

ANIMAL~~HUMAN~~ CREMATORIES

AIR GENERAL PERMIT EXAMPLE REGISTRATION WORKSHEET

RECEIVED

3755

DEC 02 2011

Facility Identification Number - If known (seven digit number)

DIVISION OF AIR
RESOURCE MANAGEMENT

1110143-001

Registration Type

Check one:

INITIAL REGISTRATION - Notification of intent to:

- Construct and operate a proposed new facility.
- Operate an existing permitted facility not currently using an air general permit (e.g., a facility proposing to go from an air operation permit to an air general permit). If the facility currently holds one or more air operation permits, such permit(s) must be surrendered by the owner or operator upon the effective date of this air general permit. (See "Surrender of Existing Air Operation Permit(s)" below.)
- Operates an existing facility not currently permitted or using an air general permit.

RE-REGISTRATION (for facilities currently using an air general permit) - Notification of intent to:

- Continue operating the facility after expiration of the current term of air general permit use.
- Continue operating the facility after a change of ownership.
- Make an equipment change requiring re-registration pursuant to Rule 62-210.310(2)(e), F.A.C.
- Any other change not considered an administrative correction under Rule 62-210.310(2)(d), F.A.C.

Surrender of Existing Air Operation Permit(s) - For Initial Registrations Only, if Applicable

All existing air operation permits for this facility are hereby surrendered upon the effective date of this air general permit; specifically permit number(s):

1110050-003-AG. Relocating Power Pak unit (serial # 084328) to new facility.**General Facility Information**Facility Owner/Company Name (Name of corporation, agency, or individual owner who or which owns, leases, operates, controls, or supervises the facility.)____ Haisley Funeral & Cremation Service
3015 Okeechobee Road, Fort Pierce, FL 34947Site Name (Name, if any, of the facility site; e.g., Plant A, Metropolis Plant, etc. If more than one facility is owned, a complete registration must be submitted for each.)

____ Haisley Pet Loss Services

Facility Location (Physical location of the facility, not necessarily the mailing address.)Street Address: 1602 South 30th StreetCity: _____ Fort Pierce County: St Lucie Zip Code: 34947-6911Facility Start-Up Date (Estimated start-up date of proposed new facility.)(N/A for existing facility.)

____ January 2012

Facility Contact

Name and Position Title (Plant manager or person to be contacted regarding day-to-day operations at the facility.)

Print Name and Title: Larry I. Kidd
Director of Funeral Home Operations

Facility Contact Telephone Numbers

Telephone: 772-461-5211 Fax: 772-461-5282
Cell phone: 772-201-2546
E-mail: larry@haisleyfuneralhome.com

Facility Contact Mailing Address

Organization/Firm: Haisley Funeral & Cremation Service
Mailing Address: 3015 Okeechobee Road
City: Fort Pierce County: St Lucie Zip Code: 34947

Other Contact/Representative (to serve as additional Department contact)

Name and Position Title

Print Name and Title: Richard F. Haisley/President

Other Contact/Representative Telephone Numbers

Telephone: 772-461-5211 Fax: 772-461-5282
Cell phone: 772-201-2544
E-mail: rhaisley@haisleyfh.com

Other Contact/Representative Mailing Address

Organization/Firm: Haisley Funeral & Cremation Service
Mailing Address: 3015 Okeechobee Road
City: Fort Pierce County: St Lucie Zip Code: 34947

Emission Unit Details

MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	RATED CAPACITY
MATTHEWS CREMATION	POWER PAK (IE43-PP)	T.B.D.	100 lbs/hr.

Design Calculations

If this is an initial registration for a proposed new human crematory unit, provide design calculations to confirm a sufficient volume in the secondary chamber combustion zone to provide for at least a 1.0 second gas residence time at 1800 degrees F.

- Design calculations attached.
- Registration is not for proposed new human crematory unit(s).

Helpful Definitions

"Biomedical Waste" - Any solid or liquid waste which may present a threat of infection to humans, including nonliquid-tissue, body parts, blood, blood products, and body fluids from humans and other primates; laboratory and veterinary wastes which contain human disease-causing agents; and discarded sharps. The following are also included:

1. Used absorbent materials saturated with blood, blood products, body fluids, or excretions or secretions contaminated with visible blood; and absorbent materials saturated with blood or blood products that have dried.
2. Non-absorbent, disposable devices that have been contaminated with blood, body fluids, or secretions or excretions visibly contaminated with blood, but have not been treated by a method listed in Section 381.0098, F.S., or a method approved pursuant to Rule 64E-16, F.A.C.

"Department" or "DEP" - The State of Florida Department of Environmental Protection.

"Emissions Unit" - Any part or activity of a facility that emits or has the potential to emit any air pollutant.

"Facility" - All of the emissions units which are located on one or more contiguous or adjacent properties, and which are under the control of the same person (or persons under common control).

"Human Crematory" - Any combustion apparatus used solely for the cremation of either human or fetal remains

"Owner" or "Operator" - Any person or entity who or which owns, leases, operates, controls or supervises an emissions unit or facility.

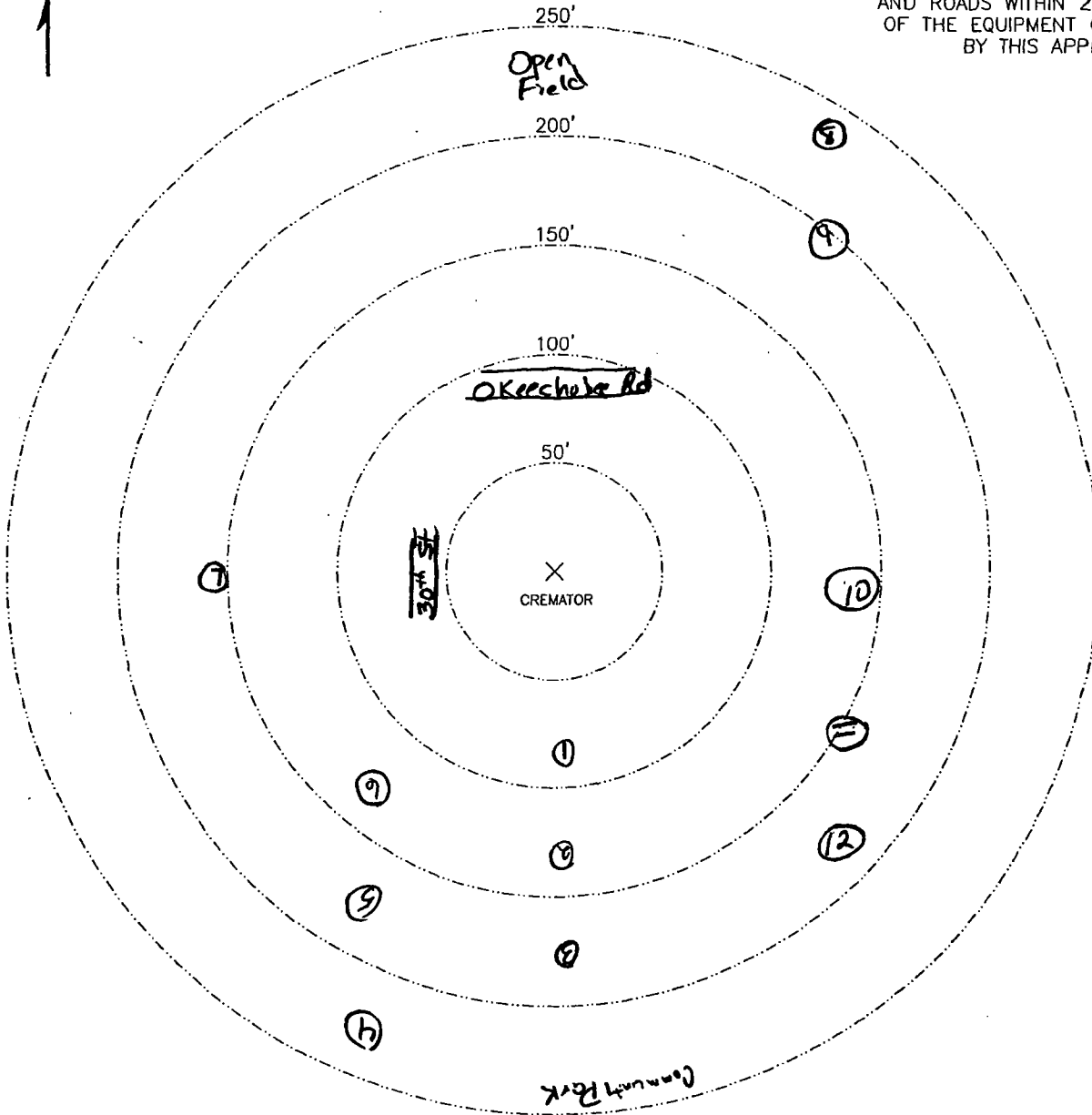
Piet Cronkley

PLOT PLAN

NORTH



SHOW ALL SURROUNDING BUILDINGS AND ROADS WITHIN 250 FEET OF THE EQUIPMENT COVERED BY THIS APPLICATION.



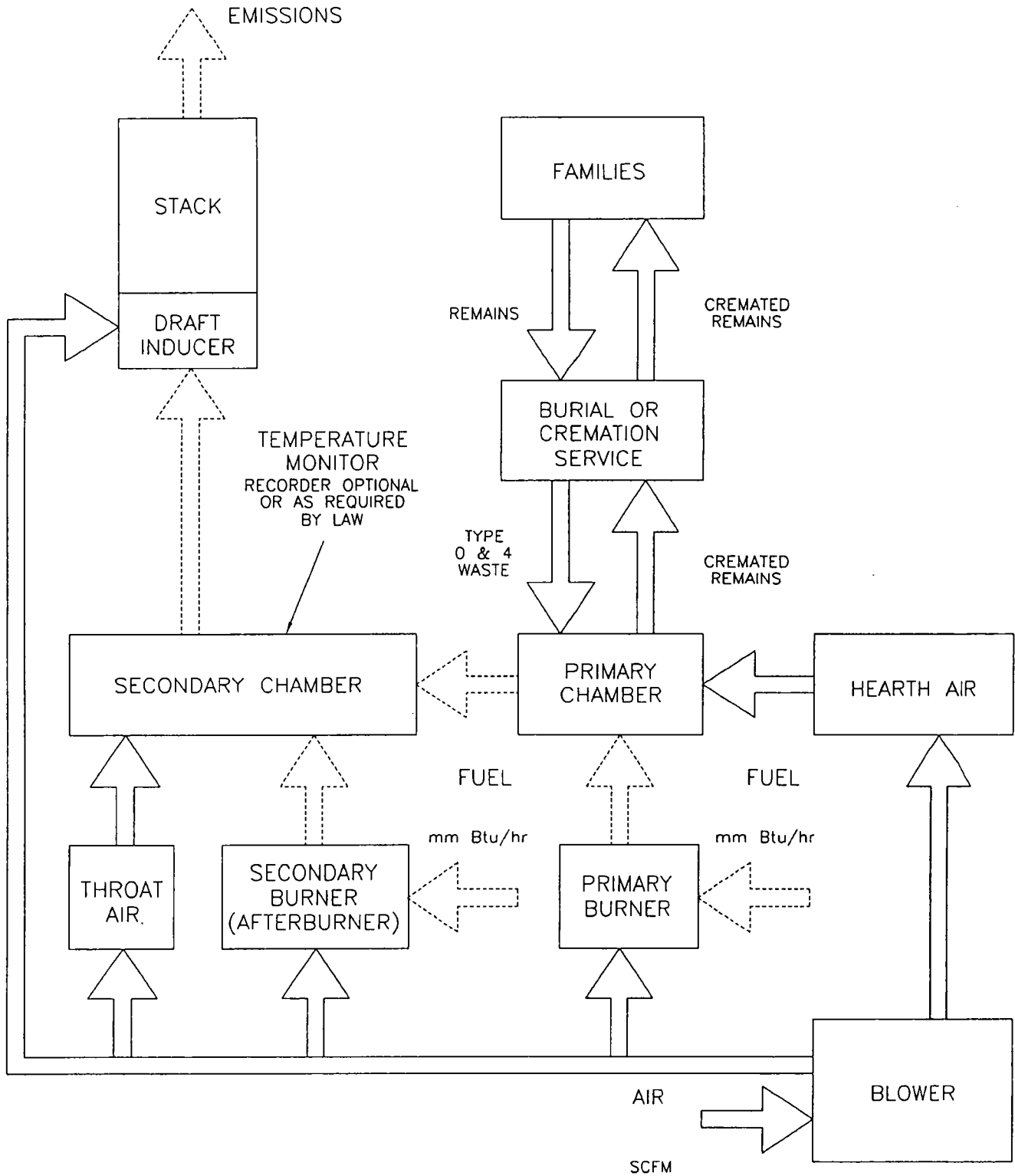
INSTRUCTIONS

1. INDICATE LOCATION AND TYPE OF BUILDING BY THE USE OF SMALL NUMBERED CIRCLES WITH THE DESCRIPTION BELOW.
2. SHOW ROADS AS LINES REPRESENTING THE ROAD EDGES. INDICATE STREET NAMES AND HIGHWAY NUMBERS.
3. SHOW WOODED OR CLEARED AREA BY APPROXIMATE BOUNDARY LINES AND THE WORDS "WOODS," "CLEARED," "CORNFIELD," ETC.

STRUCTURE DESCRIPTION

- | | |
|------|---------------------|
| (1) | Concrete block home |
| (2) | Concrete block home |
| (3) | Concrete block home |
| (4) | Concrete block home |
| (5) | Concrete block home |
| (6) | FH office |
| (7) | Chapel |
| (8) | Pine Choice Growery |
| (9) | Concrete block home |
| (10) | Stucco Home |
| (11) | Stucco Home |
| (12) | Stucco Home |

PROCESS FLOW DIAGRAM CREMATOR



SPECIFICATIONS- Model Power-Pak

1

1. Equipment Type Model Power-Pak
 - A. Model No. IE43-PP
 - B. Underwriters Laboratories Listing and File No. 87E8; MH14647

2. Dimensions
 - A. Maximum Length 12'
 - B. Maximum Width..... 6'-3 1/2"
 - C. Maximum Height..... 7'-10"
 - D. Chamber Loading Opening 30 1/2" H x 33 3/4" W

3. Weight..... 22,000 lbs.

4. Utility/Air Requirements
 - A. Gross Gas Input, Natural or LP Gas 1,600,000 BTU/hr.

Running Gas Pressure, Natural Gas 7 inches water column or greater
Running Gas Pressure, LP Gas 11 inches water column or greater
 - B. Electrical Supply 230 volt, 3Ø or 1Ø, 50/60 hz (other available)
 - C. Air Supply..... 2,500 cfm

5. Incineration Capacity 100 lbs./hr.

6. Typical Loading Capacity of Waste Types 300 lbs.

7. Construction and Safety Standards..... Incineration Institute of America, Canadian Standards Association

8. Steel Structure Construction
 - A. Frame 3" I-Beam
 - B. Front/Rear Plates..... 3/8" plate
 - C. Floor Plates 1/4" plate
 - D. Outer Side Casing 12 gauge plate
 - E. Inner Side Casing 12 gauge plate

9. Stack Construction
 - A. Inner Wall 12 gauge sheet, 304 s.s., welded seams
 - B. Middle Wall 2" Insulating Block
 - C. Outer Wall..... 22 gauge galvanized steel, screwed seams

10. Draft Inducer..... Quickdraft Q20CA, vitreous enamel coating

11. Main Chamber Door Construction
 - A. Steel Shell 3/16" steel, welded with reinforcement
 - B. Outer Refractory Insulating board
 - C. Inner Refractory 4 1/2" insulating firebrick

SPECIFICATIONS- Model Power-Pak

2

12. Primary Chamber Wall Construction
 - A. Outer Casing Wall 12 gauge sheet
 - B. Inner Frame/Air Compartment..... 3" air compartment w/ 3" I-Beam
 - C. Inner Casing Wall 12 gauge (3 mm) sheet
 - D. Outer Refractory Wall..... 4½" (110 mm) firebrick

13. Secondary Chamber Wall Construction
 - A. Outer Casing Wall 12 gauge (3 mm) sheet
 - B. Inner Frame/Air Compartment..... 3" air compartment w/ 3" I-Beam
 - C. Inner Casing Wall 12 gauge sheet
 - D. Outer Refractory Wall..... 2" refractory insulating block
 - E. Inner Refractory Wall 4½" firebrick

14. Refractory Temperature Ratings
 - A. Standard Firebrick..... 3,100° F. (1700° C)
 - B. Insulating Firebrick 2,600° F. (1430° C)
 - C. Castable Refractory (Hearth) 2,550° F. (1370° C)
 - D. Castable Refractory..... 2,550° F. (1370° C)
 - E. Insulating Block 1,900° F. (1040° C)
 - F. Bonding Mortar 3,200° F. (1760° C)

15. Chamber Volumes (not including external flues, stacks or chimneys)
 - A. Primary Chamber 59 cubic feet
 - B. Secondary Chamber 64 cubic feet

16. Emission Control Features
 - A. Secondary Chamber with Afterburner Included
 - B. Opacity Monitor and Controller with Visual and Audible Alarms Included
 - C. Auxiliary Air Control System..... Included
 - D. Microprocessor Temperature Control System Included

17. Operating Temperatures
 - A. Primary Chamber 1,200° F. - 1,800° F. (650° C - 1000° C)
 - B. Secondary Chamber 1,400° F. - 1,800° F. (760° C - 1000° C) as required

18. Secondary Chamber Retention Time > 1 second

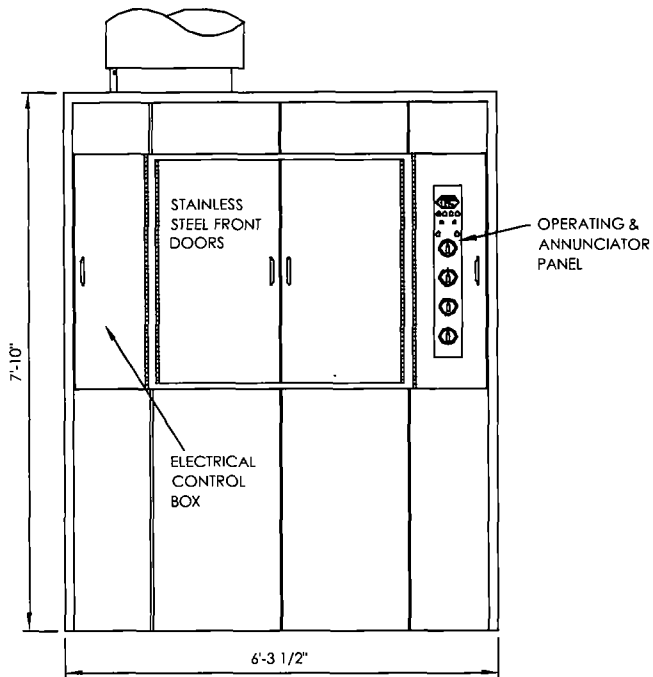
19. Ash Removal Sweep out front into collection pan.

20. Casing Thermostat Monitors casing temperature and activates air cooling system at temperature above setpoint

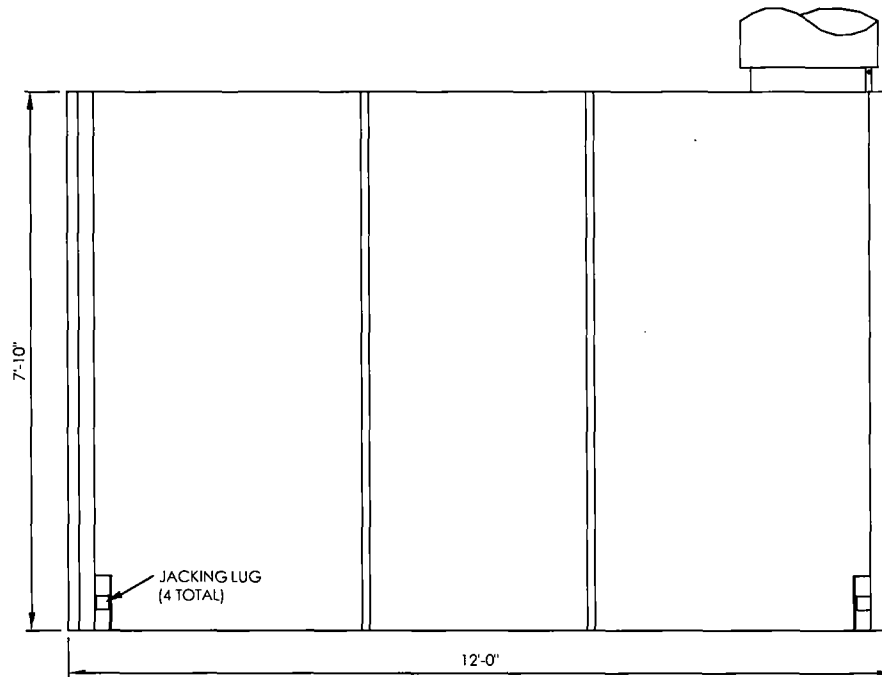
21. Safety Interlocks
 - A. Combustion Air Pressure Optional
 - B. Draft Air Pressure Optional
 - C. Cooling Air Pressure..... Included
 - D. Door Position..... Included
 - E. Opacity Included
 - F. Motor Starter Function Included
 - G. Chamber Temperature Included
 - H. Motor Overload..... Included
 - I. Flame Quality Included
 - J. Burner Safe Start..... Included

SPECIFICATIONS- Model Power-Pak

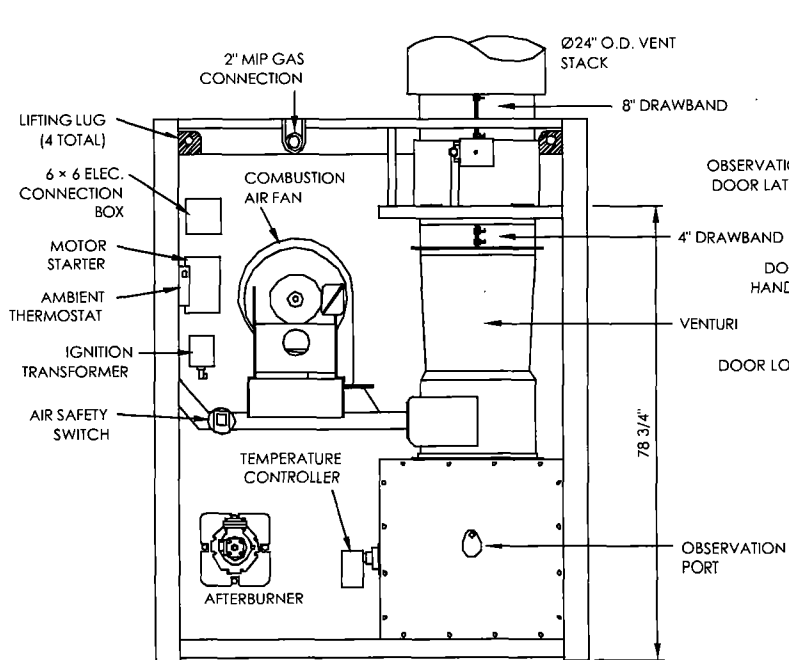
22. Burner Description The burners used on this cremation equipment are industrial quality, designed for incinerator use.
23. Ultraviolet Flame Detection Ultraviolet flame detection has proven to be the most reliable means of flame safety. The system is completely sealed in a quartz capsule to eliminate problems, caused by moisture and dust created in the cremation process, which effect flame rod detectors.
24. Operating Panel Indicating Lights
- A. Safe Run Included
 - B. Afterburner (Secondary Burner)..... Included
 - C. Cremation Burner Included
 - D. Ignition Burner Included
 - E. Afterburner (Secondary Burner) Reset..... Included
 - F. Cremation Burner Reset Included
25. Automatic Timer Functions
- A. Master Cycle..... Included
 - B. Afterburner (Secondary Burner)..... Included
 - C. Cremation Burner Included
 - D. Ignition Burner Low Fire Start..... Included
 - E. Prepurge Included
 - F. Cooldown Included
 - G. Pollution Monitoring Included
26. Exterior Finish
- A. Primer..... 2 coats rust inhibiting
 - B. Finish..... 2 coats textured finish
27. Start-Up and Training Startup of cremation equipment and training of operators to properly operate and maintain the equipment is performed on-site under actual operating conditions. Included is a comprehensive owner's manual, with details on the equipment, its components and proper operation.
28. Environmental Submittals Complete technical portion of state environmental permits. Engineering calculations, technical data, existing stack test results and equipment blueprints provided.



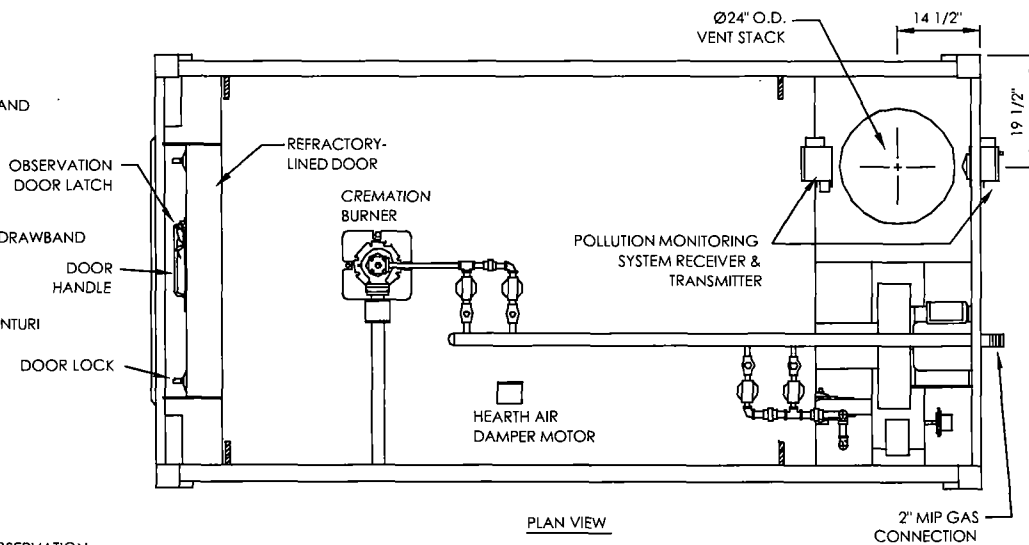
FRONT ELEVATION



SIDE ELEVATION



REAR ELEVATION



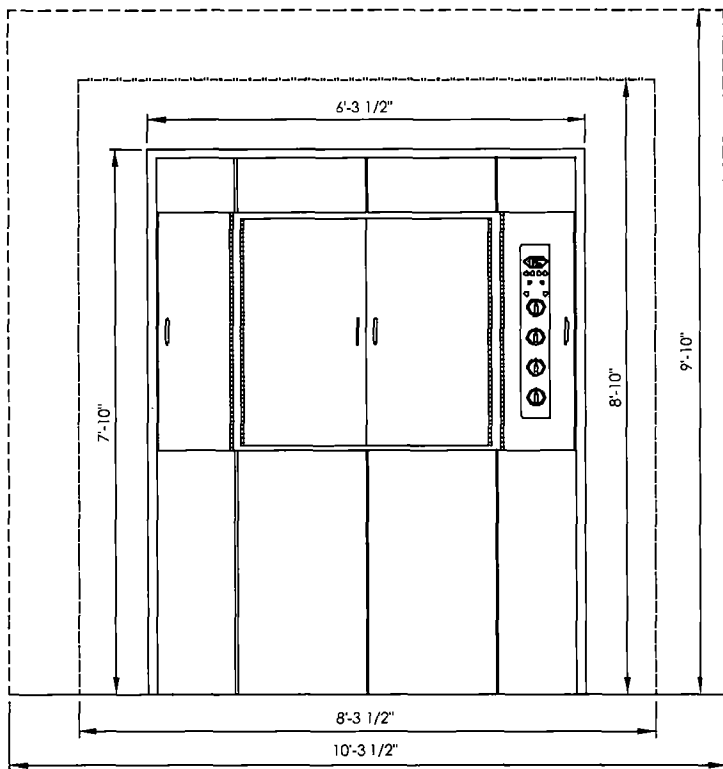
PLAN VIEW

DATE: 3/4/92	PAGE NO. 1
SCALE: 3/8" = 1"	OF 5
DRAWN: G. BRAGUE	
FILE: PP-ELEV	

Power-Pak Elevations

Industrial Equipment & Engineering Co.
P.O. Box 547796
Orlando, Florida USA





FRONT ELEVATION
(RECOMMENDED AND MINIMUM CLEARANCES)

CLEARANCES

	RECOMMENDED	MINIMUM
* TOP:	2 FEET	1 FOOT
SIDE:	2 FEET	1 FOOT
FRONT:	9 FEET	6 FEET
REAR:	3 FEET	2 FEET
STACK:	6 INCHES	6 INCHES

* FROM HIGHEST POINT ON UNIT.

RECOMMENDED CLEARANCES FOR HEIGHT AND WIDTH ARE INDICATED (LEFT) BY A DASHED LINE. MINIMUM CLEARANCES ARE INDICATED BY A DOT-DASHED LINE.

REQUIREMENTS

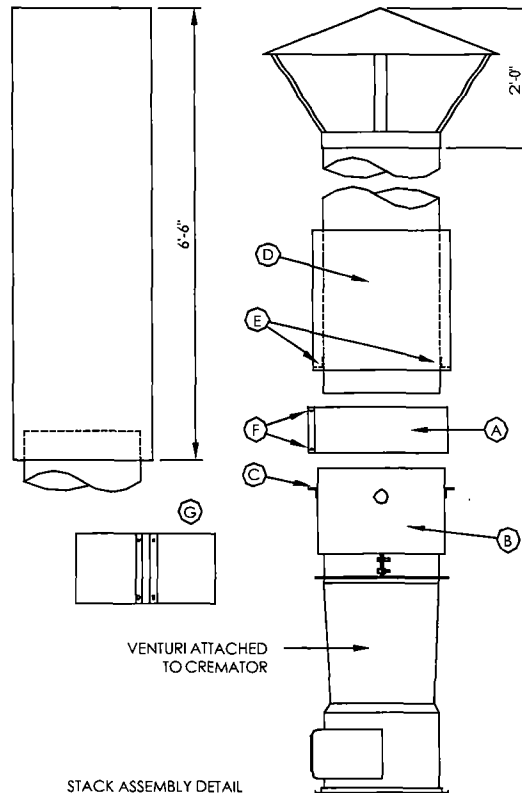
FUEL: A PRESSURE REGULATOR ADJUSTED TO 7" W.C. (NATURAL GAS) OR 11" W.C. (L.P. GAS) WITH A FLOW CAPACITY OF 1.6 - 2.0 MILLION B.T.U./HR.

ELECTRICAL: 230 VOLT, 3 Ø, 60 HERTZ FROM A 30 AMP BREAKER OR 230 VOLT, 1 Ø, 60 HERTZ FROM A 60 AMP BREAKER.

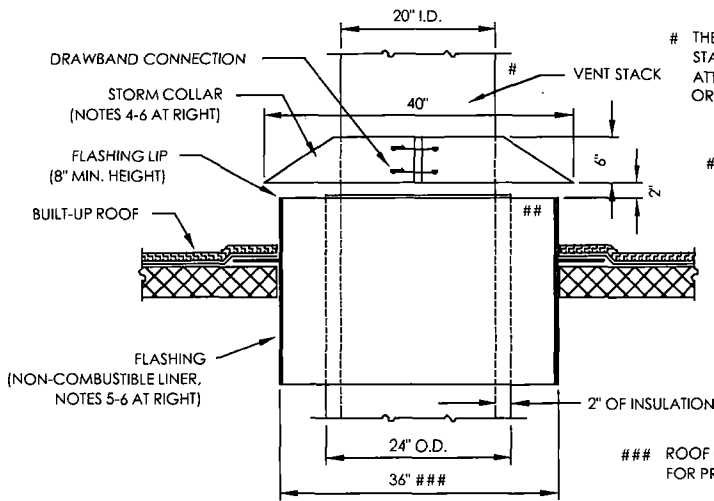
AIR: PLACE A LOUVER NEAR THE REAR OF THE UNIT CAPABLE OF PASSING 2500 CU. FT./MIN. OF FREE AIR (36" x 36").

"SHOTGUN" CAP

STANDARD CAP



STACK ASSEMBLY DETAIL



ROOF PENETRATION DETAIL
(SCALE: 1/2" = 1')

THERE MUST BE APPROX. 36" OF STACK ABOVE THE ROOF BEFORE ATTACHING EITHER A SHOTGUN OR A STANDARD CAP.

INSULATION MUST EXTEND 4" ABOVE THE ROOF TO PROTECT ROOFING MATERIALS.

ROOF OPENING MUST BE 36" ROUND FOR PROPER STACK CLEARANCE.

STACK ASSEMBLY INSTRUCTIONS (REFER TO ABOVE DRAWING)

1. SLIP THE STAINLESS STEEL DRAWBAND (A) OVER THE TOP OF THE PHOTOCOLLAR (B) AND SLIDE IT DOWN UNTIL IT RESTS ON THE PHOTOCOLLAR'S PROTRUDING EDGE (C).
2. LOWER THE VENT STACK (D) DOWN INSIDE THE DRAWBAND (A) UNTIL ITS SUPPORT TABS (E) REST ON THE EDGE OF THE DRAWBAND.
3. TIGHTEN DRAWBAND BOLTS (F) EVENLY UNTIL THEY FORM A TIGHT CONNECTION BETWEEN THE VENT STACK (D) AND THE PHOTOCOLLAR (B).
4. APPLY A 1/4" BEAD OF HIGH-TEMPERATURE SILICON (PROVIDED BY IEE) TO THE INSIDE OF THE STORM COLLAR SURFACE THAT WILL COME IN CONTACT WITH THE STACK.
5. PLACE THE STORM COLLAR WITH DRAWBAND CONNECTION ON THE UNINSULATED PORTION OF THE STACK ABOVE THE STACK INSULATION AND FLASHED ROOF HOLE. YOU MUST ALLOW 2" FOR PROPER VENTILATION, AS SHOWN IN THE ROOF PENETRATION DETAIL DRAWING AT LEFT.
6. THE STORM COLLAR IS FURNISHED BY IEE. THE FLASHING (NON-COMBUSTIBLE LINER) MUST BE PROVIDED BY THE CUSTOMER.
7. IF 50% OF THE STACK LENGTH IS ABOVE THE ROOF GUY WIRES SHOULD BE USED.

DATE: 2/28/92
SCALE: 3/8" = 1'
DRAWN: G. BRAGUE
FILE: PP-STACK

Power-Pak

Stack and Clearances

Industrial Equipment
& Engineering Co.
P.O. Box 547796
Orlando, Florida USA



PAGE NO.

2

OF

2

Calculation Of Emissions

Potential to Emit

Matthews Cremation Division (MCD)
formerly
Industrial Equipment and Engineering Company (IEE)
Crematory Incinerator Model IE43-PP

Total Incinerator Burn Capacity: 100 lb/hr of remains (type 4) and associated containers (type 0)
Flue gas flow rate = 1117 dscfm 12 Hours/Day X 6 Days/Week X 52 Weeks/Year
(100 % Excess Air) = 3744 Hours/Year

Total Emission Rate = Incinerator Burn Rate X Emission Factor

Sulfur Dioxide (SO₂)

$$\frac{100 \text{ lb/hr X } 2.5 \text{ lb/ton X } 1 \text{ ton}}{2000 \text{ lbs}} = 0.125 \text{ lb/hr}$$

$$= 0.234 \text{ TPY}$$

$$\frac{0.125 \text{ lb/hr X } 4.54\text{E}+05 \text{ mg/lb X } 1 \text{ ppmv}}{1117 \text{ dscfm X } 60 \text{ min/hr X } 0.0283 \text{ m}^3/\text{F}^3 \text{ X } 2.61 \text{ mg/m}^3} = 11.46 \text{ ppmv}$$

Nitrogen Oxide (NO_x - as Nitrogen Dioxide)

$$\frac{100 \text{ lb/hr X } 3 \text{ lb/ton X } 1 \text{ ton}}{2000 \text{ lbs}} = 0.15 \text{ lb/hr}$$

$$= 0.2808 \text{ TPY}$$

$$\frac{0.15 \text{ lb/hr X } 4.54\text{E}+05 \text{ mg/lb X } 1 \text{ ppmv}}{1117 \text{ dscfm X } 60 \text{ min/hr X } 0.028 \text{ m}^3/\text{F}^3 \text{ X } 1.88 \text{ mg/m}^3} = 19.30 \text{ ppmv}$$

Hydrocarbons (TOC/VOC - methane)

$$\frac{100 \text{ lb/hr X } 3 \text{ lb/ton X } 1 \text{ ton}}{2000 \text{ lbs}} = 0.15 \text{ lb/hr}$$

$$= 0.2808 \text{ TPY}$$

$$\frac{0.15 \text{ lb/hr X } 4.54\text{E}+05 \text{ mg/lb X } 1 \text{ ppmv}}{1117 \text{ dscfm X } 60 \text{ min/hr X } 0.0283 \text{ m}^3/\text{F}^3 \text{ X } 0.65 \text{ mg/m}^3} = 55.24 \text{ ppmv}$$

Lead (Pb)

(6.62E-05 lb/cremation)

$$\frac{100 \text{ lb/hr X } 0.0000662 \text{ lb Pb}}{200 \text{ lb}} = 3\text{E}-05 \text{ lb/hr}$$

$$= 6\text{E}-05 \text{ TPY}$$

Particulates (PM & PM₁₀)

(Actual Levels lower as shown by test results)

$$\frac{100 \text{ lb/hr X } 7 \text{ lb/ton X } 1 \text{ ton}}{2000 \text{ lbs}} = 0.35 \text{ lb/hr}$$

$$= 0.6552 \text{ TPY}$$

$$\frac{0.35 \text{ lb/hr X } 7.00\text{E}+03 \text{ gr/lb X}}{1117 \text{ dscfm X } 60 \text{ min/hr}} = 0.04 \text{ gr/dscf}$$

Carbon Monoxide (CO)

$$\frac{100 \text{ lb/hr X } 10 \text{ lb/ton X } 1 \text{ ton}}{2000 \text{ lbs}} = 0.5 \text{ lb/hr}$$

$$= 0.936 \text{ TPY}$$

$$\frac{0.5 \text{ lb/hr X } 4.54\text{E}+05 \text{ mg/lb X } 1 \text{ ppmv}}{1117 \text{ dscfm X } 60 \text{ min/hr X } 0.028 \text{ m}^3/\text{F}^3 \text{ X } 1.14 \text{ mg/m}^3} = 106.11 \text{ ppmv}$$

Notes:

1. Incinerator Emissions based on EPA emissions from Table 2.1-12 of AP-42 (5th Edition)
2. All conversion factors from AP-42 Appendix A.

CREMATOR MASS BALANCE
Matthews Cremation
PP

THESE CALCULATIONS HAVE BEEN PREPARED TO EVALUATE THE COMBUSTION PROCESS IN THIS UNIT.

THE INCINERATOR INSTITUTE OF AMERICA HAS PUBLISHED THE FOLLOWING SPECIFICATIONS COVERING AVERAGE WASTES.

WASTE TYPE	TYPE 0	TYPE 4
BTU PER POUND	8500	1000
POUND ASH PER POUND WASTE	0.05	0.05
POUND MOISTURE PER POUND WASTE	0.1	0.85
POUND COMBUSTIBLES PER POUND WASTE	0.85	0.1
HOURLY CONSUMPTION OF WASTE (LBS)	10	90

1. MASS OF PRODUCTS OF COMBUSTION FROM CONTAINER

A. COMBUSTION AIR

$$\frac{8500 \text{ BTU/LB}}{100 \text{ BTU/CF OF AIR}^*} \times 0.075 \text{ LB/CF OF AIR} = 6.38 \text{ LB/LB BURNED}$$

B. COMBUSTIBLES AND WATER VAPOR FROM CHART ABOVE = 0.95 LB/LB BURNED

C. TOTAL FLUE PRODUCT MASS PER LB BURNED = 7.33 LB/LB BURNED

2. MASS OF PRODUCTS OF COMBUSTION FROM BODY

A. COMBUSTION AIR

$$\frac{1000 \text{ BTU/LB}}{100 \text{ BTU/CF OF AIR}^*} \times 0.075 \text{ LB/CF OF AIR} = 0.75 \text{ LB/LB BURNED}$$

B. COMBUSTIBLES AND WATER VAPOR FROM CHART ABOVE = 0.95 LB/LB BURNED

C. TOTAL FLUE PRODUCT MASS PER LB BURNED = 1.70 LB/LB BURNED

SPECIFICATIONS	
PRIMARY BURNER FUEL CONSUMPTION (MMBTU/HR)	0.5
SECONDARY BURNER FUEL CONSUMPTION (MMBTU/HR)	0.9
ADDITIONAL SECONDARY AIR SUPPLIED (CFM)	200
SEC. CHAMBER OPERATING TEMPERATURE (°F)	1800
SECONDARY CHAMBER VOLUME (CU. FT)	64
SEC. CHAMB. CROSS-SECTIONAL AREA (SQ. FT)	2.44
FLAME PORT AREA (SQ. FT)	2.95
MIXING BAFFLES AREA (SQ. FT)	1.36

*AIR AT STANDARD CONDITIONS

3. TOTAL FLUE PRODUCTS

A. MAXIMUM PRIMARY BURNER GAS USAGE

$$500000 \text{ BTU/HR} \times 4.5E-05 \text{ LBS/BTU} = 22.5 \text{ LBS/HR}$$

B. COMBUSTION AIR FOR PRIMARY BURNER

$$\frac{500000 \text{ BTU/HR}}{100 \text{ BTU/CF AIR}} \times 1 \text{ Burner} \times 0.075 \text{ LB/CF AIR} = 375 \text{ LBS/HR}$$

C. MAXIMUM SECONDARY BURNER GAS USAGE

$$900000 \text{ BTU/HR} \times 4.5E-05 \text{ LBS/BTU} = 41 \text{ LBS/HOUR}$$

D. COMBUSTION AIR FOR SECONDARY BURNER

$$\frac{900000 \text{ BTU/HR}}{100 \text{ BTU/CF AIR}} \times \frac{1}{\text{Burner}} \times 0.075 \text{ LB/CF AIR} = 675 \text{ LBS/HOUR}$$

E. PRODUCTS FROM TYPE 0 WASTE (CONTAINER)

$$7.33 \text{ LBS/LB BURNED} \times 10 \text{ LB/HR BURN RATE} = 73 \text{ LBS/HOUR}$$

F. PRODUCTS FROM TYPE 4 WASTE (TISSUE)

$$1.70 \text{ LBS/LB WASTE} \times 90 \text{ LB/HR BURN RATE} = 153 \text{ LBS/HOUR}$$

G. ADDITIONAL SECONDARY CHAMBER COMBUSTION AIR (THROAT AIR)

$$12000 \text{ CF/HR}^* \times 0.075 \text{ LB/CF AIR} = 900 \text{ LBS/HOUR}$$

H. TOTAL FLUE PRODUCTS

$$= \underline{\underline{2239 \text{ LBS/HOUR}}}$$

2. VELOCITY AND TIME CALCULATIONS

A. SCFM CALCULATION

(PRODUCTS ASSUMED TO HAVE DENSITY CLOSE TO AIR)

$$2239 \text{ LBS/HR} \times \frac{13.35 \text{ STD. CU. FT/LB}}{60 \text{ MIN/HR}} = 498 \text{ SCFM}$$

B. TOTAL PRODUCTS ACFM @ 1800 °F

$$\frac{2260 \text{ °RANKINE}}{530 \text{ °RANKINE}} \times 498.2 \text{ CFM} = 2125 \text{ ACFM}$$

C. RETENTION TIME

$$\frac{64 \text{ CU. FT}}{2125 \text{ ACFM}} \times \frac{60 \text{ SECONDS}}{1 \text{ MINUTE}} = 1.81 \text{ SECONDS}$$

D. VELOCITY IN FLAME PORT

$$\frac{2125 \text{ ACFM}}{2.95 \text{ SQ. FT}} \times \frac{1 \text{ MINUTE}}{60 \text{ SECONDS}} = 12.0 \text{ FEET/SECOND}$$

E. VELOCITY AT MIXING BAFFLES

$$\frac{2125 \text{ ACFM}}{1.36 \text{ SQ. FT}} \times \frac{1 \text{ MINUTE}}{60 \text{ SECONDS}} = 26.0 \text{ FEET/SECOND}$$

F. VELOCITY IN SECONDARY CHAMBER

$$\frac{2125 \text{ ACFM}}{2.44 \text{ SQ. FT}} \times \frac{1 \text{ MINUTE}}{60 \text{ SECONDS}} = 14.5 \text{ FEET/SECOND}$$

**AIR COMPLIANCE TEST
REPORT**

**PERMIT NO. 1110050-001-AG
UNIT ID: 001
POWER PAK MODEL IE-43
CREMATORY INCINERATOR**

PREPARED FOR:
**HAISLEY-HOBBS FUNERAL
HOME**
FORT PIERCE, FLORIDA
MARCH 26, 2004

PREPARED BY:

ATC



AIR TESTING & CONSULTING
333 FALKENBURG ROAD, SUITE B-214
TAMPA, FLORIDA 33619

1.0 INTRODUCTION

On March 26, 2004, Air Testing & Consulting, Inc., conducted the following tests on the human crematory located at Haisley-Hobbs Funeral Home, Ft. Pierce, St. Lucie County:

- (1) Particulate Emission (EPA Methods 1 – 5)*
- (2) Carbon Monoxide (EPA Method 10)*
- (3) Visible Emissions (EPA Method 9)*

These tests were performed to determine if the incinerator was operating within the guidelines of Permit No. 1110050-001-AG, the Florida Department of Environmental Protection (FDEP).

3.0 SUMMARY OF RESULTS

The results of the Particulate, Carbon Monoxide (CO) and Opacity (VE) emission testing are presented in the Regulatory Summary and Table I. The Particulate emissions averaged 0.0723 grains per dry standard cubic foot (gr/dscf) and the CO emissions averaged 8.3 parts per million (ppmv), each corrected to 7% O₂. Opacity, highest six- minute average, was 0%.

Process rates were determined by plant personnel and are included in the appendix.

REGULATORY SUMMARY
H AISLEY-HOBBS FUNERAL HOME
HUMAN CREMATORY
MARCH 26, 2004

PERMIT NO. NEDS NO. ID #	EPA METHOD	METHOD DESCRIPTION	ACTUAL EMISSION RATE	ALLOWABLE EMISSION RATE	PROCESS RATE POUNDS PER HOUR	
					ACTUAL	PERMIT
1110050-001-AG 001	5	PARTICULATE gr/dscf @ 7% O2	0.072	0.080	80	100
	10	CARBON MONOXIDE ppmv @ 7% O2	8	100		
	9	VISIBLE EMISSIONS % Opacity	0	5% except for 20% up to 3 min/hr		

TABLE I
TEST SUMMARY
H AISLEY-HOBBS FUNERAL HOME
HUMAN CREMATORY
MARCH 26, 2004

RUN #	% O ₂	PARTICULATE GR/DSCF @ 7% O ₂	CO ppmv @ 7% O ₂	BODY WEIGHT	BURN RATE lbs/hr
1	12.0	0.1385	12.0	230	110
2	12.3	0.0190	10.0	160	58
3	11.8	0.0594	3.0	180	72
AVG	12.0	0.0723	8.3	190	80

SUMMARY OF TEST DATA

PLANT : HAISLEY

UNIT : CREAMATORY

RUN NUMBERS : 1, 2, 3

TEST DATE : 03/26/2004

	#1	#2	#3	AVERAGES
DATE	03/26/2004	03/26/2004	03/26/2004	
START TIME	9:14	12:45	16:05	
END TIME	10:24	13:51	17:14	
STACK DIAMETER (INCHES)	20	20	20	
NOZZLE DIAMETER (INCHES)	0.618	0.618	0.618	
TEST TIME (MINUTES)	60	60	60	
NUMBER OF TEST POINTS PER RUN	24	24	24	
STACK GAS TEMPERATURE (°F)	883.1	760.5	857	833.4
STACK GAS MOISTURE (%)	12.32	12.75	10.80	12.0
STACK GAS MOLECULAR WEIGHT	28.52	28.47	28.70	28.6
STACK GAS VOLUME SAMPLED (CUBIC FEET)	43.927	35.214	41.000	40.047
VOLUME SAMPLED (SCF @ 68°F)	43.500	34.784	42.000	40.095
STACK GAS VELOCITY (FEET PER SECOND)	15.09	11.39	14.49	13.65
STACK GAS FLOW RATE (ACFM)	1975.3	1490.4	1896.2	1787.3
STACK GAS FLOW RATE (DSCFM @ 68°F)	690.9	570.9	688.3	650.0
PARTICULATE CONC (GRAINS/DSCF)	0.0887	0.0118	0.0391	0.0465
PARTICULATE CONC @ 7% O2, (GRAINS/DSCF)	0.1385	0.0190	0.0594	0.0723
PARTICULATE MASS RATE (LBS/HOUR)	0.525	0.070	0.232	0.276
CO CONC , ppm	8	6	2	5
CO CONC @ 7% O2, ppm	12	10	3	8
ISOKINETIC SAMPLING RATE, %I	109.93	106.38	106.53	

FIELD DATA AND SAMPLES UNDER THE CONTROL OF:

TIM O'DELL

LABORATORY ANALYSIS UNDER THE CONTROL OF:

ATC



H AISLEY

Funeral & Cremation Service

Richard F. Haisley, Director

3015 Okeechobee Road, Fort Pierce, FL 34947 • 772.461.5211 • 1.800.822.7374 • Fax 772.461.5282

November 28, 2011

Florida Dept. Environmental Protection
Attn: Mr. Dick Dibble
PO Box 3070
Tallahassee, FL 32315-3070

Dear Mr. Dibble:

We are requesting two Air General Permits. Our project is as follows:

Step One

Existing Human Crematory, ARMS#1110050-003

We are replacing our current crematory unit, manufactured by Matthews Group with another Matthews unit. I have enclosed the specifications on the new unit that will be installed. We will continue to operate this human crematory under our existing license, Haisley-Hobbs Crematorium.

Step Two

Relocation of "old" Crematory

We are taking our "existing" Power Pak Cremator (that was removed in Step One) and relocating it to 1602 South 30th Street, Fort Pierce, FL. This crematory will *not* be used as a human crematorium. It will be used as a pet crematory. The pet crematorium will be operated under "Haisley Pet Loss Services" and will be owned by Haisley Funeral & Cremation Service.

I have attached completed Air General Permit Worksheets for both locations. If you have any questions, please call me at 772-461-5211.

Sincerely,

Richard E. Haisley
President/Owner



SELECTED
Independent
FUNERAL HOMES

 **HAISLEY**
Funeral & Cremation Service
Okeechobee Road, Fort Pierce, FL 34947 • 1.800.822.7374

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Florida Dept Environmental Protect

Attn: Dick Dibble

PO Box 3070

TALLAHASSEE, FL 32315-3070