Ohio | Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

May 19, 2011

Mr. John Hattersley
Rumpke Waste, Inc.
10795 Hughes Road
Cincinnati, Ohio 45251

Re: Rumpke/Brown Co. LF & Adams Co. LF – IU Inspections
Rumpke Brown Co. CEI - OH0109193;1IN00142*BD
NOTICE OF VIOLATION

Dear Mr. Hattersley:

On April 29, 2011, I conducted the annual pretreatment wastewater inspections at the Brown County and Adams County Landfills. In addition, I conducted a NPDES Compliance Evaluation Inspection (CEI) at the Brown County landfill for the facility's NPDES permit. Rumpke was represented by Jim Hext and yourself. These sites are considered to be significant industrial users (SIUs) because of their potential to impact the wastewater treatment plant. The inspection at Adams County covered the leachate collection tanks. The inspection at Brown County covered the leachate collection tanks, the leachate collection telemetry system, the constructed wetlands, and the storm water retentions ponds and their associated discharges.

Permitting

Rumpke has two effective indirect discharge permits for the Brown and Adams Counties landfills. The Brown County site is discharging its leachate to the Village of Georgetown Wastewater Treatment Plant (WWTP). Rumpke has an indirect discharge permit for the Village of Georgetown for the Adams County landfill. The leachate from Adams County is discharged to the same manhole the leachate from Georgetown is discharged. The NPDES permit for the storm water/sedimentation pond discharges from the Brown County site was renewed, and became effective on May 1, 2010. Only three of the outfalls noted in the NPDES permit have been constructed. The relocation of sediment pond 2 has been completed. The new ponds (2 and 3) have a sediment trap prior to entering the main portion of the sediment pond to allow for settling of solids. These traps allow the sediment associated with the construction of the landfill to settle out prior to entering the main sediment pond. These traps were designed so the solids can be easily removed with a backhoe without impacting the main sediment pond. Each of the two new ponds has a floating pump covered by geotextile membrane to prevent solids from discharging. Under normal conditions, the solids are allowed to settle, and then the pumps starts and a valve is opened to empty the pond. On the day of the inspection, pond two was discharging through the valve, and pond three was discharged so it could be observed for the purpose of the inspection. If the water levels

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401 East Fifth Street
Dayton, OH 45402-2911

937 | 285 6357
937 | 285 6249 (fax)
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in the pond are too high, then it flows over a concrete wall and out the outfall. On the day of the inspection, ponds two and three discharges were clear and free from solids. Sediment pond one is associated with the constructed wetlands at the site. The water from this pond flows by gravity only over a concrete wall. There was a minimal discharge on the day of the inspection, but the water was clear and free from solids.

Sampling

Rumpke is submitting its sampling data using e-DMR. The sampling data for the indirect discharge permit is being submitted on the 4519 form, while the sampling data for the NPDES permit are submitted on the 4500 form. The sampling techniques were discussed using the General Laboratory Criteria form. Rumpke should develop standard operating procedures (SOPs) for sample collection and pH.

There has been one violation of the facility's NPDES permit. This violation was:

EFFLUENT LIMIT VIOLATIONS

Station No. 1IN00142001

Parameter	Code	Date	Reported	Units	Permit Limit
pH	00400	07/30/2010	6.24	SU	6.5 SU

The facility had six violations for its leachate discharge from Brown County to the Village of Georgetown. These violations are:

Station No. 1DP00033001

Parameter	Code	Date	Reported	Permit Limit
Flow	00056	05/05/2010	103,345 GPD	100,000 GPD (Daily Max)
BOD	00310	05/05/2010	288.676 kg/d	177 kg/d (Daily Max)
Flow	00056	05/06/2010	135,399 GPD	100,000 GPD (Daily Max)
BOD	00310	06/16/2010	348.324 kg/d	177 kg/d (Daily Max)
TSS	00530	06/2010	60 kg/d	26 kg/d (Monthly Avg)
Flow	00056	06/28/2010	135,191 GPD	100,000 GPD (Daily Max)

Rumpke provided the necessary notifications and the reasons for these violations. Please be advised that failure to comply with the effluent limitations, or to satisfy monitoring or reporting requirements of your NPDES permit may be cause for enforcement action pursuant to the Ohio Revised Code Chapter 6111. There were no violations for the indirect discharge permit for the Adams County Landfill.

Other Items

Construction is complete on the sediment pond for outfall 002. Seeding of the pond had been completed. The pond is outfitted with a skimmer to remove the water to be discharged from the top of the water column. The discharge from this pond follows a constructed stream with rip rap and rock from on-site until it reaches the unnamed tributary.

The constructed wetlands (Wetland A) that were part of the 401 permitting have vegetation growing in them. The sediment pond that is discharged through outfall 001 also feeds these wetlands. Another assessment should be done to determine if there are invasive species that need to be removed, and needs to be replanted in the spring. This will be done throughout the project.

The stream mitigation projects are under way. The easements for the work on the Scott Farm are being done. There is one remaining leg of the cattle exclusion fencing to be completed. This should be completed by the end of 2011. The stream crossings and the water line have been completed. The Brown County SWCD has been out documenting the work.

The leachate tanks at the Adams County facility have a telemetry system. The system measures the level in the tank receiving the leachate. When it reaches the high level mark, an alarm will be sent. The leachate will then flow into the second tank until the tanks are pumped. The hard piping for the pumps needs to be replaced eventually. Currently, hoses are being used. This is all within a containment area that drains back to the leachate collection manhole.

Rumpke is also looking into installing ammonia treatment for the leachate at Brown County in 2013. There is nothing on the books as to the type of treatment system to be installed. This is in the research phase at this time. The facility is also using the valves to throttle the amount of leachate discharged to Georgetown. The valving is now set up so no more than 100,000 gallons a day can be discharged. Any additional flows would be recirculated in the landfill. Rumpke has received approval from Solid Waste to do this. In addition, an alarm is now set to notify landfill personnel when 80,000 gallons of leachate has been discharged.

REQUIRED ACTION

Rumpke should develop SOPs for its sample collection procedures and pH monitoring. This should be completed and submitted to Ohio EPA by June 29, 2011.

If you would have any additional questions, feel free to contact me at 937.285.6108.

Sincerely,

Marianne Piekutowski
District Pretreatment Coordinator
Division of Surface Water

Enclosures

Cc: Derrick Copas, Georgetown
Jim Hext, Rumpke
Ryan Laake, DSW/CO

OhioEPA

State of Ohio Environmental Protection Agency
Southwest District Office

Pretreatment Compliance Inspection Report

Section A: National Data System Coding

Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1DP00048*BP	OHP000203	04/29/2011	I	S	2

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Adams County Landfill 4150 Pumpkin Ridge Road West Union, Ohio	10:00 am	12/01/2010
	Exit Time	**Permit Expiration Date**
	10:20 am	11/30/2015

Name(s) and Title(s) of On-Site Representatives	Phone Number(s)
John Hattersley/Civil Engineer Jim Hext/Landfill Manager	513.851.0122x3162 513.851.0122x7612

POTW Receiving Discharge	Categorical Standard(s) or Other Classifcation
Village of Georgetown WWTP	Potential to Adversely Impact the Wastewater Treatment Plant

Section C: Areas Evaluated During Inspection
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Pretreatment			

Section D: Summary of Findings (Attach additional sheets if necessary)

Inspector	Reviewer
5/19/11	5/19/11
Marianne Piekutowski Division of Surface Water Southwest District Office	Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
Date	Date

OhioEPA

State of Ohio Environmental Protection Agency
Southwest District Office

Pretreatment Compliance Inspection Report

Section A: National Data System Coding

Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1DP00033*EP	OHP00020	04/29/2011	I	S	2

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Brown County Landfill 9427 Beyers Road Georgetown, Ohio	11:30 am	11/01/2008
	Exit Time	**Permit Expiration Date**
	2:00 pm	10/31/2013

Name(s) and Title(s) of On-Site Representatives	Phone Number(s)
John Hattersley/Civil Engineer Jim Hext/Landfill Manager	513.851.0122x3162 513.851.0122x7612

POTW Receiving Discharge	Categorical Standard(s) or Other Classifcation
Village of Georgetown WWTP	Potential to Adversely Impact the Wastewater Treatment Plant

Section C: Areas Evaluated During Inspection
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Pretreatment				

Section D: Summary of Findings (Attach additional sheets if necessary)

Inspector	Reviewer
5/19/11	5/19/11
Marianne Piekutowski Division of Surface Water Southwest District Office	Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
Date	Date

OhioEPA

State of Ohio Environmental Protection Agency
Southwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding

Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1IN00142*CD	OH0109193	4/29/2011	C	S	2

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Rumpke Waste, Inc. 9427 Beyers Road Georgetown, Ohio 45121	11:30 am	5/1/2010
	Exit Time	**Permit Expiration Date**
	2:00 pm	04/30/2015

Name(s) and Title(s) of On-Site Representatives	Phone Number(s)
John Hattersley Civil Engineer Jim Hext, Landfill Manager	513.851.0122x3621 513.851.0188x7612

Name, Address and Title of Responsible Official	Phone Number
William J. Rumpke, Co-President Rumpke Waste, Inc. 10795 Hughes Road Cincinnati, Ohio 45251	513.851.0122

Section C: Areas Evaluated During Inspection
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	N	Flow Measurement	N	Pretreatment
S	Records/Reports	N	Laboratory	N	Compliance Schedule
S	Operations & Maintenance	S	Effluent/Receiving Waters	N	Self-Monitoring Program
S	Facility Site Review	N	Sludge Storage/Disposal	N	Other
N	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)

See attached report.

Inspector	Reviewer
5/19/11 Date	5/19/11 Date
Marianne Piekutowski Division of Surface Water Southwest District Office	Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office

Permit # : 1IN00142*CD
NPDES #: OH0109193

Sections E thru K: Complete on all inspections as appropriate
Y – Yes, N – No, N/A – Not Applicable, N/E – Not Evaluated

Section E: Permit Verification

Inspection observations verify the permit

(a) Correct name and mailing address of permittee	Y
(b) Correct name and location of receiving waters.....	Y
(c) Do Categorical Standards apply?...If yes, list applicable standards..	N
NA	
(d) Product(s) and production rates conform with permit application (Industries).....	Y
(e) Flows and loadings conform with NPDES permit.....	Y
(f) Treatment processes are as described in permit application...	Y
(g) All discharges are permitted.....	Y
(h) Number and location of discharge points are as described in permit.....	Y
(i) Storm water discharges properly permitted.....	Y

Comments/Status:

Section F: Compliance

(a) Any significant violations since the last inspection.....	N
(b) Appropriate Non-compliance notification of violations.....	NA
(c) Permittee is taking actions to resolve violations.....	NA
(d) Permittee has a compliance schedule.....	NA
(e) Compliance schedule contained in.....	N/A
(f) Permittee is in compliance with schedule.....	NA
(g) Has biomonitoring shown toxicity in discharge since last inspection	NA

Comments/Status:

There was one pH violation since September 2009.

Section G: Operation & Maintenance

Treatment Works:

Treatment facility properly operated and maintained

(a) Standby power available.....generator ☐ or dual feed ☐..... NA

i. What does the back-up power source operate.....

NA

ii. How often is the generator tested under load.....

NA

(b) Which components have an alarm system available for power or equipment failures.....

NA

(c) All treatment units in service other than backup units..... NA

(d) What method is used for scheduling routine & preventative maintenance (calendar, software, etc.).....

NA

(e) Any major equipment breakdown since last inspection..... NA

(f) Operation and maintenance manual provided and maintained..... NA

(g) Any plant bypasses since last inspection..... NA

(h) Any plant upsets since last inspection..... NA

Comments/Status:

Permit # : 1IN00142*CD
NPDES #: OH0109193

Section H: Sludge Management

(a) Method of Sludge Disposal... ☐ Land Application
☐ Haul to Another NPDES Permitee
NA ☐ Haul to a Mixed Solid Waste Landfill

*if one of the selected methods is land application, complete applicable charts.

Class A - Exception Quality Sewage Sludge (monitoring station 584)

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options							
	Option 1 -38% Volatile Solids Reduction	Option 2 -Anaerobic Bench Scale Analysis	Option 3 – Aerobic Bench Scale Analysis	Option 4 – Specific Oxygen Uptake Rate	Option 5 – Aerobic Time and Temperature	Option 6 – Alkali Addition	Option 7 – >75% Percent Solids without Unstabilized Solids	Option 8 - >75% Percent Solids with Unstabilized Solids
Alternative 1 – Time and Temperature Regime (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – High pH and High Temperature (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Other Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 4 – Unknown Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Composting (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Drying (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Treatment (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Thermophilic Aerobic Digestion (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Beta Ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Gamma ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Pasteurization (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 6 - Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐

Permit # : 1IN00142*CD
NPDES #: OH0109193

Class B Sewage Sludge (monitoring station 581)

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options									
	Option 1 -38% Volatile Solids Reduction	Option 2 -Anaerobic Bench Scale Analysis	Option 3 – Aerobic Bench Scale Analysis	Option 4 – Specific Oxygen Uptake Rate	Option 5 – Aerobic Time and Temperature	Option 6 – Alkali Addition	Option 7 – >75% Percent Solids without Unstabilized	Option 8 - >75% Percent Solids with Unstabilized	Option 9 – Land Injection	Option 10 – Immediate Incorporation
Alternative 1 - Geometric Mean of Seven Fecal Samples (84369)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Aerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Air Drying (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Anaerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – Composting (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Lime Treatment (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

(a) Has amount of sludge generated changed significantly since the last inspection..... NA

(b) How much sludge storage is provided at the plant.....

NA

(c) Records kept in accordance with State and Federal law (5 years according to OAC 3745-40-06)..... NA

(d) Any complaints received in last year regarding sludge..... NA

(e) 5/8" screen at headworks for facilities that land apply sludge..... NA

(f) Are sludge application sites inspected to verify compliance with NPDES permit..... NA

(g) Is a contractor used for sludge disposal..... NA

If so, what is the name of the contractor.....

NA

Comments/Status:

Section I: Self-Monitoring Program

Flow Measurement:

(a) Primary/Secondary flow measuring devices operated and maintained..... Y
Type of device (e.g. weir with ultrasonic level sensor):
Calculation based on surface area and amount of rain. There is a rain gage on site.

(b) Calibration frequency adequate ..... NA
(Date of last calibration: NA)

(c) 24-hour recording instruments operated and maintained..... NA

(d) Flow measurement equipment adequate to handle full range of flows..... NA

(e) Actual flow discharged is measured..... NA

(f) Flow measuring equipment inspection frequency
☐Daily ☐Weekly ☐monthly ☐other

Comments/Status:

The discharge is from a sediment pond at a landfill. Flows are based on rainfall.

Section I: Self-Monitoring Program (con't)

Sampling:

(a) Sampling location(s) are as specified by permit..... Y

(b) Parameters and sampling frequency agree with permit..... Y

(c) Permittee uses required sampling method..... Y
(see GLC page)

(d) Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e, continuous monitoring instrumentation, calibration and maintenance records)..... Y

Comments/Status:

Section I: Self-Monitoring Program (cont)

Laboratory:

General

(a) Does the Quality Assurance Manual contain written Standard Operating Procedures (SOP's) for all analysis performed onsite..... N

(b) Do SOP's include the following if applicable..... N

- Title
- Scope and Application
- Summary
- Sample Handling and Preservation
- Interferences
- Apparatus and Materials
- Reagents
- Procedure
- Calculations
- Quality Control
- Maintenance
- Corrective Action
- Reference (Parent Method)

Note: Standard Methods 1020A establishes that "Quality assurance (QA) is the definitive program for laboratory operation that specifies the measure required to produce defensible data of know precision and accuracy. Standard operating procedures are to be used in the laboratory in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results." SOPs should be developed for each analytical procedure.

(c) EPA approved analytical testing procedures used (40 CFR 136.3).. N

(d) If alternate analytical procedures are used, proper approval has been obtained..... NA

(e) Analyses being performed more frequently than required by permit. N

(f) If (e) is yes, are results in permittee's self-monitoring report..... NA

(g) Satisfactory calibration and maintenance of instruments/equipment. Y (see score from GLC page)

(h) Commercial laboratory used..... Y
Parameters analyzed by commercial lab: ***COD, TSS, NH3, O&G, BOD***
Lab name: ***Test America***

Discharge Monitoring Report Quality Assurance (DMRQA)

(a) Participation in latest USEPA quality assurance performance sampling..... NA
Date:

(b) Were any parameters "Unsatisfactory"..... NA

(c) Reasons for "Unsatisfactory" parameters.....

NA

Comments/Status:

SOPs should developed for pH and sample collection.

Permit # : 1IN00142*CD
NPDES #: OH0109193

Section J. Effluent/Receiving Water Observations

Outfall # 1IN00142001
Outfall Description: Final discharge from sed pond 1. There was a minimal discharge from the outfall. Discharge was clear and free of solids.
Receiving Stream: Unnamed tributary to Walnut Run to White Oak Creek
Receiving Stream Description: EWH

Outfall # 1IN00142002
Outfall Description: Final discharge from sed pond 2. The discharge was clear and free of solids. There is a floating pump taking water out of pond. This is wrapped with geotextile to reduce sediment.
Receiving Stream: Unnamed tributary to Walnut Run to White Oak Creek
Receiving Stream Description: EWH

Outfall # 1IN00142003
Outfall Description: Final discharge from sed pond 3. The pump for the discharge was off, and the valve was closed. During the inspection, the valve was open and water was discharged. The discharge was clear and free of solids.
Receiving Stream: Unnamed tributary to Walnut Run to White Oak Creek
Receiving Stream Description: EWH

Comments/Status:

The other outfalls in the permit do not currently exist. As the landfill expands, they will come on-line.

Section K. Multimedia Observations

(a)	Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories.....	N
(b)	Do you notice staining or discoloration of soils, pavement or floors..	N
(c)	Do you notice distressed (unhealthy, discolored, dead) vegetation..	N
(d)	Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks.....	N
(e)	Do you notice any unusual odors or strong chemical smells.....	N
(f)	Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities.....	N

If any of the above are observed, ask the following questions:

(1) What is the cause of the condition?
(2) Is the observed condition or source a waste product?
(3) Where is the suspected contaminant normally disposed?
(4) Is this disposal permitted?
(5) How long has the condition existed and when did it begin?

Comments/Status:

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Balance			Acceptable?	
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights [1,2]	☐ Yes	☐ No	NR
• Calibration Frequency / Documentation	• Calibration verification required at least once each day the balance is used.[3]	☐ Yes	☐ No	
• Cleanliness, air movement, vibration	• Cleanliness of balance is a must and air movement and vibration needs to be kept to a minimum[1]	☐ Yes	☐ No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable)[1]	☐ Yes	☐ No	
	• Must be able to measure to 0.1 grams[4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
	• Log book maintained[2]	☐ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
Drying Oven (Suspended Solids)			Acceptable?	
• Temperature Recordkeeping	• Temperature recorded with each use[4]	☐ Yes	☐ No	NR
	• Log book maintained[2]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1,2]. Correction factor posted on thermometer / equipment[1]	☐ Yes	☐ No	
• Other	• Thermometer temperature accurate to 0.5° Celsius[5]	☐ Yes	☐ No	
	• Acceptable temperature range is 103° – 105° C [4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
pH Meter			eptable	
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☒ Yes	☐ No	NR
	• Logbook maintained[2]	☐ Yes	☒ No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result[7]	☒ Yes	☐ No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet[2] **NA**	☐ Yes	☐ No	
• Buffer Expiration Date	• Buffers must not be expired	☒ Yes	☐ No	
• Other	• Instrument manual available	☒ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[8] **NA**	☐ Yes	☐ No	

Comments: ***The meter has an auto-temperature correction. The meter will recognize the buffer, and a calibration is done when the second buffer is used.***

- ***The buffers are checked and have expiration dates on the label.***
- ***A written SOP should be developed for taking pH readings.***

Criteria	Standard Methods Requirement			Rating
Dissolved Oxygen Meter			eptable	
• Calibration Method	• Air or known DO calibration method[10]	☐ Yes	☐ No	NR
	• Calibration per manufacturer specification[10]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Logbook maintained[2]	☐ Yes	☐ No	
	• Calibration verification required at least once each day the meter is used.[3]	☐ Yes	☐ No	
• Other	• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)[11]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Incubator (CBOD/E-Coli)			ptable?	
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use[1] (E-Coli)	☐ Yes	☐ No	NR
	• Temperature checked / recorded daily[2] (CBOD)	☐ Yes	☐ No	
	• Acceptable temperature range (CBOD) is 20° C ±1.0°[12]	☐ Yes	☐ No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5°[22]	☐ Yes	☐ No	
	• Logbook maintained[2]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1, 2]	☐ Yes	☐ No	
	• Temperature correction information posted on incubator[1]	☐ Yes	☐ No	
• E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray	• E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb)[23]	☐ Yes	☐ No	
• Other	• Instrument manual available	☐ Yes	☐ No	
	• Temperature Log (thermometer accurate to 0.5 Celsius).[1]	☐ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
Refrigerator			Acceptable?	
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.5 Celsius).[5]	☐ Yes	☐ No	NR
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1, 2]	☐ Yes	☐ No	
• Other	• Thermometer held in water bath.[1]	☐ Yes	☐ No	
	• Refrigerator temperature ≤6° Celsius.[13]	☐ Yes	☐ No	
	• Do not store volatile solvents, food, or beverages.[14]	☐ Yes	☐ No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Chlorine Meter				
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV[15]	☐ Yes	☐ No	NR
	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☐ Yes	☐ No	
• Calibration Method	• Calibration using three iodate solutions 0.2, 1.0, 5.0 milliliters or calibration per manufacturer specification[16]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Slope Documentation / Acceptability	• Calibration curve (acceptable slope)	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Log book being maintained.[2]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
Ammonia Meter				
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☐ Yes	☐ No	NR
	• Log book being maintained[2]	☐ Yes	☐ No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	☐ Yes	☐ No	
• Calibration Method	• Standards used for calibration (3 ammonia solutions of 10 mg/l, 1 mg/l, and 0.1 mg/l) or per mfg. spec.[17]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[18]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Sample Collection/Handling		Acceptable?		
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed).[19]	☒ Yes	☐ No	NR
• Chain of Custody	• Chain of custody (description, date, time, signature).[19]	☒ Yes	☐ No	
• Other	• Composite samples refrigerated during sample collection[14]	☐ Yes	☐ No	
	• Equipment blanks utilized[14]	☐ Yes	☒ No	
	• SOP for cleaning of sampling equipment	☐ Yes	☐ No	
	• Logbook being maintained[2]	☐ Yes	☐ No	

Comments: ***For leachate samples, each pump is sampled individually, and then is composited. The same volume of sample is collected for each cell in the landfill. A composite sampler location will be revisited as Rumpke evaluates installing ammonia removal for the leachate.***

- ***All of the sediment ponds samples are taken as a grab sample.***
- ***Test America is the contract laboratory.***

Criteria	Standard Methods Requirement			Rating
Desiccator		Acceptable?		
• General criteria	• Properly working seals.	☐ Yes	☐ No	NR
	• Desiccant fresh (blue color)	☐ Yes	☐ No	
• Documentation	• Log book being maintained[2]	☐ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
Bench sheets		Acceptable?		
• General criteria	• Date(s)[2]	☐ Yes	☐ No	NR
	• Analyst initials[2]	☐ Yes	☐ No	
	• Blue or black ink pen[2]	☐ Yes	☐ No	
	• Calibration information[2]	☐ Yes	☐ No	
	• Equations, calculations, units for all measurements, notations, and results present[2]	☐ Yes	☐ No	
	• Corrections, single line through, initialed and dated[2]	☐ Yes	☐ No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Hot Water Bath (Fecal Coliform/E. Coli)				
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.2° C)[21]	☐ Yes	☐ No	NR
	• Incubator temperature 44.5° C ± 0.2° [21/24]			
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1, 2]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) [1, 5]	☐ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
Autoclaves/Steam Sterilizers				
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121° C [25]	☐ Yes	☐ No	NR
	• 10 to 30 minutes time based on material being sterilized[26]	☐ Yes	☐ No	
• Documentation	• Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached as measured in the exhaust. [1]	☐ Yes	☐ No	
	• Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used [1]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
• Performance Checks	• Test monthly for efficacy using a biological such as commercially available *Geobacillus stearothermophilus* in spore strips, suspensions, or capsules [1]	☐ Yes	☐ No	

Comments:

)General Lab Criteria)

Criteria	Standard Methods Requirement			Rating
Final Effluent Temperature Monitoring		Acceptable?		
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	NR
	• Thermometer accurate to 0.1° Celsius[5]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
Comments:				

Number of Criteria Rated:	Acceptable	0
	Marginal	0
	Unacceptable	0
	Total Number of Areas Rated	0

Acceptable Ratings – No action required (recommend SOP's written or updated, perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, written response not required).

Marginal Ratings – Improvements required, written response required (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response).

Unsatisfactory Rating - Improvements required, written response required, NOV issued (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response to NOV).

Consider recommending PAI Audit from DES when:	>60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable

Notation of Referenced Method

1	Method 9020-B, Item 3	14	Method 1060A, Item 1
2	Method 1020-A, Item 1	15	Method 4500-Cl I, Item 2
3	Method 1020-B, Item 10	16	Method 4500-Cl I, Item 4
4	Method 2540-B, Item 2	17	Method 4500-NH3 D, Item 4
5	Method 2550-B, Item 1	18	Method 4500-NH3 D, Item 2
6	Method 1020-A, Item 1	19	Method 1060-B, Item 2
7	Method 4500-H B, Item 4	20	Method 1060-B, Item 1
8	Method 4500-H B, Item 2	21	Method 9222D, Item 1
9	Method 1020-B, Item 2	22	Method 9223 B, Item 2
10	Method 4500-O B, Item 3	23	Method 9223 B, Item 3
11	Method 4500-O G, Item 3	24	Method 1603, Item 2
12	Method 5210-B, Item 5	25	Method 9030-B, Item 3
13	CFR 136.3, Table II	26	Method 9020 B, Table IV

Equipment Logbook Content - all maintenance performed on a piece of equipment should be documented in the logbook. This should include parts replacement and routine maintenance activities. Entries should include date, maintenance performed and initials of person making entry.

General Lab Criteria

Preservation and Holding Times

Parameter	Container	Min. Sample Size (mL)	Sample Type	Preservation	Maximum Storage Time	
					Recommended	Regulatory
BOD / CBOD	P, G	1000	G, C	Refrigerate ≤6° C	6h	48h
TSS	P, G	200	G, C	Refrigerate ≤6° C	7 d	7 d
pH	P, G	50	G	Analyze immediately	0.25h	0.25 h
NH3-N	P, G	500	G, C	Analyze as soon as possible or add H_2SO_4 to pH <2, Refrigerate ≤6° C	7 d	28 d
TRC	P, G	500	G	Analyze immediately	0.25h	0.25 h
DO (electrode)	G, BOD Bottle	300	G	Analyze immediately	0.25h	0.25 h
Temperature	P, G	--	G	Analyze immediately	0.25h	0.25 h
Metals, general	P, G	1000	G, C	For dissolved filter immediately and add HNO_3 to pH <2	6 months	6 months
Purgeables by purge and trap	G (PTFE lined lid)	40 (X2)	G	HCl to pH<2, Refrigerate ≤6° C	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate ≤10° C If chlorine present, add sodium thiosulfate tablet	6 hrs transport Start analysis within 2 hrs of receipt in lab.	
Oil and Grease	G	1000	G	HCl or H_2SO_4 to pH <2, Refrigerate ≤6° C	28 d	28 d

Approved Standard Methods

CBOD / BOD 5 Day	Std Methods 5210-B
Ammonia, Selective Electrode Method	Std Methods 4500-NH3 D
Total Residual Chlorine, DPD Colorimetric Method	Std Methods 4500-Cl G
Total Suspended Solids, Dried at 103-105 °C	Std Methods 2540-D
Dissolved Oxygen, Membrane Electrode Method	Std Method 4500-O G
pH, Electrometric Method	Std Methods 4500-H+ B
Fecal Coliform, Membrane Filter Procedure	Std Methods 9222D
Escherichia Coli, Enzyme Substrate Test	Std Method 9223B
Escherichia Coli Membrane Filtration Procedure	EPA Method 1603
Oil and Grease	USEPA 1664A or Std Methods 5520B
Metals, general	USEPA 200, Std Methods 3111B or C, or 3120B
Volatiles (Purgeables by purge and trap)	USEPA 6210, Std Methods 624
Semi-Volatiles (Base/Neutrals and acids)	USEPA 6410, Std Methods 625
Pesticides	USEPA 6410 and 6630, Std Methods 608