

FEA RECEIPT 667369 05/08/2009

Bureau of Air, Water,
& Mobile Sources

MAY 12 2009

RECEIVED

**ANIMAL CREMATORY
AIR GENERAL PERMIT REGISTRATION FORM**

Part II. Notification to Permitting Office

(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)

1030129-006

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.

XX Continue operating the facility after a change of ownership.

XX 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.

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.)

**PINELLAS MEMORIAL GARDENS & CREMATION SERVICES
(FORMERLY PINELLAS MEMORIAL PET CEMETARY)
(FDEP FACILITY NO. 1030129)**

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.)

PINELLAS PARK

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

Street Address: **6500 86TH AVE. NORTH**

City: **PINELLAS PARK**

County: **PINELLAS**

Zip Code: **33782**

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

JULY 1, 2009

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: **DOROTHY FOSTER, OWNER**

Owner/Authorized Representative Mailing Address

Organization/Firm: **PINELLAS PET MEMORIAL GARDENS & CREMATION SERVICES**

Street Address: **6500 86TH AVE. NORTH**

City: **PINELLAS PARK**

County: **PINELLAS**

Zip Code: **33782**

Owner/Authorized Representative Telephone Numbers

Telephone: **727-544-1051**

Fax:

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: **SAME AS ABOVE**

Facility Contact Mailing Address

Organization/Firm:

Street Address:

City:

County:

Zip Code:

Facility Contact Telephone Numbers

Telephone:

Fax:

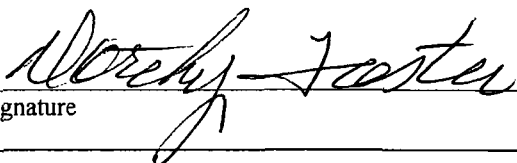
Cell phone (optional):

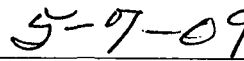
Owner/Authorized Representative Statement

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


Date

Design Calculations

If this is an initial registration for a proposed new animal 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.

XX Registration is not for proposed new animal 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.

This registration is for a change of ownership and a change of equipment. Dorothy Foster, the new owner, is removing the two existing Crawford C500 crematories and replacing them with a B&L Systems, Inc. Model BLP 500 animal crematory formerly located at the Foster's Pet Cremation Service facility in Spring Hill, Florida (FDEP Facility No. 1010377).

The BLP 500 incinerator is designed to burn animal remains at the average incineration rate of 150 pounds per hour. The incinerator consists of primary and secondary (afterburner) chambers each fired exclusively on LPG with a maximum total design heat input rate of 1.5 MMbtu/hr (0.5 MMbtu/hr, Primary chamber, 1.0 Mmbtu/hr, Secondary Chamber).

Emissions are controlled by the afterburner that will maintain a minimum secondary chamber combustion zone temperature of 1600 Deg F prior to and during combustion of material in the primary chamber. The secondary chamber is designed to ensure one second residence time at a gas temperature of 1800 Deg F and is equipped with a continuous temperature monitor and recorder. The unit is equipped with an opacity monitor that will automatically shut down the primary burner if excess opacity is measured.

Incinerator, opacity monitor and residence time information is attached.

**CALCULATIONS FOR PRODUCTS OF COMBUSTION
AND RESIDENCE TIME FOR
B & L CREMATION SYSTEMS BLP500,
NATURAL GAS FIRED,
150 LB/HR, TYPE IV WASTE, ANIMAL CREMATORY**

A. BASIS: 1 LB WASTE

1. $\frac{1 \text{ lb waste} \times 1000 \text{ Btu/lb waste}}{10,000 \text{ Btu} / 15 \text{ lb air}} = 1.5 \text{ lbs air}$
2. $\frac{1 \text{ lb waste} \times 0.10 \text{ lb combustible}}{\text{lb waste}} = 0.10 \text{ lbs of combustibles}$
3. $\frac{1 \text{ lb waste} \times 0.85 \text{ lb H}_2\text{O} \times 1.6^{(1)}}{\text{lb waste}} = 1.36 \text{ lbs of water}$
4. $\frac{6500 \text{ Btu aux fuel}^{(2)} \times 10 \text{ ft}^3 \text{ air/ft}^3 \text{ fuel}}{1050 \text{ Btu/ft}^3 \text{ fuel} \times 13.35 \text{ ft}^3 \text{ air/lb air @70}^\circ\text{F}} = 4.63 \text{ lb of air for aux fuel}$
5. $\frac{6500 \text{ Btu aux fuel} \times 0.044 \text{ lb fuel/ft}^3 \text{ fuel}}{1050 \text{ Btu/ft}^3 \text{ fuel}} = 0.27 \text{ lb of aux. fuel}$
6. Sum = PRODUCTS OF COMBUSTION (POC) = 7.86 LBS POC PER LB OF WASTE @ 70 °F

B. RESIDENCE TIME @ 1800 °F

$$\frac{7.86 \text{ lb POC/lb waste} \times 56.93 \text{ ft}^3/\text{lb POC @1800 }^\circ\text{F} \times 150 \text{ lb waste/hr}}{3600 \text{ sec/hr}}$$

$$= 18.6 \text{ ft}^3/\text{sec @1800 }^\circ\text{F}$$

$$= \mathbf{18.6 \text{ ft}^3 \text{ for 1 second residence time}}$$

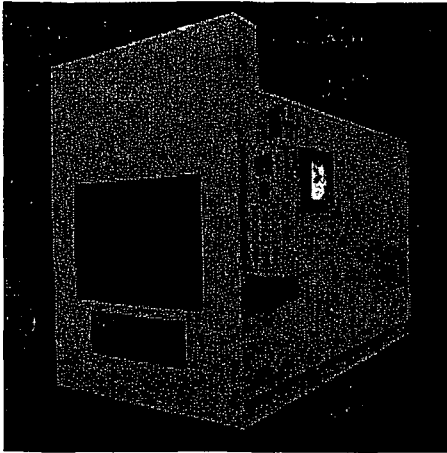
Thermocouple placement at: 20 ft³

Secondary chamber operating temperature ≥ 1600 °F

- (1) Correction multiplier for dry air and water vapor
 (2) Fuel is natural gas

References: Incinerator Institute of America
 North American Combustion Handbook





Download BLP 500 Installation Manual

U.S. Standard	Metric
Length: 126"	3.2m
Width: 66" (76" With Control Panel)	1.6m (1.9m With Control Panel)
Height: 96" (101" With Door Cap)	2.4m (2.5m With Door Cap)
Weight: 19,000 lbs.	8,618 Kg
Door Opening:	
Chamber Dimensions:	
Length: 77"	1.9m
Width: 40"	1.0m
Height: 32"	0.8m
Power Requirments: 220V, Single Phase, 60 Cycle, 30 AMPS & 100 Volts Single Phase 60 Cycle, 10 AMP	
Stack height: 24" O.D 20 ft minimum	0.6m O.D 6.0m minimum
Gas Pressure:	
Natural Gas 7" W.C.	Natural Gas 1.7 kPa W.C.
Propane Gas 11" W.C.	Propane 2.7 kPa W.C.
Cremation Rate: 150 lbs/hour	68 Kg/hour
Body Weight Capability: 500 lbs	226 Kg
Burner Output:	

Maximum Input Rating 1,500,000 BTU's per hour

Afterburner Maximum 1,000,000 BTU's per hour

Modulation Minimum 100,000 BTU's per hour

Cremation Burner 500,000 BTU's per hour

Maximum Input Rating
1,582,583 KJ per hour

Afterburner Maximum 1,
055,055 KJ per hour

Modulation Minimum
105,505 KJ per hour

Cremation Burner 527,500
KJ per hour

Air Requirements: Outside air inlet louvers in the room located at or below burner height, capable of passing 2,500 CFM of free air

Features Common To The Above Unit

FULLY AUTOMATIC CONTROL SEQUENCE. Operation is made simple by the fully automatic control sequence. A microprocessor temperature controller, with a digital readout, ensures optimum control while providing the lowest fuel consumption. Visual verification of each stage is provided on the control panel. Operator override is achieved at a turn of a switch for semi-manual control.

HOT HEARTH DESIGN. First introduced by B & L, this design allows for wasted afterburning heat to be recycled through the floor, eliminating fluid problems, lowering fuel consumption and extending the hearth life.

MULTI-CHAMBER AIR CONTROLLED DESIGN. The entire combustion process is completed within the air controlled chambers eliminating burning in the stack, allowing for 24 hour operation and providing for greater fuel efficiency over excess air designs.

POLLUTION MONITORING & CONTROL SYSTEM. This system constantly monitors the stack gases to prevent visible emissions. Integrated with the automatic system, this feature enables the unit to make all necessary adjustments automatically.

REFRACTORY LINED STACK. A three inch insulating liner is provided as a safety feature. While gases seldom exceed 1000°F, the liner reduces heat penetration under every condition, preventing the possibility of fire. A ten year warranty is offered on the stack liner.

LOW NOISE. The secondary combustion blower has been manufactured and installed to allow for low noise operation.

B&L CREMATION SYSTEMS, INC.
GENERAL PURPOSE OPACITY MONITOR

SPECIFICATIONS

LIGHT SOURCE: Pulsed visible LED

SPECTRAL RESPONSE: Between 400nm and 500 nm

ANGLE OF VIEW: Less than 4 degrees from axis

AMBIENT LIGHT: No measurable effect

MAXIMUM DISTANCE BETWEEN MONITOR AND REFLECTOR: 6 feet

MONITOR TYPE: Retro reflective using a 3" reflector

ADJUSTMENT RANGE: 0 TO 100% opacity

ACCURACY: +/- 3% of full scale

POWER: 24 VAC, less than 10 VA

OUTPUT: Relay, DPDT, 5.0 A @ 102 VAC
LED Indicator for sensitivity adjustment

TEMPERATURE: Storage, -7 degrees to 32 degrees C
Operating: -29 degrees to 66 degrees C

PHYSICAL: 8.000"H x 5.750"W x 3.375"D

ENCLOSURE: Meets NEMA 3, 4 and 12 specs



OPACITY MONITOR ADJUSTMENT PROCEDURE

The following procedure may be necessary to be performed from time to time due to vibration on the top of the retort. This procedure is designed to be both simple and quick, and to insure the proper operation of your retort.

It is suggested that before starting, this procedure be carefully read, and if you have any questions, call the service department at B&L Cremation Systems. A service technician will be happy to answer any questions or assist you with the alignment/adjustment of your opacity monitor.

The best time to perform this procedure is on a cool retort.

Please check the cleanliness of the opacity monitor lens and reflector. Inspect the reflector for any damage, replacing it as necessary.

You will need the following tools.

6" adjustable wrench

7/16" wrench

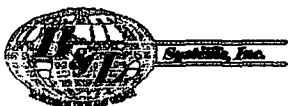
A Phillips screwdriver

A small straight slot screwdriver

6' to 8' stepladder

- Step 1. Open the electrical cabinet located on your retort. Inside, locate the "C1 BLOWER" contactor. At the bottom of the contactor, from left to right, you will see a red "STOP" button. To the right of this is a blue "RESET" button. Above this is a "TEST" slot (see fig. 1).
- Step 2. Turn on the retort with the main timer set to zero. The "Cool Down" lamp should be illuminated.
- Step 4. Next, it will be necessary to get on top of the retort. Inspect the opacity monitor, locating the red alignment L.E.D. and the sensitivity adjustment (see fig. 2). The red L.E.D. should be lit, and by passing your hand in front of the lens you should be able to hear the opacity monitor click. If you are experiencing minor nuisance tripping of the opacity system, turn the sensitivity adjustment CLOCKWISE approximately 1/8 turn. This should correct the problem. Now press the round blue "RESET" button located on the "C1 BLOWER" contactor in the electrical cabinet. Your retort is now ready to operate. If, however, the red L.E.D. is not illuminated or you do not hear the clicking when you pass your hand in front of the monitor, proceed to step 5.
- Step 5: Turn the sensitivity adjustment FULLY CLOCKWISE. Loosen the two mounting bolts hold the opacity monitor. By slowly moving the opacity monitor (left or right, forward or backward), obtain the maximum brightness possible for the L.E.D. Carefully tighten one of the mounting bolts, using shims as necessary, then snug the remaining bolt. Do NOT tighten this bolt. Turn the sensitivity adjustment COUNTERCLOCKWISE until the monitor clicks. Turn the sensitivity adjustment CLOCKWISE until you hear the monitor click again, then continue CLOCKWISE an additional 1/8 turn. The opacity monitor is now correctly set. Press the round blue "RESET" button on the C1 BLOWER contactor, completing the alignment procedure. Please note: if the circuit board is black, counterclockwise and clockwise are reversed. Counterclockwise will be clockwise and clockwise will be counterclockwise.

If the L.E.D. does not illuminate, or if the monitor does not click, please contact the service department at B&L Cremations Systems to further assist you.



OPACITY MONITOR ADJUSTMENT PROCEDURE

FIGURE 1 "C1 BLOWER"

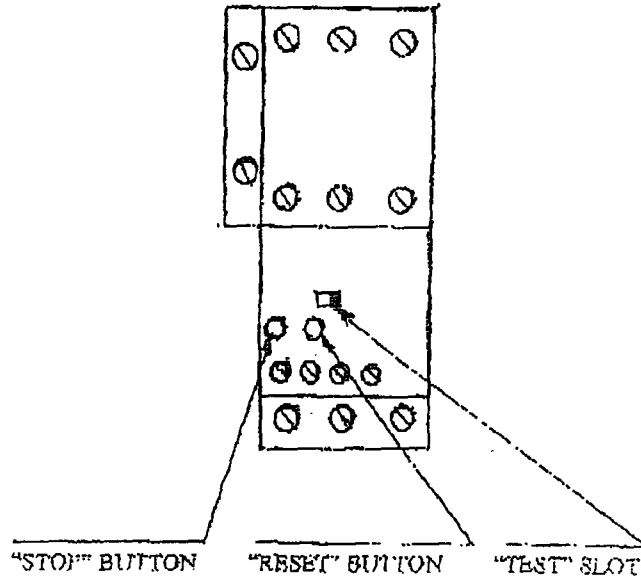
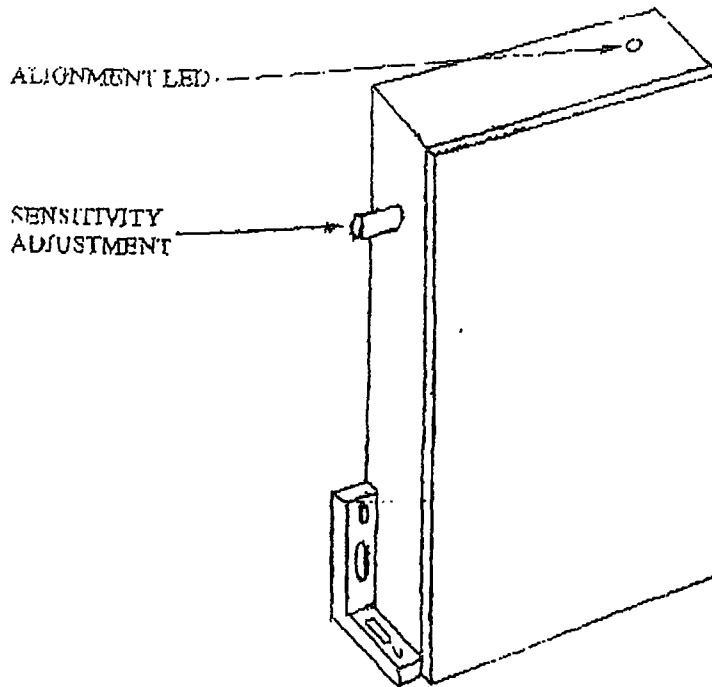
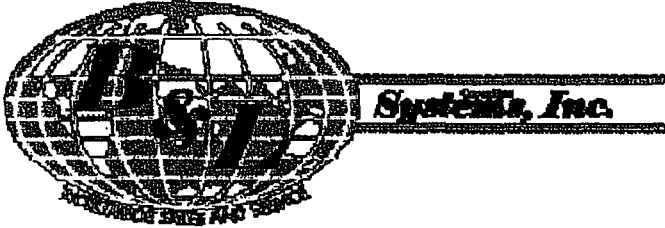


FIGURE 2, OPACITY MONITOR





7205 114TH Avenue North • Largo, Florida 33773
1-800-622-5411 • 727-541-4666 • Facsimile 727-547-0669

TEMPERATURE CONTROL SEQUENCE

A type "K" thermocouple is placed 19 – 20 ft³ downstream of the afterburner flame tip to measure temperature. The downstream distance is determined based on residence time calculations. The temperature signal is sent to the main control panel where it is received by a FUJI PYZ series temperature controller with a digital readout and a Honeywell DR4200 temperature recorder. The temperature controller controls the temperature via a motorized butterfly valve located on the afterburner inlet gas assembly. Gas demand is controlled to maintain a steady temperature. The ignition/cremation burner is interlocked to the afterburner temperature by the temperature controller set point. Combustion cannot start until temperature set point is reached. Alarm contacts in the temperature controller are utilized for over (high) temperature conditions. 100° F over set point the afterburner will be in maximum low fire and the ignition/cremation burner will shut off. The butterfly valve located on the secondary air inlet is controlled by a separate temperature output to add air to cool the system. At set point the unit will return to normal operation. An optimonitor smoke detector is placed on the stack and set at 10% opacity. If emissions occur the alarm will sound, a visual red warning lamp located on the control panel will illuminate and the primary burners will shut off. The excess air butterfly valve will open to add air to the secondary chamber to oxidize the emissions. After a five (5) minute period the unit will revert to normal operations.

**AIR GENERAL
PERMIT REGISTRATION**

**PINELLAS PET MEMORIAL
GARDENS & CREMATION SERVICES**

ANIMAL CREMATORY

FDEP Facility No. 1030129
SES Reference No. 09P227

Prepared For:

PINELLAS PET MEMORIAL
GARDENS & CREMATION SERVICES
6500 86TH Ave. North
Pinellas Park, Florida 33782

Prepared By:

SOUTHERN ENVIRONMENTAL
SCIENCES, INC.
1204 North Wheeler Street
Plant City, Florida 33566

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FACILITY REGISTRATION

1030129

RESIDENCE TIME CALCULATIONS

INCINERATOR INFORMATION