

F&A RECEIPT #514229

OCT 25 2010

RECEIVED

HUMAN CREMATORY
AIR GENERAL PERMIT REGISTRATION FORM

OCT 26 2010

Part II. Notification to Permitting Office

Bureau of Air Monitoring
& Mobile Sources

(Detach and submit to appropriate permitting office; keep copy onsite)

Instructions: To give notice to the Department of an eligible facility's intent to use this air general permit, the owner or operator of the facility must detach and complete this part of the Air General Permit Registration Form and submit it to the appropriate Department of Environmental Protection or local air pollution control program office which has permitting authority. Please type or print clearly all information, and enclose the appropriate air general permit registration processing fee pursuant to Rule 62-4.050, F.A.C. (\$100 as of the effective date of this form)

0710069-004

Registration Type

Check one:

INITIAL REGISTRATION - Notification of intent to:

- Construct and operate a proposed new facility.
- Operate an existing 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).

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., or any other change not considered an administrative correction under Rule 62-210.310(2)(d), F.A.C.

* SEE ATTACHED 10/27/10 PER E-MAIL - ADDITION OF A SECOND NEW UNIT

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

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. In such case, check the first box, and indicate the operation permits being surrendered. If no air operation permits are held by the facility, check the second box.

- All existing air operation permits for this facility are hereby surrendered upon the effective date of this air general permit; specifically permit number(s): _____
- No air operation permits currently exist for this 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.)

KADEK ENTERPRISES OF FL

Site Name (Name, if any, of the facility site; e.g., Plant A, Metropolis Plant, etc. If more than one facility is owned, a registration form must be completed for each.)

LEE MEMORIAL PARK CREMATORY

Facility Location (Provide the physical location of the facility, not necessarily the mailing address.)

Street Address: 12777 SR 82

City: Ft. Myers

County: LEE

Zip Code: 33913-9651

Facility Start-Up Date (Estimated start-up date of proposed new facility.) (N/A for existing facility)

DEC 31, 2010

Owner/Authorized Representative

Name and Position Title (Person who, by signing this form below, certifies that the facility is eligible to use this air general permit.)

Print Name and Title: ALLAN R. GILSTAD GENERAL MANAGER

Owner/Authorized Representative Mailing Address

Organization/Firm: LEE MEMORIAL PARK

Street Address: 12777 SR 82

City: FT. MYERS

County: LEE

Zip Code: 33913

Owner/Authorized Representative Telephone Numbers

Telephone: 239-334-4880

Fax: 239-361-4007

Cell phone (optional):

Facility Contact (If different from Owner/Authorized Representative)

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

Print Name and Title:

Facility Contact Mailing Address

Organization/Firm:

Street Address:

City:

County:

Zip Code:

Facility Contact Telephone Numbers

Telephone:

Fax:

Cell phone (optional):

Owner/Authorized Representative Statement

This statement must be signed and dated by the person named above as owner or authorized representative

I, the undersigned, am the owner or authorized representative of the owner or operator of the facility addressed in this Air General Permit Registration Form. I hereby certify, based on information and belief formed after reasonable inquiry, that the facility addressed in this registration form is eligible for use of this air general permit and that the statements made in this registration form are true, accurate and complete. Further, I agree to operate and maintain the facility described in this registration form so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof.

I will promptly notify the Department of any changes to the information contained in this registration form.


Signature

10-21-10
Date

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.

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

Description of Facility

Below, or as an attachment to this form, provide a description of all crematory operations at the facility in sufficient detail to demonstrate the facility's eligibility for use of this air general permit and to provide a basis for tracking any future equipment or process changes at the facility. Describe all air pollutant-emitting processes and equipment at the facility, and identify any air pollution control measures or equipment used.

Installation of Power Pak II human cremation unit at existing facility.
See attached process flow diagram.

* ADDENDUM TO #0710069-004

PAGE 17, REREGISTRATION, EQUIPMENT CHANGE

Dibble, Dickson

From: Gilstad, Allan [ALLAN.GILSTAD@Sci-us.com]
Sent: Wednesday, October 27, 2010 9:09 AM
To: Dibble, Dickson
Subject: Lee Memorial park

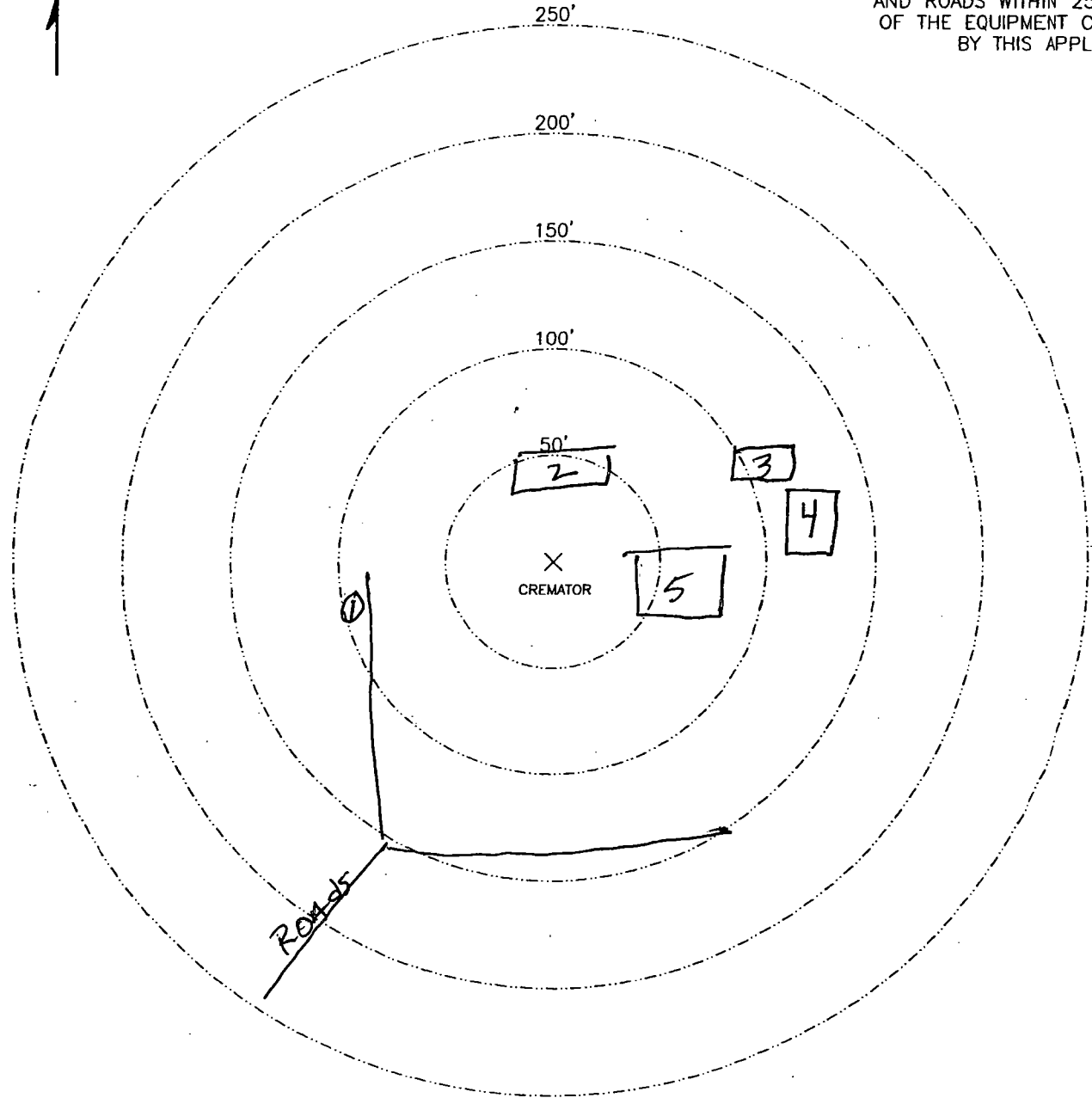
Good Morning Dick, We are adding a Power Pak II at our facility Lee Memorial Park Crematory, 12777 SR 82 Ft. Myers, FL 33913.

PLOT PLAN

NORTH



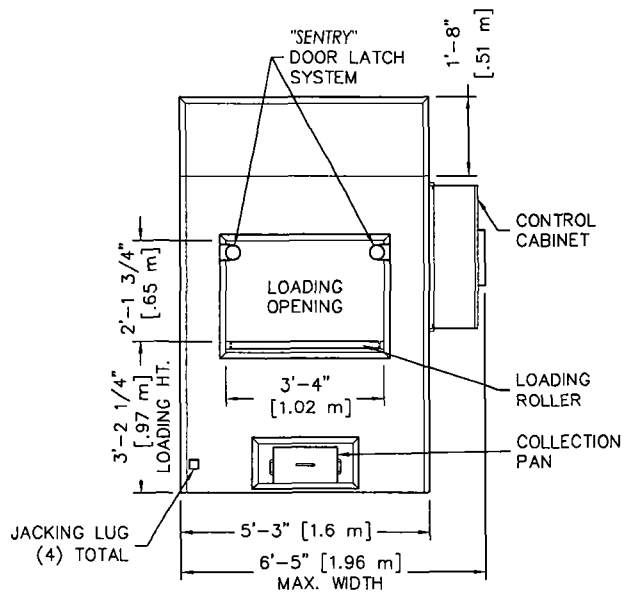
SHOW ALL SURROUNDING BUILDINGS AND ROADS WITHIN 250 FEET OF THE EQUIPMENT COVERED BY THIS APPLICATION.



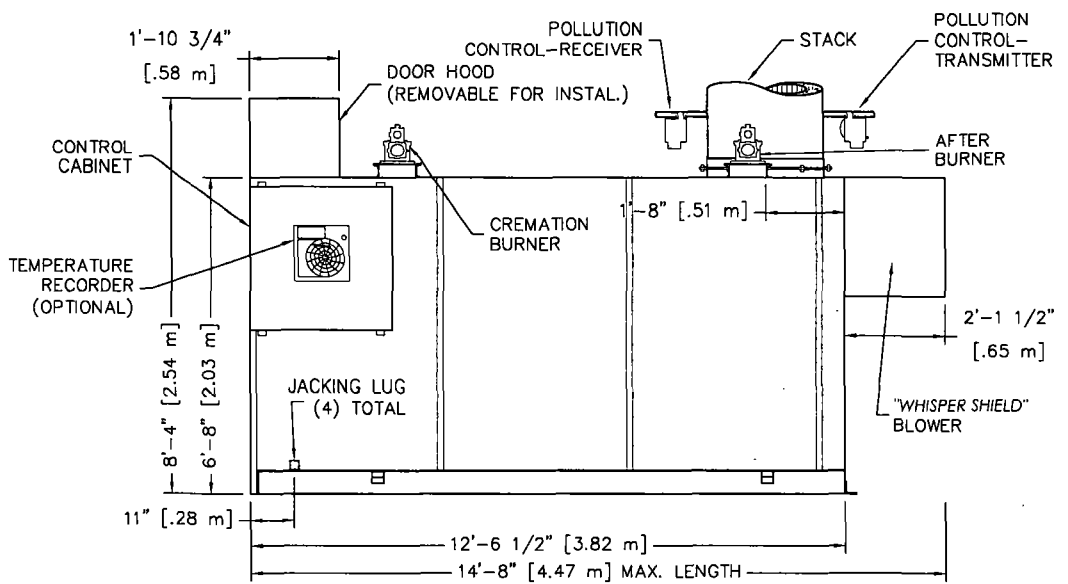
INSTRUCTIONS

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)	Roads
(2)	REFRIGERATION UNIT
(3)	shed
(4)	shed
(5)	shop-CARAGE
(6)	
(7)	
(8)	
(9)	
(10)	

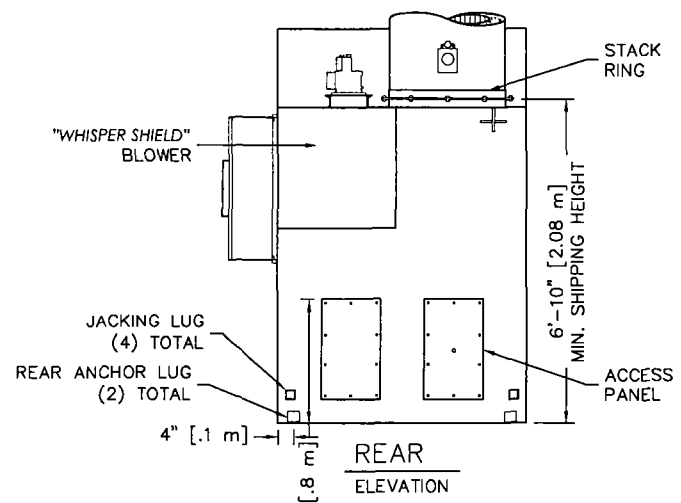


FRONT
ELEVATION

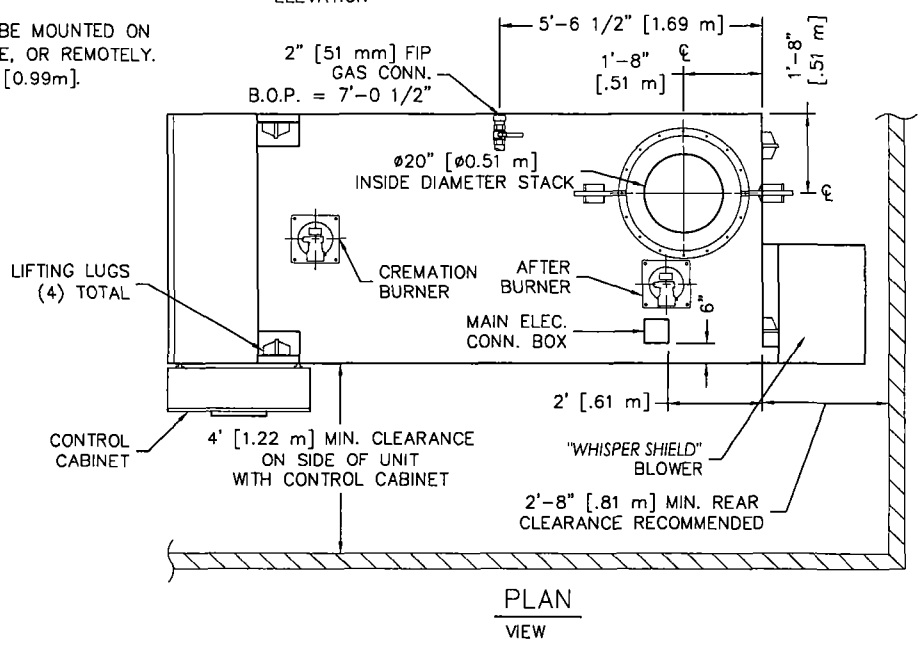


RIGHT SIDE
ELEVATION

- NOTES:
- 1) CONTROL CABINET CAN BE MOUNTED ON THE LEFT OR RIGHT SIDE, OR REMOTELY.
 - 2) CHAMBER WIDTH IS 39" [0.99m].



REAR
ELEVATION



PLAN
VIEW

Matthews
CREMATION DIVISION
2045 Sprint Boulevard
Apopka, Florida 32703
USA

POWER-PAK II
PLAN & ELEVATIONS INCL: CLEARANCES,
REQUIREMENTS & RECOMMENDATIONS

DATE:	08-03-09	SCALE:	1/4"=1'
DRAWN:	JG	PLOT SCALE:	1:48
APRVD:		SHEET:	1 OF 2
DWG FILE:	PPII-MarketingPlanElevS1R5		
DWG #:	0000140		

CREMATOR CLEARANCES

RECOMMENDED MINIMUM

TOP: ②	2 FEET [610 mm]	6 INCHES [152 mm]
CABINET SIDE:	4 FEET [1.22 m]	4 FEET [1.22 m]
OTHER SIDE:	2 FEET [610 mm]	6 INCHES [152 mm]
FRONT:	9 FEET [2.74 m]	8 FEET [2.44 m]
REAR:	3 FEET [0.91 m]	32 INCHES [812 mm]
STACK:	6 INCHES [152 mm]	6 INCHES [152 mm]

- FOR CLEARANCES OTHER THAN THOSE SHOWN, OR FOR SPECIAL REQUIREMENTS, CONSULT YOUR MCD REP.
- FROM HIGHEST POINT ON UNIT.
- CONTROL CABINET MOUNTS ON UNIT'S LEFT OR RIGHT SIDES, OR REMOTELY. (SEE PLAN VIEW, SHEET 1).
- REAR OF UNIT REFERS TO THE "BACK PLATE", RATHER THAN THE BACK OF THE "WHISPER SHIELD". (SEE PLAN VIEW, SHEET 1).

CREMATOR REQUIREMENTS

FUEL: A PRESSURE REGULATOR ADJUSTABLE TO 7" [178 mm] W.C. FOR NATURAL GAS, OR 11" [279 mm] W.C. FOR LP GAS.

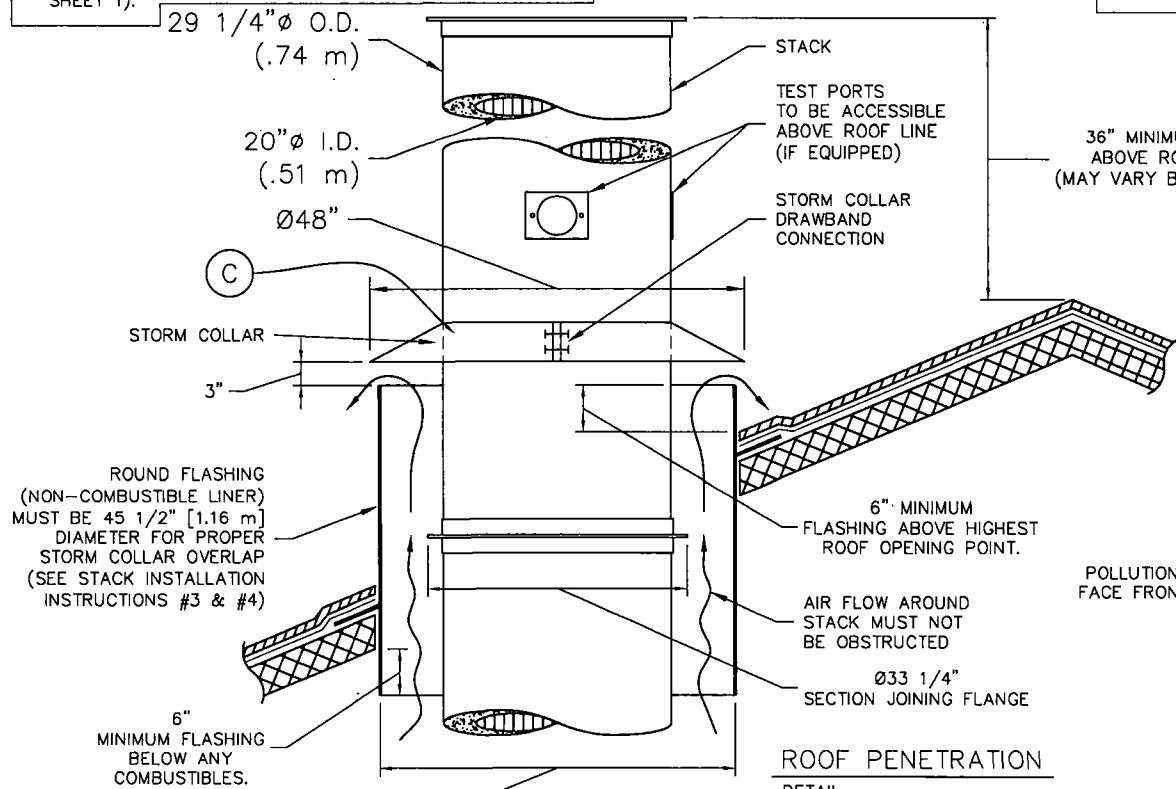
CAPACITY: RANGES FROM 2.0 TO 3.0 MILLION BTU/HR [2.1 TO 3.1 MILLION KILOJOULES/HR] DEPENDING UPON AMOUNT OF BURNERS.

ELECTRICAL: 230 VOLT, 3 ϕ , (40A BREAKER) AND 115v (10A BREAKER), OR 230 VOLT, 1 ϕ , (70A BREAKER) AND 115v (10A BREAKER) 50/60 HERTZ

AIR: LOUVER NEAR THE REAR OF THE UNIT CAPABLE OF PASSING 2,500 CU FT/MIN [70.8 CU M/MIN] OF FREE AIR (36" X 36") [914 mm X 914 mm].

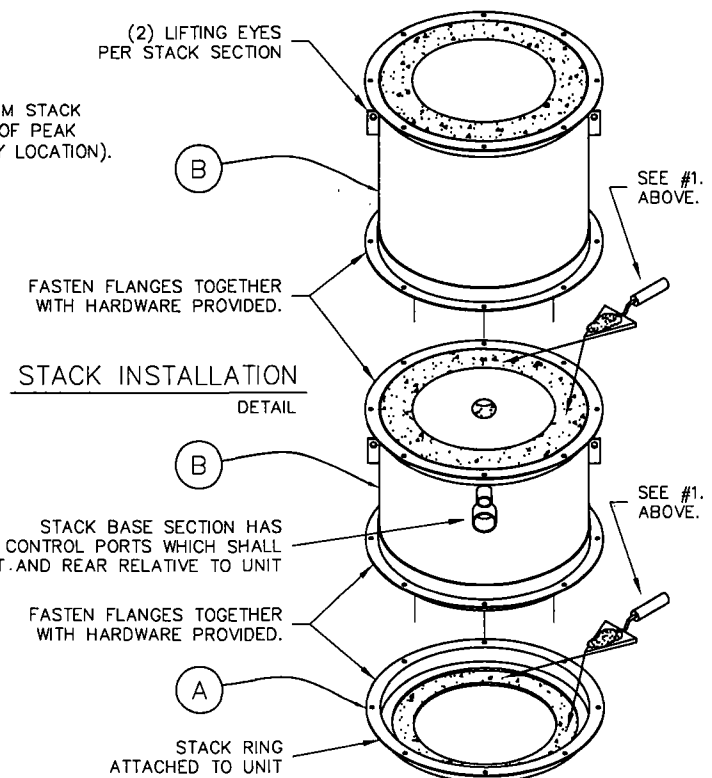
STACK INSTALLATION INSTRUCTIONS

- APPLY A 1/2" THICK MORTAR JOINT TO EXPOSED REFRACTORY SURFACE IN STACK RING. LOWER THE BASE STACK SECTION (B) ONTO STACK RING (A) AND FASTEN WITH HARDWARE PROVIDED (NO MORE THAN (2) STACK SECTIONS SHALL BE LIFTED TOGETHER). REPEAT PROCESS FOR REMAINING STACK SECTIONS. IF SECTIONS OF VARYING LENGTHS ARE SUPPLIED, ASSEMBLE AS TO AVOID FLANGES & LIFTING EYES INTERFERING WITH RAIN COLLAR LOCATION.
- INSTALL STORM COLLAR ON STACK, 3" [76 mm] ABOVE NON-COMBUSTIBLE LINER (FLASHING), ALLOWING FOR PROPER VENTILATION (SEE DETAIL).
- APPLY A 1/4" [6 mm] BEAD OF HIGH-TEMPERATURE SILICON SEALANT (PROVIDED BY MCD) TO THE JOINT BETWEEN THE STORM COLLAR (C) AND THE STACK (B).
- STORM COLLAR IS FURNISHED BY MCD. THE NON-COMBUSTIBLE LINER (FLASHING) TO BE PROVIDED BY THE OTHERS.
- IF FIFTY PERCENT OF THE STACK LENGTH IS ABOVE THE ROOF, GUY WIRES MAY BE REQUIRED. CONSULT WITH YOUR MCD REP.
- RAIN CAP NOT REQUIRED.



ROUND FLASHING (NON-COMBUSTIBLE LINER) MUST BE 45 1/2" [1.16 m] DIAMETER FOR PROPER STORM COLLAR OVERLAP (SEE STACK INSTALLATION INSTRUCTIONS #3 & #4)

045" REQUIRED FOR PROPER STACK CLEARANCE.



36" MINIMUM STACK ABOVE ROOF PEAK (MAY VARY BY LOCATION).

STACK INSTALLATION DETAIL

ROOF PENETRATION DETAIL

Matthews
CREMATION DIVISION

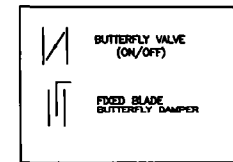
2045 Sprint Boulevard
Apopka, Florida 32703
USA

POWER-PAK II

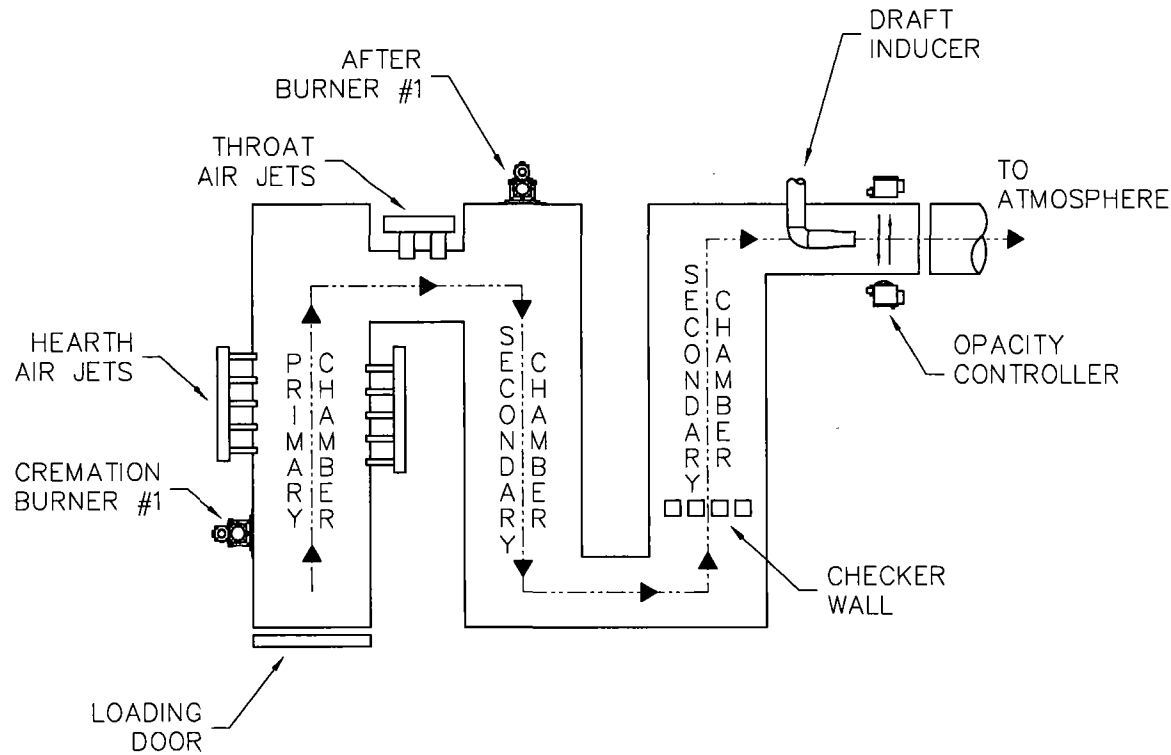
STACK DETAILS, CLEARANCES &
INSTALLATION INSTRUCTIONS.
REFRACTORY STACK DETAIL

DATE:	08-18-05	SCALE:	1/2"=1'
DRAWN:	JG	PLOT SCALE:	1:24
APRVD:		SHEET:	2 OF 2
DWG FILE:	PPII-MarketingStackRefS2R2		
DWG #:	0000140		

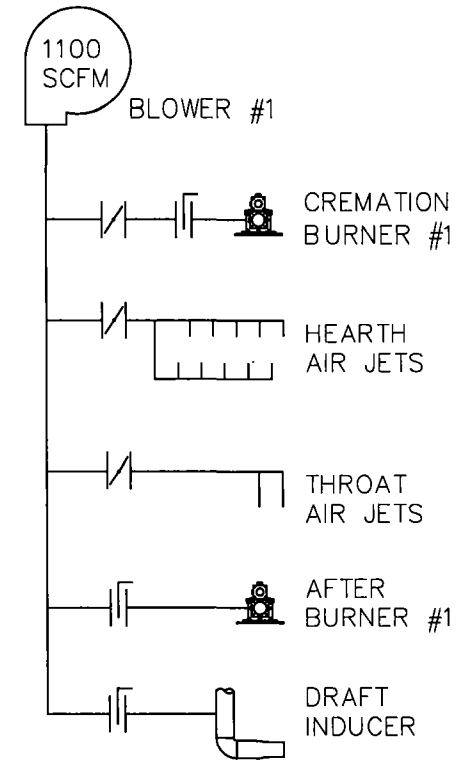
LEGEND OF SYMBOLS



FLOW DIAGRAM



AIR SCHEMATIC



2045 Sprint Boulevard
Apopka, Florida 32703
USA

POWER PAK II
FLOW DIAGRAM
& AIR SCHEMATIC

DATE:	08-05-05	SCALE:	1/4"=1'
DRAWN:	JG	PLOT SCALE:	1:48
APRVD:		SHEET:	1 OF: 1
DWG FILE:	PPIIFlowDiaAirSchem		
DWG #:	0000523		

SPECIFICATIONS- Model Power-Pak II

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

2. Dimensions
 - A. Footprint 12' – 6 ½" x 6' – 8" (3.82 m x 2.03 m)
 - B. Maximum Length..... 14' – 8" (4.47 m)
 - C. Maximum Width 6' -5" (1.96 m)
 - D. Maximum Height..... 8' - 4" (2.54 m)
 - E. Chamber Loading Opening..... 25 ¾" H x 39 ½" W (654 mm x 990 mm)

3. Weight..... 24,000 lbs. (10,900 kg)

4. Utility/Air Requirements
 - A. Gross Gas Input, Natural or LP Gas 2,000,000 BTU/hr. (2,110,112 kJ/h)
3,000,000 BTU/hr. (3,165,168 kJ/h) if operating
temperature is greater than 1,600° F (871° C)
Running Gas Pressure, Natural Gas 7 inches (177.8 mm) water column or greater
Running Gas Pressure, LP Gas..... 11 inches (279.4 mm) water column or greater
 - B. Electrical Supply 230 volt, 3Ø or 1Ø, 50/60 hz (other available)
 - C. Air Supply..... 2,500 cfm (70.8 standard m³/min)

5. Incineration Capacity 150 lbs./hr. (68 kg/h)

6. Typical Loading Capacity of Waste Types..... 750 lbs. (340.2 kg)

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

8. Steel Structure Construction
 - A. Frame..... 2" (51 mm) square tubing
 - B. Front/Rear Plates..... 3/8" (9.5 mm) plate
 - C. Floor Plates..... 3/16" (5 mm) plate
 - D. Outer Side Casing..... 12 gauge (3 mm) plate
 - E. Inner Side Casing 12 gauge (3 mm) plate

9. Stack Construction
 - A. Inner Wall..... 4 1/2" (110 mm) insulating firebrick or castable
 - B. Outer Wall..... 12 gauge (3 mm) sheet, 304 s.s., welded seams
(unlined stack available)

10. Draft Nozzle Construction..... Schedule 40 type 316 s.s. pipe, welded
connections

11. Main Chamber Door Construction
 - A. Steel Shell..... 3/16" (5 mm) steel, welded with reinforcement
 - B. Outer Refractory 1" (25 mm) insulating block
 - C. Inner Refractory 4½" (110 mm) insulating firebrick

12. Primary Chamber Wall Construction
 - A. Outer Casing Wall..... 12 gauge (3 mm) sheet
 - B. Inner Frame/Air Compartment..... 2" (51 mm) air compartment
 - C. Inner Casing Wall..... 12 gauge (3 mm) sheet

SPECIFICATIONS- Model Power-Pak II

- D. Outer Refractory Wall 5" (127 mm) insulating block
- E. Inner Refractory Wall 4½" (114 mm) firebrick

- 13. Secondary Chamber Wall Construction
 - A. Outer Casing Wall..... 12 gauge (3 mm) sheet
 - B. Inner Frame/Air Compartment 2" (51 mm) air compartment
 - C. Inner Casing Wall..... 12 gauge (3 mm) sheet
 - D. Outer Refractory Wall 6" (152 mm) insulating block
 - E. Inner Refractory Wall 4½" (114 mm) firebrick

- 14. Refractory Temperature Ratings
 - A. Standard Firebrick..... 3,100° F. (1704° C)
 - B. Insulating Firebrick..... 2,600° F. (1427° C)
 - C. Castable Refractory (Hearth) 2,550° F. (1399° C)
 - D. Castable Refractory 2,550° F. (1399° C)
 - E. Insulating Block..... 1,900° F. (1038° C)
 - F. Bonding Mortar 3,200° F. (1760° C)

- 15. Chamber Volumes (not including external flues, stacks or chimneys)
 - A. Primary Chamber 64 cubic feet (1.8 m³)
 - B. Secondary Chamber 74 cubic feet (2.1 m³)

- 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. (649° C - 982° C)
 - B. Secondary Chamber 1,400° F. - 1,800° F. (760° C - 982° C) as required

- 18. Secondary Chamber Retention Time..... > 1 second

- 19. Ash Removal Door functions as a heat shield. Sweep out beneath front door into hopper that fills collection pan.

- 20. Safety Interlocks
 - A. High Gas Pressure..... Optional
 - B. Low Gas Pressure Optional
 - C. Blower 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

- 22. Burner Description The nozzle mix burners used on this cremation equipment are industrial quality and designed for

SPECIFICATIONS- Model Power-Pak II

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. Door Closed..... Included
 - C. Pollution Alarm..... Included
 - D. Afterburner On (Secondary Burner)..... Included
 - E. Cremation Burner On..... Included
 - F. Low Fire Cremation Burner On..... Included
 - G. Afterburner (Secondary Burner) Reset..... Included
 - H. Cremation Burner Reset..... Included
 - I. Hearth Air..... Included
 - J. Throat Air Off..... Included
- 25. Automatic Timer Functions
 - A. Master Cycle..... Included
 - B. Afterburner (Secondary Burner)..... Included
 - C. Cremation Burner..... Included
 - D. Low Fire Cremation Burner..... Included
 - E. Hearth Air..... Included
 - F. Throat Air..... Included
 - G. Pollution Monitoring..... Included
 - H. Afterburner (Secondary Burner) Prepurge..... Included
 - I. Cremation Burner Prepurge..... Included
 - J. Cool Down..... 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.

CREMATOR MASS BALANCE
Matthews Cremation
PPII

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	140

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)	74
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

$$500000 \text{ BTU/HR} \times 4.8\text{E-}05 \text{ LBS/BTU} = 24 \text{ LBS/HR}$$

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

$$900000 \text{ BTU/HR} \times 4.8\text{E-}05 \text{ LBS/BTU} = 43 \text{ LBS/HOUR}$$

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)

$$1.70 \text{ LBS/LB WASTE} \times 140 \text{ LB/HR BURN RATE} = 238 \text{ LBS/HOUR}$$

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

$$= \underline{\underline{2328 \text{ LBS/HOUR}}}$$

2. VELOCITY AND TIME CALCULATIONS

A. SCFM CALCULATION

(PRODUCTS ASSUMED TO HAVE DENSITY CLOSE TO AIR)

$$2328 \text{ LBS/HR} \times \frac{13.35 \text{ STD. CU. FT/LB}}{60 \text{ MIN/HR}} = 518 \text{ SCFM}$$

B. TOTAL PRODUCTS ACFM @ 1800 °F

$$\frac{2260 \text{ °RANKINE}}{530 \text{ °RANKINE}} \times 518.1 \text{ CFM} = 2209 \text{ ACFM}$$

C. RETENTION TIME

$$\frac{74 \text{ CU. FT}}{2209 \text{ ACFM}} \times \frac{60 \text{ SECONDS}}{1 \text{ MINUTE}} = 2.01 \text{ SECONDS}$$

D. VELOCITY IN FLAME PORT

$$\frac{2209 \text{ ACFM}}{2.95 \text{ SQ. FT}} \times \frac{1 \text{ MINUTE}}{60 \text{ SECONDS}} = 12.5 \text{ FEET/SECOND}$$

E. VELOCITY AT MIXING BAFFLES

$$\frac{2209 \text{ ACFM}}{1.36 \text{ SQ. FT}} \times \frac{1 \text{ MINUTE}}{60 \text{ SECONDS}} = 27.1 \text{ FEET/SECOND}$$

F. VELOCITY IN SECONDARY CHAMBER

$$\frac{2209 \text{ ACFM}}{2.44 \text{ SQ. FT}} \times \frac{1 \text{ MINUTE}}{60 \text{ SECONDS}} = 15.1 \text{ FEET/SECOND}$$

Calculation Of Emissions

Potential to Emit

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

Total Incinerator Burn Capacity: 150 lb/hr of remains (type 4) and associated containers (type 0)
Flue gas flow rate = 1175 dscfm 10 Hours/Day X 6 Days/Week X 52 Weeks/Year
(100 % Excess Air) = 3120 Hours/Year

Total Emission Rate = Incinerator Burn Rate X Emission Factor

Sulfur Dioxide (SO₂)

$$\frac{150 \text{ lb/hr X } 2.5 \text{ lb/ton X } 1 \text{ ton}}{2000 \text{ lbs}} = 0.188 \text{ lb/hr}$$

$$= 0.2925 \text{ TPY}$$

$$\frac{0.1875 \text{ lb/hr X } 4.54\text{E}+05 \text{ mg/lb X } 1 \text{ ppmv}}{1175 \text{ dscfm X } 60 \text{ min/hr X } 0.0283 \text{ m}^3/\text{f}^3 \text{ X } 2.61 \text{ mg/m}^3} = 16.35 \text{ ppmv}$$

Nitrogen Oxide (NO_x - as Nitrogen Dioxide)

$$\frac{150 \text{ lb/hr X } 3 \text{ lb/ton X } 1 \text{ ton}}{2000 \text{ lbs}} = 0.225 \text{ lb/hr}$$

$$= 0.351 \text{ TPY}$$

$$\frac{0.225 \text{ lb/hr X } 4.54\text{E}+05 \text{ mg/lb X } 1 \text{ ppmv}}{1175 \text{ dscfm X } 60 \text{ min/hr X } 0.028 \text{ m}^3/\text{f}^3 \text{ X } 1.88 \text{ mg/m}^3} = 27.53 \text{ ppmv}$$

Hydrocarbons (TOC/VOC - methane)

$$\frac{150 \text{ lb/hr X } 3 \text{ lb/ton X } 1 \text{ ton}}{2000 \text{ lbs}} = 0.225 \text{ lb/hr}$$

$$= 0.351 \text{ TPY}$$

$$\frac{0.225 \text{ lb/hr X } 4.54\text{E}+05 \text{ mg/lb X } 1 \text{ ppmv}}{1175 \text{ dscfm X } 60 \text{ min/hr X } 0.0283 \text{ m}^3/\text{f}^3 \text{ X } 0.65 \text{ mg/m}^3} = 78.77 \text{ ppmv}$$

Lead (Pb)

(6.62E-05 lbs/cremation)

$$\frac{150 \text{ lb/hr X } 0.0000662 \text{ lb Pb}}{100 \text{ lb}} = 1\text{E}-04 \text{ lb/hr}$$

$$= 0.0002 \text{ TPY}$$

Particulates (PM & PM₁₀)

(Actual Levels lower as shown by test results)

$$\frac{150 \text{ lb/hr X } 7 \text{ lb/ton X } 1 \text{ ton}}{2000 \text{ lbs}} = 0.525 \text{ lb/hr}$$

$$= 0.819 \text{ TPY}$$

$$\frac{0.525 \text{ lb/hr X } 7.00\text{E}+03 \text{ gr/lb X}}{1175 \text{ dscfm X } 60 \text{ min/hr}} = 0.05 \text{ gr/dscf}$$

Carbon Monoxide (CO)

(Actual Levels lower as shown by test results)

$$\frac{150 \text{ lb/hr X } 10 \text{ lb/ton X } 1 \text{ ton}}{2000 \text{ lbs}} = 0.75 \text{ lb/hr}$$

$$= 1.17 \text{ TPY}$$

$$\frac{0.75 \text{ lb/hr X } 4.54\text{E}+05 \text{ mg/lb X } 1 \text{ ppmv}}{1175 \text{ dscfm X } 60 \text{ min/hr X } 0.028 \text{ m}^3/\text{f}^3 \text{ X } 1.14 \text{ mg/m}^3} = 151.31 \text{ ppmv}$$

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.

**EMISSIONS TESTING
REPORT**

PERMIT NO. 0950126-005-AG

**IE43-PPII, POWER-PAK II
CREMATOR**

PREPARED FOR:

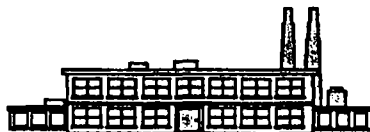
BALDWIN FAIRCHILD

ORLANDO, FLORIDA

DECEMBER 9, 2004 & MAY 5, 2005

PREPARED BY:

ATC



AIR TESTING & CONSULTING, INC.

333 FALKENBURG ROAD, SUITE B-214
TAMPA, FLORIDA 33619

ATC



AIR TESTING & CONSULTING, INC.

333 FALKENBURG ROAD, SUITE B-214
TAMPA, FLORIDA 33619

To the best of my knowledge, all field and analytical procedures comply with Florida Department of Environmental Protection requirements and all test data and plant operating data are true and correct.

A handwritten signature in cursive script that reads "Kenneth E. Given". The signature is written in dark ink and is positioned above a horizontal line.

Kenneth E. Given, P.E.

12-22-64

Date 5/10/05

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1.0 INTRODUCTION

On December 9, 2004 Air Testing & Consulting, Inc. conducted emissions testing on the Mathews Cremation Division Model IE43-PPII, Power-Pak II. The unit is located at Baldwin Fairchild., 301 N. Ivanhoe Blvd, Orlando, Florida:

- (1) *O₂ - EPA METHOD 3A*
- (2) *SO₂ - EPA METHOD 6*
- (3) *NO_x - EPA METHOD 7E*
- (4) *CO - EPA METHOD 10*
- (5) *VOC – EPA METHOD 25A*
- (7) *PARTICULATE/ HYDROGEN CHLORIDE – EPA METHOD 26A*
- (8) *VE - EPA METHOD 9*

These tests were performed at the request of Mathews Cremation Division. The burn rate during the testing averaged 82 lbs/hr. On May 5, 2005, at the request of Orange County, Environmental Protection Division, a test for PM, CO and a VE were performed.

2.0 PROCESS DESCRIPTION

The IE43-PPII, Power-Pak II cremator has a multiple chamber with a 100 pound per hour normal burning capacity. Human remains are loaded into the primary chamber. The afterburner ignites and heats the secondary chamber to the required temperature. The secondary chamber temperature of 1600 °F is maintained by a process controller that automatically modulates the gas flow to the afterburner. After the secondary chamber has been heated sufficiently, the cremator burner ignites and the cremation process is initiated. A typical cremation takes from 1 to 2 hours, but the time may vary depending on the body weights and various other factors.

3.0 SUMMARY OF RESULTS

The results of the emission testing are presented in the Test Summary and the Summary of Test Data. The particulate emissions averaged 0.0231 grains per dry standard cubic foot (grs/dscf), CO emissions averaged 2.96 parts per million (ppmv), SO₂ emissions averaged 47.67 ppmv, VOC emissions averaged 1.61ppmv, NO_x emissions averaged 292 ppmv and HCL emissions averaged 43.43 ppmv, each corrected to 7% O₂. A visible emissions test was conducted over a 60 minute period. Opacity, highest six-minute average, on the stack, was 0%.

During the May 5, 2005 test, particulate emissions averaged 0.0549 grains per dry standard cubic foot (grs/dscf) and CO emissions averaged 2.23 parts per million (ppmv). A visible emissions test was conducted over a 60 minute period. Opacity, highest six-minute average, on the stack, was 0%.

**TEST SUMMARY
BALDWIN FAIRCHILD
CREMATORY INCINERATOR
DECEMBER 9, 2004**

RUN #	% O₂	PARTICULATE GR/DSCF @ 7% O₂	HCL ppmv @ 7% O₂	CO ppmv @ 7% O₂	SO₂ ppmv @ 7% O₂	VOC ppmv @ 7% O₂	NOx ppmv @ 7% O₂	PROCESS RATE LBS
1	10.0	0.0237	31.2	6	35.7	0.87	250	190
2	12.0	0.0298	65.0	1	45.9	1.05	250	140
3	12.0	0.0158	34.1	2	61.4	2.92	375	150
AVG	11.33	0.0231	43.43	2.96	47.67	1.6	292	160

SUMMARY OF TEST DATA

PLANT : BALDWIN FAIRCHILD UNIT : POWER PAK II RUN NUMBERS :1, 2, 3

TEST DATE : 12/9/04	#1	#2	#3	AVERAGES
DATE	12/9/04	12/9/04	12/9/04	
START TIME	10:38	12:46	15:04	
END TIME	11:40	13:47	16:05	
STACK DIAMETER (INCHES)	19.5	19.5	19.5	
NOZZLE DIAMETER (INCHES)	0.750	0.750	0.700	
TEST TIME (MINUTES)	60	60	60	
NUMBER OF TEST POINTS PER RUN	24	24	24	
STACK GAS TEMPERATURE (°F)	1223.6	1196.9	1241	1220.3
STACK GAS MOISTURE (%)	12.64	14.86	14.68	
STACK GAS MOLECULAR WEIGHT	28.48	28.22	28.24	
STACK GAS VOLUME SAMPLED (CUBIC FEET)	45.500	39.180	38.340	41.007
VOLUME SAMPLED (SCF @ 68°F)	45.560	39.121	38.320	41.000
STACK GAS VELOCITY (FEET PER SECOND)	14.24	14.19	14.37	14.27
STACK GAS FLOW RATE (ACFM)	1771.8	1765.9	1788.4	1775.4
STACK GAS FLOW RATE (DSCFM @ 68°F)	487.7	481.3	476.0	481.7
O ₂	10	12	12	11.33
PARTICULATE CONC (GR/DSCF) @7% O ₂	0.0237	0.0298	0.0158	0.0231
PARTICULATE MASS RATE (LBS/HOUR)	0.0777	0.0787	0.0414	0.0659
CO CONC @ 7% O ₂ , ppmv	6	1	2	2.96
CO MASS RATE (LBS/HOUR)	0.01064	0.00126	0.00208	0.0047
NO _x CONC @ 7% O ₂ , ppmv	250	250	375	292
NO _x MASS RATE (LBS/HOUR)	1	1	1	1
VOC CONC @ 7% O ₂ , ppmv	0.9	1.0	2.9	1.61
VOC MASS RATE (LBS/HOUR)	0.0023	0.0022	0.0061	0.0035
HCL CONC @ 7% O ₂ , ppmv	31.2	65.0	34.1	43.44
HCL MASS RATE (LBS/HOUR)	0.1	0.1	0.1	0.080
SO ₂ CONC @ 7% O ₂ , ppmv	35.68	45.91	61.41	47.67
SO ₂ MASS RATE (LBS/HOUR)	0.136	0.141	0.186	0.154
ISOKINETIC SAMPLING RATE, %I	105.3	91.6	104.2	

FIELD DATA AND SAMPLES UNDER THE CONTROL OF: TIM CAPELLE

LABORATORY ANALYSIS UNDER THE CONTROL OF: ATC, STL
LABORATORIES

E. VISIBLE EMISSIONS

AIR TESTING & CONSULTING, INC.

(813) 651-0878

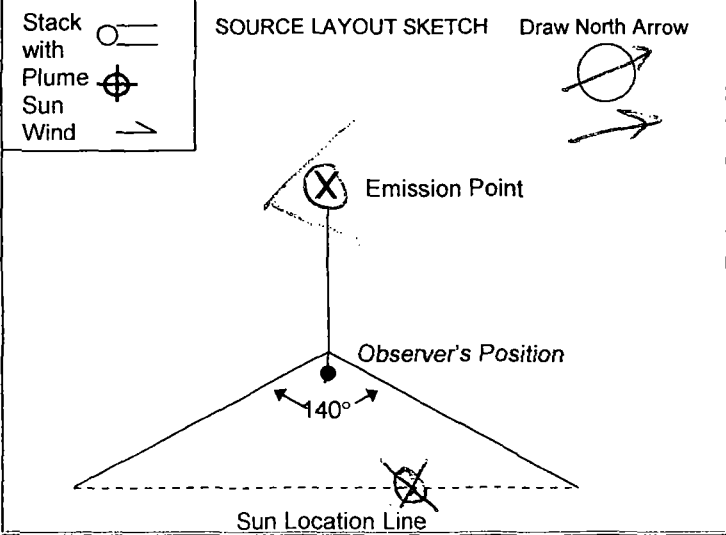
Facility Name BALDWIN FAIRCHILD		Permit Number 0950126005-AG		Observation Date 5-5-05		Start Time 10:29		Stop Time 11:29							
Source CREMATORY			I.D. No.			SEC	0	15	30	45	SEC	0	15	30	45
Address 301 N. IVANHOE BLVD.															
City ORLANDO			County ORANGE			Zip 32804									
Contact					Phone										

Process Equipment CREMATORY - Power Pak II	Operating Rate 150 lbs
Control Equipment AFTER BURNER	Operating Mode

Fuel Type/Rate NAT. GAS	Material Type/Rate HUMAN REMAINS
Describe Emission Point Start STACK EXIT	
Height Above Ground Level Start 15 Stop <input checked="" type="checkbox"/>	Height Relative to Observer Start 10 Stop <input checked="" type="checkbox"/>
Distance from Observer Start 65 Stop <input checked="" type="checkbox"/>	Direction from Observer Start 310° Stop 310°

Describe Emissions Start None Stop <input checked="" type="checkbox"/>	
Emission Color Start N/A Stop <input type="checkbox"/>	Plume Type <input type="checkbox"/> Continuous N/A <input type="checkbox"/> Intermittent
Water Droplets Present <input type="checkbox"/> No <input type="checkbox"/> Yes	Water Droplet Plume <input type="checkbox"/> Attached <input type="checkbox"/> Detached
Point in the Plume at which Opacity was determined Start Stop	

Describe Background Start SKY Stop <input checked="" type="checkbox"/>	Ambient Temp. Start 75° Stop 82°
Background Color Start lt. gray Stop <input checked="" type="checkbox"/>	Sky Conditions Start cloudy Stop <input checked="" type="checkbox"/>
Wind Speed Start 1-3 Stop 4-7	Wind Direction Start S Stop <input checked="" type="checkbox"/>



MIN	SEC				MIN	SEC			
	0	15	30	45		0	15	30	45
1.	0	0	0	0	31.	0	0	0	0
2.	0	0	0	0	32.	0	0	0	0
3.	0	0	0	0	33.	0	0	0	0
4.	0	0	0	0	34.	0	0	0	0
5.	0	0	0	0	35.	0	0	0	0
6.	0	0	0	0	36.	0	0	0	0
7.	0	0	0	0	37.	0	0	0	0
8.	0	0	0	0	38.	0	0	0	0
9.	0	0	0	0	39.	0	0	0	0
10.	0	0	0	0	40.	0	0	0	0
11.	0	0	0	0	41.	0	0	0	0
12.	0	0	0	0	42.	0	0	0	0
13.	0	0	0	0	43.	0	0	0	0
14.	0	0	0	0	44.	0	0	0	0
15.	0	0	0	0	45.	0	0	0	0
16.	0	0	0	0	46.	0	0	0	0
17.	0	0	0	0	47.	0	0	0	0
18.	0	0	0	0	48.	0	0	0	0
19.	0	0	0	0	49.	0	0	0	0
20.	0	0	0	0	50.	0	0	0	0
21.	0	0	0	0	51.	0	0	0	0
22.	0	0	0	0	52.	0	0	0	0
23.	0	0	0	0	53.	0	0	0	0
24.	0	0	0	0	54.	0	0	0	0
25.	0	0	0	0	55.	0	0	0	0
26.	0	0	0	0	56.	0	0	0	0
27.	0	0	0	0	57.	0	0	0	0
28.	0	0	0	0	58.	0	0	0	0
29.	0	0	0	0	59.	0	0	0	0
30.	0	0	0	0	60.	0	0	0	0

Average Opacity for Highest 24 Consecutive Readings 0	Range of Opacity Readings Min. 0 Max. 0
-----------------------------------------------------------------	----------------------------------------------------------

Observer's Name (Print) Kenneth G. Green	Date 5-5-05
Observer's Signature <i>Kenneth G. Green</i>	Date 2/05
Certified by E.T.A.	

I certify the above process rate data is true to the best of my knowledge.

SIGNATURE _____

Title _____ Date _____

Comments _____



Cremation Division

October 18, 2010

Al Gilstad
Lee Memorial Park Crematory
12777 SR. 82
LeHigh Acres, FL 33913

Dear Mr. Gilstad,

Enclosed are your permit application forms for the Air General Permit Registration for your PPII human cremator. Please fill in the highlighted areas and make 1 copy of the entire packet. Once completed, you can keep a copy for your records and send the original signed copy to the following address (along with a \$100 check payable to Florida Department of Environmental Protection):

FDEP Receipts
Attn: Dick Dibble
P.O. Box 3070
Tallahassee, FL 32803-7555

Please feel free to contact me if you have questions at (407)886-5533. When you finally receive the permit, please fax or mail us a copy so that we can put it in your file.


Sincerely,

Michael Tricoche
Engineer
Enclosures

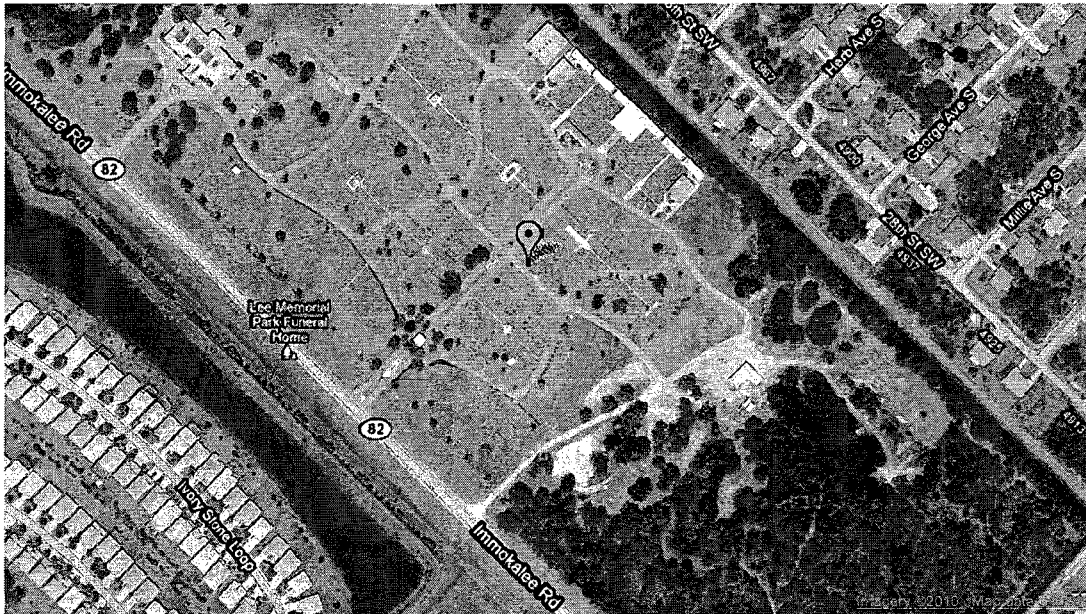




Home » Latitude and Longitude of a Point

 To find the latitude and longitude of a point Click on the map, Drag the marker, or enter the...
Address: 12777 SR.82, Lehigh Acres, FL
Map Center: [Get Address](#) - [Land Plat Size](#) - [Street View](#) - [Google Earth 3D](#) - [Area Photographs](#)
 Try out the [Google Earth Plug-in](#). Google Earth gives you a 3D look of the area around the center of the map, which is usually your last click point, and includes latitude, longitude and elevation information.

Latitude and Longitude of a Point



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Note: Right click on a blue marker to remove it.

Get the Latitude and Longitude of a Point

When you click on the map, move the marker or enter an address the latitude and longitude coordinates of the point are inserted in the boxes below.

Latitude:
 Longitude:

	Degrees	Minutes	Seconds
Latitude:	26	36	3.4266
Longitude:	-81	44	41.9208

Show Point from Latitude and Longitude

Use this if you know the latitude and longitude coordinates of a point and want to see where on the map the point is.

Use: + for N Lat or E Long - for S Lat or W Long.
 Example: +40.689060 -74.044636

Note: Your entry should not have any embedded spaces.

Decimal Deg. Latitude:
 Decimal Deg. Longitude:

Example: +34 40 50.12 for 34N 40' 50.12"

	Degrees	Minutes	Seconds
Latitude:	<input type="text"/>	<input type="text"/>	<input type="text"/>
Longitude:	<input type="text"/>	<input type="text"/>	<input type="text"/>

Department of Environmental Protection

ALABAMA

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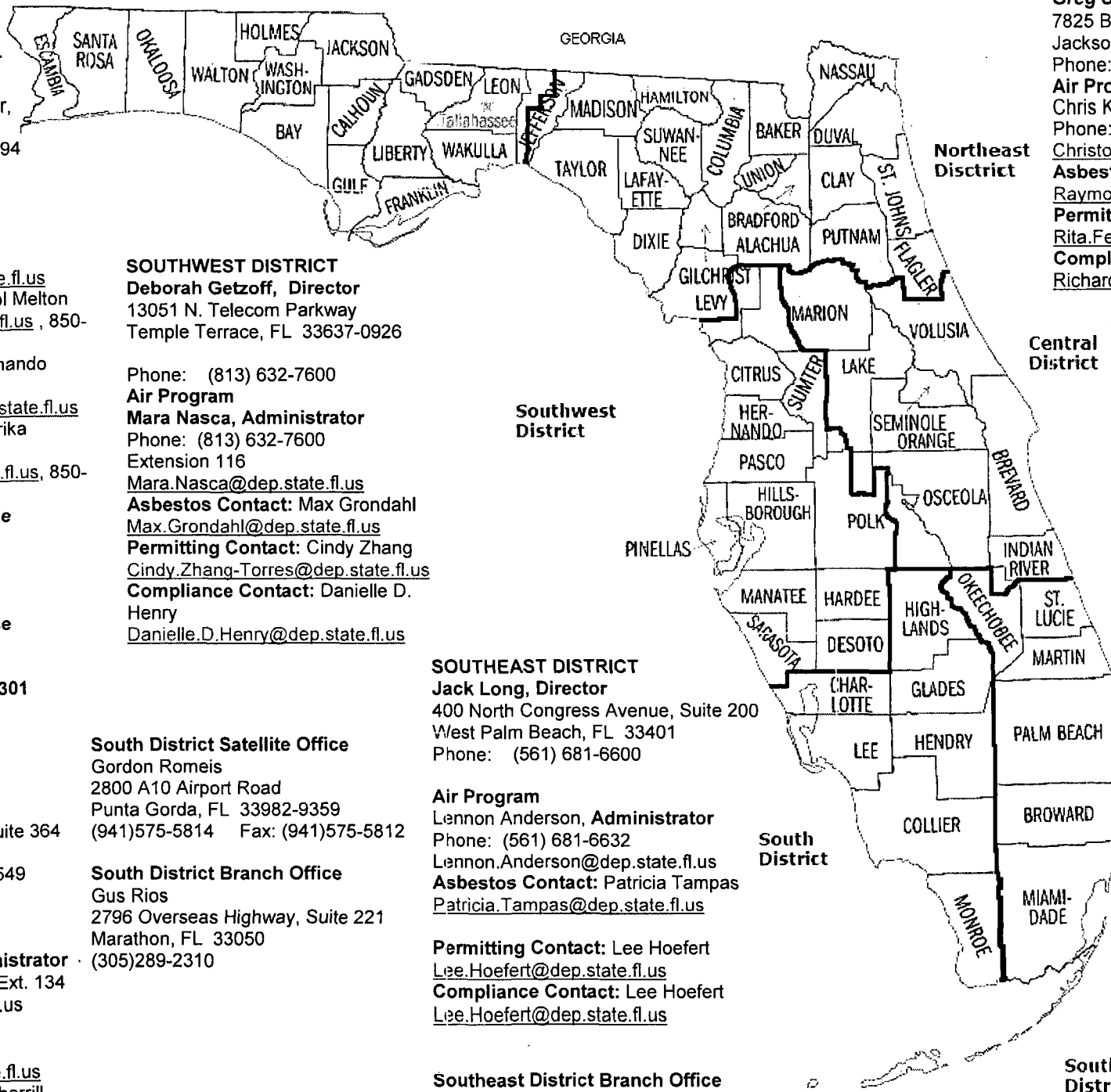
Compliance Contact:

Wanda Parker

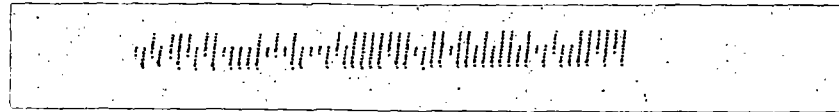
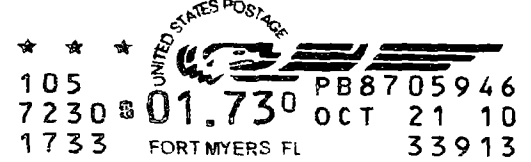
Wanda.Parker@dep.state.fl.us

Southeast District

8/03/10



Lee Memorial Park
Funeral Home and Cemetery
12777 State Road 82
Fort Myers, FL 33913



FDEP Receipts

Attn: Dick Dibble

P.O. Box 3070

Tallahassee, FL 32803-7555