Athens Utilities Board

100 Englewood Road • Athens, Tennessee 37371-0689 • (423) 745-4501

February 13, 2019

Ms. Anastasia Sharp
Tennessee Division of Water Resources
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, TN 37243

Re: Athens Utilities Board
Biosolids Report, 2018
NPDES Permit No. TN0024201
NPDES Permit No. TN0067539
McMinn County, Tennessee

Dear Ms Sharp:

I've enclosed information related to our annual biosolids report for 2018. Athens Utilities Board (AUB) operates two wastewater treatment facilities, the Oostanaula Creek WWTP (TN0024201) and North Mouse Creek WWTP (TN0067539), in Athens, Tennessee. Sludge produced at the North Mouse Creek WWTP is transported to and processed at the Oostanaula Creek WWTP.

Solids at the Oostanaula Creek facility are aerobically digested, gravity thickened, then pressed using a belt filter press before final processing with a Fenton Technologies sludge dryer to create Class A, EQ biosolids.

AUB produced 568.2 dry tons of Class A, EQ biosolids in 2018. 100% of the material was land-applied in McMinn County, Tennessee and the surrounding areas.

Below is information that describes how AUB's biosolids are processed and how requirements contained in 40 CFR 503 are met:

Pathogen Reduction Requirements [40 CFR 503.32]; [0400-40-15-.04(3)]
AUB meets Alternative 1 for thermally treated biosolids. The time/temperature requirement outlined in 0400-40-15-.04(3)(a)(3) is utilized, which applies to biosolids with 7% solids or greater in the form of small particles and heated by contact with either warmed gases or an immiscible liquid. The requirement is that the temperature of the biosolids must be 50°C or higher for 15 seconds or longer, and meet the time-temperature relationship represented by the equation:

$D=131,700,000/(10^{0.14t})$, where D = Time in days; and t = temperature in °C

E xample: using 80°C as the temperature of the solids;

$$D=131{,}700{,}000 / (10^{0.14(80)}) \rightarrow D = 0.000831 \text{ days} = \underline{1.2 \text{ minutes}}$$

AUB documents that time-temperature requirements have been met by printing out graphical representations of the particle temperature (as measured by the thermocouple) for each drying cycle. This record is maintained for every batch of biosolids that is processed by the dryer.

Additionally, the operator who runs the dryer manually records the particle temperature from the thermocouple once per minute for five minutes once the particle temperature reaches 80°C. Also, the solids % is measured and recorded daily for the solids that enter the dryer (measured at the belt press) to demonstrate the solids content is at least 7%.

The fecal coliform count is tested quarterly from processed biosolids to document compliance with the 1,000 MPN per gram total solids limit for Class A biosolids.

Vector Attraction Reduction (VAR) Requirements [40 CFR 503.33]; [0400-40-15-.04(4)(b)(7)]
AUB meets Option 7, where dry biosolids with no unstabilized solids (generated from primary treatment) are treated to achieve at least 75% solids. The % solids of dried biosolids is checked each day biosolids are produced to document that at least 75% solids content is always achieved.

Pollutant Concentrations
I've also enclosed pollutant concentration results and quarterly certification statements for 2018. These document that Class A, EQ biosolids were produced by AUB.

We trust this submittal meets the requirements of state and federal biosolids rules for a Class I facility. If there are further questions or comments, I can be reached at (423) 745-4501 or through e-mail at cbrymer@aub.org Thank you for your time and attention.

Sincerely,

Craig Brymer
Superintendent of Water and Wastewater
Athens Utilities Board

cc: Greg Hayes, (via email)
Doug Unger (via email)
Ashleigh Kirby (via email)

element™ materials technology

Element Materials Technology - Fort Wayne
328 Ley Rd.
Fort Wayne, IN 46825
TEL: (260) 424-1622
Website: www.element.com

REPORT OF ANALYSIS

Lab Number: 18010476

Client Sample ID: Biosolids - Athens Utilities Board

Date Sampled: 01/04/2018

Date Received: 01/05/2018

Date Reported: 01/11/2018

Parameter	Wet Basis			Dry Basis		Table 1#	Table 3#	Loading Rate		Analyst	Date Analyzed	Method Reference
	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton			
Total Nitrogen	69000	mg/Kg	5.00	7.23	%			138	145	CRT	1/10/2018	Calculated
Nitrogen, Kjeldahl, Total	69000	mg/Kg	2830	7.23	%			138	145	LER	1/9/2018	E351.2
Nitrogen, Ammonia (As N)	1230	mg/Kg	1.50	0.129	%			2.45	2.57	CRT	1/10/2018	M4500-NH3 BC
Nitrogen, Nitrate (As N)	10.6	mg/Kg	5.00	0.00111	%			0.0212	0.0222	CRT	1/10/2018	E353.2
Total Phosphorus	27200	mg/Kg	19.1	2.85	%			54.4	57.0	CXC	1/11/2018	Prep 3051A
Phosphorus (as P2O5)	62300	mg/Kg	19.1	6.52	%			125	130	CXC	1/11/2018	Calculated
Potassium	8140	mg/Kg	95.6	0.853	%			16.3	17.1	CXC	1/11/2018	Prep 3051A
Potassium (as K2O)	9770	mg/Kg	95.6	1.02	%			19.5	20.5	CXC	1/11/2018	Calculated
Arsenic	2.90	mg/Kg	0.239	3.04	mg/Kg	75	41	0.00580	0.00608	CXC	1/9/2018	SW6020
Cadmium	0.964	mg/Kg	0.239	1.01	mg/Kg	85	39	0.00193	0.00202	CXC	1/9/2018	SW6020
Copper	146	mg/Kg	4.59	153	mg/Kg	4300	1500	0.293	0.307	CXC	1/9/2018	SW6020
Lead	9.78	mg/Kg	0.296	10.2	mg/Kg	840	300	0.0196	0.0205	CXC	1/9/2018	SW6020
Mercury	0.501	mg/Kg	0.277	0.525	mg/Kg	57	17	0.00100	0.00105	CXC	1/9/2018	SW6020
Molybdenum	6.12	mg/Kg	0.258	6.41	mg/Kg	75		0.0122	0.0128	CXC	1/9/2018	SW6020
Nickel	14.2	mg/Kg	0.249	14.9	mg/Kg	420	420	0.0285	0.0298	CXC	1/9/2018	SW6020
Selenium	3.26	mg/Kg	0.554	3.41	mg/Kg	100	100	0.00652	0.00683	CXC	1/9/2018	SW6020
Zinc	667	mg/Kg	27.7	699	mg/Kg	7500	2800	1.33	1.40	CXC	1/9/2018	SW6020
Percent Solids	95.4	wt%			%					SXK	1/5/2018	M2540 G
Percent Moisture	4.55	wt%			%					SXK	1/5/2018	M2540 G
Chromium	14.1	mg/Kg	0.354	14.8	mg/Kg			0.0282	0.0295	CXC	1/9/2018	SW6020

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	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton			
Fecal Coliform				<2.0	MPN/g					JGB	1/5/2018	M9221E
IDEM PAN*										CALC	1/11/2018	327 IAC 6.1-4-10(b)
- Aerobic Digestion	---	---	---	---	---	---	---	---	45.20432			
- Anaerobic Digestion	---	---	---	---	---	---	---	---	31.00075			

Table 1 and Table 3 pollution concentrations for biosolids or industrial waste products, EPA-600/4-79-020, 327 IAC 6.1-5

* Plant Available Nitrogen (PAN) calculations assume incorporation or injection with no prior year contribution of mineralized N.

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REPORT OF ANALYSIS

Lab Number: 18040356

Client Sample ID: Biosolids 1 - Athens Utilities Board

Date Sampled: 04/03/2018

Date Received: 04/04/2018

Date Reported: 04/09/2018

Parameter	Wet Basis			Dry Basis		Table 1#	Table 3#	Loading Rate		Analyst	Date Analyzed	Method Reference
	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton			
Total Nitrogen	74400	mg/Kg	0.500	7.66	%			149	153	CRT	4/9/2018	Calculated
Nitrogen, Kjeldahl, Total	74400	mg/Kg	2530	7.66	%			149	153	LER	4/9/2018	E351.2
Nitrogen, Ammonia (As N)	1650	mg/Kg	1.50	0.170	%			3.31	3.41	CRT	4/9/2018	M4500-NH3 BC
Nitrogen, Nitrate (As N)	<0.500	mg/Kg	0.500	<0.0000515	%			<0.00100	<0.00103	CRT	4/9/2018	E353.2
Total Phosphorus	22100	mg/Kg	19.2	2.28	%			44.3	45.6	CXC	4/6/2018	Prep 3051A
Phosphorus (as P2O5)	50700	mg/Kg	19.2	5.22	%			101	104	CXC	4/6/2018	Calculated
Potassium	10800	mg/Kg	95.8	1.11	%			21.6	22.3	CXC	4/6/2018	Prep 3051A
Potassium (as K2O)	13000	mg/Kg	95.8	1.34	%			25.9	26.7	CXC	4/6/2018	Calculated
Arsenic	3.57	mg/Kg	0.239	3.68	mg/Kg	75	41	0.00715	0.00737	CXC	4/6/2018	SW6020
Cadmium	0.897	mg/Kg	0.239	0.924	mg/Kg	85	39	0.00179	0.00185	CXC	4/6/2018	SW6020
Copper	123	mg/Kg	4.60	127	mg/Kg	4300	1500	0.246	0.253	CXC	4/6/2018	SW6020
Lead	8.37	mg/Kg	0.297	8.63	mg/Kg	840	300	0.0167	0.0173	CXC	4/6/2018	SW6020
Mercury	0.366	mg/Kg	0.278	0.377	mg/Kg	57	17	0.00073	0.00075	CXC	4/6/2018	SW6020
Molybdenum	7.85	mg/Kg	0.259	8.09	mg/Kg	75		0.0157	0.0162	CXC	4/6/2018	SW6020
Nickel	12.5	mg/Kg	0.249	12.9	mg/Kg	420	420	0.0250	0.0258	CXC	4/6/2018	SW6020
Selenium	4.44	mg/Kg	0.556	4.58	mg/Kg	100	100	0.00889	0.00916	CXC	4/6/2018	SW6020
Zinc	583	mg/Kg	27.8	601	mg/Kg	7500	2800	1.17	1.20	CXC	4/6/2018	SW6020
Percent Solids	97.1	wt%			%					SKW	4/4/2018	M2540 G
Percent Moisture	2.93	wt%			%					SKW	4/4/2018	M2540 G
Chromium	12.6	mg/Kg	0.354	13.0	mg/Kg			0.0252	0.0260	CXC	4/6/2018	SW6020

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Date Sampled: 04/03/2018

Date Received: 04/04/2018

Date Reported: 04/09/2018

Parameter	Wet Basis			Dry Basis		Table 1#	Table 3#	Loading Rate		Analyst	Date Analyzed	Method Reference
	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton			
Fecal Coliform				<2.0	MPN/g					MAJ	4/4/2018	M9221E
IDEM PAN*										CALC	4/9/2018	327 IAC 6.1-4-10(b)
- Aerobic Digestion	---	---	---	---	---	---	---	---	48.36716			
- Anaerobic Digestion	---	---	---	---	---	---	---	---	33.38003			

Table 1 and Table 3 pollution concentrations for biosolids or industrial waste products, EPA-600/4-79-020, 327 IAC 6.1-5

* Plant Available Nitrogen (PAN) calculations assume incorporation or injection with no prior year contribution of mineralized N.

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REPORT OF ANALYSIS

Lab Number: 18070173

Client Sample ID: Biosolids - Athens Utilities Board

Date Sampled: 07/02/2018

Date Received: 07/03/2018

Date Reported: 07/12/2018

Parameter	Wet Basis			Dry Basis		Table 1#	Table 3#	Loading Rate		Analyst	Date Analyzed	Method Reference
	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton			
Total Nitrogen	68300	mg/Kg	0.500	7.42	%			137	148	CRT	7/5/2018	Calculated
Nitrogen, Kjeldahl, Total	68300	mg/Kg	2070	7.42	%			137	148	LER	7/6/2018	E351.2
Nitrogen, Ammonia (As N)	2800	mg/Kg	1.50	0.304	%			5.59	6.08	CRT	7/5/2018	M4500-NH3 BC
Nitrogen, Nitrate (As N)	<0.500	mg/Kg	0.500	<0.0000543	%			<0.00100	<0.00109	CRT	7/5/2018	E353.2
Total Phosphorus	23600	mg/Kg	19.6	2.57	%			47.3	51.4	CXC	7/11/2018	Prep 3051A
Phosphorus (as P2O5)	54100	mg/Kg	19.6	5.88	%			108	118	CXC	7/11/2018	Calculated
Potassium	6790	mg/Kg	98.2	0.738	%			13.6	14.8	CXC	7/11/2018	Prep 3051A
Potassium (as K2O)	8150	mg/Kg	98.2	0.886	%			16.3	17.7	CXC	7/11/2018	Calculated
Arsenic	3.90	mg/Kg	0.246	4.23	mg/Kg	75	41	0.00780	0.00847	CXC	7/9/2018	SW6020
Cadmium	0.853	mg/Kg	0.246	0.926	mg/Kg	85	39	0.00171	0.00185	CXC	7/9/2018	SW6020
Copper	136	mg/Kg	4.72	148	mg/Kg	4300	1500	0.272	0.296	CXC	7/9/2018	SW6020
Lead	9.37	mg/Kg	0.305	10.2	mg/Kg	840	300	0.0187	0.0204	CXC	7/9/2018	SW6020
Mercury	0.347	mg/Kg	0.285	0.377	mg/Kg	57	17	0.00069	0.00075	CXC	7/9/2018	SW6020
Molybdenum	4.93	mg/Kg	0.265	5.35	mg/Kg	75		0.00985	0.0107	CXC	7/9/2018	SW6020
Nickel	12.2	mg/Kg	0.255	13.3	mg/Kg	420	420	0.0245	0.0266	CXC	7/9/2018	SW6020
Selenium	3.93	mg/Kg	0.570	4.27	mg/Kg	100	100	0.00786	0.00854	CXC	7/9/2018	SW6020
Zinc	877	mg/Kg	28.5	952	mg/Kg	7500	2800	1.75	1.90	CXC	7/9/2018	SW6020
Percent Solids	92.1	wt%			%					SKW	7/3/2018	M2540 G
Percent Moisture	7.94	wt%			%					SKW	7/3/2018	M2540 G
Chromium	13.0	mg/Kg	0.363	14.1	mg/Kg			0.0260	0.0282	CXC	7/9/2018	SW6020

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REPORT OF ANALYSIS

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Client Sample ID: Biosolids - Athens Utilities Board

Date Sampled: 07/02/2018

Date Received: 07/03/2018

Date Reported: 07/12/2018

Parameter	Wet Basis			Dry Basis		Table 1#	Table 3#	Loading Rate		Analyst	Date Analyzed	Method Reference
	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton			
Fecal Coliform				<2.0	MPN/g					JGB	7/3/2018	M9221E
IDEM PAN*										CALC	7/11/2018	327 IAC 6.1-4-10(b)
- Aerobic Digestion	---	---	---	---	---	---	---	---	48.79048			
- Anaerobic Digestion	---	---	---	---	---	---	---	---	34.55218			

Table 1 and Table 3 pollution concentrations for biosolids or industrial waste products, EPA-600/4-79-020, 327 IAC 6.1-5

* Plant Available Nitrogen (PAN) calculations assume incorporation or injection with no prior year contribution of mineralized N.

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REPORT OF ANALYSIS

Lab Number: 18100153

Client Sample ID: Biosolids - Athens Utilities Board

Date Sampled: 10/01/2018

Date Received: 10/02/2018

Date Reported: 10/09/2018

Parameter	Wet Basis			Dry Basis		Table 1#	Table 3#	Loading Rate		Analyst	Date Analyzed	Method Reference
	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton			
Total Nitrogen	67000	mg/Kg	0.500	7.09	%			134	142	CRT	10/3/2018	Calculated
Nitrogen, Kjeldahl, Total	67000	mg/Kg	2380	7.09	%			134	142	LER	10/4/2018	E351.2
Nitrogen, Ammonia (As N)	2830	mg/Kg	1.50	0.299	%			5.66	5.99	CRT	10/4/2018	M4500-NH3 BC
Nitrogen, Nitrate (As N)	0.708	mg/Kg	0.500	0.0000749	%			0.00142	0.00150	CRT	10/3/2018	E353.2
Total Phosphorus	21000	mg/Kg	17.7	2.22	%			42.0	44.4	CXC	10/4/2018	Prep 3051A
Phosphorus (as P2O5)	48100	mg/Kg	17.7	5.09	%			96.2	102	CXC	10/4/2018	Calculated
Potassium	6660	mg/Kg	88.3	0.704	%			13.3	14.1	CXC	10/4/2018	Prep 3051A
Potassium (as K2O)	7990	mg/Kg	88.3	0.845	%			16.0	16.9	CXC	10/4/2018	Calculated
Arsenic	3.29	mg/Kg	0.220	3.47	mg/Kg	75	41	0.00657	0.00695	CXC	10/4/2018	SW6020
Cadmium	0.884	mg/Kg	0.220	0.935	mg/Kg	85	39	0.00177	0.00187	CXC	10/4/2018	SW6020
Copper	132	mg/Kg	4.24	139	mg/Kg	4300	1500	0.263	0.278	CXC	10/4/2018	SW6020
Lead	11.4	mg/Kg	0.274	12.1	mg/Kg	840	300	0.0229	0.0242	CXC	10/4/2018	SW6020
Mercury	<0.256	mg/Kg	0.256	<0.271	mg/Kg	57	17	<0.00051	<0.00054	CXC	10/4/2018	SW6020
Molybdenum	4.14	mg/Kg	0.238	4.38	mg/Kg	75		0.00829	0.00876	CXC	10/4/2018	SW6020
Nickel	12.7	mg/Kg	0.230	13.4	mg/Kg	420	420	0.0254	0.0269	CXC	10/4/2018	SW6020
Selenium	3.48	mg/Kg	0.513	3.68	mg/Kg	100	100	0.00696	0.00736	CXC	10/4/2018	SW6020
Zinc	784	mg/Kg	25.6	829	mg/Kg	7500	2800	1.57	1.66	CXC	10/4/2018	SW6020
Percent Solids	94.2	wt%			%					NB	10/2/2018	M2540 G
Percent Moisture	5.42	wt%			%					NB	10/2/2018	M2540 G
Chromium	15.2	mg/Kg	0.327	16.1	mg/Kg			0.0305	0.0322	CXC	10/4/2018	SW6020

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REPORT OF ANALYSIS

Lab Number: 18100153

Client Sample ID: Biosolids - Athens Utilities Board

Date Sampled: 10/01/2018

Date Received: 10/02/2018

Date Reported: 10/09/2018

Parameter	Wet Basis			Dry Basis		Table 1#	Table 3#	Loading Rate		Analyst	Date Analyzed	Method Reference
	Result	Unit	MRL	Result	Unit	mg/kg	mg/kg	Lbs/Wet Ton	Lbs/Dry Ton			
Fecal Coliform				<2.0	MPN/g					MNK	10/2/2018	M9221E
IDEM PAN*										CALC	10/4/2018	327 IAC 6.1-4-10(b)
- Aerobic Digestion	---	---	---	---	---	---	---	---	46.70587			
- Anaerobic Digestion	---	---	---	---	---	---	---	---	33.13418			

Table 1 and Table 3 pollution concentrations for biosolids or industrial waste products, EPA-600/4-79-020, 327 IAC 6.1-5

* Plant Available Nitrogen (PAN) calculations assume incorporation or injection with no prior year contribution of mineralized N.

AUB
Biosolids Program
Quarterly Certification Statement

Not all of the sludge processed by Athens Utilities Board is used to produce biosolids. Solids are sometimes disposed in the landfill rather than land applied. The statement below applies only to material that is land applied.

I certify under penalty of law, that the Class A pathogen requirements and vector attraction reduction requirements in 40 CFR 503.32(a)(3)(B) and 40 CFR 5033(b)(7), respectively, have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the requirements have been met. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment.

Signature/Title Greg Hays, FACILITIES MANAGER Date 4/12/18

For the quarter beginning Jan 1, 2018 and ending March 31, 2018

AUB
Biosolids Program
Quarterly Certification Statement

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Signature/Title Greg Hayes / FACILITIES MNGR Date 7-16-18

For the quarter beginning April 1, 2018 and ending June 30, 2018

AUB
Biosolids Program
Quarterly Certification Statement

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Signature/Title Greg Hayes, FACILITIES MGR Date 10/5/18

For the quarter beginning 7-2-18 and ending 10-1-18

AUB
Biosolids Program
Quarterly Certification Statement

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Signature/Title Greg Hayes Date Jan 2, 2019

For the quarter beginning OCT. 1 2018 and ending DEC. 31 2018

Athens Utilities Board
NPDES# TN0024201

Biosolids Production 2018

Date		Dry Ton	Metric Ton
1/1/2018		40.48	36.72
2/1/2018		50.44	45.76
3/1/2018		54.56	49.50
4/1/2018		71.16	64.56
5/1/2018		53.55	48.58
6/1/2018		63.78	57.86
7/1/2018		65.86	59.75
8/1/2018		39.94	36.23
9/1/2018		46.90	42.55
10/1/2018		23.77	21.56
11/1/2018		33.93	30.78
12/1/2018		23.80	21.59
Total ton		568.17	515.43

Biosolids Annual Report Landing Page / ATHENS UB-OOSTANAULA CREEK STP

NPDES ID: TN0024201
Facility Status: Active
Facility Name: ATHENS UB-OOSTANAULA CREEK STP
220 ALFORD STREET ATHENS, TN 37303

View Annual Report

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460
BIOSOLIDS ANNUAL REPORT

FORM
Approved OMB No.
2040-0004

EPA's sewage sludge regulations require certain publicly owned treatment works (POTWs) and Class I sewage sludge management facilities to submit to a Sewage Sludge (Biosolids) Annual Report (see 40 CFR 503.18 (https://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_118), 503.28 (https://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_128), 503.48 (https://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_148)). Facilities that must submit a Sewage Sludge (Biosolids) Annual Report include POTWs with a design flow rate equal to or greater than one million gallons per day, POTWs that serve 10,000 people or more, Class I Sludge Management Facilities (as defined by 40 CFR 503.9 (https://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_19)), and facilities otherwise required to file this report (e.g., permit condition, enforcement action, state law). This is the electronic form for Sewage Sludge (Biosolids) Annual Report filers to use if they are located in one of the states, tribes, or territories (https://www.epa.gov/npdes/npdes-state-program-information) where EPA administers the Federal biosolids program.

For the purposes of this form, the term 'sewage sludge (https://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_19)' also refers to the material that is commonly referred to as 'biosolids'. EPA does not have a regulatory definition for biosolids but this material is commonly referred to as sewage sludge that is placed on, or applied to the land to use the beneficial properties of the material as a soil amendment, conditioner, or fertilizer. EPA's use of the term 'biosolids' in this form is to confirm that information about beneficially used sewage sludge (a.k.a. biosolids) should be reported on this form.

Please note that EPA may contact you after you submit this report for more information regarding your sewage sludge management program.

Program Information

Please select at least one of the following options pertaining to your obligation to submit a Sewage Sludge (Biosolids) Annual Report in compliance with 40 CFR part 503. The facility is:

- a Class I Sludge Management Facility as defined in 40 CFR 503.9
- a POTW with a design flow rate equal to or greater than one million gallons per day
- a POTW that serves 10,000 people or more

In the reporting period, did you manage your sewage sludge or biosolids using any of the following management practices: land application, surface disposal, or incineration?

☑ YES ☐ NO

If your facility is a POTW, please provide the estimated total amount of sewage sludge produced at your facility for the reporting period (in dry metric tons). If your facility is not a POTW, please provide the estimated total amount of biosolids produced at your facility for the reporting period (in dry metric tons).

515.43

Reporting Period Start Date: 01/01/2018 **Reporting Period End Date:** 12/31/2018

Treatment Processes

Processes to Significantly Reduce Pathogens (PSRP):
Aerobic Digestion

Processes to Further Reduce Pathogens (PFRP):
Heat Drying (e.g., flash dryer, spray dryer, rotary dryer)

Physical Treatment Options:
Thickening (e.g., gravity and/or flotation thickening, centrifugation, belt filter press, vacuum filter)

Other Processes to Manage Sewage Sludge:

Analytical Methods

Did you use any analytical methods to analyze sewage sludge in the reporting period? ☑ YES ☐ NO

Analytical Methods

- EPA Method 6020 - Arsenic (ICP-MS)
- EPA Method 6020 - Cadmium (ICP-MS)
- EPA Method 6020 - Chromium (ICP-MS)
- EPA Method 6020 - Copper (ICP-MS)
- EPA Method 6020 - Lead (ICP-MS)
- EPA Method 6020 - Molybdenum (ICP-MS)
- EPA Method 6020 - Nickel (ICP-MS)
- EPA Method 6020 - Selenium (ICP-MS)
- EPA Method 6020 - Zinc (ICP-MS)
- EPA Method 351.2 - Total Kjeldahl Nitrogen
- Standard Method 4500-NH3 - Ammonia Nitrogen
- Standard Method 2540 - Total Solids
- Standard Method 9221 - Fecal coliform

Other Analytical Methods

- Other Metals Analytical Method

Other Analytical Methods Text Area:

Mercury = SW6020

Sludge Management - Land Application

ID: 001

Amount: 510.9

Management Practice Detail: Distribution and Marketing - Heat Dried Biosolids

Bulk or Bag/Container: Bulk

Handler, Preparer, or Applier Type: On-Site Owner or Operator

Pathogen Class: Class A EQ

Sewage Sludge or Biosolids Pathogen Reduction Options:

- Class A-Alternative 1: Time/Temperature

Sewage Sludge or Biosolids Vector Attraction Reduction Options:

- Option 7 - Drying (Equal to or Greater than 75 Percent)

Did the facility land apply bulk sewage sludge when one or more pollutants in the sewage sludge exceeded 90 percent or more of any of the cumulative pollutant loading rates in Table 2 of 40 CFR 503.13?

☐ YES ☑ NO ☐ UNKNOWN

Monitoring Data

INSTRUCTIONS: Pollutants, pathogen densities, and vector attraction reduction must be monitored when sewage sludge or biosolids are applied to the land. Please use the following section to report monitoring data for the land application conducted by you or your facility in the reporting period for this SSUID. These monitoring data should be representative of the sewage sludge or biosolids that was applied to land during the compliance monitoring period for this SSUID (40 CFR 503.8(a) (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_18)). All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis. EPA will be using these data to demonstrate compliance with EPA's land application requirements (40 CFR 503, Subpart B).

Compliance Monitoring Periods

INSTRUCTIONS: Please use the table below to identify the start date and end date for each compliance monitoring period. The number of compliance monitoring periods reported will correspond to the required frequency of monitoring (monthly, quarterly, semi-annually, or annually). For example, if monthly monitoring is required, you should report 12 compliance monitoring periods. The required frequency is determined by the number of metric tons (dry weight basis) of sewage sludge or biosolids land applied in the reporting period for this SSUID (40 CFR 503.16 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_116)).

Compliance Monitoring Event No. 1 **Compliance Monitoring Period Start Date:** 01/01/2018 **Compliance Monitoring Period End Date:** 03/31/2018

Do you have analytical results to report for this monitoring period? ☑ YES ☐ NO

Are you reporting maximum pollutant concentrations that are equivalent to the monthly average pollutant concentrations for this compliance monitoring event? [For example, this will be the case if you only collected and analyzed one sample of sewage sludge or biosolids for this compliance monitoring period.]

☑ YES ☐ NO

Maximum Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the maximum pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. In accordance with 40 CFR 503.13(a) (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113), EPA's regulations prohibit land application of bulk sewage sludge or sewage sludge sold or gave away sewage sludge in a bag or other container when one or more sewage sludge pollutant concentrations in the sewage sludge exceed a land application ceiling pollutant limit (Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113)). EPA will compare the pollutant concentrations in this section against the ceiling concentration limits in Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113) to identify noncompliance events. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Please only select a "No Data Indicator Code" if you are reporting no data for the sampling period or particular parameter.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.04	
Cadmium	=	1.01	
Copper	=	153	
Lead	=	10.2	
Mercury	=	0.525	
Molybdenum	=	6.41	
Nickel	=	14.9	
Selenium	=	3.41	
Zinc	=	699	

Pathogen And Vector Attraction Reduction

Report the maximum pathogen densities in the sewage sludge or biosolids that was placed on an active sewage sludge unit during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Value	If No Data, Select One Of The Following
Fecal Coliform	<	2	
Salmonella	=		

Monthly Average Pollutant Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the monthly average pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.04	
Cadmium	=	1.01	

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Copper	=	153	
Lead	=	10.2	
Mercury	=	0.525	
Nickel	=	14.9	
Selenium	=	3.41	
Zinc	=	699	

Report the average concentration (mg/kg, dry weight basis) of Total Nitrogen (TKN plus Nitrate-Nitrite, as N) in the sewage sludge or biosolids that was applied to land during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Total Nitrogen (TKN plus Nitrate-Nitrite)	=	7.23	

Compliance Monitoring Event No. 2 **Compliance Monitoring Period Start Date:** 04/01/2018 **Compliance Monitoring Period End Date:** 06/30/2018

Do you have analytical results to report for this monitoring period? ☑ YES ☐ NO

Are you reporting maximum pollutant concentrations that are equivalent to the monthly average pollutant concentrations for this compliance monitoring event? [For example, this will be the case if you only collected and analyzed one sample of sewage sludge or biosolids for this compliance monitoring period.]

☑ YES ☐ NO

Maximum Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the maximum pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. In accordance with 40 CFR 503.13(a) (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113), EPA's regulations prohibit land application of bulk sewage sludge or sewage sludge sold or gave away sewage sludge in a bag or other container when one or more sewage sludge pollutant concentrations in the sewage sludge exceed a land application ceiling pollutant limit (Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113)). EPA will compare the pollutant concentrations in this section against the ceiling concentration limits in Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113) to identify noncompliance events. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Please only select a "No Data Indicator Code" if you are reporting no data for the sampling period or particular parameter.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.68	
Cadmium	=	0.924	
Copper	=	127	
Lead	=	8.63	
Mercury	=	0.377	
Molybdenum	=	8.09	
Nickel	=	12.9	
Selenium	=	4.58	
Zinc	=	601	

Pathogen And Vector Attraction Reduction

Report the maximum pathogen densities in the sewage sludge or biosolids that was placed on an active sewage sludge unit during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Value	If No Data, Select One Of The Following
Fecal Coliform	<	2	
Salmonella	=		

Monthly Average Pollutant Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the monthly average pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.68	
Cadmium	=	0.924	

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Copper	=	127	
Lead	=	8.63	
Mercury	=	0.377	
Nickel	=	12.9	
Selenium	=	4.58	
Zinc	=	601	

Report the average concentration (mg/kg, dry weight basis) of Total Nitrogen (TKN plus Nitrate-Nitrite, as N) in the sewage sludge or biosolids that was applied to land during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Total Nitrogen (TKN plus Nitrate-Nitrite)	=	7.66	

Compliance Monitoring Event No. 3 **Compliance Monitoring Period Start Date:** 07/01/2018 **Compliance Monitoring Period End Date:** 09/30/2018

Do you have analytical results to report for this monitoring period? ☑ YES ☐ NO

Are you reporting maximum pollutant concentrations that are equivalent to the monthly average pollutant concentrations for this compliance monitoring event? [For example, this will be the case if you only collected and analyzed one sample of sewage sludge or biosolids for this compliance monitoring period.]

☑ YES ☐ NO

Maximum Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the maximum pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. In accordance with 40 CFR 503.13(a) (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113), EPA's regulations prohibit land application of bulk sewage sludge or sewage sludge sold or gave away sewage sludge in a bag or other container when one or more sewage sludge pollutant concentrations in the sewage sludge exceed a land application ceiling pollutant limit (Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113)). EPA will compare the pollutant concentrations in this section against the ceiling concentration limits in Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113) to identify noncompliance events. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Please only select a "No Data Indicator Code" if you are reporting no data for the sampling period or particular parameter.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	4.23	
Cadmium	=	0.926	
Copper	=	148	
Lead	=	10.2	
Mercury	=	0.377	
Molybdenum	=	5.35	
Nickel	=	13.3	
Selenium	=	4.27	
Zinc	=	952	

Pathogen And Vector Attraction Reduction

Report the maximum pathogen densities in the sewage sludge or biosolids that was placed on an active sewage sludge unit during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Value	If No Data, Select One Of The Following
Fecal Coliform	<	2	
Salmonella	=		

Monthly Average Pollutant Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the monthly average pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	4.23	
Cadmium	=	0.926	

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Copper	=	148	
Lead	=	10.2	
Mercury	=	0.377	
Nickel	=	13.3	
Selenium	=	4.27	
Zinc	=	952	

Report the average concentration (mg/kg, dry weight basis) of Total Nitrogen (TKN plus Nitrate-Nitrite, as N) in the sewage sludge or biosolids that was applied to land during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Total Nitrogen (TKN plus Nitrate-Nitrite)	=	7.42	

Compliance Monitoring Event No. 4 **Compliance Monitoring Period Start Date:** 10/01/2018 **Compliance Monitoring Period End Date:** 12/31/2018

Do you have analytical results to report for this monitoring period? ☑ YES ☐ NO

Are you reporting maximum pollutant concentrations that are equivalent to the monthly average pollutant concentrations for this compliance monitoring event? [For example, this will be the case if you only collected and analyzed one sample of sewage sludge or biosolids for this compliance monitoring period.]

☑ YES ☐ NO

Maximum Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the maximum pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. In accordance with 40 CFR 503.13(a) (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113), EPA's regulations prohibit land application of bulk sewage sludge or sewage sludge sold or gave away sewage sludge in a bag or other container when one or more sewage sludge pollutant concentrations in the sewage sludge exceed a land application ceiling pollutant limit (Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113)). EPA will compare the pollutant concentrations in this section against the ceiling concentration limits in Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113) to identify noncompliance events. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Please only select a "No Data Indicator Code" if you are reporting no data for the sampling period or particular parameter.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.47	
Cadmium	=	0.935	
Copper	=	139	
Lead	=	12.1	
Mercury	<	0.271	
Molybdenum	=	4.38	
Nickel	=	13.4	
Selenium	=	3.68	
Zinc	=	829	

Pathogen And Vector Attraction Reduction

Report the maximum pathogen densities in the sewage sludge or biosolids that was placed on an active sewage sludge unit during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Value	If No Data, Select One Of The Following
Fecal Coliform	<	2	
Salmonella	=		

Monthly Average Pollutant Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the monthly average pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.47	
Cadmium	=	0.935	

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Copper	=	139	
Lead	=	12.1	
Mercury	<	0.271	
Nickel	=	13.4	
Selenium	=	3.68	
Zinc	=	829	

Report the average concentration (mg/kg, dry weight basis) of Total Nitrogen (TKN plus Nitrate-Nitrite, as N) in the sewage sludge or biosolids that was applied to land during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Total Nitrogen (TKN plus Nitrate-Nitrite)	=	7.09	

ID: 002

Amount: 4.5

Management Practice Detail: Distribution and Marketing - Heat Dried Biosolids

Bulk or Bag/Container: Bag or Container

Handler, Preparer, or Applier Type: On-Site Owner or Operator

Pathogen Class: Class A EQ

Sewage Sludge or Biosolids Pathogen Reduction Options:

- Class A-Alternative 1: Time/Temperature

Sewage Sludge or Biosolids Vector Attraction Reduction Options:

- Option 7 - Drying (Equal to or Greater than 75 Percent)

Did the facility land apply bulk sewage sludge when one or more pollutants in the sewage sludge exceeded 90 percent or more of any of the cumulative pollutant loading rates in Table 2 of 40 CFR 503.13?

☐ YES ☑ NO ☐ UNKNOWN

Monitoring Data

INSTRUCTIONS: Pollutants, pathogen densities, and vector attraction reduction must be monitored when sewage sludge or biosolids are applied to the land. Please use the following section to report monitoring data for the land application conducted by you or your facility in the reporting period for this SSUID. These monitoring data should be representative of the sewage sludge or biosolids that was applied to land during the compliance monitoring period for this SSUID (40 CFR 503.8(a) (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_18)). All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis. EPA will be using these data to demonstrate compliance with EPA's land application requirements (40 CFR 503, Subpart B).

Compliance Monitoring Periods

INSTRUCTIONS: Please use the table below to identify the start date and end date for each compliance monitoring period. The number of compliance monitoring periods reported will correspond to the required frequency of monitoring (monthly, quarterly, semi-annually, or annually). For example, if monthly monitoring is required, you should report 12 compliance monitoring periods. The required frequency is determined by the number of metric tons (dry weight basis) of sewage sludge or biosolids land applied in the reporting period for this SSUID (40 CFR 503.16 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_116)).

Compliance Monitoring Event No. 1 **Compliance Monitoring Period Start Date:** 01/01/2018 **Compliance Monitoring Period End Date:** 03/31/2018

Do you have analytical results to report for this monitoring period? ☑ YES ☐ NO

Are you reporting maximum pollutant concentrations that are equivalent to the monthly average pollutant concentrations for this compliance monitoring event? [For example, this will be the case if you only collected and analyzed one sample of sewage sludge or biosolids for this compliance monitoring period.]

☑ YES ☐ NO

Maximum Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the maximum pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. In accordance with 40 CFR 503.13(a) (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113), EPA's regulations prohibit land application of bulk sewage sludge or sewage sludge sold or gave away sewage sludge in a bag or other container when one or more sewage sludge pollutant concentrations in the sewage sludge exceed a land application ceiling pollutant limit (Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113)). EPA will compare the pollutant concentrations in this section against the ceiling concentration limits in Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113) to identify noncompliance events. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Please only select a "No Data Indicator Code" if you are reporting no data for the sampling period or particular parameter.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.04	
Cadmium	=	1.01	
Copper	=	153	
Lead	=	10.2	
Mercury	=	0.525	
Molybdenum	=	6.41	
Nickel	=	14.9	
Selenium	=	3.41	
Zinc	=	699	

Pathogen And Vector Attraction Reduction

Report the maximum pathogen densities in the sewage sludge or biosolids that was placed on an active sewage sludge unit during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Value	If No Data, Select One Of The Following
Fecal Coliform	<	2	
Salmonella	=		

Monthly Average Pollutant Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the monthly average pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.04	
Cadmium	=	1.01	

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Copper	=	153	
Lead	=	10.2	
Mercury	=	0.525	
Nickel	=	14.9	
Selenium	=	3.41	
Zinc	=	699	

Report the average concentration (mg/kg, dry weight basis) of Total Nitrogen (TKN plus Nitrate-Nitrite, as N) in the sewage sludge or biosolids that was applied to land during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Total Nitrogen (TKN plus Nitrate-Nitrite)	=	7.23	

Compliance Monitoring Event No. 2 **Compliance Monitoring Period Start Date:** 04/01/2018 **Compliance Monitoring Period End Date:** 06/30/2018

Do you have analytical results to report for this monitoring period? ☑ YES ☐ NO

Are you reporting maximum pollutant concentrations that are equivalent to the monthly average pollutant concentrations for this compliance monitoring event? [For example, this will be the case if you only collected and analyzed one sample of sewage sludge or biosolids for this compliance monitoring period.]

☑ YES ☐ NO

Maximum Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the maximum pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. In accordance with 40 CFR 503.13(a) (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113), EPA's regulations prohibit land application of bulk sewage sludge or sewage sludge sold or gave away sewage sludge in a bag or other container when one or more sewage sludge pollutant concentrations in the sewage sludge exceed a land application ceiling pollutant limit (Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113)). EPA will compare the pollutant concentrations in this section against the ceiling concentration limits in Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113) to identify noncompliance events. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Please only select a "No Data Indicator Code" if you are reporting no data for the sampling period or particular parameter.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.68	
Cadmium	=	0.924	
Copper	=	127	
Lead	=	8.63	
Mercury	=	0.377	
Molybdenum	=	8.09	
Nickel	=	12.9	
Selenium	=	4.58	
Zinc	=	601	

Pathogen And Vector Attraction Reduction

Report the maximum pathogen densities in the sewage sludge or biosolids that was placed on an active sewage sludge unit during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Value	If No Data, Select One Of The Following
Fecal Coliform	<	2	
Salmonella	=		

Monthly Average Pollutant Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the monthly average pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.68	
Cadmium	=	0.924	

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Copper	=	127	
Lead	=	8.63	
Mercury	=	0.377	
Nickel	=	12.9	
Selenium	=	4.58	
Zinc	=	601	

Report the average concentration (mg/kg, dry weight basis) of Total Nitrogen (TKN plus Nitrate-Nitrite, as N) in the sewage sludge or biosolids that was applied to land during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Total Nitrogen (TKN plus Nitrate-Nitrite)	=	7.66	

Compliance Monitoring Event No. 3 | **Compliance Monitoring Period Start Date:** 07/01/2018 | **Compliance Monitoring Period End Date:** 09/30/2018

Do you have analytical results to report for this monitoring period? ☑ YES ☐ NO

Are you reporting maximum pollutant concentrations that are equivalent to the monthly average pollutant concentrations for this compliance monitoring event? [For example, this will be the case if you only collected and analyzed one sample of sewage sludge or biosolids for this compliance monitoring period.]

☑ YES ☐ NO

Maximum Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the maximum pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. In accordance with 40 CFR 503.13(a) (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113), EPA's regulations prohibit land application of bulk sewage sludge or sewage sludge sold or gave away sewage sludge in a bag or other container when one or more sewage sludge pollutant concentrations in the sewage sludge exceed a land application ceiling pollutant limit (Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113)). EPA will compare the pollutant concentrations in this section against the ceiling concentration limits in Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113) to identify noncompliance events. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Please only select a "No Data Indicator Code" if you are reporting no data for the sampling period or particular parameter.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	4.23	
Cadmium	=	0.926	
Copper	=	148	
Lead	=	10.2	
Mercury	=	0.377	
Molybdenum	=	5.35	
Nickel	=	13.3	
Selenium	=	4.27	
Zinc	=	952	

Pathogen And Vector Attraction Reduction

Report the maximum pathogen densities in the sewage sludge or biosolids that was placed on an active sewage sludge unit during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Value	If No Data, Select One Of The Following
Fecal Coliform	<	2	
Salmonella	=		

Monthly Average Pollutant Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the monthly average pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	4.23	
Cadmium	=	0.926	

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Copper	=	148	
Lead	=	10.2	
Mercury	=	0.377	
Nickel	=	13.3	
Selenium	=	4.27	
Zinc	=	952	

Report the average concentration (mg/kg, dry weight basis) of Total Nitrogen (TKN plus Nitrate-Nitrite, as N) in the sewage sludge or biosolids that was applied to land during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Total Nitrogen (TKN plus Nitrate-Nitrite)	=	7.42	

Compliance Monitoring Event No. 4 | **Compliance Monitoring Period Start Date:** 10/01/2018 | **Compliance Monitoring Period End Date:** 12/31/2018

Do you have analytical results to report for this monitoring period? ☑ YES ☐ NO

Are you reporting maximum pollutant concentrations that are equivalent to the monthly average pollutant concentrations for this compliance monitoring event? [For example, this will be the case if you only collected and analyzed one sample of sewage sludge or biosolids for this compliance monitoring period.]

☑ YES ☐ NO

Maximum Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the maximum pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. In accordance with 40 CFR 503.13(a) (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113), EPA's regulations prohibit land application of bulk sewage sludge or sewage sludge sold or gave away sewage sludge in a bag or other container when one or more sewage sludge pollutant concentrations in the sewage sludge exceed a land application ceiling pollutant limit (Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113)). EPA will compare the pollutant concentrations in this section against the ceiling concentration limits in Table 1 of 40 CFR 503.13 (http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.32.503&rgn=div5#se40.32.503_113) to identify noncompliance events. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Please only select a "No Data Indicator Code" if you are reporting no data for the sampling period or particular parameter.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.47	
Cadmium	=	0.935	
Copper	=	139	
Lead	=	12.1	
Mercury	<	0.271	
Molybdenum	=	4.38	
Nickel	=	13.4	
Selenium	=	3.68	
Zinc	=	829	

Pathogen And Vector Attraction Reduction

Report the maximum pathogen densities in the sewage sludge or biosolids that was placed on an active sewage sludge unit during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Value	If No Data, Select One Of The Following
Fecal Coliform	<	2	
Salmonella	=		

Monthly Average Pollutant Concentration Data for All Sewage Sludge or Biosolids Applied to Land

This section summarizes the monthly average pollutant concentrations in the biosolids or sewage sludge that was applied to land during the compliance monitoring period for this SSUID. All pollutant monitoring data should be reported in milligrams per kilogram (mg/kg), dry weight basis.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Arsenic	=	3.47	
Cadmium	=	0.935	

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Copper	=	139	
Lead	=	12.1	
Mercury	<	0.271	
Nickel	=	13.4	
Selenium	=	3.68	
Zinc	=	829	

Report the average concentration (mg/kg, dry weight basis) of Total Nitrogen (TKN plus Nitrate-Nitrite, as N) in the sewage sludge or biosolids that was applied to land during the compliance monitoring period for this SSUID.

Sewage Sludge or Biosolids Parameter	Value Qualifier	Parameter Concentration (mg/kg, dry-weight basis)	If No Data, Select One Of The Following
Total Nitrogen (TKN plus Nitrate-Nitrite)	=	7.09	

Sludge Management - Surface Disposal

Sludge Management - Incineration

Sludge Management - Other Management Practice

Additional Information

Please enter any additional information that you would like to provide in the comment box below.

Additional Attachments

Name	Created Date	Size

Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Signing an electronic document on behalf of another person is subject to criminal, civil, administrative, or other lawful action.

Certified By: Craig L. Brymer (FIRETOWER)

Certified On: