NPDES Compliance Inspection Manual

Appendix P

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Appendix P –
Sludge Inspection Checklists

Sludge Inspection Checklist

Yes No N/A	1. Are 40 CFR Part 503 sludge use and disposal requirements contained in a current NPDES permit, in a separate "sludge only" NPDES permit, in a RCRA Subtitle C permit, or in a CAA permit? [503.3(a)(1) or (2) (1)]
Yes No N/A	2. Sludge use and disposal practice(s): a. Land Application ____ [503.10] Bulk Sewage Sludge ____ [503.11(e)] Bulk Material Derived from Sewage Sludge ____ [503.11(e)] Or Sold or Given Away in a Bag or Another Container ____ [503.11(e)]
Yes No N/A	b. Surface Disposal ____ [503.20]
Yes No N/A	c. Sewage Sludge Incineration ____ [503.40]
Yes No N/A	d. Onsite or Offsite Storage ____ [503.9(y)] Date storage began ____ ended ____ (Maximum time allowed: 2 years from February 19, 1993)
Yes No N/A	e. Other (list)_____
Yes No N/A	3. Each sludge use or disposal practice is permitted? [503.3(a)(1) (1)]
Yes No N/A	4. Notification is given to EPA/State of new or different sludge disposal method? (Permit)
Yes No N/A	5. Number and location of disposal sites/activities are as described in the permit or fact sheet or land application plan (40 CFR Part 501)? [Permit]
Comments:	
Yes No N/A	1. Self-monitoring data are available for all regulated pollutants? [503.17], [503.27], [503.43]
Yes No N/A	2. Pathogen and vector attraction reduction method description and certification statement(s) available? [503.17], [503.27]
Yes No N/A	3. Records are available for each applicable use or disposal practice? [503.17], [503.27], [503.47]
Yes No N/A	4. Accurate records of sludge volume or mass are maintained, where appropriate? [503.25], [503.47]
Yes No N/A	5. Monitoring and analyses are performed more often than required by permit? If so, results are reported in the permittee's self-monitoring report? [Permit]
Yes No N/A	6. Unit operations records verify compliance with pathogen and vector attraction reduction requirements, where appropriate? [503.15], [503.25]
Yes No N/A	7. Self-monitoring is conducted at the frequency specified in the permit, in 503.16 Table 1 (land application), or in 503.26 Table 1 (surface disposal)? [503.16],

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	[503.26] or [503.46] Table 1. Production-dependent – 0-289 mtpy: 1/yr., 290-1499 mtpy: 1/qtr., 1500-14999 mtpy: ½ mo., 15000 mtpy and greater, 1/mo.) mtpy-metric ton per year
Yes No N/A	8. Facility reports sludge monitoring data at the frequency specified in the permit? (Only for Class I facilities or POTWs with either total design flow >1 mgd or serving population >10,000) [503.18], [503.28], [503.48]
Yes No N/A	9. Sludge records are maintained for at least 5 years? [503.17], [503.27], [503.47]
Yes No N/A	10. Sludge data are reported on Discharge Monitoring Report (DMR) or approved form? [Permit]
Yes No N/A	11. Sludge records are adequate to assess compliance with annual and/or cumulative pollutant loading rates or other established permit limits? [503.13(a) (2) (i), 503.13(a) (4) (ii)]
Comments:	
Yes No N/A	1. Sludge samples are taken at locations specified in the permit? [Permit]
Yes No N/A	2. Sludge sample locations are appropriate for obtaining representative samples? [503.8(a)
Yes No N/A	3. Sampling and analysis are conducted for parameters specified in the permit or in 40 CFR Part 503? [Permit], [503.13], [503.23], [503.46]
	4. Sample collection procedures:
Yes No N/A	a. Adequate sample volumes are obtained?
Yes No N/A	b. Proper preservation techniques are used?
Yes No N/A	c. Containers conform to appropriate analytical method specified in 40 CFR Part 503.8?
Yes No N/A	d. Samples analyzed in the appropriate time frames in accordance with 40 CFR Part 503.8?
Yes No N/A	5. Are results reported on a dry weight basis? [503.13], [503.23], [503.43] (Dry weight concentration = Wet weight concentration/Decimal fraction of solids) e.g., A sludge containing 20 mg/l Cu and having 5% solids. Dry weight Cu (mg/kg) = $\frac{20 \text{ mg/1}}{0.05}$ = 400 mg/kg
Yes No N/A	6. Sample is refrigerated subsequent to compositing?
Yes No N/A	7. Chain-of-custody procedures are employed?
Yes No N/A	8. Analytical methods used are approved methods in 40 CFR Part 503.8 or updated methods specified for Part 503 compliance?

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Comments:	
Yes No N/A	1. Sludge process control parameters maintained as appropriate?
Yes No N/A	2. Adequate equipment redundancy (e.g., back-up units)?
Yes No N/A	3. Adequate sludge storage capacity?
Yes No N/A	4. Contingency plan for sludge disposal practice?
Yes No N/A	5. Solids handling operation adequate to manage volume of sludge?
Comments:	
Yes No N/A	1. Is primary unstabilized sludge fed to the thickener, centrifuge or drying bed? If yes, list percentage of unstabilized sludge _____
Yes No N/A	2. What is the average % solids of the sludge before thickening, drying or centrifuging? _____ % after? _____ %
Yes No N/A	3. Is sludge mixed with other materials before or after thickening?
Yes No N/A	4. For sludge containing unstabilized solids, is the percent solids greater than 90% prior to mixing with other materials?
Yes No N/A	5. For sludge containing no unstabilized solids, is the percent solids greater than 75% prior to mixing with other materials?
Comments:	
	1. Sludge fed to digester(s) includes: ___Primary ___Secondary ___Combined
	2. Digester(s) operating mode: ___high rate ___ low rate
Yes No N/A	3. Digester(s) are operated at proper temperature [mesophilic: 95°F (35°C) and thermophilic: 131°F (55°C)?
	List operating mode: ___ mesophilic ___ thermophilic
Yes No N/A	4. Temperature monitoring location and frequency sufficient to demonstrate compliance with Class B pathogen reduction requirements for PSRP?
	Average Temperature: ____°C or °F

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Yes No N/A	5. Solids Retention Time (SRT) or Mean Cell Residence time (MCRT) calculated properly? *
Yes No N/A	6. SRT or MCRT sufficient to demonstrate compliance with Class B pathogen reduction requirements for PSRP? Average SRT or MCRT: ____days *For batch operated digesters with no recycle: SRT or MCRT = Mass of solids in digester, kg Solids removed, kg/day This formula can be used to estimate SRT or MCRT for all digester systems. For calculating SRT or MCRT for other system configurations, use the WEF Manual of Practice or other references. Always write down the calculation used by the facility no matter what the configuration is.
Comments:	
	1. Sludge fed to digester(s) includes: ___Primary ___Secondary ___Combined
	2. Digester(s) operating mode: ___high rate ___ low rate
Yes No N/A	3. Digester(s) are operated at proper temperature [cryophilic: <50°F (<10°C), mesophilic: 50-108°F (10-42°C), and thermophilic: >108°F (42°C)? List operating mode: ___ cryophilic ___ mesophilic ___ thermophilic
Yes No N/A	4. Temperature monitoring location and frequency sufficient to demonstrate compliance with Class B pathogen reduction requirements for PSRP or with Class A pathogen reduction requirements for PFRP (Thermophilic aerobic digestion only)? Average Temperature: ____°C or °F
Yes No N/A	5. Solids Retention Time (SRT) or Mean Cell Residence time (MCRT) calculated properly? *
Yes No N/A	6. SRT or MCRT sufficient to demonstrate compliance with Class B pathogen reduction requirements for PSRP or with Class A pathogen reduction requirements for PFRP (Thermophilic digestion only)? Average SRT or MCRT: ____days
Yes No N/A	7. Aerobic conditions verified through dissolved oxygen monitoring? *For batch operated digesters with no recycle: SRT or MCRT = Mass of solids in digester, kg Solids removed, kg/day This formula can be used to estimate SRT or MCRT for all digester systems. For calculating SRT or MCRT for other system configurations, use the WEF Manual of

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			Practice or other references. Always write down the calculation used by the facility no matter what the configuration is.
Comments:			
			1. Type of composting performed: ____ In vessel ____ Static piles ____ Windrows
			2. Type of sludge composted: ____ Primary ____ Secondary ____ Combined
Yes	No	N/A	3. Is the moisture content monitored?
Yes	No	N/A	4. Is compost mixed? Method? _____ Frequency of turnings? _____
Yes	No	N/A	5. Is oxygen content monitored?
Yes	No	N/A	6. Is temperature monitored?
Yes	No	N/A	7. Are total and total volatile solids monitored?
			8. Active phase ____ days Curing phase ____ days
Yes	No	N/A	9. Is site runoff treated? Where? _____
Yes	No	N/A	10. Temperature monitoring location and frequency sufficient to demonstrate compliance with Class B pathogen reduction requirements for PSRP or with Class A pathogen reduction requirements for PFRP?
Yes	No	N/A	11. Temperature and/or oxygen monitoring sufficient to determine compliance with vector attraction reduction requirements?
Comments:			
Yes	No	N/A	1. Sewage sludge or material derived from sewage sludge is land applied to:
			Agricultural Land _____ Forest _____ Reclamation Site _____ Lawn or Home Garden _____ Public Contact Site (Park, etc.) _____
Yes	No	N/A	2. Do monitoring results show pollutant concentrations below values shown in Table 1 in 40 CFR Part 503.13(b)(1)? [Part 503.13(a)(1)[2]
Yes	No	N/A	3. Do monitoring results show pollutant concentrations below values shown in 40 CFR Part 503.13(b)(3)?[3]
			4. Classifications of Sewage Sludge with respect to Pathogens: [503.30][4] Class A _____ Class B _____ Unknown _____
Yes	No	N/A	5. Are Class A Pathogen reduction requirements met? [503.15(a) [4]

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			6. Indicate which method is used to meet Class A requirements: [503.32(a) ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and Time/Temperature requirements. [503.32(a)(3) ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and pH requirements. [503.32(a)(4) ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and enteric viruses or helminth ova reduction requirements. [503.32(a)(5) ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and enteric viruses or helminth ova density requirements. [503.32(a)(6) ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and Process to Further Reduce Pathogens (PFRP). [503.32(a)(7) and [503 Appendix B] (5) ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and equivalent PFRP. [503.32(a)(8) and [503 Appendix B] (5)
Yes	No	N/A	7. Are Class B Pathogen reduction requirements met? [503.32(b) [4]
			8. Indicate which method(s) is used to meet Class B requirements: ___ Geometric mean of seven Fecal Coliform samples with <2,000,000 MPN/g total solids or <2,000,000 Colony Forming Units/g total solids. [503.32(b)(2) ___ Treated by Process to Significantly Reduce Pathogens (PSRP). [503.32(b)(3) and [503 Appendix B] [5] Treated by equivalent PSRP. [503.32(b)(4) and [503 Appendix B] [5]
Yes	No	N/A	9. For Class B sludge which is land applied, are Site Restrictions practiced? [503.32 (b)(5) (4)
Yes	No	N/A	10. Indicate Site Restrictions practiced where applicable:
			___ Food crops (above ground) are harvested >14 months after application of sewage sludge? [503.32(b)(5)(i) ___ Food Crops (below ground) are harvested >20 months after application of sewage sludge when sludge stays on land for >4 months prior to incorporation into soil? [503.32(b)(5)(ii) ___ Food Crops (below ground) are harvested >38 months after application of sewage sludge when sludge stays on land for <4 months prior to incorporation into soil? [503.32(b)(5)(iii) ___ Food Crops, feed crops, and fiber crops are harvested >30 days after application of sewage sludge? [503.32(b)(5)(iv) ___ Animal grazing allowed on land only >30 days after application of sewage sludge? [503.32(b)(5)(v) ___ Turf grown on land where sewage sludge was applied placed on high public expose land or lawn is harvested >1 year after application of sewage sludge? [503.32(b)(5)(vi) ___ Public access is restricted to land with a potential for high public exposure for 1 year? [503.32(b)(5)(vii)

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			___ Public access is restricted to land with a potential for low public exposure for 30 days? [503.32(b)(5)(viii)
Yes	No	N/A	11. Is a Vector Attraction Reduction method practiced? [503.15(c) (6)
Yes	No	N/A	12. Indicate Vector Attraction Reduction method: [503.33(b)
			___ 38% Volatile Solids Reduction. [503.33(b)(1) (7)
			___ 40-day test - Volatile Solids reduced <17%. [503.33(b)(2) (Anaerobic Digestion Only)
			___ 30-day test - Volatile Solids reduced <15%. [503.33(b)(3) (Aerobic Digestion Only)
			___ Specific Oxygen Uptake Rate (SOUR) <1.5 mg/hr./gm TS @ 20°C. [503.33(b)(4)
			___ Aerobic Process for >14 days @ >40°C with average sludge temperatures >45°C. [503.33(b)(5)
			___ pH >12 for 2 hours and pH >11.5 for 22 hours [503.33(b)(6)
			___ Sludge (with no unstabilized solids) contains >75% Total Solids prior to mixing with other materials. [503.33(b)(7)
			___ Sludge (contains unstabilized solids) contains >90% Total Solids prior to mixing with other materials. [503.33(b)(8)
			___ Subsurface Injection. [503.33(b)(9)
			___ Soil Incorporation. [503.33(b)(10)
Yes	No	N/A	13. Are general requirements (503.12) and management practices (503.14) applied for sludge not meeting Table 3 pollutant concentrations, Class pathogen reduction requirements, and vector attraction reduction methods? [503.10], [503.12], [503.14]
Yes	No	N/A	14. Indicate management practices where applicable: ___ No threatened or endangered species present or critical habitat affected at the location(s) where bulk sludge is applied. ___ Bulk sludge not applied to frozen or snow covered ground. ___ Bulk sludge applied >10 meters from waters of the U.S. ___ Bulk sludge applied at a rate equal to or less than agronomic rate. ___ Label affixed on bag or information sheet provided to user of sold and given away sludge indicating name of sludge preparer, application instructions, and maximum annual whole sludge application rate.
Yes	No	N/A	15. Indicate general requirements practiced where applicable:
			___ Sludge is not applied to a site where the cumulative pollutant loading or annual application rate has been reached.
			___ Notification given to the sludge applier regarding total nitrogen content of the sludge.
			___ Sufficient information required to comply with 40 CFR Part 503 is given to preparers/appliers/land owners.

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	___ Written notification given to permitting authority (including States) regarding the location of land application sites, appropriate NPDES permit numbers.
Yes No N/A	16. Description of how management practices are met for each land application site available?
Comments:	

Land Application Footnotes:

(1) Permits are not required. Part 503 is self-implementing. Part 503 does not cover industrial sludges or grit and screenings.

(2) 503.13(b)(1), Table 1 values must be met to land apply sludge:

Table 1 (mg/kg):

Arsenic	75	Lead	840	Nickel	420
Cadmium	85	Mercury	5757	Selenium	100
Copper	4300	Molybdenum	75	Zinc	7500

(3) 503.13(b)(3), Table 3 must be met for any sludge applied to a lawn or home garden. For bulk sludge, Table 3 must be met or the sludge is subject to cumulative loading limits in 503.13(b)(2). For sewage sludge sold and given away in a bag or other container, Table 3 must also be met or the sludge is subject to annual pollutant loadings in 503.13(b)(4). This also signals that additional recordkeeping requirements of 503.12 and 503.17 apply.

Table 2 (mg/kg):

Arsenic	41	Lead	300	Selenium	100
Cadmium	39396	Mercury	17	Zinc	2800
Copper	1500	Nickel	420		

(4) Class A requirements must be met when bulk sludge is land applied to a lawn or home garden, or when sewage sludge is sold or given away in a bag or another container. Also, Class A requirements or Class B requirements combined with appropriate site restrictions must be met for when bulk or bulk material derived from sludge is applied to agricultural land, reclamation site, forest, or public contact site.

(5) Process to Significantly Reduce Pathogens (PSRP) includes Aerobic Digestion, Air Drying, Anaerobic Digestion, Composting, and Lime Stabilization. Process to Further Reduce Pathogens (PFRP) includes Composting, Heat Drying, Heat Treatment, Thermophilic Aerobic Digestion, Beta Ray Irradiation, Gamma Ray Irradiation, and Pasteurization. Each process has required operating conditions to demonstrate compliance. See 503 Appendix B and Unit Process Checklists.

(6) One of the methods 503.33(b)(1)-(10) must be used when land applying bulk sewage sludge to agricultural land, forest, a public contact site, or a reclamation site. One of the methods 503.33(b)(1)-(8) must be met when land applying bulk sludge to a lawn or home garden, or when sewage sludge or derived material is sold or given away in a bag or another container.

(7) Volatile solids reduction through the sludge treatment train [only] is generally calculated using the Van Kleek equation. following general formula:

$$\% \text{ VS Reduction} = \frac{(\text{Mass of solids in, kg} \times \text{Mass of solids out, kg}) \times 100}{\text{Mass of solids in, kg}}$$

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Other Variations of this formula are presented in the document Environmental Regulations and Technology-Control of Pathogens and Vector Attraction in Sewage Sludge, EPA-625/R-92/013. See document for specific calculations. Website: http://www.epa.gov/ORD/NRMRL/Pubs/1992/625R92013.html.			
Yes	No	N/A	1. Does each Surface Disposal Unit (SDU) have a liner and leachate collection system?
			2. Smallest distance from active SDU boundary to property boundary is _____ ft.
Yes	No	N/A	3. For an active SDU (property boundary is greater than 150 meters from SDU) and without a liner or leachate collection system, do monitoring results show pollutant concentrations below values shown in 40 CFR Part 503.23(a)(1) Table 1? [503.23(a)(1)[1]
Yes	No	N/A	4. For an active SDU without a liner and leachate collection system (property boundary is less than 150 meters from SDU), do monitoring results show pollutant concentrations below values shown in 40 CFR Part 503.23(a)(2) Table 2? [503.23(a)(1)[2]
Yes	No	N/A	5. Are management practices employed? [503.24]
Yes	No	N/A	6. List management practices where applicable: ___ No threatened or endangered species present or critical habitat affected at the location where bulk sludge is surface disposed. ___ Surface disposal unit shall not restrict flow of base flood. ___ If in seismic impact zone, design will withstand recorded horizontal ground acceleration. ___ Located > 60 meters from any fault displaced in Holocene time. ___ Not located in unstable area or wetlands. ___ Runoff collection and treatment with 25-year, 24-hour storm runoff event storage capacity. ___ Leachate collection system operated and maintained for 3 years after closure of the surface disposal unit. ___ Leachate treated and disposed of in accordance with applicable requirements, i.e., NPDES permit. ___ Methane is contained under covered units at a concentration less than 25% of the LEL for methane. ___ Methane is contained under a final cover placed on a closed unit maintained at a concentration less than 25% of the LEL for methane for three years after closure. ___ Methane concentration at the property line is maintained at a concentration less than the LEL for methane for three years after closure of the unit. ___ No feed or food crops grown on active unit.[3] ___ No animal grazing allowed on active unit.[3] ___ Public access restricted for the period of time while a unit is active and for three years after last active unit in a site closes.

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			___ Sludge placed in an active unit does not contaminate groundwater aquifers.[4]
Yes	No	N/A	7. Classification of Sewage Sludge with respect to Pathogens: [503.30]
			Class A _____ Class B _____ Unknown _____
Yes	No	N/A	8. Are Class A Pathogen reductions requirements met? [503.15(a)[5]
			9. Indicate which method is used to meet Class A requirements: [503.32(a) ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and Time/Temperature requirements. [503.32(a)(3) ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and pH requirements. [503.32(a)(4) ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and enteric viruses or helminth ova reduction requirements. [503.32(a)(5) ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and enteric viruses or helminth ova density requirements. [503.32(a)(6) ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and Process to Further Reduce Pathogens (PFRP). [503.32(a)(7) and [503 Appendix B] ___ Fecal Coliform <1000 MPN/g total solids, or *Salmonella* <3 MPN/4 g total solids, and equivalent PFRP. [503.32(a)(8) and [503 Appendix B][7]
Yes	No	N/A	10. Are Class B Pathogen reduction requirements met? [503.32(b) (5)
			11. Indicate which method(s) is used to meet Class B requirements: ___ Geometric mean of seven Fecal Coliform samples with <2,000,000 MPN/g total solids or <2,000,000 Colony Forming Units/g total solids. [503.32(b)(2) ___ Treated by Process to Significantly Reduce Pathogens (PSRP). [503.32(b)(3) and [503 Appendix B][6] ___ Treated by equivalent PSRP. [503.32(b)(4) and [503 Appendix B][6]
Yes	No	N/A	12. Is a Vector Attraction Reduction method practiced? [503.25(b)[7]
Yes	No	N/A	13. Indicate Vector Attraction Reduction method: [503.33(b) ___ 38% Volatile Solids Reduction. [503.33(b)(1) ___ 40-day test - Volatile Solids reduced <17%. [503.33(b)(2) (Anaerobic Digestion Only) ___ 30-day test - Volatile Solids reduced <15%. [503.33(b)(3) (Aerobic Digestion Only) ___ Specific Oxygen Uptake Rate (SOUR) <1.5 mg/hr./gm TS @ 20°C. [503.33(b)(4) ___ Aerobic Process for >14 days @ >40°C with average sludge temperatures >45°C. [503.33(b)(5) ___ pH >12 for 2 hours and pH >11.5 for 22 hours [503.33(b)(6) ___ Sludge (with no unstabilized solids) contains >75% Total Solids prior to mixing with other materials. [503.33(b)(7) ___ Sludge (contains unstabilized solids) contains >90% Total Solids prior to mixing with other materials. [503.33(b)(8)

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	___ Subsurface Injection. [503.33(b)(9) ___ Soil Incorporation. [503.33(b)(10) ___ Sludge covered with soil or other material at the end of the day. [503.33(b)(11)
Yes No N/A	14. Have any SDUs been closed?
Yes No N/A	15. Has facility submitted closure and post closure plan for any active SDU 180 days prior to closing? [503.22(c)
Comments:	

Surface Disposal Footnotes:

(1) Table 1 of 503.23(a)(1) must be met for all sludge placed in an active surface disposal unit with a distance of greater than 150 meters from the boundary of the surface disposal unit to the property line. Site-specific limits can also be set by the permitting authority in accordance with 503.23(b).

Table 1 (mg/kg - dry weight basis)

Arsenic	73	Chromium	600	Nickel	420

(2) Table 2 of 503.23(a)(2) must be met for all sludge placed in an active surface disposal unit with a distance of less than 150 meters from the boundary of the surface disposal unit to the property line. Site-specific limits can also be set by the permitting authority in accordance with 503.23(b).

Table 2 (mg/kg - dry weight basis)

Distance between unit boundary and property line (m)	Pollutant Concentration (mg/kg)		
	Arsenic	Chromium	Nickel
0 to less than 25	30	200	210
25 to less than 50	34	220	240
50 to less than 75	39	260	270
75 to less than 100	46	300	320
100 to less than 125	53	360	390
125 to less than 150	62	450	420

(3) Unless specific approval from the permitting authority has been obtained by the facility.

(4) Facility must have results of groundwater monitoring study developed by a qualified groundwater scientist or a certification from a qualified groundwater scientist to demonstrate no contamination.

(5) Facility must meet Class A pathogen reduction requirements of 503.32(a) or Class B 503.32(b)(2) through (b)(4) unless vector attraction reduction method 503.33(b)(11), covering sludge at the end of the day, is used.

(6) Process to Significantly Reduce Pathogens (PSRP) includes Aerobic Digestion, Air Drying, Anaerobic Digestion, Composting, and Lime Stabilization. Process to Further Reduce Pathogens (PFRP) includes Composting, Heat Drying, Heat Treatment, Thermophilic Aerobic Digestion, Beta Ray Irradiation, Gamma Ray Irradiation, and Pasteurization. Each process has required operating conditions to demonstrate compliance. See 503 Appendix B and Unit Process Checklist.

(7) Facility must meet vector attraction reduction requirements of 503.33(b) to surface dispose sludge.

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Yes	No	N/A	1. Does the incinerator meet the definition of a sewage sludge incinerator?
Yes	No	N/A	2. Do sewage sludge monitoring results show pollutant concentrations below permit limits?
Yes	No	N/A	3. Does THC monitoring show concentrations below 100 ppm (monthly average)?
Yes	No	N/A	4. Are there instruments installed that continuously measure and record THC (or alternatively CO), oxygen concentration, moisture content, and combustion temperatures?
Yes	No	N/A	5. Is the THC instrument calibrated as required by 503.45 (once every 24-hour period using propane) or the permit?
Yes	No	N/A	6. Are the other instruments calibrated as required by the permit?
Yes	No	N/A	7. Are the instruments operated and maintained as specified by the permit?
Yes	No	N/A	8. How many times was the incinerator operated at above the maximum combustion temperature specified in the permit? _____ For how long was the incinerator in operation above the maximum combustion temperature? _____
Yes	No	N/A	9. How many times was the incinerator operated outside the range of the air pollution control devices operating parameters specified in the permit? _____ For how long was the incinerator in operation outside the ranges? _____
Yes	No	N/A	10. Are the following records maintained:
Yes	No	N/A	Concentration of lead, arsenic, cadmium, chromium, and nickel in the sewage sludge fed to the sewage sludge incinerator.
Yes	No	N/A	THC concentrations in the exit gas.
Yes	No	N/A	Information that indicates NESHAP for beryllium in Subpart C of 40 CFR Part 61 is met.
Yes	No	N/A	Information that indicates NESHAP for mercury in Subpart E of 40 CFR Part 61 is met.
Yes	No	N/A	Combustion temperatures, including maximum combustion temperature.
Yes	No	N/A	Values for air pollution control device operating parameters.
Yes	No	N/A	Oxygen concentration.
Yes	No	N/A	Information used to measure moisture content in the exit gas.
Yes	No	N/A	Sewage sludge feed rate.
Yes	No	N/A	Stack height of incinerator.
Yes	No	N/A	Dispersion factor for the site.
Yes	No	N/A	Control efficiency for lead, arsenic, cadmium, chromium, and nickel.
Yes	No	N/A	Risk specific concentration for chromium (if applicable).
Yes	No	N/A	Calibration and maintenance log for the instruments used to measure THC (or CO), oxygen concentration, moisture content, and combustion temperatures.

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Yes No N/A	Are these records maintained for 5 years?
Yes No N/A	11. Have all instances of noncompliance been reported as specified by the permit?
Comments:	