480270 JAN23 2008

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)*

0830150-003

RECEIVED JAN 23 2008

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.

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.)
Central Florida Pet Crematory

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.)
Central Florida Pet Crematory

Facility Location (Provide the physical location of the facility, not necessarily the mailing address.)
Street Address: 10725 S.E. 36th Avenue
City: Belleview County: Marion Zip Code: 34420

Facility Start-Up Date (Estimated start-up date of proposed **new** facility.) (N/A for existing facilities)
February 28, 2008 (this is the estimated start-up date for the second animal crematory being installed)

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: Dr. Rick C. Erwin, Owner

Owner/Authorized Representative Mailing Address
Organization/Firm:Central Florida Pet Crematory
Street Address:10725 S.E. 36th Ave
City:Belleview County:Marion Zip Code:34420

Owner/Authorized Representative Telephone Numbers
Telephone: (352) 347-3900 Fax: (352) 347-0477
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: Lisa Elliott

Facility Contact Mailing Address
Organization/Firm:Central Florida Pet Crematory
Street Address:10725 S.E. 36th Ave
City: County:Marion Zip Code:34420

Facility Contact Telephone Numbers
Telephone: (352) 307-2256 Fax: (352) 347-0477
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

1-22-08
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.

☐ 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.

The facility currnetly operates a Crawford Model C500P animal crematory under 0830150-002-AG, which was installed as a new unit in late 2003 or early 2004 under 0830150-001-AC. The facility now proposes on installing a second identical crematory (Crawford Model C500P). The second crematory is being purchased used (but in like new condition) from Belleview Pet Crematory (Facility ID 0830152). The second unit was initially installed new at Belleview Pet Crematory in 2003.

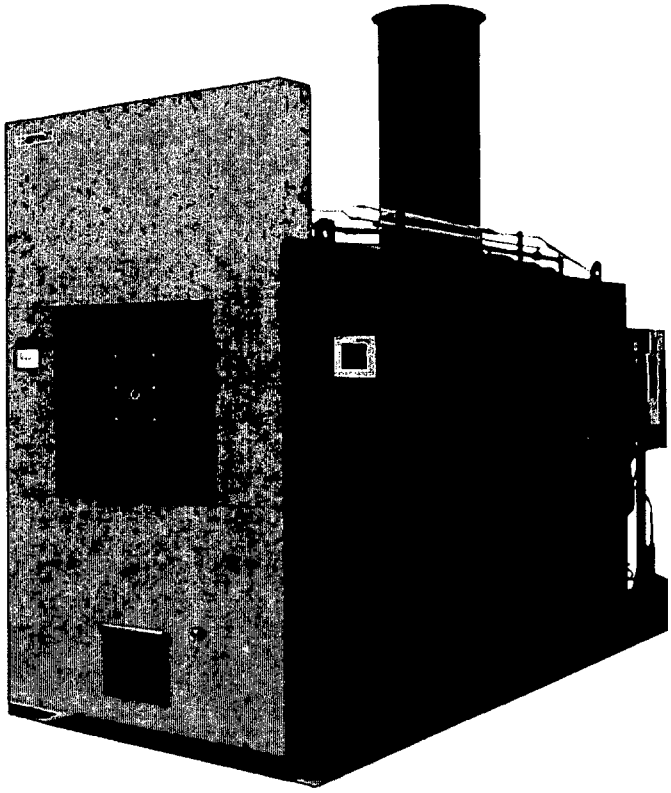
ATTACHMENTS

- ***Manufacturer's Specifications & Drawings***

- ***Excerpts from May 23, 2002 Stack Test @ New Horizons Pet Service (Crawford C500P)***

- ***Residence Time Calculations (Correction for Quenched Air @ Outlet)***

CRAWFORD MODEL C500P - RANDOM LOAD CREMATORY



The C500P is a random load animal cremation system with many desirable features that enhance operational efficiencies as well as operator conveinece and safety. The preferred model in which to perform individual cremations, the C500P is capable of accepting an initial load of 200 pounds and will process it at a rate of 75 lbs/hr. The **random load feature** of the C500P provides you with the flexibility to perform various types of cremations without the delays associated with machines that must cool-down, or complete a burn cycle before the chamber may be accessed. Its **multi-chambered** design helps to assure **smokeless/oderless operation** and compliance with environmental regulations. Our **hot hearth** feature provides for **quick and thorough burn-down** as well as superior fluid control. The C500P is ideally suited to perform individual cremations, and yet has enough capacity to also provide semi-private and communal cremations as well. This model is typically used by facilities that expect to perform approximately 2,500 cremations per year, or have the need to process up to 600 pounds in an eight hour day.

- Easy to Use "Push Button" Operation
- Performs Both Private and Communal Cremations
- UL Listed for Safe, Dependable Operation
- No "Cool Down" Required Between Cremations
- Convenient Cremains Retrieval System
- Extremely Efficient and Economical Operation
- Durable Construction, Reliable Performance, Low Maintenance

CRAWFORD MODEL C500P - RANDOM LOAD CREMATORY

CRAWFORD

CRAWFORD
industrial group, LLC

9101 Parkers Landing Orlando, Florida 32824-8093
voice: 407.851.0993 facsimile: 407.851.2406
sales and service: 1.800.228.0884

www.animal-cremation.com
www.crawfordequipment.com

CRAWFORD MODEL C500P SPECIFICATIONS

Recognized Approvals:	Underwriters Laboratory (U.L.) Listed (Control # 54E3)
Capacity ratings:	75 lb/hr. for type 4, pathological waste Recommended maximum initial charge: 200 lbs
Overall dimensions:	11'-6.5" L x 3'-8" W* x 7'-11" H *(5'-1" W, w/ touch screen panel)
Approx. system weight:	10,000 lbs.
Required fuel (NG/LPG): ***(light oil fired optional)***	Main Line – 1,500,000 BTU/hr @ 11-14" w.c. @ 1.5" header Pilot Line – 150,000 BTU/hr @ 5 psi, max. @ 3/8" regulator
Required electrical supply:	230 Volt, Single Phase, 60 Hz, 40 Amp @ single point connection (Three Phase 230/460 Volt, 60 or 50 Hz & alt. voltage available)
Primary chamber volume:	Primary – 26.25 cu. ft.
Hearth Area:	12.1 sq. ft. (60"L x 29"W)
Secondary chamber volume:	26.58 cu. ft. (provides in excess of one second retention time)
Primary burner capacity:	500,000 BTU/hr. (hi/lo modulated control)
Secondary burner capacity:	1,000,000 BTU/hr. (fully modulated control)
Combustion air fan:	900 scfm, 3 hp, 230/460 Volt, Single Phase, 60 Hz std. (Three phase, optional)
Charging door:	29"W x 25"H – electric-hydraulic powered
Hydraulic power unit:	1.5 hp, 230/460 Volt, three phase, 4.4 gpm, 500 psi, ¾ gal. res.
Steel construction:	Heavy channel steel skid base, with angle, square tube, and plate steel structure, with sheet steel used for inner and outer casings
Refractory & insulation:	
Hearth:	7" to 13" 3000°F abrasion resistant cast refractory
Side walls:	4.5" thick 2700°F dense fire brick 4.5" thick 2600°F insulating fire brick 1.25" 1900°F insulation backing
PCC roof:	6" 2800°F cast refractory with 2" 2400°F insulation cap
SCC floor:	5" 3000°F thick dense-insulating cast refractory
Stack:	20"od x 48"L sections (2 sections standard) 10 gauge steel shell with 2" 2400°F high-temperature refractory lining approx. weight – 91 lb/ft.
Draft control:	via "Induce-a-Cool" w/ temperature reduction to 875°F
Controls (PLC based with):	Touch screen operator interface Primary & secondary chamber temperature control Temperature actuated fuel and air control Burner interface, status and reset access** System status and alarm display Opacity alarm system with control intervention ** Discrete, UL, CSA, FM & IRI burner monitoring / control w/ U.V. flame supervision provided for each burner

CRAWFORD MODEL C500P RANDOM LOAD CREMATORY

CRAWFORD

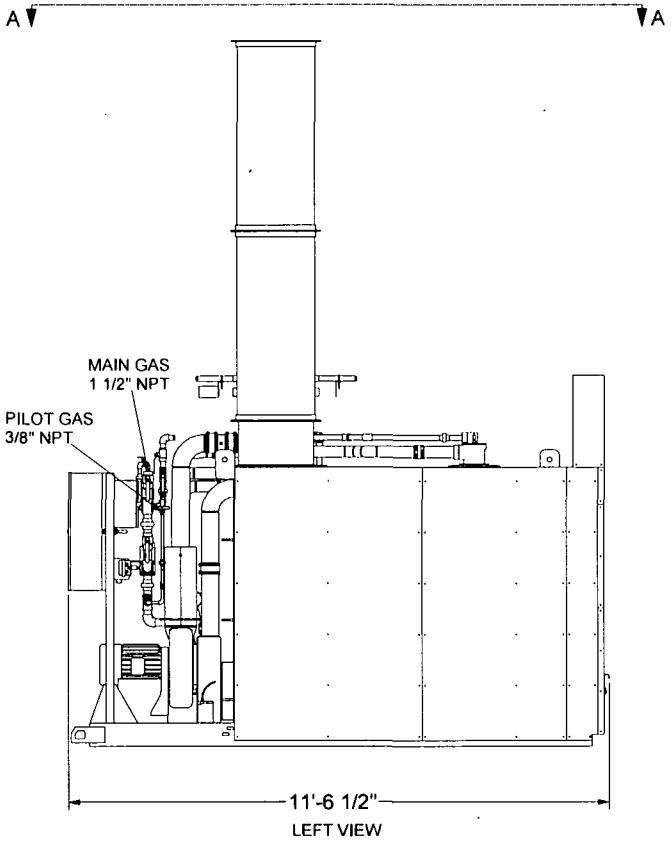
CRAWFORD industrial group, LLC

9101 Parkers Landing Orlando, Florida 32824-8093
voice: 407.851.0993 facsimile: 407.851.2406
sales and service: 1.800.228.0884

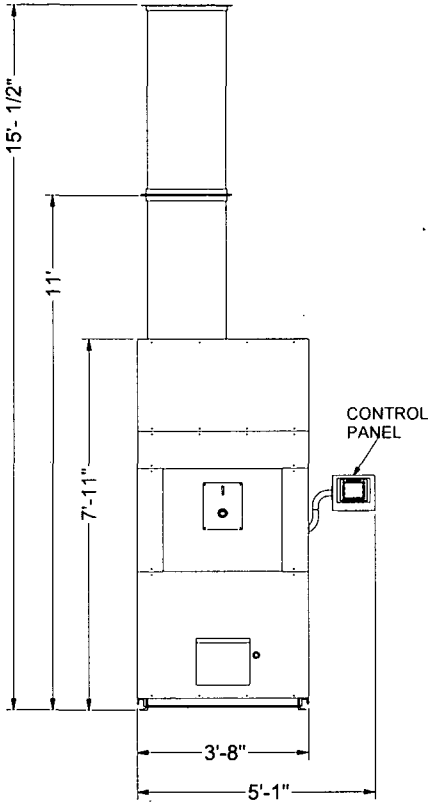
www.animal-cremation.com
www.crawfordequipment.com

ELECTRICAL:
SINGLE POINT CONECTION
230/460V, 1 PHASE, 60 HZ, 40 AMP
3 PHASE, AND /OR 50 Hz (OPTIONAL)

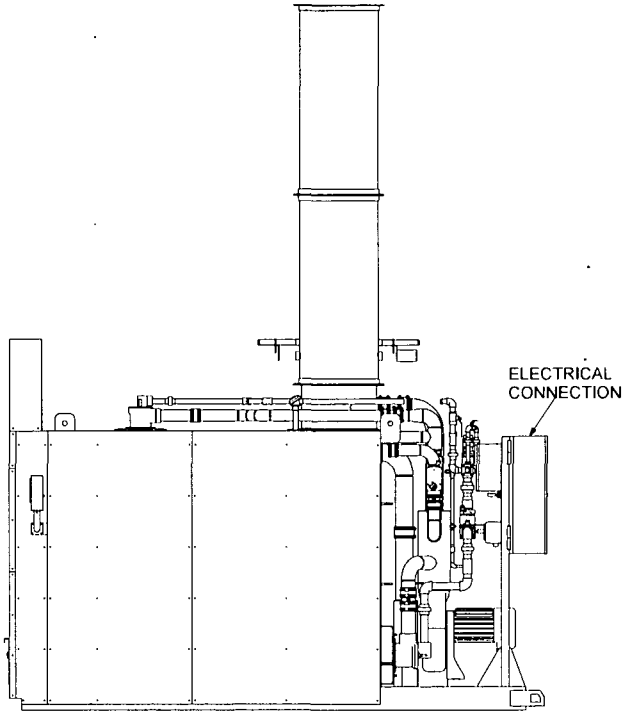
GAS REQUIREMENTS:
FUEL SUPPLY MUST BE CAPABLE OF FLOWING
MAIN 1.5 MMBTU/ HR @ 11-14" WC @ 1 1/2" HEADER
PILOT .15 MMBTU/ HR @ 5 PSIG MAX @ 3/8" REGULATOR



LEFT VIEW



FRONT VIEW



RIGHT VIEW

NOTE:
ALL ILLUSTRATIONS COVER THE GENERAL APPEARANCE OF CRAWFORD INDUSTRIAL GROUP, LLC PRODUCTS AT THE TIME OF PUBLICATION AND WE RESERVE THE RIGHT TO MAKE CHANGES IN DESIGN AND CONSTRUCTION AT ANY TIME WITHOUT NOTICE.

REV	DATE	DESCRIPTION	NAME

DRAWN Jim L. 2/4/2004
CHK'D
DESIGNER Jim L.

CRAWFORD INDUSTRIAL GROUP, LLC
9101 PARKERS LANDING, ORLANDO, FL. 32824 (407) 851-0993

TITLE
C500P

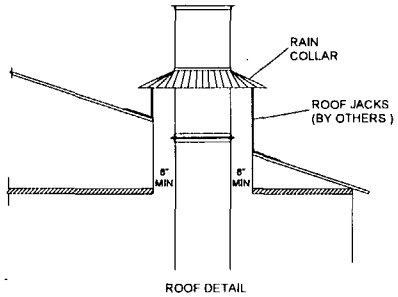
PROJECT NO. | DRAWING C500P-GA | REV

SIZE D | SCALE NONE | SHEET 1 OF 2

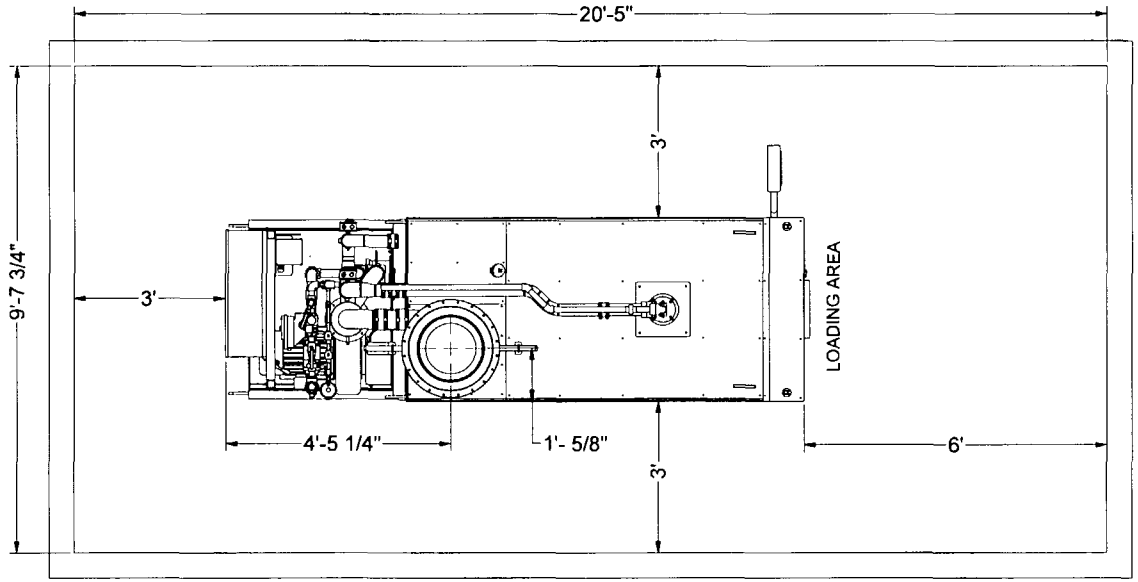
MINIMUM UL. CLEARANCE REQUIRED
SIDES = 24"
REAR = 24"
TOP = 18"
STACK SIDES = 8"

FLOOR TYPE NONCOMBUSTIBLE LOAD BEARING TO SUPPORT 10,000 LBS.
CONSULT LOCAL BUILDING CODES AND ORDINANCES FOR ANY
RESTRICTIONS WHICH MAY APPLY.

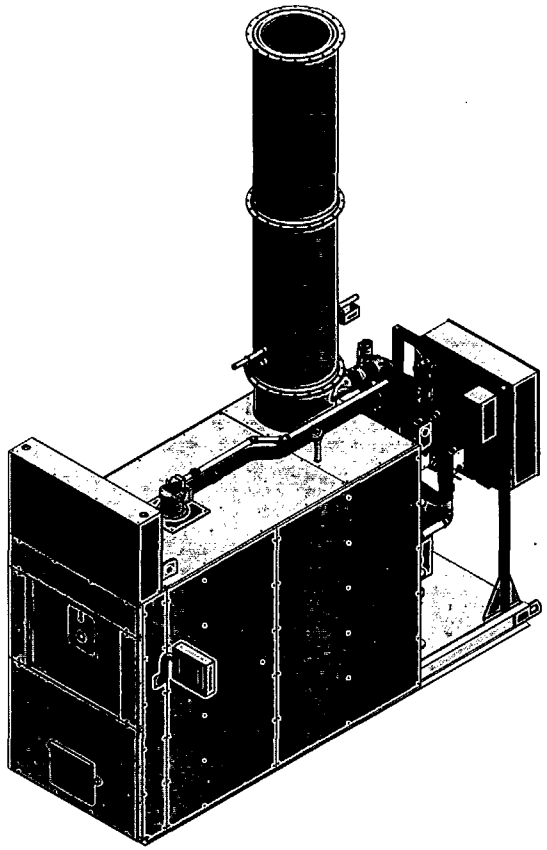
COMBUSTION AIR:
MINIMUM 30" x 30" OUTSIDE AIR VENT
(MAKE UP AIR) - PASSIVE SYSTEM



ROOF DETAIL



VIEW A-A
RECOMMENDED CLEARANCES



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REV	DATE	DESCRIPTION	NAME

DRAWN Jim L 2/4/2004
RTM
DESIGNER Jim L

CRAWFORD INDUSTRIAL GROUP, LLC
#101 PARKERS LANDING, ORLANDO, FL 32824 (407) 851-0999

TITLE
C500P

PROJECT NO.
DRAWING
C500P-GA
REV

SIZE D SCALE NONE SHEET 2 OF 2

COMPLIANCE EMISSION TESTING
FOR
NEW HORIZONS PET SERVICES
FORT MYERS, FLORIDA
MAY 23, 2002

C 500 P

Submitted By:

AIR SYSTEMS TESTING, INC.
P.O. Box 1369
Marco Island, FL 34146
(800) 466-0447

BRUCE LAWRIE

This test previously submitted to DEP.

TABLE OF CONTENTS

APPENDIXES

INTRODUCTION

On Thursday, May 23, 2002, Air Systems Testing, Inc. *(AST)* performed compliance particulate, carbon monoxide (CO), and visible emissions testing on the pet crematory exhaust at the New Horizons Pet Services facility located in Fort Myers, Florida. The testing was performed to determine if the emission levels were within the allowable rate as defined by the Florida Department of Environmental Protection. *AST* field test personnel were Bruce Lawrie and Jason Clark. Opacity emissions were determined by Mr. Dan Beatty with Beatty Environmental Services.

AST would like to thank Mr. Bill Belky and his associates with New Horizons Pet Services for their assistance and cooperation throughout the testing program.

SUMMARY OF TEST RESULTS

The summary of the results of the testing can be found below and on the following page. Below is shown the results of each of the three test repetitions and the average of the three (which is used to determine compliance with state standards).

Test No.	Particulate Emission Rate (gr/dscf @ 7% O_2)	Allowable Emission Rate (gr/dscf @ 7% O_2)
1	0.0229	
2	0.0139	
3	0.0134	
Average	0.0167	0.0800

Test No.	Carbon Monoxide Emission Rate (PPM @ 7% O_2)	Allowable CO Emission Rate (PPM @ 7% O_2)
1	8	
2	1	
3	2	
Average	4	100

It can be seen from the tables above that the New Horizons Pet services animal crematory is within the allowable rates for particulate and carbon monoxide emissions.

Opacity readings were taken by Mr.Dan Beatty. Mr. Beatty was certified per EPA Method 9 in February, 2002. All readings were zero.

SUMMARY OF TEST RESULTS

New Horizons

Animal Crematory

	Test #1	Test #2	Test #3	
Test Date:	5/23/02	5/23/02	5/23/02	
Volume @ Meter (Vm):	29.805	41.527	41.800	
Square Root ΔP:	0.254	0.238	0.235	
Sampling Time (min):	60	60	60	
Barometric Pressure (Pb):	30.00	30.00	30.00	
Orifice Pressure (ΔH):	0.59	1.18	1.19	
Volume in Impingers (mls):	52.0	63.5	59.0	
Stack Pressure (Ps):	30.00	30.00	30.00	
Stack Temperature (Ts):	1312	1290	1302	
Meter Coefficient (Y):	1.000	1.000	1.000	
Pitot Coefficient (Cp):	0.84	0.84	0.84	
Meter Temperature (Tm):	559	567	569	
Area Stack (As):	1.07	1.07	1.07	
Area Nozzle (An):	0.000877	0.001310	0.001310	
Percent CO_2 (%):	4.0	4.0	3.5	
Percent O_2 (%):	15.3	15.7	15.6	
Percent N_2 (%):	80.7	80.3	80.9	
Milligrams Particulates:	16.9	13.1	12.9	
				Average
Molecular Weight Dry (Md):	29.25	29.27	29.18	29.23
Volume Water (Vwstd):	2.45	2.99	2.78	2.74
Volume Gas Sampled (Vmstd):	28.257	38.871	38.990	35.372
Wet Fraction (Bws):	0.080	0.071	0.066	0.073
Molecular Weight Wet (Ms):	28.36	28.46	28.44	28.42
Volume Gas Sampled (Vma):	76.093	101.998	102.718	93.603
Stack Gas Velocity, (Vs):	22.65	21.01	20.85	21.50
Volumetric Flowrate (Qs):	540	514	508	521
Volumetric Flowrate (Qa):	1,454	1,349	1,338	1,380
Grainloading, gr/dscf (cs):	0.0092	0.0052	0.0051	0.0065
Emission Rate, gr/dscf @ 7% O_2:	0.0229	0.0139	0.0134	0.0167
Emission Rate, #/Hour:	0.04	0.02	0.02	0.03
Percent Isokinetic Sampling:	106.5	103.0	104.5	104.7

NOMENCLATURE

As	Cross-sectional area of stack, feet^2
An	Cross-sectional area of nozzle, feet^2
ACFM	Actual cubic feet of stack gas per minute at stack conditions
B_{ws}	Proportion by volume of water vapor in stack gas
c_s	Particulate concentration in stack gas, gr/dscf
c_{sl}	Particulate concentration in stack gas, gr/ACF
C_p	Pitot tube coefficient
Δ H	Pressure drop across orifice, inches H_2O
d_p	Nozzle diameter, inches
Δ P	Velocity pressure of stack gas, inches H_2O
dscf	Cubic feet of stack gas @ standard conditions
E	Particulate emission rate, pounds per hour
K_p	Constant (85.49)
Mg.	Total particulate matter collected, milligrams
I	Percent of isokinetic sampling
P_{bar}	Barometric pressure, inches mercury
P_m	Barometric pressure of dry gas meter, inches mercury
P_s	Absolute stack gas pressure, inches mercury
P_{std}	Barometric pressure, standard conditions (29.92" mercury)

Q_a	Volumetric flow rate, actual conditions, ACF/minute
Q_s	Volumetric flow rate, dry standard conditions, dscf/minute
T_m	Absolute average dry gas meter temperature, ^oR
T_s	Absolute average stack gas temperature, ^oR
T_{std}	Absolute temperature at standard conditions, ^oR
V_{lc}	Total volume collected in impingers and silica gel, milliliters
V_m	Volume of stack gas sampled through gas meter
V_{mstd}	Volume of stack gas sampled through gas meter, standard ft^3
V_s	Average stack gas velocity, feet per second
V_{wstd}	Volume of water vapor in gas sampled, standard ft^3
Y	Dry gas meter calibration factor

CALCULATIONS

V_{wstd} = (V_{lc}) (0.04707)

V_{mstd} = 17.64 (V_m) (Y) $((P_b + (\text{delta H} / 13.6)) / T_m$

M_s = $(M_d (1 - B_{ws})) + (18 (B_{ws}))$

V_{ma} = $((V_{mstd} (T_s) (29.92)) / ((1 - B_{ws}) (528) (P_s))$

V_s = $(K_p) (C_p)$ (Sqrt delta P) (Sqrt (T_s / P_s / M_s))

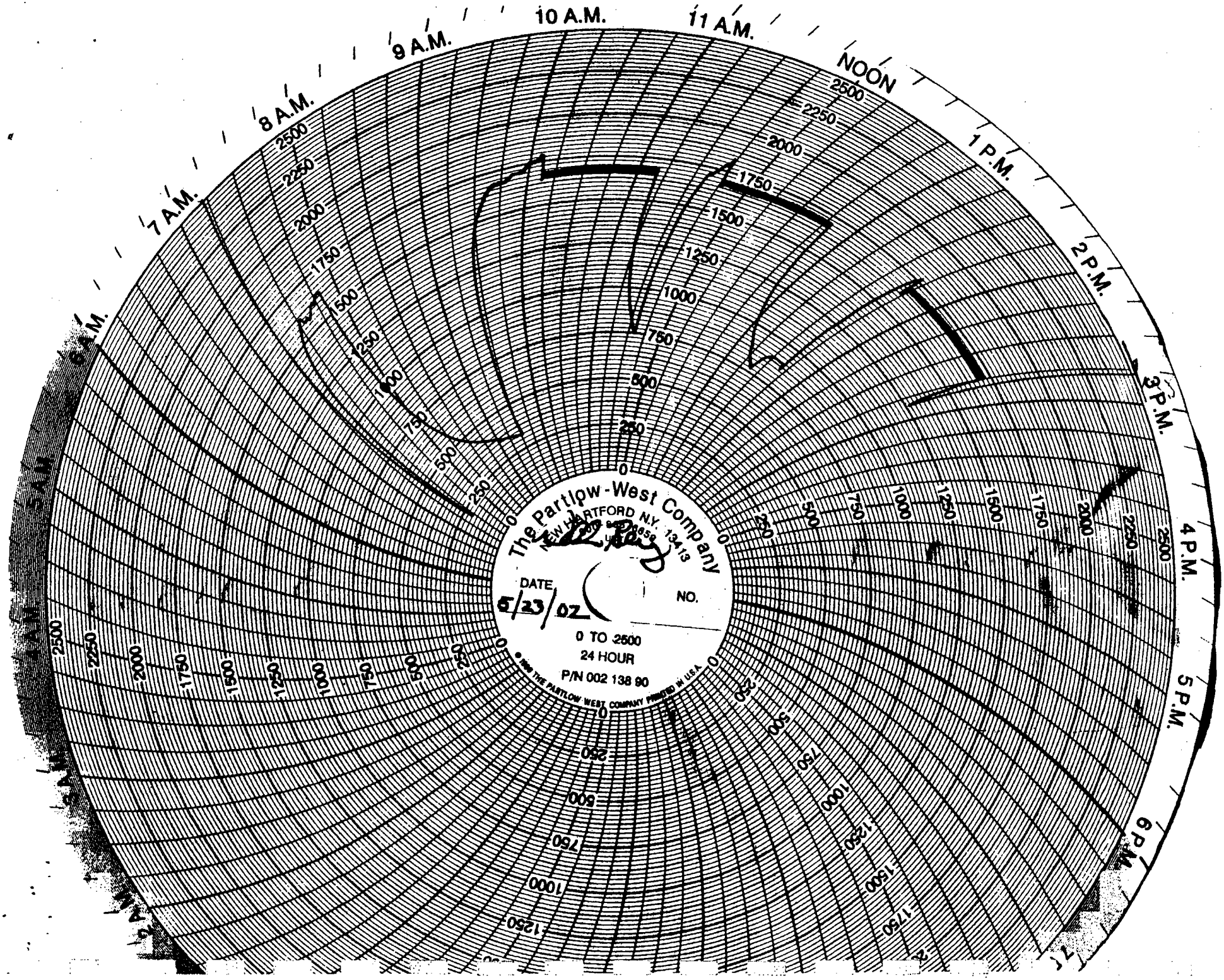
Q_s = (60) (1-B_{ws}) (V_s) (A_s) (528 / T_s) (P_s / 29.92)

Q_a = (60) (V_s) (A_s)

c_s = ((Mg) (0.01543)) / (V_{mstd})

#/Hour = (60) (Q_s) ((0.01543) (Mg / V_{mstd}))) / 7000

I = (T_s) (1.667) (((0.00267) (M_{ls})) + (((V_m) (Y) / (T_m)) ((P_b) + ((delta H) / (13.6))))) / ((Minutes) (V_s) (P_s) (A_n))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5 P.M.
6 P.M.
7 P.M.
2500
2250
2000
1750
1500
1250
1000
750
500
250
0
The Partlow-West Company
NEW HARTFORD N.Y. 13413
DATE
6/23/02
NO.
0 TO 2500
24 HOUR
P/N 002 138 90
THE PARTLOW WEST COMPANY PRINTED IN U.S.A.

Residence Time Caculation
Correction for Quenched-Air In Outlet
Crawford Industrial Group Model C500P

Source Test: New Horizons Pet Services, Fort Myers, Florida, May 23, 2002

Source Parameters:	***Units***	***Stack Outlet***	***Ambient Air***	***Secondary Chamber***
Temperature	F	841.33	92	1690
Air Flow	acfmd	1280.8		
Air Flow	acfm	1380		
H2O Flow	acfm	99.2		
Molecular Weight (M.W.), dry		29.23		
Pressure (P)	psi	14.78	14.78	14.78
Air Enthalpy (H)	BTU/lbm	194.3	9.4	421.8
H20 Enthalpy (H)	BTU/lbm	367.4	17	826.8
Humity Ratio (Rh)	lb/lb-dryair		0.02	
Secondary Combustion Chamber (SCC) Volume	ft^3			26.58

Equations
PV=MRT/M.W. from ideal gas law
Heat Loss from SCC = Heat Gained by Ambient Air
Mscc, dry-air = Mstack, dry-air - Mamb, dry-air
Mscc, H2O = Mstack, H2O - Mamb, H2O

Outlet
M=PV M.W./RT

	M	P	V	n	R	T	M.W
	lb/min	(psi)	(acfmd)		(psia-ft^3/lbmol-R)	(R)	
Mstack, dry=	39.6275666	14.78	1280.8		10.73	1301.33	29.23
			acfm				
Mstack, H2O=	1.890041967	14.78	99.2		10.73	1301.33	18
Mstack, total =	41.51760857						

SCC Dry Air
Mscc*dHscc = Mamb*dHamb
dH = change in enthalpy

dHscc = 227.5
dHamb = 184.9

Mamb = Mscc * (227.5/184.9)

Mamb + Mscc = Mstack,dry
Mscc + Mscc*(227.5/184.9) = 39.63

Mscc = 17.77
Mamb = 21.86411574

SCC H2O
Mamb, H2O = Mamb * Rh = 21.86 * 0.02 = 0.437282315
Mscc, H2O + Mamb, H2O = Mstack, H2O
Mscc, H2O = Mstack, H2O - Mamb, H2O = 1.452759652

SCC Volumetric Flow	acfm	P (psi)	V (acfmd)	n	R (psia-ft^3/lbmol-R)	T (R)	M.W	M (lb/min)
Vair,dry=	948.9041812	14.78			10.73	2150	29.23	17.77
VH2O=	125.9960288	14.78			10.73	2150	18	1.453
V(total) =	1074.90021							

Residence Time = (V*60 sec/min)/Q
SCC Residence Time @ Actual Stack Test Conditions = 1.48 seconds
1.48367261

Vnew = Vold * (Pold/Pnew) * (Tnew/Told)
Assumming Pold approximately equal to Pnew, then
V @ 1800F = V @ 1690F * ((1800+460)/(1690+460)) = 1129.895104

SCC Residence Time @ 1800F = 1.41 seconds

Recycled Paper

PLEASE PRESS FIRMLY

PLEASE PRESS FIRMLY

PLEASE PRESS FIRMLY

UNITED STATES POSTAL SERVICE

0000

PRIORITY MAIL

UNITED STATES POSTAL SERVICE ®

Any amount of mailable ma
confined within the envelop

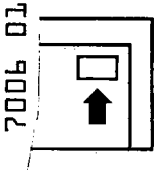
CERTIFIED MAIL™

7004 0100 0005 0326 2952

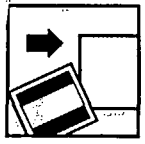
HOW TO USE:

1. COMPLETE ADDRESS AREA
Type or print return address and addressee information in designated area or on label.

2. PAYMENT METHOD
Affix postage or meter strip to area indicated in upper right hand corner.



3. ATTACH LABEL (Optional)
Remove label backing and affix in designated location.



4. Bring your Priority Mail package to

the contents are entirel
only.

From: Central Fl Pet Crematory
10725 E. 36TH Ave
Belleview, FL 34420

To: FLORIDA DEP
RECEIPTS
PO BOX 3070
Tallahassee, FL 32315-3

RETURN RECEIPT REQUESTED