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25 January 2023

Work Order: 1590108

DAVID SCHILLINGER
CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

RE: Quarterly Biosolids

Enclosed are the results of analyses for samples received by the laboratory on 2023-01-10 09:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kerri Stanek
Project Manager
kstanek@midwestlabs.com

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Biosolids	1590108-01	Solid	2023-01-09 14:00	2023-01-10 09:10
01	1590108-02	Solid	2023-01-09 14:00	2023-01-10 09:10
02	1590108-03	Solid	2023-01-09 14:00	2023-01-10 09:10
03	1590108-04	Solid	2023-01-09 14:00	2023-01-10 09:10
04	1590108-05	Solid	2023-01-09 14:00	2023-01-10 09:10
05	1590108-06	Solid	2023-01-09 14:00	2023-01-10 09:10
06	1590108-07	Solid	2023-01-09 14:00	2023-01-10 09:10
07	1590108-08	Solid	2023-01-09 14:00	2023-01-10 09:10

Containers used for the following analyses:

1590108-01 A:	EPA 8082, EPA 8270
1590108-01 B:	EPA 8260, PAI-DK 01
1590108-01 C:	EPA 9010C, EPA 9045, EPA 9065A (MOD), SM 2540 G-2015, Total Metals per EPA 6010B, Total Metals per EPA 6020
1590108-01 D:	SM 4500-NH3 C-1997
1590108-01 E:	Total Metals per EPA 7471
1590108-01 F:	EPA 353.2
1590108-02 A:	SM 2540 G-2015, SM 9221 E
1590108-03 A:	SM 2540 G-2015, SM 9221 E
1590108-04 A:	SM 2540 G-2015, SM 9221 E
1590108-05 A:	SM 2540 G-2015, SM 9221 E
1590108-06 A:	SM 2540 G-2015, SM 9221 E
1590108-07 A:	SM 2540 G-2015, SM 9221 E
1590108-08 A:	SM 2540 G-2015, SM 9221 E

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CITY OF LARAMIE WWTP - 34024	Project: Quarterly Biosolids	
PO BOX C	Project Number: BioSolids 23-1	**Reported:**
LARAMIE, WY 82073	Project Manager: DAVID SCHILLINGER	2023-01-25 10:00

Analysis Results Reviewed by:

EPA 8260 reviewed by rrs5.

EPA 8270 reviewed by nmh9.

Total Metals per EPA 6010B reviewed by kkh9.

Total Metals per EPA 6020 reviewed by kkh9.

Total Metals per EPA 7471 reviewed by kkh9.

EPA 353.2 reviewed by mgn8.

EPA 9010C reviewed by mgn8.

EPA 9045 reviewed by mgn8.

EPA 9065A (MOD) reviewed by mgn8.

PAI-DK 01 reviewed by jdb5.

SM 2540 G-2015 reviewed by mgn8.

SM 4500-NH3 C-1997 reviewed by mgn8.

SM 9221 E reviewed by snl7.

EPA 8082 reviewed by rrs5.

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Sample ID: Biosolids
Laboratory ID: 1590108-01
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Volatile Organic Compounds									
Dichlorodifluoromethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Chloromethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Vinyl chloride	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Bromomethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)/ CCAL
Chloroethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Trichlorofluoromethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Acrolein	<	48.9	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Acetone	<	48.9	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Ethyl Ether	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,1-Dichloroethene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Iodomethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)/ CCAL
Acrylonitrile	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Methylene Chloride	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,1,2-Trichloro-1,1,2-trifluoro ethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Carbon disulfide	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
trans-1,2-Dichloroethene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Methyl tert-Butyl Ether	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,1-Dichloroethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Vinyl acetate	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Chloroprene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
2-Butanone	<	48.9	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
cis-1,2-Dichloroethene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Bromochloromethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Chloroform	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
2,2-Dichloropropane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,2-Dichloroethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,1,1-Trichloroethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,1-Dichloropropene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Carbon Tetrachloride	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Benzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Dibromomethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,2-Dichloropropane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Trichloroethene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Bromodichloromethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
2-Chloroethyl vinyl ether	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
cis-1,3-Dichloropropene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
4-Methyl-2-pentanone	<	48.9	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
trans-1,3-Dichloropropene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,1,2-Trichloroethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Toluene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,3-Dichloropropane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Ethyl Methacrylate	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Dibromochloromethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
2-Hexanone	<	48.9	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Sample ID: Biosolids
Laboratory ID: 1590108-01
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Volatile Organic Compounds									
1,2-Dibromoethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Tetrachloroethene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,1,1,2-Tetrachloroethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Chlorobenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Ethylbenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
m,p-Xylenes	<	4.89	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Bromoform	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
cis-1,4-Dichloro-2-butene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Styrene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,1,2,2-Tetrachloroethane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
o-Xylene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,2,3-Trichloropropane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
trans-1,4-Dichloro-2-butene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Isopropylbenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Bromobenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
n-Propyl Benzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
2-Chlorotoluene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
4-Chlorotoluene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,3,5-Trimethylbenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
tert-Butylbenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,2,4-Trimethylbenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
sec-Butylbenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,3-Dichlorobenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,4-Dichlorobenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
p-Isopropyltoluene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,2-Dichlorobenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
n-Butyl Benzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,2-Dibromo-3-Chloropropane	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,2,4-Trichlorobenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Naphthalene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Hexachlorobutadiene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
1,2,3-Trichlorobenzene	<	2.44	ug/g	< ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)/ CCAL
Total Xylenes	0.00		ug/g	0.00 ug/g	EPA 8260	2023-01-13	2023-01-13	alt8	(B)
Surrogate: Toluene-d8		*99 %*		*80-120*	*EPA 8260*	*2023-01-13*	*2023-01-13*		(B)
Surrogate: Bromofluorobenzene		*99 %*		*73.8-120*	*EPA 8260*	*2023-01-13*	*2023-01-13*		(B)
Surrogate: 1,2-Dichlorobenzene-d4		*100 %*		*80-120*	*EPA 8260*	*2023-01-13*	*2023-01-13*		(B)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Sample ID: Biosolids
Laboratory ID: 1590108-01
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Semivolatile Organic Compounds									
N-Nitrosodimethylamine	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
bis(2-chloroethyl)ether	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Phenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2-Chlorophenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
1,3-Dichlorobenzene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
1,4-Dichlorobenzene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
1,2-Dichlorobenzene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2,2'-oxybis(1-chloropropane)	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2-Methylphenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Hexachloroethane	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
N-Nitroso-di-n-propylamine	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
4-Methylphenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Nitrobenzene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Isophorone	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2-Nitrophenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2,4-Dimethylphenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
bis(2-chloroethoxy)methane	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2,4-Dichlorophenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
1,2,4-Trichlorobenzene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Naphthalene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
4-Chloroaniline	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Hexachlorobutadiene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
4-Chloro-3-methylphenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2-Methylnaphthalene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Hexachlorocyclopentadiene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2,4,6-Trichlorophenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2,4,5-Trichlorophenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2-Chloronaphthalene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2-Nitroaniline	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Acenaphthylene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Dimethylphthalate	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2,6-Dinitrotoluene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Acenaphthene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
3-Nitroaniline	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2,4-Dinitrophenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)/ CAL
Dibenzofuran	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
2,4-Dinitrotoluene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
4-Nitrophenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Fluorene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
4-Chlorophenyl-phenylether	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Diethyl phthalate	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
4-Nitroaniline	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
4,6-Dinitro-2-methylphenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
N-Nitrosodiphenylamine	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Azobenzene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Sample ID: Biosolids
Laboratory ID: 1590108-01
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Semivolatile Organic Compounds									
4-Bromophenyl-phenylether	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Hexachlorobenzene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Pentachlorophenol	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Phenanthrene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Carbazole	<	4690	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Di-n-butyl phthalate	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Fluoranthene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Benzidine	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)/ BENZ
Pyrene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Butylbenzylphthalate	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
3,3'-Dichlorobenzidine	<	4690	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Benzo[a]anthracene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Chrysene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
bis(2-ethylhexyl)phthalate	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Di-n-octyl phthalate	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Benzo[b]fluoranthene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Benzo[k]fluoranthene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Benzo[a]pyrene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Indeno(1,2,3-cd)pyrene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Dibenzo(a,h)anthracene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Benzo[ghi]perylene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
1,2-Diphenylhydrazine	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Anthracene	<	3290	ug/kg	< ug/kg	EPA 8270	2023-01-12	2023-01-18	rwp6	(A)
Surrogate: 2-Fluorophenol		*89 %*		*57.3-125*	*EPA 8270*	*2023-01-12*	*2023-01-18*		(A)
Surrogate: Phenol-d6		*86 %*		*62.1-120*	*EPA 8270*	*2023-01-12*	*2023-01-18*		(A)
Surrogate: Nitrobenzene-d5		*98 %*		*68.1-120*	*EPA 8270*	*2023-01-12*	*2023-01-18*		(A)
Surrogate: 2-Fluorobiphenyl		*101 %*		*65.1-120*	*EPA 8270*	*2023-01-12*	*2023-01-18*		(A)
Surrogate: 2,4,6-Tribromophenol		*94 %*		*49.5-122*	*EPA 8270*	*2023-01-12*	*2023-01-18*		(A)
Surrogate: Terphenyl-d14		*73 %*		*18-120*	*EPA 8270*	*2023-01-12*	*2023-01-18*		(A)

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Sample ID: Biosolids
Laboratory ID: 1590108-01
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Total Metals										
Arsenic	3.4	0.008	mg/kg dry	0.5	mg/kg	EPA 6020	2023-01-11	2023-01-13	nto7	(C)
Barium	310.3	0.2	mg/kg dry	42.1	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Cadmium	1.5	0.5	mg/kg dry	0.2	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Calcium	13590	24.3	mg/kg dry	1844	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Chromium	17.2	1.5	mg/kg dry	2.3	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Copper	526.8	0.7	mg/kg dry	71.5	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Iron	6985	6.1	mg/kg dry	947.8	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Lead	19.6	3.2	mg/kg dry	2.7	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Magnesium	4047	5.9	mg/kg dry	549.2	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Manganese	188.8	0.5	mg/kg dry	25.6	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Mercury	0.74	0.004	mg/kg dry	0.10	mg/kg	EPA 7471	2023-01-12	2023-01-13	mrs3	(E)
Molybdenum	10.9	0.6	mg/kg dry	1.5	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Nickel	20.5	0.8	mg/kg dry	2.8	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Phosphate (P2O5)	32350	55.6	mg/kg dry		mg/kg	Calculation	2023-01-11	2023-01-12	erw9	
Phosphorus	14130	3.3	mg/kg dry	1917	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Potash (K2O)	3420	29.1	mg/kg dry		mg/kg	Calculation	2023-01-11	2023-01-12	erw9	
Potassium	2850	9.1	mg/kg dry	386.7	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Selenium	9.6	0.04	mg/kg dry	1.3	mg/kg	EPA 6020	2023-01-11	2023-01-13	nto7	(C)
Silver	2.1	0.5	mg/kg dry	0.3	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)/ J
Sodium	862.9	4.1	mg/kg dry	117.1	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Sulfur	10680	4.1	mg/kg dry	1449	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Zinc	457.0	2.4	mg/kg dry	62.0	mg/kg	EPA 6010B	2023-01-11	2023-01-12	erw9	(C)
Environmental Chemistry										
Ammonia-N	2560	737	mg/kg dry	347	mg/kg	SM 4500-NH3 C-1997	2023-01-11	2023-01-11	cay6	(D)
Cyanide (total)	3.3	1.5	mg/kg dry	0.4	mg/kg	EPA 9010C	2023-01-12	2023-01-12	kfw9	(C)
Total Kjeldahl Nitrogen	66600	1840	mg/kg dry	9040	mg/kg	PAI-DK 01	2023-01-11	2023-01-11	cay6	(B)
Nitrate/Nitrite Nitrogen	3.8	1.0	mg/kg dry	0.5	mg/kg	EPA 353.2	2023-01-11	2023-01-11	AKN1	(F)
Organic Nitrogen	64000	1840	mg/kg dry		mg/kg	Calculation	2023-01-11	2023-01-11	cay6	
pH @ 19.3°C			S.U.	6.03	S.U.	EPA 9045	2023-01-11	2023-01-11	ppj2	(C)
Phenol	143	0.6	mg/kg dry	19.4	mg/kg	EPA 9065A (MOD)	2023-01-18	2023-01-18	kfw9	(C)
Percent Solids		0.01	%	13.57	%	SM 2540 G-2015	2023-01-11	2023-01-12	drp0	(C)
Percent Volatile Solids	80.29	0.01	%	80.29	%	SM 2540 G-2015	2023-01-11	2023-01-12	drp0	(C)

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Sample ID: Biosolids
Laboratory ID: 1590108-01
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Pesticide Screen									
Aroclor-1016	<	1000	ug/kg	< ug/kg	EPA 8082	2023-01-11	2023-01-17	alt8	(A)
Aroclor-1221	<	1000	ug/kg	< ug/kg	EPA 8082	2023-01-11	2023-01-17	alt8	(A)
Aroclor-1232	<	1000	ug/kg	< ug/kg	EPA 8082	2023-01-11	2023-01-17	alt8	(A)
Aroclor-1242	<	1000	ug/kg	< ug/kg	EPA 8082	2023-01-11	2023-01-17	alt8	(A)
Aroclor-1248	<	1000	ug/kg	< ug/kg	EPA 8082	2023-01-11	2023-01-17	alt8	(A)
Aroclor-1254	<	1000	ug/kg	< ug/kg	EPA 8082	2023-01-11	2023-01-17	alt8	(A)
Aroclor-1260	<	1000	ug/kg	< ug/kg	EPA 8082	2023-01-11	2023-01-17	alt8	(A)
Aroclor-1262	<	1000	ug/kg	< ug/kg	EPA 8082	2023-01-11	2023-01-17	alt8	(A)
Aroclor-1268	<	1000	ug/kg	< ug/kg	EPA 8082	2023-01-11	2023-01-17	alt8	(A)
Surrogate: Tetrachloro-m-xylene		*57 %*		*66.5-151*	*EPA 8082*	*2023-01-11*	*2023-01-17*		(A)
Surrogate: Decachlorobiphenyl		*93 %*		*61.7-171*	*EPA 8082*	*2023-01-11*	*2023-01-17*		(A)/ OOS

Work Order: 1590108

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Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Sample ID: 01
Laboratory ID: 1590108-02
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	13.28	%	SM 2540 G-2015	2023-01-11	2023-01-12	drp0	(A)
Microbiology										
Fecal Coliforms	408300	0.2	MPN/g dry	54220	MPN/g	SM 9221 E	2023-01-10/13:59	2023-01-12/11:06	dme9	(A)/ HT

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Reported:
2023-01-25 10:00

Sample ID: 02
Laboratory ID: 1590108-03
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	13.16	%	SM 2540 G-2015	2023-01-11	2023-01-12	drp0	(A)
Microbiology										
Fecal Coliforms	264200	0.2	MPN/g dry	34770	MPN/g	SM 9221 E	2023-01-10/13:59	2023-01-12/11:06	dme9	(A)/ HT

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Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Sample ID: 03
Laboratory ID: 1590108-04
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	14.26	%	SM 2540 G-2015	2023-01-11	2023-01-12	drp0	(A)
Microbiology										
Fecal Coliforms	55540	0.2	MPN/g dry	7920	MPN/g	SM 9221 E	2023-01-10/13:59	2023-01-12/11:06	dme9	(A)/ HT

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Project: Quarterly Biosolids
Project Number: BioSolids 23-1
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Reported:
2023-01-25 10:00

Sample ID: 04
Laboratory ID: 1590108-05
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	13.88	%	SM 2540 G-2015	2023-01-11	2023-01-12	drp0	(A)
Microbiology										
Fecal Coliforms	1159000	0.2	MPN/g dry	160900	MPN/g	SM 9221 E	2023-01-10/13:59	2023-01-12/11:06	dme9	(A)/ HT

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Project Number: BioSolids 23-1
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Reported:
2023-01-25 10:00

Sample ID: 05
Laboratory ID: 1590108-06
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	12.99	%	SM 2540 G-2015	2023-01-11	2023-01-12	drp0	(A)
Microbiology										
Fecal Coliforms	267700	0.2	MPN/g dry	34770	MPN/g	SM 9221 E	2023-01-10/13:59	2023-01-12/11:06	dme9	(A)/ HT

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Project Number: BioSolids 23-1
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Reported:
2023-01-25 10:00

Sample ID: 06
Laboratory ID: 1590108-07
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	13.42	%	SM 2540 G-2015	2023-01-11	2023-01-12	drp0	(A)
Microbiology										
Fecal Coliforms	683900	0.2	MPN/g dry	91780	MPN/g	SM 9221 E	2023-01-10/13:59	2023-01-17/10:36	dme9	(A)/ HT

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Project: Quarterly Biosolids
Project Number: BioSolids 23-1
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Reported:
2023-01-25 10:00

Sample ID: 07
Laboratory ID: 1590108-08
Sampled Date/Time: 2023-01-09 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	13.34	%	SM 2540 G-2015	2023-01-11	2023-01-12	drp0	(A)
Microbiology										
Fecal Coliforms	1206000	0.2	MPN/g dry	160900	MPN/g	SM 9221 E	2023-01-10/13:59	2023-01-12/11:06	dme9	(A)/ HT

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Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
Blank (B927444-BLK1)				Prepared & Analyzed: 2023-01-13						
Dichlorodifluoromethane	<	0.50	ug/g							
Chloromethane	<	0.50	ug/g							
Vinyl chloride	<	0.50	ug/g							
Bromomethane	<	0.50	ug/g							CCAL
Chloroethane	<	0.50	ug/g							
Trichlorofluoromethane	<	0.50	ug/g							
Acrolein	<	9.99	ug/g							
Acetone	<	9.99	ug/g							
Ethyl Ether	<	0.50	ug/g							
1,1-Dichloroethene	<	0.50	ug/g							
Iodomethane	<	0.50	ug/g							CCAL
Acrylonitrile	<	0.50	ug/g							
Methylene Chloride	<	0.50	ug/g							
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g							
Carbon disulfide	<	0.50	ug/g							
trans-1,2-Dichloroethene	<	0.50	ug/g							
Methyl tert-Butyl Ether	<	0.50	ug/g							
1,1-Dichloroethane	<	0.50	ug/g							
Vinyl acetate	<	0.50	ug/g							
Chloroprene	<	0.50	ug/g							
2-Butanone	<	9.99	ug/g							
cis-1,2-Dichloroethene	<	0.50	ug/g							
Bromochloromethane	<	0.50	ug/g							
Chloroform	<	0.50	ug/g							
2,2-Dichloropropane	<	0.50	ug/g							
1,2-Dichloroethane	<	0.50	ug/g							
1,1,1-Trichloroethane	<	0.50	ug/g							
1,1-Dichloropropene	<	0.50	ug/g							
Carbon Tetrachloride	<	0.50	ug/g							
Benzene	<	0.50	ug/g							
Dibromomethane	<	0.50	ug/g							
1,2-Dichloropropane	<	0.50	ug/g							
Trichloroethene	<	0.50	ug/g							
Bromodichloromethane	<	0.50	ug/g							
2-Chloroethyl vinyl ether	<	0.50	ug/g							
cis-1,3-Dichloropropene	<	0.50	ug/g							
4-Methyl-2-pentanone	<	9.99	ug/g							
trans-1,3-Dichloropropene	<	0.50	ug/g							
1,1,2-Trichloroethane	<	0.50	ug/g							
Toluene	<	0.50	ug/g							
1,3-Dichloropropane	<	0.50	ug/g							

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Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
Blank (B927444-BLK1)				Prepared & Analyzed: 2023-01-13						
Ethyl Methacrylate	<	0.50	ug/g							
Dibromochloromethane	<	0.50	ug/g							
2-Hexanone	<	9.99	ug/g							
1,2-Dibromoethane	<	0.50	ug/g							
Tetrachloroethene	<	0.50	ug/g							
1,1,1,2-Tetrachloroethane	<	0.50	ug/g							
Chlorobenzene	<	0.50	ug/g							
Ethylbenzene	<	0.50	ug/g							
m,p-Xylenes	<	1.00	ug/g							
Bromoform	<	0.50	ug/g							
cis-1,4-Dichloro-2-butene	<	0.50	ug/g							
Styrene	<	0.50	ug/g							
1,1,2,2-Tetrachloroethane	<	0.50	ug/g							
o-Xylene	<	0.50	ug/g							
1,2,3-Trichloropropane	<	0.50	ug/g							
trans-1,4-Dichloro-2-butene	<	0.50	ug/g							
Isopropylbenzene	<	0.50	ug/g							
Bromobenzene	<	0.50	ug/g							
n-Propyl Benzene	<	0.50	ug/g							
2-Chlorotoluene	<	0.50	ug/g							
4-Chlorotoluene	<	0.50	ug/g							
1,3,5-Trimethylbenzene	<	0.50	ug/g							
tert-Butylbenzene	<	0.50	ug/g							
1,2,4-Trimethylbenzene	<	0.50	ug/g							
sec-Butylbenzene	<	0.50	ug/g							
1,3-Dichlorobenzene	<	0.50	ug/g							
1,4-Dichlorobenzene	<	0.50	ug/g							
p-Isopropyltoluene	<	0.50	ug/g							
1,2-Dichlorobenzene	<	0.50	ug/g							
n-Butyl Benzene	<	0.50	ug/g							
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g							
1,2,4-Trichlorobenzene	<	0.50	ug/g							
Naphthalene	<	0.50	ug/g							
Hexachlorobutadiene	<	0.50	ug/g							
1,2,3-Trichlorobenzene	<	0.50	ug/g							CCAL
Total Xylenes	0.00		ug/g							
Surrogate: Toluene-d8	*0.246*		ug/g	*0.250*		*99*	*80-120*			
Surrogate: Bromofluorobenzene	*0.240*		ug/g	*0.250*		*96*	*73.8-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.249*		ug/g	*0.250*		*100*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
LCS (B927444-BS1)				Prepared & Analyzed: 2023-01-13						
Dichlorodifluoromethane	0.71	0.50	ug/g	0.999		71	40.9-120			
Chloromethane	0.87	0.50	ug/g	0.999		87	65.1-120			
Vinyl chloride	0.64	0.50	ug/g	0.999		64	21.2-120			
Bromomethane	0.61	0.50	ug/g	0.999		61	13.4-139			CCAL
Chloroethane	0.75	0.50	ug/g	0.999		75	52.7-126			
Trichlorofluoromethane	0.85	0.50	ug/g	0.999		85	68-120			
Acrolein	<	9.99	ug/g				61.9-120			
Acetone	<	9.99	ug/g				42.8-120			
Ethyl Ether	<	0.50	ug/g				62.2-120			
1,1-Dichloroethene	<	0.50	ug/g				73.9-120			
Iodomethane	<	0.50	ug/g				55.8-124			CCAL
Acrylonitrile	<	0.50	ug/g				57.6-124			
Methylene Chloride	<	0.50	ug/g				70-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g				66.1-126			
Carbon disulfide	<	0.50	ug/g				68.2-121			
trans-1,2-Dichloroethene	<	0.50	ug/g				74.9-120			
Methyl tert-Butyl Ether	<	0.50	ug/g				61.7-120			
1,1-Dichloroethane	<	0.50	ug/g				74-120			
Vinyl acetate	<	0.50	ug/g				59.9-120			
Chloroprene	<	0.50	ug/g				70.2-121			
2-Butanone	<	9.99	ug/g				45.8-120			
cis-1,2-Dichloroethene	<	0.50	ug/g				76.4-120			
Bromochloromethane	<	0.50	ug/g				67.9-120			
Chloroform	<	0.50	ug/g				73-120			
2,2-Dichloropropane	<	0.50	ug/g				68.6-120			
1,2-Dichloroethane	<	0.50	ug/g				66.7-120			
1,1,1-Trichloroethane	<	0.50	ug/g				70.6-121			
1,1-Dichloropropene	<	0.50	ug/g				73.3-120			
Carbon Tetrachloride	<	0.50	ug/g				65.8-120			
Benzene	<	0.50	ug/g				80-120			
Dibromomethane	<	0.50	ug/g				66.6-120			
1,2-Dichloropropane	<	0.50	ug/g				73.9-120			
Trichloroethene	<	0.50	ug/g				77.4-120			
Bromodichloromethane	<	0.50	ug/g				66.4-120			
2-Chloroethyl vinyl ether	<	0.50	ug/g				55.7-131			
cis-1,3-Dichloropropene	<	0.50	ug/g				72.6-120			
4-Methyl-2-pentanone	<	9.99	ug/g				43.5-124			
trans-1,3-Dichloropropene	<	0.50	ug/g				63.7-120			
1,1,2-Trichloroethane	<	0.50	ug/g				64.1-120			
Toluene	<	0.50	ug/g				78.6-120			
1,3-Dichloropropane	<	0.50	ug/g				63.6-120			

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
LCS (B927444-BS1)				Prepared & Analyzed: 2023-01-13						
Ethyl Methacrylate	<	0.50	ug/g				52.1-120			
Dibromochloromethane	<	0.50	ug/g				65.2-120			
2-Hexanone	<	9.99	ug/g				36.1-126			
1,2-Dibromoethane	<	0.50	ug/g				63.1-120			
Tetrachloroethene	<	0.50	ug/g				69.2-136			
1,1,1,2-Tetrachloroethane	<	0.50	ug/g				63.8-120			
Chlorobenzene	<	0.50	ug/g				80-120			
Ethylbenzene	<	0.50	ug/g				80-123			
m,p-Xylenes	<	1.00	ug/g				77.4-125			
Bromoform	<	0.50	ug/g				63.3-120			
cis-1,4-Dichloro-2-butene	<	0.50	ug/g				55-121			
Styrene	<	0.50	ug/g				78.3-120			
1,1,2,2-Tetrachloroethane	<	0.50	ug/g				60.3-122			
o-Xylene	<	0.50	ug/g				80-120			
1,2,3-Trichloropropane	<	0.50	ug/g				66.1-120			
trans-1,4-Dichloro-2-butene	<	0.50	ug/g				62.9-120			
Isopropylbenzene	<	0.50	ug/g				78.1-129			
Bromobenzene	<	0.50	ug/g				79-120			
n-Propyl Benzene	<	0.50	ug/g				75.4-126			
2-Chlorotoluene	<	0.50	ug/g				79.6-120			
4-Chlorotoluene	<	0.50	ug/g				78.9-121			
1,3,5-Trimethylbenzene	<	0.50	ug/g				75.6-127			
tert-Butylbenzene	<	0.50	ug/g				76.2-130			
1,2,4-Trimethylbenzene	<	0.50	ug/g				77-125			
sec-Butylbenzene	<	0.50	ug/g				74.7-131			
1,3-Dichlorobenzene	<	0.50	ug/g				78.1-120			
1,4-Dichlorobenzene	<	0.50	ug/g				79.7-120			
p-Isopropyltoluene	<	0.50	ug/g				77-133			
1,2-Dichlorobenzene	<	0.50	ug/g				79-120			
n-Butyl Benzene	<	0.50	ug/g				72.9-136			
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g				52.3-120			
1,2,4-Trichlorobenzene	<	0.50	ug/g				65-131			
Naphthalene	<	0.50	ug/g				46.8-123			
Hexachlorobutadiene	<	0.50	ug/g				75.5-139			
1,2,3-Trichlorobenzene	<	0.50	ug/g				43.4-140			CCAL
Surrogate: Toluene-d8	*0.251*		ug/g	*0.250*		*100*	*80-120*			
Surrogate: Bromofluorobenzene	*0.253*		ug/g	*0.250*		*101*	*73.8-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.243*		ug/g	*0.250*		*97*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
LCS (B927444-BS2)				Prepared & Analyzed: 2023-01-13						
Dichlorodifluoromethane	<	0.50	ug/g				40.9-120			
Chloromethane	<	0.50	ug/g				65.1-120			
Vinyl chloride	<	0.50	ug/g				21.2-120			
Bromomethane	<	0.50	ug/g				13.4-139			CCAL
Chloroethane	<	0.50	ug/g				52.7-126			
Trichlorofluoromethane	<	0.50	ug/g				68-120			
Acrolein	1.65	9.99	ug/g	2.00		82	61.9-120			
Acetone	1.48	9.99	ug/g	2.00		74	42.8-120			
Ethyl Ether	0.81	0.50	ug/g	0.999		81	62.2-120			
1,1-Dichloroethene	0.86	0.50	ug/g	0.999		86	73.9-120			
Iodomethane	0.61	0.50	ug/g	0.999		61	55.8-124			CCAL
Acrylonitrile	0.85	0.50	ug/g	0.999		85	57.6-124			
Methylene Chloride	0.82	0.50	ug/g	0.999		82	70-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	0.93	0.50	ug/g	0.999		93	66.1-126			
Carbon disulfide	0.92	0.50	ug/g	0.999		92	68.2-121			
trans-1,2-Dichloroethene	0.88	0.50	ug/g	0.999		89	74.9-120			
Methyl tert-Butyl Ether	0.80	0.50	ug/g	0.999		80	61.7-120			
1,1-Dichloroethane	0.86	0.50	ug/g	0.999		86	74-120			
Vinyl acetate	0.83	0.50	ug/g	0.999		83	59.9-120			
Chloroprene	0.90	0.50	ug/g	0.999		90	70.2-121			
2-Butanone	1.53	9.99	ug/g	2.00		77	45.8-120			
cis-1,2-Dichloroethene	0.88	0.50	ug/g	0.999		88	76.4-120			
Bromochloromethane	0.82	0.50	ug/g	0.999		82	67.9-120			
Chloroform	0.85	0.50	ug/g	0.999		85	73-120			
2,2-Dichloropropane	0.87	0.50	ug/g	0.999		87	68.6-120			
1,2-Dichloroethane	0.83	0.50	ug/g	0.999		83	66.7-120			
1,1,1-Trichloroethane	0.87	0.50	ug/g	0.999		87	70.6-121			
1,1-Dichloropropene	0.92	0.50	ug/g	0.999		92	73.3-120			
Carbon Tetrachloride	0.80	0.50	ug/g	0.999		80	65.8-120			
Benzene	0.91	0.50	ug/g	0.999		91	80-120			
Dibromomethane	0.83	0.50	ug/g	0.999		83	66.6-120			
1,2-Dichloropropane	0.85	0.50	ug/g	0.999		85	73.9-120			
Trichloroethene	0.90	0.50	ug/g	0.999		90	77.4-120			
Bromodichloromethane	0.81	0.50	ug/g	0.999		81	66.4-120			
2-Chloroethyl vinyl ether	0.80	0.50	ug/g	0.999		80	55.7-131			
cis-1,3-Dichloropropene	0.81	0.50	ug/g	0.999		81	72.6-120			
4-Methyl-2-pentanone	1.50	9.99	ug/g	2.00		75	43.5-124			
trans-1,3-Dichloropropene	0.78	0.50	ug/g	0.999		78	63.7-120			
1,1,2-Trichloroethane	0.82	0.50	ug/g	0.999		82	64.1-120			
Toluene	0.89	0.50	ug/g	0.999		89	78.6-120			
1,3-Dichloropropane	0.84	0.50	ug/g	0.999		84	63.6-120			

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
LCS (B927444-BS2)				Prepared & Analyzed: 2023-01-13						
Ethyl Methacrylate	0.83	0.50	ug/g	0.999		83	52.1-120			
Dibromochloromethane	0.75	0.50	ug/g	0.999		75	65.2-120			
2-Hexanone	1.54	9.99	ug/g	2.00		77	36.1-126			
1,2-Dibromoethane	0.83	0.50	ug/g	0.999		83	63.1-120			
Tetrachloroethene	0.90	0.50	ug/g	0.999		90	69.2-136			
1,1,1,2-Tetrachloroethane	0.84	0.50	ug/g	0.999		84	63.8-120			
Chlorobenzene	0.93	0.50	ug/g	0.999		93	80-120			
Ethylbenzene	0.95	0.50	ug/g	0.999		95	80-123			
m,p-Xylenes	1.92	1.00	ug/g	2.00		96	77.4-125			
Bromoform	0.76	0.50	ug/g	0.999		76	63.3-120			
cis-1,4-Dichloro-2-butene	0.82	0.50	ug/g	0.999		82	55-121			
Styrene	0.94	0.50	ug/g	0.999		94	78.3-120			
1,1,2,2-Tetrachloroethane	0.85	0.50	ug/g	0.999		85	60.3-122			
o-Xylene	0.96	0.50	ug/g	0.999		96	80-120			
1,2,3-Trichloropropane	0.92	0.50	ug/g	0.999		92	66.1-120			
trans-1,4-Dichloro-2-butene	0.82	0.50	ug/g	0.999		83	62.9-120			
Isopropylbenzene	0.98	0.50	ug/g	0.999		98	78.1-129			
Bromobenzene	0.92	0.50	ug/g	0.999		92	79-120			
n-Propyl Benzene	0.99	0.50	ug/g	0.999		99	75.4-126			
2-Chlorotoluene	0.98	0.50	ug/g	0.999		99	79.6-120			
4-Chlorotoluene	0.96	0.50	ug/g	0.999		97	78.9-121			
1,3,5-Trimethylbenzene	1.00	0.50	ug/g	0.999		100	75.6-127			
tert-Butylbenzene	0.99	0.50	ug/g	0.999		99	76.2-130			
1,2,4-Trimethylbenzene	0.97	0.50	ug/g	0.999		97	77-125			
sec-Butylbenzene	0.99	0.50	ug/g	0.999		99	74.7-131			
1,3-Dichlorobenzene	0.93	0.50	ug/g	0.999		93	78.1-120			
1,4-Dichlorobenzene	0.96	0.50	ug/g	0.999		96	79.7-120			
p-Isopropyltoluene	1.00	0.50	ug/g	0.999		100	77-133			
1,2-Dichlorobenzene	0.88	0.50	ug/g	0.999		89	79-120			
n-Butyl Benzene	1.02	0.50	ug/g	0.999		102	72.9-136			
1,2-Dibromo-3-Chloropropane	0.75	0.50	ug/g	0.999		75	52.3-120			
1,2,4-Trichlorobenzene	0.84	0.50	ug/g	0.999		84	65-131			
Naphthalene	0.66	0.50	ug/g	0.999		66	46.8-123			
Hexachlorobutadiene	1.01	0.50	ug/g	0.999		101	75.5-139			
1,2,3-Trichlorobenzene	0.54	0.50	ug/g	0.999		54	43.4-140			CCAL
Surrogate: Toluene-d8	*0.246*		ug/g	*0.250*		*98*	*80-120*			
Surrogate: Bromofluorobenzene	*0.249*		ug/g	*0.250*		*100*	*73.8-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.246*		ug/g	*0.250*		*99*	*80-120*			

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
Matrix Spike (B927444-MS1)	**Source: 1591359-07**			Prepared & Analyzed: 2023-01-13						
Dichlorodifluoromethane	0.70	0.50	ug/g	0.999	<	70	40.9-120			
Chloromethane	0.86	0.50	ug/g	0.999	<	86	65.1-120			
Vinyl chloride	0.65	0.50	ug/g	0.999	<	65	21.2-120			
Bromomethane	0.65	0.50	ug/g	0.999	<	65	13.4-139			CCAL
Chloroethane	0.74	0.50	ug/g	0.999	<	74	52.7-126			
Trichlorofluoromethane	0.83	0.50	ug/g	0.999	<	83	68-120			
Acrolein	<	9.99	ug/g		<		61.9-120			
Acetone	<	9.99	ug/g		<		42.8-120			
Ethyl Ether	<	0.50	ug/g		<		62.2-120			
1,1-Dichloroethene	<	0.50	ug/g		<		73.9-120			
Iodomethane	<	0.50	ug/g		<		55.8-124			CCAL
Acrylonitrile	<	0.50	ug/g		<		57.6-124			
Methylene Chloride	<	0.50	ug/g		<		70-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g		<		66.1-126			
Carbon disulfide	<	0.50	ug/g		<		68.2-121			
trans-1,2-Dichloroethene	<	0.50	ug/g		<		74.9-120			
Methyl tert-Butyl Ether	<	0.50	ug/g		<		61.7-120			
1,1-Dichloroethane	<	0.50	ug/g		<		74-120			
Vinyl acetate	<	0.50	ug/g		<		59.9-120			
Chloroprene	<	0.50	ug/g		<		70.2-121			
2-Butanone	<	9.99	ug/g		<		45.8-120			
cis-1,2-Dichloroethene	<	0.50	ug/g		<		76.4-120			
Bromochloromethane	<	0.50	ug/g		<		67.9-120			
Chloroform	<	0.50	ug/g		<		73-120			
2,2-Dichloropropane	<	0.50	ug/g		<		68.6-120			
1,2-Dichloroethane	<	0.50	ug/g		<		66.7-120			
1,1,1-Trichloroethane	<	0.50	ug/g		<		70.6-121			
1,1-Dichloropropene	<	0.50	ug/g		<		73.3-120			
Carbon Tetrachloride	<	0.50	ug/g		<		65.8-120			
Benzene	<	0.50	ug/g		<		80-120			
Dibromomethane	<	0.50	ug/g		<		66.6-120			
1,2-Dichloropropane	<	0.50	ug/g		<		73.9-120			
Trichloroethene	<	0.50	ug/g		<		77.4-120			
Bromodichloromethane	<	0.50	ug/g		<		66.4-120			
2-Chloroethyl vinyl ether	<	0.50	ug/g		<		55.7-131			
cis-1,3-Dichloropropene	<	0.50	ug/g		<		72.6-120			
4-Methyl-2-pentanone	<	9.99	ug/g		<		43.5-124			
trans-1,3-Dichloropropene	<	0.50	ug/g		<		63.7-120			
1,1,2-Trichloroethane	<	0.50	ug/g		<		64.1-120			
Toluene	<	0.50	ug/g		<		78.6-120			
1,3-Dichloropropane	<	0.50	ug/g		<		63.6-120			

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
Matrix Spike (B927444-MS1)	**Source: 1591359-07**			Prepared & Analyzed: 2023-01-13						
Ethyl Methacrylate	<	0.50	ug/g		<		52.1-120			
Dibromochloromethane	<	0.50	ug/g		<		65.2-120			
2-Hexanone	<	9.99	ug/g		<		36.1-126			
1,2-Dibromoethane	<	0.50	ug/g		<		63.1-120			
Tetrachloroethene	<	0.50	ug/g		<		69.2-136			
1,1,1,2-Tetrachloroethane	<	0.50	ug/g		<		63.8-120			
Chlorobenzene	<	0.50	ug/g		<		80-120			
Ethylbenzene	<	0.50	ug/g		<		80-123			
m,p-Xylenes	<	1.00	ug/g		<		77.4-125			
Bromoform	<	0.50	ug/g		<		63.3-120			
cis-1,4-Dichloro-2-butene	<	0.50	ug/g		<		55-121			
Styrene	<	0.50	ug/g		<		78.3-120			
1,1,2,2-Tetrachloroethane	<	0.50	ug/g		<		60.3-122			
o-Xylene	<	0.50	ug/g		<		80-120			
1,2,3-Trichloropropane	<	0.50	ug/g		<		66.1-120			
trans-1,4-Dichloro-2-butene	<	0.50	ug/g		<		62.9-120			
Isopropylbenzene	<	0.50	ug/g		<		78.1-129			
Bromobenzene	<	0.50	ug/g		<		79-120			
n-Propyl Benzene	<	0.50	ug/g		<		75.4-126			
2-Chlorotoluene	<	0.50	ug/g		<		79.6-120			
4-Chlorotoluene	<	0.50	ug/g		<		78.9-121			
1,3,5-Trimethylbenzene	<	0.50	ug/g		<		75.6-127			
tert-Butylbenzene	<	0.50	ug/g		<		76.2-130			
1,2,4-Trimethylbenzene	<	0.50	ug/g		<		77-125			
sec-Butylbenzene	<	0.50	ug/g		<		74.7-131			
1,3-Dichlorobenzene	<	0.50	ug/g		<		78.1-120			
1,4-Dichlorobenzene	<	0.50	ug/g		<		79.7-120			
p-Isopropyltoluene	<	0.50	ug/g		<		77-133			
1,2-Dichlorobenzene	<	0.50	ug/g		<		79-120			
n-Butyl Benzene	<	0.50	ug/g		<		72.9-136			
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g		<		52.3-120			
1,2,4-Trichlorobenzene	<	0.50	ug/g		<		65-131			
Naphthalene	<	0.50	ug/g		<		46.8-123			
Hexachlorobutadiene	<	0.50	ug/g		<		75.5-139			
1,2,3-Trichlorobenzene	<	0.50	ug/g		<		43.4-140			CCAL
Surrogate: Toluene-d8	*0.247*		ug/g	*0.250*		*99*	*80-120*			
Surrogate: Bromofluorobenzene	*0.245*		ug/g	*0.250*		*98*	*73.8-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.245*		ug/g	*0.250*		*98*	*80-120*			

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
Matrix Spike (B927444-MS2)	**Source: 1591359-07**			Prepared & Analyzed: 2023-01-13						
Dichlorodifluoromethane	<	0.50	ug/g		<		40.9-120			
Chloromethane	<	0.50	ug/g		<		65.1-120			
Vinyl chloride	<	0.50	ug/g		<		21.2-120			
Bromomethane	<	0.50	ug/g		<		13.4-139			CCAL
Chloroethane	<	0.50	ug/g		<		52.7-126			
Trichlorofluoromethane	<	0.50	ug/g		<		68-120			
Acrolein	1.46	9.99	ug/g	2.00	<	73	61.9-120			
Acetone	1.30	9.99	ug/g	2.00	<	65	42.8-120			
Ethyl Ether	0.74	0.50	ug/g	0.999	<	74	62.2-120			
1,1-Dichloroethene	0.85	0.50	ug/g	0.999	<	85	73.9-120			
Iodomethane	0.75	0.50	ug/g	0.999	<	75	55.8-124			CCAL
Acrylonitrile	0.74	0.50	ug/g	0.999	<	74	57.6-124			
Methylene Chloride	0.78	0.50	ug/g	0.999	<	78	70-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	0.91	0.50	ug/g	0.999	<	91	66.1-126			
Carbon disulfide	0.91	0.50	ug/g	0.999	<	91	68.2-121			
trans-1,2-Dichloroethene	0.88	0.50	ug/g	0.999	<	88	74.9-120			
Methyl tert-Butyl Ether	0.70	0.50	ug/g	0.999	<	70	61.7-120			
1,1-Dichloroethane	0.85	0.50	ug/g	0.999	<	85	74-120			
Vinyl acetate	0.73	0.50	ug/g	0.999	<	73	59.9-120			
Chloroprene	0.89	0.50	ug/g	0.999	<	89	70.2-121			
2-Butanone	1.29	9.99	ug/g	2.00	<	65	45.8-120			
cis-1,2-Dichloroethene	0.86	0.50	ug/g	0.999	<	86	76.4-120			
Bromochloromethane	0.78	0.50	ug/g	0.999	<	78	67.9-120			
Chloroform	0.82	0.50	ug/g	0.999	<	82	73-120			
2,2-Dichloropropane	0.85	0.50	ug/g	0.999	<	85	68.6-120			
1,2-Dichloroethane	0.76	0.50	ug/g	0.999	<	76	66.7-120			
1,1,1-Trichloroethane	0.85	0.50	ug/g	0.999	<	85	70.6-121			
1,1-Dichloropropene	0.91	0.50	ug/g	0.999	<	91	73.3-120			
Carbon Tetrachloride	0.78	0.50	ug/g	0.999	<	78	65.8-120			
Benzene	0.89	0.50	ug/g	0.999	<	89	80-120			
Dibromomethane	0.79	0.50	ug/g	0.999	<	79	66.6-120			
1,2-Dichloropropane	0.84	0.50	ug/g	0.999	<	84	73.9-120			
Trichloroethene	0.92	0.50	ug/g	0.999	<	92	77.4-120			
Bromodichloromethane	0.77	0.50	ug/g	0.999	<	77	66.4-120			
2-Chloroethyl vinyl ether	0.72	0.50	ug/g	0.999	<	72	55.7-131			
cis-1,3-Dichloropropene	0.78	0.50	ug/g	0.999	<	78	72.6-120			
4-Methyl-2-pentanone	1.30	9.99	ug/g	2.00	<	65	43.5-124			
trans-1,3-Dichloropropene	0.73	0.50	ug/g	0.999	<	73	63.7-120			
1,1,2-Trichloroethane	0.77	0.50	ug/g	0.999	<	77	64.1-120			
Toluene	0.91	0.50	ug/g	0.999	<	91	78.6-120			
1,3-Dichloropropane	0.77	0.50	ug/g	0.999	<	77	63.6-120			

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
Matrix Spike (B927444-MS2)	**Source: 1591359-07**			Prepared & Analyzed: 2023-01-13						
Ethyl Methacrylate	0.74	0.50	ug/g	0.999	<	74	52.1-120			
Dibromochloromethane	0.69	0.50	ug/g	0.999	<	69	65.2-120			
2-Hexanone	1.31	9.99	ug/g	2.00	<	65	36.1-126			
1,2-Dibromoethane	0.77	0.50	ug/g	0.999	<	77	63.1-120			
Tetrachloroethene	0.92	0.50	ug/g	0.999	<	92	69.2-136			
1,1,1,2-Tetrachloroethane	0.81	0.50	ug/g	0.999	<	81	63.8-120			
Chlorobenzene	0.94	0.50	ug/g	0.999	<	94	80-120			
Ethylbenzene	1.00	0.50	ug/g	0.999	<	100	80-123			
m,p-Xylenes	1.97	1.00	ug/g	2.00	<	99	77.4-125			
Bromoform	0.67	0.50	ug/g	0.999	<	67	63.3-120			
cis-1,4-Dichloro-2-butene	0.74	0.50	ug/g	0.999	<	74	55-121			
Styrene	0.93	0.50	ug/g	0.999	<	93	78.3-120			
1,1,2,2-Tetrachloroethane	0.79	0.50	ug/g	0.999	<	79	60.3-122			
o-Xylene	0.97	0.50	ug/g	0.999	<	97	80-120			
1,2,3-Trichloropropane	0.84	0.50	ug/g	0.999	<	84	66.1-120			
trans-1,4-Dichloro-2-butene	0.75	0.50	ug/g	0.999	<	75	62.9-120			
Isopropylbenzene	1.03	0.50	ug/g	0.999	<	103	78.1-129			
Bromobenzene	0.90	0.50	ug/g	0.999	<	91	79-120			
n-Propyl Benzene	1.03	0.50	ug/g	0.999	<	103	75.4-126			
2-Chlorotoluene	0.99	0.50	ug/g	0.999	<	99	79.6-120			
4-Chlorotoluene	0.96	0.50	ug/g	0.999	<	96	78.9-121			
1,3,5-Trimethylbenzene	1.02	0.50	ug/g	0.999	<	102	75.6-127			
tert-Butylbenzene	1.03	0.50	ug/g	0.999	<	103	76.2-130			
1,2,4-Trimethylbenzene	1.00	0.50	ug/g	0.999	<	100	77-125			
sec-Butylbenzene	1.04	0.50	ug/g	0.999	<	104	74.7-131			
1,3-Dichlorobenzene	0.93	0.50	ug/g	0.999	<	93	78.1-120			
1,4-Dichlorobenzene	0.98	0.50	ug/g	0.999	<	98	79.7-120			
p-Isopropyltoluene	1.07	0.50	ug/g	0.999	<	107	77-133			
1,2-Dichlorobenzene	0.90	0.50	ug/g	0.999	<	90	79-120			
n-Butyl Benzene	1.08	0.50	ug/g	0.999	<	108	72.9-136			
1,2-Dibromo-3-Chloropropane	0.68	0.50	ug/g	0.999	<	68	52.3-120			
1,2,4-Trichlorobenzene	0.84	0.50	ug/g	0.999	<	84	65-131			
Naphthalene	0.71	0.50	ug/g	0.999	<	71	46.8-123			
Hexachlorobutadiene	1.07	0.50	ug/g	0.999	<	108	75.5-139			
1,2,3-Trichlorobenzene	0.65	0.50	ug/g	0.999	<	65	43.4-140			CCAL
Surrogate: Toluene-d8	*0.248*		ug/g	*0.250*		*99*	*80-120*			
Surrogate: Bromofluorobenzene	*0.243*		ug/g	*0.250*		*97*	*73.8-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.246*		ug/g	*0.250*		*99*	*80-120*			

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
Matrix Spike Dup (B927444-MSD1)	**Source: 1591359-07**			Prepared & Analyzed: 2023-01-13						
Dichlorodifluoromethane	0.69	0.50	ug/g	0.999	<	69	40.9-120	1	20	
Chloromethane	0.87	0.50	ug/g	0.999	<	87	65.1-120	2	20	
Vinyl chloride	0.64	0.50	ug/g	0.999	<	64	21.2-120	1	20	
Bromomethane	0.55	0.50	ug/g	0.999	<	55	13.4-139	16	20	CCAL
Chloroethane	0.70	0.50	ug/g	0.999	<	70	52.7-126	5	20	
Trichlorofluoromethane	0.81	0.50	ug/g	0.999	<	81	68-120	2	20	
Acrolein	<	9.99	ug/g		<		61.9-120		20	
Acetone	<	9.99	ug/g		<		42.8-120		20	
Ethyl Ether	<	0.50	ug/g		<		62.2-120		20	
1,1-Dichloroethene	<	0.50	ug/g		<		73.9-120		20	
Iodomethane	<	0.50	ug/g		<		55.8-124		20	CCAL
Acrylonitrile	<	0.50	ug/g		<		57.6-124		20	
Methylene Chloride	<	0.50	ug/g		<		70-120		20	
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g		<		66.1-126		20	
Carbon disulfide	<	0.50	ug/g		<		68.2-121		20	
trans-1,2-Dichloroethene	<	0.50	ug/g		<		74.9-120		20	
Methyl tert-Butyl Ether	<	0.50	ug/g		<		61.7-120		20	
1,1-Dichloroethane	<	0.50	ug/g		<		74-120		20	
Vinyl acetate	<	0.50	ug/g		<		59.9-120		20	
Chloroprene	<	0.50	ug/g		<		70.2-121		20	
2-Butanone	<	9.99	ug/g		<		45.8-120		20	
cis-1,2-Dichloroethene	<	0.50	ug/g		<		76.4-120		20	
Bromochloromethane	<	0.50	ug/g		<		67.9-120		20	
Chloroform	<	0.50	ug/g		<		73-120		20	
2,2-Dichloropropane	<	0.50	ug/g		<		68.6-120		20	
1,2-Dichloroethane	<	0.50	ug/g		<		66.7-120		20	
1,1,1-Trichloroethane	<	0.50	ug/g		<		70.6-121		20	
1,1-Dichloropropene	<	0.50	ug/g		<		73.3-120		20	
Carbon Tetrachloride	<	0.50	ug/g		<		65.8-120		20	
Benzene	<	0.50	ug/g		<		80-120		20	
Dibromomethane	<	0.50	ug/g		<		66.6-120		20	
1,2-Dichloropropane	<	0.50	ug/g		<		73.9-120		20	
Trichloroethene	<	0.50	ug/g		<		77.4-120		20	
Bromodichloromethane	<	0.50	ug/g		<		66.4-120		20	
2-Chloroethyl vinyl ether	<	0.50	ug/g		<		55.7-131		20	
cis-1,3-Dichloropropene	<	0.50	ug/g		<		72.6-120		20	
4-Methyl-2-pentanone	<	9.99	ug/g		<		43.5-124		20	
trans-1,3-Dichloropropene	<	0.50	ug/g		<		63.7-120		20	
1,1,2-Trichloroethane	<	0.50	ug/g		<		64.1-120		20	
Toluene	<	0.50	ug/g		<		78.6-120		20	
1,3-Dichloropropane	<	0.50	ug/g		<		63.6-120		20	

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
Matrix Spike Dup (B927444-MSD1)	**Source: 1591359-07**			Prepared & Analyzed: 2023-01-13						
Ethyl Methacrylate	<	0.50	ug/g		<		52.1-120		20	
Dibromochloromethane	<	0.50	ug/g		<		65.2-120		20	
2-Hexanone	<	9.99	ug/g		<		36.1-126		20	
1,2-Dibromoethane	<	0.50	ug/g		<		63.1-120		20	
Tetrachloroethene	<	0.50	ug/g		<		69.2-136		20	
1,1,1,2-Tetrachloroethane	<	0.50	ug/g		<		63.8-120		20	
Chlorobenzene	<	0.50	ug/g		<		80-120		20	
Ethylbenzene	<	0.50	ug/g		<		80-123		20	
m,p-Xylenes	<	1.00	ug/g		<		77.4-125		20	
Bromoform	<	0.50	ug/g		<		63.3-120		20	
cis-1,4-Dichloro-2-butene	<	0.50	ug/g		<		55-121		20	
Styrene	<	0.50	ug/g		<		78.3-120		20	
1,1,2,2-Tetrachloroethane	<	0.50	ug/g		<		60.3-122		20	
o-Xylene	<	0.50	ug/g		<		80-120		20	
1,2,3-Trichloropropane	<	0.50	ug/g		<		66.1-120		20	
trans-1,4-Dichloro-2-butene	<	0.50	ug/g		<		62.9-120		20	
Isopropylbenzene	<	0.50	ug/g		<		78.1-129		20	
Bromobenzene	<	0.50	ug/g		<		79-120		20	
n-Propyl Benzene	<	0.50	ug/g		<		75.4-126		20	
2-Chlorotoluene	<	0.50	ug/g		<		79.6-120		20	
4-Chlorotoluene	<	0.50	ug/g		<		78.9-121		20	
1,3,5-Trimethylbenzene	<	0.50	ug/g		<		75.6-127		20	
tert-Butylbenzene	<	0.50	ug/g		<		76.2-130		20	
1,2,4-Trimethylbenzene	<	0.50	ug/g		<		77-125		20	
sec-Butylbenzene	<	0.50	ug/g		<		74.7-131		20	
1,3-Dichlorobenzene	<	0.50	ug/g		<		78.1-120		20	
1,4-Dichlorobenzene	<	0.50	ug/g		<		79.7-120		20	
p-Isopropyltoluene	<	0.50	ug/g		<		77-133		20	
1,2-Dichlorobenzene	<	0.50	ug/g		<		79-120		20	
n-Butyl Benzene	<	0.50	ug/g		<		72.9-136		20	
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g		<		52.3-120		20	
1,2,4-Trichlorobenzene	<	0.50	ug/g		<		65-131		20	
Naphthalene	<	0.50	ug/g		<		46.8-123		20	
Hexachlorobutadiene	<	0.50	ug/g		<		75.5-139		20	
1,2,3-Trichlorobenzene	<	0.50	ug/g		<		43.4-140		20	CCAL
Surrogate: Toluene-d8	*0.246*		ug/g	*0.250*		*98*	*80-120*			
Surrogate: Bromofluorobenzene	*0.247*		ug/g	*0.250*		*99*	*73.8-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.247*		ug/g	*0.250*		*99*	*80-120*			

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
Matrix Spike Dup (B927444-MSD2)	**Source: 1591359-07**			Prepared & Analyzed: 2023-01-13						
Dichlorodifluoromethane	<	0.50	ug/g		<		40.9-120		20	
Chloromethane	<	0.50	ug/g		<		65.1-120		20	
Vinyl chloride	<	0.50	ug/g		<		21.2-120		20	
Bromomethane	<	0.50	ug/g		<		13.4-139		20	CCAL
Chloroethane	<	0.50	ug/g		<		52.7-126		20	
Trichlorofluoromethane	<	0.50	ug/g		<		68-120		20	
Acrolein	1.65	9.99	ug/g	2.00	<	83	61.9-120	12	20	
Acetone	1.41	9.99	ug/g	2.00	<	71	42.8-120	9	20	
Ethyl Ether	0.79	0.50	ug/g	0.999	<	79	62.2-120	7	20	
1,1-Dichloroethene	0.86	0.50	ug/g	0.999	<	86	73.9-120	0.9	20	
Iodomethane	0.80	0.50	ug/g	0.999	<	80	55.8-124	7	20	CCAL
Acrylonitrile	0.81	0.50	ug/g	0.999	<	81	57.6-124	9	20	
Methylene Chloride	0.82	0.50	ug/g	0.999	<	82	70-120	5	20	
1,1,2-Trichloro-1,1,2-trifluoroethane	0.91	0.50	ug/g	0.999	<	91	66.1-126	0.6	20	
Carbon disulfide	0.92	0.50	ug/g	0.999	<	92	68.2-121	1	20	
trans-1,2-Dichloroethene	0.90	0.50	ug/g	0.999	<	90	74.9-120	2	20	
Methyl tert-Butyl Ether	0.77	0.50	ug/g	0.999	<	77	61.7-120	9	20	
1,1-Dichloroethane	0.87	0.50	ug/g	0.999	<	87	74-120	3	20	
Vinyl acetate	0.81	0.50	ug/g	0.999	<	82	59.9-120	10	20	
Chloroprene	0.89	0.50	ug/g	0.999	<	89	70.2-121	0.04	20	
2-Butanone	1.44	9.99	ug/g	2.00	<	72	45.8-120	11	20	
cis-1,2-Dichloroethene	0.88	0.50	ug/g	0.999	<	88	76.4-120	3	20	
Bromochloromethane	0.83	0.50	ug/g	0.999	<	83	67.9-120	7	20	
Chloroform	0.85	0.50	ug/g	0.999	<	85	73-120	3	20	
2,2-Dichloropropane	0.86	0.50	ug/g	0.999	<	87	68.6-120	2	20	
1,2-Dichloroethane	0.80	0.50	ug/g	0.999	<	80	66.7-120	4	20	
1,1,1-Trichloroethane	0.86	0.50	ug/g	0.999	<	86	70.6-121	2	20	
1,1-Dichloropropene	0.92	0.50	ug/g	0.999	<	92	73.3-120	1	20	
Carbon Tetrachloride	0.78	0.50	ug/g	0.999	<	78	65.8-120	0.1	20	
Benzene	0.91	0.50	ug/g	0.999	<	91	80-120	3	20	
Dibromomethane	0.82	0.50	ug/g	0.999	<	82	66.6-120	4	20	
1,2-Dichloropropane	0.85	0.50	ug/g	0.999	<	85	73.9-120	2	20	
Trichloroethene	0.91	0.50	ug/g	0.999	<	91	77.4-120	1	20	
Bromodichloromethane	0.80	0.50	ug/g	0.999	<	80	66.4-120	3	20	
2-Chloroethyl vinyl ether	0.76	0.50	ug/g	0.999	<	76	55.7-131	6	20	
cis-1,3-Dichloropropene	0.79	0.50	ug/g	0.999	<	79	72.6-120	2	20	
4-Methyl-2-pentanone	1.40	9.99	ug/g	2.00	<	70	43.5-124	7	20	
trans-1,3-Dichloropropene	0.76	0.50	ug/g	0.999	<	76	63.7-120	4	20	
1,1,2-Trichloroethane	0.80	0.50	ug/g	0.999	<	80	64.1-120	4	20	
Toluene	0.90	0.50	ug/g	0.999	<	90	78.6-120	0.6	20	
1,3-Dichloropropane	0.82	0.50	ug/g	0.999	<	82	63.6-120	6	20	

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927444										
Matrix Spike Dup (B927444-MSD2)	**Source: 1591359-07**			Prepared & Analyzed: 2023-01-13						
Ethyl Methacrylate	0.79	0.50	ug/g	0.999	<	79	52.1-120	6	20	
Dibromochloromethane	0.73	0.50	ug/g	0.999	<	73	65.2-120	5	20	
2-Hexanone	1.40	9.99	ug/g	2.00	<	70	36.1-126	7	20	
1,2-Dibromoethane	0.81	0.50	ug/g	0.999	<	81	63.1-120	5	20	
Tetrachloroethene	0.91	0.50	ug/g	0.999	<	91	69.2-136	1	20	
1,1,1,2-Tetrachloroethane	0.82	0.50	ug/g	0.999	<	82	63.8-120	2	20	
Chlorobenzene	0.94	0.50	ug/g	0.999	<	94	80-120	0.6	20	
Ethylbenzene	0.98	0.50	ug/g	0.999	<	98	80-123	2	20	
m,p-Xylenes	1.96	1.00	ug/g	2.00	<	98	77.4-125	0.6	20	
Bromoform	0.70	0.50	ug/g	0.999	<	70	63.3-120	6	20	
cis-1,4-Dichloro-2-butene	0.79	0.50	ug/g	0.999	<	79	55-121	7	20	
Styrene	0.94	0.50	ug/g	0.999	<	94	78.3-120	0.7	20	
1,1,2,2-Tetrachloroethane	0.83	0.50	ug/g	0.999	<	83	60.3-122	5	20	
o-Xylene	0.95	0.50	ug/g	0.999	<	95	80-120	2	20	
1,2,3-Trichloropropane	0.87	0.50	ug/g	0.999	<	87	66.1-120	3	20	
trans-1,4-Dichloro-2-butene	0.78	0.50	ug/g	0.999	<	78	62.9-120	4	20	
Isopropylbenzene	0.99	0.50	ug/g	0.999	<	99	78.1-129	4	20	
Bromobenzene	0.92	0.50	ug/g	0.999	<	92	79-120	2	20	
n-Propyl Benzene	1.01	0.50	ug/g	0.999	<	101	75.4-126	2	20	
2-Chlorotoluene	1.00	0.50	ug/g	0.999	<	100	79.6-120	1	20	
4-Chlorotoluene	0.97	0.50	ug/g	0.999	<	97	78.9-121	0.9	20	
1,3,5-Trimethylbenzene	1.02	0.50	ug/g	0.999	<	102	75.6-127	0.3	20	
tert-Butylbenzene	1.02	0.50	ug/g	0.999	<	102	76.2-130	1	20	
1,2,4-Trimethylbenzene	1.00	0.50	ug/g	0.999	<	100	77-125	0.1	20	
sec-Butylbenzene	1.02	0.50	ug/g	0.999	<	102	74.7-131	1	20	
1,3-Dichlorobenzene	0.94	0.50	ug/g	0.999	<	94	78.1-120	1	20	
1,4-Dichlorobenzene	0.98	0.50	ug/g	0.999	<	98	79.7-120	0.2	20	
p-Isopropyltoluene	1.06	0.50	ug/g	0.999	<	106	77-133	1	20	
1,2-Dichlorobenzene	0.91	0.50	ug/g	0.999	<	91	79-120	0.7	20	
n-Butyl Benzene	1.05	0.50	ug/g	0.999	<	105	72.9-136	3	20	
1,2-Dibromo-3-Chloropropane	0.72	0.50	ug/g	0.999	<	72	52.3-120	5	20	
1,2,4-Trichlorobenzene	0.85	0.50	ug/g	0.999	<	85	65-131	0.6	20	
Naphthalene	0.71	0.50	ug/g	0.999	<	71	46.8-123	0.03	20	
Hexachlorobutadiene	1.00	0.50	ug/g	0.999	<	100	75.5-139	7	20	
1,2,3-Trichlorobenzene	0.63	0.50	ug/g	0.999	<	63	43.4-140	3	20	CCAL
Surrogate: Toluene-d8	*0.248*		ug/g	*0.250*		*99*	*80-120*			
Surrogate: Bromofluorobenzene	*0.247*		ug/g	*0.250*		*99*	*73.8-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.248*		ug/g	*0.250*		*99*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927378										
Blank (B927378-BLK1)				Prepared: 2023-01-12 Analyzed: 2023-01-18						
N-Nitrosodimethylamine	<	333	ug/kg							
bis(2-chloroethyl)ether	<	333	ug/kg							
Phenol	<	333	ug/kg							
2-Chlorophenol	<	333	ug/kg							
1,3-Dichlorobenzene	<	333	ug/kg							
1,4-Dichlorobenzene	<	333	ug/kg							
1,2-Dichlorobenzene	<	333	ug/kg							
2,2'-oxybis(1-chloropropane)	<	333	ug/kg							
2-Methylphenol	<	333	ug/kg							
Hexachloroethane	<	333	ug/kg							
N-Nitroso-di-n-propylamine	<	333	ug/kg							
4-Methylphenol	<	333	ug/kg							
Nitrobenzene	<	333	ug/kg							
Isophorone	<	333	ug/kg							
2-Nitrophenol	<	333	ug/kg							
2,4-Dimethylphenol	<	333	ug/kg							
bis(2-chloroethoxy)methane	<	333	ug/kg							
2,4-Dichlorophenol	<	333	ug/kg							
1,2,4-Trichlorobenzene	<	333	ug/kg							
Naphthalene	<	333	ug/kg							
4-Chloroaniline	<	333	ug/kg							
Hexachlorobutadiene	<	333	ug/kg							
4-Chloro-3-methylphenol	<	333	ug/kg							
2-Methylnaphthalene	<	333	ug/kg							
Hexachlorocyclopentadiene	<	333	ug/kg							
2,4,6-Trichlorophenol	<	333	ug/kg							
2,4,5-Trichlorophenol	<	333	ug/kg							
2-Chloronaphthalene	<	333	ug/kg							
2-Nitroaniline	<	333	ug/kg							
Acenaphthylene	<	333	ug/kg							
Dimethylphthalate	<	333	ug/kg							
2,6-Dinitrotoluene	<	333	ug/kg							
Acenaphthene	<	333	ug/kg							
3-Nitroaniline	<	333	ug/kg							
2,4-Dinitrophenol	<	333	ug/kg							CAL
Dibenzofuran	<	333	ug/kg							
2,4-Dinitrotoluene	<	333	ug/kg							
4-Nitrophenol	<	333	ug/kg							
Fluorene	<	333	ug/kg							
4-Chlorophenyl-phenylether	<	333	ug/kg							
Diethyl phthalate	<	333	ug/kg							

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927378										
Blank (B927378-BLK1)				Prepared: 2023-01-12 Analyzed: 2023-01-18						
4-Nitroaniline	<	333	ug/kg							
4,6-Dinitro-2-methylphenol	<	333	ug/kg							
N-Nitrosodiphenylamine	<	333	ug/kg							
Azobenzene	<	333	ug/kg							
4-Bromophenyl-phenylether	<	333	ug/kg							
Hexachlorobenzene	<	333	ug/kg							
Pentachlorophenol	<	333	ug/kg							
Phenanthrene	<	333	ug/kg							
Carbazole	<	475	ug/kg							
Di-n-butyl phthalate	<	333	ug/kg							
Fluoranthene	<	333	ug/kg							
Benzidine	<	333	ug/kg							BENZ
Pyrene	<	333	ug/kg							
Butylbenzylphthalate	<	333	ug/kg							
3,3'-Dichlorobenzidine	<	475	ug/kg							
Benzo[a]anthracene	<	333	ug/kg							
Chrysene	<	333	ug/kg							
bis(2-ethylhexyl)phthalate	<	333	ug/kg							
Di-n-octyl phthalate	<	333	ug/kg							
Benzo[b]fluoranthene	<	333	ug/kg							
Benzo[k]fluoranthene	<	333	ug/kg							
Benzo[a]pyrene	<	333	ug/kg							
Indeno(1,2,3-cd)pyrene	<	333	ug/kg							
Dibenzo(a,h)anthracene	<	333	ug/kg							
Benzo[ghi]perylene	<	333	ug/kg							
1,2-Diphenylhydrazine	<	333	ug/kg							
Anthracene	<	333	ug/kg							
Surrogate: 2-Fluorophenol	*2300*		ug/kg	*2500*		*92*	*57.3-125*			
Surrogate: Phenol-d6	*2230*		ug/kg	*2500*		*89*	*62.1-120*			
Surrogate: Nitrobenzene-d5	*1700*		ug/kg	*1670*		*102*	*68.1-120*			
Surrogate: 2-Fluorobiphenyl	*1800*		ug/kg	*1670*		*108*	*65.1-120*			
Surrogate: 2,4,6-Tribromophenol	*2060*		ug/kg	*2500*		*82*	*49.5-122*			
Surrogate: Terphenyl-d14	*1200*		ug/kg	*1670*		*72*	*18-120*			

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927378										
LCS (B927378-BS1)				Prepared: 2023-01-12 Analyzed: 2023-01-18						
N-Nitrosodimethylamine	1630	333	ug/kg	1660		98	68.1-125			
bis(2-chloroethyl)ether	1830	333	ug/kg	1660		110	65-120			
Phenol	1480	333	ug/kg	1660		89	55.5-120			
2-Chlorophenol	1610	333	ug/kg	1660		97	66.1-120			
1,3-Dichlorobenzene	1640	333	ug/kg	1660		98	69.4-120			
1,4-Dichlorobenzene	1600	333	ug/kg	1660		96	66.4-120			
1,2-Dichlorobenzene	1670	333	ug/kg	1660		101	73.8-120			
2,2'-oxybis(1-chloropropane)	1760	333	ug/kg	1660		106	56.6-120			
2-Methylphenol	1540	333	ug/kg	1660		93	69-120			
Hexachloroethane	1620	333	ug/kg	1660		97	65.7-120			
N-Nitroso-di-n-propylamine	1660	333	ug/kg	1660		100	75-120			
4-Methylphenol	1550	333	ug/kg	1660		93	74.7-120			
Nitrobenzene	1710	333	ug/kg	1660		103	71.5-120			
Isophorone	1570	333	ug/kg	1660		94	72-120			
2-Nitrophenol	1680	333	ug/kg	1660		101	74.1-120			
2,4-Dimethylphenol	1170	333	ug/kg	1660		70	52.2-120			
bis(2-chloroethoxy)methane	1750	333	ug/kg	1660		105	74.5-120			
2,4-Dichlorophenol	1570	333	ug/kg	1660		94	69.1-120			
1,2,4-Trichlorobenzene	1690	333	ug/kg	1660		102	74.1-120			
Naphthalene	1670	333	ug/kg	1660		100	71.4-120			
4-Chloroaniline	434	333	ug/kg	1660		26	16.7-120			
Hexachlorobutadiene	1780	333	ug/kg	1660		107	72.1-120			
4-Chloro-3-methylphenol	1540	333	ug/kg	1660		93	73.8-120			
2-Methylnaphthalene	1640	333	ug/kg	1660		99	76.3-120			
Hexachlorocyclopentadiene	1540	333	ug/kg	1660		92	52.9-120			
2,4,6-Trichlorophenol	1640	333	ug/kg	1660		99	71.4-120			
2,4,5-Trichlorophenol	1620	333	ug/kg	1660		97	72.5-120			
2-Chloronaphthalene	1690	333	ug/kg	1660		102	73.3-120			
2-Nitroaniline	1640	333	ug/kg	1660		99	71.4-120			
Acenaphthylene	1730	333	ug/kg	1660		104	72.9-120			
Dimethylphthalate	1770	333	ug/kg	1660		106	80-129			
2,6-Dinitrotoluene	1620	333	ug/kg	1660		97	76.5-120			
Acenaphthene	1690	333	ug/kg	1660		101	72.4-120			
3-Nitroaniline	765	333	ug/kg	1660		46	44.4-121			
2,4-Dinitrophenol	2470	333	ug/kg	1660		149	51.3-165			CAL
Dibenzofuran	1680	333	ug/kg	1660		101	75.3-120			
2,4-Dinitrotoluene	1590	333	ug/kg	1660		96	68.7-120			
4-Nitrophenol	1750	333	ug/kg	1660		105	65.7-123			
Fluorene	1720	333	ug/kg	1660		103	73.3-123			
4-Chlorophenyl-phenylether	1750	333	ug/kg	1660		105	74.2-120			
Diethyl phthalate	1740	333	ug/kg	1660		104	76.7-127			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927378										
LCS (B927378-BS1)				Prepared: 2023-01-12 Analyzed: 2023-01-18						
4-Nitroaniline	985	333	ug/kg	1660		59	59.7-120			
4,6-Dinitro-2-methylphenol	2010	333	ug/kg	1660		121	65.7-123			
N-Nitrosodiphenylamine	1420	333	ug/kg	1660		85	69.4-120			
Azobenzene	1780	333	ug/kg	1660		107	76.8-120			
4-Bromophenyl-phenylether	1840	333	ug/kg	1660		110	80-120			
Hexachlorobenzene	1810	333	ug/kg	1660		108	72.8-121			
Pentachlorophenol	1570	333	ug/kg	1660		94	57.7-120			
Phenanthrene	1720	333	ug/kg	1660		103	71.7-120			
Carbazole	1440	474	ug/kg	1660		87	65.7-120			
Di-n-butyl phthalate	1730	333	ug/kg	1660		104	76.6-122			
Fluoranthene	1660	333	ug/kg	1660		100	70.6-120			
Benzidine	<	333	ug/kg	1660			0-200			BENZ
Pyrene	1640	333	ug/kg	1660		98	70.5-120			
Butylbenzylphthalate	1700	333	ug/kg	1660		102	74.8-122			
3,3'-Dichlorobenzidine	466	474	ug/kg	1660		28	35.8-182			
Benzo[a]anthracene	1640	333	ug/kg	1660		99	74.9-120			
Chrysene	1710	333	ug/kg	1660		103	75.4-120			
bis(2-ethylhexyl)phthalate	1750	333	ug/kg	1660		105	77-131			
Di-n-octyl phthalate	1850	333	ug/kg	1660		111	71.7-129			
Benzo[b]fluoranthene	1820	333	ug/kg	1660		109	77.8-120			
Benzo[k]fluoranthene	1970	333	ug/kg	1660		118	75.1-120			
Benzo[a]pyrene	1820	333	ug/kg	1660		109	75.5-120			
Indeno(1,2,3-cd)pyrene	1680	333	ug/kg	1660		101	69.4-136			
Dibenzo(a,h)anthracene	1710	333	ug/kg	1660		102	61.4-141			
Benzo[ghi]perylene	1550	333	ug/kg	1660		93	64.9-120			
Anthracene	1670	333	ug/kg	1660		100	76.7-120			
Surrogate: 2-Fluorophenol	*2310*		ug/kg	*2500*		*93*	*61-120*			
Surrogate: Phenol-d6	*2240*		ug/kg	*2500*		*90*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1730*		ug/kg	*1660*		*104*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1790*		ug/kg	*1660*		*107*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2180*		ug/kg	*2500*		*87*	*132-132*			
Surrogate: Terphenyl-d14	*1200*		ug/kg	*1660*		*72*	*30.7-120*			

Work Order: 1590108

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Project: Quarterly Biosolids
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Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927378										
LCS Dup (B927378-BSD1)				Prepared: 2023-01-12 Analyzed: 2023-01-18						
N-Nitrosodimethylamine	1550	333	ug/kg	1670		93	68.1-125	5	20	
bis(2-chloroethyl)ether	1560	333	ug/kg	1670		94	65-120	16	20	
Phenol	1480	333	ug/kg	1670		89	55.5-120	0.5	20	
2-Chlorophenol	1610	333	ug/kg	1670		97	66.1-120	0.01	20	
1,3-Dichlorobenzene	1520	333	ug/kg	1670		91	69.4-120	7	20	
1,4-Dichlorobenzene	1500	333	ug/kg	1670		90	66.4-120	7	20	
1,2-Dichlorobenzene	1570	333	ug/kg	1670		94	73.8-120	6	20	
2,2'-oxybis(1-chloropropane)	1660	333	ug/kg	1670		99	56.6-120	6	20	
2-Methylphenol	1540	333	ug/kg	1670		92	69-120	0.07	20	
Hexachloroethane	1520	333	ug/kg	1670		91	65.7-120	7	20	
N-Nitroso-di-n-propylamine	1600	333	ug/kg	1670		96	75-120	3	20	
4-Methylphenol	1590	333	ug/kg	1670		95	74.7-120	3	20	
Nitrobenzene	1660	333	ug/kg	1670		99	71.5-120	3	20	
Isophorone	1470	333	ug/kg	1670		89	72-120	6	20	
2-Nitrophenol	1650	333	ug/kg	1670		99	74.1-120	2	20	
2,4-Dimethylphenol	1330	333	ug/kg	1670		80	52.2-120	13	20	
bis(2-chloroethoxy)methane	1700	333	ug/kg	1670		102	74.5-120	3	20	
2,4-Dichlorophenol	1600	333	ug/kg	1670		96	69.1-120	2	20	
1,2,4-Trichlorobenzene	1610	333	ug/kg	1670		97	74.1-120	5	20	
Naphthalene	1570	333	ug/kg	1670		94	71.4-120	6	20	
4-Chloroaniline	474	333	ug/kg	1670		28	16.7-120	9	20	
Hexachlorobutadiene	1680	333	ug/kg	1670		101	72.1-120	6	20	
4-Chloro-3-methylphenol	1590	333	ug/kg	1670		95	73.8-120	3	20	
2-Methylnaphthalene	1550	333	ug/kg	1670		93	76.3-120	6	20	
Hexachlorocyclopentadiene	1520	333	ug/kg	1670		91	52.9-120	1	20	
2,4,6-Trichlorophenol	1690	333	ug/kg	1670		101	71.4-120	3	20	
2,4,5-Trichlorophenol	1670	333	ug/kg	1670		100	72.5-120	3	20	
2-Chloronaphthalene	1630	333	ug/kg	1670		98	73.3-120	4	20	
2-Nitroaniline	1700	333	ug/kg	1670		102	71.4-120	3	20	
Acenaphthylene	1690	333	ug/kg	1670		102	72.9-120	2	20	
Dimethylphthalate	1710	333	ug/kg	1670		103	80-129	3	20	
2,6-Dinitrotoluene	1630	333	ug/kg	1670		98	76.5-120	0.7	20	
Acenaphthene	1640	333	ug/kg	1670		98	72.4-120	3	20	
3-Nitroaniline	810	333	ug/kg	1670		49	44.4-121	6	20	
2,4-Dinitrophenol	2760	333	ug/kg	1670		165	51.3-165	11	20	CAL
Dibenzofuran	1590	333	ug/kg	1670		96	75.3-120	5	20	
2,4-Dinitrotoluene	1550	333	ug/kg	1670		93	68.7-120	3	20	
4-Nitrophenol	1750	333	ug/kg	1670		105	65.7-123	0.1	20	
Fluorene	1600	333	ug/kg	1670		96	73.3-123	7	20	
4-Chlorophenyl-phenylether	1680	333	ug/kg	1670		101	74.2-120	4	20	
Diethyl phthalate	1650	333	ug/kg	1670		99	76.7-127	6	20	

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927378										
LCS Dup (B927378-BSD1)				Prepared: 2023-01-12 Analyzed: 2023-01-18						
4-Nitroaniline	1140	333	ug/kg	1670		68	59.7-120	14	20	
4,6-Dinitro-2-methylphenol	2200	333	ug/kg	1670		132	65.7-123	9	20	
N-Nitrosodiphenylamine	1490	333	ug/kg	1670		89	69.4-120	5	20	
Azobenzene	1710	333	ug/kg	1670		102	76.8-120	4	20	
4-Bromophenyl-phenylether	1840	333	ug/kg	1670		110	80-120	0.1	20	
Hexachlorobenzene	1750	333	ug/kg	1670		105	72.8-121	3	20	
Pentachlorophenol	1810	333	ug/kg	1670		109	57.7-120	15	20	
Phenanthrene	1670	333	ug/kg	1670		100	71.7-120	3	20	
Carbazole	1550	475	ug/kg	1670		93	65.7-120	7	20	
Di-n-butyl phthalate	1710	333	ug/kg	1670		103	76.6-122	1	20	
Fluoranthene	1660	333	ug/kg	1670		100	70.6-120	0.4	20	
Benzidine	<	333	ug/kg	1670			0-200		20	BENZ
Pyrene	1630	333	ug/kg	1670		98	70.5-120	0.7	20	
Butylbenzylphthalate	1680	333	ug/kg	1670		101	74.8-122	1	20	
3,3'-Dichlorobenzidine	510	475	ug/kg	1670		31	35.8-182	9	20	
Benzo[a]anthracene	1630	333	ug/kg	1670		98	74.9-120	0.9	20	
Chrysene	1700	333	ug/kg	1670		102	75.4-120	0.5	20	
bis(2-ethylhexyl)phthalate	1750	333	ug/kg	1670		105	77-131	0.02	20	
Di-n-octyl phthalate	1870	333	ug/kg	1670		112	71.7-129	1	20	
Benzo[b]fluoranthene	1740	333	ug/kg	1670		105	77.8-120	4	20	
Benzo[k]fluoranthene	1970	333	ug/kg	1670		118	75.1-120	0.3	20	
Benzo[a]pyrene	1810	333	ug/kg	1670		109	75.5-120	0.5	20	
Indeno(1,2,3-cd)pyrene	1650	333	ug/kg	1670		99	69.4-136	2	20	
Dibenzo(a,h)anthracene	1670	333	ug/kg	1670		100	61.4-141	2	20	
Benzo[ghi]perylene	1520	333	ug/kg	1670		91	64.9-120	2	20	
Anthracene	1630	333	ug/kg	1670		98	76.7-120	2	20	
Surrogate: 2-Fluorophenol	*2260*		ug/kg	*2500*		*90*	*61-120*			
Surrogate: Phenol-d6	*2270*		ug/kg	*2500*		*91*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1680*		ug/kg	*1670*		*101*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1720*		ug/kg	*1670*		*103*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2230*		ug/kg	*2500*		*89*	*132-132*			
Surrogate: Terphenyl-d14	*1350*		ug/kg	*1670*		*81*	*30.7-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927378										
Matrix Spike (B927378-MS1)	**Source: 1591359-07**			Prepared: 2023-01-12 Analyzed: 2023-01-18						
N-Nitrosodimethylamine	1520	332	ug/kg	1660	<	91	68.1-125			
bis(2-chloroethyl)ether	1520	332	ug/kg	1660	<	92	65-120			
Phenol	1450	332	ug/kg	1660	<	87	55.5-120			
2-Chlorophenol	1570	332	ug/kg	1660	<	95	66.1-120			
1,3-Dichlorobenzene	1530	332	ug/kg	1660	<	92	69.4-120			
1,4-Dichlorobenzene	1500	332	ug/kg	1660	<	90	66.4-120			
1,2-Dichlorobenzene	1570	332	ug/kg	1660	<	94	73.8-120			
2,2'-oxybis(1-chloropropane)	1670	332	ug/kg	1660	<	100	56.6-120			
2-Methylphenol	1520	332	ug/kg	1660	<	91	69-120			
Hexachloroethane	1530	332	ug/kg	1660	<	92	65.7-120			
N-Nitroso-di-n-propylamine	1620	332	ug/kg	1660	<	97	75-120			
4-Methylphenol	1550	332	ug/kg	1660	<	93	74.7-120			
Nitrobenzene	1610	332	ug/kg	1660	<	97	71.5-120			
Isophorone	1500	332	ug/kg	1660	<	90	72-120			
2-Nitrophenol	1620	332	ug/kg	1660	<	97	74.1-120			
2,4-Dimethylphenol	1130	332	ug/kg	1660	<	68	52.2-120			
bis(2-chloroethoxy)methane	1650	332	ug/kg	1660	<	99	74.5-120			
2,4-Dichlorophenol	1540	332	ug/kg	1660	<	93	69.1-120			
1,2,4-Trichlorobenzene	1580	332	ug/kg	1660	<	95	74.1-120			
Naphthalene	1560	332	ug/kg	1660	<	94	71.4-120			
4-Chloroaniline	361	332	ug/kg	1660	<	22	16.7-120			
Hexachlorobutadiene	1620	332	ug/kg	1660	<	97	72.1-120			
4-Chloro-3-methylphenol	1540	332	ug/kg	1660	<	93	73.8-120			
2-Methylnaphthalene	1550	332	ug/kg	1660	<	93	76.3-120			
Hexachlorocyclopentadiene	1480	332	ug/kg	1660	<	89	52.9-120			
2,4,6-Trichlorophenol	1610	332	ug/kg	1660	<	97	71.4-120			
2,4,5-Trichlorophenol	1640	332	ug/kg	1660	<	99	72.5-120			
2-Chloronaphthalene	1620	332	ug/kg	1660	<	97	73.3-120			
2-Nitroaniline	1620	332	ug/kg	1660	<	97	71.4-120			
Acenaphthylene	1650	332	ug/kg	1660	<	99	72.9-120			
Dimethylphthalate	1700	332	ug/kg	1660	<	102	80-129			
2,6-Dinitrotoluene	1580	332	ug/kg	1660	<	95	76.5-120			
Acenaphthene	1620	332	ug/kg	1660	<	97	72.4-120			
3-Nitroaniline	802	332	ug/kg	1660	<	48	44.4-121			
2,4-Dinitrophenol	2660	332	ug/kg	1660	<	160	51.3-165			CAL
Dibenzofuran	1580	332	ug/kg	1660	<	95	75.3-120			
2,4-Dinitrotoluene	1530	332	ug/kg	1660	<	92	68.7-120			
4-Nitrophenol	1590	332	ug/kg	1660	<	96	65.7-123			
Fluorene	1600	332	ug/kg	1660	<	96	73.3-123			
4-Chlorophenyl-phenylether	1640	332	ug/kg	1660	<	99	74.2-120			
Diethyl phthalate	1660	332	ug/kg	1660	<	100	76.7-127			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927378										
Matrix Spike (B927378-MS1)	**Source: 1591359-07**			Prepared: 2023-01-12 Analyzed: 2023-01-18						
4-Nitroaniline	1070	332	ug/kg	1660	<	64	59.7-120			
4,6-Dinitro-2-methylphenol	2080	332	ug/kg	1660	<	125	65.7-123			
N-Nitrosodiphenylamine	1320	332	ug/kg	1660	<	79	69.4-120			
Azobenzene	1630	332	ug/kg	1660	<	98	76.8-120			
4-Bromophenyl-phenylether	1740	332	ug/kg	1660	<	105	80-120			
Hexachlorobenzene	1680	332	ug/kg	1660	<	101	72.8-121			
Pentachlorophenol	1640	332	ug/kg	1660	<	99	57.7-120			
Phenanthrene	1620	332	ug/kg	1660	<	98	71.7-120			
Carbazole	1490	474	ug/kg	1660	<	89	65.7-120			
Di-n-butyl phthalate	1670	332	ug/kg	1660	<	100	76.6-122			
Fluoranthene	1630	332	ug/kg	1660	<	98	70.6-120			
Benzidine	<	332	ug/kg	1660	<		0-200			BENZ
Pyrene	1580	332	ug/kg	1660	<	95	70.5-120			
Butylbenzylphthalate	1650	332	ug/kg	1660	<	100	74.8-122			
3,3'-Dichlorobenzidine	<	474	ug/kg	1660	<		35.8-182			
Benzo[a]anthracene	1610	332	ug/kg	1660	<	97	74.9-120			
Chrysene	1690	332	ug/kg	1660	<	102	75.4-120			
bis(2-ethylhexyl)phthalate	1730	332	ug/kg	1660	<	104	77-131			
Di-n-octyl phthalate	1790	332	ug/kg	1660	<	108	71.7-129			
Benzo[b]fluoranthene	1760	332	ug/kg	1660	<	106	77.8-120			
Benzo[k]fluoranthene	1900	332	ug/kg	1660	<	114	75.1-120			
Benzo[a]pyrene	1770	332	ug/kg	1660	<	106	75.5-120			
Indeno(1,2,3-cd)pyrene	1630	332	ug/kg	1660	<	98	69.4-136			
Dibenzo(a,h)anthracene	1640	332	ug/kg	1660	<	99	61.4-141			
Benzo[ghi]perylene	1480	332	ug/kg	1660	<	89	64.9-120			
Anthracene	1570	332	ug/kg	1660	<	94	76.7-120			
Surrogate: 2-Fluorophenol	*2280*		ug/kg	*2490*		*91*	*61-120*			
Surrogate: Phenol-d6	*2260*		ug/kg	*2490*		*91*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1680*		ug/kg	*1660*		*101*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1710*		ug/kg	*1660*		*103*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2240*		ug/kg	*2490*		*90*	*49.5-122*			
Surrogate: Terphenyl-d14	*1160*		ug/kg	*1660*		*70*	*30.7-120*			

Work Order: 1590108

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927378										
Matrix Spike Dup (B927378-MSD1)	**Source: 1591359-07**			Prepared: 2023-01-12 Analyzed: 2023-01-18						
N-Nitrosodimethylamine	1330	332	ug/kg	1660	<	80	68.1-125	13	20	
bis(2-chloroethyl)ether	1760	332	ug/kg	1660	<	106	65-120	15	20	
Phenol	1410	332	ug/kg	1660	<	85	55.5-120	3	20	
2-Chlorophenol	1560	332	ug/kg	1660	<	94	66.1-120	0.9	20	
1,3-Dichlorobenzene	1600	332	ug/kg	1660	<	96	69.4-120	4	20	
1,4-Dichlorobenzene	1560	332	ug/kg	1660	<	94	66.4-120	4	20	
1,2-Dichlorobenzene	1630	332	ug/kg	1660	<	98	73.8-120	4	20	
2,2'-oxybis(1-chloropropane)	1730	332	ug/kg	1660	<	104	56.6-120	4	20	
2-Methylphenol	1450	332	ug/kg	1660	<	87	69-120	5	20	
Hexachloroethane	1580	332	ug/kg	1660	<	95	65.7-120	3	20	
N-Nitroso-di-n-propylamine	1600	332	ug/kg	1660	<	96	75-120	0.7	20	
4-Methylphenol	1450	332	ug/kg	1660	<	87	74.7-120	7	20	
Nitrobenzene	1630	332	ug/kg	1660	<	98	71.5-120	1	20	
Isophorone	1510	332	ug/kg	1660	<	91	72-120	0.9	20	
2-Nitrophenol	1610	332	ug/kg	1660	<	97	74.1-120	0.3	20	
2,4-Dimethylphenol	901	332	ug/kg	1660	<	54	52.2-120	22	20	
bis(2-chloroethoxy)methane	1660	332	ug/kg	1660	<	100	74.5-120	0.6	20	
2,4-Dichlorophenol	1450	332	ug/kg	1660	<	87	69.1-120	6	20	
1,2,4-Trichlorobenzene	1620	332	ug/kg	1660	<	98	74.1-120	3	20	
Naphthalene	1580	332	ug/kg	1660	<	95	71.4-120	2	20	
4-Chloroaniline	317	332	ug/kg	1660	<	19	16.7-120	13	20	
Hexachlorobutadiene	1660	332	ug/kg	1660	<	100	72.1-120	3	20	
4-Chloro-3-methylphenol	1440	332	ug/kg	1660	<	86	73.8-120	7	20	
2-Methylnaphthalene	1560	332	ug/kg	1660	<	94	76.3-120	0.9	20	
Hexachlorocyclopentadiene	1520	332	ug/kg	1660	<	91	52.9-120	3	20	
2,4,6-Trichlorophenol	1510	332	ug/kg	1660	<	91	71.4-120	6	20	
2,4,5-Trichlorophenol	1460	332	ug/kg	1660	<	88	72.5-120	12	20	
2-Chloronaphthalene	1620	332	ug/kg	1660	<	97	73.3-120	0.2	20	
2-Nitroaniline	1520	332	ug/kg	1660	<	92	71.4-120	6	20	
Acenaphthylene	1660	332	ug/kg	1660	<	100	72.9-120	0.8	20	
Dimethylphthalate	1670	332	ug/kg	1660	<	100	80-129	2	20	
2,6-Dinitrotoluene	1540	332	ug/kg	1660	<	93	76.5-120	2	20	
Acenaphthene	1630	332	ug/kg	1660	<	98	72.4-120	0.6	20	
3-Nitroaniline	715	332	ug/kg	1660	<	43	44.4-121	12	20	
2,4-Dinitrophenol	2340	332	ug/kg	1660	<	140	51.3-165	13	20	CAL
Dibenzofuran	1600	332	ug/kg	1660	<	96	75.3-120	1	20	
2,4-Dinitrotoluene	1500	332	ug/kg	1660	<	90	68.7-120	2	20	
4-Nitrophenol	1350	332	ug/kg	1660	<	81	65.7-123	17	20	
Fluorene	1610	332	ug/kg	1660	<	97	73.3-123	0.2	20	
4-Chlorophenyl-phenylether	1650	332	ug/kg	1660	<	99	74.2-120	0.7	20	
Diethyl phthalate	1620	332	ug/kg	1660	<	98	76.7-127	2	20	

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927378										
Matrix Spike Dup (B927378-MSD1)	**Source: 1591359-07**			Prepared: 2023-01-12 Analyzed: 2023-01-18						
4-Nitroaniline	965	332	ug/kg	1660	<	58	59.7-120	10	20	
4,6-Dinitro-2-methylphenol	1970	332	ug/kg	1660	<	119	65.7-123	5	20	
N-Nitrosodiphenylamine	1340	332	ug/kg	1660	<	80	69.4-120	2	20	
Azobenzene	1710	332	ug/kg	1660	<	103	76.8-120	5	20	
4-Bromophenyl-phenylether	1760	332	ug/kg	1660	<	106	80-120	1	20	
Hexachlorobenzene	1710	332	ug/kg	1660	<	103	72.8-121	2	20	
Pentachlorophenol	1460	332	ug/kg	1660	<	88	57.7-120	12	20	
Phenanthrene	1630	332	ug/kg	1660	<	98	71.7-120	0.7	20	
Carbazole	1410	474	ug/kg	1660	<	85	65.7-120	5	20	
Di-n-butyl phthalate	1640	332	ug/kg	1660	<	99	76.6-122	2	20	
Fluoranthene	1590	332	ug/kg	1660	<	95	70.6-120	3	20	
Benzidine	<	332	ug/kg	1660	<		0-200		20	BENZ
Pyrene	1590	332	ug/kg	1660	<	96	70.5-120	1	20	
Butylbenzylphthalate	1670	332	ug/kg	1660	<	100	74.8-122	0.9	20	
3,3'-Dichlorobenzidine	<	474	ug/kg	1660	<		35.8-182		20	
Benzo[a]anthracene	1590	332	ug/kg	1660	<	95	74.9-120	1	20	
Chrysene	1660	332	ug/kg	1660	<	100	75.4-120	2	20	
bis(2-ethylhexyl)phthalate	1690	332	ug/kg	1660	<	102	77-131	2	20	
Di-n-octyl phthalate	1820	332	ug/kg	1660	<	109	71.7-129	2	20	
Benzo[b]fluoranthene	1760	332	ug/kg	1660	<	106	77.8-120	0.08	20	
Benzo[k]fluoranthene	1930	332	ug/kg	1660	<	116	75.1-120	2	20	
Benzo[a]pyrene	1760	332	ug/kg	1660	<	106	75.5-120	0.2	20	
Indeno(1,2,3-cd)pyrene	1610	332	ug/kg	1660	<	97	69.4-136	1	20	
Dibenzo(a,h)anthracene	1660	332	ug/kg	1660	<	100	61.4-141	1	20	
Benzo[ghi]perylene	1510	332	ug/kg	1660	<	91	64.9-120	2	20	
Anthracene	1580	332	ug/kg	1660	<	95	76.7-120	0.5	20	
Surrogate: 2-Fluorophenol	*2280*		ug/kg	*2500*		*91*	*61-120*			
Surrogate: Phenol-d6	*2200*		ug/kg	*2500*		*88*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1690*		ug/kg	*1660*		*102*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1740*		ug/kg	*1660*		*105*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2090*		ug/kg	*2500*		*84*	*49.5-122*			
Surrogate: Terphenyl-d14	*1270*		ug/kg	*1660*		*77*	*30.7-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927344										
Blank (B927344-BLK1)				Prepared: 2023-01-11 Analyzed: 2023-01-12						
Barium	<	0.002	mg/kg wet							U
Cadmium	<	0.004	mg/kg wet							U
Calcium	<	0.2	mg/kg wet							U
Chromium	<	0.01	mg/kg wet							U
Copper	<	0.006	mg/kg wet							U
Iron	<	0.05	mg/kg wet							U
Lead	<	0.03	mg/kg wet							U
Magnesium	<	0.05	mg/kg wet							U
Manganese	<	0.004	mg/kg wet							U
Molybdenum	<	0.005	mg/kg wet							U
Nickel	<	0.007	mg/kg wet							U
Phosphorus	0.04	0.03	mg/kg wet							J
Potassium	0.32	0.08	mg/kg wet							
Silver	<	0.004	mg/kg wet							U
Sodium	0.29	0.03	mg/kg wet							
Sulfur	0.08	0.03	mg/kg wet							J
Zinc	<	0.02	mg/kg wet							U
LCS (B927344-BS1)				Prepared: 2023-01-11 Analyzed: 2023-01-12						
Barium	1.10	0.002	mg/kg wet	1.00		110	80-120			
Cadmium	1.00	0.004	mg/kg wet	1.00		100	80-120			
Calcium	53.54	0.2	mg/kg wet	51.0		105	80-120			
Chromium	0.97	0.01	mg/kg wet	1.00		97.3	80-120			
Copper	2.02	0.006	mg/kg wet	2.00		101	80-120			
Iron	2.01	0.05	mg/kg wet	2.00		101	80-120			
Lead	0.98	0.03	mg/kg wet	1.00		97.8	80-120			
Magnesium	21.54	0.05	mg/kg wet	21.0		103	80-120			
Manganese	1.93	0.004	mg/kg wet	2.00		96.6	80-120			
Molybdenum	2.08	0.005	mg/kg wet	2.00		104	80-120			
Nickel	1.00	0.007	mg/kg wet	1.00		99.5	80-120			
Phosphorus	22.13	0.03	mg/kg wet	20.0		111	80-120			
Potassium	34.50	0.08	mg/kg wet	30.0		115	80-120			
Silver	0.98	0.004	mg/kg wet	1.00		97.6	80-120			
Sodium	6.82	0.03	mg/kg wet	6.00		114	80-120			
Sulfur	5.23	0.03	mg/kg wet	5.00		105	80-120			
Zinc	2.00	0.02	mg/kg wet	2.00		100	80-120			

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927344										
Matrix Spike (B927344-MS1)	**Source: 1590110-01**			Prepared: 2023-01-11 Analyzed: 2023-01-12						
Barium	372.6	0.5	mg/kg dry	282	94.19	98.9	75-125			
Cadmium	252.9	1.1	mg/kg dry	282	<	89.8	75-125			
Chromium	255.2	3.4	mg/kg dry	282	9.81	87.1	75-125			
Copper	656.8	1.7	mg/kg dry	563	148.3	90.3	75-125			
Iron	4794	14.1	mg/kg dry	563	4250	96.6	75-125			
Lead	252.6	7.5	mg/kg dry	282	<	89.7	75-125			
Manganese	669.9	1.1	mg/kg dry	563	190.0	85.2	75-125			
Molybdenum	530.7	1.4	mg/kg dry	563	7.31	92.9	75-125			
Nickel	258.2	1.8	mg/kg dry	282	8.45	88.7	75-125			
Silver	247.7	1.2	mg/kg dry	282	<	88.0	75-125			
Zinc	932.1	5.6	mg/kg dry	563	428.0	89.5	75-125			
Matrix Spike Dup (B927344-MSD1)	**Source: 1590110-01**			Prepared: 2023-01-11 Analyzed: 2023-01-12						
Barium	375.3	0.5	mg/kg dry	282	94.19	99.7	75-125	0.723	20	
Cadmium	257.1	1.1	mg/kg dry	282	<	91.2	75-125	1.67	20	
Chromium	256.7	3.4	mg/kg dry	282	9.81	87.6	75-125	0.568	20	
Copper	667.9	1.7	mg/kg dry	564	148.3	92.2	75-125	1.68	20	
Iron	4834	14.1	mg/kg dry	564	4250	104	75-125	0.842	20	
Lead	258.7	7.5	mg/kg dry	282	<	91.8	75-125	2.39	20	
Manganese	671.6	1.1	mg/kg dry	564	190.0	85.4	75-125	0.252	20	
Molybdenum	542.6	1.4	mg/kg dry	564	7.31	94.9	75-125	2.20	20	
Nickel	263.9	1.8	mg/kg dry	282	8.45	90.6	75-125	2.20	20	
Silver	249.5	1.2	mg/kg dry	282	<	88.5	75-125	0.707	20	
Zinc	945.3	5.6	mg/kg dry	564	428.0	91.7	75-125	1.40	20	
Batch B927347										
Blank (B927347-BLK1)				Prepared: 2023-01-11 Analyzed: 2023-01-13						
Arsenic	0.00003	0.00002	mg/kg wet							J
Selenium	0.0005	0.00008	mg/kg wet							J

Work Order: 1590108

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927347										
LCS (B927347-BS1)				Prepared: 2023-01-11 Analyzed: 2023-01-13						
Arsenic	0.20	0.00002	mg/kg wet	0.200		102	80-120			
Selenium	0.22	0.00008	mg/kg wet	0.200		110	80-120			
Matrix Spike (B927347-MS1)		**Source: 1590110-01**		Prepared: 2023-01-11 Analyzed: 2023-01-13						
Arsenic	60.76	0.02	mg/kg dry	55.9	7.15	95.9	75-125			
Selenium	62.49	0.08	mg/kg dry	55.9	5.68	102	75-125			
Matrix Spike Dup (B927347-MSD1)		**Source: 1590110-01**		Prepared: 2023-01-11 Analyzed: 2023-01-13						
Arsenic	64.34	0.02	mg/kg dry	56.5	7.15	101	75-125	5.72	20	
Selenium	65.17	0.08	mg/kg dry	56.5	5.68	105	75-125	4.19	20	
Batch B927412										
Blank (B927412-BLK1)				Prepared: 2023-01-12 Analyzed: 2023-01-13						
Mercury	<	0.000004	mg/kg wet							U
LCS (B927412-BS1)				Prepared: 2023-01-12 Analyzed: 2023-01-13						
Mercury	0.001	0.000004	mg/kg wet	0.00100		101	80-120			
Matrix Spike (B927412-MS1)		**Source: 1557347-01**		Prepared: 2023-01-12 Analyzed: 2023-01-18						
Mercury	1.4	0.01	mg/kg dry	0.323	1.3	24.2	80-120			MI
Matrix Spike Dup (B927412-MSD1)		**Source: 1557347-01**		Prepared: 2023-01-12 Analyzed: 2023-01-18						
Mercury	1.5	0.01	mg/kg dry	0.255	1.3	61.1	80-120	5.41	20	MI

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927332										
LCS (B927332-BS1)				Prepared & Analyzed: 2023-01-11						
pH @ 19.5°C	4.06		S.U.	4.00		102	85-115			
Duplicate (B927332-DUP1)		**Source: 1590110-01**		Prepared & Analyzed: 2023-01-11						
pH @ 20.8°C	6.46		S.U.		6.47			0.155	20	
Reference (B927332-SRM1)				Prepared & Analyzed: 2023-01-11						
pH @ 19.5°C	6.72		S.U.	6.79		99.0	6.93-103.0			
Batch B927335										
Blank (B927335-BLK1)				Prepared & Analyzed: 2023-01-11						
Total Kjeldahl Nitrogen	<	100	mg/kg wet							
LCS (B927335-BS1)				Prepared & Analyzed: 2023-01-11						
Total Kjeldahl Nitrogen	3882	250	mg/kg wet	3840		101	85-115			
Matrix Spike (B927335-MS1)		**Source: 1590110-01**		Prepared & Analyzed: 2023-01-11						
Total Kjeldahl Nitrogen	88780	3380	mg/kg dry	33400	53580	105	80-120			
Matrix Spike Dup (B927335-MSD1)		**Source: 1590110-01**		Prepared & Analyzed: 2023-01-11						
Total Kjeldahl Nitrogen	88680	3380	mg/kg dry	33600	53580	104	80-120	0.114	20	
Batch B927340										
Blank (B927340-BLK1)				Prepared & Analyzed: 2023-01-11						
Nitrate/Nitrite Nitrogen	<	0.2	mg/kg wet							

Work Order: 1590108

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Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927340										
LCS (B927340-BS1)				Prepared & Analyzed: 2023-01-11						
Nitrate/Nitrite Nitrogen	21.07	1.0	mg/kg wet	20.0		105	85-115			
Matrix Spike (B927340-MS1)		Source: 1583168-01		Prepared & Analyzed: 2023-01-11						
Nitrate/Nitrite Nitrogen	857.5	39.2	mg/kg dry	784	<	109	80-120			
Matrix Spike Dup (B927340-MSD1)		Source: 1583168-01		Prepared & Analyzed: 2023-01-11						
Nitrate/Nitrite Nitrogen	858.4	39.2	mg/kg dry	784	<	109	80-120	0.114	20	
Batch B927348										
Blank (B927348-BLK1)				Prepared: 2023-01-11 Analyzed: 2023-01-12						
Percent Volatile Solids	0.010	0.01	%							
Percent Solids	100.0	0.01	%							
LCS (B927348-BS1)				Prepared: 2023-01-11 Analyzed: 2023-01-12						
Percent Volatile Solids	3.920	0.01	%	3.69		106	80-120			
Percent Solids	97.42	0.01	%	97.1		100	80-120			
Duplicate (B927348-DUP1)		Source: 1590108-01		Prepared: 2023-01-11 Analyzed: 2023-01-12						
Percent Volatile Solids	80.29	0.01	%		80.29			0.00	20	
Percent Solids	13.68	0.01	%		13.57			0.807	20	
Duplicate (B927348-DUP2)		Source: 1590108-02		Prepared: 2023-01-11 Analyzed: 2023-01-12						
Percent Solids	13.28	0.01	%		13.28			0.00	20	
Percent Volatile Solids	79.28	0.01	%		79.42			0.176	20	

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Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927356										
Blank (B927356-BLK1)				Prepared & Analyzed: 2023-01-11						
Ammonia-N	<	10.0	mg/kg wet							
LCS (B927356-BS1)				Prepared & Analyzed: 2023-01-11						
Ammonia-N	2756	125	mg/kg wet	2820		97.7	85-115			
Matrix Spike (B927356-MS1)		Source: 1590108-01		Prepared & Analyzed: 2023-01-11						
Ammonia-N	9595	368	mg/kg dry	7330	2557	96.1	80-120			
Matrix Spike Dup (B927356-MSD1)		Source: 1590108-01		Prepared & Analyzed: 2023-01-11						
Ammonia-N	9580	368	mg/kg dry	7330	2557	95.8	80-120	0.154	20	
Batch B927420										
Blank (B927420-BLK1)				Prepared & Analyzed: 2023-01-12						
Cyanide (total)	<	0.2	mg/kg wet							
LCS (B927420-BS1)				Prepared & Analyzed: 2023-01-12						
Cyanide (total)	1.79	0.2	mg/kg wet	2.00		89.6	85-115			
Matrix Spike (B927420-MS1)		Source: 1590108-01		Prepared & Analyzed: 2023-01-12						MI
Cyanide (total)	25.66	1.5	mg/kg dry	29.5	3.28	75.9	80-120			
Matrix Spike Dup (B927420-MSD1)		Source: 1590108-01		Prepared & Analyzed: 2023-01-12						MI
Cyanide (total)	23.85	1.5	mg/kg dry	29.5	3.28	69.8	80-120	7.32	200	
Batch B927485										
Blank (B927485-BLK1)				Prepared & Analyzed: 2023-01-18						
Phenol	<	0.08	mg/kg wet							

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Project: Quarterly Biosolids
Project Number: BioSolids 23-1
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Reported:
2023-01-25 10:00

Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927485										
LCS (B927485-BS1)				Prepared & Analyzed: 2023-01-18						
Phenol	1.92	0.08	mg/kg wet	2.00		95.8	85-115			
Matrix Spike (B927485-MS1)		**Source: 1590108-01**		Prepared & Analyzed: 2023-01-18						**MI**
Phenol	219.8	0.6	mg/kg dry	14.7	142.6	524	80-120			
Matrix Spike Dup (B927485-MSD1)		**Source: 1590108-01**		Prepared & Analyzed: 2023-01-18						**MI**
Phenol	147.9	0.6	mg/kg dry	14.7	142.6	36.2	80-120	39.1	20	

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Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Pesticide Screen - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927350										
Blank (B927350-BLK1)				Prepared: 2023-01-11 Analyzed: 2023-01-17						
Aroclor-1016	<	100	ug/kg							
Aroclor-1221	<	100	ug/kg							
Aroclor-1232	<	100	ug/kg							
Aroclor-1242	<	100	ug/kg							
Aroclor-1248	<	100	ug/kg							
Aroclor-1254	<	100	ug/kg							
Aroclor-1260	<	100	ug/kg							
Aroclor-1262	<	100	ug/kg							
Aroclor-1268	<	100	ug/kg							
Surrogate: Tetrachloro-m-xylene	*26.1*		ug/kg	*48.5*		*54*	*66.5-151*			
Surrogate: Decachlorobiphenyl	*45.3*		ug/kg	*48.5*		*93*	*61.7-171*			
LCS (B927350-BS1)				Prepared: 2023-01-11 Analyzed: 2023-01-17						
Aroclor-1016	<	100	ug/kg				71.1-125.7			
Aroclor-1221	<	100	ug/kg				71.1-125.7			
Aroclor-1232	<	100	ug/kg				71.1-125.7			
Aroclor-1242	860	100	ug/kg	967		89	71.1-125.7			
Aroclor-1248	<	100	ug/kg				71.1-125.7			
Aroclor-1254	<	100	ug/kg				71.1-125.7			
Aroclor-1260	<	100	ug/kg				71.1-125.7			
Aroclor-1262	<	100	ug/kg				71.1-125.7			
Aroclor-1268	<	100	ug/kg				71.1-125.7			
Surrogate: Tetrachloro-m-xylene	*24.4*		ug/kg	*48.4*		*50*	*66.5-151*			
Surrogate: Decachlorobiphenyl	*49.3*		ug/kg	*48.4*		*102*	*61.7-171*			
LCS Dup (B927350-BSD1)				Prepared: 2023-01-11 Analyzed: 2023-01-17						
Aroclor-1016	<	100	ug/kg				71.1-125.7		20	
Aroclor-1221	<	100	ug/kg				71.1-125.7		20	
Aroclor-1232	<	100	ug/kg				71.1-125.7		20	
Aroclor-1242	1040	100	ug/kg	970		108	71.1-125.7	19	20	
Aroclor-1248	<	100	ug/kg				71.1-125.7		20	
Aroclor-1254	<	100	ug/kg				71.1-125.7		20	
Aroclor-1260	<	100	ug/kg				71.1-125.7		20	
Aroclor-1262	<	100	ug/kg				71.1-125.7		20	
Aroclor-1268	<	100	ug/kg				71.1-125.7		20	
Surrogate: Tetrachloro-m-xylene	*38.2*		ug/kg	*48.5*		*79*	*66.5-151*			
Surrogate: Decachlorobiphenyl	*56.9*		ug/kg	*48.5*		*117*	*61.7-171*			

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Project: Quarterly Biosolids
Project Number: BioSolids 23-1
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Reported:
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Pesticide Screen - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B927350										
Matrix Spike (B927350-MS1)	**Source: 1590108-01**			Prepared: 2023-01-11 Analyzed: 2023-01-17						
Aroclor-1016	<	100	ug/kg		<		71.1-125.7			
Aroclor-1221	<	100	ug/kg		<		71.1-125.7			
Aroclor-1232	<	100	ug/kg		<		71.1-125.7			
Aroclor-1242	824	100	ug/kg	989	<	83	71.1-125.7			
Aroclor-1248	<	100	ug/kg		<		71.1-125.7			
Aroclor-1254	<	100	ug/kg		<		71.1-125.7			
Aroclor-1260	<	100	ug/kg		<		71.1-125.7			
Aroclor-1262	<	100	ug/kg		<		71.1-125.7			
Aroclor-1268	<	100	ug/kg		<		71.1-125.7			
Surrogate: Tetrachloro-m-xylene	*12.9*		ug/kg	*49.5*		*26*	*66.5-151*			
Surrogate: Decachlorobiphenyl	*49.0*		ug/kg	*49.5*		*99*	*61.7-171*			
Matrix Spike Dup (B927350-MSD1)	**Source: 1590108-01**			Prepared: 2023-01-11 Analyzed: 2023-01-17						
Aroclor-1016	<	100	ug/kg		<		71.1-125.7		20	
Aroclor-1221	<	100	ug/kg		<		71.1-125.7		20	
Aroclor-1232	<	100	ug/kg		<		71.1-125.7		20	
Aroclor-1242	918	100	ug/kg	968	<	95	71.1-125.7	11	20	
Aroclor-1248	<	100	ug/kg		<		71.1-125.7		20	
Aroclor-1254	<	100	ug/kg		<		71.1-125.7		20	
Aroclor-1260	<	100	ug/kg		<		71.1-125.7		20	
Aroclor-1262	<	100	ug/kg		<		71.1-125.7		20	
Aroclor-1268	<	100	ug/kg		<		71.1-125.7		20	
Surrogate: Tetrachloro-m-xylene	*28.9*		ug/kg	*48.4*		*60*	*66.5-151*			
Surrogate: Decachlorobiphenyl	*49.4*		ug/kg	*48.4*		*102*	*61.7-171*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Certified Analyses included in this Report

Method	Analyte	Certifications
EPA 353.2 in Solid	Nitrate/Nitrite Nitrogen	FL,KS
EPA 6010B in Solid	Barium	TX,KS,FL,UT,OK,IA,WA
	Cadmium	KS,FL,UT,OK,IA,WA
	Calcium	TX,KS,IA,FL
	Chromium	TX,KS,FL,UT,OK,IA,WA
	Copper	TX,KS,FL,UT,OK,IA,WA
	Iron	FL,KS,TX,UT,OK,IA,WA
	Lead	FL,KS,TX,UT,OK,IA,WA
	Magnesium	FL,TX,KS,UT,OK,IA,WA
	Manganese	FL,KS,TX,UT,OK,IA,WA
	Molybdenum	TX,KS,FL,UT,IA,OK,WA
	Nickel	FL,KS,TX,UT,OK,IA,WA
	Phosphorus	FL,KS,TX,UT,OK,IA,WA
	Potassium	FL,KS,TX,UT,OK,IA,WA
	Silver	FL,KS,TX,UT,OK,IA,WA
	Sodium	FL,KS,TX,UT,OK,IA,WA
	Zinc	FL,KS,TX,UT,IA,WA
EPA 6020 in Solid	Arsenic	IA,KS,FL,TX
	Selenium	KS,IA,FL,TX
EPA 7471 in Solid	Mercury	TX,KS,FL,UT,OK,IA,WA
EPA 8260 in Solid	Dichlorodifluoromethane	FL,KS
	Chloromethane	FL,KS,TX
	Vinyl chloride	FL,KS,TX
	Bromomethane	FL,KS
	Chloroethane	FL,KS,TX
	Trichlorofluoromethane	FL,KS
	Acrolein	FL,KS
	Acetone	FL,KS
	1,1-Dichloroethene	FL,KS
	Methylene Chloride	FL
	1,1,2-Trichloro-1,1,2-trifluoroethane	FL
	Carbon disulfide	FL,KS,TX
	trans-1,2-Dichloroethene	FL,KS,TX
	Methyl tert-Butyl Ether	FL,IA,KS
	1,1-Dichloroethane	FL,KS
	Vinyl acetate	FL,KS,TX
	2-Butanone	FL
	cis-1,2-Dichloroethene	FL,KS,TX
	Bromochloromethane	FL,KS
	Chloroform	FL,KS,TX
	2,2-Dichloropropane	FL,KS
	1,2-Dichloroethane	FL,KS
	1,1,1-Trichloroethane	FL,KS
	1,1-Dichloropropene	FL,KS
	Carbon Tetrachloride	FL,KS

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

EPA 8260 in Solid	Benzene	FL,IA,KS
	Dibromomethane	FL,KS
	1,2-Dichloropropane	FL,KS
	Trichloroethene	FL,KS
	Bromodichloromethane	FL,KS
	2-Chloroethyl vinyl ether	FL
	cis-1,3-Dichloropropene	FL,KS,TX
	4-Methyl-2-pentanone	FL,KS
	trans-1,3-Dichloropropene	FL,KS,TX
	1,1,2-Trichloroethane	FL,KS
	Toluene	FL,IA,KS
	1,3-Dichloropropane	FL,KS
	Dibromochloromethane	FL,KS
	2-Hexanone	FL,KS
	1,2-Dibromoethane	FL,TX
	Tetrachloroethene	FL,KS
	1,1,1,2-Tetrachloroethane	FL,KS
	Chlorobenzene	FL,KS
	Ethylbenzene	FL,IA,KS
	m,p-Xylenes	FL
	Bromoform	FL,KS
	Styrene	FL,KS,TX
	1,1,2,2-Tetrachloroethane	FL,KS
	o-Xylene	FL,KS
	1,2,3-Trichloropropane	FL,KS
	Isopropylbenzene	FL
	Bromobenzene	FL,KS
	n-Propyl Benzene	FL,KS
	1,3,5-Trimethylbenzene	FL,KS
	tert-Butylbenzene	FL,KS
	1,2,4-Trimethylbenzene	FL,KS
	sec-Butylbenzene	FL,KS
	1,3-Dichlorobenzene	FL,KS
	1,4-Dichlorobenzene	FL
	1,2-Dichlorobenzene	FL,KS
	n-Butyl Benzene	FL,KS
	1,2-Dibromo-3-Chloropropane	FL,KS,TX
	1,2,4-Trichlorobenzene	FL,KS
	Naphthalene	FL,KS
	Hexachlorobutadiene	FL,KS
	1,2,3-Trichlorobenzene	FL,KS
	Total Xylenes	FL,IA
EPA 8270 in Solid	N-Nitrosodimethylamine	FL,OK,TX
	bis(2-chloroethyl)ether	FL,KS,OK,TX
	Phenol	FL,KS,OK,TX
	2-Chlorophenol	FL,KS,OK,TX
	1,3-Dichlorobenzene	FL,KS,OK,TX
	1,4-Dichlorobenzene	FL,KS,OK,TX
	1,2-Dichlorobenzene	FL,KS,OK,TX
	2,2'-oxybis(1-chloropropane)	KS,OK,TX

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

EPA 8270 in Solid	2-Methylphenol	FL,KS,OK,TX
	Hexachloroethane	FL,KS,OK
	N-Nitroso-di-n-propylamine	FL,KS,OK,TX
	4-Methylphenol	FL,KS,OK,TX
	Nitrobenzene	FL,KS,OK,TX
	Isophorone	FL,KS,TX
	2-Nitrophenol	FL,KS,OK,TX
	2,4-Dimethylphenol	FL,KS,OK,TX
	bis(2-chloroethoxy)methane	FL,KS,OK,TX
	2,4-Dichlorophenol	FL,KS,OK,TX
	1,2,4-Trichlorobenzene	FL,KS,OK,TX
	Naphthalene	FL,KS,OK,TX
	4-Chloroaniline	FL,KS,TX
	Hexachlorobutadiene	FL,KS,OK
	4-Chloro-3-methylphenol	FL,KS,OK,TX
	2-Methylnaphthalene	FL,KS
	Hexachlorocyclopentadiene	FL,KS,OK,TX
	2,4,6-Trichlorophenol	FL,KS,TX
	2,4,5-Trichlorophenol	FL,KS,TX
	2-Chloronaphthalene	FL,KS,OK
	2-Nitroaniline	FL,KS,OK
	Acenaphthylene	FL,KS,OK,TX
	Dimethylphthalate	FL,KS
	2,6-Dinitrotoluene	FL,KS,OK,TX
	Acenaphthene	FL,KS,OK,TX
	3-Nitroaniline	FL,KS,TX
	2,4-Dinitrophenol	FL,KS,OK,TX
	Dibenzofuran	FL,KS,TX
	2,4-Dinitrotoluene	FL,KS,OK,TX
	4-Nitrophenol	FL
	Fluorene	FL,KS,OK,TX
	4-Chlorophenyl-phenylether	FL,KS,OK
	Diethyl phthalate	FL,KS,TX
	4-Nitroaniline	FL,KS,TX
	4,6-Dinitro-2-methylphenol	FL,KS,OK
	N-Nitrosodiphenylamine	FL,KS
	4-Bromophenyl-phenylether	FL,KS,OK,TX
	Hexachlorobenzene	FL,KS,OK,TX
	Pentachlorophenol	FL,KS,TX
	Phenanthrene	FL,KS,TX
	Carbazole	FL
	Di-n-butyl phthalate	FL,KS,TX
	Fluoranthene	FL,KS,OK,TX
	Benzidine	OK
	Pyrene	FL,KS,TX
	Butylbenzylphthalate	FL,KS,OK,TX
	3,3'-Dichlorobenzidine	FL,KS,TX
	Benzo[a]anthracene	FL
	Chrysene	FL,KS
	bis(2-ethylhexyl)phthalate	FL,KS,TX

Work Order: 1590108

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CITY OF LARAMIE WWTP - 34024	Project: Quarterly Biosolids	
PO BOX C	Project Number: BioSolids 23-1	**Reported:**
LARAMIE, WY 82073	Project Manager: DAVID SCHILLINGER	2023-01-25 10:00

EPA 8270 in Solid	Di-n-octyl phthalate	FL,KS,TX
	Benzo[b]fluoranthene	FL,KS,OK,TX
	Benzo[k]fluoranthene	FL,KS,OK,TX
	Benzo[a]pyrene	FL,KS,OK,TX
	Indeno(1,2,3-cd)pyrene	FL,KS,OK,TX
	Dibenzo(a,h)anthracene	FL
	Benzo[ghi]perylene	FL,KS,OK,TX
	Anthracene	FL,KS
EPA 9010C in Solid	Cyanide (total)	IA,KS
EPA 9045 in Solid	pH	FL,OK,KS,WA
EPA 9065A (MOD) in Solid	Phenol	FL,OK,KS
PAI-DK 01 in Solid	Total Kjeldahl Nitrogen	IA,FL,KS
SM 2540 G-2015 in Solid	Percent Solids	FL,WA,UT,TX,IA
	Percent Volatile Solids	FL,IA,WA
SM 4500-NH3 C-1997 in Solid	Ammonia-N	FL,KS

Non-Certified Analyses included in this Report

Method	Analyte
EPA 6010B in Solid	Sulfur
EPA 8082 in Solid	Aroclor-1016
	Aroclor-1221
	Aroclor-1232
	Aroclor-1242
	Aroclor-1248
	Aroclor-1254
	Aroclor-1260
	Aroclor-1262
	Aroclor-1268
EPA 8260 in Solid	Ethyl Ether
	Iodomethane
	Acrylonitrile
	Chloroprene
	Ethyl Methacrylate
	cis-1,4-Dichloro-2-butene
	trans-1,4-Dichloro-2-butene
	2-Chlorotoluene
	4-Chlorotoluene
	p-Isopropyltoluene
EPA 8270 in Solid	Azobenzene
	1,2-Diphenylhydrazine
SM 9221 E in Solid	Fecal Coliforms

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: BioSolids 23-1
Project Manager: DAVID SCHILLINGER

Reported:
2023-01-25 10:00

Code	Description	Number	Expires
FL	Florida Department of Health	E87918	06/30/2023
IA	Iowa Department of Natural Resources	064	05/01/2023
KS	Kansas Department of Health and Environment	E-10402	04/30/2023
NE	State of Nebraska Dept of Health & Human Services	NE-04-05	06/30/2023
OK	Oklahoma Department of Environmental Quality	2022-068	08/31/2023
TX	Texas Commission on Environmental Quality	T104704416-21-15	07/31/2023
UT	State of Utah Department of Health	NE000012022-12	07/31/2023
WA	State of Washington Department of Ecology	C912	06/07/2023

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CITY OF LARAMIE WWTP - 34024	Project: Quarterly Biosolids	
PO BOX C	Project Number: BioSolids 23-1	**Reported:**
LARAMIE, WY 82073	Project Manager: DAVID SCHILLINGER	2023-01-25 10:00

Notes and Definitions

U	Analyte included in the analysis, but not detected
OOS	OOS filed
MI	Matrix interference suspected in matrix spiked sample.
J	Estimated value
HT	Hold time exceeded, not suitable for regulatory purposes.
CCAL	The analyte exceeds the required 20% RSD for the continuing calibration. Due to the large amount of analytes being tested, up to 10% can have a %RSD of greater than 20% but less than 35%.
CAL	The analyte exceeds the required 20% RSD for the initial calibration. Due to the large amount of analytes being tested, up to 10% can have a %RSD of greater than 20% but less than 35%.
BENZ	The test procedure uses a qualitative screen for Benzidine and the compound was not observed in the sample. The concentration of the Benzidine standard is 50 ug/L and the initial detection level is also 50 ug/L.
<	Less than reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

EPA 524.2, EPA 624, EPA 8260, OA-1, TCLP VOC, GRO, and all microbiological analyses are conducted in the facility located at 13606 B Street, Omaha, NE 68144. All other analyses are conducted in the main facility located at 13611 B Street, Omaha, NE 68144.

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Lab Work Order Number: 1590108
Date Generated: 12/01/2022

Client Name: CITY OF LARAMIE WWTP - 34024	Project Name: Quarterly Biosolids
Client Contact: DAVID SCHILLINGER	Project Description: Biosolids 23-1
Address: PO BOX C	Purchase Order Number:
City: LARAMIE	Midwest Labs Contact: Kerri Stanek
State/Zip: WY, 82073	Regulatory (Circle One): (Yes) No
Phone: 3077215204 Fax: 0	Regulatory Agency: EPA
Sampler Name (printed): David Schillinger	Sample Type (Circle One, See Below): D G W (S/H) U P

Requested Analyses (Test Names): 503 Regulations; EPA 8082, EPA 8260, EPA 8270; Fecal Coliform-SM9221E-MPN

Copy To:

Email to:

Lab ID	Sample Name or Field ID	Sampled Date	Sampled Time	Sample Code	Matrix Code	Container Count	Preservation Code 1	1	1	Sample Comments
01	Biosolids	1-9-23	1PM		S	4	2	2	0	
02	01				S	1	0	0	1	
03	02				S	1	0	0	1	
04	03				S	1	0	0	1	
05	04				S	1	0	0	1	
06	05				S	1	0	0	1	
07	06				S	1	0	0	1	
08	07				S	1	0	0	1	

WORKORDER: 1590108
COC
Sticker #: 1

Relinquished By: David Schillinger	Date/Time: 1-9-23 2PM	Received By: ELJ 1/10/23 0910	Lab Internal Use Only:
Relinquished By	Date/Time	Received By	Temperature Upon Receipt: 4.0
Comments:			Cooler Numbers:
			Notes:

Matrix Codes: S=Solid

Preservation Cod

Sample Type Codes: D = Drinking Water (Safe Drinking Water Act), G = Groundwater, W = Wastewater (Clean Water Act), S/H = Solid/Hazardous Waste (RCRA), U = Underground Storage Tank (UST), P = Pr

Chain of Custody will have a signature upon receipt but no subsequent signatures.

RC Form 15 - Effective 10/31/2013

1590108
Work Order 1590108

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REGULATORY FORM

This sheet MUST be filled out before samples can be processed. To ensure that holding times are met, it is your responsibility that a completed form comes attached to the Chain of Custody. Samples must be received on ice.

Is this sample for regulatory/permit reporting? ☑ Yes ☐ No

What city/state was your sample collected in? Laramie, WY

What agency/state are you reporting? EPA

What type of sample? (Circle One)

Drinking Water *For human consumption, 30 hr hold time for E. coli and total coliform testing*	**Ground Water**	**Hazardous Waste**	**Livestock**	**Process Water**
Solid Waste	**Storm Water**	**UST**	**Wastewater**	

SEE REVERSE SIDE FOR SAMPLING INSTRUCTIONS

WORKORDER: 1590108
COC
Sticker #: 2

Midwest Laboratories®

Sample Acceptance Checklist
Document Number: RC CHKLIST 001
Revision No.: 5
Effective Date: 04/25/22

Lab Number:

WORKORDER: 1590108
COC
Sticker #: 3

Thermometer Used: ☐ Therm Fisher IR 28

Sample Temperature (°C): 4.0

Cooler Intact: ☒ Yes ☐ No
Received on Ice: ☒ Yes ☐ No
Hand Delivered: ☐ Yes ☒ No

Date & Initials of person accepting samples: EW 1/10/23

							Comments
Chain of Custody present?	☒	Yes	☐	No	☐	N/A	
Sample ID(s):	☒	Yes	☐	No	☐	N/A	
Sample Location(s):	☒	Yes	☐	No	☐	N/A	
Client contact:	☒	Yes	☐	No	☐	N/A	
Analysis Requested:	☒	Yes	☐	No	☐	N/A	
Date & Time of collection:	☒	Yes	☐	No	☐	N/A	
Sampler name on COC?	☒	Yes	☐	No	☐	N/A	
Chain of custody relinquished with signature?	☒	Yes	☐	No	☐	N/A	
Chain of custody complete?	☒	Yes	☐	No	☐	N/A	
Sample labels match COC?	☒	Yes	☐	No	☐	N/A	
Written in indelible ink?	☒	Yes	☐	No	☐	N/A	
Labels indicate proper preservation?	☒	Yes	☐	No	☐	N/A	
Samples arrived within hold time?	☒	Yes	☐	No	☐	N/A	
Samples arrived within correct temperature?	☒	Yes	☐	No	☐	N/A	
Samples arrived frozen?	☐	Yes	☒	No	☐	N/A	
Sufficient volume?	☒	Yes	☐	No	☐	N/A	
Appropriate containers used?	☒	Yes	☐	No	☐	N/A	
Filtered volume received for dissolved tests?	☐	Yes	☐	No	☒	N/A	
Headspace in VOA vials?	☐	Yes	☐	No	☒	N/A	
Trip Blank present?	☐	Yes	☒	No	☐	N/A	

Client Notification/Resolution: Date/Time Contacted: _____

Person Contacted: _____ Contacted By: _____

Comments/Resolution: _____

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04 May 2023

Work Order: 1592796

DAVID SCHILLINGER
CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

RE: Quarterly Biosolids

Enclosed are the results of analyses for samples received by the laboratory on 2023-04-11 09:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kerri Stanek
Project Manager
kstanek@midwestlabs.com

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Biosolids	1592796-01	Solid	2023-04-10 14:00	2023-04-11 09:15
01	1592796-02	Solid	2023-04-10 14:00	2023-04-11 09:15
02	1592796-03	Solid	2023-04-10 14:00	2023-04-11 09:15
03	1592796-04	Solid	2023-04-10 14:00	2023-04-11 09:15
04	1592796-05	Solid	2023-04-10 14:00	2023-04-11 09:15
05	1592796-06	Solid	2023-04-10 14:00	2023-04-11 09:15
06	1592796-07	Solid	2023-04-10 14:00	2023-04-11 09:15
07	1592796-08	Solid	2023-04-10 14:00	2023-04-11 09:15

Containers used for the following analyses:

1592796-01 A:	EPA 8270
1592796-01 B:	EPA 8082, EPA 8260
1592796-01 C:	EPA 9010C, EPA 9045, EPA 9065A (MOD), SM 2540 G-2015
1592796-01 D:	PAI-DK 01, SM 4500-NH3 C-1997
1592796-01 E:	Total Metals per EPA 6010B, Total Metals per EPA 6020, Total Metals per EPA 7471
1592796-01 F:	EPA 353.2
1592796-02 A:	SM 2540 G-2015, SM 9221 E
1592796-03 A:	SM 2540 G-2015, SM 9221 E
1592796-04 A:	SM 2540 G-2015, SM 9221 E
1592796-05 A:	SM 2540 G-2015, SM 9221 E
1592796-06 A:	SM 2540 G-2015, SM 9221 E
1592796-07 A:	SM 2540 G-2015, SM 9221 E
1592796-08 A:	SM 2540 G-2015, SM 9221 E

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CITY OF LARAMIE WWTP - 34024	Project: Quarterly Biosolids	
PO BOX C	Project Number: Biosolids 23-2	**Reported:**
LARAMIE, WY 82073	Project Manager: DAVID SCHILLINGER	2023-05-04 08:48

Analysis Results Reviewed by:

EPA 8260 reviewed by nmh9.

EPA 8270 reviewed by nmh9.

Total Metals per EPA 6010B reviewed by kkh9.

Total Metals per EPA 6020 reviewed by kkh9.

Total Metals per EPA 7471 reviewed by kkh9.

EPA 353.2 reviewed by mgn8.

EPA 9010C reviewed by mgn8.

EPA 9045 reviewed by mgn8.

EPA 9065A (MOD) reviewed by mgn8.

PAI-DK 01 reviewed by mgn8.

SM 2540 G-2015 reviewed by mgn8.

SM 4500-NH3 C-1997 reviewed by mgn8.

SM 9221 E reviewed by jzh4.

EPA 8082 reviewed by nmh9.

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: Biosolids
Laboratory ID: 1592796-01
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Volatile Organic Compounds									
Dichlorodifluoromethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Chloromethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Vinyl chloride	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)/ CAL
Bromomethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)/ CCAL
Chloroethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Trichlorofluoromethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Acrolein	<	48.7	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)/ CCAL
Acetone	<	48.7	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Ethyl Ether	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)/ CAL
1,1-Dichloroethene	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Iodomethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Acrylonitrile	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Methylene Chloride	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,1,2-Trichloro-1,1,2-trifluoro ethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Carbon disulfide	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
trans-1,2-Dichloroethene	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Methyl tert-Butyl Ether	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,1-Dichloroethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Vinyl acetate	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Chloroprene	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
2-Butanone	<	48.7	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)/ CCAL
cis-1,2-Dichloroethene	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Bromochloromethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Chloroform	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
2,2-Dichloropropane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,2-Dichloroethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,1,1-Trichloroethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,1-Dichloropropene	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Carbon Tetrachloride	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Benzene	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Dibromomethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,2-Dichloropropane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Trichloroethene	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Bromodichloromethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
2-Chloroethyl vinyl ether	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)/ CCAL
cis-1,3-Dichloropropene	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
4-Methyl-2-pentanone	<	48.7	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
trans-1,3-Dichloropropene	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,1,2-Trichloroethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Toluene	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,3-Dichloropropane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Ethyl Methacrylate	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Dibromochloromethane	<	2.43	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
2-Hexanone	<	48.7	ug/g	< ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)

Work Order: 1592796

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: Biosolids
Laboratory ID: 1592796-01
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Volatile Organic Compounds										
1,2-Dibromoethane	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Tetrachloroethene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,1,1,2-Tetrachloroethane	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Chlorobenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Ethylbenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
m,p-Xylenes	<	4.87	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Bromoform	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
cis-1,4-Dichloro-2-butene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Styrene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,1,2,2-Tetrachloroethane	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
o-Xylene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,2,3-Trichloropropane	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
trans-1,4-Dichloro-2-butene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Isopropylbenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Bromobenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
n-Propyl Benzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
2-Chlorotoluene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
4-Chlorotoluene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,3,5-Trimethylbenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
tert-Butylbenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,2,4-Trimethylbenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
sec-Butylbenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,3-Dichlorobenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,4-Dichlorobenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
p-Isopropyltoluene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,2-Dichlorobenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
n-Butyl Benzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,2-Dibromo-3-Chloropropane	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,2,4-Trichlorobenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Naphthalene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Hexachlorobutadiene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
1,2,3-Trichlorobenzene	<	2.43	ug/g	<	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Total Xylenes	0.00		ug/g	0.00	ug/g	EPA 8260	2023-04-12	2023-04-12	alt8	(B)
Surrogate: Toluene-d8		*105 %*		*80-120*		*EPA 8260*	*2023-04-12*	*2023-04-12*		(B)
Surrogate: Bromofluorobenzene		*89 %*		*80-120*		*EPA 8260*	*2023-04-12*	*2023-04-12*		(B)
Surrogate: 1,2-Dichlorobenzene-d4		*100 %*		*80-120*		*EPA 8260*	*2023-04-12*	*2023-04-12*		(B)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: Biosolids
Laboratory ID: 1592796-01
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Semivolatile Organic Compounds									
N-Nitrosodimethylamine	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
bis(2-chloroethyl)ether	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Phenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2-Chlorophenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
1,3-Dichlorobenzene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
1,4-Dichlorobenzene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
1,2-Dichlorobenzene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2,2'-oxybis(1-chloropropane)	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2-Methylphenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Hexachloroethane	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
N-Nitroso-di-n-propylamine	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
4-Methylphenol	25400	3220	ug/kg	25400	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Nitrobenzene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Isophorone	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2-Nitrophenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2,4-Dimethylphenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
bis(2-chloroethoxy)methane	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2,4-Dichlorophenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
1,2,4-Trichlorobenzene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Naphthalene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
4-Chloroaniline	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Hexachlorobutadiene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
4-Chloro-3-methylphenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2-Methylnaphthalene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Hexachlorocyclopentadiene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2,4,6-Trichlorophenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2,4,5-Trichlorophenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2-Chloronaphthalene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2-Nitroaniline	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Acenaphthylene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Dimethylphthalate	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2,6-Dinitrotoluene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Acenaphthene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
3-Nitroaniline	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2,4-Dinitrophenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Dibenzofuran	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
2,4-Dinitrotoluene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
4-Nitrophenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Fluorene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
4-Chlorophenyl-phenylether	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Diethyl phthalate	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
4-Nitroaniline	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
4,6-Dinitro-2-methylphenol	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
N-Nitrosodiphenylamine	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Azobenzene	<	3220	ug/kg	<	ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: Biosolids
Laboratory ID: 1592796-01
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Semivolatile Organic Compounds									
4-Bromophenyl-phenylether	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Hexachlorobenzene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Pentachlorophenol	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Phenanthrene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Carbazole	<	4600	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Di-n-butyl phthalate	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Fluoranthene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Benzidine	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)/ BENZ
Pyrene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Butylbenzylphthalate	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
3,3'-Dichlorobenzidine	<	4600	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Benzo[a]anthracene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Chrysene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
bis(2-ethylhexyl)phthalate	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Di-n-octyl phthalate	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Benzo[b]fluoranthene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Benzo[k]fluoranthene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Benzo[a]pyrene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Indeno(1,2,3-cd)pyrene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Dibenzo(a,h)anthracene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Benzo[ghi]perylene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
1,2-Diphenylhydrazine	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Anthracene	<	3220	ug/kg	< ug/kg	EPA 8270	2023-04-13	2023-04-13	rwp6	(A)
Surrogate: 2-Fluorophenol		*67 %*	*61-120*		*EPA 8270*	*2023-04-13*	*2023-04-13*		(A)
Surrogate: Phenol-d6		*73 %*	*64.9-120*		*EPA 8270*	*2023-04-13*	*2023-04-13*		(A)
Surrogate: Nitrobenzene-d5		*74 %*	*71.9-120*		*EPA 8270*	*2023-04-13*	*2023-04-13*		(A)
Surrogate: 2-Fluorobiphenyl		*77 %*	*71.5-121*		*EPA 8270*	*2023-04-13*	*2023-04-13*		(A)
Surrogate: 2,4,6-Tribromophenol		*94 %*	*47.2-132*		*EPA 8270*	*2023-04-13*	*2023-04-13*		(A)
Surrogate: Terphenyl-d14		*46 %*	*30.7-120*		*EPA 8270*	*2023-04-13*	*2023-04-13*		(A)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: Biosolids
Laboratory ID: 1592796-01
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Total Metals										
Arsenic	3.4	0.009	mg/kg dry	0.4	mg/kg	EPA 6020	2023-04-12	2023-04-13	nto7	(E)
Barium	305.4	0.2	mg/kg dry	37.3	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Cadmium	<	0.5	mg/kg dry	<	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)/ U
Calcium	14210	27.6	mg/kg dry	1734	mg/kg	EPA 6010B	2023-04-12	2023-04-14	erw9	(E)
Chromium	17.4	1.7	mg/kg dry	2.1	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Copper	546.5	0.8	mg/kg dry	66.7	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Iron	6907	6.9	mg/kg dry	842.6	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Lead	14.7	3.7	mg/kg dry	1.8	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Magnesium	4406	6.7	mg/kg dry	537.5	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Manganese	120.2	0.5	mg/kg dry	14.7	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Mercury	0.31	0.006	mg/kg dry	0.04	mg/kg	EPA 7471	2023-04-12	2023-04-13	mrs3	(E)/ J
Molybdenum	10.9	0.7	mg/kg dry	1.3	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Nickel	22.4	0.9	mg/kg dry	2.7	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Phosphate (P2O5)	34650	63.2	mg/kg dry		mg/kg	Calculation	2023-04-12	2023-04-12	erw9	
Phosphorus	15130	3.7	mg/kg dry	1846	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Potash (K2O)	3135	33.1	mg/kg dry		mg/kg	Calculation	2023-04-12	2023-04-12	erw9	
Potassium	2612	10.4	mg/kg dry	318.7	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Selenium	7.5	0.04	mg/kg dry	0.9	mg/kg	EPA 6020	2023-04-12	2023-04-13	nto7	(E)
Silver	2.2	0.6	mg/kg dry	0.3	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)/ J
Sodium	1001	4.6	mg/kg dry	122.1	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Sulfur	11020	4.7	mg/kg dry	1345	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Zinc	412.8	2.8	mg/kg dry	50.4	mg/kg	EPA 6010B	2023-04-12	2023-04-12	erw9	(E)
Environmental Chemistry										
Ammonia-N	5680	820	mg/kg dry	693	mg/kg	SM 4500-NH3 C-1997	2023-04-13	2023-04-13	cay6	(D)
Cyanide (total)	1.6	1.6	mg/kg dry	0.2	mg/kg	EPA 9010C	2023-04-13	2023-04-13	kfw9	(C)
Total Kjeldahl Nitrogen	84600	1640	mg/kg dry	10300	mg/kg	PAI-DK 01	2023-04-13	2023-04-13	cay6	(D)
Nitrate/Nitrite Nitrogen	2.6	1.0	mg/kg dry	0.3	mg/kg	EPA 353.2	2023-04-12	2023-04-12	akn1	(F)
Organic Nitrogen	78900	1640	mg/kg dry		mg/kg	Calculation	2023-04-13	2023-04-13	cay6	
pH @ 19.8°C			S.U.	6.09	S.U.	EPA 9045	2023-04-13	2023-04-13	drp0	(C)
Phenol	82.5	8.2	mg/kg dry	10.1	mg/kg	EPA 9065A (MOD)	2023-04-12	2023-04-12	kfw9	(C)
Percent Solids		0.01	%	12.20	%	SM 2540 G-2015	2023-04-12	2023-04-12	drp0	(C)
Percent Volatile Solids	82.67	0.01	%	82.67	%	SM 2540 G-2015	2023-04-12	2023-04-12	drp0	(C)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: Biosolids
Laboratory ID: 1592796-01
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Pesticide Screen									
Aroclor-1016	<	1000	ug/kg	< ug/kg	EPA 8082	2023-04-11	2023-05-02	alt8	(B)
Aroclor-1221	<	1000	ug/kg	< ug/kg	EPA 8082	2023-04-11	2023-05-02	alt8	(B)
Aroclor-1232	<	1000	ug/kg	< ug/kg	EPA 8082	2023-04-11	2023-05-02	alt8	(B)
Aroclor-1242	<	1000	ug/kg	< ug/kg	EPA 8082	2023-04-11	2023-05-02	alt8	(B)
Aroclor-1248	<	1000	ug/kg	< ug/kg	EPA 8082	2023-04-11	2023-05-02	alt8	(B)
Aroclor-1254	<	1000	ug/kg	< ug/kg	EPA 8082	2023-04-11	2023-05-02	alt8	(B)
Aroclor-1260	<	1000	ug/kg	< ug/kg	EPA 8082	2023-04-11	2023-05-02	alt8	(B)
Aroclor-1262	<	1000	ug/kg	< ug/kg	EPA 8082	2023-04-11	2023-05-02	alt8	(B)
Aroclor-1268	<	1000	ug/kg	< ug/kg	EPA 8082	2023-04-11	2023-05-02	alt8	(B)
Surrogate: Tetrachloro-m-xylene		*67 %*	*62.6-136*		*EPA 8082*	*2023-04-11*	*2023-05-02*		(B)
Surrogate: Decachlorobiphenyl		*99 %*	*57.3-146*		*EPA 8082*	*2023-04-11*	*2023-05-02*		(B)

Work Order: 1592796

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Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: 01
Laboratory ID: 1592796-02
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	12.72	%	SM 2540 G-2015	2023-04-12	2023-04-12	drp0	(A)
Microbiology										
Fecal Coliforms	> 160900	0.2	MPN/g dry	160900	MPN/g	SM 9221 E	2023-04-11/13:56	2023-04-12/17:55	dme9	(A)

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
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Reported:
2023-05-04 08:48

Sample ID: 02
Laboratory ID: 1592796-03
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	12.47	%	SM 2540 G-2015	2023-04-12	2023-04-12	drp0	(A)
Microbiology										
Fecal Coliforms	1290000	0.2	MPN/g dry	160900	MPN/g	SM 9221 E	2023-04-11/13:56	2023-04-12/17:55	dme9	(A)

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: 03
Laboratory ID: 1592796-04
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	12.62	%	SM 2540 G-2015	2023-04-12	2023-04-12	drp0	(A)
Microbiology										
Fecal Coliforms	275500	0.2	MPN/g dry	34770	MPN/g	SM 9221 E	2023-04-11/13:56	2023-04-12/17:55	dme9	(A)

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Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: 04
Laboratory ID: 1592796-05
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	11.97	%	SM 2540 G-2015	2023-04-12	2023-04-12	drp0	(A)
Microbiology										
Fecal Coliforms	1344000	0.2	MPN/g dry	160900	MPN/g	SM 9221 E	2023-04-11/13:56	2023-04-12/17:55	dme9	(A)

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Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: 05
Laboratory ID: 1592796-06
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	12.29	%	SM 2540 G-2015	2023-04-12	2023-04-12	drp0	(A)
Microbiology										
Fecal Coliforms	282900	0.2	MPN/g dry	34770	MPN/g	SM 9221 E	2023-04-11/13:56	2023-04-12/17:55	dme9	(A)

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Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: 06
Laboratory ID: 1592796-07
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	12.48	%	SM 2540 G-2015	2023-04-12	2023-04-12	drp0	(A)
Microbiology										
Fecal Coliforms	1289000	0.2	MPN/g dry	160900	MPN/g	SM 9221 E	2023-04-11/13:56	2023-04-12/17:55	dme9	(A)

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Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Sample ID: 07
Laboratory ID: 1592796-08
Sampled Date/Time: 2023-04-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	12.65	%	SM 2540 G-2015	2023-04-12	2023-04-12	drp0	(A)
Microbiology										
Fecal Coliforms	> 160900	0.2	MPN/g dry	160900	MPN/g	SM 9221 E	2023-04-11/13:56	2023-04-12/17:55	dme9	(A)

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
Blank (B930239-BLK1)				Prepared & Analyzed: 2023-04-12						
Dichlorodifluoromethane	<	0.50	ug/g							
Chloromethane	<	0.50	ug/g							
Vinyl chloride	<	0.50	ug/g							CAL
Bromomethane	<	0.50	ug/g							CCAL
Chloroethane	<	0.50	ug/g							
Trichlorofluoromethane	<	0.50	ug/g							
Acrolein	<	10.0	ug/g							CCAL
Acetone	<	10.0	ug/g							
Ethyl Ether	<	0.50	ug/g							CAL
1,1-Dichloroethene	<	0.50	ug/g							
Iodomethane	<	0.50	ug/g							
Acrylonitrile	<	0.50	ug/g							
Methylene Chloride	<	0.50	ug/g							
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g							
Carbon disulfide	<	0.50	ug/g							
trans-1,2-Dichloroethene	<	0.50	ug/g							
Methyl tert-Butyl Ether	<	0.50	ug/g							
1,1-Dichloroethane	<	0.50	ug/g							
Vinyl acetate	<	0.50	ug/g							
Chloroprene	<	0.50	ug/g							
2-Butanone	<	10.0	ug/g							CCAL
cis-1,2-Dichloroethene	<	0.50	ug/g							
Bromochloromethane	<	0.50	ug/g							
Chloroform	<	0.50	ug/g							
2,2-Dichloropropane	<	0.50	ug/g							
1,2-Dichloroethane	<	0.50	ug/g							
1,1,1-Trichloroethane	<	0.50	ug/g							
1,1-Dichloropropene	<	0.50	ug/g							
Carbon Tetrachloride	<	0.50	ug/g							
Benzene	<	0.50	ug/g							
Dibromomethane	<	0.50	ug/g							
1,2-Dichloropropane	<	0.50	ug/g							
Trichloroethene	<	0.50	ug/g							
Bromodichloromethane	<	0.50	ug/g							
2-Chloroethyl vinyl ether	<	0.50	ug/g							CCAL
cis-1,3-Dichloropropene	<	0.50	ug/g							
4-Methyl-2-pentanone	<	10.0	ug/g							
trans-1,3-Dichloropropene	<	0.50	ug/g							
1,1,2-Trichloroethane	<	0.50	ug/g							
Toluene	<	0.50	ug/g							
1,3-Dichloropropane	<	0.50	ug/g							

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
Blank (B930239-BLK1)				Prepared & Analyzed: 2023-04-12						
Ethyl Methacrylate	<	0.50	ug/g							
Dibromochloromethane	<	0.50	ug/g							
2-Hexanone	<	10.0	ug/g							
1,2-Dibromoethane	<	0.50	ug/g							
Tetrachloroethene	<	0.50	ug/g							
1,1,1,2-Tetrachloroethane	<	0.50	ug/g							
Chlorobenzene	<	0.50	ug/g							
Ethylbenzene	<	0.50	ug/g							
m,p-Xylenes	<	1.00	ug/g							
Bromoform	<	0.50	ug/g							
cis-1,4-Dichloro-2-butene	<	0.50	ug/g							
Styrene	<	0.50	ug/g							
1,1,2,2-Tetrachloroethane	<	0.50	ug/g							
o-Xylene	<	0.50	ug/g							
1,2,3-Trichloropropane	<	0.50	ug/g							
trans-1,4-Dichloro-2-butene	<	0.50	ug/g							
Isopropylbenzene	<	0.50	ug/g							
Bromobenzene	<	0.50	ug/g							
n-Propyl Benzene	<	0.50	ug/g							
2-Chlorotoluene	<	0.50	ug/g							
4-Chlorotoluene	<	0.50	ug/g							
1,3,5-Trimethylbenzene	<	0.50	ug/g							
tert-Butylbenzene	<	0.50	ug/g							
1,2,4-Trimethylbenzene	<	0.50	ug/g							
sec-Butylbenzene	<	0.50	ug/g							
1,3-Dichlorobenzene	<	0.50	ug/g							
1,4-Dichlorobenzene	<	0.50	ug/g							
p-Isopropyltoluene	<	0.50	ug/g							
1,2-Dichlorobenzene	<	0.50	ug/g							
n-Butyl Benzene	<	0.50	ug/g							
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g							
1,2,4-Trichlorobenzene	<	0.50	ug/g							
Naphthalene	<	0.50	ug/g							
Hexachlorobutadiene	<	0.50	ug/g							
1,2,3-Trichlorobenzene	<	0.50	ug/g							
Total Xylenes	0.00		ug/g							
Surrogate: Toluene-d8	*0.263*		ug/g	*0.250*		*105*	*80-120*			
Surrogate: Bromofluorobenzene	*0.223*		ug/g	*0.250*		*89*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.248*		ug/g	*0.250*		*99*	*80-120*			

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Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
LCS (B930239-BS1)				Prepared & Analyzed: 2023-04-12						
Dichlorodifluoromethane	0.73	0.50	ug/g	1.00		73	47.5-120			
Chloromethane	0.86	0.50	ug/g	1.00		86	71.4-120			
Vinyl chloride	0.22	0.50	ug/g	1.00		22	25.7-120			CAL
Bromomethane	0.55	0.50	ug/g	1.00		55	24.4-120			CCAL
Chloroethane	0.86	0.50	ug/g	1.00		86	51-120			
Trichlorofluoromethane	0.83	0.50	ug/g	1.00		83	70.4-120			
Acrolein	<	10.0	ug/g				51.7-120			CCAL
Acetone	<	10.0	ug/g				45.7-120			
Ethyl Ether	<	0.50	ug/g				60.4-120			CAL
1,1-Dichloroethene	<	0.50	ug/g				70.4-120			
Iodomethane	<	0.50	ug/g				55.6-132			
Acrylonitrile	<	0.50	ug/g				55.5-120			
Methylene Chloride	<	0.50	ug/g				66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g				75.4-120			
Carbon disulfide	<	0.50	ug/g				67.9-120			
trans-1,2-Dichloroethene	<	0.50	ug/g				76.6-120			
Methyl tert-Butyl Ether	<	0.50	ug/g				61.1-120			
1,1-Dichloroethane	<	0.50	ug/g				68.2-120			
Vinyl acetate	<	0.50	ug/g				51.3-120			
Chloroprene	<	0.50	ug/g				74.9-120			
2-Butanone	<	10.0	ug/g				49.2-120			CCAL
cis-1,2-Dichloroethene	<	0.50	ug/g				71.9-120			
Bromochloromethane	<	0.50	ug/g				63-120			
Chloroform	<	0.50	ug/g				75.8-120			
2,2-Dichloropropane	<	0.50	ug/g				70.8-120			
1,2-Dichloroethane	<	0.50	ug/g				66.8-120			
1,1,1-Trichloroethane	<	0.50	ug/g				70.3-120			
1,1-Dichloropropene	<	0.50	ug/g				72.7-120			
Carbon Tetrachloride	<	0.50	ug/g				64.7-120			
Benzene	<	0.50	ug/g				74.3-120			
Dibromomethane	<	0.50	ug/g				62.5-120			
1,2-Dichloropropane	<	0.50	ug/g				70.1-120			
Trichloroethene	<	0.50	ug/g				80-120			
Bromodichloromethane	<	0.50	ug/g				67.2-120			
2-Chloroethyl vinyl ether	<	0.50	ug/g				51.9-134			CCAL
cis-1,3-Dichloropropene	<	0.50	ug/g				68.1-120			
4-Methyl-2-pentanone	<	10.0	ug/g				44.6-120			
trans-1,3-Dichloropropene	<	0.50	ug/g				63.4-120			
1,1,2-Trichloroethane	<	0.50	ug/g				61.7-120			
Toluene	<	0.50	ug/g				80-120			
1,3-Dichloropropane	<	0.50	ug/g				63.6-120			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
LCS (B930239-BS1)				Prepared & Analyzed: 2023-04-12						
Ethyl Methacrylate	<	0.50	ug/g				58.5-120			
Dibromochloromethane	<	0.50	ug/g				61.1-120			
2-Hexanone	<	10.0	ug/g				47.2-120			
1,2-Dibromoethane	<	0.50	ug/g				63.6-120			
Tetrachloroethene	<	0.50	ug/g				78.8-120			
1,1,1,2-Tetrachloroethane	<	0.50	ug/g				63.8-120			
Chlorobenzene	<	0.50	ug/g				80-120			
Ethylbenzene	<	0.50	ug/g				80-120			
m,p-Xylenes	<	1.00	ug/g				80-120			
Bromoform	<	0.50	ug/g				52.2-120			
cis-1,4-Dichloro-2-butene	<	0.50	ug/g				61.7-120			
Styrene	<	0.50	ug/g				80-120			
1,1,2,2-Tetrachloroethane	<	0.50	ug/g				64.3-120			
o-Xylene	<	0.50	ug/g				80-120			
1,2,3-Trichloropropane	<	0.50	ug/g				67.1-120			
trans-1,4-Dichloro-2-butene	<	0.50	ug/g				63.1-120			
Isopropylbenzene	<	0.50	ug/g				80-120			
Bromobenzene	<	0.50	ug/g				80-120			
n-Propyl Benzene	<	0.50	ug/g				80-120			
2-Chlorotoluene	<	0.50	ug/g				80-120			
4-Chlorotoluene	<	0.50	ug/g				80-120			
1,3,5-Trimethylbenzene	<	0.50	ug/g				80-120			
tert-Butylbenzene	<	0.50	ug/g				80-120			
1,2,4-Trimethylbenzene	<	0.50	ug/g				80-120			
sec-Butylbenzene	<	0.50	ug/g				80-120			
1,3-Dichlorobenzene	<	0.50	ug/g				80-120			
1,4-Dichlorobenzene	<	0.50	ug/g				80-120			
p-Isopropyltoluene	<	0.50	ug/g				76.5-120			
1,2-Dichlorobenzene	<	0.50	ug/g				80-120			
n-Butyl Benzene	<	0.50	ug/g				80-120			
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g				53.7-120			
1,2,4-Trichlorobenzene	<	0.50	ug/g				64.4-120			
Naphthalene	<	0.50	ug/g				49.6-120			
Hexachlorobutadiene	<	0.50	ug/g				71.1-120			
1,2,3-Trichlorobenzene	<	0.50	ug/g				44.7-120			
Surrogate: Toluene-d8	*0.265*		ug/g	*0.250*		*106*	*80-120*			
Surrogate: Bromofluorobenzene	*0.235*		ug/g	*0.250*		*94*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.240*		ug/g	*0.250*		*96*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
LCS (B930239-BS2)				Prepared & Analyzed: 2023-04-12						
Dichlorodifluoromethane	<	0.50	ug/g				47.5-120			
Chloromethane	<	0.50	ug/g				71.4-120			
Vinyl chloride	<	0.50	ug/g				25.7-120			CAL
Bromomethane	<	0.50	ug/g				24.4-120			CCAL
Chloroethane	<	0.50	ug/g				51-120			
Trichlorofluoromethane	<	0.50	ug/g				70.4-120			
Acrolein	2.05	10.0	ug/g	2.00		103	51.7-120			CCAL
Acetone	1.79	10.0	ug/g	2.00		90	45.7-120			
Ethyl Ether	0.88	0.50	ug/g	1.00		88	60.4-120			CAL
1,1-Dichloroethene	0.94	0.50	ug/g	1.00		94	70.4-120			
Iodomethane	0.90	0.50	ug/g	1.00		90	55.6-132			
Acrylonitrile	0.98	0.50	ug/g	1.00		98	55.5-120			
Methylene Chloride	0.90	0.50	ug/g	1.00		90	66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	0.92	0.50	ug/g	1.00		92	75.4-120			
Carbon disulfide	0.97	0.50	ug/g	1.00		97	67.9-120			
trans-1,2-Dichloroethene	0.93	0.50	ug/g	1.00		93	76.6-120			
Methyl tert-Butyl Ether	0.88	0.50	ug/g	1.00		88	61.1-120			
1,1-Dichloroethane	0.92	0.50	ug/g	1.00		92	68.2-120			
Vinyl acetate	1.01	0.50	ug/g	1.00		101	51.3-120			
Chloroprene	0.92	0.50	ug/g	1.00		92	74.9-120			
2-Butanone	1.87	10.0	ug/g	2.00		94	49.2-120			CCAL
cis-1,2-Dichloroethene	0.92	0.50	ug/g	1.00		92	71.9-120			
Bromochloromethane	0.89	0.50	ug/g	1.00		89	63-120			
Chloroform	0.89	0.50	ug/g	1.00		89	75.8-120			
2,2-Dichloropropane	0.88	0.50	ug/g	1.00		88	70.8-120			
1,2-Dichloroethane	0.89	0.50	ug/g	1.00		89	66.8-120			
1,1,1-Trichloroethane	0.90	0.50	ug/g	1.00		90	70.3-120			
1,1-Dichloropropene	0.92	0.50	ug/g	1.00		92	72.7-120			
Carbon Tetrachloride	0.87	0.50	ug/g	1.00		87	64.7-120			
Benzene	0.92	0.50	ug/g	1.00		92	74.3-120			
Dibromomethane	0.86	0.50	ug/g	1.00		87	62.5-120			
1,2-Dichloropropane	0.89	0.50	ug/g	1.00		89	70.1-120			
Trichloroethene	0.90	0.50	ug/g	1.00		90	80-120			
Bromodichloromethane	0.87	0.50	ug/g	1.00		87	67.2-120			
2-Chloroethyl vinyl ether	0.81	0.50	ug/g	1.00		81	51.9-134			CCAL
cis-1,3-Dichloropropene	0.87	0.50	ug/g	1.00		88	68.1-120			
4-Methyl-2-pentanone	1.68	10.0	ug/g	2.00		84	44.6-120			
trans-1,3-Dichloropropene	0.86	0.50	ug/g	1.00		86	63.4-120			
1,1,2-Trichloroethane	0.87	0.50	ug/g	1.00		87	61.7-120			
Toluene	0.89	0.50	ug/g	1.00		89	80-120			
1,3-Dichloropropane	0.88	0.50	ug/g	1.00		88	63.6-120			

Work Order: 1592796

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
LCS (B930239-BS2)				Prepared & Analyzed: 2023-04-12						
Ethyl Methacrylate	0.87	0.50	ug/g	1.00		87	58.5-120			
Dibromochloromethane	0.84	0.50	ug/g	1.00		84	61.1-120			
2-Hexanone	1.66	10.0	ug/g	2.00		83	47.2-120			
1,2-Dibromoethane	0.86	0.50	ug/g	1.00		86	63.6-120			
Tetrachloroethene	0.84	0.50	ug/g	1.00		84	78.8-120			
1,1,1,2-Tetrachloroethane	0.85	0.50	ug/g	1.00		85	63.8-120			
Chlorobenzene	0.88	0.50	ug/g	1.00		88	80-120			
Ethylbenzene	0.90	0.50	ug/g	1.00		90	80-120			
m,p-Xylenes	1.80	1.00	ug/g	2.00		90	80-120			
Bromoform	0.82	0.50	ug/g	1.00		82	52.2-120			
cis-1,4-Dichloro-2-butene	0.84	0.50	ug/g	1.00		84	61.7-120			
Styrene	0.88	0.50	ug/g	1.00		88	80-120			
1,1,2,2-Tetrachloroethane	0.87	0.50	ug/g	1.00		87	64.3-120			
o-Xylene	0.89	0.50	ug/g	1.00		89	80-120			
1,2,3-Trichloropropane	0.86	0.50	ug/g	1.00		86	67.1-120			
trans-1,4-Dichloro-2-butene	0.85	0.50	ug/g	1.00		86	63.1-120			
Isopropylbenzene	0.90	0.50	ug/g	1.00		90	80-120			
Bromobenzene	0.85	0.50	ug/g	1.00		85	80-120			
n-Propyl Benzene	0.89	0.50	ug/g	1.00		89	80-120			
2-Chlorotoluene	0.89	0.50	ug/g	1.00		89	80-120			
4-Chlorotoluene	0.89	0.50	ug/g	1.00		89	80-120			
1,3,5-Trimethylbenzene	0.91	0.50	ug/g	1.00		91	80-120			
tert-Butylbenzene	0.91	0.50	ug/g	1.00		91	80-120			
1,2,4-Trimethylbenzene	0.92	0.50	ug/g	1.00		92	80-120			
sec-Butylbenzene	0.94	0.50	ug/g	1.00		94	80-120			
1,3-Dichlorobenzene	0.89	0.50	ug/g	1.00		89	80-120			
1,4-Dichlorobenzene	0.86	0.50	ug/g	1.00		87	80-120			
p-Isopropyltoluene	0.93	0.50	ug/g	1.00		93	76.5-120			
1,2-Dichlorobenzene	0.86	0.50	ug/g	1.00		86	80-120			
n-Butyl Benzene	0.95	0.50	ug/g	1.00		95	80-120			
1,2-Dibromo-3-Chloropropane	0.87	0.50	ug/g	1.00		87	53.7-120			
1,2,4-Trichlorobenzene	0.95	0.50	ug/g	1.00		95	64.4-120			
Naphthalene	0.94	0.50	ug/g	1.00		94	49.6-120			
Hexachlorobutadiene	0.99	0.50	ug/g	1.00		99	71.1-120			
1,2,3-Trichlorobenzene	1.01	0.50	ug/g	1.00		101	44.7-120			
Surrogate: Toluene-d8	*0.266*		ug/g	*0.250*		*106*	*80-120*			
Surrogate: Bromofluorobenzene	*0.245*		ug/g	*0.250*		*98*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.244*		ug/g	*0.250*		*97*	*80-120*			

Work Order: 1592796

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
Matrix Spike (B930239-MS1)	**Source: 1594547-06**			Prepared & Analyzed: 2023-04-12						
Dichlorodifluoromethane	0.73	0.50	ug/g	0.999	<	73	47.5-120			
Chloromethane	0.85	0.50	ug/g	0.999	<	85	71.4-120			
Vinyl chloride	0.22	0.50	ug/g	0.999	<	22	25.7-120			CAL
Bromomethane	0.50	0.50	ug/g	0.999	<	50	24.4-120			CCAL
Chloroethane	0.87	0.50	ug/g	0.999	<	87	51-120			
Trichlorofluoromethane	0.83	0.50	ug/g	0.999	<	83	70.4-120			
Acrolein	<	9.99	ug/g		<		51.7-120			CCAL
Acetone	<	9.99	ug/g		<		45.7-120			
Ethyl Ether	<	0.50	ug/g		<		60.4-120			CAL
1,1-Dichloroethene	<	0.50	ug/g		<		70.4-120			
Iodomethane	<	0.50	ug/g		<		55.6-132			
Acrylonitrile	<	0.50	ug/g		<		55.5-120			
Methylene Chloride	<	0.50	ug/g		<		66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g		<		75.4-120			
Carbon disulfide	<	0.50	ug/g		<		67.9-120			
trans-1,2-Dichloroethene	<	0.50	ug/g		<		76.6-120			
Methyl tert-Butyl Ether	<	0.50	ug/g		<		61.1-120			
1,1-Dichloroethane	<	0.50	ug/g		<		68.2-120			
Vinyl acetate	<	0.50	ug/g		<		51.3-120			
Chloroprene	<	0.50	ug/g		<		74.9-120			
2-Butanone	<	9.99	ug/g		<		49.2-120			CCAL
cis-1,2-Dichloroethene	<	0.50	ug/g		<		71.9-120			
Bromochloromethane	<	0.50	ug/g		<		63-120			
Chloroform	<	0.50	ug/g		<		75.8-120			
2,2-Dichloropropane	<	0.50	ug/g		<		70.8-120			
1,2-Dichloroethane	<	0.50	ug/g		<		66.8-120			
1,1,1-Trichloroethane	<	0.50	ug/g		<		70.3-120			
1,1-Dichloropropene	<	0.50	ug/g		<		72.7-120			
Carbon Tetrachloride	<	0.50	ug/g		<		64.7-120			
Benzene	<	0.50	ug/g		<		74.3-120			
Dibromomethane	<	0.50	ug/g		<		62.5-120			
1,2-Dichloropropane	<	0.50	ug/g		<		70.1-120			
Trichloroethene	<	0.50	ug/g		<		80-120			
Bromodichloromethane	<	0.50	ug/g		<		67.2-120			
2-Chloroethyl vinyl ether	<	0.50	ug/g		<		51.9-134			CCAL
cis-1,3-Dichloropropene	<	0.50	ug/g		<		68.1-120			
4-Methyl-2-pentanone	<	9.99	ug/g		<		44.6-120			
trans-1,3-Dichloropropene	<	0.50	ug/g		<		63.4-120			
1,1,2-Trichloroethane	<	0.50	ug/g		<		61.7-120			
Toluene	<	0.50	ug/g		<		80-120			
1,3-Dichloropropane	<	0.50	ug/g		<		63.6-120			

Work Order: 1592796

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
Matrix Spike (B930239-MS1)	**Source: 1594547-06**			Prepared & Analyzed: 2023-04-12						
Ethyl Methacrylate	<	0.50	ug/g		<		58.5-120			
Dibromochloromethane	<	0.50	ug/g		<		61.1-120			
2-Hexanone	<	9.99	ug/g		<		47.2-120			
1,2-Dibromoethane	<	0.50	ug/g		<		63.6-120			
Tetrachloroethene	<	0.50	ug/g		<		78.8-120			
1,1,1,2-Tetrachloroethane	<	0.50	ug/g		<		63.8-120			
Chlorobenzene	<	0.50	ug/g		<		80-120			
Ethylbenzene	<	0.50	ug/g		<		80-120			
m,p-Xylenes	<	1.00	ug/g		<		80-120			
Bromoform	<	0.50	ug/g		<		52.2-120			
cis-1,4-Dichloro-2-butene	<	0.50	ug/g		<		61.7-120			
Styrene	<	0.50	ug/g		<		80-120			
1,1,2,2-Tetrachloroethane	<	0.50	ug/g		<		64.3-120			
o-Xylene	<	0.50	ug/g		<		80-120			
1,2,3-Trichloropropane	<	0.50	ug/g		<		67.1-120			
trans-1,4-Dichloro-2-butene	<	0.50	ug/g		<		63.1-120			
Isopropylbenzene	<	0.50	ug/g		<		80-120			
Bromobenzene	<	0.50	ug/g		<		80-120			
n-Propyl Benzene	<	0.50	ug/g		<		80-120			
2-Chlorotoluene	<	0.50	ug/g		<		80-120			
4-Chlorotoluene	<	0.50	ug/g		<		80-120			
1,3,5-Trimethylbenzene	<	0.50	ug/g		<		80-120			
tert-Butylbenzene	<	0.50	ug/g		<		80-120			
1,2,4-Trimethylbenzene	<	0.50	ug/g		<		80-120			
sec-Butylbenzene	<	0.50	ug/g		<		80-120			
1,3-Dichlorobenzene	<	0.50	ug/g		<		80-120			
1,4-Dichlorobenzene	<	0.50	ug/g		<		80-120			
p-Isopropyltoluene	<	0.50	ug/g		<		76.5-120			
1,2-Dichlorobenzene	<	0.50	ug/g		<		80-120			
n-Butyl Benzene	<	0.50	ug/g		<		80-120			
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g		<		53.7-120			
1,2,4-Trichlorobenzene	<	0.50	ug/g		<		64.4-120			
Naphthalene	<	0.50	ug/g		<		49.6-120			
Hexachlorobutadiene	<	0.50	ug/g		<		71.1-120			
1,2,3-Trichlorobenzene	<	0.50	ug/g		<		44.7-120			
Surrogate: Toluene-d8	*0.265*		ug/g	*0.250*		*106*	*80-120*			
Surrogate: Bromofluorobenzene	*0.232*		ug/g	*0.250*		*93*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.241*		ug/g	*0.250*		*97*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
Matrix Spike (B930239-MS2)	**Source: 1594547-06**			Prepared & Analyzed: 2023-04-12						
Dichlorodifluoromethane	<	0.50	ug/g		<		47.5-120			
Chloromethane	<	0.50	ug/g		<		71.4-120			
Vinyl chloride	<	0.50	ug/g		<		25.7-120			CAL
Bromomethane	<	0.50	ug/g		<		24.4-120			CCAL
Chloroethane	<	0.50	ug/g		<		51-120			
Trichlorofluoromethane	<	0.50	ug/g		<		70.4-120			
Acrolein	1.85	10.0	ug/g	2.00	<	93	51.7-120			CCAL
Acetone	1.70	10.0	ug/g	2.00	<	85	45.7-120			
Ethyl Ether	0.80	0.50	ug/g	1.00	<	80	60.4-120			CAL
1,1-Dichloroethene	0.95	0.50	ug/g	1.00	<	95	70.4-120			
Iodomethane	0.86	0.50	ug/g	1.00	<	86	55.6-132			
Acrylonitrile	0.90	0.50	ug/g	1.00	<	90	55.5-120			
Methylene Chloride	0.87	0.50	ug/g	1.00	<	87	66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	0.93	0.50	ug/g	1.00	<	93	75.4-120			
Carbon disulfide	0.97	0.50	ug/g	1.00	<	97	67.9-120			
trans-1,2-Dichloroethene	0.93	0.50	ug/g	1.00	<	93	76.6-120			
Methyl tert-Butyl Ether	0.80	0.50	ug/g	1.00	<	80	61.1-120			
1,1-Dichloroethane	0.92	0.50	ug/g	1.00	<	92	68.2-120			
Vinyl acetate	0.88	0.50	ug/g	1.00	<	88	51.3-120			
Chloroprene	0.93	0.50	ug/g	1.00	<	93	74.9-120			
2-Butanone	1.77	10.0	ug/g	2.00	<	88	49.2-120			CCAL
cis-1,2-Dichloroethene	0.90	0.50	ug/g	1.00	<	90	71.9-120			
Bromochloromethane	0.83	0.50	ug/g	1.00	<	83	63-120			
Chloroform	0.87	0.50	ug/g	1.00	<	87	75.8-120			
2,2-Dichloropropane	0.84	0.50	ug/g	1.00	<	84	70.8-120			
1,2-Dichloroethane	0.83	0.50	ug/g	1.00	<	83	66.8-120			
1,1,1-Trichloroethane	0.88	0.50	ug/g	1.00	<	88	70.3-120			
1,1-Dichloropropene	0.93	0.50	ug/g	1.00	<	93	72.7-120			
Carbon Tetrachloride	0.83	0.50	ug/g	1.00	<	83	64.7-120			
Benzene	0.92	0.50	ug/g	1.00	<	92	74.3-120			
Dibromomethane	0.79	0.50	ug/g	1.00	<	79	62.5-120			
1,2-Dichloropropane	0.85	0.50	ug/g	1.00	<	85	70.1-120			
Trichloroethene	0.88	0.50	ug/g	1.00	<	88	80-120			
Bromodichloromethane	0.79	0.50	ug/g	1.00	<	79	67.2-120			
2-Chloroethyl vinyl ether	0.77	0.50	ug/g	1.00	<	77	51.9-134			CCAL
cis-1,3-Dichloropropene	0.80	0.50	ug/g	1.00	<	80	68.1-120			
4-Methyl-2-pentanone	1.52	10.0	ug/g	2.00	<	76	44.6-120			
trans-1,3-Dichloropropene	0.76	0.50	ug/g	1.00	<	76	63.4-120			
1,1,2-Trichloroethane	0.79	0.50	ug/g	1.00	<	79	61.7-120			
Toluene	0.87	0.50	ug/g	1.00	<	87	80-120			
1,3-Dichloropropane	0.80	0.50	ug/g	1.00	<	80	63.6-120			

Work Order: 1592796

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
Matrix Spike (B930239-MS2)	**Source: 1594547-06**			Prepared & Analyzed: 2023-04-12						
Ethyl Methacrylate	0.77	0.50	ug/g	1.00	<	77	58.5-120			
Dibromochloromethane	0.73	0.50	ug/g	1.00	<	73	61.1-120			
2-Hexanone	1.52	10.0	ug/g	2.00	<	76	47.2-120			
1,2-Dibromoethane	0.79	0.50	ug/g	1.00	<	79	63.6-120			
Tetrachloroethene	0.83	0.50	ug/g	1.00	<	83	78.8-120			
1,1,1,2-Tetrachloroethane	0.78	0.50	ug/g	1.00	<	78	63.8-120			
Chlorobenzene	0.88	0.50	ug/g	1.00	<	88	80-120			
Ethylbenzene	0.92	0.50	ug/g	1.00	<	92	80-120			
m,p-Xylenes	1.83	1.00	ug/g	2.00	<	92	80-120			
Bromoform	0.72	0.50	ug/g	1.00	<	72	52.2-120			
cis-1,4-Dichloro-2-butene	0.75	0.50	ug/g	1.00	<	75	61.7-120			
Styrene	0.87	0.50	ug/g	1.00	<	87	80-120			
1,1,2,2-Tetrachloroethane	0.81	0.50	ug/g	1.00	<	81	64.3-120			
o-Xylene	0.89	0.50	ug/g	1.00	<	89	80-120			
1,2,3-Trichloropropane	0.82	0.50	ug/g	1.00	<	82	67.1-120			
trans-1,4-Dichloro-2-butene	0.77	0.50	ug/g	1.00	<	77	63.1-120			
Isopropylbenzene	0.92	0.50	ug/g	1.00	<	92	80-120			
Bromobenzene	0.83	0.50	ug/g	1.00	<	83	80-120			
n-Propyl Benzene	0.91	0.50	ug/g	1.00	<	91	80-120			
2-Chlorotoluene	0.89	0.50	ug/g	1.00	<	89	80-120			
4-Chlorotoluene	0.89	0.50	ug/g	1.00	<	89	80-120			
1,3,5-Trimethylbenzene	0.92	0.50	ug/g	1.00	<	92	80-120			
tert-Butylbenzene	0.93	0.50	ug/g	1.00	<	93	80-120			
1,2,4-Trimethylbenzene	0.91	0.50	ug/g	1.00	<	91	80-120			
sec-Butylbenzene	0.96	0.50	ug/g	1.00	<	96	80-120			
1,3-Dichlorobenzene	0.87	0.50	ug/g	1.00	<	87	80-120			
1,4-Dichlorobenzene	0.85	0.50	ug/g	1.00	<	85	80-120			
p-Isopropyltoluene	0.96	0.50	ug/g	1.00	<	96	76.5-120			
1,2-Dichlorobenzene	0.84	0.50	ug/g	1.00	<	84	80-120			
n-Butyl Benzene	0.99	0.50	ug/g	1.00	<	99	80-120			
1,2-Dibromo-3-Chloropropane	0.82	0.50	ug/g	1.00	<	82	53.7-120			
1,2,4-Trichlorobenzene	0.95	0.50	ug/g	1.00	<	95	64.4-120			
Naphthalene	0.92	0.50	ug/g	1.00	<	92	49.6-120			
Hexachlorobutadiene	1.05	0.50	ug/g	1.00	<	105	71.1-120			
1,2,3-Trichlorobenzene	0.99	0.50	ug/g	1.00	<	99	44.7-120			
Surrogate: Toluene-d8	*0.266*		ug/g	*0.250*		*106*	*80-120*			
Surrogate: Bromofluorobenzene	*0.244*		ug/g	*0.250*		*98*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.242*		ug/g	*0.250*		*97*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
Matrix Spike Dup (B930239-MSD1)	**Source: 1594547-06**			Prepared & Analyzed: 2023-04-12						
Dichlorodifluoromethane	0.69	0.50	ug/g	0.999	<	69	47.5-120	6	20	
Chloromethane	0.82	0.50	ug/g	0.999	<	82	71.4-120	3	20	
Vinyl chloride	0.22	0.50	ug/g	0.999	<	22	25.7-120	2	20	CAL
Bromomethane	0.65	0.50	ug/g	0.999	<	65	24.4-120	26	20	CCAL
Chloroethane	0.85	0.50	ug/g	0.999	<	85	51-120	2	20	
Trichlorofluoromethane	0.81	0.50	ug/g	0.999	<	81	70.4-120	3	20	
Acrolein	<	9.99	ug/g		<		51.7-120		20	CCAL
Acetone	<	9.99	ug/g		<		45.7-120		20	
Ethyl Ether	<	0.50	ug/g		<		60.4-120		20	CAL
1,1-Dichloroethene	<	0.50	ug/g		<		70.4-120		20	
Iodomethane	<	0.50	ug/g		<		55.6-132		20	
Acrylonitrile	<	0.50	ug/g		<		55.5-120		20	
Methylene Chloride	<	0.50	ug/g		<		66.4-120		20	
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g		<		75.4-120		20	
Carbon disulfide	<	0.50	ug/g		<		67.9-120		20	
trans-1,2-Dichloroethene	<	0.50	ug/g		<		76.6-120		20	
Methyl tert-Butyl Ether	<	0.50	ug/g		<		61.1-120		20	
1,1-Dichloroethane	<	0.50	ug/g		<		68.2-120		20	
Vinyl acetate	<	0.50	ug/g		<		51.3-120		20	
Chloroprene	<	0.50	ug/g		<		74.9-120		20	
2-Butanone	<	9.99	ug/g		<		49.2-120		20	CCAL
cis-1,2-Dichloroethene	<	0.50	ug/g		<		71.9-120		20	
Bromochloromethane	<	0.50	ug/g		<		63-120		20	
Chloroform	<	0.50	ug/g		<		75.8-120		20	
2,2-Dichloropropane	<	0.50	ug/g		<		70.8-120		20	
1,2-Dichloroethane	<	0.50	ug/g		<		66.8-120		20	
1,1,1-Trichloroethane	<	0.50	ug/g		<		70.3-120		20	
1,1-Dichloropropene	<	0.50	ug/g		<		72.7-120		20	
Carbon Tetrachloride	<	0.50	ug/g		<		64.7-120		20	
Benzene	<	0.50	ug/g		<		74.3-120		20	
Dibromomethane	<	0.50	ug/g		<		62.5-120		20	
1,2-Dichloropropane	<	0.50	ug/g		<		70.1-120		20	
Trichloroethene	<	0.50	ug/g		<		80-120		20	
Bromodichloromethane	<	0.50	ug/g		<		67.2-120		20	
2-Chloroethyl vinyl ether	<	0.50	ug/g		<		51.9-134		20	CCAL
cis-1,3-Dichloropropene	<	0.50	ug/g		<		68.1-120		20	
4-Methyl-2-pentanone	<	9.99	ug/g		<		44.6-120		20	
trans-1,3-Dichloropropene	<	0.50	ug/g		<		63.4-120		20	
1,1,2-Trichloroethane	<	0.50	ug/g		<		61.7-120		20	
Toluene	<	0.50	ug/g		<		80-120		20	
1,3-Dichloropropane	<	0.50	ug/g		<		63.6-120		20	

Work Order: 1592796

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
Matrix Spike Dup (B930239-MSD1)	**Source: 1594547-06**			Prepared & Analyzed: 2023-04-12						
Ethyl Methacrylate	<	0.50	ug/g		<		58.5-120		20	
Dibromochloromethane	<	0.50	ug/g		<		61.1-120		20	
2-Hexanone	<	9.99	ug/g		<		47.2-120		20	
1,2-Dibromoethane	<	0.50	ug/g		<		63.6-120		20	
Tetrachloroethene	<	0.50	ug/g		<		78.8-120		20	
1,1,1,2-Tetrachloroethane	<	0.50	ug/g		<		63.8-120		20	
Chlorobenzene	<	0.50	ug/g		<		80-120		20	
Ethylbenzene	<	0.50	ug/g		<		80-120		20	
m,p-Xylenes	<	1.00	ug/g		<		80-120		20	
Bromoform	<	0.50	ug/g		<		52.2-120		20	
cis-1,4-Dichloro-2-butene	<	0.50	ug/g		<		61.7-120		20	
Styrene	<	0.50	ug/g		<		80-120		20	
1,1,2,2-Tetrachloroethane	<	0.50	ug/g		<		64.3-120		20	
o-Xylene	<	0.50	ug/g		<		80-120		20	
1,2,3-Trichloropropane	<	0.50	ug/g		<		67.1-120		20	
trans-1,4-Dichloro-2-butene	<	0.50	ug/g		<		63.1-120		20	
Isopropylbenzene	<	0.50	ug/g		<		80-120		20	
Bromobenzene	<	0.50	ug/g		<		80-120		20	
n-Propyl Benzene	<	0.50	ug/g		<		80-120		20	
2-Chlorotoluene	<	0.50	ug/g		<		80-120		20	
4-Chlorotoluene	<	0.50	ug/g		<		80-120		20	
1,3,5-Trimethylbenzene	<	0.50	ug/g		<		80-120		20	
tert-Butylbenzene	<	0.50	ug/g		<		80-120		20	
1,2,4-Trimethylbenzene	<	0.50	ug/g		<		80-120		20	
sec-Butylbenzene	<	0.50	ug/g		<		80-120		20	
1,3-Dichlorobenzene	<	0.50	ug/g		<		80-120		20	
1,4-Dichlorobenzene	<	0.50	ug/g		<		80-120		20	
p-Isopropyltoluene	<	0.50	ug/g		<		76.5-120		20	
1,2-Dichlorobenzene	<	0.50	ug/g		<		80-120		20	
n-Butyl Benzene	<	0.50	ug/g		<		80-120		20	
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g		<		53.7-120		20	
1,2,4-Trichlorobenzene	<	0.50	ug/g		<		64.4-120		20	
Naphthalene	<	0.50	ug/g		<		49.6-120		20	
Hexachlorobutadiene	<	0.50	ug/g		<		71.1-120		20	
1,2,3-Trichlorobenzene	<	0.50	ug/g		<		44.7-120		20	
Surrogate: Toluene-d8	*0.266*		ug/g	*0.250*		*107*	*80-120*			
Surrogate: Bromofluorobenzene	*0.233*		ug/g	*0.250*		*93*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.239*		ug/g	*0.250*		*96*	*80-120*			

Work Order: 1592796

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
Matrix Spike Dup (B930239-MSD2)	**Source: 1594547-06**			Prepared & Analyzed: 2023-04-12						
Dichlorodifluoromethane	<	0.50	ug/g		<		47.5-120		20	
Chloromethane	<	0.50	ug/g		<		71.4-120		20	
Vinyl chloride	<	0.50	ug/g		<		25.7-120		20	CAL
Bromomethane	<	0.50	ug/g		<		24.4-120		20	CCAL
Chloroethane	<	0.50	ug/g		<		51-120		20	
Trichlorofluoromethane	<	0.50	ug/g		<		70.4-120		20	
Acrolein	1.79	10.0	ug/g	2.00	<	90	51.7-120	3	20	CCAL
Acetone	1.70	10.0	ug/g	2.00	<	85	45.7-120	0.5	20	
Ethyl Ether	0.80	0.50	ug/g	1.00	<	80	60.4-120	0.9	20	CAL
1,1-Dichloroethene	0.92	0.50	ug/g	1.00	<	92	70.4-120	3	20	
Iodomethane	0.86	0.50	ug/g	1.00	<	86	55.6-132	0.2	20	
Acrylonitrile	0.89	0.50	ug/g	1.00	<	89	55.5-120	2	20	
Methylene Chloride	0.87	0.50	ug/g	1.00	<	87	66.4-120	0.8	20	
1,1,2-Trichloro-1,1,2-trifluoroethane	0.89	0.50	ug/g	1.00	<	89	75.4-120	4	20	
Carbon disulfide	0.94	0.50	ug/g	1.00	<	94	67.9-120	4	20	
trans-1,2-Dichloroethene	0.92	0.50	ug/g	1.00	<	92	76.6-120	0.8	20	
Methyl tert-Butyl Ether	0.80	0.50	ug/g	1.00	<	80	61.1-120	0.01	20	
1,1-Dichloroethane	0.90	0.50	ug/g	1.00	<	90	68.2-120	1	20	
Vinyl acetate	0.84	0.50	ug/g	1.00	<	84	51.3-120	5	20	
Chloroprene	0.91	0.50	ug/g	1.00	<	91	74.9-120	2	20	
2-Butanone	1.74	10.0	ug/g	2.00	<	87	49.2-120	2	20	CCAL
cis-1,2-Dichloroethene	0.89	0.50	ug/g	1.00	<	89	71.9-120	0.4	20	
Bromochloromethane	0.84	0.50	ug/g	1.00	<	84	63-120	0.4	20	
Chloroform	0.87	0.50	ug/g	1.00	<	87	75.8-120	0.7	20	
2,2-Dichloropropane	0.82	0.50	ug/g	1.00	<	82	70.8-120	2	20	
1,2-Dichloroethane	0.83	0.50	ug/g	1.00	<	83	66.8-120	0.5	20	
1,1,1-Trichloroethane	0.87	0.50	ug/g	1.00	<	87	70.3-120	2	20	
1,1-Dichloropropene	0.91	0.50	ug/g	1.00	<	91	72.7-120	2	20	
Carbon Tetrachloride	0.80	0.50	ug/g	1.00	<	80	64.7-120	3	20	
Benzene	0.91	0.50	ug/g	1.00	<	91	74.3-120	1	20	
Dibromomethane	0.80	0.50	ug/g	1.00	<	80	62.5-120	0.7	20	
1,2-Dichloropropane	0.85	0.50	ug/g	1.00	<	85	70.1-120	0.7	20	
Trichloroethene	0.89	0.50	ug/g	1.00	<	89	80-120	0.04	20	
Bromodichloromethane	0.79	0.50	ug/g	1.00	<	79	67.2-120	0.2	20	
2-Chloroethyl vinyl ether	0.78	0.50	ug/g	1.00	<	78	51.9-134	0.6	20	CCAL
cis-1,3-Dichloropropene	0.79	0.50	ug/g	1.00	<	79	68.1-120	0.5	20	
4-Methyl-2-pentanone	1.53	10.0	ug/g	2.00	<	76	44.6-120	0.4	20	
trans-1,3-Dichloropropene	0.76	0.50	ug/g	1.00	<	76	63.4-120	0.3	20	
1,1,2-Trichloroethane	0.80	0.50	ug/g	1.00	<	80	61.7-120	0.5	20	
Toluene	0.87	0.50	ug/g	1.00	<	87	80-120	0.2	20	
1,3-Dichloropropane	0.81	0.50	ug/g	1.00	<	81	63.6-120	1	20	

Work Order: 1592796

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930239										
Matrix Spike Dup (B930239-MSD2)	**Source: 1594547-06**			Prepared & Analyzed: 2023-04-12						
Ethyl Methacrylate	0.78	0.50	ug/g	1.00	<	78	58.5-120	0.8	20	
Dibromochloromethane	0.73	0.50	ug/g	1.00	<	73	61.1-120	0.4	20	
2-Hexanone	1.54	10.0	ug/g	2.00	<	77	47.2-120	1	20	
1,2-Dibromoethane	0.79	0.50	ug/g	1.00	<	79	63.6-120	0.7	20	
Tetrachloroethene	0.88	0.50	ug/g	1.00	<	88	78.8-120	5	20	
1,1,1,2-Tetrachloroethane	0.77	0.50	ug/g	1.00	<	77	63.8-120	0.5	20	
Chlorobenzene	0.86	0.50	ug/g	1.00	<	86	80-120	2	20	
Ethylbenzene	0.89	0.50	ug/g	1.00	<	89	80-120	3	20	
m,p-Xylenes	1.79	1.00	ug/g	2.00	<	89	80-120	2	20	
Bromoform	0.70	0.50	ug/g	1.00	<	70	52.2-120	3	20	
cis-1,4-Dichloro-2-butene	0.73	0.50	ug/g	1.00	<	73	61.7-120	3	20	
Styrene	0.85	0.50	ug/g	1.00	<	85	80-120	2	20	
1,1,2,2-Tetrachloroethane	0.80	0.50	ug/g	1.00	<	80	64.3-120	2	20	
o-Xylene	0.87	0.50	ug/g	1.00	<	87	80-120	2	20	
1,2,3-Trichloropropane	0.80	0.50	ug/g	1.00	<	80	67.1-120	2	20	
trans-1,4-Dichloro-2-butene	0.75	0.50	ug/g	1.00	<	75	63.1-120	2	20	
Isopropylbenzene	0.90	0.50	ug/g	1.00	<	90	80-120	3	20	
Bromobenzene	0.82	0.50	ug/g	1.00	<	82	80-120	1	20	
n-Propyl Benzene	0.89	0.50	ug/g	1.00	<	89	80-120	2	20	
2-Chlorotoluene	0.88	0.50	ug/g	1.00	<	88	80-120	1	20	
4-Chlorotoluene	0.88	0.50	ug/g	1.00	<	88	80-120	2	20	
1,3,5-Trimethylbenzene	0.90	0.50	ug/g	1.00	<	90	80-120	2	20	
tert-Butylbenzene	0.91	0.50	ug/g	1.00	<	91	80-120	3	20	
1,2,4-Trimethylbenzene	0.90	0.50	ug/g	1.00	<	90	80-120	2	20	
sec-Butylbenzene	0.93	0.50	ug/g	1.00	<	93	80-120	2	20	
1,3-Dichlorobenzene	0.86	0.50	ug/g	1.00	<	86	80-120	0.8	20	
1,4-Dichlorobenzene	0.87	0.50	ug/g	1.00	<	87	80-120	2	20	
p-Isopropyltoluene	0.97	0.50	ug/g	1.00	<	97	76.5-120	0.2	20	
1,2-Dichlorobenzene	0.85	0.50	ug/g	1.00	<	85	80-120	1	20	
n-Butyl Benzene	0.99	0.50	ug/g	1.00	<	99	80-120	0.03	20	
1,2-Dibromo-3-Chloropropane	0.82	0.50	ug/g	1.00	<	82	53.7-120	0.2	20	
1,2,4-Trichlorobenzene	0.94	0.50	ug/g	1.00	<	94	64.4-120	0.6	20	
Naphthalene	0.89	0.50	ug/g	1.00	<	89	49.6-120	2	20	
Hexachlorobutadiene	1.06	0.50	ug/g	1.00	<	106	71.1-120	1	20	
1,2,3-Trichlorobenzene	0.96	0.50	ug/g	1.00	<	96	44.7-120	3	20	
Surrogate: Toluene-d8	*0.265*		ug/g	*0.250*		*106*	*80-120*			
Surrogate: Bromofluorobenzene	*0.242*		ug/g	*0.250*		*97*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.244*		ug/g	*0.250*		*98*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930271										
Blank (B930271-BLK1)				Prepared & Analyzed: 2023-04-13						
N-Nitrosodimethylamine	<	333	ug/kg							
bis(2-chloroethyl)ether	<	333	ug/kg							
Phenol	<	333	ug/kg							
2-Chlorophenol	<	333	ug/kg							
1,3-Dichlorobenzene	<	333	ug/kg							
1,4-Dichlorobenzene	<	333	ug/kg							
1,2-Dichlorobenzene	<	333	ug/kg							
2,2'-oxybis(1-chloropropane)	<	333	ug/kg							
2-Methylphenol	<	333	ug/kg							
Hexachloroethane	<	333	ug/kg							
N-Nitroso-di-n-propylamine	<	333	ug/kg							
4-Methylphenol	<	333	ug/kg							
Nitrobenzene	<	333	ug/kg							
Isophorone	<	333	ug/kg							
2-Nitrophenol	<	333	ug/kg							
2,4-Dimethylphenol	<	333	ug/kg							
bis(2-chloroethoxy)methane	<	333	ug/kg							
2,4-Dichlorophenol	<	333	ug/kg							
1,2,4-Trichlorobenzene	<	333	ug/kg							
Naphthalene	<	333	ug/kg							
4-Chloroaniline	<	333	ug/kg							
Hexachlorobutadiene	<	333	ug/kg							
4-Chloro-3-methylphenol	<	333	ug/kg							
2-Methylnaphthalene	<	333	ug/kg							
Hexachlorocyclopentadiene	<	333	ug/kg							
2,4,6-Trichlorophenol	<	333	ug/kg							
2,4,5-Trichlorophenol	<	333	ug/kg							
2-Chloronaphthalene	<	333	ug/kg							
2-Nitroaniline	<	333	ug/kg							
Acenaphthylene	<	333	ug/kg							
Dimethylphthalate	<	333	ug/kg							
2,6-Dinitrotoluene	<	333	ug/kg							
Acenaphthene	<	333	ug/kg							
3-Nitroaniline	<	333	ug/kg							
2,4-Dinitrophenol	<	333	ug/kg							
Dibenzofuran	<	333	ug/kg							
2,4-Dinitrotoluene	<	333	ug/kg							
4-Nitrophenol	<	333	ug/kg							
Fluorene	<	333	ug/kg							
4-Chlorophenyl-phenylether	<	333	ug/kg							
Diethyl phthalate	<	333	ug/kg							

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930271										
Blank (B930271-BLK1)				Prepared & Analyzed: 2023-04-13						
4-Nitroaniline	<	333	ug/kg							
4,6-Dinitro-2-methylphenol	<	333	ug/kg							
N-Nitrosodiphenylamine	<	333	ug/kg							
Azobenzene	<	333	ug/kg							
4-Bromophenyl-phenylether	<	333	ug/kg							
Hexachlorobenzene	<	333	ug/kg							
Pentachlorophenol	<	333	ug/kg							
Phenanthrene	<	333	ug/kg							
Carbazole	<	475	ug/kg							
Di-n-butyl phthalate	<	333	ug/kg							
Fluoranthene	<	333	ug/kg							
Benzidine	<	333	ug/kg							BENZ
Pyrene	<	333	ug/kg							
Butylbenzylphthalate	<	333	ug/kg							
3,3'-Dichlorobenzidine	<	475	ug/kg							
Benzo[a]anthracene	<	333	ug/kg							
Chrysene	<	333	ug/kg							
bis(2-ethylhexyl)phthalate	<	333	ug/kg							
Di-n-octyl phthalate	<	333	ug/kg							
Benzo[b]fluoranthene	<	333	ug/kg							
Benzo[k]fluoranthene	<	333	ug/kg							
Benzo[a]pyrene	<	333	ug/kg							
Indeno(1,2,3-cd)pyrene	<	333	ug/kg							
Dibenzo(a,h)anthracene	<	333	ug/kg							
Benzo[ghi]perylene	<	333	ug/kg							
1,2-Diphenylhydrazine	<	333	ug/kg							
Anthracene	<	333	ug/kg							
Surrogate: 2-Fluorophenol	*1910*		ug/kg	*2500*		*77*	*61-120*			
Surrogate: Phenol-d6	*1930*		ug/kg	*2500*		*77*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1230*		ug/kg	*1670*		*74*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1270*		ug/kg	*1670*		*76*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*1910*		ug/kg	*2500*		*76*	*47.2-132*			
Surrogate: Terphenyl-d14	*669*		ug/kg	*1670*		*40*	*30.7-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930271										
LCS (B930271-BS1)				Prepared & Analyzed: 2023-04-13						
N-Nitrosodimethylamine	1660	333	ug/kg	1670		100	68.1-125			
bis(2-chloroethyl)ether	1360	333	ug/kg	1670		82	65-120			
Phenol	1250	333	ug/kg	1670		75	55.5-120			
2-Chlorophenol	1320	333	ug/kg	1670		79	66.1-120			
1,3-Dichlorobenzene	1350	333	ug/kg	1670		81	69.4-120			
1,4-Dichlorobenzene	1350	333	ug/kg	1670		81	66.4-120			
1,2-Dichlorobenzene	1350	333	ug/kg	1670		81	73.8-120			
2,2'-oxybis(1-chloropropane)	1260	333	ug/kg	1670		76	62.2-120			
2-Methylphenol	1320	333	ug/kg	1670		79	69-120			
Hexachloroethane	1330	333	ug/kg	1670		80	65.7-120			
N-Nitroso-di-n-propylamine	1350	333	ug/kg	1670		81	75-120			
4-Methylphenol	1330	333	ug/kg				74.7-120			
Nitrobenzene	1310	333	ug/kg	1670		78	71.5-120			
Isophorone	1370	333	ug/kg	1670		82	72-120			
2-Nitrophenol	1330	333	ug/kg	1670		80	74.1-120			
2,4-Dimethylphenol	1250	333	ug/kg	1670		75	52.2-120			
bis(2-chloroethoxy)methane	1340	333	ug/kg	1670		80	74.5-120			
2,4-Dichlorophenol	1340	333	ug/kg	1670		81	69.1-120			
1,2,4-Trichlorobenzene	1370	333	ug/kg	1670		82	74.1-120			
Naphthalene	1370	333	ug/kg	1670		83	71.4-120			
4-Chloroaniline	677	333	ug/kg	1670		41	16.7-120			
Hexachlorobutadiene	1340	333	ug/kg	1670		81	72.1-120			
4-Chloro-3-methylphenol	1360	333	ug/kg	1670		82	73.8-120			
2-Methylnaphthalene	1410	333	ug/kg	1670		85	76.3-120			
Hexachlorocyclopentadiene	1300	333	ug/kg	1670		78	52.9-120			
2,4,6-Trichlorophenol	1310	333	ug/kg	1670		78	71.4-120			
2,4,5-Trichlorophenol	1330	333	ug/kg	1670		80	72.5-120			
2-Chloronaphthalene	1370	333	ug/kg	1670		82	73.3-120			
2-Nitroaniline	1330	333	ug/kg	1670		80	71.4-120			
Acenaphthylene	1320	333	ug/kg	1670		79	72.9-120			
Dimethylphthalate	1430	333	ug/kg	1670		86	80-129			
2,6-Dinitrotoluene	1390	333	ug/kg	1670		83	76.5-120			
Acenaphthene	1370	333	ug/kg	1670		82	72.4-120			
3-Nitroaniline	1380	333	ug/kg	1670		83	44.4-121			
2,4-Dinitrophenol	1420	333	ug/kg	1670		85	51.3-165			
Dibenzofuran	1390	333	ug/kg	1670		84	75.3-120			
2,4-Dinitrotoluene	1420	333	ug/kg	1670		85	68.7-120			
4-Nitrophenol	1320	333	ug/kg	1670		79	65.7-123			
Fluorene	1400	333	ug/kg	1670		84	73.3-123			
4-Chlorophenyl-phenylether	1390	333	ug/kg	1670		83	74.2-120			
Diethyl phthalate	1480	333	ug/kg	1670		89	76.7-127			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930271										
LCS (B930271-BS1)				Prepared & Analyzed: 2023-04-13						
4-Nitroaniline	1280	333	ug/kg	1670		77	59.7-120			
4,6-Dinitro-2-methylphenol	1520	333	ug/kg	1670		91	65.7-123			
N-Nitrosodiphenylamine	1390	333	ug/kg				69.4-120			
Azobenzene	1400	333	ug/kg	1670		84	76.8-120			
4-Bromophenyl-phenylether	1450	333	ug/kg	1670		87	80-120			
Hexachlorobenzene	1410	333	ug/kg	1670		85	72.8-121			
Pentachlorophenol	1270	333	ug/kg	1670		76	57.7-120			
Phenanthrene	1420	333	ug/kg	1670		85	71.7-120			
Carbazole	1350	475	ug/kg	1670		81	65.7-120			
Di-n-butyl phthalate	1430	333	ug/kg	1670		86	76.6-122			
Fluoranthene	1420	333	ug/kg	1670		85	70.6-120			
Benzidine	26.1	333	ug/kg	1670		2	0-200			BENZ
Pyrene	1380	333	ug/kg	1670		83	70.5-120			
Butylbenzylphthalate	1400	333	ug/kg	1670		84	74.8-122			
3,3'-Dichlorobenzidine	985	475	ug/kg	1670		59	35.8-182			
Benzo[a]anthracene	1480	333	ug/kg	1670		89	74.9-120			
Chrysene	1390	333	ug/kg	1670		83	75.4-120			
bis(2-ethylhexyl)phthalate	1440	333	ug/kg	1670		87	77-131			
Di-n-octyl phthalate	1630	333	ug/kg	1670		98	71.7-129			
Benzo[b]fluoranthene	1600	333	ug/kg	1670		96	77.8-120			
Benzo[k]fluoranthene	1570	333	ug/kg	1670		94	75.1-120			
Benzo[a]pyrene	1480	333	ug/kg	1670		89	75.5-120			
Indeno(1,2,3-cd)pyrene	1550	333	ug/kg	1670		93	69.4-136			
Dibenzo(a,h)anthracene	1550	333	ug/kg	1670		93	61.4-141			
Benzo[ghi]perylene	1490	333	ug/kg	1670		90	64.9-120			
Anthracene	1400	333	ug/kg	1670		84	76.7-120			
Surrogate: 2-Fluorophenol	*1970*		ug/kg	*2500*		*79*	*61-120*			
Surrogate: Phenol-d6	*1970*		ug/kg	*2500*		*79*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1250*		ug/kg	*1670*		*75*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1290*		ug/kg	*1670*		*78*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2170*		ug/kg	*2500*		*87*	*47.2-132*			
Surrogate: Terphenyl-d14	*734*		ug/kg	*1670*		*44*	*30.7-120*			

Work Order: 1592796

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930271										
LCS Dup (B930271-BSD1)				Prepared & Analyzed: 2023-04-13						
N-Nitrosodimethylamine	1600	333	ug/kg	1670		96	68.1-125	4	20	
bis(2-chloroethyl)ether	1370	333	ug/kg	1670		82	65-120	0.5	20	
Phenol	1260	333	ug/kg	1670		76	55.5-120	1	20	
2-Chlorophenol	1350	333	ug/kg	1670		81	66.1-120	2	20	
1,3-Dichlorobenzene	1350	333	ug/kg	1670		81	69.4-120	0.001	20	
1,4-Dichlorobenzene	1340	333	ug/kg	1670		80	66.4-120	0.6	20	
1,2-Dichlorobenzene	1370	333	ug/kg	1670		82	73.8-120	1	20	
2,2'-oxybis(1-chloropropane)	1270	333	ug/kg	1670		76	62.2-120	0.7	20	
2-Methylphenol	1320	333	ug/kg	1670		79	69-120	0.04	20	
Hexachloroethane	1350	333	ug/kg	1670		81	65.7-120	1	20	
N-Nitroso-di-n-propylamine	1390	333	ug/kg	1670		83	75-120	3	20	
4-Methylphenol	1350	333	ug/kg				74.7-120	1	20	
Nitrobenzene	1320	333	ug/kg	1670		79	71.5-120	0.8	20	
Isophorone	1380	333	ug/kg	1670		83	72-120	0.9	20	
2-Nitrophenol	1360	333	ug/kg	1670		82	74.1-120	2	20	
2,4-Dimethylphenol	1250	333	ug/kg	1670		75	52.2-120	0.2	20	
bis(2-chloroethoxy)methane	1350	333	ug/kg	1670		81	74.5-120	0.7	20	
2,4-Dichlorophenol	1340	333	ug/kg	1670		80	69.1-120	0.5	20	
1,2,4-Trichlorobenzene	1380	333	ug/kg	1670		83	74.1-120	0.8	20	
Naphthalene	1400	333	ug/kg	1670		84	71.4-120	2	20	
4-Chloroaniline	775	333	ug/kg	1670		47	16.7-120	14	20	
Hexachlorobutadiene	1370	333	ug/kg	1670		82	72.1-120	2	20	
4-Chloro-3-methylphenol	1400	333	ug/kg	1670		84	73.8-120	2	20	
2-Methylnaphthalene	1430	333	ug/kg	1670		86	76.3-120	1	20	
Hexachlorocyclopentadiene	1290	333	ug/kg	1670		77	52.9-120	0.5	20	
2,4,6-Trichlorophenol	1310	333	ug/kg	1670		79	71.4-120	0.5	20	
2,4,5-Trichlorophenol	1350	333	ug/kg	1670		81	72.5-120	1	20	
2-Chloronaphthalene	1360	333	ug/kg	1670		82	73.3-120	0.3	20	
2-Nitroaniline	1350	333	ug/kg	1670		81	71.4-120	2	20	
Acenaphthylene	1340	333	ug/kg	1670		80	72.9-120	1	20	
Dimethylphthalate	1440	333	ug/kg	1670		87	80-129	0.7	20	
2,6-Dinitrotoluene	1430	333	ug/kg	1670		86	76.5-120	3	20	
Acenaphthene	1390	333	ug/kg	1670		83	72.4-120	1	20	
3-Nitroaniline	1330	333	ug/kg	1670		80	44.4-121	3	20	
2,4-Dinitrophenol	1440	333	ug/kg	1670		87	51.3-165	2	20	
Dibenzofuran	1410	333	ug/kg	1670		85	75.3-120	2	20	
2,4-Dinitrotoluene	1450	333	ug/kg	1670		87	68.7-120	2	20	
4-Nitrophenol	1340	333	ug/kg	1670		81	65.7-123	2	20	
Fluorene	1410	333	ug/kg	1670		84	73.3-123	0.6	20	
4-Chlorophenyl-phenylether	1390	333	ug/kg	1670		84	74.2-120	0.3	20	
Diethyl phthalate	1490	333	ug/kg	1670		90	76.7-127	1	20	

Work Order: 1592796

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930271										
LCS Dup (B930271-BSD1)				Prepared & Analyzed: 2023-04-13						
4-Nitroaniline	1410	333	ug/kg	1670		84	59.7-120	9	20	
4,6-Dinitro-2-methylphenol	1520	333	ug/kg	1670		91	65.7-123	0.3	20	
N-Nitrosodiphenylamine	1370	333	ug/kg				69.4-120	1	20	
Azobenzene	1370	333	ug/kg	1670		82	76.8-120	2	20	
4-Bromophenyl-phenylether	1430	333	ug/kg	1670		86	80-120	1	20	
Hexachlorobenzene	1400	333	ug/kg	1670		84	72.8-121	0.5	20	
Pentachlorophenol	1160	333	ug/kg	1670		70	57.7-120	9	20	
Phenanthrene	1400	333	ug/kg	1670		84	71.7-120	2	20	
Carbazole	1440	475	ug/kg	1670		86	65.7-120	6	20	
Di-n-butyl phthalate	1430	333	ug/kg	1670		86	76.6-122	0.08	20	
Fluoranthene	1430	333	ug/kg	1670		86	70.6-120	0.7	20	
Benzidine	101	333	ug/kg	1670		6	0-200	118	20	BENZ
Pyrene	1390	333	ug/kg	1670		83	70.5-120	0.6	20	
Butylbenzylphthalate	1440	333	ug/kg	1670		86	74.8-122	3	20	
3,3'-Dichlorobenzidine	1090	475	ug/kg	1670		65	35.8-182	10	20	
Benzo[a]anthracene	1480	333	ug/kg	1670		89	74.9-120	0.2	20	
Chrysene	1420	333	ug/kg	1670		85	75.4-120	2	20	
bis(2-ethylhexyl)phthalate	1450	333	ug/kg	1670		87	77-131	0.7	20	
Di-n-octyl phthalate	1620	333	ug/kg	1670		97	71.7-129	0.05	20	
Benzo[b]fluoranthene	1560	333	ug/kg	1670		94	77.8-120	2	20	
Benzo[k]fluoranthene	1620	333	ug/kg	1670		97	75.1-120	4	20	
Benzo[a]pyrene	1480	333	ug/kg	1670		89	75.5-120	0.2	20	
Indeno(1,2,3-cd)pyrene	1460	333	ug/kg	1670		87	69.4-136	6	20	
Dibenzo(a,h)anthracene	1460	333	ug/kg	1670		88	61.4-141	6	20	
Benzo[ghi]perylene	1360	333	ug/kg	1670		82	64.9-120	9	20	
Anthracene	1370	333	ug/kg	1670		82	76.7-120	2	20	
Surrogate: 2-Fluorophenol	*1990*		ug/kg	*2500*		*79*	*61-120*			
Surrogate: Phenol-d6	*1990*		ug/kg	*2500*		*80*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1250*		ug/kg	*1670*		*75*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1300*		ug/kg	*1670*		*78*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2160*		ug/kg	*2500*		*86*	*47.2-132*			
Surrogate: Terphenyl-d14	*789*		ug/kg	*1670*		*47*	*30.7-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930271										
Matrix Spike (B930271-MS1)	**Source: 1594547-07**			Prepared & Analyzed: 2023-04-13						
N-Nitrosodimethylamine	1630	333	ug/kg	1670	<	98	68.1-125			
bis(2-chloroethyl)ether	1340	333	ug/kg	1670	<	80	65-120			
Phenol	1240	333	ug/kg	1670	<	75	55.5-120			
2-Chlorophenol	1300	333	ug/kg	1670	<	78	66.1-120			
1,3-Dichlorobenzene	1310	333	ug/kg	1670	<	79	69.4-120			
1,4-Dichlorobenzene	1330	333	ug/kg	1670	<	80	66.4-120			
1,2-Dichlorobenzene	1330	333	ug/kg	1670	<	80	73.8-120			
2,2'-oxybis(1-chloropropane)	1250	333	ug/kg	1670	<	75	62.2-120			
2-Methylphenol	1310	333	ug/kg	1670	<	79	69-120			
Hexachloroethane	1330	333	ug/kg	1670	<	80	65.7-120			
N-Nitroso-di-n-propylamine	1340	333	ug/kg	1670	<	81	75-120			
4-Methylphenol	1310	333	ug/kg		<		74.7-120			
Nitrobenzene	1280	333	ug/kg	1670	<	77	71.5-120			
Isophorone	1360	333	ug/kg	1670	<	81	72-120			
2-Nitrophenol	1330	333	ug/kg	1670	<	80	74.1-120			
2,4-Dimethylphenol	1240	333	ug/kg	1670	<	74	52.2-120			
bis(2-chloroethoxy)methane	1310	333	ug/kg	1670	<	79	74.5-120			
2,4-Dichlorophenol	1330	333	ug/kg	1670	<	80	69.1-120			
1,2,4-Trichlorobenzene	1350	333	ug/kg	1670	<	81	74.1-120			
Naphthalene	1360	333	ug/kg	1670	<	82	71.4-120			
4-Chloroaniline	820	333	ug/kg	1670	<	49	16.7-120			
Hexachlorobutadiene	1330	333	ug/kg	1670	<	80	72.1-120			
4-Chloro-3-methylphenol	1390	333	ug/kg	1670	<	84	73.8-120			
2-Methylnaphthalene	1420	333	ug/kg	1670	<	85	76.3-120			
Hexachlorocyclopentadiene	1310	333	ug/kg	1670	<	78	52.9-120			
2,4,6-Trichlorophenol	1310	333	ug/kg	1670	<	79	71.4-120			
2,4,5-Trichlorophenol	1370	333	ug/kg	1670	<	82	72.5-120			
2-Chloronaphthalene	1370	333	ug/kg	1670	<	82	73.3-120			
2-Nitroaniline	1340	333	ug/kg	1670	<	81	71.4-120			
Acenaphthylene	1350	333	ug/kg	1670	<	81	72.9-120			
Dimethylphthalate	1440	333	ug/kg	1670	<	87	80-129			
2,6-Dinitrotoluene	1410	333	ug/kg	1670	<	85	76.5-120			
Acenaphthene	1380	333	ug/kg	1670	<	83	72.4-120			
3-Nitroaniline	1390	333	ug/kg	1670	<	83	44.4-121			
2,4-Dinitrophenol	1440	333	ug/kg	1670	<	86	51.3-165			
Dibenzofuran	1430	333	ug/kg	1670	<	86	75.3-120			
2,4-Dinitrotoluene	1460	333	ug/kg	1670	<	88	68.7-120			
4-Nitrophenol	1280	333	ug/kg	1670	<	77	65.7-123			
Fluorene	1430	333	ug/kg	1670	<	86	73.3-123			
4-Chlorophenyl-phenylether	1410	333	ug/kg	1670	<	84	74.2-120			
Diethyl phthalate	1480	333	ug/kg	1670	<	89	76.7-127			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930271										
Matrix Spike (B930271-MS1)	**Source: 1594547-07**			Prepared & Analyzed: 2023-04-13						
4-Nitroaniline	1380	333	ug/kg	1670	<	83	59.7-120			
4,6-Dinitro-2-methylphenol	1530	333	ug/kg	1670	<	92	65.7-123			
N-Nitrosodiphenylamine	1390	333	ug/kg		<		69.4-120			
Azobenzene	1390	333	ug/kg	1670	<	84	76.8-120			
4-Bromophenyl-phenylether	1440	333	ug/kg	1670	<	86	80-120			
Hexachlorobenzene	1410	333	ug/kg	1670	<	85	72.8-121			
Pentachlorophenol	1250	333	ug/kg	1670	<	75	57.7-120			
Phenanthrene	1420	333	ug/kg	1670	<	85	71.7-120			
Carbazole	1420	475	ug/kg	1670	<	85	65.7-120			
Di-n-butyl phthalate	1440	333	ug/kg	1670	<	86	76.6-122			
Fluoranthene	1440	333	ug/kg	1670	<	86	70.6-120			
Benzidine	42.3	333	ug/kg	1670	<	3	0-200			BENZ
Pyrene	1360	333	ug/kg	1670	<	82	70.5-120			
Butylbenzylphthalate	1400	333	ug/kg	1670	<	84	74.8-122			
3,3'-Dichlorobenzidine	1060	475	ug/kg	1670	<	63	35.8-182			
Benzo[a]anthracene	1470	333	ug/kg	1670	<	88	74.9-120			
Chrysene	1400	333	ug/kg	1670	<	84	75.4-120			
bis(2-ethylhexyl)phthalate	1420	333	ug/kg	1670	<	85	77-131			
Di-n-octyl phthalate	1610	333	ug/kg	1670	<	97	71.7-129			
Benzo[b]fluoranthene	1560	333	ug/kg	1670	<	94	77.8-120			
Benzo[k]fluoranthene	1570	333	ug/kg	1670	<	94	75.1-120			
Benzo[a]pyrene	1470	333	ug/kg	1670	<	88	75.5-120			
Indeno(1,2,3-cd)pyrene	1420	333	ug/kg	1670	<	86	69.4-136			
Dibenzo(a,h)anthracene	1450	333	ug/kg	1670	<	87	61.4-141			
Benzo[ghi]perylene	1350	333	ug/kg	1670	<	81	64.9-120			
Anthracene	1400	333	ug/kg	1670	<	84	76.7-120			
Surrogate: 2-Fluorophenol	*1960*		ug/kg	*2500*		*79*	*61-120*			
Surrogate: Phenol-d6	*1970*		ug/kg	*2500*		*79*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1220*		ug/kg	*1670*		*73*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1310*		ug/kg	*1670*		*78*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2160*		ug/kg	*2500*		*87*	*47.2-132*			
Surrogate: Terphenyl-d14	*733*		ug/kg	*1670*		*44*	*30.7-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930271										
Matrix Spike Dup (B930271-MSD1)	**Source: 1594547-07**			Prepared & Analyzed: 2023-04-13						
N-Nitrosodimethylamine	1520	333	ug/kg	1670	<	91	68.1-125	7	20	
bis(2-chloroethyl)ether	1350	333	ug/kg	1670	<	81	65-120	1	20	
Phenol	1220	333	ug/kg	1670	<	73	55.5-120	2	20	
2-Chlorophenol	1330	333	ug/kg	1670	<	80	66.1-120	2	20	
1,3-Dichlorobenzene	1340	333	ug/kg	1670	<	81	69.4-120	2	20	
1,4-Dichlorobenzene	1330	333	ug/kg	1670	<	80	66.4-120	0.6	20	
1,2-Dichlorobenzene	1340	333	ug/kg	1670	<	80	73.8-120	0.8	20	
2,2'-oxybis(1-chloropropane)	1260	333	ug/kg	1670	<	76	62.2-120	1	20	
2-Methylphenol	1300	333	ug/kg	1670	<	78	69-120	1	20	
Hexachloroethane	1350	333	ug/kg	1670	<	81	65.7-120	2	20	
N-Nitroso-di-n-propylamine	1350	333	ug/kg	1670	<	81	75-120	0.3	20	
4-Methylphenol	1300	333	ug/kg		<		74.7-120	0.4	20	
Nitrobenzene	1300	333	ug/kg	1670	<	78	71.5-120	2	20	
Isophorone	1370	333	ug/kg	1670	<	82	72-120	1	20	
2-Nitrophenol	1350	333	ug/kg	1670	<	81	74.1-120	2	20	
2,4-Dimethylphenol	1220	333	ug/kg	1670	<	73	52.2-120	1	20	
bis(2-chloroethoxy)methane	1320	333	ug/kg	1670	<	79	74.5-120	0.6	20	
2,4-Dichlorophenol	1330	333	ug/kg	1670	<	80	69.1-120	0.1	20	
1,2,4-Trichlorobenzene	1360	333	ug/kg	1670	<	82	74.1-120	0.5	20	
Naphthalene	1350	333	ug/kg	1670	<	81	71.4-120	0.4	20	
4-Chloroaniline	825	333	ug/kg	1670	<	50	16.7-120	0.6	20	
Hexachlorobutadiene	1330	333	ug/kg	1670	<	80	72.1-120	0.4	20	
4-Chloro-3-methylphenol	1380	333	ug/kg	1670	<	83	73.8-120	0.6	20	
2-Methylnaphthalene	1420	333	ug/kg	1670	<	85	76.3-120	0.3	20	
Hexachlorocyclopentadiene	1300	333	ug/kg	1670	<	78	52.9-120	0.3	20	
2,4,6-Trichlorophenol	1290	333	ug/kg	1670	<	78	71.4-120	2	20	
2,4,5-Trichlorophenol	1340	333	ug/kg	1670	<	81	72.5-120	2	20	
2-Chloronaphthalene	1360	333	ug/kg	1670	<	81	73.3-120	1	20	
2-Nitroaniline	1330	333	ug/kg	1670	<	80	71.4-120	0.7	20	
Acenaphthylene	1320	333	ug/kg	1670	<	79	72.9-120	2	20	
Dimethylphthalate	1420	333	ug/kg	1670	<	86	80-129	1	20	
2,6-Dinitrotoluene	1400	333	ug/kg	1670	<	84	76.5-120	0.5	20	
Acenaphthene	1370	333	ug/kg	1670	<	82	72.4-120	1	20	
3-Nitroaniline	1370	333	ug/kg	1670	<	82	44.4-121	2	20	
2,4-Dinitrophenol	1430	333	ug/kg	1670	<	86	51.3-165	0.07	20	
Dibenzofuran	1400	333	ug/kg	1670	<	84	75.3-120	2	20	
2,4-Dinitrotoluene	1440	333	ug/kg	1670	<	87	68.7-120	1	20	
4-Nitrophenol	1210	333	ug/kg	1670	<	73	65.7-123	6	20	
Fluorene	1400	333	ug/kg	1670	<	84	73.3-123	2	20	
4-Chlorophenyl-phenylether	1390	333	ug/kg	1670	<	83	74.2-120	1	20	
Diethyl phthalate	1460	333	ug/kg	1670	<	87	76.7-127	1	20	

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930271										
Matrix Spike Dup (B930271-MSD1)	**Source: 1594547-07**			Prepared & Analyzed: 2023-04-13						
4-Nitroaniline	1380	333	ug/kg	1670	<	83	59.7-120	0.1	20	
4,6-Dinitro-2-methylphenol	1520	333	ug/kg	1670	<	91	65.7-123	0.6	20	
N-Nitrosodiphenylamine	1350	333	ug/kg		<		69.4-120	3	20	
Azobenzene	1360	333	ug/kg	1670	<	82	76.8-120	2	20	
4-Bromophenyl-phenylether	1380	333	ug/kg	1670	<	83	80-120	4	20	
Hexachlorobenzene	1380	333	ug/kg	1670	<	83	72.8-121	3	20	
Pentachlorophenol	1200	333	ug/kg	1670	<	72	57.7-120	3	20	
Phenanthrene	1400	333	ug/kg	1670	<	84	71.7-120	1	20	
Carbazole	1400	475	ug/kg	1670	<	84	65.7-120	1	20	
Di-n-butyl phthalate	1420	333	ug/kg	1670	<	85	76.6-122	1	20	
Fluoranthene	1410	333	ug/kg	1670	<	85	70.6-120	2	20	
Benzidine	50.7	333	ug/kg	1670	<	3	0-200	18	20	BENZ
Pyrene	1360	333	ug/kg	1670	<	82	70.5-120	0.5	20	
Butylbenzylphthalate	1410	333	ug/kg	1670	<	84	74.8-122	0.2	20	
3,3'-Dichlorobenzidine	1100	475	ug/kg	1670	<	66	35.8-182	4	20	
Benzo[a]anthracene	1460	333	ug/kg	1670	<	88	74.9-120	0.6	20	
Chrysene	1400	333	ug/kg	1670	<	84	75.4-120	0.07	20	
bis(2-ethylhexyl)phthalate	1410	333	ug/kg	1670	<	85	77-131	0.7	20	
Di-n-octyl phthalate	1590	333	ug/kg	1670	<	96	71.7-129	1	20	
Benzo[b]fluoranthene	1540	333	ug/kg	1670	<	92	77.8-120	1	20	
Benzo[k]fluoranthene	1570	333	ug/kg	1670	<	94	75.1-120	0.5	20	
Benzo[a]pyrene	1460	333	ug/kg	1670	<	88	75.5-120	0.6	20	
Indeno(1,2,3-cd)pyrene	1440	333	ug/kg	1670	<	87	69.4-136	1	20	
Dibenzo(a,h)anthracene	1470	333	ug/kg	1670	<	88	61.4-141	1	20	
Benzo[ghi]perylene	1370	333	ug/kg	1670	<	82	64.9-120	1	20	
Anthracene	1360	333	ug/kg	1670	<	82	76.7-120	3	20	
Surrogate: 2-Fluorophenol	*1970*		ug/kg	*2500*		*79*	*61-120*			
Surrogate: Phenol-d6	*1960*		ug/kg	*2500*		*78*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1250*		ug/kg	*1670*		*75*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1290*		ug/kg	*1670*		*78*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2140*		ug/kg	*2500*		*86*	*47.2-132*			
Surrogate: Terphenyl-d14	*768*		ug/kg	*1670*		*46*	*30.7-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930220										
Blank (B930220-BLK1)			Prepared & Analyzed: 2023-04-12							
Barium	0.002	0.002	mg/kg wet							J
Cadmium	<	0.004	mg/kg wet							U
Calcium	0.28	0.2	mg/kg wet							
Chromium	<	0.01	mg/kg wet							U
Copper	<	0.006	mg/kg wet							U
Iron	<	0.05	mg/kg wet							U
Lead	<	0.03	mg/kg wet							U
Magnesium	<	0.05	mg/kg wet							U
Manganese	<	0.004	mg/kg wet							U
Molybdenum	<	0.005	mg/kg wet							U
Nickel	<	0.007	mg/kg wet							U
Phosphorus	<	0.03	mg/kg wet							U
Potassium	<	0.08	mg/kg wet							U
Silver	<	0.004	mg/kg wet							U
Sodium	0.04	0.03	mg/kg wet							J
Sulfur	<	0.03	mg/kg wet							U
Zinc	<	0.02	mg/kg wet							U
LCS (B930220-BS1)			Prepared & Analyzed: 2023-04-12							
Barium	0.96	0.002	mg/kg wet	1.00		96.1	80-120			
Cadmium	0.89	0.004	mg/kg wet	1.00		89.4	80-120			
Calcium	49.79	0.2	mg/kg wet	51.0		97.6	80-120			
Chromium	0.87	0.01	mg/kg wet	1.00		87.2	80-120			
Copper	1.88	0.006	mg/kg wet	2.00		94.0	80-120			
Iron	1.80	0.05	mg/kg wet	2.00		89.8	80-120			
Lead	0.89	0.03	mg/kg wet	1.00		88.5	80-120			
Magnesium	18.68	0.05	mg/kg wet	21.0		89.0	80-120			
Manganese	1.76	0.004	mg/kg wet	2.00		88.0	80-120			
Molybdenum	1.88	0.005	mg/kg wet	2.00		94.2	80-120			
Nickel	0.91	0.007	mg/kg wet	1.00		90.9	80-120			
Phosphorus	20.30	0.03	mg/kg wet	20.0		102	80-120			
Potassium	28.29	0.08	mg/kg wet	30.0		94.3	80-120			
Silver	0.87	0.004	mg/kg wet	1.00		87.3	80-120			
Sodium	5.88	0.03	mg/kg wet	6.00		98.0	80-120			
Sulfur	4.81	0.03	mg/kg wet	5.00		96.2	80-120			
Zinc	1.80	0.02	mg/kg wet	2.00		89.8	80-120			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930220										
Matrix Spike (B930220-MS1)	**Source: 1592796-01**			Prepared & Analyzed: 2023-04-12						
Barium	410.4	0.2	mg/kg dry	137	305.4	76.8	75-125			
Cadmium	115.7	0.5	mg/kg dry	137	<	84.5	75-125			
Chromium	130.3	1.6	mg/kg dry	137	17.43	82.5	75-125			
Copper	760.0	0.8	mg/kg dry	274	546.5	78.0	75-125			
Iron	6646	6.8	mg/kg dry	274	6907	NR	75-125			SPK
Lead	127.1	3.6	mg/kg dry	137	14.66	82.2	75-125			
Manganese	343.2	0.5	mg/kg dry	274	120.2	81.5	75-125			
Molybdenum	253.0	0.7	mg/kg dry	274	10.93	88.5	75-125			
Nickel	136.1	0.9	mg/kg dry	137	22.44	83.1	75-125			
Silver	117.2	0.6	mg/kg dry	137	2.21	84.1	75-125			
Zinc	617.0	2.7	mg/kg dry	274	412.8	74.6	75-125			MI
Matrix Spike Dup (B930220-MSD1)	**Source: 1592796-01**			Prepared & Analyzed: 2023-04-12						
Barium	399.1	0.2	mg/kg dry	137	305.4	68.5	75-125	2.79	20	MI
Cadmium	114.0	0.5	mg/kg dry	137	<	83.3	75-125	1.43	20	
Chromium	128.1	1.6	mg/kg dry	137	17.43	80.9	75-125	1.71	20	
Copper	739.9	0.8	mg/kg dry	274	546.5	70.7	75-125	2.68	20	MI
Iron	6455	6.8	mg/kg dry	274	6907	NR	75-125	2.92	20	SPK
Lead	131.3	3.6	mg/kg dry	137	14.66	85.3	75-125	3.24	20	
Manganese	333.7	0.5	mg/kg dry	274	120.2	78.0	75-125	2.81	20	
Molybdenum	246.4	0.7	mg/kg dry	274	10.93	86.1	75-125	2.66	20	
Nickel	135.2	0.9	mg/kg dry	137	22.44	82.4	75-125	0.725	20	
Silver	115.7	0.6	mg/kg dry	137	2.21	83.0	75-125	1.27	20	
Zinc	597.5	2.7	mg/kg dry	274	412.8	67.5	75-125	3.20	20	MI
Batch B930221										
Blank (B930221-BLK1)				Prepared: 2023-04-12 Analyzed: 2023-04-13						
Arsenic	<	0.00002	mg/kg wet							U
Selenium	<	0.00008	mg/kg wet							U

Work Order: 1592796

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930221										
LCS (B930221-BS1)				Prepared: 2023-04-12 Analyzed: 2023-04-13						
Arsenic	0.20	0.00002	mg/kg wet	0.200		102	80-120			
Selenium	0.22	0.00008	mg/kg wet	0.200		111	80-120			
Matrix Spike (B930221-MS1)		Source: 1592796-01		Prepared: 2023-04-12 Analyzed: 2023-04-13						
Arsenic	30.30	0.009	mg/kg dry	27.6	3.39	97.5	75-125			
Selenium	37.01	0.04	mg/kg dry	27.6	7.48	107	75-125			
Matrix Spike Dup (B930221-MSD1)		Source: 1592796-01		Prepared: 2023-04-12 Analyzed: 2023-04-13						
Arsenic	31.40	0.009	mg/kg dry	27.1	3.39	103	75-125	3.54	20	
Selenium	38.25	0.04	mg/kg dry	27.1	7.48	114	75-125	3.31	20	
Batch B930245										
Blank (B930245-BLK1)				Prepared: 2023-04-12 Analyzed: 2023-04-13						
Mercury	<	0.000004	mg/kg wet							U
LCS (B930245-BS1)				Prepared: 2023-04-12 Analyzed: 2023-04-13						
Mercury	0.001	0.000004	mg/kg wet	0.00100		97.8	80-120			
Matrix Spike (B930245-MS1)		Source: 1592796-01		Prepared: 2023-04-12 Analyzed: 2023-04-13						
Mercury	1.8	0.006	mg/kg dry	1.47	0.31	99.2	80-120			
Matrix Spike Dup (B930245-MSD1)		Source: 1592796-01		Prepared: 2023-04-12 Analyzed: 2023-04-13						
Mercury	1.8	0.006	mg/kg dry	1.38	0.31	108	80-120	1.83	20	

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Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930217										
Blank (B930217-BLK1)				Prepared & Analyzed: 2023-04-12						
Percent Volatile Solids	<	0.01	%							
Percent Solids	99.99	0.01	%							
LCS (B930217-BS1)				Prepared & Analyzed: 2023-04-12						
Percent Volatile Solids	3.590	0.01	%	3.69		97.3	80-120			
Percent Solids	97.54	0.01	%	97.1		100	80-120			
Duplicate (B930217-DUP1)		**Source: 1592796-01**		Prepared & Analyzed: 2023-04-12						
Percent Solids	12.49	0.01	%		12.20			2.35	20	
Percent Volatile Solids	82.68	0.01	%		82.67			0.0121	20	
Duplicate (B930217-DUP2)		**Source: 1592796-06**		Prepared & Analyzed: 2023-04-12						
Percent Volatile Solids	82.95	0.01	%		82.86			0.109	20	
Percent Solids	12.34	0.01	%		12.29			0.406	20	
Batch B930218										
Blank (B930218-BLK1)				Prepared & Analyzed: 2023-04-12						
Nitrate/Nitrite Nitrogen	<	0.2	mg/kg wet							
LCS (B930218-BS1)				Prepared & Analyzed: 2023-04-12						
Nitrate/Nitrite Nitrogen	20.45	1.0	mg/kg wet	20.0		102	85-115			
Matrix Spike (B930218-MS1)		**Source: 1592796-01**		Prepared & Analyzed: 2023-04-12						
Nitrate/Nitrite Nitrogen	22.34	1.0	mg/kg dry	19.9	2.57	99.3	80-120			
Matrix Spike Dup (B930218-MSD1)		**Source: 1592796-01**		Prepared & Analyzed: 2023-04-12						
Nitrate/Nitrite Nitrogen	22.30	1.0	mg/kg dry	19.9	2.57	99.0	80-120	0.220	20	

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Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

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Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930235										
Blank (B930235-BLK1)				Prepared & Analyzed: 2023-04-12						
Phenol	<	0.08	mg/kg wet							
LCS (B930235-BS1)				Prepared & Analyzed: 2023-04-12						
Phenol	1.82	0.08	mg/kg wet	2.00		91.1	85-115			
Matrix Spike (B930235-MS1)		Source: 1592796-01		Prepared & Analyzed: 2023-04-12						
Phenol	98.72	8.2	mg/kg dry	32.8	82.45	49.6	80-120			MI
Matrix Spike Dup (B930235-MSD1)		Source: 1592796-01		Prepared & Analyzed: 2023-04-12						
Phenol	106.2	8.2	mg/kg dry	32.8	82.45	72.4	80-120	7.30	20	MI
Batch B930269										
Blank (B930269-BLK1)				Prepared & Analyzed: 2023-04-13						
Total Kjeldahl Nitrogen	<	100	mg/kg wet							
LCS (B930269-BS1)				Prepared & Analyzed: 2023-04-13						
Total Kjeldahl Nitrogen	3820	250	mg/kg wet	3840		99.5	85-115			
Matrix Spike (B930269-MS1)		Source: 1594646-01		Prepared & Analyzed: 2023-04-13						
Total Kjeldahl Nitrogen	61400	2050	mg/kg dry	20200	41260	99.7	80-120			
Matrix Spike Dup (B930269-MSD1)		Source: 1594646-01		Prepared & Analyzed: 2023-04-13						
Total Kjeldahl Nitrogen	61500	2050	mg/kg dry	20000	41260	101	80-120	0.160	20	
Batch B930270										
LCS (B930270-BS1)				Prepared & Analyzed: 2023-04-13						
pH @ 21.1°C	4.04		S.U.	4.00		101	85-115			

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Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930270										
Duplicate (B930270-DUP1)		**Source: 1592773-01**		Prepared & Analyzed: 2023-04-13						
pH @ 21.1°C	7.24		S.U.		7.24			0.00	20	
Duplicate (B930270-DUP2)		**Source: 1592796-01**		Prepared & Analyzed: 2023-04-13						
pH @ 19.8°C	6.05		S.U.		6.09			0.659	20	
Reference (B930270-SRM1)				Prepared & Analyzed: 2023-04-13						
pH @ 19.9°C	6.79		S.U.	6.79		100	6.93-103.0			
Batch B930282										
Blank (B930282-BLK1)				Prepared & Analyzed: 2023-04-13						
Cyanide (total)	<	0.2	mg/kg wet							
LCS (B930282-BS1)				Prepared & Analyzed: 2023-04-13						
Cyanide (total)	1.79	0.2	mg/kg wet	2.00		89.3	85-115			
Matrix Spike (B930282-MS1)		**Source: 1592796-01**		Prepared & Analyzed: 2023-04-13						
Cyanide (total)	22.30	1.6	mg/kg dry	32.8	1.65	63.0	80-120			MI
Matrix Spike Dup (B930282-MSD1)		**Source: 1592796-01**		Prepared & Analyzed: 2023-04-13						
Cyanide (total)	26.52	1.6	mg/kg dry	32.8	1.65	75.9	80-120	17.3	200	MI
Batch B930289										
Blank (B930289-BLK1)				Prepared & Analyzed: 2023-04-13						
Ammonia-N	<	10.0	mg/kg wet							

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Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930289										
LCS (B930289-BS1)				Prepared & Analyzed: 2023-04-13						
Ammonia-N	2783	125	mg/kg wet	2820		98.7	85-115			
Matrix Spike (B930289-MS1)		**Source: 1594646-01**		Prepared & Analyzed: 2023-04-13						
Ammonia-N	15640	514	mg/kg dry	10100	5776	97.2	80-120			
Matrix Spike Dup (B930289-MSD1)		**Source: 1594646-01**		Prepared & Analyzed: 2023-04-13						
Ammonia-N	15430	514	mg/kg dry	9930	5776	97.2	80-120	1.32	20	

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Pesticide Screen - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930169										
Blank (B930169-BLK1)				Prepared: 2023-04-11 Analyzed: 2023-05-02						
Aroclor-1016	<	100	ug/kg							
Aroclor-1221	<	100	ug/kg							
Aroclor-1232	<	100	ug/kg							
Aroclor-1242	<	100	ug/kg							
Aroclor-1248	<	100	ug/kg							
Aroclor-1254	<	100	ug/kg							
Aroclor-1260	<	100	ug/kg							
Aroclor-1262	<	100	ug/kg							
Aroclor-1268	<	100	ug/kg							
Surrogate: Tetrachloro-m-xylene	*33.8*		ug/kg	*49.7*		*68*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*51.8*		ug/kg	*49.7*		*104*	*57.3-146*			
LCS (B930169-BS1)				Prepared: 2023-04-11 Analyzed: 2023-05-02						
Aroclor-1016	<	100	ug/kg				67.3-142.7			
Aroclor-1221	<	100	ug/kg				67.3-142.7			
Aroclor-1232	<	100	ug/kg				67.3-142.7			
Aroclor-1242	1150	100	ug/kg	988		116	67.3-142.7			
Aroclor-1248	<	100	ug/kg				67.3-142.7			
Aroclor-1254	<	100	ug/kg				67.3-142.7			
Aroclor-1260	<	100	ug/kg				67.3-142.7			
Aroclor-1262	<	100	ug/kg				67.3-142.7			
Aroclor-1268	<	100	ug/kg				67.3-142.7			
Surrogate: Tetrachloro-m-xylene	*25.5*		ug/kg	*49.4*		*52*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*39.6*		ug/kg	*49.4*		*80*	*57.3-146*			
LCS Dup (B930169-BSD1)				Prepared: 2023-04-11 Analyzed: 2023-05-02						
Aroclor-1016	<	100	ug/kg				67.3-142.7		20	
Aroclor-1221	<	100	ug/kg				67.3-142.7		20	
Aroclor-1232	<	100	ug/kg				67.3-142.7		20	
Aroclor-1242	1150	100	ug/kg	996		115	67.3-142.7	0.4	20	
Aroclor-1248	<	100	ug/kg				67.3-142.7		20	
Aroclor-1254	<	100	ug/kg				67.3-142.7		20	
Aroclor-1260	<	100	ug/kg				67.3-142.7		20	
Aroclor-1262	<	100	ug/kg				67.3-142.7		20	
Aroclor-1268	<	100	ug/kg				67.3-142.7		20	
Surrogate: Tetrachloro-m-xylene	*19.9*		ug/kg	*49.8*		*40*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*34.5*		ug/kg	*49.8*		*69*	*57.3-146*			

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Pesticide Screen - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B930169										
Matrix Spike (B930169-MS1)	**Source: 1594547-07**			Prepared: 2023-04-11 Analyzed: 2023-05-02						
Aroclor-1016	<	100	ug/kg		<		67.3-142.7			
Aroclor-1221	<	100	ug/kg		<		67.3-142.7			
Aroclor-1232	<	100	ug/kg		<		67.3-142.7			
Aroclor-1242	1080	100	ug/kg	987	<	109	67.3-142.7			
Aroclor-1248	<	100	ug/kg		<		67.3-142.7			
Aroclor-1254	<	100	ug/kg		<		67.3-142.7			
Aroclor-1260	<	100	ug/kg		<		67.3-142.7			
Aroclor-1262	<	100	ug/kg		<		67.3-142.7			
Aroclor-1268	<	100	ug/kg		<		67.3-142.7			
Surrogate: Tetrachloro-m-xylene	*20.9*		ug/kg	*49.4*		*42*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*38.1*		ug/kg	*49.4*		*77*	*57.3-146*			
Matrix Spike Dup (B930169-MSD1)	**Source: 1594547-07**			Prepared: 2023-04-11 Analyzed: 2023-05-02						
Aroclor-1016	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1221	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1232	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1242	1210	100	ug/kg	995	<	122	67.3-142.7	12	20	
Aroclor-1248	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1254	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1260	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1262	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1268	<	100	ug/kg		<		67.3-142.7		20	
Surrogate: Tetrachloro-m-xylene	*18.8*		ug/kg	*49.8*		*38*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*39.8*		ug/kg	*49.8*		*80*	*57.3-146*			

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Certified Analyses included in this Report

Method	Analyte	Certifications
EPA 353.2 in Solid	Nitrate/Nitrite Nitrogen	FL,KS
EPA 6010B in Solid	Barium	TX,KS,FL,UT,OK,IA,WA
	Cadmium	KS,FL,UT,OK,IA,WA
	Calcium	TX,KS,IA,FL
	Chromium	TX,KS,FL,UT,OK,IA,WA
	Copper	TX,KS,FL,UT,OK,IA,WA
	Iron	FL,KS,TX,UT,OK,IA,WA
	Lead	FL,KS,TX,UT,OK,IA,WA
	Magnesium	FL,TX,KS,UT,OK,IA,WA
	Manganese	FL,KS,TX,UT,OK,IA,WA
	Molybdenum	TX,KS,FL,UT,IA,OK,WA
	Nickel	FL,KS,TX,UT,OK,IA,WA
	Phosphorus	FL,KS,TX,UT,OK,IA,WA
	Potassium	FL,KS,TX,UT,OK,IA,WA
	Silver	FL,KS,TX,UT,OK,IA,WA
	Sodium	FL,KS,TX,UT,OK,IA,WA
	Zinc	FL,KS,TX,UT,IA,WA
EPA 6020 in Solid	Arsenic	IA,KS,FL,TX
	Selenium	KS,IA,FL,TX
EPA 7471 in Solid	Mercury	TX,KS,FL,UT,OK,IA,WA
EPA 8260 in Solid	Dichlorodifluoromethane	FL,KS
	Chloromethane	FL,KS,TX
	Vinyl chloride	FL,KS,TX
	Bromomethane	FL,KS
	Chloroethane	FL,KS,TX
	Trichlorofluoromethane	FL,KS
	Acrolein	FL,KS
	Acetone	FL,KS
	1,1-Dichloroethene	FL,KS
	Methylene Chloride	FL
	1,1,2-Trichloro-1,1,2-trifluoroethane	FL
	Carbon disulfide	FL,KS,TX
	trans-1,2-Dichloroethene	FL,KS,TX
	Methyl tert-Butyl Ether	FL,IA,KS
	1,1-Dichloroethane	FL,KS
	Vinyl acetate	FL,KS,TX
	2-Butanone	FL
	cis-1,2-Dichloroethene	FL,KS,TX
	Bromochloromethane	FL,KS
	Chloroform	FL,KS,TX
	2,2-Dichloropropane	FL,KS
	1,2-Dichloroethane	FL,KS
	1,1,1-Trichloroethane	FL,KS
	1,1-Dichloropropene	FL,KS
	Carbon Tetrachloride	FL,KS

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EPA 8260 in Solid	Benzene	FL,IA,KS
	Dibromomethane	FL,KS
	1,2-Dichloropropane	FL,KS
	Trichloroethene	FL,KS
	Bromodichloromethane	FL,KS
	2-Chloroethyl vinyl ether	FL
	cis-1,3-Dichloropropene	FL,KS,TX
	4-Methyl-2-pentanone	FL,KS
	trans-1,3-Dichloropropene	FL,KS,TX
	1,1,2-Trichloroethane	FL,KS
	Toluene	FL,IA,KS
	1,3-Dichloropropane	FL,KS
	Dibromochloromethane	FL,KS
	2-Hexanone	FL,KS
	1,2-Dibromoethane	FL,TX
	Tetrachloroethene	FL,KS
	1,1,1,2-Tetrachloroethane	FL,KS
	Chlorobenzene	FL,KS
	Ethylbenzene	FL,IA,KS
	m,p-Xylenes	FL
	Bromoform	FL,KS
	Styrene	FL,KS,TX
	1,1,2,2-Tetrachloroethane	FL,KS
	o-Xylene	FL,KS
	1,2,3-Trichloropropane	FL,KS
	Isopropylbenzene	FL
	Bromobenzene	FL,KS
	n-Propyl Benzene	FL,KS
	1,3,5-Trimethylbenzene	FL,KS
	tert-Butylbenzene	FL,KS
	1,2,4-Trimethylbenzene	FL,KS
	sec-Butylbenzene	FL,KS
	1,3-Dichlorobenzene	FL,KS
	1,4-Dichlorobenzene	FL
	1,2-Dichlorobenzene	FL,KS
	n-Butyl Benzene	FL,KS
	1,2-Dibromo-3-Chloropropane	FL,KS,TX
	1,2,4-Trichlorobenzene	FL,KS
	Naphthalene	FL,KS
	Hexachlorobutadiene	FL,KS
	1,2,3-Trichlorobenzene	FL,KS
	Total Xylenes	FL,IA
EPA 8270 in Solid	N-Nitrosodimethylamine	FL,OK,TX
	bis(2-chloroethyl)ether	FL,KS,OK,TX
	Phenol	FL,KS,OK,TX
	2-Chlorophenol	FL,KS,OK,TX
	1,3-Dichlorobenzene	FL,KS,OK,TX
	1,4-Dichlorobenzene	FL,KS,OK,TX
	1,2-Dichlorobenzene	FL,KS,OK,TX
	2,2'-oxybis(1-chloropropane)	KS,OK,TX

Work Order: 1592796

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

EPA 8270 in Solid	2-Methylphenol	FL,KS,OK,TX
	Hexachloroethane	FL,KS,OK
	N-Nitroso-di-n-propylamine	FL,KS,OK,TX
	4-Methylphenol	FL,KS,OK,TX
	Nitrobenzene	FL,KS,OK,TX
	Isophorone	FL,KS,TX
	2-Nitrophenol	FL,KS,OK,TX
	2,4-Dimethylphenol	FL,KS,OK,TX
	bis(2-chloroethoxy)methane	FL,KS,OK,TX
	2,4-Dichlorophenol	FL,KS,OK,TX
	1,2,4-Trichlorobenzene	FL,KS,OK,TX
	Naphthalene	FL,KS,OK,TX
	4-Chloroaniline	FL,KS,TX
	Hexachlorobutadiene	FL,KS,OK
	4-Chloro-3-methylphenol	FL,KS,OK,TX
	2-Methylnaphthalene	FL,KS
	Hexachlorocyclopentadiene	FL,KS,OK,TX
	2,4,6-Trichlorophenol	FL,KS,TX
	2,4,5-Trichlorophenol	FL,KS,TX
	2-Chloronaphthalene	FL,KS,OK
	2-Nitroaniline	FL,KS,OK
	Acenaphthylene	FL,KS,OK,TX
	Dimethylphthalate	FL,KS
	2,6-Dinitrotoluene	FL,KS,OK,TX
	Acenaphthene	FL,KS,OK,TX
	3-Nitroaniline	FL,KS,TX
	2,4-Dinitrophenol	FL,KS,OK,TX
	Dibenzofuran	FL,KS,TX
	2,4-Dinitrotoluene	FL,KS,OK,TX
	4-Nitrophenol	FL
	Fluorene	FL,KS,OK,TX
	4-Chlorophenyl-phenylether	FL,KS,OK
	Diethyl phthalate	FL,KS,TX
	4-Nitroaniline	FL,KS,TX
	4,6-Dinitro-2-methylphenol	FL,KS,OK
	N-Nitrosodiphenylamine	FL,KS
	4-Bromophenyl-phenylether	FL,KS,OK,TX
	Hexachlorobenzene	FL,KS,OK,TX
	Pentachlorophenol	FL,KS,TX
	Phenanthrene	FL,KS,TX
	Carbazole	FL
	Di-n-butyl phthalate	FL,KS,TX
	Fluoranthene	FL,KS,OK,TX
	Benzidine	OK
	Pyrene	FL,KS,TX
	Butylbenzylphthalate	FL,KS,OK,TX
	3,3'-Dichlorobenzidine	FL,KS,TX
	Benzo[a]anthracene	FL
	Chrysene	FL,KS
	bis(2-ethylhexyl)phthalate	FL,KS,TX

Work Order: 1592796

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

EPA 8270 in Solid	Di-n-octyl phthalate	FL,KS,TX
	Benzo[b]fluoranthene	FL,KS,OK,TX
	Benzo[k]fluoranthene	FL,KS,OK,TX
	Benzo[a]pyrene	FL,KS,OK,TX
	Indeno(1,2,3-cd)pyrene	FL,KS,OK,TX
	Dibenzo(a,h)anthracene	FL
	Benzo[ghi]perylene	FL,KS,OK,TX
	Anthracene	FL,KS
EPA 9010C in Solid	Cyanide (total)	IA,KS
EPA 9045 in Solid	pH	FL,OK,KS,WA
EPA 9065A (MOD) in Solid	Phenol	FL,OK,KS
PAI-DK 01 in Solid	Total Kjeldahl Nitrogen	IA,FL,KS
SM 2540 G-2015 in Solid	Percent Solids	FL,WA,UT,TX,IA
	Percent Volatile Solids	FL,IA,WA
SM 4500-NH3 C-1997 in Solid	Ammonia-N	FL,KS

Non-Certified Analyses included in this Report

Method	Analyte
EPA 6010B in Solid	Sulfur
EPA 8082 in Solid	Aroclor-1016
	Aroclor-1221
	Aroclor-1232
	Aroclor-1242
	Aroclor-1248
	Aroclor-1254
	Aroclor-1260
	Aroclor-1262
	Aroclor-1268
EPA 8260 in Solid	Ethyl Ether
	Iodomethane
	Acrylonitrile
	Chloroprene
	Ethyl Methacrylate
	cis-1,4-Dichloro-2-butene
	trans-1,4-Dichloro-2-butene
	2-Chlorotoluene
	4-Chlorotoluene
	p-Isopropyltoluene
EPA 8270 in Solid	Azobenzene
	1,2-Diphenylhydrazine
SM 9221 E in Solid	Fecal Coliforms

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-2
Project Manager: DAVID SCHILLINGER

Reported:
2023-05-04 08:48

Code	Description	Number	Expires
FL	Florida Department of Health	E87918	06/30/2023
IA	Iowa Department of Natural Resources	064	05/01/2023
KS	Kansas Department of Health and Environment	E-10402	04/30/2024
NE	State of Nebraska Dept of Health & Human Services	NE-04-05	06/30/2023
OK	Oklahoma Department of Environmental Quality	2022-068	08/31/2023
TX	Texas Commission on Environmental Quality	T104704416-21-15	07/31/2023
UT	State of Utah Department of Health	NE000012022-12	07/31/2023
WA	State of Washington Department of Ecology	C912	06/07/2023

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CITY OF LARAMIE WWTP - 34024	Project: Quarterly Biosolids	
PO BOX C	Project Number: Biosolids 23-2	**Reported:**
LARAMIE, WY 82073	Project Manager: DAVID SCHILLINGER	2023-05-04 08:48

Notes and Definitions

U	Analyte included in the analysis, but not detected
SPK	Spike recovery calculation is not required when sample level is greater than three times the spiking level.
MI	Matrix interference suspected in matrix spiked sample.
J	Estimated value
CCAL	The analyte exceeds the required 20% RSD for the continuing calibration. Due to the large amount of analytes being tested, up to 10% can have a %RSD of greater than 20% but less than 35%.
CAL	The analyte exceeds the required 20% RSD for the initial calibration. Due to the large amount of analytes being tested, up to 10% can have a %RSD of greater than 20% but less than 35%.
BENZ	The test procedure uses a qualitative screen for Benzidine and the compound was not observed in the sample. The concentration of the Benzidine standard is 50 ug/L and the initial detection level is also 50 ug/L.
<	Less than reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

EPA 524.2, EPA 624, EPA 8260, OA-1, TCLP VOC, GRO, and all microbiological analyses are conducted in the facility located at 13606 B Street, Omaha, NE 68144. All other analyses are conducted in the main facility located at 13611 B Street, Omaha, NE 68144.

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Lab Work Order Number: 1592796
Date Generated: 03/01/2023

Client Name	CITY OF LARAMIE WWTP - 34024
Client Contact	DAVID SCHILLINGER
Address	PO BOX C
City	LARAMIE
State/Zip	WY, 82073
Phone	3077215204
Fax	0
Sampler Name (printed)	
Project Name	Quarterly Biosolids
Project Description	Biosolids 23-2
Purchase Order Number	
Midwest Labs Contact	Kerri Stanek
Regulatory (Circle One)	(Yes) No
Regulatory Agency	EPA
Sample Type (Circle One - See Below)	D G W (S/H) U P

Requested Analyses (Test Names): 503 Regulations; EPA 8082, EPA 8260, EPA 8270; Fecal Coliform-SM9221E-MPN

Copy To:

WORKORDER: 1592796 COC Sticker #: 1

Lab ID	Sample Name or Field ID	Sampled Date	Sampled Time	Sample Code	Matrix Code	Container Count	Preservation Code							Sample Comments
							1	1	1					
01	Biosolids	4/10/23	1:00PM		S	4	2	2	0					
02	01				S	1	0	0	1					
03	02				S	1	0	0	1					
04	03				S	1	0	0	1					
05	04				S	1	0	0	1					
06	05				S	1	0	0	1					
07	06				S	1	0	0	1					
08	07				S	1	0	0	1					

Relinquished By	Date/Time	Received By	
[signature]	4/10/23 2:00PM	AN	4/11/23 0915
Relinquished By	Date/Time	Received By	

Comments:

Lab Internal Use Only:
Temperature Upon Receipt: 5.1°
Cooler Numbers:
Notes:

Matrix Codes: S=Solid

Preservation Code

Sample Type Codes: D = Drinking Water (Safe Drinking Water Act), G = Groundwater, W = Wastewater (Clean Water Act), S/H = Solid/Hazardous Waste (RCRA), U = Underground Storage Tank (UST), P = Pi

Chain of Custody will have a signature upon receipt but no subsequent signatures.

RC Form 15 - Effective 10/31/2013

1592796
Work Order 1592796

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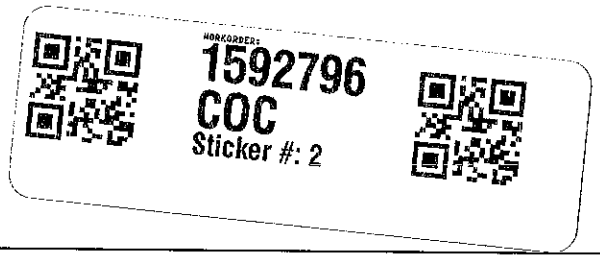
402-334-7770 | CONTACTUS@MIDWESTLABS.COM

REGULATORY FORM

This sheet MUST be filled out before samples can be processed. To ensure that holding times are met, it is your responsibility that a completed form comes attached to the Chain of Custody. Samples must be received on ice.



Is this sample for regulatory/permit reporting? ☑ Yes ☐ No

What city/state was your sample collected in? Laramie, WY

What agency/state are you reporting? EPA

What type of sample? (Circle One)

Drinking Water *For human consumption, 30 hr hold time for E. coli and total coliform testing*	**Ground Water**	**Hazardous Waste**	**Livestock**	**Process Water**
Solid Waste	**Storm Water**	**UST**	**Wastewater**	

SEE REVERSE SIDE FOR SAMPLING INSTRUCTIONS

Midwest Laboratories®

Sample Acceptance Checklist
Document Number: RC CHKLIST 001
Revision No.: 5
Effective Date: 04/25/22

Lab Number:

WORKORDER: 1592796
COC
Sticker #: 3

Thermometer Used: ☑ Therm Fisher IR 25

Sample Temperature (°C): 5.1°

Cooler Intact: ☑ Yes ☐ No
Received on Ice: ☑ Yes ☐ No
Hand Delivered: ☐ Yes ☑ No

Date & Initials of person accepting samples: AN 4/11/23

							Comments
Chain of Custody present?	☑	Yes	☐	No	☐	N/A	
Sample ID(s):	☑	Yes	☐	No	☐	N/A	
Sample Location(s):	☑	Yes	☐	No	☐	N/A	
Client contact:	☑	Yes	☐	No	☐	N/A	
Analysis Requested:	☑	Yes	☐	No	☐	N/A	
Date & Time of collection:	☑	Yes	☐	No	☐	N/A	
Sampler name on COC?	☐	Yes	☑	No	☐	N/A	
Chain of custody relinquished with signature?	☑	Yes	☐	No	☐	N/A	
Chain of custody complete?	☐	Yes	☑	No	☐	N/A	
Sample labels match COC?	☑	Yes	☐	No	☐	N/A	
Written in indelible ink?	☑	Yes	☐	No	☐	N/A	
Labels indicate proper preservation?	☑	Yes	☐	No	☐	N/A	
Samples arrived within hold time?	☑	Yes	☐	No	☐	N/A	
Samples arrived within correct temperature?	☑	Yes	☐	No	☐	N/A	
Samples arrived frozen?	☐	Yes	☑	No	☐	N/A	
Sufficient volume?	☑	Yes	☐	No	☐	N/A	
Appropriate containers used?	☑	Yes	☐	No	☐	N/A	
Filtered volume received for dissolved tests?	☐	Yes	☐	No	☑	N/A	
Headspace in VOA vials?	☐	Yes	☐	No	☑	N/A	
Trip Blank present?	☐	Yes	☐	No	☐	N/A	

Client Notification/Resolution: Date/Time Contacted: _____

Person Contacted: _____ Contacted By: _____

Comments/Resolution: _____

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24 July 2023

Work Order: 1596238

DAVID SCHILLINGER
CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

RE: Quarterly Biosolids

Enclosed are the results of analyses for samples received by the laboratory on 2023-07-12 09:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kerri Stanek
Project Manager
kstanek@midwestlabs.com

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Biosolids	1596238-01	Solid	2023-07-10 14:00	2023-07-12 09:35

Containers used for the following analyses:

1596238-01 A:	EPA 8082, EPA 8270
1596238-01 B:	EPA 8260
1596238-01 C:	EPA 9010C, EPA 9045, EPA 9065A (MOD), SM 2540 G-2015
1596238-01 D:	PAI-DK 01, SM 4500-NH3 C-1997
1596238-01 E:	Total Metals per EPA 6010B, Total Metals per EPA 6020, Total Metals per EPA 7471
1596238-01 F:	EPA 353.2

Analysis Results Reviewed by:

EPA 8260 reviewed by nmh9.

EPA 8270 reviewed by nmh9.

Total Metals per EPA 6010B reviewed by kkh9.

Total Metals per EPA 6020 reviewed by kkh9.

Total Metals per EPA 7471 reviewed by kkh9.

EPA 353.2 reviewed by jdb5.

EPA 9010C reviewed by jdb5.

EPA 9045 reviewed by jdb5.

EPA 9065A (MOD) reviewed by mgn8.

PAI-DK 01 reviewed by jdb5.

SM 2540 G-2015 reviewed by jdb5.

SM 4500-NH3 C-1997 reviewed by jdb5.

EPA 8082 reviewed by nmh9.

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Sample ID: Biosolids
Laboratory ID: 1596238-01
Sampled Date/Time: 2023-07-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Volatile Organic Compounds									
Dichlorodifluoromethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Chloromethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Vinyl chloride	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Bromomethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Chloroethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Trichlorofluoromethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Acrolein	<	50.0	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Acetone	<	50.0	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Ethyl Ether	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,1-Dichloroethene	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Iodomethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Acrylonitrile	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Methylene Chloride	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,1,2-Trichloro-1,1,2-trifluoro ethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Carbon disulfide	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
trans-1,2-Dichloroethene	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Methyl tert-Butyl Ether	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,1-Dichloroethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Vinyl acetate	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Chloroprene	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
2-Butanone	<	50.0	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
cis-1,2-Dichloroethene	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Bromochloromethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Chloroform	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
2,2-Dichloropropane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,2-Dichloroethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,1,1-Trichloroethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,1-Dichloropropene	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Carbon Tetrachloride	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Benzene	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Dibromomethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,2-Dichloropropane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Trichloroethene	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Bromodichloromethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
2-Chloroethyl vinyl ether	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
cis-1,3-Dichloropropene	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
4-Methyl-2-pentanone	<	50.0	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
trans-1,3-Dichloropropene	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,1,2-Trichloroethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Toluene	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,3-Dichloropropane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Ethyl Methacrylate	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Dibromochloromethane	<	2.50	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
2-Hexanone	<	50.0	ug/g	< ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Sample ID: Biosolids
Laboratory ID: 1596238-01
Sampled Date/Time: 2023-07-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Volatile Organic Compounds										
1,2-Dibromoethane	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Tetrachloroethene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,1,1,2-Tetrachloroethane	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Chlorobenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Ethylbenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
m,p-Xylenes	<	5.00	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Bromoform	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
cis-1,4-Dichloro-2-butene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Styrene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,1,2,2-Tetrachloroethane	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
o-Xylene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,2,3-Trichloropropane	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
trans-1,4-Dichloro-2-butene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Isopropylbenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Bromobenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
n-Propyl Benzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
2-Chlorotoluene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
4-Chlorotoluene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,3,5-Trimethylbenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
tert-Butylbenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,2,4-Trimethylbenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
sec-Butylbenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,3-Dichlorobenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,4-Dichlorobenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
p-Isopropyltoluene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,2-Dichlorobenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
n-Butyl Benzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,2-Dibromo-3-Chloropropane	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,2,4-Trichlorobenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Naphthalene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Hexachlorobutadiene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
1,2,3-Trichlorobenzene	<	2.50	ug/g	<	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Total Xylenes	0.00		ug/g	0.00	ug/g	EPA 8260	2023-07-17	2023-07-17	alt8	(B)
Surrogate: Toluene-d8		*94 %*		*80-120*		*EPA 8260*	*2023-07-17*	*2023-07-17*		(B)
Surrogate: Bromofluorobenzene		*78 %*		*80-120*		*EPA 8260*	*2023-07-17*	*2023-07-17*		(B)
Surrogate: 1,2-Dichlorobenzene-d4		*96 %*		*80-120*		*EPA 8260*	*2023-07-17*	*2023-07-17*		(B)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Sample ID: Biosolids
Laboratory ID: 1596238-01
Sampled Date/Time: 2023-07-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Semivolatile Organic Compounds									
N-Nitrosodimethylamine	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
bis(2-chloroethyl)ether	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Phenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2-Chlorophenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
1,3-Dichlorobenzene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
1,4-Dichlorobenzene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
1,2-Dichlorobenzene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2,2'-oxybis(1-chloropropane)	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2-Methylphenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Hexachloroethane	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
N-Nitroso-di-n-propylamine	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
4-Methylphenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Nitrobenzene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Isophorone	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2-Nitrophenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2,4-Dimethylphenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
bis(2-chloroethoxy)methane	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2,4-Dichlorophenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
1,2,4-Trichlorobenzene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Naphthalene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
4-Chloroaniline	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Hexachlorobutadiene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
4-Chloro-3-methylphenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2-Methylnaphthalene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Hexachlorocyclopentadiene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2,4,6-Trichlorophenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2,4,5-Trichlorophenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2-Chloronaphthalene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2-Nitroaniline	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Acenaphthylene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Dimethylphthalate	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2,6-Dinitrotoluene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Acenaphthene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
3-Nitroaniline	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)/ OOS
2,4-Dinitrophenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Dibenzofuran	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
2,4-Dinitrotoluene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
4-Nitrophenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)/ CAL
Fluorene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
4-Chlorophenyl-phenylether	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Diethyl phthalate	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
4-Nitroaniline	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
4,6-Dinitro-2-methylphenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
N-Nitrosodiphenylamine	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Azobenzene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)

Work Order: 1596238

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Sample ID: Biosolids
Laboratory ID: 1596238-01
Sampled Date/Time: 2023-07-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Semivolatile Organic Compounds									
4-Bromophenyl-phenylether	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Hexachlorobenzene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Pentachlorophenol	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Phenanthrene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Carbazole	<	45000	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Di-n-butyl phthalate	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Fluoranthene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Benzidine	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)/ BENZ
Pyrene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Butylbenzylphthalate	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
3,3'-Dichlorobenzidine	<	45000	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Benzo[a]anthracene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Chrysene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
bis(2-ethylhexyl)phthalate	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Di-n-octyl phthalate	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Benzo[b]fluoranthene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Benzo[k]fluoranthene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Benzo[a]pyrene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Indeno(1,2,3-cd)pyrene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Dibenzo(a,h)anthracene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Benzo[ghi]perylene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
1,2-Diphenylhydrazine	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Anthracene	<	31500	ug/kg	< ug/kg	EPA 8270	2023-07-14	2023-07-18	bsb3	(A)
Surrogate: 2-Fluorophenol		*86 %*	*61-120*		*EPA 8270*	*2023-07-14*	*2023-07-18*		(A)
Surrogate: Phenol-d6		*78 %*	*64.9-120*		*EPA 8270*	*2023-07-14*	*2023-07-18*		(A)
Surrogate: Nitrobenzene-d5		*91 %*	*71.9-120*		*EPA 8270*	*2023-07-14*	*2023-07-18*		(A)
Surrogate: 2-Fluorobiphenyl		*99 %*	*71.5-121*		*EPA 8270*	*2023-07-14*	*2023-07-18*		(A)
Surrogate: 2,4,6-Tribromophenol		*56 %*	*47.2-132*		*EPA 8270*	*2023-07-14*	*2023-07-18*		(A)
Surrogate: Terphenyl-d14		*76 %*	*30.7-120*		*EPA 8270*	*2023-07-14*	*2023-07-18*		(A)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Sample ID: Biosolids
Laboratory ID: 1596238-01
Sampled Date/Time: 2023-07-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Total Metals										
Arsenic	4.1	0.007	mg/kg dry	0.6	mg/kg	EPA 6020	2023-07-13	2023-07-14	nto7	(E)
Barium	370.3	0.2	mg/kg dry	58.3	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Cadmium	0.8	0.4	mg/kg dry	0.1	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Calcium	17630	21.3	mg/kg dry	2777	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Chromium	25.1	1.3	mg/kg dry	4.0	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Copper	640.0	0.6	mg/kg dry	100.8	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Iron	11360	5.3	mg/kg dry	1789	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Lead	25.0	2.8	mg/kg dry	3.9	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Magnesium	5284	5.1	mg/kg dry	832.2	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Manganese	310.7	0.4	mg/kg dry	48.9	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Mercury	0.44	0.003	mg/kg dry	0.07	mg/kg	EPA 7471	2023-07-13	2023-07-14	mrs3	(E)
Molybdenum	10.7	0.5	mg/kg dry	1.7	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Nickel	43.2	0.7	mg/kg dry	6.8	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Phosphate (P2O5)	31160	48.7	mg/kg dry		mg/kg	Calculation	2023-07-13	2023-07-14	erw9	
Phosphorus	13610	2.9	mg/kg dry	2143	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Potash (K2O)	2985	25.5	mg/kg dry		mg/kg	Calculation	2023-07-13	2023-07-14	erw9	
Potassium	2488	8.0	mg/kg dry	391.8	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Selenium	9.4	0.03	mg/kg dry	1.5	mg/kg	EPA 6020	2023-07-13	2023-07-14	nto7	(E)
Silver	3.6	0.5	mg/kg dry	0.6	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Sodium	761.9	3.6	mg/kg dry	120.0	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Sulfur	10650	3.6	mg/kg dry	1677	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Zinc	545.5	2.1	mg/kg dry	85.9	mg/kg	EPA 6010B	2023-07-13	2023-07-14	erw9	(E)
Environmental Chemistry										
Ammonia-N	2870	159	mg/kg dry	453	mg/kg	SM 4500-NH3 C-1997	2023-07-13	2023-07-13	krg0	(D)
Cyanide (total)	3.0	1.3	mg/kg dry	0.5	mg/kg	EPA 9010C	2023-07-13	2023-07-13	kfw9	(C)
Total Kjeldahl Nitrogen	91700	1590	mg/kg dry	14400	mg/kg	PAI-DK 01	2023-07-13	2023-07-13	krg0	(D)
Nitrate/Nitrite Nitrogen	2.0	1.0	mg/kg dry	0.3	mg/kg	EPA 353.2	2023-07-13	2023-07-13	akn1	(F)
Organic Nitrogen	88800	1590	mg/kg dry		mg/kg	Calculation	2023-07-13	2023-07-13	krg0	
pH @ 20.1°C			S.U.	6.64	S.U.	EPA 9045	2023-07-12	2023-07-12	ppj2	(C)
Phenol	64.9	0.5	mg/kg dry	10.2	mg/kg	EPA 9065A (MOD)	2023-07-18	2023-07-18	kfw9	(C)
Percent Solids		0.01	%	15.75	%	SM 2540 G-2015	2023-07-12	2023-07-13	jsa6	(C)
Percent Volatile Solids	69.15	0.01	%	69.15	%	SM 2540 G-2015	2023-07-12	2023-07-13	jsa6	(C)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Sample ID: Biosolids
Laboratory ID: 1596238-01
Sampled Date/Time: 2023-07-10 14:00

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Pesticide Screen									
Aroclor-1016	<	1000	ug/kg	< ug/kg	EPA 8082	2023-07-13	2023-07-18	alt8	(A)
Aroclor-1221	<	1000	ug/kg	< ug/kg	EPA 8082	2023-07-13	2023-07-18	alt8	(A)
Aroclor-1232	<	1000	ug/kg	< ug/kg	EPA 8082	2023-07-13	2023-07-18	alt8	(A)
Aroclor-1242	<	1000	ug/kg	< ug/kg	EPA 8082	2023-07-13	2023-07-18	alt8	(A)
Aroclor-1248	<	1000	ug/kg	< ug/kg	EPA 8082	2023-07-13	2023-07-18	alt8	(A)
Aroclor-1254	<	1000	ug/kg	< ug/kg	EPA 8082	2023-07-13	2023-07-18	alt8	(A)
Aroclor-1260	<	1000	ug/kg	< ug/kg	EPA 8082	2023-07-13	2023-07-18	alt8	(A)
Aroclor-1262	<	1000	ug/kg	< ug/kg	EPA 8082	2023-07-13	2023-07-18	alt8	(A)
Aroclor-1268	<	1000	ug/kg	< ug/kg	EPA 8082	2023-07-13	2023-07-18	alt8	(A)
Surrogate: Tetrachloro-m-xylene		*66 %*		*62.6-136*	*EPA 8082*	*2023-07-13*	*2023-07-18*		(A)
Surrogate: Decachlorobiphenyl		*84 %*		*57.3-146*	*EPA 8082*	*2023-07-13*	*2023-07-18*		(A)

Work Order: 1596238

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
Blank (B933627-BLK1)				Prepared & Analyzed: 2023-07-17						
Dichlorodifluoromethane	<	0.50	ug/g							
Chloromethane	<	0.50	ug/g							
Vinyl chloride	<	0.50	ug/g							
Bromomethane	<	0.50	ug/g							
Chloroethane	<	0.50	ug/g							
Trichlorofluoromethane	<	0.50	ug/g							
Acrolein	<	9.98	ug/g							
Acetone	<	9.98	ug/g							
Ethyl Ether	<	0.50	ug/g							
1,1-Dichloroethene	<	0.50	ug/g							
Iodomethane	<	0.50	ug/g							
Acrylonitrile	<	0.50	ug/g							
Methylene Chloride	<	0.50	ug/g							
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g							
Carbon disulfide	<	0.50	ug/g							
trans-1,2-Dichloroethene	<	0.50	ug/g							
Methyl tert-Butyl Ether	<	0.50	ug/g							
1,1-Dichloroethane	<	0.50	ug/g							
Vinyl acetate	<	0.50	ug/g							
Chloroprene	<	0.50	ug/g							
2-Butanone	<	9.98	ug/g							
cis-1,2-Dichloroethene	<	0.50	ug/g							
Bromochloromethane	<	0.50	ug/g							
Chloroform	<	0.50	ug/g							
2,2-Dichloropropane	<	0.50	ug/g							
1,2-Dichloroethane	<	0.50	ug/g							
1,1,1-Trichloroethane	<	0.50	ug/g							
1,1-Dichloropropene	<	0.50	ug/g							
Carbon Tetrachloride	<	0.50	ug/g							
Benzene	<	0.50	ug/g							
Dibromomethane	<	0.50	ug/g							
1,2-Dichloropropane	<	0.50	ug/g							
Trichloroethene	<	0.50	ug/g							
Bromodichloromethane	<	0.50	ug/g							
2-Chloroethyl vinyl ether	<	0.50	ug/g							
cis-1,3-Dichloropropene	<	0.50	ug/g							
4-Methyl-2-pentanone	<	9.98	ug/g							
trans-1,3-Dichloropropene	<	0.50	ug/g							
1,1,2-Trichloroethane	<	0.50	ug/g							
Toluene	<	0.50	ug/g							
1,3-Dichloropropane	<	0.50	ug/g							

Work Order: 1596238

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
Blank (B933627-BLK1)				Prepared & Analyzed: 2023-07-17						
Ethyl Methacrylate	<	0.50	ug/g							
Dibromochloromethane	<	0.50	ug/g							
2-Hexanone	<	9.98	ug/g							
1,2-Dibromoethane	<	0.50	ug/g							
Tetrachloroethene	<	0.50	ug/g							
1,1,1,2-Tetrachloroethane	<	0.50	ug/g							
Chlorobenzene	<	0.50	ug/g							
Ethylbenzene	<	0.50	ug/g							
m,p-Xylenes	<	1.00	ug/g							
Bromoform	<	0.50	ug/g							
cis-1,4-Dichloro-2-butene	<	0.50	ug/g							
Styrene	<	0.50	ug/g							
1,1,2,2-Tetrachloroethane	<	0.50	ug/g							
o-Xylene	<	0.50	ug/g							
1,2,3-Trichloropropane	<	0.50	ug/g							
trans-1,4-Dichloro-2-butene	<	0.50	ug/g							
Isopropylbenzene	<	0.50	ug/g							
Bromobenzene	<	0.50	ug/g							
n-Propyl Benzene	<	0.50	ug/g							
2-Chlorotoluene	<	0.50	ug/g							
4-Chlorotoluene	<	0.50	ug/g							
1,3,5-Trimethylbenzene	<	0.50	ug/g							
tert-Butylbenzene	<	0.50	ug/g							
1,2,4-Trimethylbenzene	<	0.50	ug/g							
sec-Butylbenzene	<	0.50	ug/g							
1,3-Dichlorobenzene	<	0.50	ug/g							
1,4-Dichlorobenzene	<	0.50	ug/g							
p-Isopropyltoluene	<	0.50	ug/g							
1,2-Dichlorobenzene	<	0.50	ug/g							
n-Butyl Benzene	<	0.50	ug/g							
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g							
1,2,4-Trichlorobenzene	<	0.50	ug/g							
Naphthalene	<	0.50	ug/g							
Hexachlorobutadiene	<	0.50	ug/g							
1,2,3-Trichlorobenzene	<	0.50	ug/g							
Total Xylenes	0.00		ug/g							
Surrogate: Toluene-d8	*0.232*		ug/g	*0.250*		*93*	*80-120*			
Surrogate: Bromofluorobenzene	*0.199*		ug/g	*0.250*		*80*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.239*		ug/g	*0.250*		*96*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
LCS (B933627-BS1)				Prepared & Analyzed: 2023-07-17						
Dichlorodifluoromethane	0.71	0.50	ug/g	0.999		71	47.5-120			
Chloromethane	0.82	0.50	ug/g	0.999		82	71.4-120			
Vinyl chloride	0.29	0.50	ug/g	0.999		29	25.7-120			
Bromomethane	0.93	0.50	ug/g	0.999		93	24.4-120			
Chloroethane	0.86	0.50	ug/g	0.999		86	51-120			
Trichlorofluoromethane	0.83	0.50	ug/g	0.999		83	70.4-120			
Acrolein	<	9.99	ug/g				51.7-120			
Acetone	<	9.99	ug/g				45.7-120			
Ethyl Ether	<	0.50	ug/g				60.4-120			
1,1-Dichloroethene	<	0.50	ug/g				70.4-120			
Iodomethane	<	0.50	ug/g				55.6-132			
Acrylonitrile	<	0.50	ug/g				55.5-120			
Methylene Chloride	<	0.50	ug/g				66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g				75.4-120			
Carbon disulfide	<	0.50	ug/g				67.9-120			
trans-1,2-Dichloroethene	<	0.50	ug/g				76.6-120			
Methyl tert-Butyl Ether	<	0.50	ug/g				61.1-120			
1,1-Dichloroethane	<	0.50	ug/g				68.2-120			
Vinyl acetate	<	0.50	ug/g				51.3-120			
Chloroprene	<	0.50	ug/g				74.9-120			
2-Butanone	<	9.99	ug/g				49.2-120			
cis-1,2-Dichloroethene	<	0.50	ug/g				71.9-120			
Bromochloromethane	<	0.50	ug/g				63-120			
Chloroform	<	0.50	ug/g				75.8-120			
2,2-Dichloropropane	<	0.50	ug/g				70.8-120			
1,2-Dichloroethane	<	0.50	ug/g				66.8-120			
1,1,1-Trichloroethane	<	0.50	ug/g				70.3-120			
1,1-Dichloropropene	<	0.50	ug/g				72.7-120			
Carbon Tetrachloride	<	0.50	ug/g				64.7-120			
Benzene	<	0.50	ug/g				74.3-120			
Dibromomethane	<	0.50	ug/g				62.5-120			
1,2-Dichloropropane	<	0.50	ug/g				70.1-120			
Trichloroethene	<	0.50	ug/g				80-120			
Bromodichloromethane	<	0.50	ug/g				67.2-120			
2-Chloroethyl vinyl ether	<	0.50	ug/g				51.9-134			
cis-1,3-Dichloropropene	<	0.50	ug/g				68.1-120			
4-Methyl-2-pentanone	<	9.99	ug/g				44.6-120			
trans-1,3-Dichloropropene	<	0.50	ug/g				63.4-120			
1,1,2-Trichloroethane	<	0.50	ug/g				61.7-120			
Toluene	<	0.50	ug/g				80-120			
1,3-Dichloropropane	<	0.50	ug/g				63.6-120			

Work Order: 1596238

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
LCS (B933627-BS1)				Prepared & Analyzed: 2023-07-17						
Ethyl Methacrylate	<	0.50	ug/g				58.5-120			
Dibromochloromethane	<	0.50	ug/g				61.1-120			
2-Hexanone	<	9.99	ug/g				47.2-120			
1,2-Dibromoethane	<	0.50	ug/g				63.6-120			
Tetrachloroethene	<	0.50	ug/g				78.8-120			
1,1,1,2-Tetrachloroethane	<	0.50	ug/g				63.8-120			
Chlorobenzene	<	0.50	ug/g				80-120			
Ethylbenzene	<	0.50	ug/g				80-120			
m,p-Xylenes	<	1.00	ug/g				80-120			
Bromoform	<	0.50	ug/g				52.2-120			
cis-1,4-Dichloro-2-butene	<	0.50	ug/g				61.7-120			
Styrene	<	0.50	ug/g				80-120			
1,1,2,2-Tetrachloroethane	<	0.50	ug/g				64.3-120			
o-Xylene	<	0.50	ug/g				80-120			
1,2,3-Trichloropropane	<	0.50	ug/g				67.1-120			
trans-1,4-Dichloro-2-butene	<	0.50	ug/g				63.1-120			
Isopropylbenzene	<	0.50	ug/g				80-120			
Bromobenzene	<	0.50	ug/g				80-120			
n-Propyl Benzene	<	0.50	ug/g				80-120			
2-Chlorotoluene	<	0.50	ug/g				80-120			
4-Chlorotoluene	<	0.50	ug/g				80-120			
1,3,5-Trimethylbenzene	<	0.50	ug/g				80-120			
tert-Butylbenzene	<	0.50	ug/g				80-120			
1,2,4-Trimethylbenzene	<	0.50	ug/g				80-120			
sec-Butylbenzene	<	0.50	ug/g				80-120			
1,3-Dichlorobenzene	<	0.50	ug/g				80-120			
1,4-Dichlorobenzene	<	0.50	ug/g				80-120			
p-Isopropyltoluene	<	0.50	ug/g				76.5-120			
1,2-Dichlorobenzene	<	0.50	ug/g				80-120			
n-Butyl Benzene	<	0.50	ug/g				80-120			
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g				53.7-120			
1,2,4-Trichlorobenzene	<	0.50	ug/g				64.4-120			
Naphthalene	<	0.50	ug/g				49.6-120			
Hexachlorobutadiene	<	0.50	ug/g				71.1-120			
1,2,3-Trichlorobenzene	<	0.50	ug/g				44.7-120			
Surrogate: Toluene-d8	*0.232*		ug/g	*0.250*		*93*	*80-120*			
Surrogate: Bromofluorobenzene	*0.201*		ug/g	*0.250*		*80*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.225*		ug/g	*0.250*		*90*	*80-120*			

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
LCS (B933627-BS2)				Prepared & Analyzed: 2023-07-17						
Dichlorodifluoromethane	<	0.50	ug/g				47.5-120			
Chloromethane	<	0.50	ug/g				71.4-120			
Vinyl chloride	<	0.50	ug/g				25.7-120			
Bromomethane	<	0.50	ug/g				24.4-120			
Chloroethane	<	0.50	ug/g				51-120			
Trichlorofluoromethane	<	0.50	ug/g				70.4-120			
Acrolein	1.55	9.99	ug/g	2.00		78	51.7-120			
Acetone	1.43	9.99	ug/g	2.00		72	45.7-120			
Ethyl Ether	0.73	0.50	ug/g	0.999		73	60.4-120			
1,1-Dichloroethene	0.83	0.50	ug/g	0.999		83	70.4-120			
Iodomethane	0.75	0.50	ug/g	0.999		75	55.6-132			
Acrylonitrile	0.76	0.50	ug/g	0.999		76	55.5-120			
Methylene Chloride	0.78	0.50	ug/g	0.999		79	66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	0.81	0.50	ug/g	0.999		81	75.4-120			
Carbon disulfide	0.79	0.50	ug/g	0.999		79	67.9-120			
trans-1,2-Dichloroethene	0.85	0.50	ug/g	0.999		85	76.6-120			
Methyl tert-Butyl Ether	0.74	0.50	ug/g	0.999		74	61.1-120			
1,1-Dichloroethane	0.84	0.50	ug/g	0.999		84	68.2-120			
Vinyl acetate	0.83	0.50	ug/g	0.999		83	51.3-120			
Chloroprene	0.86	0.50	ug/g	0.999		86	74.9-120			
2-Butanone	1.43	9.99	ug/g	2.00		72	49.2-120			
cis-1,2-Dichloroethene	0.83	0.50	ug/g	0.999		83	71.9-120			
Bromochloromethane	0.77	0.50	ug/g	0.999		78	63-120			
Chloroform	0.82	0.50	ug/g	0.999		82	75.8-120			
2,2-Dichloropropane	0.85	0.50	ug/g	0.999		85	70.8-120			
1,2-Dichloroethane	0.76	0.50	ug/g	0.999		76	66.8-120			
1,1,1-Trichloroethane	0.84	0.50	ug/g	0.999		84	70.3-120			
1,1-Dichloropropene	0.86	0.50	ug/g	0.999		86	72.7-120			
Carbon Tetrachloride	0.83	0.50	ug/g	0.999		83	64.7-120			
Benzene	0.86	0.50	ug/g	0.999		86	74.3-120			
Dibromomethane	0.76	0.50	ug/g	0.999		76	62.5-120			
1,2-Dichloropropane	0.82	0.50	ug/g	0.999		83	70.1-120			
Trichloroethene	0.88	0.50	ug/g	0.999		88	80-120			
Bromodichloromethane	0.78	0.50	ug/g	0.999		78	67.2-120			
2-Chloroethyl vinyl ether	0.86	0.50	ug/g	0.999		86	51.9-134			
cis-1,3-Dichloropropene	0.80	0.50	ug/g	0.999		80	68.1-120			
4-Methyl-2-pentanone	1.41	9.99	ug/g	2.00		71	44.6-120			
trans-1,3-Dichloropropene	0.78	0.50	ug/g	0.999		78	63.4-120			
1,1,2-Trichloroethane	0.75	0.50	ug/g	0.999		75	61.7-120			
Toluene	0.87	0.50	ug/g	0.999		87	80-120			
1,3-Dichloropropane	0.76	0.50	ug/g	0.999		76	63.6-120			

Work Order: 1596238

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
LCS (B933627-BS2)				Prepared & Analyzed: 2023-07-17						
Ethyl Methacrylate	0.74	0.50	ug/g	0.999		74	58.5-120			
Dibromochloromethane	0.74	0.50	ug/g	0.999		74	61.1-120			
2-Hexanone	1.40	9.99	ug/g	2.00		70	47.2-120			
1,2-Dibromoethane	0.75	0.50	ug/g	0.999		75	63.6-120			
Tetrachloroethene	0.84	0.50	ug/g	0.999		84	78.8-120			
1,1,1,2-Tetrachloroethane	0.78	0.50	ug/g	0.999		79	63.8-120			
Chlorobenzene	0.90	0.50	ug/g	0.999		90	80-120			
Ethylbenzene	0.95	0.50	ug/g	0.999		95	80-120			
m,p-Xylenes	1.89	1.00	ug/g	2.00		95	80-120			
Bromoform	0.76	0.50	ug/g	0.999		76	52.2-120			
cis-1,4-Dichloro-2-butene	0.78	0.50	ug/g	0.999		78	61.7-120			
Styrene	0.89	0.50	ug/g	0.999		89	80-120			
1,1,2,2-Tetrachloroethane	0.77	0.50	ug/g	0.999		77	64.3-120			
o-Xylene	0.92	0.50	ug/g	0.999		92	80-120			
1,2,3-Trichloropropane	0.78	0.50	ug/g	0.999		79	67.1-120			
trans-1,4-Dichloro-2-butene	0.78	0.50	ug/g	0.999		78	63.1-120			
Isopropylbenzene	0.94	0.50	ug/g	0.999		94	80-120			
Bromobenzene	0.84	0.50	ug/g	0.999		85	80-120			
n-Propyl Benzene	0.96	0.50	ug/g	0.999		96	80-120			
2-Chlorotoluene	0.91	0.50	ug/g	0.999		91	80-120			
4-Chlorotoluene	0.90	0.50	ug/g	0.999		91	80-120			
1,3,5-Trimethylbenzene	0.94	0.50	ug/g	0.999		95	80-120			
tert-Butylbenzene	0.96	0.50	ug/g	0.999		96	80-120			
1,2,4-Trimethylbenzene	0.91	0.50	ug/g	0.999		91	80-120			
sec-Butylbenzene	0.96	0.50	ug/g	0.999		96	80-120			
1,3-Dichlorobenzene	0.86	0.50	ug/g	0.999		87	80-120			
1,4-Dichlorobenzene	0.91	0.50	ug/g	0.999		91	80-120			
p-Isopropyltoluene	1.04	0.50	ug/g	0.999		105	76.5-120			
1,2-Dichlorobenzene	0.89	0.50	ug/g	0.999		89	80-120			
n-Butyl Benzene	1.06	0.50	ug/g	0.999		107	80-120			
1,2-Dibromo-3-Chloropropane	0.83	0.50	ug/g	0.999		83	53.7-120			
1,2,4-Trichlorobenzene	0.92	0.50	ug/g	0.999		92	64.4-120			
Naphthalene	0.84	0.50	ug/g	0.999		84	49.6-120			
Hexachlorobutadiene	1.12	0.50	ug/g	0.999		112	71.1-120			
1,2,3-Trichlorobenzene	0.86	0.50	ug/g	0.999		87	44.7-120			
Surrogate: Toluene-d8	*0.233*		ug/g	*0.250*		*93*	*80-120*			
Surrogate: Bromofluorobenzene	*0.213*		ug/g	*0.250*		*85*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.238*		ug/g	*0.250*		*95*	*80-120*			

Work Order: 1596238

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
Matrix Spike (B933627-MS1)	**Source: 1598024-06**			Prepared & Analyzed: 2023-07-17						
Dichlorodifluoromethane	0.70	0.50	ug/g	0.998	<	70	47.5-120			
Chloromethane	0.81	0.50	ug/g	0.998	<	81	71.4-120			
Vinyl chloride	0.22	0.50	ug/g	0.998	<	22	25.7-120			
Bromomethane	0.44	0.50	ug/g	0.998	<	44	24.4-120			
Chloroethane	0.74	0.50	ug/g	0.998	<	74	51-120			
Trichlorofluoromethane	0.80	0.50	ug/g	0.998	<	80	70.4-120			
Acrolein	<	9.98	ug/g		<		51.7-120			
Acetone	<	9.98	ug/g		<		45.7-120			
Ethyl Ether	<	0.50	ug/g		<		60.4-120			
1,1-Dichloroethene	<	0.50	ug/g		<		70.4-120			
Iodomethane	<	0.50	ug/g		<		55.6-132			
Acrylonitrile	<	0.50	ug/g		<		55.5-120			
Methylene Chloride	<	0.50	ug/g		<		66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g		<		75.4-120			
Carbon disulfide	<	0.50	ug/g		<		67.9-120			
trans-1,2-Dichloroethene	<	0.50	ug/g		<		76.6-120			
Methyl tert-Butyl Ether	<	0.50	ug/g		<		61.1-120			
1,1-Dichloroethane	<	0.50	ug/g		<		68.2-120			
Vinyl acetate	<	0.50	ug/g		<		51.3-120			
Chloroprene	<	0.50	ug/g		<		74.9-120			
2-Butanone	<	9.98	ug/g		<		49.2-120			
cis-1,2-Dichloroethene	<	0.50	ug/g		<		71.9-120			
Bromochloromethane	<	0.50	ug/g		<		63-120			
Chloroform	<	0.50	ug/g		<		75.8-120			
2,2-Dichloropropane	<	0.50	ug/g		<		70.8-120			
1,2-Dichloroethane	<	0.50	ug/g		<		66.8-120			
1,1,1-Trichloroethane	<	0.50	ug/g		<		70.3-120			
1,1-Dichloropropene	<	0.50	ug/g		<		72.7-120			
Carbon Tetrachloride	<	0.50	ug/g		<		64.7-120			
Benzene	<	0.50	ug/g		<		74.3-120			
Dibromomethane	<	0.50	ug/g		<		62.5-120			
1,2-Dichloropropane	<	0.50	ug/g		<		70.1-120			
Trichloroethene	<	0.50	ug/g		<		80-120			
Bromodichloromethane	<	0.50	ug/g		<		67.2-120			
2-Chloroethyl vinyl ether	<	0.50	ug/g		<		51.9-134			
cis-1,3-Dichloropropene	<	0.50	ug/g		<		68.1-120			
4-Methyl-2-pentanone	<	9.98	ug/g		<		44.6-120			
trans-1,3-Dichloropropene	<	0.50	ug/g		<		63.4-120			
1,1,2-Trichloroethane	<	0.50	ug/g		<		61.7-120			
Toluene	<	0.50	ug/g		<		80-120			
1,3-Dichloropropane	<	0.50	ug/g		<		63.6-120			

Work Order: 1596238

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
Matrix Spike (B933627-MS1)	**Source: 1598024-06**			Prepared & Analyzed: 2023-07-17						
Ethyl Methacrylate	<	0.50	ug/g		<		58.5-120			
Dibromochloromethane	<	0.50	ug/g		<		61.1-120			
2-Hexanone	<	9.98	ug/g		<		47.2-120			
1,2-Dibromoethane	<	0.50	ug/g		<		63.6-120			
Tetrachloroethene	<	0.50	ug/g		<		78.8-120			
1,1,1,2-Tetrachloroethane	<	0.50	ug/g		<		63.8-120			
Chlorobenzene	<	0.50	ug/g		<		80-120			
Ethylbenzene	<	0.50	ug/g		<		80-120			
m,p-Xylenes	<	1.00	ug/g		<		80-120			
Bromoform	<	0.50	ug/g		<		52.2-120			
cis-1,4-Dichloro-2-butene	<	0.50	ug/g		<		61.7-120			
Styrene	<	0.50	ug/g		<		80-120			
1,1,2,2-Tetrachloroethane	<	0.50	ug/g		<		64.3-120			
o-Xylene	<	0.50	ug/g		<		80-120			
1,2,3-Trichloropropane	<	0.50	ug/g		<		67.1-120			
trans-1,4-Dichloro-2-butene	<	0.50	ug/g		<		63.1-120			
Isopropylbenzene	<	0.50	ug/g		<		80-120			
Bromobenzene	<	0.50	ug/g		<		80-120			
n-Propyl Benzene	<	0.50	ug/g		<		80-120			
2-Chlorotoluene	<	0.50	ug/g		<		80-120			
4-Chlorotoluene	<	0.50	ug/g		<		80-120			
1,3,5-Trimethylbenzene	<	0.50	ug/g		<		80-120			
tert-Butylbenzene	<	0.50	ug/g		<		80-120			
1,2,4-Trimethylbenzene	<	0.50	ug/g		<		80-120			
sec-Butylbenzene	<	0.50	ug/g		<		80-120			
1,3-Dichlorobenzene	<	0.50	ug/g		<		80-120			
1,4-Dichlorobenzene	<	0.50	ug/g		<		80-120			
p-Isopropyltoluene	<	0.50	ug/g		<		76.5-120			
1,2-Dichlorobenzene	<	0.50	ug/g		<		80-120			
n-Butyl Benzene	<	0.50	ug/g		<		80-120			
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g		<		53.7-120			
1,2,4-Trichlorobenzene	<	0.50	ug/g		<		64.4-120			
Naphthalene	<	0.50	ug/g		<		49.6-120			
Hexachlorobutadiene	<	0.50	ug/g		<		71.1-120			
1,2,3-Trichlorobenzene	<	0.50	ug/g		<		44.7-120			
Surrogate: Toluene-d8	*0.230*		ug/g	*0.250*		*92*	*80-120*			
Surrogate: Bromofluorobenzene	*0.210*		ug/g	*0.250*		*84*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.234*		ug/g	*0.250*		*94*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
Matrix Spike (B933627-MS2)	**Source: 1598024-06**			Prepared & Analyzed: 2023-07-17						
Dichlorodifluoromethane	<	0.50	ug/g		<		47.5-120			
Chloromethane	<	0.50	ug/g		<		71.4-120			
Vinyl chloride	<	0.50	ug/g		<		25.7-120			
Bromomethane	<	0.50	ug/g		<		24.4-120			
Chloroethane	<	0.50	ug/g		<		51-120			
Trichlorofluoromethane	<	0.50	ug/g		<		70.4-120			
Acrolein	1.47	9.99	ug/g	2.00	<	74	51.7-120			
Acetone	1.37	9.99	ug/g	2.00	<	69	45.7-120			
Ethyl Ether	0.70	0.50	ug/g	0.999	<	70	60.4-120			
1,1-Dichloroethene	0.80	0.50	ug/g	0.999	<	81	70.4-120			
Iodomethane	0.76	0.50	ug/g	0.999	<	76	55.6-132			
Acrylonitrile	0.72	0.50	ug/g	0.999	<	72	55.5-120			
Methylene Chloride	0.76	0.50	ug/g	0.999	<	76	66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	0.78	0.50	ug/g	0.999	<	78	75.4-120			
Carbon disulfide	0.78	0.50	ug/g	0.999	<	78	67.9-120			
trans-1,2-Dichloroethene	0.83	0.50	ug/g	0.999	<	83	76.6-120			
Methyl tert-Butyl Ether	0.70	0.50	ug/g	0.999	<	70	61.1-120			
1,1-Dichloroethane	0.81	0.50	ug/g	0.999	<	82	68.2-120			
Vinyl acetate	0.76	0.50	ug/g	0.999	<	76	51.3-120			
Chloroprene	0.83	0.50	ug/g	0.999	<	83	74.9-120			
2-Butanone	1.40	9.99	ug/g	2.00	<	70	49.2-120			
cis-1,2-Dichloroethene	0.81	0.50	ug/g	0.999	<	81	71.9-120			
Bromochloromethane	0.74	0.50	ug/g	0.999	<	74	63-120			
Chloroform	0.78	0.50	ug/g	0.999	<	78	75.8-120			
2,2-Dichloropropane	0.78	0.50	ug/g	0.999	<	79	70.8-120			
1,2-Dichloroethane	0.72	0.50	ug/g	0.999	<	72	66.8-120			
1,1,1-Trichloroethane	0.79	0.50	ug/g	0.999	<	79	70.3-120			
1,1-Dichloropropene	0.83	0.50	ug/g	0.999	<	83	72.7-120			
Carbon Tetrachloride	0.74	0.50	ug/g	0.999	<	75	64.7-120			
Benzene	0.83	0.50	ug/g	0.999	<	83	74.3-120			
Dibromomethane	0.72	0.50	ug/g	0.999	<	72	62.5-120			
1,2-Dichloropropane	0.79	0.50	ug/g	0.999	<	79	70.1-120			
Trichloroethene	0.85	0.50	ug/g	0.999	<	85	80-120			
Bromodichloromethane	0.73	0.50	ug/g	0.999	<	73	67.2-120			
2-Chloroethyl vinyl ether	0.83	0.50	ug/g	0.999	<	83	51.9-134			
cis-1,3-Dichloropropene	0.74	0.50	ug/g	0.999	<	75	68.1-120			
4-Methyl-2-pentanone	1.35	9.99	ug/g	2.00	<	68	44.6-120			
trans-1,3-Dichloropropene	0.71	0.50	ug/g	0.999	<	71	63.4-120			
1,1,2-Trichloroethane	0.71	0.50	ug/g	0.999	<	71	61.7-120			
Toluene	0.84	0.50	ug/g	0.999	<	84	80-120			
1,3-Dichloropropane	0.72	0.50	ug/g	0.999	<	72	63.6-120			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
Matrix Spike (B933627-MS2)	**Source: 1598024-06**			Prepared & Analyzed: 2023-07-17						
Ethyl Methacrylate	0.69	0.50	ug/g	0.999	<	69	58.5-120			
Dibromochloromethane	0.66	0.50	ug/g	0.999	<	66	61.1-120			
2-Hexanone	1.35	9.99	ug/g	2.00	<	67	47.2-120			
1,2-Dibromoethane	0.71	0.50	ug/g	0.999	<	71	63.6-120			
Tetrachloroethene	0.81	0.50	ug/g	0.999	<	81	78.8-120			
1,1,1,2-Tetrachloroethane	0.72	0.50	ug/g	0.999	<	72	63.8-120			
Chlorobenzene	0.85	0.50	ug/g	0.999	<	85	80-120			
Ethylbenzene	0.91	0.50	ug/g	0.999	<	91	80-120			
m,p-Xylenes	1.81	1.00	ug/g	2.00	<	91	80-120			
Bromoform	0.66	0.50	ug/g	0.999	<	66	52.2-120			
cis-1,4-Dichloro-2-butene	0.70	0.50	ug/g	0.999	<	70	61.7-120			
Styrene	0.85	0.50	ug/g	0.999	<	85	80-120			
1,1,2,2-Tetrachloroethane	0.73	0.50	ug/g	0.999	<	73	64.3-120			
o-Xylene	0.88	0.50	ug/g	0.999	<	88	80-120			
1,2,3-Trichloropropane	0.73	0.50	ug/g	0.999	<	73	67.1-120			
trans-1,4-Dichloro-2-butene	0.71	0.50	ug/g	0.999	<	71	63.1-120			
Isopropylbenzene	0.91	0.50	ug/g	0.999	<	91	80-120			
Bromobenzene	0.80	0.50	ug/g	0.999	<	80	80-120			
n-Propyl Benzene	0.92	0.50	ug/g	0.999	<	92	80-120			
2-Chlorotoluene	0.87	0.50	ug/g	0.999	<	87	80-120			
4-Chlorotoluene	0.86	0.50	ug/g	0.999	<	86	80-120			
1,3,5-Trimethylbenzene	0.89	0.50	ug/g	0.999	<	90	80-120			
tert-Butylbenzene	0.91	0.50	ug/g	0.999	<	91	80-120			
1,2,4-Trimethylbenzene	0.87	0.50	ug/g	0.999	<	87	80-120			
sec-Butylbenzene	0.92	0.50	ug/g	0.999	<	92	80-120			
1,3-Dichlorobenzene	0.82	0.50	ug/g	0.999	<	82	80-120			
1,4-Dichlorobenzene	0.88	0.50	ug/g	0.999	<	88	80-120			
p-Isopropyltoluene	1.03	0.50	ug/g	0.999	<	103	76.5-120			
1,2-Dichlorobenzene	0.86	0.50	ug/g	0.999	<	86	80-120			
n-Butyl Benzene	1.04	0.50	ug/g	0.999	<	104	80-120			
1,2-Dibromo-3-Chloropropane	0.76	0.50	ug/g	0.999	<	76	53.7-120			
1,2,4-Trichlorobenzene	0.91	0.50	ug/g	0.999	<	91	64.4-120			
Naphthalene	0.82	0.50	ug/g	0.999	<	82	49.6-120			
Hexachlorobutadiene	1.12	0.50	ug/g	0.999	<	112	71.1-120			
1,2,3-Trichlorobenzene	0.87	0.50	ug/g	0.999	<	88	44.7-120			
Surrogate: Toluene-d8	*0.233*		ug/g	*0.250*		*93*	*80-120*			
Surrogate: Bromofluorobenzene	*0.211*		ug/g	*0.250*		*84*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.238*		ug/g	*0.250*		*95*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
Matrix Spike Dup (B933627-MSD1)	**Source: 1598024-06**			Prepared & Analyzed: 2023-07-17						
Dichlorodifluoromethane	0.73	0.50	ug/g	0.998	<	73	47.5-120	4	20	
Chloromethane	0.89	0.50	ug/g	0.998	<	89	71.4-120	9	20	
Vinyl chloride	0.21	0.50	ug/g	0.998	<	21	25.7-120	2	20	
Bromomethane	0.34	0.50	ug/g	0.998	<	34	24.4-120	26	20	
Chloroethane	0.69	0.50	ug/g	0.998	<	69	51-120	7	20	
Trichlorofluoromethane	0.81	0.50	ug/g	0.998	<	81	70.4-120	2	20	
Acrolein	<	9.98	ug/g		<		51.7-120		20	
Acetone	<	9.98	ug/g		<		45.7-120		20	
Ethyl Ether	<	0.50	ug/g		<		60.4-120		20	
1,1-Dichloroethene	<	0.50	ug/g		<		70.4-120		20	
Iodomethane	<	0.50	ug/g		<		55.6-132		20	
Acrylonitrile	<	0.50	ug/g		<		55.5-120		20	
Methylene Chloride	<	0.50	ug/g		<		66.4-120		20	
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g		<		75.4-120		20	
Carbon disulfide	<	0.50	ug/g		<		67.9-120		20	
trans-1,2-Dichloroethene	<	0.50	ug/g		<		76.6-120		20	
Methyl tert-Butyl Ether	<	0.50	ug/g		<		61.1-120		20	
1,1-Dichloroethane	<	0.50	ug/g		<		68.2-120		20	
Vinyl acetate	<	0.50	ug/g		<		51.3-120		20	
Chloroprene	<	0.50	ug/g		<		74.9-120		20	
2-Butanone	<	9.98	ug/g		<		49.2-120		20	
cis-1,2-Dichloroethene	<	0.50	ug/g		<		71.9-120		20	
Bromochloromethane	<	0.50	ug/g		<		63-120		20	
Chloroform	<	0.50	ug/g		<		75.8-120		20	
2,2-Dichloropropane	<	0.50	ug/g		<		70.8-120		20	
1,2-Dichloroethane	<	0.50	ug/g		<		66.8-120		20	
1,1,1-Trichloroethane	<	0.50	ug/g		<		70.3-120		20	
1,1-Dichloropropene	<	0.50	ug/g		<		72.7-120		20	
Carbon Tetrachloride	<	0.50	ug/g		<		64.7-120		20	
Benzene	<	0.50	ug/g		<		74.3-120		20	
Dibromomethane	<	0.50	ug/g		<		62.5-120		20	
1,2-Dichloropropane	<	0.50	ug/g		<		70.1-120		20	
Trichloroethene	<	0.50	ug/g		<		80-120		20	
Bromodichloromethane	<	0.50	ug/g		<		67.2-120		20	
2-Chloroethyl vinyl ether	<	0.50	ug/g		<		51.9-134		20	
cis-1,3-Dichloropropene	<	0.50	ug/g		<		68.1-120		20	
4-Methyl-2-pentanone	<	9.98	ug/g		<		44.6-120		20	
trans-1,3-Dichloropropene	<	0.50	ug/g		<		63.4-120		20	
1,1,2-Trichloroethane	<	0.50	ug/g		<		61.7-120		20	
Toluene	<	0.50	ug/g		<		80-120		20	
1,3-Dichloropropane	<	0.50	ug/g		<		63.6-120		20	

Work Order: 1596238

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
Matrix Spike Dup (B933627-MSD1)	**Source: 1598024-06**			Prepared & Analyzed: 2023-07-17						
Ethyl Methacrylate	<	0.50	ug/g		<		58.5-120		20	
Dibromochloromethane	<	0.50	ug/g		<		61.1-120		20	
2-Hexanone	<	9.98	ug/g		<		47.2-120		20	
1,2-Dibromoethane	<	0.50	ug/g		<		63.6-120		20	
Tetrachloroethene	<	0.50	ug/g		<		78.8-120		20	
1,1,1,2-Tetrachloroethane	<	0.50	ug/g		<		63.8-120		20	
Chlorobenzene	<	0.50	ug/g		<		80-120		20	
Ethylbenzene	<	0.50	ug/g		<		80-120		20	
m,p-Xylenes	<	1.00	ug/g		<		80-120		20	
Bromoform	<	0.50	ug/g		<		52.2-120		20	
cis-1,4-Dichloro-2-butene	<	0.50	ug/g		<		61.7-120		20	
Styrene	<	0.50	ug/g		<		80-120		20	
1,1,2,2-Tetrachloroethane	<	0.50	ug/g		<		64.3-120		20	
o-Xylene	<	0.50	ug/g		<		80-120		20	
1,2,3-Trichloropropane	<	0.50	ug/g		<		67.1-120		20	
trans-1,4-Dichloro-2-butene	<	0.50	ug/g		<		63.1-120		20	
Isopropylbenzene	<	0.50	ug/g		<		80-120		20	
Bromobenzene	<	0.50	ug/g		<		80-120		20	
n-Propyl Benzene	<	0.50	ug/g		<		80-120		20	
2-Chlorotoluene	<	0.50	ug/g		<		80-120		20	
4-Chlorotoluene	<	0.50	ug/g		<		80-120		20	
1,3,5-Trimethylbenzene	<	0.50	ug/g		<		80-120		20	
tert-Butylbenzene	<	0.50	ug/g		<		80-120		20	
1,2,4-Trimethylbenzene	<	0.50	ug/g		<		80-120		20	
sec-Butylbenzene	<	0.50	ug/g		<		80-120		20	
1,3-Dichlorobenzene	<	0.50	ug/g		<		80-120		20	
1,4-Dichlorobenzene	<	0.50	ug/g		<		80-120		20	
p-Isopropyltoluene	<	0.50	ug/g		<		76.5-120		20	
1,2-Dichlorobenzene	<	0.50	ug/g		<		80-120		20	
n-Butyl Benzene	<	0.50	ug/g		<		80-120		20	
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g		<		53.7-120		20	
1,2,4-Trichlorobenzene	<	0.50	ug/g		<		64.4-120		20	
Naphthalene	<	0.50	ug/g		<		49.6-120		20	
Hexachlorobutadiene	<	0.50	ug/g		<		71.1-120		20	
1,2,3-Trichlorobenzene	<	0.50	ug/g		<		44.7-120		20	
Surrogate: Toluene-d8	*0.231*		ug/g	*0.250*		*92*	*80-120*			
Surrogate: Bromofluorobenzene	*0.216*		ug/g	*0.250*		*87*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.237*		ug/g	*0.250*		*95*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
Matrix Spike Dup (B933627-MSD2)	**Source: 1598024-06**			Prepared & Analyzed: 2023-07-17						
Dichlorodifluoromethane	<	0.50	ug/g		<		47.5-120		20	
Chloromethane	<	0.50	ug/g		<		71.4-120		20	
Vinyl chloride	<	0.50	ug/g		<		25.7-120		20	
Bromomethane	<	0.50	ug/g		<		24.4-120		20	
Chloroethane	<	0.50	ug/g		<		51-120		20	
Trichlorofluoromethane	<	0.50	ug/g		<		70.4-120		20	
Acrolein	1.96	9.99	ug/g	2.00	<	98	51.7-120	28	20	
Acetone	1.84	9.99	ug/g	2.00	<	92	45.7-120	30	20	
Ethyl Ether	0.88	0.50	ug/g	0.999	<	88	60.4-120	24	20	
1,1-Dichloroethene	0.80	0.50	ug/g	0.999	<	80	70.4-120	0.6	20	
Iodomethane	0.73	0.50	ug/g	0.999	<	73	55.6-132	5	20	
Acrylonitrile	0.95	0.50	ug/g	0.999	<	95	55.5-120	28	20	
Methylene Chloride	0.83	0.50	ug/g	0.999	<	83	66.4-120	9	20	
1,1,2-Trichloro-1,1,2-trifluoroethane	0.76	0.50	ug/g	0.999	<	76	75.4-120	2	20	
Carbon disulfide	0.75	0.50	ug/g	0.999	<	75	67.9-120	3	20	
trans-1,2-Dichloroethene	0.83	0.50	ug/g	0.999	<	84	76.6-120	0.6	20	
Methyl tert-Butyl Ether	0.93	0.50	ug/g	0.999	<	93	61.1-120	28	20	
1,1-Dichloroethane	0.83	0.50	ug/g	0.999	<	83	68.2-120	2	20	
Vinyl acetate	0.98	0.50	ug/g	0.999	<	99	51.3-120	26	20	
Chloroprene	0.82	0.50	ug/g	0.999	<	82	74.9-120	0.7	20	
2-Butanone	1.99	9.99	ug/g	2.00	<	99	49.2-120	35	20	
cis-1,2-Dichloroethene	0.85	0.50	ug/g	0.999	<	85	71.9-120	5	20	
Bromochloromethane	0.86	0.50	ug/g	0.999	<	86	63-120	15	20	
Chloroform	0.83	0.50	ug/g	0.999	<	83	75.8-120	5	20	
2,2-Dichloropropane	0.78	0.50	ug/g	0.999	<	78	70.8-120	0.2	20	
1,2-Dichloroethane	0.86	0.50	ug/g	0.999	<	86	66.8-120	18	20	
1,1,1-Trichloroethane	0.79	0.50	ug/g	0.999	<	79	70.3-120	0.2	20	
1,1-Dichloropropene	0.82	0.50	ug/g	0.999	<	83	72.7-120	0.8	20	
Carbon Tetrachloride	0.73	0.50	ug/g	0.999	<	73	64.7-120	3	20	
Benzene	0.85	0.50	ug/g	0.999	<	85	74.3-120	2	20	
Dibromomethane	0.87	0.50	ug/g	0.999	<	87	62.5-120	19	20	
1,2-Dichloropropane	0.86	0.50	ug/g	0.999	<	86	70.1-120	9	20	
Trichloroethene	0.85	0.50	ug/g	0.999	<	85	80-120	0.7	20	
Bromodichloromethane	0.82	0.50	ug/g	0.999	<	82	67.2-120	11	20	
2-Chloroethyl vinyl ether	1.10	0.50	ug/g	0.999	<	110	51.9-134	28	20	
cis-1,3-Dichloropropene	0.87	0.50	ug/g	0.999	<	87	68.1-120	15	20	
4-Methyl-2-pentanone	1.94	9.99	ug/g	2.00	<	97	44.6-120	36	20	
trans-1,3-Dichloropropene	0.87	0.50	ug/g	0.999	<	87	63.4-120	21	20	
1,1,2-Trichloroethane	0.89	0.50	ug/g	0.999	<	89	61.7-120	22	20	
Toluene	0.84	0.50	ug/g	0.999	<	84	80-120	0.6	20	
1,3-Dichloropropane	0.88	0.50	ug/g	0.999	<	88	63.6-120	20	20	

Work Order: 1596238

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933627										
Matrix Spike Dup (B933627-MSD2)	**Source: 1598024-06**			Prepared & Analyzed: 2023-07-17						
Ethyl Methacrylate	0.94	0.50	ug/g	0.999	<	94	58.5-120	30	20	
Dibromochloromethane	0.80	0.50	ug/g	0.999	<	80	61.1-120	19	20	
2-Hexanone	1.97	9.99	ug/g	2.00	<	99	47.2-120	37	20	
1,2-Dibromoethane	0.89	0.50	ug/g	0.999	<	89	63.6-120	22	20	
Tetrachloroethene	0.80	0.50	ug/g	0.999	<	80	78.8-120	1	20	
1,1,1,2-Tetrachloroethane	0.81	0.50	ug/g	0.999	<	81	63.8-120	11	20	
Chlorobenzene	0.86	0.50	ug/g	0.999	<	86	80-120	1	20	
Ethylbenzene	0.87	0.50	ug/g	0.999	<	87	80-120	5	20	
m,p-Xylenes	1.73	1.00	ug/g	2.00	<	86	80-120	5	20	
Bromoform	0.79	0.50	ug/g	0.999	<	79	52.2-120	18	20	
cis-1,4-Dichloro-2-butene	0.90	0.50	ug/g	0.999	<	90	61.7-120	24	20	
Styrene	0.88	0.50	ug/g	0.999	<	88	80-120	4	20	
1,1,2,2-Tetrachloroethane	0.92	0.50	ug/g	0.999	<	92	64.3-120	22	20	
o-Xylene	0.86	0.50	ug/g	0.999	<	86	80-120	2	20	
1,2,3-Trichloropropane	0.93	0.50	ug/g	0.999	<	93	67.1-120	23	20	
trans-1,4-Dichloro-2-butene	0.91	0.50	ug/g	0.999	<	91	63.1-120	25	20	
Isopropylbenzene	0.85	0.50	ug/g	0.999	<	85	80-120	6	20	
Bromobenzene	0.87	0.50	ug/g	0.999	<	87	80-120	8	20	
n-Propyl Benzene	0.86	0.50	ug/g	0.999	<	86	80-120	7	20	
2-Chlorotoluene	0.86	0.50	ug/g	0.999	<	86	80-120	0.7	20	
4-Chlorotoluene	0.86	0.50	ug/g	0.999	<	86	80-120	0.7	20	
1,3,5-Trimethylbenzene	0.86	0.50	ug/g	0.999	<	86	80-120	4	20	
tert-Butylbenzene	0.86	0.50	ug/g	0.999	<	86	80-120	6	20	
1,2,4-Trimethylbenzene	0.86	0.50	ug/g	0.999	<	86	80-120	1	20	
sec-Butylbenzene	0.86	0.50	ug/g	0.999	<	87	80-120	6	20	
1,3-Dichlorobenzene	0.85	0.50	ug/g	0.999	<	85	80-120	5	20	
1,4-Dichlorobenzene	0.88	0.50	ug/g	0.999	<	88	80-120	0.6	20	
p-Isopropyltoluene	0.89	0.50	ug/g	0.999	<	89	76.5-120	14	20	
1,2-Dichlorobenzene	0.88	0.50	ug/g	0.999	<	88	80-120	3	20	
n-Butyl Benzene	0.89	0.50	ug/g	0.999	<	89	80-120	15	20	
1,2-Dibromo-3-Chloropropane	0.92	0.50	ug/g	0.999	<	92	53.7-120	19	20	
1,2,4-Trichlorobenzene	1.01	0.50	ug/g	0.999	<	101	64.4-120	10	20	
Naphthalene	1.02	0.50	ug/g	0.999	<	102	49.6-120	22	20	
Hexachlorobutadiene	0.94	0.50	ug/g	0.999	<	94	71.1-120	17	20	
1,2,3-Trichlorobenzene	1.03	0.50	ug/g	0.999	<	103	44.7-120	16	20	
Surrogate: Toluene-d8	*0.236*		ug/g	*0.250*		*95*	*80-120*			
Surrogate: Bromofluorobenzene	*0.221*		ug/g	*0.250*		*89*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.244*		ug/g	*0.250*		*98*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933521										
Blank (B933521-BLK1)				Prepared: 2023-07-14 Analyzed: 2023-07-18						
N-Nitrosodimethylamine	<	332	ug/kg							
bis(2-chloroethyl)ether	<	332	ug/kg							
Phenol	<	332	ug/kg							
2-Chlorophenol	<	332	ug/kg							
1,3-Dichlorobenzene	<	332	ug/kg							
1,4-Dichlorobenzene	<	332	ug/kg							
1,2-Dichlorobenzene	<	332	ug/kg							
2,2'-oxybis(1-chloropropane)	<	332	ug/kg							
2-Methylphenol	<	332	ug/kg							
Hexachloroethane	<	332	ug/kg							
N-Nitroso-di-n-propylamine	<	332	ug/kg							
4-Methylphenol	<	332	ug/kg							
Nitrobenzene	<	332	ug/kg							
Isophorone	<	332	ug/kg							
2-Nitrophenol	<	332	ug/kg							
2,4-Dimethylphenol	<	332	ug/kg							
bis(2-chloroethoxy)methane	<	332	ug/kg							
2,4-Dichlorophenol	<	332	ug/kg							
1,2,4-Trichlorobenzene	<	332	ug/kg							
Naphthalene	<	332	ug/kg							
4-Chloroaniline	<	332	ug/kg							
Hexachlorobutadiene	<	332	ug/kg							
4-Chloro-3-methylphenol	<	332	ug/kg							
2-Methylnaphthalene	<	332	ug/kg							
Hexachlorocyclopentadiene	<	332	ug/kg							
2,4,6-Trichlorophenol	<	332	ug/kg							
2,4,5-Trichlorophenol	<	332	ug/kg							
2-Chloronaphthalene	<	332	ug/kg							
2-Nitroaniline	<	332	ug/kg							
Acenaphthylene	<	332	ug/kg							
Dimethylphthalate	<	332	ug/kg							
2,6-Dinitrotoluene	<	332	ug/kg							
Acenaphthene	<	332	ug/kg							
3-Nitroaniline	<	332	ug/kg							OOS
2,4-Dinitrophenol	<	332	ug/kg							
Dibenzofuran	<	332	ug/kg							
2,4-Dinitrotoluene	<	332	ug/kg							
4-Nitrophenol	<	332	ug/kg							CAL
Fluorene	<	332	ug/kg							
4-Chlorophenyl-phenylether	<	332	ug/kg							
Diethyl phthalate	<	332	ug/kg							

Work Order: 1596238

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933521										
Blank (B933521-BLK1)				Prepared: 2023-07-14 Analyzed: 2023-07-18						
4-Nitroaniline	<	332	ug/kg							
4,6-Dinitro-2-methylphenol	<	332	ug/kg							
N-Nitrosodiphenylamine	<	332	ug/kg							
Azobenzene	<	332	ug/kg							
4-Bromophenyl-phenylether	<	332	ug/kg							
Hexachlorobenzene	<	332	ug/kg							
Pentachlorophenol	<	332	ug/kg							
Phenanthrene	<	332	ug/kg							
Carbazole	<	474	ug/kg							
Di-n-butyl phthalate	<	332	ug/kg							
Fluoranthene	<	332	ug/kg							
Benzidine	<	332	ug/kg							BENZ
Pyrene	<	332	ug/kg							
Butylbenzylphthalate	<	332	ug/kg							
3,3'-Dichlorobenzidine	<	474	ug/kg							
Benzo[a]anthracene	<	332	ug/kg							
Chrysene	<	332	ug/kg							
bis(2-ethylhexyl)phthalate	<	332	ug/kg							
Di-n-octyl phthalate	<	332	ug/kg							
Benzo[b]fluoranthene	<	332	ug/kg							
Benzo[k]fluoranthene	<	332	ug/kg							
Benzo[a]pyrene	<	332	ug/kg							
Indeno(1,2,3-cd)pyrene	<	332	ug/kg							
Dibenzo(a,h)anthracene	<	332	ug/kg							
Benzo[ghi]perylene	<	332	ug/kg							
1,2-Diphenylhydrazine	<	332	ug/kg							
Anthracene	<	332	ug/kg							
Surrogate: 2-Fluorophenol	*2090*		ug/kg	*2500*		*84*	*61-120*			
Surrogate: Phenol-d6	*1990*		ug/kg	*2500*		*80*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1470*		ug/kg	*1660*		*88*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1410*		ug/kg	*1660*		*85*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2070*		ug/kg	*2500*		*83*	*47.2-132*			
Surrogate: Terphenyl-d14	*638*		ug/kg	*1660*		*38*	*30.7-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933521										
LCS (B933521-BS1)				Prepared: 2023-07-14 Analyzed: 2023-07-18						
N-Nitrosodimethylamine	1710	332	ug/kg	1660		102	68.1-125			
bis(2-chloroethyl)ether	1410	332	ug/kg	1660		85	65-120			
Phenol	1210	332	ug/kg	1660		73	55.5-120			
2-Chlorophenol	1470	332	ug/kg	1660		88	66.1-120			
1,3-Dichlorobenzene	1430	332	ug/kg	1660		86	69.4-120			
1,4-Dichlorobenzene	1380	332	ug/kg	1660		83	66.4-120			
1,2-Dichlorobenzene	1450	332	ug/kg	1660		87	73.8-120			
2,2'-oxybis(1-chloropropane)	1280	332	ug/kg	1660		77	62.2-120			
2-Methylphenol	1250	332	ug/kg	1660		75	69-120			
Hexachloroethane	1450	332	ug/kg	1660		87	65.7-120			
N-Nitroso-di-n-propylamine	1410	332	ug/kg	1660		85	75-120			
4-Methylphenol	1350	332	ug/kg				74.7-120			
Nitrobenzene	1400	332	ug/kg	1660		84	71.5-120			
Isophorone	1440	332	ug/kg	1660		87	72-120			
2-Nitrophenol	1500	332	ug/kg	1660		90	74.1-120			
2,4-Dimethylphenol	1370	332	ug/kg	1660		82	52.2-120			
bis(2-chloroethoxy)methane	1330	332	ug/kg	1660		80	74.5-120			
2,4-Dichlorophenol	1480	332	ug/kg	1660		89	69.1-120			
1,2,4-Trichlorobenzene	1490	332	ug/kg	1660		89	74.1-120			
Naphthalene	1440	332	ug/kg	1660		87	71.4-120			
4-Chloroaniline	445	332	ug/kg	1660		27	16.7-120			
Hexachlorobutadiene	1550	332	ug/kg	1660		93	72.1-120			
4-Chloro-3-methylphenol	1600	332	ug/kg	1660		96	73.8-120			
2-Methylnaphthalene	1500	332	ug/kg	1660		90	76.3-120			
Hexachlorocyclopentadiene	1400	332	ug/kg	1660		84	52.9-120			
2,4,6-Trichlorophenol	1430	332	ug/kg	1660		86	71.4-120			
2,4,5-Trichlorophenol	1400	332	ug/kg	1660		84	72.5-120			
2-Chloronaphthalene	1440	332	ug/kg	1660		86	73.3-120			
2-Nitroaniline	1490	332	ug/kg	1660		89	71.4-120			
Acenaphthylene	1370	332	ug/kg	1660		82	72.9-120			
Dimethylphthalate	1530	332	ug/kg	1660		92	80-129			
2,6-Dinitrotoluene	1470	332	ug/kg	1660		88	76.5-120			
Acenaphthene	1450	332	ug/kg	1660		87	72.4-120			
3-Nitroaniline	1310	332	ug/kg	1660		79	44.4-121			OOS
2,4-Dinitrophenol	<	332	ug/kg	1660			51.3-165			
Dibenzofuran	1440	332	ug/kg	1660		87	75.3-120			
2,4-Dinitrotoluene	1530	332	ug/kg	1660		92	68.7-120			
4-Nitrophenol	1250	332	ug/kg	1660		75	65.7-123			CAL
Fluorene	1470	332	ug/kg	1660		88	73.3-123			
4-Chlorophenyl-phenylether	1510	332	ug/kg	1660		91	74.2-120			
Diethyl phthalate	1560	332	ug/kg	1660		94	76.7-127			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933521										
LCS (B933521-BS1)				Prepared: 2023-07-14 Analyzed: 2023-07-18						
4-Nitroaniline	1580	332	ug/kg	1660		95	59.7-120			
4,6-Dinitro-2-methylphenol	330	332	ug/kg	1660		20	65.7-123			
N-Nitrosodiphenylamine	1480	332	ug/kg				69.4-120			
Azobenzene	1380	332	ug/kg	1660		83	76.8-120			
4-Bromophenyl-phenylether	1490	332	ug/kg	1660		89	80-120			
Hexachlorobenzene	1540	332	ug/kg	1660		93	72.8-121			
Pentachlorophenol	823	332	ug/kg	1660		49	57.7-120			
Phenanthrene	1460	332	ug/kg	1660		88	71.7-120			
Carbazole	1900	474	ug/kg	1660		114	65.7-120			
Di-n-butyl phthalate	1520	332	ug/kg	1660		91	76.6-122			
Fluoranthene	1570	332	ug/kg	1660		94	70.6-120			
Benzidine	89.3	332	ug/kg	1660		5	0-200			BENZ
Pyrene	1530	332	ug/kg	1660		92	70.5-120			
Butylbenzylphthalate	1540	332	ug/kg	1660		93	74.8-122			
3,3'-Dichlorobenzidine	1390	474	ug/kg	1660		84	35.8-182			
Benzo[a]anthracene	1500	332	ug/kg	1660		90	74.9-120			
Chrysene	1570	332	ug/kg	1660		94	75.4-120			
bis(2-ethylhexyl)phthalate	1420	332	ug/kg	1660		86	77-131			
Di-n-octyl phthalate	1630	332	ug/kg	1660		98	71.7-129			
Benzo[b]fluoranthene	1680	332	ug/kg	1660		101	77.8-120			
Benzo[k]fluoranthene	1590	332	ug/kg	1660		95	75.1-120			
Benzo[a]pyrene	1620	332	ug/kg	1660		97	75.5-120			
Indeno(1,2,3-cd)pyrene	1450	332	ug/kg	1660		87	69.4-136			
Dibenzo(a,h)anthracene	1460	332	ug/kg	1660		88	61.4-141			
Benzo[ghi]perylene	1440	332	ug/kg	1660		87	64.9-120			
Anthracene	1450	332	ug/kg	1660		87	76.7-120			
Surrogate: 2-Fluorophenol	*2140*		ug/kg	*2500*		*86*	*61-120*			
Surrogate: Phenol-d6	*1890*		ug/kg	*2500*		*76*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1470*		ug/kg	*1660*		*88*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1490*		ug/kg	*1660*		*89*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2050*		ug/kg	*2500*		*82*	*47.2-132*			
Surrogate: Terphenyl-d14	*809*		ug/kg	*1660*		*49*	*30.7-120*			

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933521										
LCS Dup (B933521-BSD1)				Prepared: 2023-07-14 Analyzed: 2023-07-18						
N-Nitrosodimethylamine	2500	332	ug/kg	1660		150	68.1-125	38	20	
bis(2-chloroethyl)ether	1440	332	ug/kg	1660		86	65-120	2	20	
Phenol	1160	332	ug/kg	1660		70	55.5-120	4	20	
2-Chlorophenol	1410	332	ug/kg	1660		85	66.1-120	4	20	
1,3-Dichlorobenzene	1470	332	ug/kg	1660		88	69.4-120	3	20	
1,4-Dichlorobenzene	1430	332	ug/kg	1660		86	66.4-120	3	20	
1,2-Dichlorobenzene	1480	332	ug/kg	1660		89	73.8-120	2	20	
2,2'-oxybis(1-chloropropane)	1290	332	ug/kg	1660		77	62.2-120	0.7	20	
2-Methylphenol	1220	332	ug/kg	1660		73	69-120	3	20	
Hexachloroethane	1500	332	ug/kg	1660		90	65.7-120	3	20	
N-Nitroso-di-n-propylamine	1410	332	ug/kg	1660		85	75-120	0.5	20	
4-Methylphenol	1370	332	ug/kg				74.7-120	2	20	
Nitrobenzene	1460	332	ug/kg	1660		88	71.5-120	4	20	
Isophorone	1520	332	ug/kg	1660		91	72-120	5	20	
2-Nitrophenol	1550	332	ug/kg	1660		93	74.1-120	3	20	
2,4-Dimethylphenol	1310	332	ug/kg	1660		79	52.2-120	4	20	
bis(2-chloroethoxy)methane	1410	332	ug/kg	1660		85	74.5-120	5	20	
2,4-Dichlorophenol	1560	332	ug/kg	1660		93	69.1-120	5	20	
1,2,4-Trichlorobenzene	1550	332	ug/kg	1660		93	74.1-120	4	20	
Naphthalene	1520	332	ug/kg	1660		91	71.4-120	5	20	
4-Chloroaniline	396	332	ug/kg	1660		24	16.7-120	12	20	
Hexachlorobutadiene	1660	332	ug/kg	1660		100	72.1-120	7	20	
4-Chloro-3-methylphenol	1590	332	ug/kg	1660		96	73.8-120	0.6	20	
2-Methylnaphthalene	1550	332	ug/kg	1660		93	76.3-120	3	20	
Hexachlorocyclopentadiene	1360	332	ug/kg	1660		82	52.9-120	3	20	
2,4,6-Trichlorophenol	1460	332	ug/kg	1660		88	71.4-120	2	20	
2,4,5-Trichlorophenol	1390	332	ug/kg	1660		83	72.5-120	1	20	
2-Chloronaphthalene	1490	332	ug/kg	1660		89	73.3-120	3	20	
2-Nitroaniline	1500	332	ug/kg	1660		90	71.4-120	1	20	
Acenaphthylene	1380	332	ug/kg	1660		83	72.9-120	0.5	20	
Dimethylphthalate	1550	332	ug/kg	1660		93	80-129	2	20	
2,6-Dinitrotoluene	1510	332	ug/kg	1660		91	76.5-120	3	20	
Acenaphthene	1500	332	ug/kg	1660		90	72.4-120	3	20	
3-Nitroaniline	1250	332	ug/kg	1660		75	44.4-121	5	20	OOS
2,4-Dinitrophenol	<	332	ug/kg	1660			51.3-165		20	
Dibenzofuran	1460	332	ug/kg	1660		88	75.3-120	1	20	
2,4-Dinitrotoluene	1470	332	ug/kg	1660		89	68.7-120	4	20	
4-Nitrophenol	953	332	ug/kg	1660		57	65.7-123	27	20	CAL
Fluorene	1440	332	ug/kg	1660		87	73.3-123	2	20	
4-Chlorophenyl-phenylether	1510	332	ug/kg	1660		90	74.2-120	0.3	20	
Diethyl phthalate	1510	332	ug/kg	1660		91	76.7-127	3	20	

Work Order: 1596238

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933521										
LCS Dup (B933521-BSD1)				Prepared: 2023-07-14 Analyzed: 2023-07-18						
4-Nitroaniline	1600	332	ug/kg	1660		96	59.7-120	1	20	
4,6-Dinitro-2-methylphenol	387	332	ug/kg	1660		23	65.7-123	16	20	
N-Nitrosodiphenylamine	1530	332	ug/kg				69.4-120	4	20	
Azobenzene	1440	332	ug/kg	1660		86	76.8-120	4	20	
4-Bromophenyl-phenylether	1600	332	ug/kg	1660		96	80-120	8	20	
Hexachlorobenzene	1590	332	ug/kg	1660		95	72.8-121	3	20	
Pentachlorophenol	878	332	ug/kg	1660		53	57.7-120	6	20	
Phenanthrene	1470	332	ug/kg	1660		88	71.7-120	0.2	20	
Carbazole	2010	474	ug/kg	1660		121	65.7-120	5	20	
Di-n-butyl phthalate	1510	332	ug/kg	1660		91	76.6-122	0.4	20	
Fluoranthene	1530	332	ug/kg	1660		92	70.6-120	2	20	
Benzidine	45.4	332	ug/kg	1660		3	0-200	65	20	BENZ
Pyrene	1610	332	ug/kg	1660		97	70.5-120	5	20	
Butylbenzylphthalate	1540	332	ug/kg	1660		93	74.8-122	0.2	20	
3,3'-Dichlorobenzidine	1360	474	ug/kg	1660		82	35.8-182	2	20	
Benzo[a]anthracene	1520	332	ug/kg	1660		91	74.9-120	1	20	
Chrysene	1590	332	ug/kg	1660		96	75.4-120	1	20	
bis(2-ethylhexyl)phthalate	1450	332	ug/kg	1660		87	77-131	2	20	
Di-n-octyl phthalate	1400	332	ug/kg	1660		84	71.7-129	15	20	
Benzo[b]fluoranthene	1490	332	ug/kg	1660		90	77.8-120	12	20	
Benzo[k]fluoranthene	1530	332	ug/kg	1660		92	75.1-120	4	20	
Benzo[a]pyrene	1520	332	ug/kg	1660		92	75.5-120	6	20	
Indeno(1,2,3-cd)pyrene	1470	332	ug/kg	1660		88	69.4-136	2	20	
Dibenzo(a,h)anthracene	1460	332	ug/kg	1660		88	61.4-141	0.1	20	
Benzo[ghi]perylene	1430	332	ug/kg	1660		86	64.9-120	0.7	20	
Anthracene	1450	332	ug/kg	1660		87	76.7-120	0.2	20	
Surrogate: 2-Fluorophenol	*1980*		ug/kg	*2500*		*79*	*61-120*			
Surrogate: Phenol-d6	*1780*		ug/kg	*2500*		*71*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1530*		ug/kg	*1660*		*92*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1560*		ug/kg	*1660*		*94*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*1920*		ug/kg	*2500*		*77*	*47.2-132*			
Surrogate: Terphenyl-d14	*1010*		ug/kg	*1660*		*60*	*30.7-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933521										
Matrix Spike (B933521-MS1)	**Source: 1597850-06**			Prepared: 2023-07-14 Analyzed: 2023-07-18						
N-Nitrosodimethylamine	2760	333	ug/kg	1670	<	166	68.1-125			
bis(2-chloroethyl)ether	1460	333	ug/kg	1670	<	88	65-120			
Phenol	1230	333	ug/kg	1670	<	74	55.5-120			
2-Chlorophenol	1470	333	ug/kg	1670	<	88	66.1-120			
1,3-Dichlorobenzene	1500	333	ug/kg	1670	<	90	69.4-120			
1,4-Dichlorobenzene	1460	333	ug/kg	1670	<	88	66.4-120			
1,2-Dichlorobenzene	1510	333	ug/kg	1670	<	91	73.8-120			
2,2'-oxybis(1-chloropropane)	1310	333	ug/kg	1670	<	79	62.2-120			
2-Methylphenol	1290	333	ug/kg	1670	<	77	69-120			
Hexachloroethane	1530	333	ug/kg	1670	<	92	65.7-120			
N-Nitroso-di-n-propylamine	1490	333	ug/kg	1670	<	89	75-120			
4-Methylphenol	1410	333	ug/kg		<		74.7-120			
Nitrobenzene	1480	333	ug/kg	1670	<	89	71.5-120			
Isophorone	1520	333	ug/kg	1670	<	91	72-120			
2-Nitrophenol	1570	333	ug/kg	1670	<	95	74.1-120			
2,4-Dimethylphenol	1440	333	ug/kg	1670	<	87	52.2-120			
bis(2-chloroethoxy)methane	1420	333	ug/kg	1670	<	85	74.5-120			
2,4-Dichlorophenol	1540	333	ug/kg	1670	<	93	69.1-120			
1,2,4-Trichlorobenzene	1550	333	ug/kg	1670	<	93	74.1-120			
Naphthalene	1520	333	ug/kg	1670	<	91	71.4-120			
4-Chloroaniline	476	333	ug/kg	1670	<	29	16.7-120			
Hexachlorobutadiene	1630	333	ug/kg	1670	<	98	72.1-120			
4-Chloro-3-methylphenol	1650	333	ug/kg	1670	<	99	73.8-120			
2-Methylnaphthalene	1530	333	ug/kg	1670	<	92	76.3-120			
Hexachlorocyclopentadiene	1470	333	ug/kg	1670	<	88	52.9-120			
2,4,6-Trichlorophenol	1510	333	ug/kg	1670	<	91	71.4-120			
2,4,5-Trichlorophenol	1480	333	ug/kg	1670	<	89	72.5-120			
2-Chloronaphthalene	1500	333	ug/kg	1670	<	90	73.3-120			
2-Nitroaniline	1540	333	ug/kg	1670	<	92	71.4-120			
Acenaphthylene	1430	333	ug/kg	1670	<	86	72.9-120			
Dimethylphthalate	1600	333	ug/kg	1670	<	96	80-129			
2,6-Dinitrotoluene	1550	333	ug/kg	1670	<	93	76.5-120			
Acenaphthene	1500	333	ug/kg	1670	<	90	72.4-120			
3-Nitroaniline	1350	333	ug/kg	1670	<	81	44.4-121			OOS
2,4-Dinitrophenol	<	333	ug/kg	1670	<		51.3-165			
Dibenzofuran	1500	333	ug/kg	1670	<	90	75.3-120			
2,4-Dinitrotoluene	1560	333	ug/kg	1670	<	94	68.7-120			
4-Nitrophenol	1070	333	ug/kg	1670	<	64	65.7-123			CAL
Fluorene	1510	333	ug/kg	1670	<	90	73.3-123			
4-Chlorophenyl-phenylether	1550	333	ug/kg	1670	<	93	74.2-120			
Diethyl phthalate	1580	333	ug/kg	1670	<	95	76.7-127			

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933521										
Matrix Spike (B933521-MS1)	**Source: 1597850-06**			Prepared: 2023-07-14 Analyzed: 2023-07-18						
4-Nitroaniline	1670	333	ug/kg	1670	<	100	59.7-120			
4,6-Dinitro-2-methylphenol	368	333	ug/kg	1670	<	22	65.7-123			
N-Nitrosodiphenylamine	1510	333	ug/kg		<		69.4-120			
Azobenzene	1430	333	ug/kg	1670	<	86	76.8-120			
4-Bromophenyl-phenylether	1560	333	ug/kg	1670	<	94	80-120			
Hexachlorobenzene	1580	333	ug/kg	1670	<	95	72.8-121			
Pentachlorophenol	855	333	ug/kg	1670	<	51	57.7-120			
Phenanthrene	1490	333	ug/kg	1670	<	90	71.7-120			
Carbazole	2070	475	ug/kg	1670	<	124	65.7-120			
Di-n-butyl phthalate	1510	333	ug/kg	1670	<	91	76.6-122			
Fluoranthene	1570	333	ug/kg	1670	<	94	70.6-120			
Benzidine	94.8	333	ug/kg	1670	<	6	0-200			BENZ
Pyrene	1520	333	ug/kg	1670	<	92	70.5-120			
Butylbenzylphthalate	1510	333	ug/kg	1670	<	91	74.8-122			
3,3'-Dichlorobenzidine	1490	475	ug/kg	1670	<	90	35.8-182			
Benzo[a]anthracene	1540	333	ug/kg	1670	<	92	74.9-120			
Chrysene	1590	333	ug/kg	1670	<	96	75.4-120			
bis(2-ethylhexyl)phthalate	1430	333	ug/kg	1670	<	86	77-131			
Di-n-octyl phthalate	1460	333	ug/kg	1670	<	88	71.7-129			
Benzo[b]fluoranthene	1540	333	ug/kg	1670	<	93	77.8-120			
Benzo[k]fluoranthene	1640	333	ug/kg	1670	<	98	75.1-120			
Benzo[a]pyrene	1630	333	ug/kg	1670	<	98	75.5-120			
Indeno(1,2,3-cd)pyrene	1530	333	ug/kg	1670	<	92	69.4-136			
Dibenzo(a,h)anthracene	1570	333	ug/kg	1670	<	95	61.4-141			
Benzo[ghi]perylene	1460	333	ug/kg	1670	<	88	64.9-120			
Anthracene	1490	333	ug/kg	1670	<	89	76.7-120			
Surrogate: 2-Fluorophenol	*2160*		ug/kg	*2500*		*87*	*61-120*			
Surrogate: Phenol-d6	*1890*		ug/kg	*2500*		*76*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1550*		ug/kg	*1670*		*93*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1570*		ug/kg	*1670*		*94*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2080*		ug/kg	*2500*		*83*	*47.2-132*			
Surrogate: Terphenyl-d14	*816*		ug/kg	*1670*		*49*	*30.7-120*			

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Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933521										
Matrix Spike Dup (B933521-MSD1)	**Source: 1597850-06**			Prepared: 2023-07-14 Analyzed: 2023-07-18						
N-Nitrosodimethylamine	2600	333	ug/kg	1670	<	156	68.1-125	6	20	
bis(2-chloroethyl)ether	1490	333	ug/kg	1670	<	89	65-120	2	20	
Phenol	1260	333	ug/kg	1670	<	76	55.5-120	2	20	
2-Chlorophenol	1510	333	ug/kg	1670	<	90	66.1-120	3	20	
1,3-Dichlorobenzene	1540	333	ug/kg	1670	<	92	69.4-120	3	20	
1,4-Dichlorobenzene	1500	333	ug/kg	1670	<	90	66.4-120	3	20	
1,2-Dichlorobenzene	1560	333	ug/kg	1670	<	94	73.8-120	3	20	
2,2'-oxybis(1-chloropropane)	1340	333	ug/kg	1670	<	80	62.2-120	2	20	
2-Methylphenol	1300	333	ug/kg	1670	<	78	69-120	1	20	
Hexachloroethane	1580	333	ug/kg	1670	<	95	65.7-120	3	20	
N-Nitroso-di-n-propylamine	1450	333	ug/kg	1670	<	87	75-120	2	20	
4-Methylphenol	1390	333	ug/kg		<		74.7-120	0.9	20	
Nitrobenzene	1500	333	ug/kg	1670	<	90	71.5-120	1	20	
Isophorone	1550	333	ug/kg	1670	<	93	72-120	2	20	
2-Nitrophenol	1600	333	ug/kg	1670	<	96	74.1-120	2	20	
2,4-Dimethylphenol	1450	333	ug/kg	1670	<	87	52.2-120	0.8	20	
bis(2-chloroethoxy)methane	1440	333	ug/kg	1670	<	87	74.5-120	2	20	
2,4-Dichlorophenol	1550	333	ug/kg	1670	<	93	69.1-120	0.8	20	
1,2,4-Trichlorobenzene	1600	333	ug/kg	1670	<	96	74.1-120	4	20	
Naphthalene	1560	333	ug/kg	1670	<	94	71.4-120	3	20	
4-Chloroaniline	567	333	ug/kg	1670	<	34	16.7-120	18	20	
Hexachlorobutadiene	1690	333	ug/kg	1670	<	101	72.1-120	3	20	
4-Chloro-3-methylphenol	1660	333	ug/kg	1670	<	99	73.8-120	0.5	20	
2-Methylnaphthalene	1610	333	ug/kg	1670	<	96	76.3-120	5	20	
Hexachlorocyclopentadiene	1550	333	ug/kg	1670	<	93	52.9-120	6	20	
2,4,6-Trichlorophenol	1520	333	ug/kg	1670	<	91	71.4-120	0.5	20	
2,4,5-Trichlorophenol	1480	333	ug/kg	1670	<	89	72.5-120	0.1	20	
2-Chloronaphthalene	1540	333	ug/kg	1670	<	93	73.3-120	3	20	
2-Nitroaniline	1590	333	ug/kg	1670	<	96	71.4-120	3	20	
Acenaphthylene	1460	333	ug/kg	1670	<	87	72.9-120	2	20	
Dimethylphthalate	1660	333	ug/kg	1670	<	100	80-129	3	20	
2,6-Dinitrotoluene	1580	333	ug/kg	1670	<	95	76.5-120	2	20	
Acenaphthene	1560	333	ug/kg	1670	<	94	72.4-120	4	20	
3-Nitroaniline	1400	333	ug/kg	1670	<	84	44.4-121	4	20	OOS
2,4-Dinitrophenol	<	333	ug/kg	1670	<		51.3-165		20	
Dibenzofuran	1570	333	ug/kg	1670	<	94	75.3-120	4	20	
2,4-Dinitrotoluene	1630	333	ug/kg	1670	<	98	68.7-120	4	20	
4-Nitrophenol	961	333	ug/kg	1670	<	58	65.7-123	10	20	CAL
Fluorene	1560	333	ug/kg	1670	<	94	73.3-123	4	20	
4-Chlorophenyl-phenylether	1620	333	ug/kg	1670	<	97	74.2-120	4	20	
Diethyl phthalate	1660	333	ug/kg	1670	<	100	76.7-127	5	20	

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933521										
Matrix Spike Dup (B933521-MSD1)	**Source: 1597850-06**			Prepared: 2023-07-14 Analyzed: 2023-07-18						
4-Nitroaniline	1710	333	ug/kg	1670	<	102	59.7-120	2	20	
4,6-Dinitro-2-methylphenol	299	333	ug/kg	1670	<	18	65.7-123	21	20	
N-Nitrosodiphenylamine	1550	333	ug/kg		<		69.4-120	2	20	
Azobenzene	1450	333	ug/kg	1670	<	87	76.8-120	1	20	
4-Bromophenyl-phenylether	1630	333	ug/kg	1670	<	98	80-120	4	20	
Hexachlorobenzene	1620	333	ug/kg	1670	<	97	72.8-121	3	20	
Pentachlorophenol	832	333	ug/kg	1670	<	50	57.7-120	3	20	
Phenanthrene	1530	333	ug/kg	1670	<	92	71.7-120	3	20	
Carbazole	2120	475	ug/kg	1670	<	128	65.7-120	3	20	
Di-n-butyl phthalate	1580	333	ug/kg	1670	<	95	76.6-122	5	20	
Fluoranthene	1640	333	ug/kg	1670	<	98	70.6-120	4	20	
Benzidine	111	333	ug/kg	1670	<	7	0-200	15	20	BENZ
Pyrene	1530	333	ug/kg	1670	<	92	70.5-120	0.2	20	
Butylbenzylphthalate	1520	333	ug/kg	1670	<	92	74.8-122	0.8	20	
3,3'-Dichlorobenzidine	1540	475	ug/kg	1670	<	92	35.8-182	3	20	
Benzo[a]anthracene	1580	333	ug/kg	1670	<	95	74.9-120	3	20	
Chrysene	1610	333	ug/kg	1670	<	97	75.4-120	1	20	
bis(2-ethylhexyl)phthalate	1490	333	ug/kg	1670	<	89	77-131	4	20	
Di-n-octyl phthalate	1450	333	ug/kg	1670	<	87	71.7-129	1	20	
Benzo[b]fluoranthene	1560	333	ug/kg	1670	<	94	77.8-120	1	20	
Benzo[k]fluoranthene	1520	333	ug/kg	1670	<	92	75.1-120	7	20	
Benzo[a]pyrene	1590	333	ug/kg	1670	<	95	75.5-120	2	20	
Indeno(1,2,3-cd)pyrene	1470	333	ug/kg	1670	<	88	69.4-136	4	20	
Dibenzo(a,h)anthracene	1510	333	ug/kg	1670	<	91	61.4-141	4	20	
Benzo[ghi]perylene	1380	333	ug/kg	1670	<	83	64.9-120	5	20	
Anthracene	1530	333	ug/kg	1670	<	92	76.7-120	3	20	
Surrogate: 2-Fluorophenol	*2200*		ug/kg	*2500*		*88*	*61-120*			
Surrogate: Phenol-d6	*1900*		ug/kg	*2500*		*76*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1540*		ug/kg	*1670*		*93*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1590*		ug/kg	*1670*		*96*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2040*		ug/kg	*2500*		*82*	*47.2-132*			
Surrogate: Terphenyl-d14	*991*		ug/kg	*1670*		*60*	*30.7-120*			

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933474										
Blank (B933474-BLK1)				Prepared: 2023-07-13 Analyzed: 2023-07-14						
Mercury	<	0.000004	mg/kg wet							U
LCS (B933474-BS1)				Prepared: 2023-07-13 Analyzed: 2023-07-14						
Mercury	0.001	0.000004	mg/kg wet	0.00100		99.5	80-120			
Matrix Spike (B933474-MS1)		**Source: 1590249-01**		Prepared: 2023-07-13 Analyzed: 2023-07-14						
Mercury	0.16	0.001	mg/kg dry	0.244	0.002	62.8	80-120			MI
Matrix Spike Dup (B933474-MSD1)		**Source: 1590249-01**		Prepared: 2023-07-13 Analyzed: 2023-07-14						
Mercury	0.26	0.002	mg/kg dry	0.380	0.002	68.1	80-120	50.9	20	MI
Batch B933494										
Blank (B933494-BLK1)				Prepared: 2023-07-13 Analyzed: 2023-07-14						
Barium	<	0.002	mg/kg wet							U
Cadmium	<	0.004	mg/kg wet							U
Calcium	<	0.2	mg/kg wet							U
Chromium	<	0.01	mg/kg wet							U
Copper	<	0.006	mg/kg wet							U
Iron	0.30	0.05	mg/kg wet							
Lead	<	0.03	mg/kg wet							U
Magnesium	<	0.05	mg/kg wet							U
Manganese	<	0.004	mg/kg wet							U
Molybdenum	<	0.005	mg/kg wet							U
Nickel	<	0.007	mg/kg wet							U
Phosphorus	<	0.03	mg/kg wet							U
Potassium	<	0.08	mg/kg wet							U
Silver	<	0.004	mg/kg wet							U
Sodium	0.07	0.03	mg/kg wet							J
Sulfur	0.08	0.03	mg/kg wet							J
Zinc	<	0.02	mg/kg wet							U

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Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933494										
LCS (B933494-BS1)				Prepared: 2023-07-13 Analyzed: 2023-07-14						
Barium	1.00	0.002	mg/kg wet	1.00		99.7	80-120			
Cadmium	0.97	0.004	mg/kg wet	1.00		97.2	80-120			
Calcium	49.01	0.2	mg/kg wet	51.0		96.1	80-120			
Chromium	0.95	0.01	mg/kg wet	1.00		95.3	80-120			
Copper	1.96	0.006	mg/kg wet	2.00		98.2	80-120			
Iron	2.03	0.05	mg/kg wet	2.00		102	80-120			
Lead	0.94	0.03	mg/kg wet	1.00		94.3	80-120			
Magnesium	20.16	0.05	mg/kg wet	21.0		96.0	80-120			
Manganese	1.94	0.004	mg/kg wet	2.00		97.2	80-120			
Molybdenum	2.03	0.005	mg/kg wet	2.00		102	80-120			
Nickel	0.97	0.007	mg/kg wet	1.00		96.8	80-120			
Phosphorus	21.69	0.03	mg/kg wet	20.0		108	80-120			
Potassium	28.32	0.08	mg/kg wet	30.0		94.4	80-120			
Silver	0.95	0.004	mg/kg wet	1.00		95.0	80-120			
Sodium	5.94	0.03	mg/kg wet	6.00		99.1	80-120			
Sulfur	5.12	0.03	mg/kg wet	5.00		102	80-120			
Zinc	1.94	0.02	mg/kg wet	2.00		97.0	80-120			
Matrix Spike (B933494-MS1)		**Source: 1590249-01**		Prepared: 2023-07-13 Analyzed: 2023-07-14						
Barium	51.83	0.05	mg/kg dry	28.0	22.16	106	75-125			
Cadmium	24.89	0.1	mg/kg dry	28.0	<	88.9	75-125			
Chromium	45.27	0.3	mg/kg dry	28.0	17.55	99.0	75-125			
Copper	211.6	0.2	mg/kg dry	56.0	143.1	122	75-125			
Iron	3376	1.4	mg/kg dry	56.0	3118	NR	75-125			SPK
Lead	31.54	0.7	mg/kg dry	28.0	5.72	92.2	75-125			
Manganese	109.3	0.1	mg/kg dry	56.0	55.51	96.2	75-125			
Molybdenum	53.39	0.1	mg/kg dry	56.0	1.66	92.4	75-125			
Nickel	36.86	0.2	mg/kg dry	28.0	9.20	98.8	75-125			
Silver	25.50	0.1	mg/kg dry	28.0	<	91.1	75-125			
Zinc	438.6	0.6	mg/kg dry	56.0	361.6	NR	75-125			SPK

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Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933494										
Matrix Spike Dup (B933494-MSD1)	**Source: 1590249-01**			Prepared: 2023-07-13 Analyzed: 2023-07-14						
Barium	49.46	0.05	mg/kg dry	28.3	22.16	96.4	75-125	4.69	20	
Cadmium	25.67	0.1	mg/kg dry	28.3	<	90.6	75-125	3.09	20	
Chromium	44.81	0.3	mg/kg dry	28.3	17.55	96.3	75-125	1.02	20	
Copper	189.0	0.2	mg/kg dry	56.6	143.1	81.2	75-125	11.3	20	
Iron	2962	1.4	mg/kg dry	56.6	3118	NR	75-125	13.1	20	SPK
Lead	31.33	0.7	mg/kg dry	28.3	5.72	90.4	75-125	0.647	20	
Manganese	103.0	0.1	mg/kg dry	56.6	55.51	83.8	75-125	5.99	20	
Molybdenum	54.49	0.1	mg/kg dry	56.6	1.66	93.3	75-125	2.04	20	
Nickel	35.47	0.2	mg/kg dry	28.3	9.20	92.8	75-125	3.84	20	
Silver	26.25	0.1	mg/kg dry	28.3	<	92.7	75-125	2.88	20	
Zinc	382.2	0.6	mg/kg dry	56.6	361.6	NR	75-125	13.8	20	SPK
Batch B933495										
Blank (B933495-BLK1)				Prepared: 2023-07-13 Analyzed: 2023-07-14						
Arsenic	0.00004	0.00002	mg/kg wet							J
Selenium	0.0001	0.00008	mg/kg wet							J
LCS (B933495-BS1)				Prepared: 2023-07-13 Analyzed: 2023-07-14						
Arsenic	0.22	0.00002	mg/kg wet	0.200		108	80-120			
Selenium	0.22	0.00008	mg/kg wet	0.200		108	80-120			
Matrix Spike (B933495-MS1)	**Source: 1590249-01**			Prepared: 2023-07-13 Analyzed: 2023-07-14						
Arsenic	5.90	0.002	mg/kg dry	5.60	0.37	98.9	75-125			
Selenium	6.64	0.009	mg/kg dry	5.60	1.04	100	75-125			
Matrix Spike Dup (B933495-MSD1)	**Source: 1590249-01**			Prepared: 2023-07-13 Analyzed: 2023-07-14						
Arsenic	5.83	0.002	mg/kg dry	5.67	0.37	96.3	75-125	1.25	20	
Selenium	6.50	0.009	mg/kg dry	5.67	1.04	96.3	75-125	2.08	20	

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Project: Quarterly Biosolids
Project Number: Biosolids 23-3
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Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933451										
Blank (B933451-BLK1)				Prepared: 2023-07-12 Analyzed: 2023-07-13						
Percent Volatile Solids	<	0.01	%							
Percent Solids	99.94	0.01	%							
LCS (B933451-BS1)				Prepared: 2023-07-12 Analyzed: 2023-07-13						
Percent Solids	97.34	0.01	%	97.1		100	80-120			
Percent Volatile Solids	3.640	0.01	%	3.69		98.6	80-120			
Duplicate (B933451-DUP1)		**Source: 1596238-01**		Prepared: 2023-07-12 Analyzed: 2023-07-13						
Percent Solids	17.22	0.01	%		15.75			8.92	20	
Percent Volatile Solids	69.15	0.01	%		69.15			0.00	20	
Batch B933486										
LCS (B933486-BS1)				Prepared & Analyzed: 2023-07-12						
pH @ 21.1°C	6.98		S.U.	7.00		99.7	85-115			
Duplicate (B933486-DUP1)		**Source: 1596232-01**		Prepared & Analyzed: 2023-07-12						
pH @ 19.5°C	7.38		S.U.		7.35			0.407	20	
Reference (B933486-SRM1)				Prepared & Analyzed: 2023-07-12						
pH @ 20.7°C	6.80		S.U.	6.79		100	6.93-103.0			
Batch B933496										
Blank (B933496-BLK1)				Prepared & Analyzed: 2023-07-13						
Nitrate/Nitrite Nitrogen	<	0.2	mg/kg wet							

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Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933496										
LCS (B933496-BS1)				Prepared & Analyzed: 2023-07-13						
Nitrate/Nitrite Nitrogen	21.18	1.0	mg/kg wet	20.0		106	85-115			
Matrix Spike (B933496-MS1)		Source: 1596575-01		Prepared & Analyzed: 2023-07-13						
Nitrate/Nitrite Nitrogen	510.2	21.3	mg/kg dry	426	<	120	80-120			
Matrix Spike (B933496-MS2)		Source: 1597955-01		Prepared & Analyzed: 2023-07-13						
Nitrate/Nitrite Nitrogen	29.01	1.0	mg/kg dry	19.9	5.96	116	80-120			
Matrix Spike Dup (B933496-MSD1)		Source: 1596575-01		Prepared & Analyzed: 2023-07-13						
Nitrate/Nitrite Nitrogen	509.3	21.3	mg/kg dry	426	<	120	80-120	0.188	20	
Matrix Spike Dup (B933496-MSD2)		Source: 1597955-01		Prepared & Analyzed: 2023-07-13						
Nitrate/Nitrite Nitrogen	28.13	1.0	mg/kg dry	19.9	5.96	112	80-120	3.10	20	
Batch B933500										
Blank (B933500-BLK1)				Prepared & Analyzed: 2023-07-13						
Cyanide (total)	<	0.2	mg/kg wet							
LCS (B933500-BS1)				Prepared & Analyzed: 2023-07-13						
Cyanide (total)	1.91	0.2	mg/kg wet	2.00		95.7	85-115			
Matrix Spike (B933500-MS1)		Source: 1597955-02		Prepared & Analyzed: 2023-07-13						
Cyanide (total)	13.78	0.8	mg/kg dry	16.1	4.07	60.4	80-120			MI
Matrix Spike Dup (B933500-MSD1)		Source: 1597955-02		Prepared & Analyzed: 2023-07-13						
Cyanide (total)	12.81	0.8	mg/kg dry	16.1	4.07	54.4	80-120	7.28	200	MI

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Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933504										
Blank (B933504-BLK1)				Prepared & Analyzed: 2023-07-13						
Ammonia-N	<	10.0	mg/kg wet							
LCS (B933504-BS1)				Prepared & Analyzed: 2023-07-13						
Ammonia-N	2754	125	mg/kg wet	2820		97.6	85-115			
Matrix Spike (B933504-MS1)		Source: 1597955-01		Prepared & Analyzed: 2023-07-13						
Ammonia-N	17930	562	mg/kg dry	11400	6283	102	80-120			
Matrix Spike Dup (B933504-MSD1)		Source: 1597955-01		Prepared & Analyzed: 2023-07-13						
Ammonia-N	17800	562	mg/kg dry	11300	6283	102	80-120	0.715	20	
Batch B933508										
Blank (B933508-BLK1)				Prepared & Analyzed: 2023-07-13						
Total Kjeldahl Nitrogen	<	100	mg/kg wet							
LCS (B933508-BS1)				Prepared & Analyzed: 2023-07-13						
Total Kjeldahl Nitrogen	3753	250	mg/kg wet	3840		97.7	85-115			
Matrix Spike (B933508-MS1)		Source: 1597955-01		Prepared & Analyzed: 2023-07-13						
Total Kjeldahl Nitrogen	64140	2250	mg/kg dry	20900	42820	102	80-120			
Matrix Spike Dup (B933508-MSD1)		Source: 1597955-01		Prepared & Analyzed: 2023-07-13						
Total Kjeldahl Nitrogen	67420	2250	mg/kg dry	23500	42820	105	80-120	4.99	20	
Batch B933639										
Blank (B933639-BLK1)				Prepared & Analyzed: 2023-07-18						
Phenol	<	0.08	mg/kg wet							

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Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933639										
LCS (B933639-BS1)				Prepared & Analyzed: 2023-07-18						
Phenol	1.92	0.08	mg/kg wet	2.00		96.2	85-115			
Matrix Spike (B933639-MS1)		**Source: 1596238-01**		Prepared & Analyzed: 2023-07-18						
Phenol	75.97	0.5	mg/kg dry	25.4	64.85	43.8	80-120			MI
Matrix Spike Dup (B933639-MSD1)		**Source: 1596238-01**		Prepared & Analyzed: 2023-07-18						
Phenol	97.50	0.5	mg/kg dry	25.4	64.85	129	80-120	24.8	20	MI

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Pesticide Screen - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933512										
Blank (B933512-BLK1)				Prepared: 2023-07-13 Analyzed: 2023-07-18						
Aroclor-1016	<	100	ug/kg							
Aroclor-1221	<	100	ug/kg							
Aroclor-1232	<	100	ug/kg							
Aroclor-1242	<	100	ug/kg							
Aroclor-1248	<	100	ug/kg							
Aroclor-1254	<	100	ug/kg							
Aroclor-1260	<	100	ug/kg							
Aroclor-1262	<	100	ug/kg							
Aroclor-1268	<	100	ug/kg							
Surrogate: Tetrachloro-m-xylene	*31.1*		ug/kg	*49.5*		*63*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*43.5*		ug/kg	*49.5*		*88*	*57.3-146*			
LCS (B933512-BS1)				Prepared: 2023-07-13 Analyzed: 2023-07-18						
Aroclor-1016	<	100	ug/kg				67.3-142.7			
Aroclor-1221	<	100	ug/kg				67.3-142.7			
Aroclor-1232	<	100	ug/kg				67.3-142.7			
Aroclor-1242	<	100	ug/kg				67.3-142.7			
Aroclor-1248	1280	100	ug/kg	981		131	67.3-142.7			
Aroclor-1254	<	100	ug/kg				67.3-142.7			
Aroclor-1260	<	100	ug/kg				67.3-142.7			
Aroclor-1262	<	100	ug/kg				67.3-142.7			
Aroclor-1268	<	100	ug/kg				67.3-142.7			
Surrogate: Tetrachloro-m-xylene	*37.2*		ug/kg	*49.1*		*76*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*53.2*		ug/kg	*49.1*		*108*	*57.3-146*			
LCS Dup (B933512-BSD1)				Prepared: 2023-07-13 Analyzed: 2023-07-18						
Aroclor-1016	<	100	ug/kg				67.3-142.7		20	
Aroclor-1221	<	100	ug/kg				67.3-142.7		20	
Aroclor-1232	<	100	ug/kg				67.3-142.7		20	
Aroclor-1242	<	100	ug/kg				67.3-142.7		20	
Aroclor-1248	1090	100	ug/kg	984		110	67.3-142.7	17	20	
Aroclor-1254	<	100	ug/kg				67.3-142.7		20	
Aroclor-1260	<	100	ug/kg				67.3-142.7		20	
Aroclor-1262	<	100	ug/kg				67.3-142.7		20	
Aroclor-1268	<	100	ug/kg				67.3-142.7		20	
Surrogate: Tetrachloro-m-xylene	*34.1*		ug/kg	*49.2*		*69*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*42.3*		ug/kg	*49.2*		*86*	*57.3-146*			

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Pesticide Screen - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B933512										
Matrix Spike (B933512-MS1)	**Source: 1597850-06**			Prepared: 2023-07-13 Analyzed: 2023-07-18						
Aroclor-1016	<	100	ug/kg		<		67.3-142.7			
Aroclor-1221	<	100	ug/kg		<		67.3-142.7			
Aroclor-1232	<	100	ug/kg		<		67.3-142.7			
Aroclor-1242	<	100	ug/kg		<		67.3-142.7			
Aroclor-1248	1270	100	ug/kg	981	<	129	67.3-142.7			
Aroclor-1254	<	100	ug/kg		<		67.3-142.7			
Aroclor-1260	<	100	ug/kg		<		67.3-142.7			
Aroclor-1262	<	100	ug/kg		<		67.3-142.7			
Aroclor-1268	<	100	ug/kg		<		67.3-142.7			
Surrogate: Tetrachloro-m-xylene	*38.6*		ug/kg	*49.1*		*79*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*60.3*		ug/kg	*49.1*		*123*	*57.3-146*			
Matrix Spike Dup (B933512-MSD1)	**Source: 1597850-06**			Prepared: 2023-07-13 Analyzed: 2023-07-18						
Aroclor-1016	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1221	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1232	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1242	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1248	1120	100	ug/kg	999	<	112	67.3-142.7	12	20	
Aroclor-1254	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1260	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1262	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1268	<	100	ug/kg		<		67.3-142.7		20	
Surrogate: Tetrachloro-m-xylene	*33.9*		ug/kg	*50.0*		*68*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*43.5*		ug/kg	*50.0*		*87*	*57.3-146*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Certified Analyses included in this Report

Method	Analyte	Certifications
EPA 353.2 in Solid	Nitrate/Nitrite Nitrogen	FL,KS
EPA 6010B in Solid	Barium	TX,KS,FL,UT,OK,IA,WA
	Cadmium	KS,FL,UT,OK,IA,WA
	Calcium	TX,KS,IA,FL
	Chromium	TX,KS,FL,UT,OK,IA,WA
	Copper	TX,KS,FL,UT,OK,IA,WA
	Iron	FL,KS,TX,UT,OK,IA,WA
	Lead	FL,KS,TX,UT,OK,IA,WA
	Magnesium	FL,TX,KS,UT,OK,IA,WA
	Manganese	FL,KS,TX,UT,OK,IA,WA
	Molybdenum	TX,KS,FL,UT,IA,OK,WA
	Nickel	FL,KS,TX,UT,OK,IA,WA
	Phosphorus	FL,KS,TX,UT,OK,IA,WA
	Potassium	FL,KS,TX,UT,OK,IA,WA
	Silver	FL,KS,TX,UT,OK,IA,WA
	Sodium	FL,KS,TX,UT,OK,IA,WA
	Zinc	FL,KS,TX,UT,IA,WA
EPA 6020 in Solid	Arsenic	IA,KS,FL,TX
	Selenium	KS,IA,FL,TX
EPA 7471 in Solid	Mercury	TX,KS,FL,UT,OK,IA,WA
EPA 8260 in Solid	Dichlorodifluoromethane	FL,KS
	Chloromethane	FL,KS,TX
	Vinyl chloride	FL,KS,TX
	Bromomethane	FL,KS
	Chloroethane	FL,KS,TX
	Trichlorofluoromethane	FL,KS
	Acrolein	FL,KS
	Acetone	FL,KS
	1,1-Dichloroethene	FL,KS
	Methylene Chloride	FL
	1,1,2-Trichloro-1,1,2-trifluoroethane	FL
	Carbon disulfide	FL,KS,TX
	trans-1,2-Dichloroethene	FL,KS,TX
	Methyl tert-Butyl Ether	FL,IA,KS
	1,1-Dichloroethane	FL,KS
	Vinyl acetate	FL,KS,TX
	2-Butanone	FL
	cis-1,2-Dichloroethene	FL,KS,TX
	Bromochloromethane	FL,KS
	Chloroform	FL,KS,TX
	2,2-Dichloropropane	FL,KS
	1,2-Dichloroethane	FL,KS
	1,1,1-Trichloroethane	FL,KS
	1,1-Dichloropropene	FL,KS
	Carbon Tetrachloride	FL,KS

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Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

EPA 8260 in Solid	Benzene	FL,IA,KS
	Dibromomethane	FL,KS
	1,2-Dichloropropane	FL,KS
	Trichloroethene	FL,KS
	Bromodichloromethane	FL,KS
	2-Chloroethyl vinyl ether	FL
	cis-1,3-Dichloropropene	FL,KS,TX
	4-Methyl-2-pentanone	FL,KS
	trans-1,3-Dichloropropene	FL,KS,TX
	1,1,2-Trichloroethane	FL,KS
	Toluene	FL,IA,KS
	1,3-Dichloropropane	FL,KS
	Dibromochloromethane	FL,KS
	2-Hexanone	FL,KS
	1,2-Dibromoethane	FL,TX
	Tetrachloroethene	FL,KS
	1,1,1,2-Tetrachloroethane	FL,KS
	Chlorobenzene	FL,KS
	Ethylbenzene	FL,IA,KS
	m,p-Xylenes	FL
	Bromoform	FL,KS
	Styrene	FL,KS,TX
	1,1,2,2-Tetrachloroethane	FL,KS
	o-Xylene	FL,KS
	1,2,3-Trichloropropane	FL,KS
	Isopropylbenzene	FL
	Bromobenzene	FL,KS
	n-Propyl Benzene	FL,KS
	1,3,5-Trimethylbenzene	FL,KS
	tert-Butylbenzene	FL,KS
	1,2,4-Trimethylbenzene	FL,KS
	sec-Butylbenzene	FL,KS
	1,3-Dichlorobenzene	FL,KS
	1,4-Dichlorobenzene	FL
	1,2-Dichlorobenzene	FL,KS
	n-Butyl Benzene	FL,KS
	1,2-Dibromo-3-Chloropropane	FL,KS,TX
	1,2,4-Trichlorobenzene	FL,KS
	Naphthalene	FL,KS
	Hexachlorobutadiene	FL,KS
	1,2,3-Trichlorobenzene	FL,KS
	Total Xylenes	FL,IA
EPA 8270 in Solid	N-Nitrosodimethylamine	FL,OK,TX
	bis(2-chloroethyl)ether	FL,KS,OK,TX
	Phenol	FL,KS,OK,TX
	2-Chlorophenol	FL,KS,OK,TX
	1,3-Dichlorobenzene	FL,KS,OK,TX
	1,4-Dichlorobenzene	FL,KS,OK,TX
	1,2-Dichlorobenzene	FL,KS,OK,TX
	2,2'-oxybis(1-chloropropane)	FL,KS,OK,TX

Work Order: 1596238

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Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

EPA 8270 in Solid	2-Methylphenol	FL,KS,OK,TX
	Hexachloroethane	FL,KS,OK
	N-Nitroso-di-n-propylamine	FL,KS,OK,TX
	4-Methylphenol	FL,KS,OK,TX
	Nitrobenzene	FL,KS,OK,TX
	Isophorone	FL,KS,TX
	2-Nitrophenol	FL,KS,OK,TX
	2,4-Dimethylphenol	FL,KS,OK,TX
	bis(2-chloroethoxy)methane	FL,KS,OK,TX
	2,4-Dichlorophenol	FL,KS,OK,TX
	1,2,4-Trichlorobenzene	FL,KS,OK,TX
	Naphthalene	FL,KS,OK,TX
	4-Chloroaniline	FL,KS,TX
	Hexachlorobutadiene	FL,KS,OK
	4-Chloro-3-methylphenol	FL,KS,OK,TX
	2-Methylnaphthalene	FL,KS
	Hexachlorocyclopentadiene	FL,KS,OK,TX
	2,4,6-Trichlorophenol	FL,KS,TX
	2,4,5-Trichlorophenol	FL,KS,TX
	2-Chloronaphthalene	FL,KS,OK
	2-Nitroaniline	FL,KS,OK
	Acenaphthylene	FL,KS,OK,TX
	Dimethylphthalate	FL,KS
	2,6-Dinitrotoluene	FL,KS,OK,TX
	Acenaphthene	FL,KS,OK,TX
	3-Nitroaniline	FL,KS,TX
	2,4-Dinitrophenol	FL,KS,OK,TX
	Dibenzofuran	FL,KS,TX
	2,4-Dinitrotoluene	FL,KS,OK,TX
	4-Nitrophenol	FL
	Fluorene	FL,KS,OK,TX
	4-Chlorophenyl-phenylether	FL,KS,OK
	Diethyl phthalate	FL,KS,TX
	4-Nitroaniline	FL,KS,TX
	4,6-Dinitro-2-methylphenol	FL,KS,OK
	N-Nitrosodiphenylamine	FL,KS
	4-Bromophenyl-phenylether	FL,KS,OK,TX
	Hexachlorobenzene	FL,KS,OK,TX
	Pentachlorophenol	FL,KS,TX
	Phenanthrene	FL,KS,TX
	Carbazole	FL
	Di-n-butyl phthalate	FL,KS,TX
	Fluoranthene	FL,KS,OK,TX
	Benzidine	OK
	Pyrene	FL,KS,TX
	Butylbenzylphthalate	FL,KS,OK,TX
	3,3'-Dichlorobenzidine	FL,KS,TX
	Benzo[a]anthracene	FL
	Chrysene	FL,KS
	bis(2-ethylhexyl)phthalate	FL,KS,TX

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CITY OF LARAMIE WWTP - 34024	Project: Quarterly Biosolids	
PO BOX C	Project Number: Biosolids 23-3	**Reported:**
LARAMIE, WY 82073	Project Manager: DAVID SCHILLINGER	2023-07-24 13:46

EPA 8270 in Solid	Di-n-octyl phthalate	FL,KS,TX
	Benzo[b]fluoranthene	FL,KS,OK,TX
	Benzo[k]fluoranthene	FL,KS,OK,TX
	Benzo[a]pyrene	FL,KS,OK,TX
	Indeno(1,2,3-cd)pyrene	FL,KS,OK,TX
	Dibenzo(a,h)anthracene	FL
	Benzo[ghi]perylene	FL,KS,OK,TX
	Anthracene	FL,KS
EPA 9010C in Solid	Cyanide (total)	IA,KS,FL
EPA 9045 in Solid	pH	FL,OK,KS,WA
EPA 9065A (MOD) in Solid	Phenol	FL,OK,KS
PAI-DK 01 in Solid	Total Kjeldahl Nitrogen	IA,FL,KS
SM 2540 G-2015 in Solid	Percent Solids	FL,WA,UT,TX,IA
	Percent Volatile Solids	FL,IA,WA
SM 4500-NH3 C-1997 in Solid	Ammonia-N	FL,KS,IA

Non-Certified Analyses included in this Report

Method	Analyte
EPA 6010B in Solid	Sulfur
EPA 8082 in Solid	Aroclor-1016
	Aroclor-1221
	Aroclor-1232
	Aroclor-1242
	Aroclor-1248
	Aroclor-1254
	Aroclor-1260
	Aroclor-1262
	Aroclor-1268
EPA 8260 in Solid	Ethyl Ether
	Iodomethane
	Acrylonitrile
	Chloroprene
	Ethyl Methacrylate
	cis-1,4-Dichloro-2-butene
	trans-1,4-Dichloro-2-butene
	2-Chlorotoluene
	4-Chlorotoluene
	p-Isopropyltoluene
EPA 8270 in Solid	Azobenzene
	1,2-Diphenylhydrazine

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-3
Project Manager: DAVID SCHILLINGER

Reported:
2023-07-24 13:46

Code	Description	Number	Expires
FL	Florida Department of Health	E87918	06/30/2024
IA	Iowa Department of Natural Resources	064	05/01/2025
KS	Kansas Department of Health and Environment	E-10402	04/30/2024
NE	State of Nebraska Dept of Health & Human Services	NE-04-05	06/30/2024
OK	Oklahoma Department of Environmental Quality	2022-068	08/31/2023
TX	Texas Commission on Environmental Quality	T104704416-21-15	07/31/2023
UT	State of Utah Department of Health	NE000012022-12	07/31/2023
WA	State of Washington Department of Ecology	C912	06/07/2024

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CITY OF LARAMIE WWTP - 34024	Project: Quarterly Biosolids	
PO BOX C	Project Number: Biosolids 23-3	**Reported:**
LARAMIE, WY 82073	Project Manager: DAVID SCHILLINGER	2023-07-24 13:46

Notes and Definitions

U	Analyte included in the analysis, but not detected
SPK	Spike recovery calculation is not required when sample level is greater than three times the spiking level.
OOS	OOS filed
MI	Matrix interference suspected in matrix spiked sample.
J	Estimated value
CAL	The analyte exceeds the required 20% RSD for the initial calibration. Due to the large amount of analytes being tested, up to 10% can have a %RSD of greater than 20% but less than 35%.
BENZ	The test procedure uses a qualitative screen for Benzidine and the compound was not observed in the sample. The concentration of the Benzidine standard is 50 ug/L and the initial detection level is also 50 ug/L.
<	Less than reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

EPA 524.2, EPA 624, EPA 8260, OA-1, TCLP VOC, GRO, and all microbiological analyses are conducted in the facility located at 13606 B Street, Omaha, NE 68144. All other analyses are conducted in the main facility located at 13611 B Street, Omaha, NE 68144.

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CHAIN OF CUSTODY

Lab Work Order Number: 1596238
Date Generated: 06/01/2023

Client Name: CITY OF LARAMIE WWTP - 34024	Project Name: Quarterly Biosolids
Client Contact: DAVID SCHILLINGER	Project Description: Biosolids 23-3
Address: PO BOX C	Purchase Order Number:
City: LARAMIE	Midwest Labs Contact: Kerri Stanek
State/Zip: WY, 82073	Regulatory (Circle One): (Yes) No
Phone: 3077215204 Fax: 0	Regulatory Agency: EPA
Sampler Name (printed): David Schillinger	Sample Type (Circle One - See Below): D G W (S/H) U P

Requested Analyses (Test Names): 503 Regulations; EPA 8082, EPA 8260, EPA 8269; Fecal Coliform-SM9221E-MPN

Copy To:

WORKORDER: 1596238 COC Sticker #: 1

Lab ID	Sample Name or Field ID	Sampled Date	Sampled Time	Sample Code	Matrix Code	Container Count	Preservation Code								Sample Comments
							1	1	1						
01	Biosolids	7/10/2023	1:00PM	S/H	S	4	2	2	0						
02	01				S	1	0	0	1						
03	02				S	1	0	0	1						
04	03				S	1	0	0	1						
05	04				S	1	0	0	1						
06	05				S	1	0	0	1						
07	06				S	1	0	0	1						
08	07				S	1	0	0	1						

Relinquished By: [signature]	Date/Time: 7/10/2023 2PM	Received By: [signature] 7/12/23	Date/Time: 9:35
Relinquished By	Date/Time	Received By	Date/Time

Comments:

Lab Internal Use Only:
Temperature Upon Receipt: 0.2°C
Cooler Numbers:
Notes:

Matrix Codes: S=Solid

Preservation Codes: =[Group Analysis],1=Cool 6°C,2=None

Sample Type Codes: D = Drinking Water (Safe Drinking Water Act), G = Groundwater, W = Wastewater (Clean Water Act), S/H = Solid/Hazardous Waste (RCRA), U = Underground Storage Tank (UST), P = Process Water

Chain of Custody will have a signature upon receipt but no subsequent signatures.

1596238
Work Order 1596238

RC Form 15 - Effective 10/31/2013

Midwest Laboratories
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402-334-7770 | CONTACTUS@MIDWESTLABS.COM

REGULATORY FORM

This sheet MUST be filled out before samples can be processed. To ensure that holding times are met, it is your responsibility that a completed form comes attached to the Chain of Custody. Samples must be received on ice.

WORKORDER: 1596238
COC
Sticker #: 2

Is this sample for regulatory/permit reporting? ☑ Yes ☐ No

What city/state was your sample collected in? Laramie, WY

What agency/state are you reporting? EPA

What type of sample? (Circle One)

Drinking Water *For human consumption, 30 hr hold time for E. coli and total coliform testing*	**Ground Water**	**Hazardous Waste**	**Livestock**	**Process Water**
Solid Waste	**Storm Water**	**UST**	**Wastewater**	

SEE REVERSE SIDE FOR SAMPLING INSTRUCTIONS

Midwest Laboratories®

Sample Acceptance Checklist
Document Number: RC CHKLIST 001
Revision No.: 5
Effective Date: 04/25/22

WORKORDER: 1596238
COC
Sticker #: 3

Lab Number:

Thermometer Used: ☐ Therm Fisher IR 24

Sample Temperature (°C): 6.2°C

Cooler Intact: ☒ Yes ☐ No
Received on Ice: ☒ Yes ☐ No
Hand Delivered: ☐ Yes ☒ No

Date & Initials of person accepting samples: ST 7-12-23

							Comments
Chain of Custody present?	☒	Yes	☐	No	☐	N/A	
Sample ID(s):	☒	Yes	☐	No	☐	N/A	
Sample Location(s):	☒	Yes	☐	No	☐	N/A	
Client contact:	☒	Yes	☐	No	☐	N/A	
Analysis Requested:	☒	Yes	☐	No	☐	N/A	
Date & Time of collection:	☒	Yes	☐	No	☐	N/A	
Sampler name on COC?	☒	Yes	☐	No	☐	N/A	
Chain of custody relinquished with signature?	☒	Yes	☐	No	☐	N/A	
Chain of custody complete?	☒	Yes	☐	No	☐	N/A	
Sample labels match COC?	☒	Yes	☐	No	☐	N/A	
Written in indelible ink?	☒	Yes	☐	No	☐	N/A	
Labels indicate proper preservation?	☒	Yes	☐	No	☐	N/A	
Samples arrived within hold time?	☐	Yes	☒	No	☐	N/A	
Samples arrived within correct temperature?	☒	Yes	☐	No	☐	N/A	
Samples arrived frozen?	☐	Yes	☒	No	☐	N/A	
Sufficient volume?	☒	Yes	☐	No	☐	N/A	
Appropriate containers used?	☒	Yes	☐	No	☐	N/A	
Filtered volume received for dissolved tests?	☐	Yes	☐	No	☒	N/A	
Headspace in VOA vials?	☐	Yes	☐	No	☒	N/A	
Trip Blank present?	☐	Yes	☒	No	☐	N/A	

Client Notification/Resolution: Date/Time Contacted: _____

Person Contacted: _____ Contacted By: _____

Comments/Resolution: _____

_____

_____

_____

_____

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23 October 2023

Work Order: 1599525

DAVID SCHILLINGER
CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

RE: Quarterly Biosolids

Enclosed are the results of analyses for samples received by the laboratory on 2023-10-10 09:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kerri Stanek
Project Manager
kstanek@midwestlabs.com

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Biosolids	1599525-01	Solid	2023-10-09 11:30	2023-10-10 09:10
01	1599525-02	Solid	2023-10-09 12:30	2023-10-10 09:10
02	1599525-03	Solid	2023-10-09 12:30	2023-10-10 09:10
03	1599525-04	Solid	2023-10-09 12:30	2023-10-10 09:10
04	1599525-05	Solid	2023-10-09 12:30	2023-10-10 09:10
05	1599525-06	Solid	2023-10-09 12:30	2023-10-10 09:10
06	1599525-07	Solid	2023-10-09 12:30	2023-10-10 09:10
07	1599525-08	Solid	2023-10-09 12:30	2023-10-10 09:10

Containers used for the following analyses:

1599525-01 A:	EPA 8082, EPA 8270, SM 2540 G-2015
1599525-01 B:	EPA 8260
1599525-01 C:	EPA 9010C, EPA 9065 (MOD)
1599525-01 D:	PAI-DK 01, SM 4500-NH3 C-1997
1599525-01 E:	EPA 9045D, Total Metals per EPA 6010B, Total Metals per EPA 6020, Total Metals per EPA 7471
1599525-01 F:	EPA 353.2
1599525-02 A:	SM 2540 G-2015, SM 9221 E
1599525-03 A:	SM 2540 G-2015, SM 9221 E
1599525-04 A:	SM 2540 G-2015, SM 9221 E
1599525-05 A:	SM 2540 G-2015, SM 9221 E
1599525-06 A:	SM 2540 G-2015, SM 9221 E
1599525-07 A:	SM 2540 G-2015, SM 9221 E
1599525-08 A:	SM 2540 G-2015, SM 9221 E

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CITY OF LARAMIE WWTP - 34024	Project: Quarterly Biosolids	
PO BOX C	Project Number: Biosolids 23-4	**Reported:**
LARAMIE, WY 82073	Project Manager: DAVID SCHILLINGER	2023-10-23 17:00

Analysis Results Reviewed by:

EPA 8260 reviewed by nmh9.

EPA 8270 reviewed by nmh9.

Total Metals per EPA 6010B reviewed by kkh9.

Total Metals per EPA 6020 reviewed by kkh9.

Total Metals per EPA 7471 reviewed by kkh9.

EPA 353.2 reviewed by mgn8.

EPA 9010C reviewed by mgn8.

EPA 9045D reviewed by jdb5.

EPA 9065 (MOD) reviewed by mgn8.

PAI-DK 01 reviewed by jdb5.

SM 2540 G-2015 reviewed by jdb5.

SM 4500-NH3 C-1997 reviewed by jdb5.

SM 9221 E reviewed by snl7.

EPA 8082 reviewed by nmh9.

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: Biosolids
Laboratory ID: 1599525-01
Sampled Date/Time: 2023-10-09 11:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Volatile Organic Compounds									
Dichlorodifluoromethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Chloromethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Vinyl chloride	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Bromomethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Chloroethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Trichlorofluoromethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Acrolein	<	49.8	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Acetone	<	49.8	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Ethyl Ether	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,1-Dichloroethene	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Iodomethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Acrylonitrile	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Methylene Chloride	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,1,2-Trichloro-1,1,2-trifluoro ethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Carbon disulfide	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
trans-1,2-Dichloroethene	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Methyl tert-Butyl Ether	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,1-Dichloroethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Vinyl acetate	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Chloroprene	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
2-Butanone	<	49.8	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
cis-1,2-Dichloroethene	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Bromochloromethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Chloroform	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
2,2-Dichloropropane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,2-Dichloroethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,1,1-Trichloroethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,1-Dichloropropene	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Carbon Tetrachloride	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Benzene	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Dibromomethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,2-Dichloropropane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Trichloroethene	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Bromodichloromethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
2-Chloroethyl vinyl ether	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
cis-1,3-Dichloropropene	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
4-Methyl-2-pentanone	<	49.8	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
trans-1,3-Dichloropropene	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,1,2-Trichloroethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Toluene	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,3-Dichloropropane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Ethyl Methacrylate	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Dibromochloromethane	<	2.49	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
2-Hexanone	<	49.8	ug/g	< ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: Biosolids
Laboratory ID: 1599525-01
Sampled Date/Time: 2023-10-09 11:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Volatile Organic Compounds										
1,2-Dibromoethane	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Tetrachloroethene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,1,1,2-Tetrachloroethane	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Chlorobenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Ethylbenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
m,p-Xylenes	<	4.98	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Bromoform	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
cis-1,4-Dichloro-2-butene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Styrene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,1,2,2-Tetrachloroethane	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
o-Xylene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,2,3-Trichloropropane	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
trans-1,4-Dichloro-2-butene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Isopropylbenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Bromobenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
n-Propyl Benzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
2-Chlorotoluene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
4-Chlorotoluene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,3,5-Trimethylbenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
tert-Butylbenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,2,4-Trimethylbenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
sec-Butylbenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,3-Dichlorobenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,4-Dichlorobenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
p-Isopropyltoluene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,2-Dichlorobenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
n-Butyl Benzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,2-Dibromo-3-Chloropropane	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,2,4-Trichlorobenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Naphthalene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Hexachlorobutadiene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
1,2,3-Trichlorobenzene	<	2.49	ug/g	<	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Total Xylenes	0.00		ug/g	0.00	ug/g	EPA 8260	2023-10-16	2023-10-16	alt8	(B)
Surrogate: Toluene-d8		*102 %*		*80-120*		*EPA 8260*	*2023-10-16*	*2023-10-16*		(B)
Surrogate: Bromofluorobenzene		*96 %*		*80-120*		*EPA 8260*	*2023-10-16*	*2023-10-16*		(B)
Surrogate: 1,2-Dichlorobenzene-d4		*104 %*		*80-120*		*EPA 8260*	*2023-10-16*	*2023-10-16*		(B)

Work Order: 1599525

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: Biosolids
Laboratory ID: 1599525-01
Sampled Date/Time: 2023-10-09 11:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Semivolatile Organic Compounds									
N-Nitrosodimethylamine	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
bis(2-chloroethyl)ether	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Phenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2-Chlorophenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
1,3-Dichlorobenzene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
1,4-Dichlorobenzene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
1,2-Dichlorobenzene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2,2'-oxybis(1-chloropropane)	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2-Methylphenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Hexachloroethane	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
N-Nitroso-di-n-propylamine	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
4-Methylphenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Nitrobenzene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Isophorone	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2-Nitrophenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2,4-Dimethylphenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
bis(2-chloroethoxy)methane	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2,4-Dichlorophenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
1,2,4-Trichlorobenzene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Naphthalene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
4-Chloroaniline	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Hexachlorobutadiene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
4-Chloro-3-methylphenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2-Methylnaphthalene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Hexachlorocyclopentadiene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2,4,6-Trichlorophenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2,4,5-Trichlorophenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2-Chloronaphthalene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2-Nitroaniline	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Acenaphthylene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Dimethylphthalate	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2,6-Dinitrotoluene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Acenaphthene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
3-Nitroaniline	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2,4-Dinitrophenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Dibenzofuran	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
2,4-Dinitrotoluene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
4-Nitrophenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Fluorene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
4-Chlorophenyl-phenylether	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Diethyl phthalate	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
4-Nitroaniline	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
4,6-Dinitro-2-methylphenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
N-Nitrosodiphenylamine	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Azobenzene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: Biosolids
Laboratory ID: 1599525-01
Sampled Date/Time: 2023-10-09 11:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Semivolatile Organic Compounds									
4-Bromophenyl-phenylether	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Hexachlorobenzene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Pentachlorophenol	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Phenanthrene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Carbazole	<	46900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Di-n-butyl phthalate	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Fluoranthene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Benzidine	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)/ BENZ
Pyrene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Butylbenzylphthalate	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
3,3'-Dichlorobenzidine	<	46900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Benzo[a]anthracene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Chrysene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
bis(2-ethylhexyl)phthalate	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Di-n-octyl phthalate	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Benzo[b]fluoranthene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Benzo[k]fluoranthene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Benzo[a]pyrene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Indeno(1,2,3-cd)pyrene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Dibenzo(a,h)anthracene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Benzo[ghi]perylene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
1,2-Diphenylhydrazine	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Anthracene	<	32900	ug/kg	< ug/kg	EPA 8270	2023-10-19	2023-10-20	bsb3	(A)
Surrogate: 2-Fluorophenol		*91 %*		*61-120*	*EPA 8270*	*2023-10-19*	*2023-10-20*		(A)
Surrogate: Phenol-d6		*90 %*		*64.9-120*	*EPA 8270*	*2023-10-19*	*2023-10-20*		(A)
Surrogate: Nitrobenzene-d5		*95 %*		*71.9-120*	*EPA 8270*	*2023-10-19*	*2023-10-20*		(A)
Surrogate: 2-Fluorobiphenyl		*94 %*		*71.5-121*	*EPA 8270*	*2023-10-19*	*2023-10-20*		(A)
Surrogate: 2,4,6-Tribromophenol		*67 %*		*47.2-132*	*EPA 8270*	*2023-10-19*	*2023-10-20*		(A)
Surrogate: Terphenyl-d14		*85 %*		*30.7-120*	*EPA 8270*	*2023-10-19*	*2023-10-20*		(A)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: Biosolids
Laboratory ID: 1599525-01
Sampled Date/Time: 2023-10-09 11:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Total Metals										
Arsenic	4.7	0.02	mg/kg dry	0.7	mg/kg	EPA 6020	2023-10-11	2023-10-12	nto7	(E)
Barium	363.4	0.3	mg/kg dry	50.9	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Cadmium	1.6	0.2	mg/kg dry	0.2	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Calcium	21140	23.7	mg/kg dry	2959	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Chromium	23.9	1.1	mg/kg dry	3.4	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Copper	636.8	1.0	mg/kg dry	89.2	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Iron	10300	7.8	mg/kg dry	1442	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Lead	30.0	3.7	mg/kg dry	4.2	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Magnesium	5579	10.9	mg/kg dry	781.1	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Manganese	445.2	1.9	mg/kg dry	62.3	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Mercury	0.40	0.04	mg/kg dry	0.06	mg/kg	EPA 7471	2023-10-17	2023-10-18	trh1	(E)
Molybdenum	8.7	0.8	mg/kg dry	1.2	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Nickel	59.3	1.0	mg/kg dry	8.3	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Phosphate (P2O5)	33960	54.3	mg/kg dry		mg/kg	Calculation	2023-10-11	2023-10-12	erw9	
Phosphorus	14830	13.4	mg/kg dry	2076	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Potash (K2O)	3177	28.4	mg/kg dry		mg/kg	Calculation	2023-10-11	2023-10-12	erw9	
Potassium	2648	20.7	mg/kg dry	370.7	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Selenium	12.1	0.07	mg/kg dry	1.7	mg/kg	EPA 6020	2023-10-11	2023-10-12	nto7	(E)
Silver	3.5	0.7	mg/kg dry	0.5	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Sodium	942.1	12.6	mg/kg dry	131.9	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Sulfur	12740	4.0	mg/kg dry	1783	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Zinc	623.6	3.1	mg/kg dry	87.3	mg/kg	EPA 6010B	2023-10-11	2023-10-12	erw9	(E)
Environmental Chemistry										
Ammonia-N	1310	179	mg/kg dry	183	mg/kg	SM 4500-NH3 C-1997	2023-10-11	2023-10-11	pes0	(D)
Cyanide (total)	<	42.4	mg/kg dry	<	mg/kg	EPA 9010C	2023-10-12	2023-10-12	kfw9	(C)
Total Kjeldahl Nitrogen	57900	3570	mg/kg dry	8110	mg/kg	PAI-DK 01	2023-10-11	2023-10-11	pes0	(D)
Nitrate/Nitrite Nitrogen	11.1	5.2	mg/kg dry	1.6	mg/kg	EPA 353.2	2023-10-13	2023-10-13	akn1	(F)
Organic Nitrogen	56600	3570	mg/kg dry		mg/kg	Calculation	2023-10-11	2023-10-11	pes0	
pH @ 18.8°C			S.U.	6.41	S.U.	EPA 9045D	2023-10-16	2023-10-16	cvn2	(E)
Phenol	39.8	0.6	mg/kg dry	5.6	mg/kg	EPA 9065 (MOD)	2023-10-13	2023-10-13	kfw9	(C)
Percent Solids		0.01	%	14.00	%	SM 2540 G-2015	2023-10-11	2023-10-12	ppj2	(A)
Percent Volatile Solids	73.43	0.01	%	73.43	%	SM 2540 G-2015	2023-10-11	2023-10-12	ppj2	(A)

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: Biosolids
Laboratory ID: 1599525-01
Sampled Date/Time: 2023-10-09 11:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result	Method	Prepared	Analyzed	Analyst	(Container) / Notes
Pesticide Screen									
Aroclor-1016	<	1000	ug/kg	< ug/kg	EPA 8082	2023-10-12	2023-10-17	alt8	(A)
Aroclor-1221	<	1000	ug/kg	< ug/kg	EPA 8082	2023-10-12	2023-10-17	alt8	(A)
Aroclor-1232	<	1000	ug/kg	< ug/kg	EPA 8082	2023-10-12	2023-10-17	alt8	(A)
Aroclor-1242	<	1000	ug/kg	< ug/kg	EPA 8082	2023-10-12	2023-10-17	alt8	(A)
Aroclor-1248	<	1000	ug/kg	< ug/kg	EPA 8082	2023-10-12	2023-10-17	alt8	(A)
Aroclor-1254	<	1000	ug/kg	< ug/kg	EPA 8082	2023-10-12	2023-10-17	alt8	(A)
Aroclor-1260	<	1000	ug/kg	< ug/kg	EPA 8082	2023-10-12	2023-10-17	alt8	(A)
Aroclor-1262	<	1000	ug/kg	< ug/kg	EPA 8082	2023-10-12	2023-10-17	alt8	(A)
Aroclor-1268	<	1000	ug/kg	< ug/kg	EPA 8082	2023-10-12	2023-10-17	alt8	(A)
Surrogate: Tetrachloro-m-xylene		*41 %*		*62.6-136*	*EPA 8082*	*2023-10-12*	*2023-10-17*		(A)
Surrogate: Decachlorobiphenyl		*73 %*		*57.3-146*	*EPA 8082*	*2023-10-12*	*2023-10-17*		(A)

Work Order: 1599525

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: 01
Laboratory ID: 1599525-02
Sampled Date/Time: 2023-10-09 12:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	13.84	%	SM 2540 G-2015	2023-10-11	2023-10-12	ppj2	(A)
Microbiology										
Fecal Coliforms	23770	0.2	MPN/g dry	3290	MPN/g	SM 9221 E	2023-10-10/12:11	2023-10-11/11:35	uml8	(A)

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: 02
Laboratory ID: 1599525-03
Sampled Date/Time: 2023-10-09 12:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	13.83	%	SM 2540 G-2015	2023-10-11	2023-10-12	ppj2	(A)
Microbiology										
Fecal Coliforms	93930	0.2	MPN/g dry	12990	MPN/g	SM 9221 E	2023-10-10/12:11	2023-10-11/11:35	uml8	(A)

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: 03
Laboratory ID: 1599525-04
Sampled Date/Time: 2023-10-09 12:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	15.58	%	SM 2540 G-2015	2023-10-11	2023-10-12	ppj2	(A)
Microbiology										
Fecal Coliforms	50830	0.2	MPN/g dry	7920	MPN/g	SM 9221 E	2023-10-10/12:11	2023-10-11/11:35	uml8	(A)

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: 04
Laboratory ID: 1599525-05
Sampled Date/Time: 2023-10-09 12:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	13.74	%	SM 2540 G-2015	2023-10-11	2023-10-12	ppj2	(A)
Microbiology										
Fecal Coliforms	94540	0.2	MPN/g dry	12990	MPN/g	SM 9221 E	2023-10-10/12:11	2023-10-11/11:35	uml8	(A)

Work Order: 1599525

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Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: 05
Laboratory ID: 1599525-06
Sampled Date/Time: 2023-10-09 12:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	13.30	%	SM 2540 G-2015	2023-10-11	2023-10-12	ppj2	(A)
Microbiology										
Fecal Coliforms	261400	0.2	MPN/g dry	34770	MPN/g	SM 9221 E	2023-10-10/12:11	2023-10-11/11:35	uml8	(A)

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Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: 06
Laboratory ID: 1599525-07
Sampled Date/Time: 2023-10-09 12:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	13.07	%	SM 2540 G-2015	2023-10-11	2023-10-12	ppj2	(A)
Microbiology										
Fecal Coliforms	414800	0.2	MPN/g dry	54220	MPN/g	SM 9221 E	2023-10-10/12:11	2023-10-11/11:35	uml8	(A)

Work Order: 1599525

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Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Sample ID: 07
Laboratory ID: 1599525-08
Sampled Date/Time: 2023-10-09 12:30

Analyte	Dry Weight Result	Reporting Limit	Units	As Received Result		Method	Prepared	Analyzed	Analyst	(Container) / Notes
Environmental Chemistry										
Percent Solids		0.01	%	13.94	%	SM 2540 G-2015	2023-10-11	2023-10-12	ppj2	(A)
Microbiology										
Fecal Coliforms	389000	0.2	MPN/g dry	54220	MPN/g	SM 9221 E	2023-10-10/12:11	2023-10-11/11:35	uml8	(A)

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
Blank (B936778-BLK1)				Prepared & Analyzed: 2023-10-16						
Dichlorodifluoromethane	<	0.50	ug/g							
Chloromethane	<	0.50	ug/g							
Vinyl chloride	<	0.50	ug/g							
Bromomethane	<	0.50	ug/g							
Chloroethane	<	0.50	ug/g							
Trichlorofluoromethane	<	0.50	ug/g							
Acrolein	<	9.99	ug/g							
Acetone	<	9.99	ug/g							
Ethyl Ether	<	0.50	ug/g							
1,1-Dichloroethene	<	0.50	ug/g							
Iodomethane	<	0.50	ug/g							
Acrylonitrile	<	0.50	ug/g							
Methylene Chloride	<	0.50	ug/g							
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g							
Carbon disulfide	<	0.50	ug/g							
trans-1,2-Dichloroethene	<	0.50	ug/g							
Methyl tert-Butyl Ether	<	0.50	ug/g							
1,1-Dichloroethane	<	0.50	ug/g							
Vinyl acetate	<	0.50	ug/g							
Chloroprene	<	0.50	ug/g							
2-Butanone	<	9.99	ug/g							
cis-1,2-Dichloroethene	<	0.50	ug/g							
Bromochloromethane	<	0.50	ug/g							
Chloroform	<	0.50	ug/g							
2,2-Dichloropropane	<	0.50	ug/g							
1,2-Dichloroethane	<	0.50	ug/g							
1,1,1-Trichloroethane	<	0.50	ug/g							
1,1-Dichloropropene	<	0.50	ug/g							
Carbon Tetrachloride	<	0.50	ug/g							
Benzene	<	0.50	ug/g							
Dibromomethane	<	0.50	ug/g							
1,2-Dichloropropane	<	0.50	ug/g							
Trichloroethene	<	0.50	ug/g							
Bromodichloromethane	<	0.50	ug/g							
2-Chloroethyl vinyl ether	<	0.50	ug/g							
cis-1,3-Dichloropropene	<	0.50	ug/g							
4-Methyl-2-pentanone	<	9.99	ug/g							
trans-1,3-Dichloropropene	<	0.50	ug/g							
1,1,2-Trichloroethane	<	0.50	ug/g							
Toluene	<	0.50	ug/g							
1,3-Dichloropropane	<	0.50	ug/g							

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
Blank (B936778-BLK1)				Prepared & Analyzed: 2023-10-16						
Ethyl Methacrylate	<	0.50	ug/g							
Dibromochloromethane	<	0.50	ug/g							
2-Hexanone	<	9.99	ug/g							
1,2-Dibromoethane	<	0.50	ug/g							
Tetrachloroethene	<	0.50	ug/g							
1,1,1,2-Tetrachloroethane	<	0.50	ug/g							
Chlorobenzene	<	0.50	ug/g							
Ethylbenzene	<	0.50	ug/g							
m,p-Xylenes	<	1.00	ug/g							
Bromoform	<	0.50	ug/g							
cis-1,4-Dichloro-2-butene	<	0.50	ug/g							
Styrene	<	0.50	ug/g							
1,1,2,2-Tetrachloroethane	<	0.50	ug/g							
o-Xylene	<	0.50	ug/g							
1,2,3-Trichloropropane	<	0.50	ug/g							
trans-1,4-Dichloro-2-butene	<	0.50	ug/g							
Isopropylbenzene	<	0.50	ug/g							
Bromobenzene	<	0.50	ug/g							
n-Propyl Benzene	<	0.50	ug/g							
2-Chlorotoluene	<	0.50	ug/g							
4-Chlorotoluene	<	0.50	ug/g							
1,3,5-Trimethylbenzene	<	0.50	ug/g							
tert-Butylbenzene	<	0.50	ug/g							
1,2,4-Trimethylbenzene	<	0.50	ug/g							
sec-Butylbenzene	<	0.50	ug/g							
1,3-Dichlorobenzene	<	0.50	ug/g							
1,4-Dichlorobenzene	<	0.50	ug/g							
p-Isopropyltoluene	<	0.50	ug/g							
1,2-Dichlorobenzene	<	0.50	ug/g							
n-Butyl Benzene	<	0.50	ug/g							
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g							
1,2,4-Trichlorobenzene	<	0.50	ug/g							
Naphthalene	<	0.50	ug/g							
Hexachlorobutadiene	<	0.50	ug/g							
1,2,3-Trichlorobenzene	<	0.50	ug/g							
Total Xylenes	0.00		ug/g							
Surrogate: Toluene-d8	*0.252*		ug/g	*0.250*		*101*	*80-120*			
Surrogate: Bromofluorobenzene	*0.243*		ug/g	*0.250*		*97*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.255*		ug/g	*0.250*		*102*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
LCS (B936778-BS1)				Prepared & Analyzed: 2023-10-16						
Dichlorodifluoromethane	0.84	0.50	ug/g	1.00		84	47.5-120			
Chloromethane	0.79	0.50	ug/g	1.00		79	71.4-120			
Vinyl chloride	0.61	0.50	ug/g	1.00		61	25.7-120			
Bromomethane	0.83	0.50	ug/g	1.00		83	24.4-120			
Chloroethane	0.75	0.50	ug/g	1.00		75	51-120			
Trichlorofluoromethane	0.97	0.50	ug/g	1.00		97	70.4-120			
Acrolein	<	10.0	ug/g				51.7-120			
Acetone	<	10.0	ug/g				45.7-120			
Ethyl Ether	<	0.50	ug/g				60.4-120			
1,1-Dichloroethene	<	0.50	ug/g				70.4-120			
Iodomethane	<	0.50	ug/g				55.6-132			
Acrylonitrile	<	0.50	ug/g				55.5-120			
Methylene Chloride	<	0.50	ug/g				66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g				75.4-120			
Carbon disulfide	<	0.50	ug/g				67.9-120			
trans-1,2-Dichloroethene	<	0.50	ug/g				76.6-120			
Methyl tert-Butyl Ether	<	0.50	ug/g				61.1-120			
1,1-Dichloroethane	<	0.50	ug/g				68.2-120			
Vinyl acetate	<	0.50	ug/g				51.3-120			
Chloroprene	<	0.50	ug/g				74.9-120			
2-Butanone	<	10.0	ug/g				49.2-120			
cis-1,2-Dichloroethene	<	0.50	ug/g				71.9-120			
Bromochloromethane	<	0.50	ug/g				63-120			
Chloroform	<	0.50	ug/g				75.8-120			
2,2-Dichloropropane	<	0.50	ug/g				70.8-120			
1,2-Dichloroethane	<	0.50	ug/g				66.8-120			
1,1,1-Trichloroethane	<	0.50	ug/g				70.3-120			
1,1-Dichloropropene	<	0.50	ug/g				72.7-120			
Carbon Tetrachloride	<	0.50	ug/g				64.7-120			
Benzene	<	0.50	ug/g				74.3-120			
Dibromomethane	<	0.50	ug/g				62.5-120			
1,2-Dichloropropane	<	0.50	ug/g				70.1-120			
Trichloroethene	<	0.50	ug/g				80-120			
Bromodichloromethane	<	0.50	ug/g				67.2-120			
2-Chloroethyl vinyl ether	<	0.50	ug/g				51.9-134			
cis-1,3-Dichloropropene	<	0.50	ug/g				68.1-120			
4-Methyl-2-pentanone	<	10.0	ug/g				44.6-120			
trans-1,3-Dichloropropene	<	0.50	ug/g				63.4-120			
1,1,2-Trichloroethane	<	0.50	ug/g				61.7-120			
Toluene	<	0.50	ug/g				80-120			
1,3-Dichloropropane	<	0.50	ug/g				63.6-120			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
LCS (B936778-BS1)				Prepared & Analyzed: 2023-10-16						
Ethyl Methacrylate	<	0.50	ug/g				58.5-120			
Dibromochloromethane	<	0.50	ug/g				61.1-120			
2-Hexanone	<	10.0	ug/g				47.2-120			
1,2-Dibromoethane	<	0.50	ug/g				63.6-120			
Tetrachloroethene	<	0.50	ug/g				78.8-120			
1,1,1,2-Tetrachloroethane	<	0.50	ug/g				63.8-120			
Chlorobenzene	<	0.50	ug/g				80-120			
Ethylbenzene	<	0.50	ug/g				80-120			
m,p-Xylenes	<	1.00	ug/g				80-120			
Bromoform	<	0.50	ug/g				52.2-120			
cis-1,4-Dichloro-2-butene	<	0.50	ug/g				61.7-120			
Styrene	<	0.50	ug/g				80-120			
1,1,2,2-Tetrachloroethane	<	0.50	ug/g				64.3-120			
o-Xylene	<	0.50	ug/g				80-120			
1,2,3-Trichloropropane	<	0.50	ug/g				67.1-120			
trans-1,4-Dichloro-2-butene	<	0.50	ug/g				63.1-120			
Isopropylbenzene	<	0.50	ug/g				80-120			
Bromobenzene	<	0.50	ug/g				80-120			
n-Propyl Benzene	<	0.50	ug/g				80-120			
2-Chlorotoluene	<	0.50	ug/g				80-120			
4-Chlorotoluene	<	0.50	ug/g				80-120			
1,3,5-Trimethylbenzene	<	0.50	ug/g				80-120			
tert-Butylbenzene	<	0.50	ug/g				80-120			
1,2,4-Trimethylbenzene	<	0.50	ug/g				80-120			
sec-Butylbenzene	<	0.50	ug/g				80-120			
1,3-Dichlorobenzene	<	0.50	ug/g				80-120			
1,4-Dichlorobenzene	<	0.50	ug/g				80-120			
p-Isopropyltoluene	<	0.50	ug/g				76.5-120			
1,2-Dichlorobenzene	<	0.50	ug/g				80-120			
n-Butyl Benzene	<	0.50	ug/g				80-120			
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g				53.7-120			
1,2,4-Trichlorobenzene	<	0.50	ug/g				64.4-120			
Naphthalene	<	0.50	ug/g				49.6-120			
Hexachlorobutadiene	<	0.50	ug/g				71.1-120			
1,2,3-Trichlorobenzene	<	0.50	ug/g				44.7-120			
Surrogate: Toluene-d8	*0.250*		ug/g	*0.250*		*100*	*80-120*			
Surrogate: Bromofluorobenzene	*0.237*		ug/g	*0.250*		*95*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.256*		ug/g	*0.250*		*103*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
LCS (B936778-BS2)				Prepared & Analyzed: 2023-10-16						
Dichlorodifluoromethane	<	0.50	ug/g				47.5-120			
Chloromethane	<	0.50	ug/g				71.4-120			
Vinyl chloride	<	0.50	ug/g				25.7-120			
Bromomethane	<	0.50	ug/g				24.4-120			
Chloroethane	<	0.50	ug/g				51-120			
Trichlorofluoromethane	<	0.50	ug/g				70.4-120			
Acrolein	1.86	9.99	ug/g	2.00		93	51.7-120			
Acetone	1.58	9.99	ug/g	2.00		79	45.7-120			
Ethyl Ether	0.80	0.50	ug/g	0.999		80	60.4-120			
1,1-Dichloroethene	0.85	0.50	ug/g	0.999		85	70.4-120			
Iodomethane	0.87	0.50	ug/g	0.999		87	55.6-132			
Acrylonitrile	0.81	0.50	ug/g	0.999		81	55.5-120			
Methylene Chloride	0.85	0.50	ug/g	0.999		85	66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	0.89	0.50	ug/g	0.999		89	75.4-120			
Carbon disulfide	0.83	0.50	ug/g	0.999		83	67.9-120			
trans-1,2-Dichloroethene	0.87	0.50	ug/g	0.999		87	76.6-120			
Methyl tert-Butyl Ether	0.88	0.50	ug/g	0.999		89	61.1-120			
1,1-Dichloroethane	0.86	0.50	ug/g	0.999		86	68.2-120			
Vinyl acetate	0.95	0.50	ug/g	0.999		95	51.3-120			
Chloroprene	0.90	0.50	ug/g	0.999		90	74.9-120			
2-Butanone	1.55	9.99	ug/g	2.00		78	49.2-120			
cis-1,2-Dichloroethene	0.87	0.50	ug/g	0.999		87	71.9-120			
Bromochloromethane	0.86	0.50	ug/g	0.999		86	63-120			
Chloroform	0.91	0.50	ug/g	0.999		91	75.8-120			
2,2-Dichloropropane	0.96	0.50	ug/g	0.999		96	70.8-120			
1,2-Dichloroethane	0.92	0.50	ug/g	0.999		92	66.8-120			
1,1,1-Trichloroethane	0.96	0.50	ug/g	0.999		96	70.3-120			
1,1-Dichloropropene	0.89	0.50	ug/g	0.999		89	72.7-120			
Carbon Tetrachloride	0.99	0.50	ug/g	0.999		99	64.7-120			
Benzene	0.86	0.50	ug/g	0.999		86	74.3-120			
Dibromomethane	0.98	0.50	ug/g	0.999		98	62.5-120			
1,2-Dichloropropane	0.85	0.50	ug/g	0.999		85	70.1-120			
Trichloroethene	0.95	0.50	ug/g	0.999		96	80-120			
Bromodichloromethane	0.94	0.50	ug/g	0.999		94	67.2-120			
2-Chloroethyl vinyl ether	0.92	0.50	ug/g	0.999		92	51.9-134			
cis-1,3-Dichloropropene	0.89	0.50	ug/g	0.999		89	68.1-120			
4-Methyl-2-pentanone	1.59	9.99	ug/g	2.00		80	44.6-120			
trans-1,3-Dichloropropene	0.92	0.50	ug/g	0.999		93	63.4-120			
1,1,2-Trichloroethane	0.88	0.50	ug/g	0.999		88	61.7-120			
Toluene	0.93	0.50	ug/g	0.999		93	80-120			
1,3-Dichloropropane	0.87	0.50	ug/g	0.999		87	63.6-120			

Work Order: 1599525

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
LCS (B936778-BS2)				Prepared & Analyzed: 2023-10-16						
Ethyl Methacrylate	0.87	0.50	ug/g	0.999		87	58.5-120			
Dibromochloromethane	0.94	0.50	ug/g	0.999		94	61.1-120			
2-Hexanone	1.64	9.99	ug/g	2.00		82	47.2-120			
1,2-Dibromoethane	1.15	0.50	ug/g	0.999		115	63.6-120			
Tetrachloroethene	1.20	0.50	ug/g	0.999		120	78.8-120			
1,1,1,2-Tetrachloroethane	1.34	0.50	ug/g	0.999		134	63.8-120			
Chlorobenzene	0.93	0.50	ug/g	0.999		93	80-120			
Ethylbenzene	0.95	0.50	ug/g	0.999		95	80-120			
m,p-Xylenes	1.89	1.00	ug/g	2.00		95	80-120			
Bromoform	0.91	0.50	ug/g	0.999		91	52.2-120			
cis-1,4-Dichloro-2-butene	0.97	0.50	ug/g	0.999		97	61.7-120			
Styrene	0.93	0.50	ug/g	0.999		93	80-120			
1,1,2,2-Tetrachloroethane	0.90	0.50	ug/g	0.999		90	64.3-120			
o-Xylene	0.94	0.50	ug/g	0.999		94	80-120			
1,2,3-Trichloropropane	0.93	0.50	ug/g	0.999		93	67.1-120			
trans-1,4-Dichloro-2-butene	0.99	0.50	ug/g	0.999		99	63.1-120			
Isopropylbenzene	0.97	0.50	ug/g	0.999		97	80-120			
Bromobenzene	0.91	0.50	ug/g	0.999		91	80-120			
n-Propyl Benzene	0.98	0.50	ug/g	0.999		98	80-120			
2-Chlorotoluene	0.97	0.50	ug/g	0.999		97	80-120			
4-Chlorotoluene	0.96	0.50	ug/g	0.999		96	80-120			
1,3,5-Trimethylbenzene	0.99	0.50	ug/g	0.999		99	80-120			
tert-Butylbenzene	0.99	0.50	ug/g	0.999		99	80-120			
1,2,4-Trimethylbenzene	0.97	0.50	ug/g	0.999		97	80-120			
sec-Butylbenzene	1.00	0.50	ug/g	0.999		100	80-120			
1,3-Dichlorobenzene	0.93	0.50	ug/g	0.999		93	80-120			
1,4-Dichlorobenzene	0.92	0.50	ug/g	0.999		92	80-120			
p-Isopropyltoluene	1.00	0.50	ug/g	0.999		100	76.5-120			
1,2-Dichlorobenzene	0.88	0.50	ug/g	0.999		88	80-120			
n-Butyl Benzene	1.00	0.50	ug/g	0.999		100	80-120			
1,2-Dibromo-3-Chloropropane	0.77	0.50	ug/g	0.999		77	53.7-120			
1,2,4-Trichlorobenzene	0.54	0.50	ug/g	0.999		54	64.4-120			
Naphthalene	0.48	0.50	ug/g	0.999		48	49.6-120			
Hexachlorobutadiene	0.65	0.50	ug/g	0.999		65	71.1-120			
1,2,3-Trichlorobenzene	0.39	0.50	ug/g	0.999		39	44.7-120			
Surrogate: Toluene-d8	*0.258*		ug/g	*0.250*		*103*	*80-120*			
Surrogate: Bromofluorobenzene	*0.241*		ug/g	*0.250*		*97*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.247*		ug/g	*0.250*		*99*	*80-120*			

Work Order: 1599525

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
Matrix Spike (B936778-MS1)	**Source: 1601140-06**			Prepared & Analyzed: 2023-10-16						
Dichlorodifluoromethane	0.83	0.50	ug/g	1.00	<	83	47.5-120			
Chloromethane	0.81	0.50	ug/g	1.00	<	81	71.4-120			
Vinyl chloride	0.57	0.50	ug/g	1.00	<	57	25.7-120			
Bromomethane	0.86	0.50	ug/g	1.00	<	86	24.4-120			
Chloroethane	0.74	0.50	ug/g	1.00	<	74	51-120			
Trichlorofluoromethane	0.94	0.50	ug/g	1.00	<	94	70.4-120			
Acrolein	<	10.0	ug/g		<		51.7-120			
Acetone	<	10.0	ug/g		<		45.7-120			
Ethyl Ether	<	0.50	ug/g		<		60.4-120			
1,1-Dichloroethene	<	0.50	ug/g		<		70.4-120			
Iodomethane	<	0.50	ug/g		<		55.6-132			
Acrylonitrile	<	0.50	ug/g		<		55.5-120			
Methylene Chloride	<	0.50	ug/g		<		66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g		<		75.4-120			
Carbon disulfide	<	0.50	ug/g		<		67.9-120			
trans-1,2-Dichloroethene	<	0.50	ug/g		<		76.6-120			
Methyl tert-Butyl Ether	<	0.50	ug/g		<		61.1-120			
1,1-Dichloroethane	<	0.50	ug/g		<		68.2-120			
Vinyl acetate	<	0.50	ug/g		<		51.3-120			
Chloroprene	<	0.50	ug/g		<		74.9-120			
2-Butanone	<	10.0	ug/g		<		49.2-120			
cis-1,2-Dichloroethene	<	0.50	ug/g		<		71.9-120			
Bromochloromethane	<	0.50	ug/g		<		63-120			
Chloroform	<	0.50	ug/g		<		75.8-120			
2,2-Dichloropropane	<	0.50	ug/g		<		70.8-120			
1,2-Dichloroethane	<	0.50	ug/g		<		66.8-120			
1,1,1-Trichloroethane	<	0.50	ug/g		<		70.3-120			
1,1-Dichloropropene	<	0.50	ug/g		<		72.7-120			
Carbon Tetrachloride	<	0.50	ug/g		<		64.7-120			
Benzene	<	0.50	ug/g		<		74.3-120			
Dibromomethane	<	0.50	ug/g		<		62.5-120			
1,2-Dichloropropane	<	0.50	ug/g		<		70.1-120			
Trichloroethene	<	0.50	ug/g		<		80-120			
Bromodichloromethane	<	0.50	ug/g		<		67.2-120			
2-Chloroethyl vinyl ether	<	0.50	ug/g		<		51.9-134			
cis-1,3-Dichloropropene	<	0.50	ug/g		<		68.1-120			
4-Methyl-2-pentanone	<	10.0	ug/g		<		44.6-120			
trans-1,3-Dichloropropene	<	0.50	ug/g		<		63.4-120			
1,1,2-Trichloroethane	<	0.50	ug/g		<		61.7-120			
Toluene	<	0.50	ug/g		<		80-120			
1,3-Dichloropropane	<	0.50	ug/g		<		63.6-120			

Work Order: 1599525

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
Matrix Spike (B936778-MS1)	**Source: 1601140-06**			Prepared & Analyzed: 2023-10-16						
Ethyl Methacrylate	<	0.50	ug/g		<		58.5-120			
Dibromochloromethane	<	0.50	ug/g		<		61.1-120			
2-Hexanone	<	10.0	ug/g		<		47.2-120			
1,2-Dibromoethane	<	0.50	ug/g		<		63.6-120			
Tetrachloroethene	<	0.50	ug/g		<		78.8-120			
1,1,1,2-Tetrachloroethane	<	0.50	ug/g		<		63.8-120			
Chlorobenzene	<	0.50	ug/g		<		80-120			
Ethylbenzene	<	0.50	ug/g		<		80-120			
m,p-Xylenes	<	1.00	ug/g		<		80-120			
Bromoform	<	0.50	ug/g		<		52.2-120			
cis-1,4-Dichloro-2-butene	<	0.50	ug/g		<		61.7-120			
Styrene	<	0.50	ug/g		<		80-120			
1,1,2,2-Tetrachloroethane	<	0.50	ug/g		<		64.3-120			
o-Xylene	<	0.50	ug/g		<		80-120			
1,2,3-Trichloropropane	<	0.50	ug/g		<		67.1-120			
trans-1,4-Dichloro-2-butene	<	0.50	ug/g		<		63.1-120			
Isopropylbenzene	<	0.50	ug/g		<		80-120			
Bromobenzene	<	0.50	ug/g		<		80-120			
n-Propyl Benzene	<	0.50	ug/g		<		80-120			
2-Chlorotoluene	<	0.50	ug/g		<		80-120			
4-Chlorotoluene	<	0.50	ug/g		<		80-120			
1,3,5-Trimethylbenzene	<	0.50	ug/g		<		80-120			
tert-Butylbenzene	<	0.50	ug/g		<		80-120			
1,2,4-Trimethylbenzene	<	0.50	ug/g		<		80-120			
sec-Butylbenzene	<	0.50	ug/g		<		80-120			
1,3-Dichlorobenzene	<	0.50	ug/g		<		80-120			
1,4-Dichlorobenzene	<	0.50	ug/g		<		80-120			
p-Isopropyltoluene	<	0.50	ug/g		<		76.5-120			
1,2-Dichlorobenzene	<	0.50	ug/g		<		80-120			
n-Butyl Benzene	<	0.50	ug/g		<		80-120			
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g		<		53.7-120			
1,2,4-Trichlorobenzene	<	0.50	ug/g		<		64.4-120			
Naphthalene	<	0.50	ug/g		<		49.6-120			
Hexachlorobutadiene	<	0.50	ug/g		<		71.1-120			
1,2,3-Trichlorobenzene	<	0.50	ug/g		<		44.7-120			
Surrogate: Toluene-d8	*0.213*		ug/g	*0.250*		*85*	*80-120*			
Surrogate: Bromofluorobenzene	*0.243*		ug/g	*0.250*		*97*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.253*		ug/g	*0.250*		*101*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
Matrix Spike (B936778-MS2)	**Source: 1601140-06**			Prepared & Analyzed: 2023-10-16						
Dichlorodifluoromethane	<	0.50	ug/g		<		47.5-120			
Chloromethane	<	0.50	ug/g		<		71.4-120			
Vinyl chloride	<	0.50	ug/g		<		25.7-120			
Bromomethane	<	0.50	ug/g		<		24.4-120			
Chloroethane	<	0.50	ug/g		<		51-120			
Trichlorofluoromethane	<	0.50	ug/g		<		70.4-120			
Acrolein	1.90	9.99	ug/g	2.00	<	95	51.7-120			
Acetone	1.56	9.99	ug/g	2.00	<	78	45.7-120			
Ethyl Ether	0.80	0.50	ug/g	0.999	<	80	60.4-120			
1,1-Dichloroethene	0.85	0.50	ug/g	0.999	<	85	70.4-120			
Iodomethane	0.89	0.50	ug/g	0.999	<	89	55.6-132			
Acrylonitrile	0.81	0.50	ug/g	0.999	<	81	55.5-120			
Methylene Chloride	0.84	0.50	ug/g	0.999	<	84	66.4-120			
1,1,2-Trichloro-1,1,2-trifluoroethane	0.89	0.50	ug/g	0.999	<	89	75.4-120			
Carbon disulfide	0.83	0.50	ug/g	0.999	<	83	67.9-120			
trans-1,2-Dichloroethene	0.87	0.50	ug/g	0.999	<	87	76.6-120			
Methyl tert-Butyl Ether	0.86	0.50	ug/g	0.999	<	86	61.1-120			
1,1-Dichloroethane	0.86	0.50	ug/g	0.999	<	86	68.2-120			
Vinyl acetate	0.92	0.50	ug/g	0.999	<	92	51.3-120			
Chloroprene	0.89	0.50	ug/g	0.999	<	90	74.9-120			
2-Butanone	1.53	9.99	ug/g	2.00	<	77	49.2-120			
cis-1,2-Dichloroethene	0.87	0.50	ug/g	0.999	<	87	71.9-120			
Bromochloromethane	0.86	0.50	ug/g	0.999	<	86	63-120			
Chloroform	0.90	0.50	ug/g	0.999	<	90	75.8-120			
2,2-Dichloropropane	0.93	0.50	ug/g	0.999	<	93	70.8-120			
1,2-Dichloroethane	0.91	0.50	ug/g	0.999	<	91	66.8-120			
1,1,1-Trichloroethane	0.95	0.50	ug/g	0.999	<	95	70.3-120			
1,1-Dichloropropene	0.90	0.50	ug/g	0.999	<	90	72.7-120			
Carbon Tetrachloride	0.94	0.50	ug/g	0.999	<	94	64.7-120			
Benzene	0.87	0.50	ug/g	0.999	<	87	74.3-120			
Dibromomethane	0.89	0.50	ug/g	0.999	<	89	62.5-120			
1,2-Dichloropropane	0.84	0.50	ug/g	0.999	<	84	70.1-120			
Trichloroethene	0.95	0.50	ug/g	0.999	<	95	80-120			
Bromodichloromethane	0.91	0.50	ug/g	0.999	<	91	67.2-120			
2-Chloroethyl vinyl ether	0.90	0.50	ug/g	0.999	<	91	51.9-134			
cis-1,3-Dichloropropene	0.87	0.50	ug/g	0.999	<	87	68.1-120			
4-Methyl-2-pentanone	1.58	9.99	ug/g	2.00	<	79	44.6-120			
trans-1,3-Dichloropropene	0.89	0.50	ug/g	0.999	<	90	63.4-120			
1,1,2-Trichloroethane	0.87	0.50	ug/g	0.999	<	87	61.7-120			
Toluene	0.92	0.50	ug/g	0.999	<	92	80-120			
1,3-Dichloropropane	0.85	0.50	ug/g	0.999	<	85	63.6-120			

Work Order: 1599525

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
Matrix Spike (B936778-MS2)	**Source: 1601140-06**			Prepared & Analyzed: 2023-10-16						
Ethyl Methacrylate	0.86	0.50	ug/g	0.999	<	86	58.5-120			
Dibromochloromethane	0.90	0.50	ug/g	0.999	<	90	61.1-120			
2-Hexanone	1.58	9.99	ug/g	2.00	<	79	47.2-120			
1,2-Dibromoethane	0.89	0.50	ug/g	0.999	<	89	63.6-120			
Tetrachloroethene	0.97	0.50	ug/g	0.999	<	97	78.8-120			
1,1,1,2-Tetrachloroethane	0.94	0.50	ug/g	0.999	<	94	63.8-120			
Chlorobenzene	0.93	0.50	ug/g	0.999	<	93	80-120			
Ethylbenzene	0.95	0.50	ug/g	0.999	<	95	80-120			
m,p-Xylenes	1.90	1.00	ug/g	2.00	<	95	80-120			
Bromoform	0.91	0.50	ug/g	0.999	<	91	52.2-120			
cis-1,4-Dichloro-2-butene	0.95	0.50	ug/g	0.999	<	95	61.7-120			
Styrene	0.94	0.50	ug/g	0.999	<	94	80-120			
1,1,2,2-Tetrachloroethane	0.88	0.50	ug/g	0.999	<	88	64.3-120			
o-Xylene	0.95	0.50	ug/g	0.999	<	95	80-120			
1,2,3-Trichloropropane	0.95	0.50	ug/g	0.999	<	95	67.1-120			
trans-1,4-Dichloro-2-butene	0.97	0.50	ug/g	0.999	<	97	63.1-120			
Isopropylbenzene	1.02	0.50	ug/g	0.999	<	102	80-120			
Bromobenzene	0.97	0.50	ug/g	0.999	<	97	80-120			
n-Propyl Benzene	1.03	0.50	ug/g	0.999	<	103	80-120			
2-Chlorotoluene	1.00	0.50	ug/g	0.999	<	100	80-120			
4-Chlorotoluene	1.01	0.50	ug/g	0.999	<	102	80-120			
1,3,5-Trimethylbenzene	1.05	0.50	ug/g	0.999	<	106	80-120			
tert-Butylbenzene	1.06	0.50	ug/g	0.999	<	106	80-120			
1,2,4-Trimethylbenzene	1.06	0.50	ug/g	0.999	<	106	80-120			
sec-Butylbenzene	1.06	0.50	ug/g	0.999	<	106	80-120			
1,3-Dichlorobenzene	1.00	0.50	ug/g	0.999	<	100	80-120			
1,4-Dichlorobenzene	0.92	0.50	ug/g	0.999	<	92	80-120			
p-Isopropyltoluene	1.00	0.50	ug/g	0.999	<	100	76.5-120			
1,2-Dichlorobenzene	0.88	0.50	ug/g	0.999	<	88	80-120			
n-Butyl Benzene	0.98	0.50	ug/g	0.999	<	98	80-120			
1,2-Dibromo-3-Chloropropane	0.75	0.50	ug/g	0.999	<	75	53.7-120			
1,2,4-Trichlorobenzene	0.71	0.50	ug/g	0.999	<	71	64.4-120			
Naphthalene	0.62	0.50	ug/g	0.999	<	62	49.6-120			
Hexachlorobutadiene	0.87	0.50	ug/g	0.999	<	87	71.1-120			
1,2,3-Trichlorobenzene	0.51	0.50	ug/g	0.999	<	51	44.7-120			
Surrogate: Toluene-d8	*0.254*		ug/g	*0.250*		*102*	*80-120*			
Surrogate: Bromofluorobenzene	*0.249*		ug/g	*0.250*		*100*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.247*		ug/g	*0.250*		*99*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
Matrix Spike Dup (B936778-MSD1)	**Source: 1601140-06**			Prepared & Analyzed: 2023-10-16						
Dichlorodifluoromethane	0.82	0.50	ug/g	1.00	<	82	47.5-120	0.4	20	
Chloromethane	0.85	0.50	ug/g	1.00	<	85	71.4-120	5	20	
Vinyl chloride	0.55	0.50	ug/g	1.00	<	55	25.7-120	5	20	
Bromomethane	0.72	0.50	ug/g	1.00	<	72	24.4-120	17	20	
Chloroethane	0.67	0.50	ug/g	1.00	<	67	51-120	10	20	
Trichlorofluoromethane	0.92	0.50	ug/g	1.00	<	92	70.4-120	2	20	
Acrolein	<	10.0	ug/g		<		51.7-120		20	
Acetone	<	10.0	ug/g		<		45.7-120		20	
Ethyl Ether	<	0.50	ug/g		<		60.4-120		20	
1,1-Dichloroethene	<	0.50	ug/g		<		70.4-120		20	
Iodomethane	<	0.50	ug/g		<		55.6-132		20	
Acrylonitrile	<	0.50	ug/g		<		55.5-120		20	
Methylene Chloride	<	0.50	ug/g		<		66.4-120		20	
1,1,2-Trichloro-1,1,2-trifluoroethane	<	0.50	ug/g		<		75.4-120		20	
Carbon disulfide	<	0.50	ug/g		<		67.9-120		20	
trans-1,2-Dichloroethene	<	0.50	ug/g		<		76.6-120		20	
Methyl tert-Butyl Ether	<	0.50	ug/g		<		61.1-120		20	
1,1-Dichloroethane	<	0.50	ug/g		<		68.2-120		20	
Vinyl acetate	<	0.50	ug/g		<		51.3-120		20	
Chloroprene	<	0.50	ug/g		<		74.9-120		20	
2-Butanone	<	10.0	ug/g		<		49.2-120		20	
cis-1,2-Dichloroethene	<	0.50	ug/g		<		71.9-120		20	
Bromochloromethane	<	0.50	ug/g		<		63-120		20	
Chloroform	<	0.50	ug/g		<		75.8-120		20	
2,2-Dichloropropane	<	0.50	ug/g		<		70.8-120		20	
1,2-Dichloroethane	<	0.50	ug/g		<		66.8-120		20	
1,1,1-Trichloroethane	<	0.50	ug/g		<		70.3-120		20	
1,1-Dichloropropene	<	0.50	ug/g		<		72.7-120		20	
Carbon Tetrachloride	<	0.50	ug/g		<		64.7-120		20	
Benzene	<	0.50	ug/g		<		74.3-120		20	
Dibromomethane	<	0.50	ug/g		<		62.5-120		20	
1,2-Dichloropropane	<	0.50	ug/g		<		70.1-120		20	
Trichloroethene	<	0.50	ug/g		<		80-120		20	
Bromodichloromethane	<	0.50	ug/g		<		67.2-120		20	
2-Chloroethyl vinyl ether	<	0.50	ug/g		<		51.9-134		20	
cis-1,3-Dichloropropene	<	0.50	ug/g		<		68.1-120		20	
4-Methyl-2-pentanone	<	10.0	ug/g		<		44.6-120		20	
trans-1,3-Dichloropropene	<	0.50	ug/g		<		63.4-120		20	
1,1,2-Trichloroethane	<	0.50	ug/g		<		61.7-120		20	
Toluene	<	0.50	ug/g		<		80-120		20	
1,3-Dichloropropane	<	0.50	ug/g		<		63.6-120		20	

Work Order: 1599525

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
Matrix Spike Dup (B936778-MSD1)	**Source: 1601140-06**			Prepared & Analyzed: 2023-10-16						
Ethyl Methacrylate	<	0.50	ug/g		<		58.5-120		20	
Dibromochloromethane	<	0.50	ug/g		<		61.1-120		20	
2-Hexanone	<	10.0	ug/g		<		47.2-120		20	
1,2-Dibromoethane	<	0.50	ug/g		<		63.6-120		20	
Tetrachloroethene	<	0.50	ug/g		<		78.8-120		20	
1,1,1,2-Tetrachloroethane	<	0.50	ug/g		<		63.8-120		20	
Chlorobenzene	<	0.50	ug/g		<		80-120		20	
Ethylbenzene	<	0.50	ug/g		<		80-120		20	
m,p-Xylenes	<	1.00	ug/g		<		80-120		20	
Bromoform	<	0.50	ug/g		<		52.2-120		20	
cis-1,4-Dichloro-2-butene	<	0.50	ug/g		<		61.7-120		20	
Styrene	<	0.50	ug/g		<		80-120		20	
1,1,2,2-Tetrachloroethane	<	0.50	ug/g		<		64.3-120		20	
o-Xylene	<	0.50	ug/g		<		80-120		20	
1,2,3-Trichloropropane	<	0.50	ug/g		<		67.1-120		20	
trans-1,4-Dichloro-2-butene	<	0.50	ug/g		<		63.1-120		20	
Isopropylbenzene	<	0.50	ug/g		<		80-120		20	
Bromobenzene	<	0.50	ug/g		<		80-120		20	
n-Propyl Benzene	<	0.50	ug/g		<		80-120		20	
2-Chlorotoluene	<	0.50	ug/g		<		80-120		20	
4-Chlorotoluene	<	0.50	ug/g		<		80-120		20	
1,3,5-Trimethylbenzene	<	0.50	ug/g		<		80-120		20	
tert-Butylbenzene	<	0.50	ug/g		<		80-120		20	
1,2,4-Trimethylbenzene	<	0.50	ug/g		<		80-120		20	
sec-Butylbenzene	<	0.50	ug/g		<		80-120		20	
1,3-Dichlorobenzene	<	0.50	ug/g		<		80-120		20	
1,4-Dichlorobenzene	<	0.50	ug/g		<		80-120		20	
p-Isopropyltoluene	<	0.50	ug/g		<		76.5-120		20	
1,2-Dichlorobenzene	<	0.50	ug/g		<		80-120		20	
n-Butyl Benzene	<	0.50	ug/g		<		80-120		20	
1,2-Dibromo-3-Chloropropane	<	0.50	ug/g		<		53.7-120		20	
1,2,4-Trichlorobenzene	<	0.50	ug/g		<		64.4-120		20	
Naphthalene	<	0.50	ug/g		<		49.6-120		20	
Hexachlorobutadiene	<	0.50	ug/g		<		71.1-120		20	
1,2,3-Trichlorobenzene	<	0.50	ug/g		<		44.7-120		20	
Surrogate: Toluene-d8	*0.365*		ug/g	*0.250*		*146*	*80-120*			
Surrogate: Bromofluorobenzene	*0.227*		ug/g	*0.250*		*91*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.248*		ug/g	*0.250*		*99*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
Matrix Spike Dup (B936778-MSD2)	**Source: 1601140-06**			Prepared & Analyzed: 2023-10-16						
Dichlorodifluoromethane	<	0.50	ug/g		<		47.5-120		20	
Chloromethane	<	0.50	ug/g		<		71.4-120		20	
Vinyl chloride	<	0.50	ug/g		<		25.7-120		20	
Bromomethane	<	0.50	ug/g		<		24.4-120		20	
Chloroethane	<	0.50	ug/g		<		51-120		20	
Trichlorofluoromethane	<	0.50	ug/g		<		70.4-120		20	
Acrolein	1.84	9.99	ug/g	2.00	<	92	51.7-120	3	20	
Acetone	1.47	9.99	ug/g	2.00	<	74	45.7-120	6	20	
Ethyl Ether	0.78	0.50	ug/g	0.999	<	79	60.4-120	2	20	
1,1-Dichloroethene	0.86	0.50	ug/g	0.999	<	86	70.4-120	1	20	
Iodomethane	0.90	0.50	ug/g	0.999	<	91	55.6-132	1	20	
Acrylonitrile	0.78	0.50	ug/g	0.999	<	78	55.5-120	3	20	
Methylene Chloride	0.85	0.50	ug/g	0.999	<	85	66.4-120	0.9	20	
1,1,2-Trichloro-1,1,2-trifluoroethane	0.88	0.50	ug/g	0.999	<	88	75.4-120	0.8	20	
Carbon disulfide	0.83	0.50	ug/g	0.999	<	83	67.9-120	0.1	20	
trans-1,2-Dichloroethene	0.89	0.50	ug/g	0.999	<	89	76.6-120	2	20	
Methyl tert-Butyl Ether	0.84	0.50	ug/g	0.999	<	84	61.1-120	3	20	
1,1-Dichloroethane	0.87	0.50	ug/g	0.999	<	87	68.2-120	2	20	
Vinyl acetate	0.92	0.50	ug/g	0.999	<	92	51.3-120	0.3	20	
Chloroprene	0.90	0.50	ug/g	0.999	<	91	74.9-120	1	20	
2-Butanone	1.48	9.99	ug/g	2.00	<	74	49.2-120	3	20	
cis-1,2-Dichloroethene	0.88	0.50	ug/g	0.999	<	88	71.9-120	1	20	
Bromochloromethane	0.85	0.50	ug/g	0.999	<	85	63-120	0.5	20	
Chloroform	0.92	0.50	ug/g	0.999	<	92	75.8-120	1	20	
2,2-Dichloropropane	0.95	0.50	ug/g	0.999	<	95	70.8-120	3	20	
1,2-Dichloroethane	0.89	0.50	ug/g	0.999	<	89	66.8-120	2	20	
1,1,1-Trichloroethane	0.96	0.50	ug/g	0.999	<	97	70.3-120	2	20	
1,1-Dichloropropene	0.91	0.50	ug/g	0.999	<	91	72.7-120	1	20	
Carbon Tetrachloride	0.95	0.50	ug/g	0.999	<	95	64.7-120	0.9	20	
Benzene	0.88	0.50	ug/g	0.999	<	88	74.3-120	0.9	20	
Dibromomethane	0.85	0.50	ug/g	0.999	<	85	62.5-120	4	20	
1,2-Dichloropropane	0.83	0.50	ug/g	0.999	<	83	70.1-120	1	20	
Trichloroethene	0.95	0.50	ug/g	0.999	<	95	80-120	0.4	20	
Bromodichloromethane	0.89	0.50	ug/g	0.999	<	89	67.2-120	2	20	
2-Chloroethyl vinyl ether	0.86	0.50	ug/g	0.999	<	86	51.9-134	5	20	
cis-1,3-Dichloropropene	0.85	0.50	ug/g	0.999	<	85	68.1-120	2	20	
4-Methyl-2-pentanone	1.46	9.99	ug/g	2.00	<	73	44.6-120	8	20	
trans-1,3-Dichloropropene	0.87	0.50	ug/g	0.999	<	87	63.4-120	3	20	
1,1,2-Trichloroethane	0.83	0.50	ug/g	0.999	<	83	61.7-120	4	20	
Toluene	0.91	0.50	ug/g	0.999	<	92	80-120	0.1	20	
1,3-Dichloropropane	0.82	0.50	ug/g	0.999	<	82	63.6-120	4	20	

Work Order: 1599525

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Volatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936778										
Matrix Spike Dup (B936778-MSD2)	**Source: 1601140-06**			Prepared & Analyzed: 2023-10-16						
Ethyl Methacrylate	0.82	0.50	ug/g	0.999	<	82	58.5-120	5	20	
Dibromochloromethane	0.86	0.50	ug/g	0.999	<	86	61.1-120	5	20	
2-Hexanone	1.48	9.99	ug/g	2.00	<	74	47.2-120	7	20	
1,2-Dibromoethane	0.85	0.50	ug/g	0.999	<	85	63.6-120	4	20	
Tetrachloroethene	0.96	0.50	ug/g	0.999	<	96	78.8-120	0.5	20	
1,1,1,2-Tetrachloroethane	0.91	0.50	ug/g	0.999	<	91	63.8-120	3	20	
Chlorobenzene	0.94	0.50	ug/g	0.999	<	94	80-120	0.6	20	
Ethylbenzene	0.96	0.50	ug/g	0.999	<	96	80-120	1	20	
m,p-Xylenes	1.92	1.00	ug/g	2.00	<	96	80-120	1	20	
Bromoform	0.86	0.50	ug/g	0.999	<	87	52.2-120	5	20	
cis-1,4-Dichloro-2-butene	0.89	0.50	ug/g	0.999	<	89	61.7-120	6	20	
Styrene	0.94	0.50	ug/g	0.999	<	94	80-120	0.07	20	
1,1,2,2-Tetrachloroethane	0.84	0.50	ug/g	0.999	<	84	64.3-120	5	20	
o-Xylene	0.96	0.50	ug/g	0.999	<	96	80-120	0.8	20	
1,2,3-Trichloropropane	0.92	0.50	ug/g	0.999	<	92	67.1-120	3	20	
trans-1,4-Dichloro-2-butene	0.91	0.50	ug/g	0.999	<	91	63.1-120	7	20	
Isopropylbenzene	1.03	0.50	ug/g	0.999	<	103	80-120	1	20	
Bromobenzene	0.96	0.50	ug/g	0.999	<	96	80-120	1	20	
n-Propyl Benzene	1.03	0.50	ug/g	0.999	<	103	80-120	0.3	20	
2-Chlorotoluene	1.01	0.50	ug/g	0.999	<	101	80-120	0.4	20	
4-Chlorotoluene	1.01	0.50	ug/g	0.999	<	101	80-120	0.6	20	
1,3,5-Trimethylbenzene	1.06	0.50	ug/g	0.999	<	106	80-120	0.8	20	
tert-Butylbenzene	1.06	0.50	ug/g	0.999	<	107	80-120	0.1	20	
1,2,4-Trimethylbenzene	1.05	0.50	ug/g	0.999	<	105	80-120	0.7	20	
sec-Butylbenzene	1.06	0.50	ug/g	0.999	<	106	80-120	0.2	20	
1,3-Dichlorobenzene	0.99	0.50	ug/g	0.999	<	99	80-120	1	20	
1,4-Dichlorobenzene	0.94	0.50	ug/g	0.999	<	94	80-120	2	20	
p-Isopropyltoluene	1.05	0.50	ug/g	0.999	<	105	76.5-120	5	20	
1,2-Dichlorobenzene	0.89	0.50	ug/g	0.999	<	89	80-120	0.9	20	
n-Butyl Benzene	1.02	0.50	ug/g	0.999	<	102	80-120	5	20	
1,2-Dibromo-3-Chloropropane	0.74	0.50	ug/g	0.999	<	74	53.7-120	1	20	
1,2,4-Trichlorobenzene	0.73	0.50	ug/g	0.999	<	73	64.4-120	3	20	
Naphthalene	0.64	0.50	ug/g	0.999	<	64	49.6-120	4	20	
Hexachlorobutadiene	0.92	0.50	ug/g	0.999	<	92	71.1-120	5	20	
1,2,3-Trichlorobenzene	0.56	0.50	ug/g	0.999	<	57	44.7-120	9	20	
Surrogate: Toluene-d8	*0.254*		ug/g	*0.250*		*102*	*80-120*			
Surrogate: Bromofluorobenzene	*0.247*		ug/g	*0.250*		*99*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	*0.249*		ug/g	*0.250*		*100*	*80-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936893										
Blank (B936893-BLK1)				Prepared: 2023-10-19 Analyzed: 2023-10-20						
N-Nitrosodimethylamine	<	332	ug/kg							
bis(2-chloroethyl)ether	<	332	ug/kg							
Phenol	<	332	ug/kg							
2-Chlorophenol	<	332	ug/kg							
1,3-Dichlorobenzene	<	332	ug/kg							
1,4-Dichlorobenzene	<	332	ug/kg							
1,2-Dichlorobenzene	<	332	ug/kg							
2,2'-oxybis(1-chloropropane)	<	332	ug/kg							
2-Methylphenol	<	332	ug/kg							
Hexachloroethane	<	332	ug/kg							
N-Nitroso-di-n-propylamine	<	332	ug/kg							
4-Methylphenol	<	332	ug/kg							
Nitrobenzene	<	332	ug/kg							
Isophorone	<	332	ug/kg							
2-Nitrophenol	<	332	ug/kg							
2,4-Dimethylphenol	<	332	ug/kg							
bis(2-chloroethoxy)methane	<	332	ug/kg							
2,4-Dichlorophenol	<	332	ug/kg							
1,2,4-Trichlorobenzene	<	332	ug/kg							
Naphthalene	<	332	ug/kg							
4-Chloroaniline	<	332	ug/kg							
Hexachlorobutadiene	<	332	ug/kg							
4-Chloro-3-methylphenol	<	332	ug/kg							
2-Methylnaphthalene	<	332	ug/kg							
Hexachlorocyclopentadiene	<	332	ug/kg							
2,4,6-Trichlorophenol	<	332	ug/kg							
2,4,5-Trichlorophenol	<	332	ug/kg							
2-Chloronaphthalene	<	332	ug/kg							
2-Nitroaniline	<	332	ug/kg							
Acenaphthylene	<	332	ug/kg							
Dimethylphthalate	<	332	ug/kg							
2,6-Dinitrotoluene	<	332	ug/kg							
Acenaphthene	<	332	ug/kg							
3-Nitroaniline	<	332	ug/kg							
2,4-Dinitrophenol	<	332	ug/kg							
Dibenzofuran	<	332	ug/kg							
2,4-Dinitrotoluene	<	332	ug/kg							
4-Nitrophenol	<	332	ug/kg							
Fluorene	<	332	ug/kg							
4-Chlorophenyl-phenylether	<	332	ug/kg							
Diethyl phthalate	<	332	ug/kg							

Work Order: 1599525

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936893										
Blank (B936893-BLK1)				Prepared: 2023-10-19 Analyzed: 2023-10-20						
4-Nitroaniline	<	332	ug/kg							
4,6-Dinitro-2-methylphenol	<	332	ug/kg							
N-Nitrosodiphenylamine	<	332	ug/kg							
Azobenzene	<	332	ug/kg							
4-Bromophenyl-phenylether	<	332	ug/kg							
Hexachlorobenzene	<	332	ug/kg							
Pentachlorophenol	<	332	ug/kg							
Phenanthrene	<	332	ug/kg							
Carbazole	<	474	ug/kg							
Di-n-butyl phthalate	<	332	ug/kg							
Fluoranthene	<	332	ug/kg							
Benzidine	<	332	ug/kg							BENZ
Pyrene	<	332	ug/kg							
Butylbenzylphthalate	<	332	ug/kg							
3,3'-Dichlorobenzidine	<	474	ug/kg							
Benzo[a]anthracene	<	332	ug/kg							
Chrysene	<	332	ug/kg							
bis(2-ethylhexyl)phthalate	<	332	ug/kg							
Di-n-octyl phthalate	<	332	ug/kg							
Benzo[b]fluoranthene	<	332	ug/kg							
Benzo[k]fluoranthene	<	332	ug/kg							
Benzo[a]pyrene	<	332	ug/kg							
Indeno(1,2,3-cd)pyrene	<	332	ug/kg							
Dibenzo(a,h)anthracene	<	332	ug/kg							
Benzo[ghi]perylene	<	332	ug/kg							
1,2-Diphenylhydrazine	<	332	ug/kg							
Anthracene	<	332	ug/kg							
Surrogate: 2-Fluorophenol	*1970*		ug/kg	*2490*		*79*	*61-120*			
Surrogate: Phenol-d6	*2020*		ug/kg	*2490*		*81*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1400*		ug/kg	*1660*		*84*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1350*		ug/kg	*1660*		*81*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*1670*		ug/kg	*2490*		*67*	*47.2-132*			
Surrogate: Terphenyl-d14	*892*		ug/kg	*1660*		*54*	*30.7-120*			

Work Order: 1599525

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936893										
LCS (B936893-BS1)				Prepared: 2023-10-19 Analyzed: 2023-10-20						
N-Nitrosodimethylamine	1560	333	ug/kg	1660		94	68.1-125			
bis(2-chloroethyl)ether	1490	333	ug/kg	1660		89	65-120			
Phenol	1440	333	ug/kg	1660		87	55.5-120			
2-Chlorophenol	1490	333	ug/kg	1660		90	66.1-120			
1,3-Dichlorobenzene	1410	333	ug/kg	1660		85	69.4-120			
1,4-Dichlorobenzene	1420	333	ug/kg	1660		85	66.4-120			
1,2-Dichlorobenzene	1430	333	ug/kg	1660		86	73.8-120			
2,2'-oxybis(1-chloropropane)	1370	333	ug/kg	1660		83	62.2-120			
2-Methylphenol	1480	333	ug/kg	1660		89	69-120			
Hexachloroethane	1390	333	ug/kg	1660		84	65.7-120			
N-Nitroso-di-n-propylamine	1470	333	ug/kg	1660		88	75-120			
4-Methylphenol	1490	333	ug/kg				74.7-120			
Nitrobenzene	1510	333	ug/kg	1660		90	71.5-120			
Isophorone	1470	333	ug/kg	1660		88	72-120			
2-Nitrophenol	1550	333	ug/kg	1660		93	74.1-120			
2,4-Dimethylphenol	1570	333	ug/kg	1660		95	52.2-120			
bis(2-chloroethoxy)methane	1500	333	ug/kg	1660		90	74.5-120			
2,4-Dichlorophenol	1530	333	ug/kg	1660		92	69.1-120			
1,2,4-Trichlorobenzene	1470	333	ug/kg	1660		89	74.1-120			
Naphthalene	1490	333	ug/kg	1660		90	71.4-120			
4-Chloroaniline	1250	333	ug/kg	1660		75	16.7-120			
Hexachlorobutadiene	1470	333	ug/kg	1660		89	72.1-120			
4-Chloro-3-methylphenol	1510	333	ug/kg	1660		90	73.8-120			
2-Methylnaphthalene	1530	333	ug/kg	1660		92	76.3-120			
Hexachlorocyclopentadiene	1510	333	ug/kg	1660		91	52.9-120			
2,4,6-Trichlorophenol	1470	333	ug/kg	1660		88	71.4-120			
2,4,5-Trichlorophenol	1440	333	ug/kg	1660		87	72.5-120			
2-Chloronaphthalene	1490	333	ug/kg	1660		90	73.3-120			
2-Nitroaniline	1500	333	ug/kg	1660		90	71.4-120			
Acenaphthylene	1450	333	ug/kg	1660		87	72.9-120			
Dimethylphthalate	1490	333	ug/kg	1660		90	80-129			
2,6-Dinitrotoluene	1480	333	ug/kg	1660		89	76.5-120			
Acenaphthene	1480	333	ug/kg	1660		89	72.4-120			
3-Nitroaniline	1370	333	ug/kg	1660		82	44.4-121			
2,4-Dinitrophenol	1460	333	ug/kg	1660		88	51.3-165			
Dibenzofuran	1510	333	ug/kg	1660		91	75.3-120			
2,4-Dinitrotoluene	1520	333	ug/kg	1660		91	68.7-120			
4-Nitrophenol	1480	333	ug/kg	1660		89	65.7-123			
Fluorene	1490	333	ug/kg	1660		90	73.3-123			
4-Chlorophenyl-phenylether	1510	333	ug/kg	1660		91	74.2-120			
Diethyl phthalate	1470	333	ug/kg	1660		88	76.7-127			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936893										
LCS (B936893-BS1)				Prepared: 2023-10-19 Analyzed: 2023-10-20						
4-Nitroaniline	1900	333	ug/kg	1660		114	59.7-120			
4,6-Dinitro-2-methylphenol	1530	333	ug/kg	1660		92	65.7-123			
N-Nitrosodiphenylamine	1620	333	ug/kg				69.4-120			
Azobenzene	1520	333	ug/kg	1660		91	76.8-120			
4-Bromophenyl-phenylether	1560	333	ug/kg	1660		94	80-120			
Hexachlorobenzene	1530	333	ug/kg	1660		92	72.8-121			
Pentachlorophenol	1260	333	ug/kg	1660		76	57.7-120			
Phenanthrene	1540	333	ug/kg	1660		92	71.7-120			
Carbazole	2620	474	ug/kg	1660		158	65.7-120			
Di-n-butyl phthalate	1490	333	ug/kg	1660		89	76.6-122			
Fluoranthene	1530	333	ug/kg	1660		92	70.6-120			
Benzidine	549	333	ug/kg	1660		33	0-200			BENZ
Pyrene	1570	333	ug/kg	1660		94	70.5-120			
Butylbenzylphthalate	1540	333	ug/kg	1660		93	74.8-122			
3,3'-Dichlorobenzidine	1860	474	ug/kg	1660		112	35.8-182			
Benzo[a]anthracene	1550	333	ug/kg	1660		93	74.9-120			
Chrysene	1540	333	ug/kg	1660		93	75.4-120			
bis(2-ethylhexyl)phthalate	1510	333	ug/kg	1660		90	77-131			
Di-n-octyl phthalate	1490	333	ug/kg	1660		90	71.7-129			
Benzo[b]fluoranthene	1550	333	ug/kg	1660		93	77.8-120			
Benzo[k]fluoranthene	1510	333	ug/kg	1660		91	75.1-120			
Benzo[a]pyrene	1540	333	ug/kg	1660		92	75.5-120			
Indeno(1,2,3-cd)pyrene	1620	333	ug/kg	1660		98	69.4-136			
Dibenzo(a,h)anthracene	1630	333	ug/kg	1660		98	61.4-141			
Benzo[ghi]perylene	1660	333	ug/kg	1660		99	64.9-120			
Anthracene	1520	333	ug/kg	1660		91	76.7-120			
Surrogate: 2-Fluorophenol	*2190*		ug/kg	*2500*		*88*	*61-120*			
Surrogate: Phenol-d6	*2240*		ug/kg	*2500*		*90*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1530*		ug/kg	*1660*		*92*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1510*		ug/kg	*1660*		*91*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2210*		ug/kg	*2500*		*89*	*47.2-132*			
Surrogate: Terphenyl-d14	*927*		ug/kg	*1660*		*56*	*30.7-120*			

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Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936893										
LCS Dup (B936893-BSD1)				Prepared: 2023-10-19 Analyzed: 2023-10-20						
N-Nitrosodimethylamine	1570	333	ug/kg	1670		94	68.1-125	0.9	20	
bis(2-chloroethyl)ether	1510	333	ug/kg	1670		90	65-120	1	20	
Phenol	1440	333	ug/kg	1670		86	55.5-120	0.5	20	
2-Chlorophenol	1490	333	ug/kg	1670		89	66.1-120	0.2	20	
1,3-Dichlorobenzene	1410	333	ug/kg	1670		85	69.4-120	0.4	20	
1,4-Dichlorobenzene	1410	333	ug/kg	1670		85	66.4-120	0.6	20	
1,2-Dichlorobenzene	1420	333	ug/kg	1670		86	73.8-120	0.6	20	
2,2'-oxybis(1-chloropropane)	1390	333	ug/kg	1670		83	62.2-120	1	20	
2-Methylphenol	1540	333	ug/kg	1670		93	69-120	4	20	
Hexachloroethane	1410	333	ug/kg	1670		84	65.7-120	1	20	
N-Nitroso-di-n-propylamine	1510	333	ug/kg	1670		90	75-120	2	20	
4-Methylphenol	1510	333	ug/kg				74.7-120	2	20	
Nitrobenzene	1500	333	ug/kg	1670		90	71.5-120	0.5	20	
Isophorone	1530	333	ug/kg	1670		92	72-120	4	20	
2-Nitrophenol	1550	333	ug/kg	1670		93	74.1-120	0.5	20	
2,4-Dimethylphenol	1620	333	ug/kg	1670		97	52.2-120	3	20	
bis(2-chloroethoxy)methane	1540	333	ug/kg	1670		93	74.5-120	3	20	
2,4-Dichlorophenol	1570	333	ug/kg	1670		94	69.1-120	3	20	
1,2,4-Trichlorobenzene	1490	333	ug/kg	1670		89	74.1-120	0.8	20	
Naphthalene	1500	333	ug/kg	1670		90	71.4-120	0.3	20	
4-Chloroaniline	1010	333	ug/kg	1670		61	16.7-120	21	20	
Hexachlorobutadiene	1490	333	ug/kg	1670		89	72.1-120	1	20	
4-Chloro-3-methylphenol	1600	333	ug/kg	1670		96	73.8-120	6	20	
2-Methylnaphthalene	1560	333	ug/kg	1670		94	76.3-120	2	20	
Hexachlorocyclopentadiene	1530	333	ug/kg	1670		92	52.9-120	1	20	
2,4,6-Trichlorophenol	1470	333	ug/kg	1670		88	71.4-120	0.1	20	
2,4,5-Trichlorophenol	1440	333	ug/kg	1670		87	72.5-120	0.2	20	
2-Chloronaphthalene	1430	333	ug/kg	1670		86	73.3-120	4	20	
2-Nitroaniline	1470	333	ug/kg	1670		88	71.4-120	3	20	
Acenaphthylene	1450	333	ug/kg	1670		87	72.9-120	0.08	20	
Dimethylphthalate	1480	333	ug/kg	1670		89	80-129	0.5	20	
2,6-Dinitrotoluene	1500	333	ug/kg	1670		90	76.5-120	1	20	
Acenaphthene	1480	333	ug/kg	1670		89	72.4-120	0.5	20	
3-Nitroaniline	1220	333	ug/kg	1670		73	44.4-121	12	20	
2,4-Dinitrophenol	1520	333	ug/kg	1670		91	51.3-165	4	20	
Dibenzofuran	1470	333	ug/kg	1670		88	75.3-120	3	20	
2,4-Dinitrotoluene	1520	333	ug/kg	1670		91	68.7-120	0.03	20	
4-Nitrophenol	1490	333	ug/kg	1670		89	65.7-123	0.4	20	
Fluorene	1490	333	ug/kg	1670		90	73.3-123	0.01	20	
4-Chlorophenyl-phenylether	1520	333	ug/kg	1670		91	74.2-120	0.3	20	
Diethyl phthalate	1490	333	ug/kg	1670		90	76.7-127	1	20	

Work Order: 1599525

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936893										
LCS Dup (B936893-BSD1)				Prepared: 2023-10-19 Analyzed: 2023-10-20						
4-Nitroaniline	1890	333	ug/kg	1670		113	59.7-120	0.8	20	
4,6-Dinitro-2-methylphenol	1550	333	ug/kg	1670		93	65.7-123	0.9	20	
N-Nitrosodiphenylamine	1520	333	ug/kg				69.4-120	6	20	
Azobenzene	1430	333	ug/kg	1670		86	76.8-120	6	20	
4-Bromophenyl-phenylether	1490	333	ug/kg	1670		90	80-120	5	20	
Hexachlorobenzene	1480	333	ug/kg	1670		89	72.8-121	3	20	
Pentachlorophenol	1270	333	ug/kg	1670		76	57.7-120	0.5	20	
Phenanthrene	1480	333	ug/kg	1670		89	71.7-120	4	20	
Carbazole	2620	475	ug/kg	1670		157	65.7-120	0.2	20	
Di-n-butyl phthalate	1510	333	ug/kg	1670		91	76.6-122	1	20	
Fluoranthene	1540	333	ug/kg	1670		92	70.6-120	0.7	20	
Benzidine	507	333	ug/kg	1670		30	0-200	8	20	BENZ
Pyrene	1540	333	ug/kg	1670		93	70.5-120	2	20	
Butylbenzylphthalate	1570	333	ug/kg	1670		94	74.8-122	2	20	
3,3'-Dichlorobenzidine	1660	475	ug/kg	1670		100	35.8-182	11	20	
Benzo[a]anthracene	1550	333	ug/kg	1670		93	74.9-120	0.03	20	
Chrysene	1530	333	ug/kg	1670		92	75.4-120	0.5	20	
bis(2-ethylhexyl)phthalate	1560	333	ug/kg	1670		94	77-131	4	20	
Di-n-octyl phthalate	1670	333	ug/kg	1670		100	71.7-129	11	20	
Benzo[b]fluoranthene	1580	333	ug/kg	1670		95	77.8-120	2	20	
Benzo[k]fluoranthene	1610	333	ug/kg	1670		96	75.1-120	6	20	
Benzo[a]pyrene	1550	333	ug/kg	1670		93	75.5-120	0.4	20	
Indeno(1,2,3-cd)pyrene	1440	333	ug/kg	1670		87	69.4-136	12	20	
Dibenzo(a,h)anthracene	1450	333	ug/kg	1670		87	61.4-141	12	20	
Benzo[ghi]perylene	1410	333	ug/kg	1670		85	64.9-120	16	20	
Anthracene	1470	333	ug/kg	1670		88	76.7-120	3	20	
Surrogate: 2-Fluorophenol	*2160*		ug/kg	*2500*		*86*	*61-120*			
Surrogate: Phenol-d6	*2240*		ug/kg	*2500*		*90*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1500*		ug/kg	*1670*		*90*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1470*		ug/kg	*1670*		*88*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2190*		ug/kg	*2500*		*88*	*47.2-132*			
Surrogate: Terphenyl-d14	*892*		ug/kg	*1670*		*54*	*30.7-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936893										
Matrix Spike (B936893-MS1)		**Source: 1601140-06**		Prepared: 2023-10-19 Analyzed: 2023-10-20						
N-Nitrosodimethylamine	1550	332	ug/kg	1660	<	93	68.1-125			
bis(2-chloroethyl)ether	1470	332	ug/kg	1660	<	88	65-120			
Phenol	1440	332	ug/kg	1660	<	87	55.5-120			
2-Chlorophenol	1480	332	ug/kg	1660	<	89	66.1-120			
1,3-Dichlorobenzene	1380	332	ug/kg	1660	<	83	69.4-120			
1,4-Dichlorobenzene	1400	332	ug/kg	1660	<	84	66.4-120			
1,2-Dichlorobenzene	1410	332	ug/kg	1660	<	85	73.8-120			
2,2'-oxybis(1-chloropropane)	1330	332	ug/kg	1660	<	80	62.2-120			
2-Methylphenol	1530	332	ug/kg	1660	<	92	69-120			
Hexachloroethane	1370	332	ug/kg	1660	<	82	65.7-120			
N-Nitroso-di-n-propylamine	1490	332	ug/kg	1660	<	89	75-120			
4-Methylphenol	1500	332	ug/kg		<		74.7-120			
Nitrobenzene	1490	332	ug/kg	1660	<	90	71.5-120			
Isophorone	1490	332	ug/kg	1660	<	89	72-120			
2-Nitrophenol	1550	332	ug/kg	1660	<	93	74.1-120			
2,4-Dimethylphenol	1580	332	ug/kg	1660	<	95	52.2-120			
bis(2-chloroethoxy)methane	1500	332	ug/kg	1660	<	90	74.5-120			
2,4-Dichlorophenol	1570	332	ug/kg	1660	<	94	69.1-120			
1,2,4-Trichlorobenzene	1460	332	ug/kg	1660	<	88	74.1-120			
Naphthalene	1470	332	ug/kg	1660	<	88	71.4-120			
4-Chloroaniline	993	332	ug/kg	1660	<	60	16.7-120			
Hexachlorobutadiene	1450	332	ug/kg	1660	<	87	72.1-120			
4-Chloro-3-methylphenol	1580	332	ug/kg	1660	<	95	73.8-120			
2-Methylnaphthalene	1540	332	ug/kg	1660	<	92	76.3-120			
Hexachlorocyclopentadiene	1470	332	ug/kg	1660	<	88	52.9-120			
2,4,6-Trichlorophenol	1460	332	ug/kg	1660	<	88	71.4-120			
2,4,5-Trichlorophenol	1480	332	ug/kg	1660	<	89	72.5-120			
2-Chloronaphthalene	1430	332	ug/kg	1660	<	86	73.3-120			
2-Nitroaniline	1490	332	ug/kg	1660	<	89	71.4-120			
Acenaphthylene	1420	332	ug/kg	1660	<	85	72.9-120			
Dimethylphthalate	1490	332	ug/kg	1660	<	90	80-129			
2,6-Dinitrotoluene	1500	332	ug/kg	1660	<	90	76.5-120			
Acenaphthene	1460	332	ug/kg	1660	<	88	72.4-120			
3-Nitroaniline	1180	332	ug/kg	1660	<	71	44.4-121			
2,4-Dinitrophenol	1450	332	ug/kg	1660	<	87	51.3-165			
Dibenzofuran	1480	332	ug/kg	1660	<	89	75.3-120			
2,4-Dinitrotoluene	1520	332	ug/kg	1660	<	92	68.7-120			
4-Nitrophenol	1440	332	ug/kg	1660	<	87	65.7-123			
Fluorene	1460	332	ug/kg	1660	<	88	73.3-123			
4-Chlorophenyl-phenylether	1480	332	ug/kg	1660	<	89	74.2-120			
Diethyl phthalate	1490	332	ug/kg	1660	<	90	76.7-127			

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936893										
Matrix Spike (B936893-MS1)	**Source: 1601140-06**			Prepared: 2023-10-19 Analyzed: 2023-10-20						
4-Nitroaniline	1830	332	ug/kg	1660	<	110	59.7-120			
4,6-Dinitro-2-methylphenol	1500	332	ug/kg	1660	<	90	65.7-123			
N-Nitrosodiphenylamine	1550	332	ug/kg		<		69.4-120			
Azobenzene	1440	332	ug/kg	1660	<	87	76.8-120			
4-Bromophenyl-phenylether	1520	332	ug/kg	1660	<	92	80-120			
Hexachlorobenzene	1490	332	ug/kg	1660	<	89	72.8-121			
Pentachlorophenol	1140	332	ug/kg	1660	<	69	57.7-120			
Phenanthrene	1490	332	ug/kg	1660	<	90	71.7-120			
Carbazole	2590	474	ug/kg	1660	<	156	65.7-120			
Di-n-butyl phthalate	1490	332	ug/kg	1660	<	89	76.6-122			
Fluoranthene	1500	332	ug/kg	1660	<	90	70.6-120			
Benzidine	56.7	332	ug/kg	1660	<	3	0-200			BENZ
Pyrene	1570	332	ug/kg	1660	<	95	70.5-120			
Butylbenzylphthalate	1560	332	ug/kg	1660	<	94	74.8-122			
3,3'-Dichlorobenzidine	1490	474	ug/kg	1660	<	89	35.8-182			
Benzo[a]anthracene	1540	332	ug/kg	1660	<	92	74.9-120			
Chrysene	1510	332	ug/kg	1660	<	91	75.4-120			
bis(2-ethylhexyl)phthalate	1540	332	ug/kg	1660	<	93	77-131			
Di-n-octyl phthalate	1800	332	ug/kg	1660	<	108	71.7-129			
Benzo[b]fluoranthene	1620	332	ug/kg	1660	<	97	77.8-120			
Benzo[k]fluoranthene	1610	332	ug/kg	1660	<	97	75.1-120			
Benzo[a]pyrene	1540	332	ug/kg	1660	<	92	75.5-120			
Indeno(1,2,3-cd)pyrene	1380	332	ug/kg	1660	<	83	69.4-136			
Dibenzo(a,h)anthracene	1410	332	ug/kg	1660	<	85	61.4-141			
Benzo[ghi]perylene	1380	332	ug/kg	1660	<	83	64.9-120			
Anthracene	1470	332	ug/kg	1660	<	88	76.7-120			
Surrogate: 2-Fluorophenol	*2140*		ug/kg	*2500*		*86*	*61-120*			
Surrogate: Phenol-d6	*2260*		ug/kg	*2500*		*91*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1520*		ug/kg	*1660*		*92*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1470*		ug/kg	*1660*		*88*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2180*		ug/kg	*2500*		*87*	*47.2-132*			
Surrogate: Terphenyl-d14	*925*		ug/kg	*1660*		*56*	*30.7-120*			

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936893										
Matrix Spike Dup (B936893-MSD1)	**Source: 1601140-06**			Prepared: 2023-10-19 Analyzed: 2023-10-20						
N-Nitrosodimethylamine	1640	332	ug/kg	1660	<	99	68.1-125	6	20	
bis(2-chloroethyl)ether	1520	332	ug/kg	1660	<	91	65-120	3	20	
Phenol	1480	332	ug/kg	1660	<	89	55.5-120	2	20	
2-Chlorophenol	1510	332	ug/kg	1660	<	91	66.1-120	2	20	
1,3-Dichlorobenzene	1450	332	ug/kg	1660	<	87	69.4-120	5	20	
1,4-Dichlorobenzene	1450	332	ug/kg	1660	<	87	66.4-120	4	20	
1,2-Dichlorobenzene	1460	332	ug/kg	1660	<	88	73.8-120	3	20	
2,2'-oxybis(1-chloropropane)	1380	332	ug/kg	1660	<	83	62.2-120	3	20	
2-Methylphenol	1540	332	ug/kg	1660	<	93	69-120	0.9	20	
Hexachloroethane	1420	332	ug/kg	1660	<	86	65.7-120	4	20	
N-Nitroso-di-n-propylamine	1530	332	ug/kg	1660	<	92	75-120	3	20	
4-Methylphenol	1540	332	ug/kg		<		74.7-120	3	20	
Nitrobenzene	1530	332	ug/kg	1660	<	92	71.5-120	3	20	
Isophorone	1520	332	ug/kg	1660	<	91	72-120	2	20	
2-Nitrophenol	1610	332	ug/kg	1660	<	97	74.1-120	4	20	
2,4-Dimethylphenol	1620	332	ug/kg	1660	<	98	52.2-120	3	20	
bis(2-chloroethoxy)methane	1540	332	ug/kg	1660	<	93	74.5-120	3	20	
2,4-Dichlorophenol	1580	332	ug/kg	1660	<	95	69.1-120	1	20	
1,2,4-Trichlorobenzene	1510	332	ug/kg	1660	<	91	74.1-120	3	20	
Naphthalene	1520	332	ug/kg	1660	<	91	71.4-120	3	20	
4-Chloroaniline	1140	332	ug/kg	1660	<	68	16.7-120	13	20	
Hexachlorobutadiene	1510	332	ug/kg	1660	<	91	72.1-120	4	20	
4-Chloro-3-methylphenol	1590	332	ug/kg	1660	<	95	73.8-120	0.6	20	
2-Methylnaphthalene	1580	332	ug/kg	1660	<	95	76.3-120	3	20	
Hexachlorocyclopentadiene	1630	332	ug/kg	1660	<	98	52.9-120	10	20	
2,4,6-Trichlorophenol	1470	332	ug/kg	1660	<	89	71.4-120	1	20	
2,4,5-Trichlorophenol	1530	332	ug/kg	1660	<	92	72.5-120	3	20	
2-Chloronaphthalene	1500	332	ug/kg	1660	<	90	73.3-120	4	20	
2-Nitroaniline	1540	332	ug/kg	1660	<	93	71.4-120	4	20	
Acenaphthylene	1490	332	ug/kg	1660	<	90	72.9-120	5	20	
Dimethylphthalate	1530	332	ug/kg	1660	<	92	80-129	3	20	
2,6-Dinitrotoluene	1540	332	ug/kg	1660	<	93	76.5-120	2	20	
Acenaphthene	1500	332	ug/kg	1660	<	90	72.4-120	2	20	
3-Nitroaniline	1350	332	ug/kg	1660	<	81	44.4-121	13	20	
2,4-Dinitrophenol	1480	332	ug/kg	1660	<	89	51.3-165	2	20	
Dibenzofuran	1520	332	ug/kg	1660	<	92	75.3-120	3	20	
2,4-Dinitrotoluene	1560	332	ug/kg	1660	<	94	68.7-120	2	20	
4-Nitrophenol	1400	332	ug/kg	1660	<	84	65.7-123	3	20	
Fluorene	1530	332	ug/kg	1660	<	92	73.3-123	4	20	
4-Chlorophenyl-phenylether	1530	332	ug/kg	1660	<	92	74.2-120	3	20	
Diethyl phthalate	1550	332	ug/kg	1660	<	93	76.7-127	4	20	

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Semivolatile Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936893										
Matrix Spike Dup (B936893-MSD1)	**Source: 1601140-06**			Prepared: 2023-10-19 Analyzed: 2023-10-20						
4-Nitroaniline	1770	332	ug/kg	1660	<	107	59.7-120	3	20	
4,6-Dinitro-2-methylphenol	1550	332	ug/kg	1660	<	93	65.7-123	3	20	
N-Nitrosodiphenylamine	1550	332	ug/kg		<		69.4-120	0.1	20	
Azobenzene	1460	332	ug/kg	1660	<	88	76.8-120	1	20	
4-Bromophenyl-phenylether	1540	332	ug/kg	1660	<	93	80-120	1	20	
Hexachlorobenzene	1530	332	ug/kg	1660	<	92	72.8-121	3	20	
Pentachlorophenol	1250	332	ug/kg	1660	<	75	57.7-120	9	20	
Phenanthrene	1510	332	ug/kg	1660	<	91	71.7-120	2	20	
Carbazole	2490	474	ug/kg	1660	<	150	65.7-120	4	20	
Di-n-butyl phthalate	1520	332	ug/kg	1660	<	91	76.6-122	2	20	
Fluoranthene	1550	332	ug/kg	1660	<	93	70.6-120	4	20	
Benzidine	18.9	332	ug/kg	1660	<	1	0-200	100	20	BENZ
Pyrene	1630	332	ug/kg	1660	<	98	70.5-120	4	20	
Butylbenzylphthalate	1620	332	ug/kg	1660	<	98	74.8-122	4	20	
3,3'-Dichlorobenzidine	1630	474	ug/kg	1660	<	98	35.8-182	9	20	
Benzo[a]anthracene	1590	332	ug/kg	1660	<	96	74.9-120	4	20	
Chrysene	1580	332	ug/kg	1660	<	95	75.4-120	5	20	
bis(2-ethylhexyl)phthalate	1600	332	ug/kg	1660	<	96	77-131	4	20	
Di-n-octyl phthalate	1790	332	ug/kg	1660	<	108	71.7-129	0.7	20	
Benzo[b]fluoranthene	1660	332	ug/kg	1660	<	100	77.8-120	2	20	
Benzo[k]fluoranthene	1660	332	ug/kg	1660	<	100	75.1-120	3	20	
Benzo[a]pyrene	1600	332	ug/kg	1660	<	96	75.5-120	4	20	
Indeno(1,2,3-cd)pyrene	1470	332	ug/kg	1660	<	88	69.4-136	6	20	
Dibenzo(a,h)anthracene	1510	332	ug/kg	1660	<	91	61.4-141	7	20	
Benzo[ghi]perylene	1490	332	ug/kg	1660	<	90	64.9-120	7	20	
Anthracene	1520	332	ug/kg	1660	<	92	76.7-120	4	20	
Surrogate: 2-Fluorophenol	*2210*		ug/kg	*2490*		*89*	*61-120*			
Surrogate: Phenol-d6	*2290*		ug/kg	*2490*		*92*	*64.9-120*			
Surrogate: Nitrobenzene-d5	*1560*		ug/kg	*1660*		*94*	*71.9-120*			
Surrogate: 2-Fluorobiphenyl	*1510*		ug/kg	*1660*		*91*	*71.5-121*			
Surrogate: 2,4,6-Tribromophenol	*2250*		ug/kg	*2490*		*90*	*47.2-132*			
Surrogate: Terphenyl-d14	*928*		ug/kg	*1660*		*56*	*30.7-120*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936604										
Blank (B936604-BLK1)				Prepared: 2023-10-11 Analyzed: 2023-10-12						
Barium	<	0.002	mg/kg wet							U
Cadmium	<	0.002	mg/kg wet							U
Calcium	<	0.2	mg/kg wet							U
Chromium	<	0.01	mg/kg wet							U
Copper	<	0.008	mg/kg wet							U
Iron	0.34	0.07	mg/kg wet							
Lead	<	0.03	mg/kg wet							U
Magnesium	<	0.09	mg/kg wet							U
Manganese	<	0.02	mg/kg wet							U
Molybdenum	<	0.007	mg/kg wet							U
Nickel	<	0.009	mg/kg wet							U
Phosphorus	<	0.1	mg/kg wet							U
Potassium	<	0.2	mg/kg wet							U
Silver	<	0.006	mg/kg wet							U
Sodium	0.23	0.1	mg/kg wet							
Sulfur	0.16	0.03	mg/kg wet							J
Zinc	<	0.03	mg/kg wet							U
LCS (B936604-BS1)				Prepared: 2023-10-11 Analyzed: 2023-10-12						
Barium	1.01	0.002	mg/kg wet	1.00		101	80-120			
Cadmium	0.98	0.002	mg/kg wet	1.00		97.9	80-120			
Calcium	51.56	0.2	mg/kg wet	51.0		101	80-120			
Chromium	0.98	0.01	mg/kg wet	1.00		97.6	80-120			
Copper	1.98	0.008	mg/kg wet	2.00		99.0	80-120			
Iron	2.00	0.07	mg/kg wet	2.00		100	80-120			
Lead	0.97	0.03	mg/kg wet	1.00		96.8	80-120			
Magnesium	20.09	0.09	mg/kg wet	21.0		95.7	80-120			
Manganese	1.98	0.02	mg/kg wet	2.00		98.8	80-120			
Molybdenum	1.98	0.007	mg/kg wet	2.00		99.2	80-120			
Nickel	0.97	0.009	mg/kg wet	1.00		97.1	80-120			
Phosphorus	20.76	0.1	mg/kg wet	20.0		104	80-120			
Potassium	29.06	0.2	mg/kg wet	30.0		96.9	80-120			
Silver	0.97	0.006	mg/kg wet	1.00		97.2	80-120			
Sodium	6.12	0.1	mg/kg wet	6.00		102	80-120			
Sulfur	5.16	0.03	mg/kg wet	5.00		103	80-120			
Zinc	1.94	0.03	mg/kg wet	2.00		97.2	80-120			

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PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936604										
Matrix Spike (B936604-MS1)	**Source: 1599525-01**			Prepared: 2023-10-11 Analyzed: 2023-10-12						
Barium	453.1	0.3	mg/kg dry	119	363.4	75.2	75-125			
Cadmium	109.1	0.2	mg/kg dry	119	1.61	90.1	75-125			
Chromium	132.4	1.1	mg/kg dry	119	23.94	90.9	75-125			
Copper	828.6	1.0	mg/kg dry	239	636.8	80.3	75-125			
Iron	10060	7.9	mg/kg dry	239	10300	NR	75-125			SPK
Lead	130.4	3.7	mg/kg dry	119	30.02	84.0	75-125			
Manganese	640.9	2.0	mg/kg dry	239	445.2	81.9	75-125			
Molybdenum	230.8	0.8	mg/kg dry	239	8.66	93.0	75-125			
Nickel	165.6	1.0	mg/kg dry	119	59.27	89.0	75-125			
Silver	112.5	0.7	mg/kg dry	119	3.53	91.3	75-125			
Zinc	814.3	3.1	mg/kg dry	239	623.6	79.9	75-125			
Matrix Spike Dup (B936604-MSD1)	**Source: 1599525-01**			Prepared: 2023-10-11 Analyzed: 2023-10-12						
Barium	469.4	0.3	mg/kg dry	117	363.4	90.3	75-125	3.52	20	
Cadmium	113.2	0.2	mg/kg dry	117	1.61	95.1	75-125	3.66	20	
Chromium	136.4	1.1	mg/kg dry	117	23.94	95.9	75-125	2.98	20	
Copper	848.6	1.0	mg/kg dry	235	636.8	90.3	75-125	2.39	20	
Iron	10660	7.8	mg/kg dry	235	10300	NR	75-125	5.79	20	SPK
Lead	144.7	3.7	mg/kg dry	117	30.02	97.8	75-125	10.4	20	
Manganese	663.9	1.9	mg/kg dry	235	445.2	93.2	75-125	3.54	20	
Molybdenum	238.5	0.8	mg/kg dry	235	8.66	97.9	75-125	3.29	20	
Nickel	173.9	1.0	mg/kg dry	117	59.27	97.7	75-125	4.92	20	
Silver	116.1	0.7	mg/kg dry	117	3.53	95.9	75-125	3.12	20	
Zinc	835.7	3.1	mg/kg dry	235	623.6	90.4	75-125	2.60	20	
Batch B936605										
Blank (B936605-BLK1)				Prepared: 2023-10-11 Analyzed: 2023-10-12						
Arsenic	0.00008	0.00005	mg/kg wet							J
Selenium	0.0002	0.0001	mg/kg wet							J

Work Order: 1599525

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936605										
LCS (B936605-BS1)				Prepared: 2023-10-11 Analyzed: 2023-10-12						
Arsenic	0.23	0.00005	mg/kg wet	0.200		113	80-120			
Selenium	0.24	0.0001	mg/kg wet	0.200		120	80-120			
Matrix Spike (B936605-MS1)		**Source: 1599525-01**		Prepared: 2023-10-11 Analyzed: 2023-10-12						
Arsenic	28.13	0.02	mg/kg dry	24.1	4.72	97.2	75-125			
Selenium	34.98	0.07	mg/kg dry	24.1	12.12	95.0	75-125			
Matrix Spike Dup (B936605-MSD1)		**Source: 1599525-01**		Prepared: 2023-10-11 Analyzed: 2023-10-12						
Arsenic	27.87	0.02	mg/kg dry	23.7	4.72	97.7	75-125	0.925	20	
Selenium	35.54	0.07	mg/kg dry	23.7	12.12	98.8	75-125	1.57	20	
Batch B936828										
Blank (B936828-BLK1)				Prepared: 2023-10-17 Analyzed: 2023-10-18						
Mercury	<	0.00003	mg/kg wet							U
LCS (B936828-BS1)				Prepared: 2023-10-17 Analyzed: 2023-10-18						
Mercury	0.001	0.00003	mg/kg wet	0.00100		97.3	80-120			
Matrix Spike (B936828-MS1)		**Source: 1599518-01**		Prepared: 2023-10-17 Analyzed: 2023-10-18						
Mercury	2.8	0.09	mg/kg dry	2.62	0.57	86.6	80-120			
Matrix Spike Dup (B936828-MSD1)		**Source: 1599518-01**		Prepared: 2023-10-17 Analyzed: 2023-10-18						
Mercury	3.0	0.09	mg/kg dry	2.66	0.57	92.2	80-120	6.41	20	

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936576										
Blank (B936576-BLK1)				Prepared: 2023-10-11 Analyzed: 2023-10-12						
Percent Solids	99.97	0.01	%							
Percent Volatile Solids	0.040	0.01	%							
LCS (B936576-BS1)				Prepared: 2023-10-11 Analyzed: 2023-10-12						
Percent Solids	97.43	0.01	%	97.1		100	80-120			
Percent Volatile Solids	4.010	0.01	%	3.69		109	80-120			
Duplicate (B936576-DUP1)		**Source: 1601068-01**		Prepared: 2023-10-11 Analyzed: 2023-10-12						
Percent Volatile Solids	2.640	0.01	%		2.930			10.4	20	
Percent Solids	90.18	0.01	%		85.31			5.55	20	
Duplicate (B936576-DUP2)		**Source: 1601068-02**		Prepared: 2023-10-11 Analyzed: 2023-10-12						
Percent Solids	80.44	0.01	%		77.63			3.56	20	
Percent Volatile Solids	5.850	0.01	%		6.670			13.1	20	
Batch B936595										
Blank (B936595-BLK1)				Prepared & Analyzed: 2023-10-11						
Ammonia-N	<	10.0	mg/kg wet							
LCS (B936595-BS1)				Prepared & Analyzed: 2023-10-11						
Ammonia-N	2638	125	mg/kg wet	2820		93.5	85-115			
Matrix Spike (B936595-MS1)		**Source: 1599525-01**		Prepared & Analyzed: 2023-10-11						
Ammonia-N	4510	179	mg/kg dry	3560	1308	89.8	80-120			
Matrix Spike Dup (B936595-MSD1)		**Source: 1599525-01**		Prepared & Analyzed: 2023-10-11						
Ammonia-N	4383	179	mg/kg dry	3550	1308	86.7	80-120	2.85	20	

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Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936609										
Blank (B936609-BLK1)				Prepared & Analyzed: 2023-10-11						
Total Kjeldahl Nitrogen	<	100	mg/kg wet							
LCS (B936609-BS1)				Prepared & Analyzed: 2023-10-11						
Total Kjeldahl Nitrogen	3893	250	mg/kg wet	3840		101	85-115			
Matrix Spike (B936609-MS1)		Source: 1599525-01		Prepared & Analyzed: 2023-10-11						
Total Kjeldahl Nitrogen	92190	3570	mg/kg dry	32800	57910	105	80-120			
Matrix Spike Dup (B936609-MSD1)		Source: 1599525-01		Prepared & Analyzed: 2023-10-11						
Total Kjeldahl Nitrogen	91490	3570	mg/kg dry	32900	57910	102	80-120	0.768	20	
Batch B936646										
Blank (B936646-BLK1)				Prepared & Analyzed: 2023-10-12						
Cyanide (total)	<	0.2	mg/kg wet							
LCS (B936646-BS1)				Prepared & Analyzed: 2023-10-12						
Cyanide (total)	1.85	0.2	mg/kg wet	2.00		92.7	85-115			
Matrix Spike (B936646-MS1)		Source: 1600962-01		Prepared & Analyzed: 2023-10-12						
Cyanide (total)	9.48	6.1	mg/kg dry	11.1	<	85.0	80-120			
Matrix Spike Dup (B936646-MSD1)		Source: 1600962-01		Prepared & Analyzed: 2023-10-12						
Cyanide (total)	9.53	6.3	mg/kg dry	11.1	<	85.5	80-120	0.504	200	
Batch B936700										
Blank (B936700-BLK1)				Prepared & Analyzed: 2023-10-13						
Nitrate/Nitrite Nitrogen	<	0.2	mg/kg wet							

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936700										
LCS (B936700-BS1)				Prepared & Analyzed: 2023-10-13						
Nitrate/Nitrite Nitrogen	20.94	1.0	mg/kg wet	20.0		105	85-115			
Matrix Spike (B936700-MS1)		Source: 1598277-01		Prepared & Analyzed: 2023-10-13						
Nitrate/Nitrite Nitrogen	27.65	1.4	mg/kg dry	27.4	<	101	80-120			
Matrix Spike (B936700-MS2)		Source: 1598277-11		Prepared & Analyzed: 2023-10-13						
Nitrate/Nitrite Nitrogen	29.61	1.5	mg/kg dry	29.9	<	98.9	80-120			
Matrix Spike Dup (B936700-MSD1)		Source: 1598277-01		Prepared & Analyzed: 2023-10-13						
Nitrate/Nitrite Nitrogen	27.80	1.4	mg/kg dry	27.4	<	101	80-120	0.524	20	
Matrix Spike Dup (B936700-MSD2)		Source: 1598277-11		Prepared & Analyzed: 2023-10-13						
Nitrate/Nitrite Nitrogen	29.16	1.5	mg/kg dry	29.9	<	97.4	80-120	1.55	20	
Batch B936703										
Blank (B936703-BLK1)				Prepared & Analyzed: 2023-10-13						
Phenol	<	0.08	mg/kg wet							
LCS (B936703-BS1)				Prepared & Analyzed: 2023-10-13						
Phenol	1.78	0.08	mg/kg wet	2.00		89.2	85-115			
Matrix Spike (B936703-MS1)		Source: 1599525-01		Prepared & Analyzed: 2023-10-13						
Phenol	167.4	0.6	mg/kg dry	71.4	39.76	179	80-120			MI
Matrix Spike Dup (B936703-MSD1)		Source: 1599525-01		Prepared & Analyzed: 2023-10-13						
Phenol	161.8	0.6	mg/kg dry	71.4	39.76	171	80-120	3.44	20	MI

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CITY OF LARAMIE WWTP - 34024	Project: Quarterly Biosolids	
PO BOX C	Project Number: Biosolids 23-4	**Reported:**
LARAMIE, WY 82073	Project Manager: DAVID SCHILLINGER	2023-10-23 17:00

Environmental Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936790										
LCS (B936790-BS1)				Prepared & Analyzed: 2023-10-16						
pH @ 20.4°C	4.07		S.U.	4.00		102	85-115			
Duplicate (B936790-DUP1)		**Source: 1599516-01**		Prepared & Analyzed: 2023-10-16						
pH @ 21.4°C	6.16		S.U.		6.17			0.162	20	
Reference (B936790-SRM1)				Prepared & Analyzed: 2023-10-16						
pH @ 18.9°C	5.83		S.U.	5.92		98.5	.535-102.4			

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CITY OF LARAMIE WWTP - 34024
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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Pesticide Screen - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936645										
Blank (B936645-BLK1)				Prepared: 2023-10-12 Analyzed: 2023-10-17						
Aroclor-1016	<	100	ug/kg							
Aroclor-1221	<	100	ug/kg							
Aroclor-1232	<	100	ug/kg							
Aroclor-1242	<	100	ug/kg							
Aroclor-1248	<	100	ug/kg							
Aroclor-1254	<	100	ug/kg							
Aroclor-1260	<	100	ug/kg							
Aroclor-1262	<	100	ug/kg							
Aroclor-1268	<	100	ug/kg							
Surrogate: Tetrachloro-m-xylene	*14.7*		ug/kg	*49.6*		*30*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*38.6*		ug/kg	*49.6*		*78*	*57.3-146*			
LCS (B936645-BS1)				Prepared: 2023-10-12 Analyzed: 2023-10-17						
Aroclor-1016	<	100	ug/kg				67.3-142.7			
Aroclor-1221	<	100	ug/kg				67.3-142.7			
Aroclor-1232	<	100	ug/kg				67.3-142.7			
Aroclor-1242	<	100	ug/kg				67.3-142.7			
Aroclor-1248	<	100	ug/kg				67.3-142.7			
Aroclor-1254	928	100	ug/kg	992		94	67.3-142.7			
Aroclor-1260	<	100	ug/kg				67.3-142.7			
Aroclor-1262	<	100	ug/kg				67.3-142.7			
Aroclor-1268	<	100	ug/kg				67.3-142.7			
Surrogate: Tetrachloro-m-xylene	*21.4*		ug/kg	*49.6*		*43*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*47.9*		ug/kg	*49.6*		*97*	*57.3-146*			
LCS Dup (B936645-BSD1)				Prepared: 2023-10-12 Analyzed: 2023-10-17						
Aroclor-1016	<	100	ug/kg				67.3-142.7		20	
Aroclor-1221	<	100	ug/kg				67.3-142.7		20	
Aroclor-1232	<	100	ug/kg				67.3-142.7		20	
Aroclor-1242	<	100	ug/kg				67.3-142.7		20	
Aroclor-1248	<	100	ug/kg				67.3-142.7		20	
Aroclor-1254	951	100	ug/kg	996		95	67.3-142.7	2	20	
Aroclor-1260	<	100	ug/kg				67.3-142.7		20	
Aroclor-1262	<	100	ug/kg				67.3-142.7		20	
Aroclor-1268	<	100	ug/kg				67.3-142.7		20	
Surrogate: Tetrachloro-m-xylene	*33.4*		ug/kg	*49.8*		*67*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*39.5*		ug/kg	*49.8*		*79*	*57.3-146*			

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Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Pesticide Screen - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B936645										
Matrix Spike (B936645-MS1)	**Source: 1600985-06**			Prepared: 2023-10-12 Analyzed: 2023-10-17						
Aroclor-1016	<	100	ug/kg		<		67.3-142.7			
Aroclor-1221	<	100	ug/kg		<		67.3-142.7			
Aroclor-1232	<	100	ug/kg		<		67.3-142.7			
Aroclor-1242	<	100	ug/kg		<		67.3-142.7			
Aroclor-1248	<	100	ug/kg		<		67.3-142.7			
Aroclor-1254	938	100	ug/kg	982	<	95	67.3-142.7			
Aroclor-1260	<	100	ug/kg		<		67.3-142.7			
Aroclor-1262	<	100	ug/kg		<		67.3-142.7			
Aroclor-1268	<	100	ug/kg		<		67.3-142.7			
Surrogate: Tetrachloro-m-xylene	*29.0*		ug/kg	*49.1*		*59*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*44.8*		ug/kg	*49.1*		*91*	*57.3-146*			
Matrix Spike Dup (B936645-MSD1)	**Source: 1600985-06**			Prepared: 2023-10-12 Analyzed: 2023-10-17						
Aroclor-1016	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1221	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1232	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1242	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1248	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1254	955	100	ug/kg	997	<	96	67.3-142.7	2	20	
Aroclor-1260	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1262	<	100	ug/kg		<		67.3-142.7		20	
Aroclor-1268	<	100	ug/kg		<		67.3-142.7		20	
Surrogate: Tetrachloro-m-xylene	*30.0*		ug/kg	*49.9*		*60*	*62.6-136*			
Surrogate: Decachlorobiphenyl	*46.5*		ug/kg	*49.9*		*93*	*57.3-146*			

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Certified Analyses included in this Report

Method	Analyte	Certifications
EPA 353.2 in Solid	Nitrate/Nitrite Nitrogen	FL,KS
EPA 6010B in Solid	Barium	TX,KS,FL,UT,OK,IA,WA
	Cadmium	KS,FL,UT,OK,IA,WA
	Calcium	KS,IA,FL
	Chromium	TX,KS,FL,UT,OK,IA,WA
	Copper	TX,KS,FL,UT,OK,IA,WA
	Iron	FL,KS,TX,UT,OK,IA,WA
	Lead	FL,KS,TX,UT,OK,IA,WA
	Magnesium	FL,TX,KS,UT,OK,IA,WA
	Manganese	FL,KS,TX,UT,OK,IA,WA
	Molybdenum	TX,KS,FL,UT,IA,OK,WA
	Nickel	FL,KS,TX,UT,OK,IA,WA
	Phosphorus	FL,KS,TX,UT,OK,IA,WA
	Potassium	FL,KS,TX,UT,OK,IA,WA
	Silver	FL,KS,TX,UT,OK,IA,WA
	Sodium	FL,KS,TX,UT,OK,IA,WA
	Zinc	FL,KS,TX,UT,IA,WA
EPA 6020 in Solid	Arsenic	IA,KS,FL,TX
	Selenium	KS,IA,FL,TX
EPA 7471 in Solid	Mercury	TX,KS,FL,UT,OK,IA,WA
EPA 8260 in Solid	Dichlorodifluoromethane	FL,KS
	Chloromethane	FL,KS,TX
	Vinyl chloride	FL,KS,TX
	Bromomethane	FL,KS
	Chloroethane	FL,KS,TX
	Trichlorofluoromethane	FL,KS
	Acrolein	FL,KS
	Acetone	FL,KS
	1,1-Dichloroethene	FL,KS
	Methylene Chloride	FL
	1,1,2-Trichloro-1,1,2-trifluoroethane	FL
	Carbon disulfide	FL,KS,TX
	trans-1,2-Dichloroethene	FL,KS,TX
	Methyl tert-Butyl Ether	FL,IA,KS
	1,1-Dichloroethane	FL,KS
	Vinyl acetate	FL,KS,TX
	2-Butanone	FL
	cis-1,2-Dichloroethene	FL,KS,TX
	Bromochloromethane	FL,KS
	Chloroform	FL,KS,TX
	2,2-Dichloropropane	FL,KS
	1,2-Dichloroethane	FL,KS
	1,1,1-Trichloroethane	FL,KS
	1,1-Dichloropropene	FL,KS
	Carbon Tetrachloride	FL,KS

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LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

EPA 8260 in Solid	Benzene	FL,IA,KS
	Dibromomethane	FL,KS
	1,2-Dichloropropane	FL,KS
	Trichloroethene	FL,KS
	Bromodichloromethane	FL,KS
	2-Chloroethyl vinyl ether	FL
	cis-1,3-Dichloropropene	FL,KS,TX
	4-Methyl-2-pentanone	FL,KS
	trans-1,3-Dichloropropene	FL,KS,TX
	1,1,2-Trichloroethane	FL,KS
	Toluene	FL,IA,KS
	1,3-Dichloropropane	FL,KS
	Dibromochloromethane	FL,KS
	2-Hexanone	FL,KS
	1,2-Dibromoethane	FL,TX
	Tetrachloroethene	FL,KS
	1,1,1,2-Tetrachloroethane	FL,KS
	Chlorobenzene	FL,KS
	Ethylbenzene	FL,IA,KS
	m,p-Xylenes	FL
	Bromoform	FL,KS
	Styrene	FL,KS,TX
	1,1,2,2-Tetrachloroethane	FL,KS
	o-Xylene	FL,KS
	1,2,3-Trichloropropane	FL,KS
	Isopropylbenzene	FL
	Bromobenzene	FL,KS
	n-Propyl Benzene	FL,KS
	1,3,5-Trimethylbenzene	FL,KS
	tert-Butylbenzene	FL,KS
	1,2,4-Trimethylbenzene	FL,KS
	sec-Butylbenzene	FL,KS
	1,3-Dichlorobenzene	FL,KS
	1,4-Dichlorobenzene	FL
	1,2-Dichlorobenzene	FL,KS
	n-Butyl Benzene	FL,KS
	1,2-Dibromo-3-Chloropropane	FL,KS,TX
	1,2,4-Trichlorobenzene	FL,KS
	Naphthalene	FL,KS
	Hexachlorobutadiene	FL,KS
	1,2,3-Trichlorobenzene	FL,KS
	Total Xylenes	FL,IA
EPA 8270 in Solid	N-Nitrosodimethylamine	FL,OK,TX
	bis(2-chloroethyl)ether	FL,KS,OK,TX
	Phenol	FL,KS,OK,TX
	2-Chlorophenol	FL,KS,OK,TX
	1,3-Dichlorobenzene	FL,KS,OK,TX
	1,4-Dichlorobenzene	FL,KS,OK,TX
	1,2-Dichlorobenzene	FL,KS,OK,TX
	2,2'-oxybis(1-chloropropane)	FL,KS,OK,TX

Work Order: 1599525

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

EPA 8270 in Solid	2-Methylphenol	FL,KS,OK,TX
	Hexachloroethane	FL,KS,OK
	N-Nitroso-di-n-propylamine	FL,KS,OK,TX
	4-Methylphenol	FL,KS,OK,TX
	Nitrobenzene	FL,KS,OK,TX
	Isophorone	FL,KS,TX
	2-Nitrophenol	FL,KS,OK,TX
	2,4-Dimethylphenol	FL,KS,OK,TX
	bis(2-chloroethoxy)methane	FL,KS,OK,TX
	2,4-Dichlorophenol	FL,KS,OK,TX
	1,2,4-Trichlorobenzene	FL,KS,OK,TX
	Naphthalene	FL,KS,OK,TX
	4-Chloroaniline	FL,KS,TX
	Hexachlorobutadiene	FL,KS,OK
	4-Chloro-3-methylphenol	FL,KS,OK,TX
	2-Methylnaphthalene	FL,KS
	Hexachlorocyclopentadiene	FL,KS,OK,TX
	2,4,6-Trichlorophenol	FL,KS,TX
	2,4,5-Trichlorophenol	FL,KS,TX
	2-Chloronaphthalene	FL,KS,OK
	2-Nitroaniline	FL,KS,OK
	Acenaphthylene	FL,KS,OK,TX
	Dimethylphthalate	FL,KS
	2,6-Dinitrotoluene	FL,KS,OK,TX
	Acenaphthene	FL,KS,OK,TX
	3-Nitroaniline	FL,KS,TX
	2,4-Dinitrophenol	FL,KS,OK,TX
	Dibenzofuran	FL,KS,TX
	2,4-Dinitrotoluene	FL,KS,OK,TX
	4-Nitrophenol	FL
	Fluorene	FL,KS,OK,TX
	4-Chlorophenyl-phenylether	FL,KS,OK
	Diethyl phthalate	FL,KS,TX
	4-Nitroaniline	FL,KS,TX
	4,6-Dinitro-2-methylphenol	FL,KS,OK
	N-Nitrosodiphenylamine	FL,KS
	4-Bromophenyl-phenylether	FL,KS,OK,TX
	Hexachlorobenzene	FL,KS,OK,TX
	Pentachlorophenol	FL,KS,TX
	Phenanthrene	FL,KS,TX
	Carbazole	FL
	Di-n-butyl phthalate	FL,KS,TX
	Fluoranthene	FL,KS,OK,TX
	Benzidine	OK
	Pyrene	FL,KS,TX
	Butylbenzylphthalate	FL,KS,OK,TX
	3,3'-Dichlorobenzidine	FL,KS,TX
	Benzo[a]anthracene	FL
	Chrysene	FL,KS
	bis(2-ethylhexyl)phthalate	FL,KS,TX

Work Order: 1599525

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CITY OF LARAMIE WWTP - 34024	Project: Quarterly Biosolids	
PO BOX C	Project Number: Biosolids 23-4	**Reported:**
LARAMIE, WY 82073	Project Manager: DAVID SCHILLINGER	2023-10-23 17:00

EPA 8270 in Solid	Di-n-octyl phthalate	FL,KS,TX
	Benzo[b]fluoranthene	FL,KS,OK,TX
	Benzo[k]fluoranthene	FL,KS,OK,TX
	Benzo[a]pyrene	FL,KS,OK,TX
	Indeno(1,2,3-cd)pyrene	FL,KS,OK,TX
	Dibenzo(a,h)anthracene	FL
	Benzo[ghi]perylene	FL,KS,OK,TX
	Anthracene	FL,KS
EPA 9010C in Solid	Cyanide (total)	IA,KS,FL
EPA 9045D in Solid	pH	FL,OK,KS,WA
EPA 9065 (MOD) in Solid	Phenol	FL,OK,KS
PAI-DK 01 in Solid	Total Kjeldahl Nitrogen	IA,FL,KS
SM 2540 G-2015 in Solid	Percent Solids	FL,WA,UT,TX,IA
	Percent Volatile Solids	FL,IA,WA,UT
SM 4500-NH3 C-1997 in Solid	Ammonia-N	FL,KS,IA

Non-Certified Analyses included in this Report

Method	Analyte
EPA 6010B in Solid	Sulfur
EPA 8082 in Solid	Aroclor-1016
	Aroclor-1221
	Aroclor-1232
	Aroclor-1242
	Aroclor-1248
	Aroclor-1254
	Aroclor-1260
	Aroclor-1262
	Aroclor-1268
EPA 8260 in Solid	Ethyl Ether
	Iodomethane
	Acrylonitrile
	Chloroprene
	Ethyl Methacrylate
	cis-1,4-Dichloro-2-butene
	trans-1,4-Dichloro-2-butene
	2-Chlorotoluene
	4-Chlorotoluene
	p-Isopropyltoluene
EPA 8270 in Solid	Azobenzene
	1,2-Diphenylhydrazine
SM 9221 E in Solid	Fecal Coliforms

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CITY OF LARAMIE WWTP - 34024
PO BOX C
LARAMIE, WY 82073

Project: Quarterly Biosolids
Project Number: Biosolids 23-4
Project Manager: DAVID SCHILLINGER

Reported:
2023-10-23 17:00

Code	Description	Number	Expires
FL	Florida Department of Health	E87918	06/30/2024
IA	Iowa Department of Natural Resources	064	05/01/2025
KS	Kansas Department of Health and Environment	E-10402	04/30/2024
NE	State of Nebraska Dept of Health & Human Services	NE-04-05	06/30/2024
OK	Oklahoma Department of Environmental Quality	2022-068	08/31/2023
TX	Texas Commission on Environmental Quality	T104704416-23-17	07/31/2024
UT	State of Utah Department of Health	NE000012023-13	07/31/2024
WA	State of Washington Department of Ecology	C912	06/07/2024

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CITY OF LARAMIE WWTP - 34024	Project: Quarterly Biosolids	
PO BOX C	Project Number: Biosolids 23-4	**Reported:**
LARAMIE, WY 82073	Project Manager: DAVID SCHILLINGER	2023-10-23 17:00

Notes and Definitions

U	Analyte included in the analysis, but not detected
SPK	Spike recovery calculation is not required when sample level is greater than three times the spiking level.
MI	Matrix interference suspected in matrix spiked sample.
J	Estimated value
BENZ	The test procedure uses a qualitative screen for Benzidine and the compound was not observed in the sample. The concentration of the Benzidine standard is 50 ug/L and the initial detection level is also 50 ug/L.
<	Less than reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

EPA 524.2, EPA 624, EPA 8260, OA-1, TCLP VOC, GRO, and all microbiological analyses are conducted in the facility located at 13606 B Street, Omaha, NE 68144. All other analyses are conducted in the main facility located at 13611 B Street, Omaha, NE 68144.

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CHAIN OF CUSTODY

Lab Work Order Number: 1599525
Date Generated: 09/01/2023

Client Name: CITY OF LARAMIE WWTP - 34024	Project Name: Quarterly Biosolids
Client Contact: DAVID SCHILLINGER	Project Description: Biosolids 23-4
Address: PO BOX C	Purchase Order Number:
City: LARAMIE	Midwest Labs Contact: Kerri Stanek
State/Zip: WY, 82073	Regulatory (Circle One): (Yes) No
Phone: 3077215204 Fax: 0	Regulatory Agency: EPA
Sampler Name (printed): David Schillinger	Sample Type (Circle One - See Below): D G W (S/H) U P

Requested Analyses (Test Names): 503 Regulations; EPA 8082, EPA 8260, EPA 8270; Fecal Coliform-SM9221E-MPN

Copy To:

WORKORDER: 1599525 COC Sticker #: 1

Lab ID	Sample Name or Field ID	Sampled Date	Sampled Time	Sample Code	Matrix Code	Container Count	Preservation Code 1	1	1	Sample Comments
01	Biosolids	10-9-23	11:30am	S/H	S	4	2	2	0	
02	01	↓	↓	↓	S	1	0	0	1	
03	02				S	1	0	0	1	
04	03				S	1	0	0	1	
05	04				S	1	0	0	1	
06	05				S	1	0	0	1	
07	06				S	1	0	0	1	
08	07				S	1	0	0	1	

Relinquished By: A Schillinger	Date/Time: 10-9-23 2PM	Received By: EW	Date/Time: 10/10/23 0910
Relinquished By:	Date/Time:	Received By:	Date/Time:

Comments:

Lab Internal Use Only:
Temperature Upon Receipt: 4.0
Cooler Numbers:
Notes:

Matrix Codes: S=Solid

Preservation Codes: =[Group Analysis],1=Cool 6°C,2=None

Sample Type Codes: D = Drinking Water (Safe Drinking Water Act), G = Groundwater, W = Wastewater (Clean Water Act), S/H = Solid/Hazardous Waste (RCRA), U = Underground Storage Tank (UST), P = Process Water

Chain of Custody will have a signature upon receipt but no subsequent signatures.

RC Form 15 - Effective 10/31/2013

1599525
Work Order 1599525

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REGULATORY FORM

This sheet MUST be filled out before samples can be processed. To ensure that holding times are met, it is your responsibility that a completed form comes attached to the Chain of Custody. Samples must be received on ice.

Is this sample for regulatory/permit reporting? ☑ Yes ☐ No

WORKORDER: 1599525
COC
Sticker #: 2

What city/state was your sample collected in? Laramie, WY

What agency/state are you reporting? EPA

What type of sample? (Circle One)

Drinking Water *For human consumption, 30 hr hold time for E. coli and total coliform testing*	**Ground Water**	**Hazardous Waste**	**Livestock**	**Process Water**
Solid Waste	**Storm Water**	**UST**	**Wastewater**	

SEE REVERSE SIDE FOR SAMPLING INSTRUCTIONS

Midwest Laboratories®

Sample Acceptance Checkl
Document Number: RC CHKLIST (
Revision No
Effective Date: 04/25
Page 1 (

WORKORDER: 1599525
COC
Sticker #: 3

Lab Number:

Thermometer Used: ☐ Therm Fisher IR 28

Sample Temperature (°C): 4.0

Cooler Intact: ☒ Yes ☐ No
Received on Ice: ☒ Yes ☐ No
Hand Delivered: ☐ Yes ☒ No

Date & Initials of person accepting samples: EW 10/10/23

		Comments
Chain of Custody present?	☒ Yes ☐ No ☐ N/A	
Sample ID(s):	☒ Yes ☐ No ☐ N/A	
Sample Location(s):	☒ Yes ☐ No ☐ N/A	
Client contact:	☒ Yes ☐ No ☐ N/A	
Analysis Requested:	☒ Yes ☐ No ☐ N/A	
Date & Time of collection:	☒ Yes ☐ No ☐ N/A	
Sampler name on COC?	☒ Yes ☐ No ☐ N/A	
Chain of custody relinquished with signature?	☒ Yes ☐ No ☐ N/A	
Chain of custody complete?	☒ Yes ☐ No ☐ N/A	
Sample labels match COC?	☒ Yes ☐ No ☐ N/A	
Written in indelible ink?	☒ Yes ☐ No ☐ N/A	
Labels indicate proper preservation?	☒ Yes ☐ No ☐ N/A	
Samples arrived within hold time?	☒ Yes ☐ No ☐ N/A	
Samples arrived within correct temperature?	☒ Yes ☐ No ☐ N/A	
Samples arrived frozen?	☐ Yes ☒ No ☐ N/A	
Sufficient volume?	☒ Yes ☐ No ☐ N/A	
Appropriate containers used?	☒ Yes ☐ No ☐ N/A	
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	
Headspace in VOA vials?	☐ Yes ☐ No ☒ N/A	
Trip Blank present?	☐ Yes ☒ No ☐ N/A	

Client Notification/Resolution: Date/Time Contacted: _____

Person Contacted: _____ Contacted By: _____

Comments/Resolution: _____