120	0	0	0		0			
Surr: 13C4-PFBA	*447.2*	0	*400*	0	*112*	*50-130*	0			
Surr: 13C5-PFPeA	*402*	0	*400*	0	*101*	*50-130*	0			
Surr: 13C2-PFHxA	*393.5*	0	*400*	0	*98.4*	*50-130*	0			
Surr: 13C4-PFHpA	*405.1*	0	*400*	0	*101*	*50-130*	0			
Surr: 13C4-PFOA	*458.7*	0	*400*	0	*115*	*70-130*	0			
Surr: 13C5-PFNA	*469*	0	*400*	0	*117*	*70-130*	0			
Surr: 13C2-PFDA	*466*	0	*400*	0	*116*	*70-130*	0			
Surr: 13C2-PFUnA	*469.6*	0	*400*	0	*117*	*70-130*	0			
Surr: 13C2-PFTeA	*406.7*	0	*400*	0	*102*	*50-130*	0			
Surr: 13C3-PFBS	*370.4*	0	*400*	0	*92.6*	*50-130*	0			
Surr: 18O2-PFHxS	*424.3*	0	*378*	0	*112*	*70-130*	0			
Surr: 13C4-PFOS	*383.9*	0	*383*	0	*100*	*70-130*	0			
Surr: 13C2-FtS 4:2	*308.6*	0	*373*	0	*82.7*	*50-130*	0			
Surr: 13C2-FtS 6:2	*348.4*	0	*380*	0	*91.7*	*50-130*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **195481** Instrument ID **LCMS1** Method: **D7968-17a**

Surr: 13C2-FtS 8:2	*311.5*	0	*383*	0	*81.3*	*50-130*	0
Surr: 13C8-FOSA	*400.4*	0	*400*	0	*100*	*50-130*	0
Surr: d3-N-MeFOSAA	*435.2*	0	*400*	0	*109*	*50-130*	0
Surr: 13C3-HFPO-DA	*357.5*	0	*400*	0	*89.4*	*50-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195481** Instrument ID **LCMS1** Method: **D7968-17a**

MBLK2	Sample ID: **MBLK2-195481-195481**				Units: **ng/Kg**			Analysis Date: **5/3/2022 12:40 AM**			
Client ID:		Run ID: **LCMS1_220502C**			SeqNo: **8381766**			Prep Date: **4/28/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Perfluorobutanoic Acid (PFBA)	ND	120	0	0	0		0			
Perfluoropentanoic Acid (PFPeA)	ND	120	0	0	0		0			
Perfluorohexanoic Acid (PFHxA)	ND	120	0	0	0		0			
Perfluoroheptanoic Acid (PFHpA)	ND	120	0	0	0		0			
Perfluorooctanoic Acid (PFOA)	ND	25	0	0	0		0			
Perfluorononanoic Acid (PFNA)	ND	25	0	0	0		0			
Perfluorodecanoic Acid (PFDA)	ND	120	0	0	0		0			
Perfluoroundecanoic Acid (PFUnA)	ND	120	0	0	0		0			
Perfluorododecanoic Acid (PFDoA)	ND	120	0	0	0		0			
Perfluorotridecanoic Acid (PFTriA)	ND	120	0	0	0		0			
Perfluorotetradecanoic Acid (PFTeA)	ND	120	0	0	0		0			
Perfluorobutanesulfonic Acid (PFBS)	ND	25	0	0	0		0			
Perfluoropentanesulfonic Acid (PFPeS	ND	25	0	0	0		0			
Perfluorohexanesulfonic Acid (PFHxS)	ND	120	0	0	0		0			
Perfluoroheptanesulfonic Acid (PFHpS	ND	120	0	0	0		0			
Perfluorooctanesulfonic Acid (PFOS)	ND	25	0	0	0		0			
Perfluorononanesulfonic Acid (PFNS)	ND	120	0	0	0		0			
Perfluorodecanesulfonic Acid (PFDS)	ND	25	0	0	0		0			
Fluorotelomer Sulphonic Acid 4:2 (FtS	ND	120	0	0	0		0			
Fluorotelomer Sulphonic Acid 6:2 (FtS	ND	120	0	0	0		0			
Fluorotelomer Sulphonic Acid 8:2 (FtS	ND	120	0	0	0		0			
Perfluorooctanesulfonamide (PFOSA)	ND	25	0	0	0		0			
N-Ethylperfluorooctanesulfonamidoace	ND	120	0	0	0		0			
N-Methylperfluorooctanesulfonamidoa	ND	120	0	0	0		0			
11Cl-Pf3OUdS	ND	25	0	0	0		0			
4,8-Dioxa-3H-perfluorononanoic Acid (	ND	25	0	0	0		0			
9Cl-PF3ONS	ND	25	0	0	0		0			
Hexafluoropropylene oxide dimer acid	ND	120	0	0	0		0			
Surr: 13C4-PFBA	*423.9*	0	*400*	0	*106*	*50-130*	0			
Surr: 13C5-PFPeA	*432.2*	0	*400*	0	*108*	*50-130*	0			
Surr: 13C2-PFHxA	*413.9*	0	*400*	0	*103*	*50-130*	0			
Surr: 13C4-PFHpA	*419.1*	0	*400*	0	*105*	*50-130*	0			
Surr: 13C4-PFOA	*448.7*	0	*400*	0	*112*	*70-130*	0			
Surr: 13C5-PFNA	*443.1*	0	*400*	0	*111*	*70-130*	0			
Surr: 13C2-PFDA	*463.5*	0	*400*	0	*116*	*70-130*	0			
Surr: 13C2-PFUnA	*497.7*	0	*400*	0	*124*	*70-130*	0			
Surr: 13C2-PFTeA	*393.8*	0	*400*	0	*98.5*	*50-130*	0			
Surr: 13C3-PFBS	*386*	0	*400*	0	*96.5*	*50-130*	0			
Surr: 18O2-PFHxS	*339.2*	0	*378*	0	*89.7*	*70-130*	0			
Surr: 13C4-PFOS	*390.9*	0	*383*	0	*102*	*70-130*	0			
Surr: 13C2-FtS 4:2	*326.7*	0	*373*	0	*87.6*	*50-130*	0			
Surr: 13C2-FtS 6:2	*349.5*	0	*380*	0	*92*	*50-130*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **195481** Instrument ID **LCMS1** Method: **D7968-17a**

Surr: 13C2-FtS 8:2	*335.5*	0	*383*	0	*87.6*	*50-130*	0
Surr: 13C8-FOSA	*446.8*	0	*400*	0	*112*	*50-130*	0
Surr: d3-N-MeFOSAA	*493.5*	0	*400*	0	*123*	*50-130*	0
Surr: 13C3-HFPO-DA	*413*	0	*400*	0	*103*	*50-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195481** Instrument ID **LCMS1** Method: **D7968-17a**

LCSD2	Sample ID: **LCSD2-195481-195481**				Units: **ng/Kg**			Analysis Date: **5/3/2022 01:05 AM**			
Client ID:		Run ID: **LCMS1_220502C**			SeqNo: **8381769**			Prep Date: **4/28/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Perfluorobutanoic Acid (PFBA)	557.3	120	500	0	111	50-130	521.4	6.66	30	
Perfluoropentanoic Acid (PFPeA)	576.5	120	500	0	115	70-130	580.7	0.716	30	
Perfluorohexanoic Acid (PFHxA)	496.9	120	500	0	99.4	50-130	494.5	0.485	30	
Perfluoroheptanoic Acid (PFHpA)	518.3	120	500	0	104	50-130	539.2	3.96	30	
Perfluorooctanoic Acid (PFOA)	575.8	25	500	0	115	70-130	548.4	4.87	30	
Perfluorononanoic Acid (PFNA)	603.9	25	500	0	121	70-130	570.6	5.67	30	
Perfluoroundecanoic Acid (PFUnA)	706.9	120	500	0	141	70-130	626.6	12.1	30	S
Perfluorododecanoic Acid (PFDoA)	571.8	120	500	0	114	70-130	569.3	0.444	30	
Perfluorotridecanoic Acid (PFTriA)	671.4	120	500	0	134	70-130	539.9	21.7	30	S
Perfluorotetradecanoic Acid (PFTeA)	526.8	120	500	0	105	70-130	459.5	13.7	30	
Perfluorobutanesulfonic Acid (PFBS)	427.2	25	442	0	96.6	70-130	396.2	7.52	30	
Perfluoropentanesulfonic Acid (PFPeS	513.9	25	469	0	110	70-130	484.2	5.94	30	
Perfluorohexanesulfonic Acid (PFHxS)	483.1	120	455	0	106	70-130	471.4	2.45	30	
Perfluoroheptanesulfonic Acid (PFHpS	443	120	476	0	93.1	70-130	461.6	4.12	30	
Perfluorooctanesulfonic Acid (PFOS)	509.7	25	464	0	110	70-130	458	10.7	30	
Perfluorononanesulfonic Acid (PFNS)	516.6	120	480	0	108	70-130	461	11.4	30	
Perfluorodecanesulfonic Acid (PFDS)	466.7	25	482	0	96.8	70-130	413.7	12	30	
Fluorotelomer Sulphonic Acid 4:2 (FtS	508.3	120	467	0	109	70-130	422.8	18.4	30	
Fluorotelomer Sulphonic Acid 6:2 (FtS	531.1	120	474	0	112	70-130	583.6	9.42	30	
Fluorotelomer Sulphonic Acid 8:2 (FtS	617.8	120	479	0	129	70-130	450.6	31.3	30	R
Perfluorooctanesulfonamide (PFOSA)	494.7	25	500	0	98.9	70-130	497.4	0.546	30	
N-Ethylperfluorooctanesulfonamidoace	647.6	120	500	0	130	70-130	648.5	0.139	30	
N-Methylperfluorooctanesulfonamidoa	575.9	120	500	0	115	70-130	600.2	4.13	30	
11Cl-Pf3OUdS	568.9	25	471	0	121	70-130	572.7	0.66	30	
4,8-Dioxa-3H-perfluorononanoic Acid (	483.3	25	471	0	103	70-130	459.2	5.12	30	
9Cl-PF3ONS	542.8	25	466	0	116	70-130	531.4	2.12	30	
Hexafluoropropylene oxide dimer acid	433.2	120	500	0	86.6	50-130	531.1	20.3	30	
Surr: 13C4-PFBA	*404.9*	0	*400*	0	*101*	*50-130*	402.6	*0.574*	*30*	
Surr: 13C5-PFPeA	*421.2*	0	*400*	0	*105*	*50-130*	403.6	*4.28*	*30*	
Surr: 13C2-PFHxA	*402.4*	0	*400*	0	*101*	*50-130*	419.3	*4.11*	*30*	
Surr: 13C4-PFHpA	*448.4*	0	*400*	0	*112*	*50-130*	437.3	*2.5*	*30*	
Surr: 13C4-PFOA	*441.1*	0	*400*	0	*110*	*70-130*	424.3	*3.87*	*30*	
Surr: 13C5-PFNA	*468.2*	0	*400*	0	*117*	*70-130*	430	*8.49*	*30*	
Surr: 13C2-PFDA	*489.9*	0	*400*	0	*122*	*70-130*	476.5	*2.76*	*30*	
Surr: 13C2-PFUnA	*505.2*	0	*400*	0	*126*	*70-130*	432.4	*15.5*	*30*	
Surr: 13C2-PFTeA	*372.1*	0	*400*	0	*93*	*50-130*	314.3	*16.9*	*30*	
Surr: 13C3-PFBS	*371.4*	0	*400*	0	*92.8*	*50-130*	385.7	*3.8*	*30*	
Surr: 18O2-PFHxS	*367*	0	*378*	0	*97.1*	*70-130*	363.6	*0.937*	*30*	
Surr: 13C4-PFOS	*378.5*	0	*383*	0	*98.8*	*70-130*	376.5	*0.527*	*30*	
Surr: 13C2-FtS 4:2	*374.1*	0	*373*	0	*100*	*50-130*	308.9	*19.1*	*30*	
Surr: 13C2-FtS 6:2	*405.3*	0	*380*	0	*107*	*50-130*	364.1	*10.7*	*30*	
Surr: 13C2-FtS 8:2	*358.7*	0	*383*	0	*93.7*	*50-130*	406.7	*12.5*	*30*	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Batch ID: **195481** Instrument ID **LCMS1** Method: **D7968-17a**

Surr: 13C8-FOSA	*425.5*	0	*400*	0	*106*	*50-130*	435.7	*2.37*	*30*	
Surr: d3-N-MeFOSAA	*455.7*	0	*400*	0	*114*	*50-130*	469.6	*3*	*30*	
Surr: d5-N-EtFOSAA	*515.8*	0	*400*	0	*129*	*50-130*	510.9	*0.965*	*30*	
Surr: 13C3-HFPO-DA	*434.8*	0	*400*	0	*109*	*50-130*	481.8	*10.3*	*30*	

LCSD2 Sample ID: **LCSD2-195481-195481** Units: **ng/Kg** Analysis Date: **5/5/2022 11:16 AM**

Client ID: Run ID: **LCMS1_220505A** SeqNo: **8390941** Prep Date: **4/28/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Perfluorodecanoic Acid (PFDA)	534	120	500	0	107	70-130	603.8	12.3	30	

LCS1 Sample ID: **LCS1-195481-195481** Units: **ng/Kg** Analysis Date: **5/3/2022 12:32 AM**

Client ID: Run ID: **LCMS1_220502C** SeqNo: **8381765** Prep Date: **4/28/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Perfluorooctanoic Acid (PFOA)	28.51	25	25	0	114	35-150	0			
Perfluorononanoic Acid (PFNA)	31.32	25	25	0	125	35-150	0			
Perfluoropentanesulfonic Acid (PFPeS	23.43	25	23.5	0	99.7	35-150	0			J
Perfluorooctanesulfonic Acid (PFOS)	20.8	25	23	0	90.5	35-150	0			J
Perfluorodecanesulfonic Acid (PFDS)	28.74	25	24	0	120	35-150	0			
Perfluorooctanesulfonamide (PFOSA)	36.62	25	25	0	146	35-150	0			
11Cl-Pf3OUdS	33.23	25	23.5	0	141	35-150	0			
4,8-Dioxa-3H-perfluorononanoic Acid (	23.06	25	23.5	0	98.1	35-150	0			J
9Cl-PF3ONS	23.47	25	23	0	102	35-150	0			J
Surr: 13C4-PFBA	*409.2*	0	*400*	0	*102*	*50-130*	0			
Surr: 13C5-PFPeA	*414.1*	0	*400*	0	*104*	*50-130*	0			
Surr: 13C2-PFHxA	*418.5*	0	*400*	0	*105*	*50-130*	0			
Surr: 13C4-PFHpA	*437.3*	0	*400*	0	*109*	*50-130*	0			
Surr: 13C4-PFOA	*452.1*	0	*400*	0	*113*	*70-130*	0			
Surr: 13C5-PFNA	*448.2*	0	*400*	0	*112*	*70-130*	0			
Surr: 13C2-PFDA	*447.4*	0	*400*	0	*112*	*70-130*	0			
Surr: 13C2-PFUnA	*458.3*	0	*400*	0	*115*	*70-130*	0			
Surr: 13C2-PFTeA	*468.4*	0	*400*	0	*117*	*50-130*	0			
Surr: 13C3-PFBS	*368.1*	0	*400*	0	*92*	*50-130*	0			
Surr: 18O2-PFHxS	*416.8*	0	*378*	0	*110*	*70-130*	0			
Surr: 13C4-PFOS	*398.5*	0	*383*	0	*104*	*70-130*	0			
Surr: 13C2-FtS 4:2	*302.1*	0	*373*	0	*81*	*50-130*	0			
Surr: 13C2-FtS 6:2	*312.7*	0	*380*	0	*82.3*	*50-130*	0			
Surr: 13C2-FtS 8:2	*430.8*	0	*383*	0	*112*	*50-130*	0			
Surr: 13C8-FOSA	*431.4*	0	*400*	0	*108*	*50-130*	0			
Surr: d3-N-MeFOSAA	*485.5*	0	*400*	0	*121*	*50-130*	0			
Surr: 13C3-HFPO-DA	*440.8*	0	*400*	0	*110*	*50-130*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195481** Instrument ID **LCMS1** Method: **D7968-17a**

LCS1	Sample ID: **LCS1-195481-195481**				Units: **ng/Kg**		Analysis Date: **5/4/2022 01:05 AM**			
Client ID:	Run ID: **LCMS1_220503B**				SeqNo: **8386823**		Prep Date: **4/28/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Perfluorobutanesulfonic Acid (PFBS)	18.61	25	22	0	84.6	35-150	0			J
Surr: 13C2-PFDoA	*515.3*	0	*400*	0	*129*	*70-130*	0			
Surr: d5-N-EtFOSAA	*462.8*	0	*400*	0	*116*	*50-130*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195481** Instrument ID **LCMS1** Method: **D7968-17a**

LCS2	Sample ID: **LCS2-195481-195481**				Units: **ng/Kg**		Analysis Date: **5/3/2022 12:56 AM**			
Client ID:		Run ID: **LCMS1_220502C**			SeqNo: **8381768**		Prep Date: **4/28/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Perfluorobutanoic Acid (PFBA)	521.4	120	500	0	104	50-130	0			
Perfluoropentanoic Acid (PFPeA)	580.7	120	500	0	116	70-130	0			
Perfluorohexanoic Acid (PFHxA)	494.5	120	500	0	98.9	50-130	0			
Perfluoroheptanoic Acid (PFHpA)	539.2	120	500	0	108	50-130	0			
Perfluorooctanoic Acid (PFOA)	548.4	25	500	0	110	70-130	0			
Perfluorononanoic Acid (PFNA)	570.6	25	500	0	114	70-130	0			
Perfluoroundecanoic Acid (PFUnA)	626.6	120	500	0	125	70-130	0			
Perfluorododecanoic Acid (PFDoA)	569.3	120	500	0	114	70-130	0			
Perfluorotridecanoic Acid (PFTriA)	539.9	120	500	0	108	70-130	0			
Perfluorotetradecanoic Acid (PFTeA)	459.5	120	500	0	91.9	70-130	0			
Perfluorobutanesulfonic Acid (PFBS)	396.2	25	442	0	89.6	70-130	0			
Perfluoropentanesulfonic Acid (PFPeS	484.2	25	469	0	103	70-130	0			
Perfluorohexanesulfonic Acid (PFHxS)	471.4	120	455	0	104	70-130	0			
Perfluoroheptanesulfonic Acid (PFHpS	461.6	120	476	0	97	70-130	0			
Perfluorooctanesulfonic Acid (PFOS)	458	25	464	0	98.7	70-130	0			
Perfluorononanesulfonic Acid (PFNS)	461	120	480	0	96	70-130	0			
Perfluorodecanesulfonic Acid (PFDS)	413.7	25	482	0	85.8	70-130	0			
Fluorotelomer Sulphonic Acid 4:2 (FtS	422.8	120	467	0	90.5	70-130	0			
Fluorotelomer Sulphonic Acid 6:2 (FtS	583.6	120	474	0	123	70-130	0			
Fluorotelomer Sulphonic Acid 8:2 (FtS	450.6	120	479	0	94.1	70-130	0			
Perfluorooctanesulfonamide (PFOSA)	497.4	25	500	0	99.5	70-130	0			
N-Ethylperfluorooctanesulfonamidoace	648.5	120	500	0	130	70-130	0			
N-Methylperfluorooctanesulfonamidoa	600.2	120	500	0	120	70-130	0			
11Cl-Pf3OUdS	572.7	25	471	0	122	70-130	0			
4,8-Dioxa-3H-perfluorononanoic Acid (	459.2	25	471	0	97.5	70-130	0			
9Cl-PF3ONS	531.4	25	466	0	114	70-130	0			
Hexafluoropropylene oxide dimer acid	531.1	120	500	0	106	50-130	0			
Surr: 13C4-PFBA	*402.6*	0	*400*	0	*101*	*50-130*	0			
Surr: 13C5-PFPeA	*403.6*	0	*400*	0	*101*	*50-130*	0			
Surr: 13C2-PFHxA	*419.3*	0	*400*	0	*105*	*50-130*	0			
Surr: 13C4-PFHpA	*437.3*	0	*400*	0	*109*	*50-130*	0			
Surr: 13C4-PFOA	*424.3*	0	*400*	0	*106*	*70-130*	0			
Surr: 13C5-PFNA	*430*	0	*400*	0	*108*	*70-130*	0			
Surr: 13C2-PFDA	*476.5*	0	*400*	0	*119*	*70-130*	0			
Surr: 13C2-PFUnA	*432.4*	0	*400*	0	*108*	*70-130*	0			
Surr: 13C2-PFTeA	*314.3*	0	*400*	0	*78.6*	*50-130*	0			
Surr: 13C3-PFBS	*385.7*	0	*400*	0	*96.4*	*50-130*	0			
Surr: 18O2-PFHxS	*363.6*	0	*378*	0	*96.2*	*70-130*	0			
Surr: 13C4-PFOS	*376.5*	0	*383*	0	*98.3*	*70-130*	0			
Surr: 13C2-FtS 4:2	*308.9*	0	*373*	0	*82.8*	*50-130*	0			
Surr: 13C2-FtS 6:2	*364.1*	0	*380*	0	*95.8*	*50-130*	0			
Surr: 13C2-FtS 8:2	*406.7*	0	*383*	0	*106*	*50-130*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **195481** Instrument ID **LCMS1** Method: **D7968-17a**

Surr: 13C8-FOSA	*435.7*	0	*400*	0	*109*	*50-130*	0
Surr: d3-N-MeFOSAA	*469.6*	0	*400*	0	*117*	*50-130*	0
Surr: d5-N-EtFOSAA	*510.9*	0	*400*	0	*128*	*50-130*	0
Surr: 13C3-HFPO-DA	*481.8*	0	*400*	0	*120*	*50-130*	0

LCS2 Sample ID: **LCS2-195481-195481** Units: **ng/Kg** Analysis Date: **5/5/2022 11:07 AM**

Client ID: Run ID: **LCMS1_220505A** SeqNo: **8390940** Prep Date: **4/28/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Perfluorodecanoic Acid (PFDA)	603.8	120	500	0	121	70-130	0			
Surr: 13C2-PFDoA	*539.8*	0	*400*	0	*135*	*70-130*	0			*S*

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195481** Instrument ID **LCMS1** Method: **D7968-17a**

LCS3	Sample ID: **LCS3-195481-195481**				Units: **ng/Kg**		Analysis Date: **5/3/2022 12:48 AM**			
Client ID:		Run ID: **LCMS1_220502C**			SeqNo: **8381767**		Prep Date: **4/28/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Perfluorobutanoic Acid (PFBA)	107.2	120	125	0	85.7	35-150	0			J
Perfluoropentanoic Acid (PFPeA)	114.4	120	125	0	91.5	35-150	0			J
Perfluorohexanoic Acid (PFHxA)	116.9	120	125	0	93.5	35-150	0			J
Perfluoroheptanoic Acid (PFHpA)	115.2	120	125	0	92.1	35-150	0			J
Perfluorooctanoic Acid (PFOA)	131.1	25	125	0	105	35-150	0			
Perfluorononanoic Acid (PFNA)	127.7	25	125	0	102	35-150	0			
Perfluorodecanoic Acid (PFDA)	128	120	125	0	102	35-150	0			
Perfluoroundecanoic Acid (PFUnA)	163.6	120	125	0	131	35-150	0			
Perfluorododecanoic Acid (PFDoA)	141	120	125	0	113	35-150	0			
Perfluorotridecanoic Acid (PFTriA)	151.5	120	125	0	121	35-150	0			
Perfluorotetradecanoic Acid (PFTeA)	148.5	120	125	0	119	35-150	0			
Perfluorobutanesulfonic Acid (PFBS)	90.6	25	110	0	82.4	35-150	0			
Perfluoropentanesulfonic Acid (PFPeS	103.8	25	118	0	88	35-150	0			
Perfluorohexanesulfonic Acid (PFHxS)	121.8	120	115	0	106	35-150	0			
Perfluoroheptanesulfonic Acid (PFHpS	93.91	120	120	0	78.3	35-150	0			J
Perfluorooctanesulfonic Acid (PFOS)	111.2	25	115	0	96.7	35-150	0			
Perfluorononanesulfonic Acid (PFNS)	119.2	120	120	0	99.3	35-150	0			J
Perfluorodecanesulfonic Acid (PFDS)	126.1	25	120	0	105	35-150	0			
Fluorotelomer Sulphonic Acid 4:2 (FtS	132.8	120	118	0	112	35-150	0			
Fluorotelomer Sulphonic Acid 6:2 (FtS	94.37	120	118	0	80	35-150	0			J
Fluorotelomer Sulphonic Acid 8:2 (FtS	119.3	120	120	0	99.4	35-150	0			J
Perfluorooctanesulfonamide (PFOSA)	113.5	25	125	0	90.8	35-150	0			
N-Ethylperfluorooctanesulfonamidoace	128.5	120	125	0	103	35-150	0			
N-Methylperfluorooctanesulfonamidoa	102.1	120	125	0	81.7	35-150	0			J
11Cl-Pf3OUdS	131.4	25	118	0	111	35-150	0			
4,8-Dioxa-3H-perfluorononanoic Acid (	111.9	25	118	0	94.8	35-150	0			
9Cl-PF3ONS	114.9	25	118	0	97.4	35-150	0			
Hexafluoropropylene oxide dimer acid	112	120	125	0	89.6	35-150	0			J
Surr: 13C4-PFBA	*418.7*	0	*400*	0	*105*	*50-130*	0			
Surr: 13C5-PFPeA	*407.6*	0	*400*	0	*102*	*50-130*	0			
Surr: 13C2-PFHxA	*391.5*	0	*400*	0	*97.9*	*50-130*	0			
Surr: 13C4-PFHpA	*400.4*	0	*400*	0	*100*	*50-130*	0			
Surr: 13C4-PFOA	*433.7*	0	*400*	0	*108*	*70-130*	0			
Surr: 13C5-PFNA	*437*	0	*400*	0	*109*	*70-130*	0			
Surr: 13C2-PFDA	*448.3*	0	*400*	0	*112*	*70-130*	0			
Surr: 13C2-PFUnA	*448.3*	0	*400*	0	*112*	*70-130*	0			
Surr: 13C2-PFTeA	*441.2*	0	*400*	0	*110*	*50-130*	0			
Surr: 13C3-PFBS	*376.7*	0	*400*	0	*94.2*	*50-130*	0			
Surr: 18O2-PFHxS	*357.5*	0	*378*	0	*94.6*	*70-130*	0			
Surr: 13C4-PFOS	*380.7*	0	*383*	0	*99.4*	*70-130*	0			
Surr: 13C2-FtS 4:2	*317.9*	0	*373*	0	*85.2*	*50-130*	0			
Surr: 13C2-FtS 6:2	*334.7*	0	*380*	0	*88.1*	*50-130*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **195481** Instrument ID **LCMS1** Method: **D7968-17a**

Surr: 13C2-FtS 8:2	*306*	0	*383*	0	*79.9*	*50-130*	0
Surr: 13C8-FOSA	*408.3*	0	*400*	0	*102*	*50-130*	0
Surr: d3-N-MeFOSAA	*465*	0	*400*	0	*116*	*50-130*	0
Surr: 13C3-HFPO-DA	*374.5*	0	*400*	0	*93.6*	*50-130*	0

The following samples were analyzed in this batch: 22041827-01D

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195134** Instrument ID **VMS10** Method: **SW8260D**

MBLK Sample ID: **MBLK-195134-195134** Units: **µg/Kg-dry** Analysis Date: **4/23/2022 08:42 AM**
Client ID: Run ID: **VMS10_220422C** SeqNo: **8356839** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	ND	30								
Surr: 1,2-Dichloroethane-d4	*1008*	0	*1000*	0	*101*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1062*	0	*1000*	0	*106*	*70-130*	0			
Surr: Dibromofluoromethane	*936*	0	*1000*	0	*93.6*	*70-130*	0			
Surr: Toluene-d8	*999.5*	0	*1000*	0	*100*	*70-130*	0			

LCS Sample ID: **LCS-195134-195134** Units: **µg/Kg-dry** Analysis Date: **4/23/2022 07:52 AM**
Client ID: Run ID: **VMS10_220422C** SeqNo: **8356837** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	1064	30	1000	0	106	70-125	0			
Surr: 1,2-Dichloroethane-d4	*1017*	0	*1000*	0	*102*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1035*	0	*1000*	0	*104*	*70-130*	0			
Surr: Dibromofluoromethane	*998*	0	*1000*	0	*99.8*	*70-130*	0			
Surr: Toluene-d8	*986*	0	*1000*	0	*98.6*	*70-130*	0			

MS Sample ID: **22041849-01A MS** Units: **µg/Kg-dry** Analysis Date: **4/23/2022 02:33 PM**
Client ID: Run ID: **VMS10_220422C** SeqNo: **8356860** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	1054	29	979.4	0	108	70-125	0			
Surr: 1,2-Dichloroethane-d4	*1005*	0	*979.4*	0	*103*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1012*	0	*979.4*	0	*103*	*70-130*	0			
Surr: Dibromofluoromethane	*872.7*	0	*979.4*	0	*89.1*	*70-130*	0			
Surr: Toluene-d8	*965.2*	0	*979.4*	0	*98.5*	*70-130*	0			

MSD Sample ID: **22041849-01A MSD** Units: **µg/Kg-dry** Analysis Date: **4/23/2022 02:50 PM**
Client ID: Run ID: **VMS10_220422C** SeqNo: **8356861** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	1086	29	979.4	0	111	70-125	1054	3.02	30	
Surr: 1,2-Dichloroethane-d4	*1009*	0	*979.4*	0	*103*	*70-130*	1005	*0.437*	*30*	
Surr: 4-Bromofluorobenzene	*1026*	0	*979.4*	0	*105*	*70-130*	1012	*1.39*	*30*	
Surr: Dibromofluoromethane	*842.3*	0	*979.4*	0	*86*	*70-130*	872.7	*3.54*	*30*	
Surr: Toluene-d8	*979.4*	0	*979.4*	0	*100*	*70-130*	965.2	*1.46*	*30*	

The following samples were analyzed in this batch: 22041827-01C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195080** Instrument ID **WETCHEM** Method: **A9222 D-06**

MBLK	Sample ID: **MBLK-195080-195080**				Units: **cfu/gram**			Analysis Date: **4/22/2022 01:25 PM**		
Client ID:	Run ID: **WETCHEM_220422E**				SeqNo: **8352088**			Prep Date: **4/21/2022**		DF: **1**
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fecal Coliform	ND	1.0								

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195091** Instrument ID **WETCHEM** Method: **A5210B-11**

MBLK	Sample ID: **MBLK-195091-195091**				Units: **mg/Kg**			Analysis Date: **4/26/2022 09:45 AM**			
Client ID:	Run ID: **WETCHEM_220426C**				SeqNo: **8361881**			Prep Date: **4/21/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Biochemical Oxygen Demand	ND	20								

LCS	Sample ID: **LCS-195091-195091**				Units: **mg/Kg**			Analysis Date: **4/26/2022 09:45 AM**			
Client ID:	Run ID: **WETCHEM_220426C**				SeqNo: **8361882**			Prep Date: **4/21/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Biochemical Oxygen Demand	1747	20	1980	0	88.2	85-115	0			

DUP	Sample ID: **22041827-01A DUP**				Units: **mg/Kg**			Analysis Date: **4/26/2022 09:45 AM**			
Client ID: **2nd Quarter Biosolids 2022**	Run ID: **WETCHEM_220426C**				SeqNo: **8361884**			Prep Date: **4/21/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Biochemical Oxygen Demand	5621	20	0	0	0		5882	4.55	20	

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195145** Instrument ID **LACHAT2** Method: **SW9012B**

MBLK Sample ID: **MBLK-195145-195145** Units: **mg/Kg** Analysis Date: **4/22/2022 02:03 PM**
Client ID: Run ID: **LACHAT2_220422A** SeqNo: **8353207** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	0.01411	0.030								J

LCS Sample ID: **LCS-195145-195145** Units: **mg/Kg** Analysis Date: **4/22/2022 02:04 PM**
Client ID: Run ID: **LACHAT2_220422A** SeqNo: **8353208** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	1.551	0.030	1.5	0	103	87-115	0			

MS Sample ID: **22041791-01B MS** Units: **mg/Kg** Analysis Date: **4/22/2022 02:08 PM**
Client ID: Run ID: **LACHAT2_220422A** SeqNo: **8353212** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	1.508	0.030	1.5	0.0202	99.2	87-115	0			

MSD Sample ID: **22041791-01B MSD** Units: **mg/Kg** Analysis Date: **4/22/2022 02:08 PM**
Client ID: Run ID: **LACHAT2_220422A** SeqNo: **8353213** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	1.609	0.030	1.5	0.0202	106	87-115	1.508	6.43	20	

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195150** Instrument ID **LACHAT** Method: **A4500-NH3 G-11**

MBLK Sample ID: **MBLK-195150-195150** Units: **mg NH3-N/Kg** Analysis Date: **4/22/2022 01:47 PM**
Client ID: Run ID: **LACHAT_220422A** SeqNo: **8352800** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ammonia as Nitrogen	ND	15								

LCS Sample ID: **LCS-195150-195150** Units: **mg NH3-N/Kg** Analysis Date: **4/22/2022 01:48 PM**
Client ID: Run ID: **LACHAT_220422A** SeqNo: **8352801** Prep Date: **4/22/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ammonia as Nitrogen	53.3	15	50	0	107	71-119	0			

MS Sample ID: **22041827-01A MS** Units: **mg NH3-N/L** Analysis Date: **4/22/2022 02:04 PM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **LACHAT_220422A** SeqNo: **8352814** Prep Date: **4/22/2022** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ammonia as Nitrogen	1006	280	46.3	928.7	166	71-119	0			SO

MSD Sample ID: **22041827-01A MSD** Units: **mg NH3-N/L** Analysis Date: **4/22/2022 02:05 PM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **LACHAT_220422A** SeqNo: **8352815** Prep Date: **4/22/2022** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ammonia as Nitrogen	925.3	280	46.3	928.7	-7.4	71-119	1006	8.32	25	SO

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195233** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-195233-195233** Units: **s.u.** Analysis Date: **4/26/2022 10:30 AM**
Client ID: Run ID: **WETCHEM_220426E** SeqNo: **8362055** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4	0.10	4	0	100	90-110	0			

LCS Sample ID: **LCS-195233-195233** Units: **s.u.** Analysis Date: **4/26/2022 10:30 AM**
Client ID: Run ID: **WETCHEM_220426E** SeqNo: **8362067** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4	0.10	4	0	100	90-110	0			

DUP Sample ID: **22041827-01A DUP** Units: **s.u.** Analysis Date: **4/26/2022 10:30 AM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **WETCHEM_220426E** SeqNo: **8362057** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.58	0.10	0	0	0	0-0	7.62	0.526	20	
Temperature	20.3	0.10	0	0	0		20.2	0.494		

DUP Sample ID: **22041779-01A DUP** Units: **s.u.** Analysis Date: **4/26/2022 10:30 AM**
Client ID: Run ID: **WETCHEM_220426E** SeqNo: **8362069** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.48	0.10	0	0	0	0-0	7.15	4.51	20	
Temperature	20.8	0.10	0	0	0		20.8	0		

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195240** Instrument ID **SPEC-04** Method: **A4500-NO2 B-11**

MBLK Sample ID: **MBLK-195240-195240** Units: **mg/Kg** Analysis Date: **4/25/2022 02:58 PM**
Client ID: Run ID: **SPEC-04_220425A** SeqNo: **8358036** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrite	ND	0.20								

LCS Sample ID: **LCS-195240-195240** Units: **mg/Kg** Analysis Date: **4/25/2022 02:58 PM**
Client ID: Run ID: **SPEC-04_220425A** SeqNo: **8358037** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrite	2.184	0.20	2	0	109	87-121	0			

MS Sample ID: **22041827-01A MS** Units: **mg/Kg** Analysis Date: **4/25/2022 02:58 PM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **SPEC-04_220425A** SeqNo: **8358039** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrite	1.574	0.32	3.226	0.5677	31.2	87-121	0			S

MSD Sample ID: **22041827-01A MSD** Units: **mg/Kg** Analysis Date: **4/25/2022 02:58 PM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **SPEC-04_220425A** SeqNo: **8358040** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrite	1.529	0.32	3.226	0.5677	29.8	87-121	1.574	2.91	14	S

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195241** Instrument ID **LACHAT** Method: **E353.2**

MBLK Sample ID: **MBLK-195241-195241** Units: **mg/Kg** Analysis Date: **4/26/2022 10:50 AM**
Client ID: Run ID: **LACHAT_220426A** SeqNo: **8361911** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate	ND	0.20								

LCS Sample ID: **LCS-195241-195241** Units: **mg/Kg** Analysis Date: **4/26/2022 10:51 AM**
Client ID: Run ID: **LACHAT_220426A** SeqNo: **8361912** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate	27.07	0.20	25	0	108	90-110	0			

MS Sample ID: **22041827-01A MS** Units: **mg/Kg** Analysis Date: **4/26/2022 11:08 AM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **LACHAT_220426A** SeqNo: **8361926** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate	51.7	0.49	60.98	-0.1217	85	90-110	0			S

MSD Sample ID: **22041827-01A MSD** Units: **mg/Kg** Analysis Date: **4/26/2022 10:57 AM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **LACHAT_220426A** SeqNo: **8361917** Prep Date: **4/25/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate	50.14	0.49	60.98	-0.1217	82.4	90-110	51.7	3.07	20	S

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195254** Instrument ID **IC3** Method: **E300.0**

MBLK	Sample ID: **MBLK-195254-195254**			Units: **mg/Kg**			Analysis Date: **4/27/2022 02:31 AM**			
Client ID:	Run ID: **IC3_220426A**			SeqNo: **8364561**			Prep Date: **4/25/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	3.593	10								J
Sulfate	ND	10								

MBLK	Sample ID: **MBLK-195254-195254**			Units: **mg/Kg**			Analysis Date: **4/27/2022 03:49 AM**			
Client ID:	Run ID: **IC3_220426A**			SeqNo: **8364571**			Prep Date: **4/25/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	3.69	10								J
Sulfate	ND	10								

LCS	Sample ID: **LCS-195254-195254**			Units: **mg/Kg**			Analysis Date: **4/27/2022 02:42 AM**			
Client ID:	Run ID: **IC3_220426A**			SeqNo: **8364562**			Prep Date: **4/25/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	96.33	10	99.6	0	96.7	90-110	0			
Sulfate	97.23	10	99.6	0	97.6	90-110	0			

LCS	Sample ID: **LCS-195254-195254**			Units: **mg/Kg**			Analysis Date: **4/27/2022 04:01 AM**			
Client ID:	Run ID: **IC3_220426A**			SeqNo: **8364573**			Prep Date: **4/25/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	97.37	10	99.6	0	97.8	90-110	0			
Sulfate	97.14	10	99.6	0	97.5	90-110	0			

MS	Sample ID: **22041701-01A MS**			Units: **mg/Kg**			Analysis Date: **4/27/2022 03:04 AM**			
Client ID:	Run ID: **IC3_220426A**			SeqNo: **8364564**			Prep Date: **4/25/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	108.2	10	99.8	16.13	92.2	80-120	0			
Sulfate	116	10	99.8	20.47	95.7	80-120	0			

MSD	Sample ID: **22041701-01A MSD**			Units: **mg/Kg**			Analysis Date: **4/27/2022 03:16 AM**			
Client ID:	Run ID: **IC3_220426A**			SeqNo: **8364565**			Prep Date: **4/25/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	109.3	10	99.8	16.13	93.3	80-120	108.2	1.02	20	
Sulfate	116	10	99.8	20.47	95.8	80-120	116	0.0284	20	

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195304** Instrument ID **O&G** Method: **SW9071B**

MBLK Sample ID: **MBLK-195304-195304** Units: **mg/Kg** Analysis Date: **4/26/2022 08:50 AM**
Client ID: Run ID: **O&G_220426A** SeqNo: **8362371** Prep Date: **4/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	ND	180								

LCS Sample ID: **LCS-195304-195304** Units: **mg/Kg** Analysis Date: **4/26/2022 08:50 AM**
Client ID: Run ID: **O&G_220426A** SeqNo: **8362370** Prep Date: **4/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	1564	180	1600	0	97.8	78-114	0			

MS Sample ID: **22041634-01A MS** Units: **mg/Kg** Analysis Date: **4/26/2022 08:50 AM**
Client ID: Run ID: **O&G_220426A** SeqNo: **8362366** Prep Date: **4/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	1567	180	1567	108.6	93.1	75-125	0			

MSD Sample ID: **22041634-01A MSD** Units: **mg/Kg** Analysis Date: **4/26/2022 08:50 AM**
Client ID: Run ID: **O&G_220426A** SeqNo: **8362367** Prep Date: **4/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	1683	180	1588	108.6	99.2	75-125	1567	7.13	25	

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195357** Instrument ID **LACHAT** Method: **E365.1 R2.0**

MBLK Sample ID: **MBLK-195357-195357** Units: **mg/Kg** Analysis Date: **4/28/2022 12:00 PM**
Client ID: Run ID: **LACHAT_220428A** SeqNo: **8370222** Prep Date: **4/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total	2.422	5.0								J

LCS Sample ID: **LCS-195357-195357** Units: **mg/Kg** Analysis Date: **4/28/2022 11:34 AM**
Client ID: Run ID: **LACHAT_220428A** SeqNo: **8370196** Prep Date: **4/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total	10.68	5.0	10	0	107	76-128	0			

MS Sample ID: **22041827-01A MS** Units: **mg/Kg** Analysis Date: **4/28/2022 12:03 PM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **LACHAT_220428A** SeqNo: **8370226** Prep Date: **4/26/2022** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total	976.7	240	47.62	566.5	861	76-128	0			SEO

MSD Sample ID: **22041827-01A MSD** Units: **mg/Kg** Analysis Date: **4/28/2022 12:04 PM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **LACHAT_220428A** SeqNo: **8370227** Prep Date: **4/26/2022** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total	1000	250	49.02	566.5	884	76-128	976.7	2.36	20	SEO

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195413** Instrument ID **TSS** Method: **A2540 D-11**

MBLK	Sample ID: **MBLK-195413-195413**				Units: **mg/L**			Analysis Date: **4/28/2022 12:37 PM**			
Client ID:	Run ID: **TSS_220428A**				SeqNo: **8370937**			Prep Date: **4/27/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Suspended Solids	ND	0.60								

LCS	Sample ID: **LCS-195413-195413**				Units: **mg/L**			Analysis Date: **4/28/2022 12:37 PM**			
Client ID:	Run ID: **TSS_220428A**				SeqNo: **8370936**			Prep Date: **4/27/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Suspended Solids	94	6.0	100	0	94	70-113	0			

DUP	Sample ID: **22040070-23A DUP**				Units: **mg/L**			Analysis Date: **4/28/2022 12:37 PM**			
Client ID:	Run ID: **TSS_220428A**				SeqNo: **8370915**			Prep Date: **4/27/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Suspended Solids	182	12	0	0	0	0-0	198	8.42	10	

DUP	Sample ID: **22042147-07A DUP**				Units: **mg/L**			Analysis Date: **4/28/2022 12:37 PM**			
Client ID:	Run ID: **TSS_220428A**				SeqNo: **8370935**			Prep Date: **4/27/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Suspended Solids	3.8	1.2	0	0	0	0-0	3.6	5.41	10	

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195422** Instrument ID **LACHAT2** Method: **A4500-NH3 G-11**

MBLK Sample ID: **MBLK-195422-195422** Units: **mg/Kg** Analysis Date: **4/28/2022 11:39 AM**
Client ID: Run ID: **LACHAT2_220428A** SeqNo: **8370991** Prep Date: **4/27/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Total Kjeldahl	ND	100								

LCS Sample ID: **LCS-195422-195422** Units: **mg/Kg** Analysis Date: **4/28/2022 11:41 AM**
Client ID: Run ID: **LACHAT2_220428A** SeqNo: **8370992** Prep Date: **4/27/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Total Kjeldahl	345.9	100	320	0	108	84-114	0			

LCS Sample ID: **LCS2-195422-195422** Units: **mg/Kg** Analysis Date: **4/28/2022 11:42 AM**
Client ID: Run ID: **LACHAT2_220428A** SeqNo: **8370993** Prep Date: **4/27/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Total Kjeldahl	344.6	100	320	0	108	84-114	0			

MS Sample ID: **22041575-01A MS** Units: **mg/Kg** Analysis Date: **4/28/2022 11:44 AM**
Client ID: Run ID: **LACHAT2_220428A** SeqNo: **8370995** Prep Date: **4/27/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Total Kjeldahl	1446	250	800	568.3	110	84-114	0			E

MSD Sample ID: **22041575-01A MSD** Units: **mg/Kg** Analysis Date: **4/28/2022 11:46 AM**
Client ID: Run ID: **LACHAT2_220428A** SeqNo: **8370996** Prep Date: **4/27/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Total Kjeldahl	1362	250	800	568.3	99.2	84-114	1446	5.98	20	E

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195583** Instrument ID **SPEC-03** Method: **E410.4 R2.0**

MBLK Sample ID: **MBLK-195583-195583** Units: **mg/Kg** Analysis Date: **5/4/2022 11:01 AM**
Client ID: Run ID: **SPEC-03_220504A** SeqNo: **8386946** Prep Date: **5/1/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	ND	500								

LCS Sample ID: **LCS-195583-195583** Units: **mg/Kg** Analysis Date: **5/4/2022 11:01 AM**
Client ID: Run ID: **SPEC-03_220504A** SeqNo: **8386947** Prep Date: **5/1/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	5809	500	6000	0	96.8	90-110	0			

MS Sample ID: **22041827-01A ms** Units: **mg/Kg** Analysis Date: **5/4/2022 11:01 AM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **SPEC-03_220504A** SeqNo: **8386949** Prep Date: **5/1/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	6939	500	5941	1414	93	80-120	0			

MSD Sample ID: **22041827-01A msd** Units: **mg/Kg** Analysis Date: **5/4/2022 11:01 AM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **SPEC-03_220504A** SeqNo: **8386950** Prep Date: **5/1/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	7079	490	5929	1414	95.5	80-120	6939	2	20	

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **195724** Instrument ID **SKALAR1** Method: **SW9066**

MBLK	Sample ID: **MBLK-195724-195724**				Units: **mg/Kg**			Analysis Date: **5/3/2022 12:50 PM**			
Client ID:		Run ID: **SKALAR1_220503A**			SeqNo: **8385293**			Prep Date: **5/3/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Phenolics, Total	ND	0.50									

LCS	Sample ID: **LCS-195724-195724**				Units: **mg/Kg**			Analysis Date: **5/3/2022 12:50 PM**			
Client ID:		Run ID: **SKALAR1_220503A**			SeqNo: **8385294**			Prep Date: **5/3/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Phenolics, Total	5.035	0.50	5	0	101	86-116	0				

MS	Sample ID: **22042170-01A MS**				Units: **mg/Kg**			Analysis Date: **5/3/2022 12:50 PM**			
Client ID:		Run ID: **SKALAR1_220503A**			SeqNo: **8385297**			Prep Date: **5/3/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Phenolics, Total	4.521	0.48	4.808	0.3351	87.1	86-116	0				

MSD	Sample ID: **22042170-01A MSD**				Units: **mg/Kg**			Analysis Date: **5/3/2022 12:50 PM**			
Client ID:		Run ID: **SKALAR1_220503A**			SeqNo: **8385298**			Prep Date: **5/3/2022**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Phenolics, Total	4.664	0.48	4.808	0.3351	90	86-116	4.521	3.12	17		

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **R342797** Instrument ID **WETCHEM** Method: **E160.3**

MBLK Sample ID: **MB-R342797-R342797** Units: **% of sample** Analysis Date: **4/22/2022 01:27 PM**
Client ID: Run ID: **WETCHEM_220422N** SeqNo: **8355484** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Solids	ND	0.050								

MBLK Sample ID: **MB-R342797-R342797** Units: **% of sample** Analysis Date: **4/22/2022 01:27 PM**
Client ID: Run ID: **WETCHEM_220422N** SeqNo: **8355486** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Solids	ND	0.050								

MBLK Sample ID: **MB-R342797-R342797** Units: **% of sample** Analysis Date: **4/22/2022 01:27 PM**
Client ID: Run ID: **WETCHEM_220422N** SeqNo: **8355489** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS Sample ID: **LCS-R342797-R342797** Units: **% of sample** Analysis Date: **4/22/2022 01:27 PM**
Client ID: Run ID: **WETCHEM_220422N** SeqNo: **8355490** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.10	100	0	100	98-102	0			

DUP Sample ID: **22041827-01A DUP** Units: **% of sample** Analysis Date: **4/22/2022 01:27 PM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **WETCHEM_220422N** SeqNo: **8355488** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Solids	6.72	0.050	0	0	0	0-0	6.7	0.298	10	

DUP Sample ID: **22041827-01A DUP** Units: **% of sample** Analysis Date: **4/22/2022 01:27 PM**
Client ID: **2nd Quarter Biosolids 2022** Run ID: **WETCHEM_220422N** SeqNo: **8355492** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	93.28	0.10	0	0	0	0-0	93.3	0.0214	10	

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **R342848** Instrument ID **WETCHEM** Method: **A2710 F**

DUP Sample ID: **22041827-01A DUP** Units: **lbs/gallon** Analysis Date: **4/25/2022 02:15 PM**

Client ID: **2nd Quarter Biosolids 2022** Run ID: **WETCHEM_220425D** SeqNo: **8357976** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Density	1.044	0	0	0	0	0-0	1.026	1.8	20	

The following samples were analyzed in this batch: 22041827-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Delhi Charter Twp POTW
Work Order: 22041827
Project: 2nd Quarter Biosolids 2022

QC BATCH REPORT

Batch ID: **R343417** Instrument ID **WETCHEM** Method: **D240**

LCS	Sample ID: **LCS-R343417-R343417**					Units: **BTU/lb as recd.**		Analysis Date: **5/2/2022 09:30 AM**			
Client ID:		Run ID: **WETCHEM_220502E**				SeqNo: **8379708**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calorific Value (BTU)	11370	100	11370	0	100	80-120	0			

The following samples were analyzed in this batch: 22041827-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Laboratory Group
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 1

22041827
DELHITWP: Delhi Charter Twp POTW
Project: 2nd Quarter Biosolids 2022

ALS Project Manager:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	40350	Project Name	2nd quarter Biosolids 2022	A	Chloride, Sulfate, Density, Total Solids, TSS
Work Order		Project Number		B	Ammonia N, TKN, Nitrate N, Nitrite N, Total P
Company Name	Delhi Charter Township	Bill To Company		C	As, Ba, Cd, Ca, Cr, Cu, Pb, Mg, Mo, Ni, K, Se, Ag, Na, Zn, & Hg
Send Report To	Jeff Ranes	Invoice Attn.		D	pH
Address	5961 McCue	Address		E	BTU Value
				F	cyanide
City/State/Zip	Holt, MI 48842	City/State/Zip		G	phenol/ Toluene
Phone	517-699-3873	Phone	517-749-6326 Cell	H	BOD, COD
Fax	517-694-1490	Fax		I	FOG
e-Mail Address	jeff.ranes@delhitownship.com			J	PFOS (low level report limit)
				K	Fecals

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	K	Hold
1	Second Quarter Biosolids	4/20/2022	1:30pm	BioS	8	2	x	x	x	x	x	x		x	X		x	
2	Second Quarter Biosolids	4/20/2022	1:30pm	BioS	7,8	4							X					
3	Second Quarter Biosolids	4/20/2022	1:30pm	BioS	8	2										X		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Sampler(s): Please Print & Sign
Noah Trigo

Shipment Method: UPS

Required Turnaround Time: (Check Box)
☑ 10 Wk Days ☐ 5 Wk Days ☐ 3 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other _____

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Noah Trigo	4/20/2022	2:30pm	UPS	4/20/2022	2:30pm
UPS	4/21/22	1000			
Logged by (Laboratory): KRW	4/21/22	1355	Checked by (Laboratory):		

Notes:

ALS Cooler ID	Cooler Temp
IR3	4.8°C

QC Package: (Check Box Below)
☐ Level II: Standard QC ☐ Level III: Raw Data
☐ TRRP LRC ☐ TRRP Level IV
☐ Level IV: SW846 Methods/CLP like
☐ Other: _____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

ALS Group, USA

Sample Receipt Checklist

Client Name: **DELHITWP** Date/Time Received: **21-Apr-22 10:00**

Work Order: **22041827** Received by: **KRW**

Checklist completed by Keith Wierenga 21-Apr-22 Reviewed by: Julienn Williams 22-Apr-22

eSignature | Date | eSignature | Date

Matrices: Biosolid

Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.8/5.8 C	IR3	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	4/21/2022 1:56:11 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: