

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection

N135947614

FACILITY: Autumn Valley Crematory		SRN / ID: N1359
LOCATION: 2063 Norway Lane, PRUDENVILLE		DISTRICT: Gaylord
CITY: PRUDENVILLE		COUNTY: ROSCOMMON
CONTACT: chris wright , owner-director		ACTIVITY DATE: 01/16/2019
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced, scheduled site inspection of true minor source. Unpermitted cremation incinerator was identified on site. VN to be issued prior to Feb. 1st, 2019.		
RESOLVED COMPLAINTS:		

**INTRODUCTION**

On January 16, 2019, AQD District Staff conducted an unannounced, scheduled site inspection of the Autumn Valley Crematory Facility located at 2063 Norway Lane, Prudenville, Michigan (N1359). American Vault Service also shares the location. Two Permits to Install (PTIs) are associated with the Facility (12-161 and 357-93). Chris Wright, Owner provided a site tour and answered questions regarding the Facility operations.

No previous site inspection record is present in MACES or District Files.

**FACILITY**

Located on Roscommon County Property Appraiser Parcel No. 003-022-004-1085, Autumn Valley Crematory is one of three buildings located on the referenced parcel. One of the buildings houses American Vaults, which makes burial vaults. No emissions are associated with this activity. The cremation incinerators and the office are housed in the central building.

A review of files, and an internet search identified two separate physical addresses for the property:

- 2063 Norway Lane, Prudenville, Michigan
- 2150 Center Drive, Prudenville, Michigan

The Facility can be reached by driving approximately nine-tenths of a mile south of the intersection of W. Houghton Lake Drive, and S. Gladwin Road. Make a right at the intersection of S. Gladwin Road, and Norway Lane and travel an additional one-tenth of a mile to the intersection of Norway Lane and Ann Arbor Drive. In this residential area, you will see the entrance to the Facility at the SW corner of the intersection.

The Facility was originally permitted by Mr. Jim Stender, the Stender Family residence is/was located in the property to the immediate east of the Facility. To the immediate west of the property is partially developed property operated as a recycle center by Denton Township (entrance is off from Level Park Road). Property to the immediate south of the Facility is undeveloped. Properties to the north and NE of the property are residential.

The Facility operates as both a pet and human crematory. Mr. Wright reports that he purchased the business less than 5 years ago, and at that time there were three cremation units onsite. He reports that semi-annual (or more frequent) visits by qualified maintenance personnel to inspect and conduct maintenance activities. Recent activities included repairs/replacement of the stack for one unit, and another unit is down until repairs to the floor can be made. Some activities have included rebuild or replacement of refractories or chambers. During discussions regarding maintenance, and repairs to the units, it was indicated that though a number of repairs have been made in the last 5 years, that the costs associated with them cumulatively is still less than half of the cost of a new unit.

Weather conditions at the time of the site inspection consisted of mostly cloudy skies, temperatures in the low teens and winds from the North of less than 5 miles per hour. District staff noted that two of three stacks were active, heat shimmers clearly visible. The stacks were watched for 5 minutes with no variation in emissions noted by District staff.

**PERMITTING**

A review of District files and AQD Databases indicated that two permits were of record for the Facility under Autumn Valley Crematory and American Vault Services. Mr. Wright was unaware of AQD permits associated with the Facility. Copies of the permits were provided to him as part of the site inspection activities. The referenced permits are summarized below:

Permit No.	Application Date	Issuance Date	Comment
12-86l	May 27, 1986	June 27, 1986	"I" for incinerator
357-93	April 27, 1993	August 31, 1993	

## REGULATORY

A review of Permit application review and engineer notes indicated that the facility was evaluated for PM10 emissions. Classifications based on Potential to Emit (PTE) and other significant comments:

PARAMETER	CLASSIFICATION	COMMENT
NOx	Minor	
SO2	Minor	
CO	Minor	
Pb	Minor	
PM	Minor	only pollutant identified in engineer notes at time of permitting
VOC	Minor	
HAPs	Area	

### Applicable Federal Requirements:

EMISSION UNIT	40 CFR SUBPART	TITLE
Source	Part 70	State Operating Permit Program

Pathologic incinerators are exempt from National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR, Part 63, subpart EEE, Hazardous Waste Incinerators since they are not permitted to burn hazardous waste.

Discussions with permitting staff indicated that pathologic Incinerators (Human or pet crematories) if they are burning 90% pathological waste on a quarterly basis are exempt from New Source Performance Standards (NSPS). 40 CFR Part 60, Subparts include:

- Subpart Ce – Existing Hospital/Medical/Infections Waste Incinerator constructed on or before June 20, 1996
- Subpart Ec – New Hospital/Medical/Infectious Waste Incinerators (constructed after June 20, 1996)
- Subpart AAAA – Small Municipal Waste Combustors
- Subpart CCCC – Commercial, Industrial Solid Waste Incinerators
- Subpart DDDD - Commercial and Industrial Solid Waste Incinerator Units for Existing Sources. Part 60
- Subpart EEEE - Solid Waste Incinerator Units with construction after December 9, 2004 (or modifications and reconstruction commenced after June 16, 2006, and
- Subpart FFFF - Solid Waste incinerator Units constructed on or before December 9, 2004,

## EQUIPMENT

Permitted equipment as described by the permit applications and engineer notes is summarized below:

Permit No.	12-86l	357-93
Make		Power-Pak II

	Industrial Equipment & Engineering Company (IEE)*	
Model	IE-43	IE43-PPII
Class	VI	VI
Rated Capacity	150 lb/hour	100 lb/hr
Estimated usage	150 lb/day	400 lb/day
Type of Waste	I and IV	I and IV
Volume	61.9 cubic ft	69 cubic ft
Secondary Combustion Chamber	67.4 cubic ft	70 cubic ft
Max temperature (secondary chamber)	1600 degrees	1900 degrees
Hold time in secondary	1 second	1.5 seconds
Control device	1400 degree afterburners	settling chamber
Fuel	Natural Gas	Natural Gas

\* Note that IEE was founded in 1946, and in 1996 became part of the Matthews International Family, and was renamed Matthews Cremation Division, which in 2015 was renamed Matthews Environmental Solutions.

As previously indicated, the Facility presently has three cremation units. The two summarized above, as well as a third (unpermitted) unit manufactured by Matthews Cremation Division. Discussions with the Facility indicated that at the time of purchase Mr. Wright was under the impression that the previous owner had completed any necessary permitting, he reports that the Facility submits the annual reporting for the department of licensing. Mr. Wright was informed that the failure to permit the Matthews Cremation unit, was a violation of Rule 201, and that a permit would be required. District staff agreed to pull appropriate application forms, and any guidance information readily available, so the Facility could initiate permit application preparation activities.

#### COMPLIANCE

Compliance status for the facility has been based on information provided during the January 16, 2019, site inspection. No complaints are on file for the referenced Facility. The Facility has not been issued a VN or consent order of record. The facility is not required to report annual emissions under the MAERS reporting program. No recordkeeping requirements are identified for the two permitted cremation incinerators.

#### PTI 12-86I –

The referenced permit was issued for 150 lb/hour incinerator installed in 1986. This unit was shut down until scheduled repairs could be completed. Special conditions associated with the equipment include:

**OPERATION LIMITS -** The permittee shall not operate the incinerator unless it is equipped with (SC 20):

- a limit switch to set and reset the timer for the afterburner each time the charge door is opened,
- manual timer switch with operating instructions to insure use of the afterburner whenever the incinerator is operated.

Mr. Wright reported that the cremation units onsite are equipped with a manual timer switch that has to be reset every time the charge door is operated, in compliance with permit limits. Operating instructions are also available for operators.

- If it is determined that the manual timer switch is not being utilized correctly, an automatic afterburner switch shall be required to be installed before a permit to operate may be issued.

This component of SC20 is not applicable.

**MATERIAL LIMITS --** PTI 12-86I requires that the collected ash is disposed of in a manner that minimizes the introduction of air contaminants to the outer air. (SC17) Ash is reported to be collected after each charge and is handled in a ventless processing station, which packs dust for return to the customer. No dust was noted in the room the equipment occupied, indicating that fugitive emissions are minimal.

Materials that may be burned in the incinerator are limited to Type I and Type IV waste (SC 19), which includes:

- Rubbish,
- Mixture of combustible waste such as paper, cardboard, wood scrap, foliage and combustible floor sweepings from domestic, commercial and industrial activities. It may contain up to 20% by weight of restaurant or cafeteria waste, but little to no treated papers, plastic or rubber waste.
- Human and animal remains, consisting of carcasses, organs and solid organic wastes from hospitals, laboratories, abattoirs, animal pounds and similar sources.

Mr. Wright reports that materials burned in the incinerators are limited to the appropriate types permitted, and consist of human and pet remains, in the appropriate containers.

**EMISSION LIMITS** – Limits associated with 12-86I include the following:

- Particulate emissions from the incinerator shall not exceed 0.20 lbs per 1,000 lbs of exhaust gases, corrected to 50% excess air. (SC 14)

No stack testing has been required for the Facility which would verify compliance.

- Visible emissions (VEs) from the incinerator shall not exceed a 6-minute average of 20% opacity, except as specified in Rule 301(1)(a). (SC 15)

At the time of the January 16, 2019, site inspection, the incinerator unit associated with this permit was not operating and was reported that it would not be used until repairs to the floor was repaired/replaced to eliminate dripping of grease/oil into the flames.

- Exhaust gases from the incinerator shall be discharged unobstructed vertically upwards from a stack with a maximum diameter of 20-inches at exit point and no less than 22 ft above ground level (SC 18)

Mr. Wright reported that the stacks for the unit has been replaced since permitting, and that they are approximately 20 feet above each cremation unit. The height of each unit appears to be at least 6 feet, and would result in stack heights above the minimum of 22 ft above ground level.

**TESTING ACTIVITIES** – Verification of particulate emission rates from the incinerator by testing at owner's expense may be required for operating approval (SC 16). However, District files do not contain copies of a request for testing, therefore the condition is not applicable at this time.

**OTHER REQUIREMENTS**- In addition to operational conditions listed, the Facility is required to conduct proper operation and adequate maintenance of the incinerator to control emissions (SC 21). Recommended activities are attached to the PTI 12-86I.

The Facility reports operation of the existing cremation units according to the recommended operating practices, and has properly certified staff conduct regularly scheduled inspection and maintenance activities to keep the units operating properly. Units are preheated according to the manufacturer's recommendations before cremation burners are operated. The staff are reported to load each unit in accordance with proper weight loadings, and monitor emissions from the stack to verify that no issues are associated with the unit. Mr. Wright reported that he knew that maintenance was required on the unit when suddenly the emissions changed to black smoke. The inspection identified a crack in the permitted unit's floor.

**PTI 357-93** –

The referenced permit was issued for a 100 lb/hr incinerator installed in 1993. Special conditions associated with the permit included the following conditions. The unit was operating at the time of the site inspection and was noted to be operating at a temperature of just over 1600 degrees Fahrenheit (1601 - 1654 degrees).

**OPERATION LIMITS** - The permittee shall not operate the incinerator unless a minimum temperature of 1400 degrees Fahrenheit and a minimum retention time of 0.5 seconds in the thermal oxidizer. (SC 18) As previously indicated the Facility operates per manufacturer specifications. Regular inspections of the units by certified inspectors keep the units operating at approximately 1600 degrees and the required retention time.

The Operator shall not operate the incinerator unless it is equipped with a manual timer switch with operating instructions to insure use of the afterburner whenever the incinerator is operated. Should it be determined that the manual timer switch is not being utilized correctly, and automatic afterburner switch shall be required to be installed before a permit to operate may be issued. (SC 22) As previously indicated, Mr. Wright reported that the cremation units onsite are equipped with a manual timer switch that has to be reset every time the charge door is operated, in compliance with permit limits. Operating instructions are also available for operators.

**MATERIAL LIMITS** - PTI 357-93 requires that the collected ash is disposed of in a manner that minimizes the introduction of air contaminants to the outer air. (SC19) As previously indicated, ash is reported to be collected after each charge and is handled in a ventless processing station, which packs dust for return to the customer. No dust was noted in the room the equipment occupied, indicating that fugitive emissions are minimal.

Mr. Wright reports that both Human and pet cremations occur onsite in compliance with permit conditions. Materials that may be burned in the incinerator are limited to Type I and Type IV waste (SC 21), which includes:

- Rubbish,
- Mixture of combustible waste such as paper, cardboard, wood scrap, foliage and combustible floor sweepings from domestic, commercial and industrial activities. It may contain up to 20% by weight of restaurant or cafeteria waste, but little to no treated papers, plastic or rubber waste.
- Human and animal remains, consisting of carcasses, organs and solid organic wastes from hospitals, laboratories, abattoirs, animal pounds and similar sources.

**EMISSION LIMITS** – Limits associated with permit 357-93 included the following:

- Particulate emissions from the incinerator are not to exceed 0.20 lbs per 1,000 lbs of exhaust gases corrected to 50% excess air. (SC 15)
- VEs from the incinerator shall not exceed a 6-minute average of 20% opacity. (SC 16)
- Exhaust gases from the incinerator shall be discharged unobstructed vertically from a stack with a maximum diameter of 20-inches at exit point, and no less than 22 feet above land surface. (SC 20)

As previous reported, no testing has been requested for the facility, so no verification of PM emissions has occurred. VEs noted at the time of the inspection were limited to heat shimmers, well below the 20% opacity limit. Stacks had been replaced within the past 5 years, and were reported to be 20 feet above the top of the cremation unit. Which was approximately 6 feet high.

**OTHER REQUIREMENTS**-- In addition to operational conditions listed, the Facility is required to conduct proper operation and adequate maintenance of the incinerator to control emissions (SC 23). Recommended activities are attached to the PTI 357-93. A review of the *recommended* activities with Mr. Wright indicated that the Facility practices most to all insuring no emission problems.

## **SUMMARY**

On January 16, 2019, AQD District Staff conducted an unannounced, scheduled site inspection of the autumn Valley Crematory Facility located at 2063 Norway Lane, Prudenville, Michigan (N1359). American Vault Service also shares the location. Two Permits to Install (PTIs) are associated with the Facility (12-861 and 357-93). Chris Wright, Owner provided a site tour and answered questions regarding the Facility operations.

No previous site inspection record is present in MACES or District Files.

During the January 16, 2019 site inspection, it was determined that the facility has been operating one unpermitted cremation incinerator. The unit is understood to have been installed over 5 years ago. The

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present director understands that a Violation Notice will be issued for failure to permit, and that submittal of an application to permit will bring the Facility back into compliance.

NAME Sharon J. White DATE 1/17/2019 SUPERVISOR SN