

West Virginia Department of Environmental Protection
Division of Air Quality
Elk Valley Pet Crematorium, LLC
P.O. Box 12086
Charleston, WV 25302

Elk Valley Pet Crematorium, LLC

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I.

Application for NSR Permits and Title V Operating Permit



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

APPLICATION FOR NSR PERMIT
AND
TITLE V PERMIT REVISION
(OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

- CONSTRUCTION MODIFICATION RELOCATION
 CLASS I ADMINISTRATIVE UPDATE TEMPORARY
 CLASS II ADMINISTRATIVE UPDATE AFTER-THE-FACT

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

- ADMINISTRATIVE AMENDMENT MINOR MODIFICATION
 SIGNIFICANT MODIFICATION

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant (as registered with the WV Secretary of State's Office): ELK HILLS MEMORIAL PARK, INC.		2. Federal Employer ID No. (FEIN): 81-2837593	
3. Name of facility (if different from above):		4. The applicant is the: <input checked="" type="checkbox"/> OWNER <input type="checkbox"/> OPERATOR <input checked="" type="checkbox"/> BOTH	
5A. Applicant's mailing address: P.O. BOX 12086 CHARLESTON, WV 25302		5B. Facility's present physical address: 4705 PENNSYLVANIA AVE. CHARLESTON, WV 25302	
6. West Virginia Business Registration. Is the applicant a resident of the State of West Virginia? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇒ If YES, provide a copy of the Certificate of Incorporation/Organization/Limited Partnership (one page) including any name change amendments or other Business Registration Certificate as Attachment A . ⇒ If NO, provide a copy of the Certificate of Authority/Authority of L.L.C./Registration (one page) including any name change amendments or other Business Certificate as Attachment A .			
7. If applicant is a subsidiary corporation, please provide the name of parent corporation:			
8. Does the applicant own, lease, have an option to buy or otherwise have control of the <i>proposed site</i> ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇒ If YES, please explain: OWN ⇒ If NO, you are not eligible for a permit for this source.			
9. Type of plant or facility (stationary source) to be constructed, modified, relocated, administratively updated or temporarily permitted (e.g., coal preparation plant, primary crusher, etc.): PET CREMATORY		10. North American Industry Classification System (NAICS) code for the facility: 812210	
11A. DAQ Plant ID No. (for existing facilities only): N/A		11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only): N/A	

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

⇒ For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;

⇒ For **Construction** or **Relocation permits**, please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP** as **Attachment B**.

*From the Intersection of Rts 114 & 119 in BIG CHIMNEY -
Continue N on Rt 119 approx. 1/2 mile, ELK HILLS MEM. PARK
IS ON RIGHT.*

12.B. New site address (if applicable):	12C. Nearest city or town: BIG CHIMNEY	12D. County: KANAWHA
12.E. UTM Northing (KM): 4248.5195	12F. UTM Easting (KM): 454.494	12G. UTM Zone: 17

13. Briefly describe the proposed change(s) at the facility:
Addition of a PET CREMATORY

14A. Provide the date of anticipated installation or change: / / ⇒ If this is an After-The-Fact permit application, provide the date upon which the proposed change did happen: / / N/A	14B. Date of anticipated Start-Up if a permit is granted: 8 / 1 / 16
--	--

14C. Provide a **Schedule** of the planned **Installation of/Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved). **N/A**

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
24 Hours Per Day **7** Days Per Week **52** Weeks Per Year

16. Is demolition or physical renovation at an existing facility involved? YES NO

17. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed **N/A** changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process (if known). A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance (if known). Provide this information as **Attachment D**. **N/A**

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to **Plot Plan Guidance**).

⇒ Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F**.

23. Provide a **Process Description** as **Attachment G**.

⇒ Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H**.
 ⇨ For chemical processes, provide a MSDS for each compound emitted to the air. N/A

25. Fill out the **Emission Units Table** and provide it as **Attachment I**.

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J**.

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K**. N/A

28. Check all applicable **Emissions Unit Data Sheets** listed below:

<input type="checkbox"/> Bulk Liquid Transfer Operations	<input type="checkbox"/> Haul Road Emissions	<input type="checkbox"/> Quarry
<input type="checkbox"/> Chemical Processes	<input type="checkbox"/> Hot Mix Asphalt Plant	<input type="checkbox"/> Solid Materials Sizing, Handling and Storage Facilities
<input type="checkbox"/> Concrete Batch Plant	<input checked="" type="checkbox"/> Incinerator	<input type="checkbox"/> Storage Tanks
<input type="checkbox"/> Grey Iron and Steel Foundry	<input type="checkbox"/> Indirect Heat Exchanger	
<input type="checkbox"/> General Emission Unit, specify		

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L**.

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

<input type="checkbox"/> Absorption Systems	<input type="checkbox"/> Baghouse	<input type="checkbox"/> Flare
<input type="checkbox"/> Adsorption Systems	<input type="checkbox"/> Condenser	<input type="checkbox"/> Mechanical Collector
<input checked="" type="checkbox"/> Afterburner <i>w/EUDS</i>	<input type="checkbox"/> Electrostatic Precipitator	<input type="checkbox"/> Wet Collecting System
<input type="checkbox"/> Other Collectors, specify		

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M**. N/A

30. Provide all **Supporting Emissions Calculations** as **Attachment N**, or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans**. Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O**.

➤ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit. N/A

32. **Public Notice**. At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and **Example Legal Advertisement** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims**. Does this application include confidential information (per 45CSR31)?

YES NO

➤ If **YES**, identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's "**Precautionary Notice – Claims of Confidentiality**" guidance found in the **General Instructions** as **Attachment Q**.

Section III. Certification of Information

34. **Authority/Delegation of Authority**. Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

<input checked="" type="checkbox"/> Authority of Corporation or Other Business Entity	<input type="checkbox"/> Authority of Partnership
<input type="checkbox"/> Authority of Governmental Agency	<input type="checkbox"/> Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R**.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned **Responsible Official** / **Authorized Representative**, hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE James Kemp McLaughlin, Jr. DATE: 6/24/16
(Please use blue ink) (Please use blue ink)

35B. Printed name of signee: <u>James Kemp McLaughlin, Jr.</u>		35C. Title: <u>Member</u>
35D. E-mail: <u>elizabeth@elkhillsmemorialpark.com</u>	36E. Phone: <u>304-965-5721</u>	36F. FAX:
36A. Printed name of contact person (if different from above): <u>Elizabeth Smith</u>		36B. Title: <u>Member</u>
36C. E-mail: <u>"</u>	36D. Phone: <u>304-965-5721</u>	36E. FAX:

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Attachment A: Business Certificate | <input type="checkbox"/> Attachment K: Fugitive Emissions Data Summary Sheet |
| <input checked="" type="checkbox"/> Attachment B: Map(s) | <input checked="" type="checkbox"/> Attachment L: Emissions Unit Data Sheet(s) |
| <input type="checkbox"/> Attachment C: Installation and Start Up Schedule | <input type="checkbox"/> Attachment M: Air Pollution Control Device Sheet(s) |
| <input type="checkbox"/> Attachment D: Regulatory Discussion | <input checked="" type="checkbox"/> Attachment N: Supporting Emissions Calculations |
| <input checked="" type="checkbox"/> Attachment E: Plot Plan | <input type="checkbox"/> Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans |
| <input checked="" type="checkbox"/> Attachment F: Detailed Process Flow Diagram(s) | <input checked="" type="checkbox"/> Attachment P: Public Notice |
| <input checked="" type="checkbox"/> Attachment G: Process Description | <input type="checkbox"/> Attachment Q: Business Confidential Claims |
| <input type="checkbox"/> Attachment H: Material Safety Data Sheets (MSDS) | <input checked="" type="checkbox"/> Attachment R: Authority Forms |
| <input checked="" type="checkbox"/> Attachment I: Emission Units Table | <input type="checkbox"/> Attachment S: Title V Permit Revision Information |
| <input checked="" type="checkbox"/> Attachment J: Emission Points Data Summary Sheet | <input checked="" type="checkbox"/> Application Fee |

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- Forward 1 copy of the application to the Title V Permitting Group and:
- For Title V Administrative Amendments:
 - NSR permit writer should notify Title V permit writer of draft permit,
- For Title V Minor Modifications:
 - Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,
 - NSR permit writer should notify Title V permit writer of draft permit.
- For Title V Significant Modifications processed in parallel with NSR Permit revision:
 - NSR permit writer should notify a Title V permit writer of draft permit,
 - Public notice should reference both 45CSR13 and Title V permits,
 - EPA has 45 day review period of a draft permit.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

II.

Attachment A: Business Certificate

State of West Virginia



Certificate

I, Natalie E. Tennant, Secretary of State of the State of West Virginia, hereby certify that

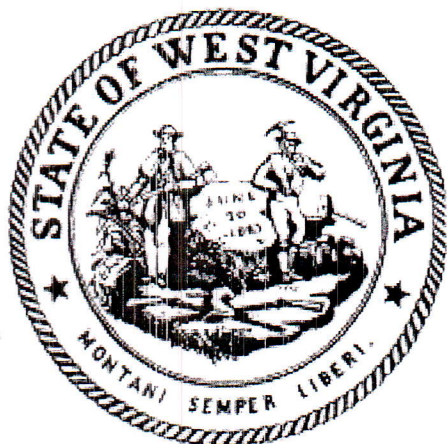
ELK VALLEY PET CREMATORIUM, LLC

Control Number: 9AEHV

has filed its "Articles of Organization" in my office according to the provisions of West Virginia Code §§31B-2-203 and 206. I hereby declare the organization to be registered as a limited liability company from its effective date of May 20, 2016 until the expiration of the term or termination of the company.

Therefore, I hereby issue this

CERTIFICATE OF A LIMITED LIABILITY COMPANY



*Given under my hand and the
Great Seal of the State of
West Virginia on this day of
May 20, 2016*

Natalie E. Tennant

Secretary of State

III.

Attachment B: Maps

Google Maps 4705 Pennsylvania Ave

Future site of Elk Valley Pet Crematorium, LLC



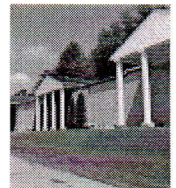
Map data ©2016 Google 100 ft

* 4705 Pennsylvania Ave
 Charleston, WV 25302

** - proposed building location

At this location

Elk Hills Memorial Park Inc
 Cemetery · Pennsylvania Ave

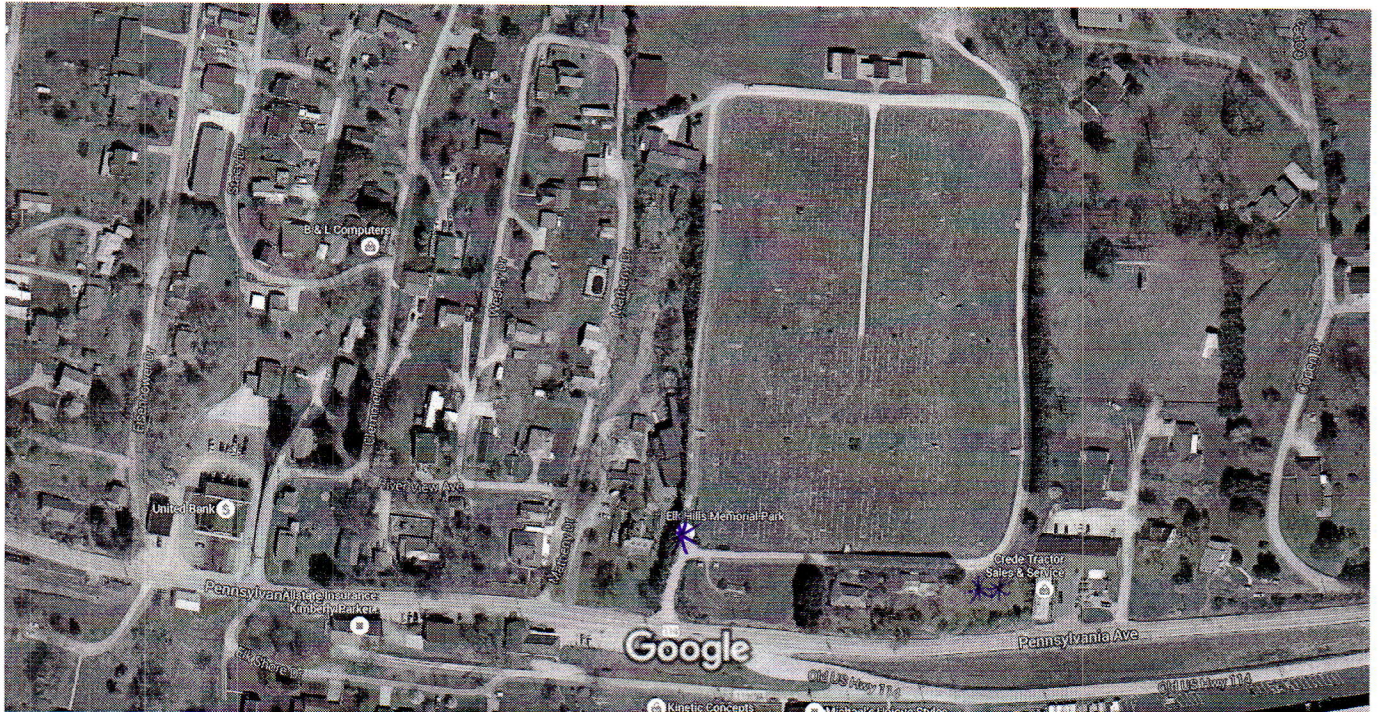


Google Maps

4705 Pennsylvania Ave

ATTACHMENT B:

Future site of Elk Valley Pet Crematorium, LLC



Imagery ©2016 Google, Map data ©2016 Google 100 ft

* 4705 Pennsylvania Ave
 Charleston, WV 25302

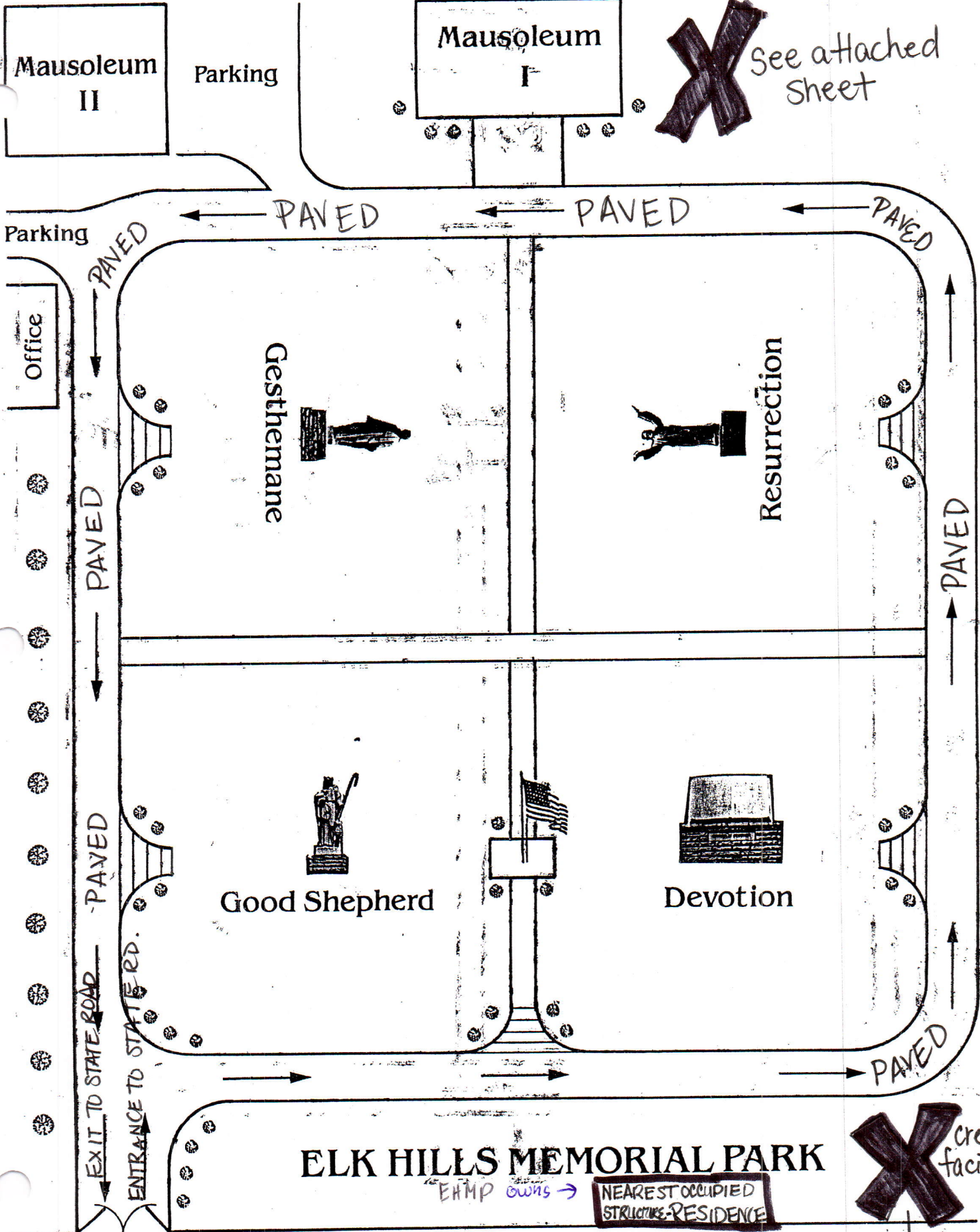
* * - Proposed building location
 At this location

Elk Hills Memorial Park Inc
 Cemetery · Pennsylvania Ave

IV.

Attachment E. Plot Plan

Attachment E.-1



X See attached sheet

X Cremation facility
elevation 657'

ELK HILLS MEMORIAL PARK

EHMP owns →

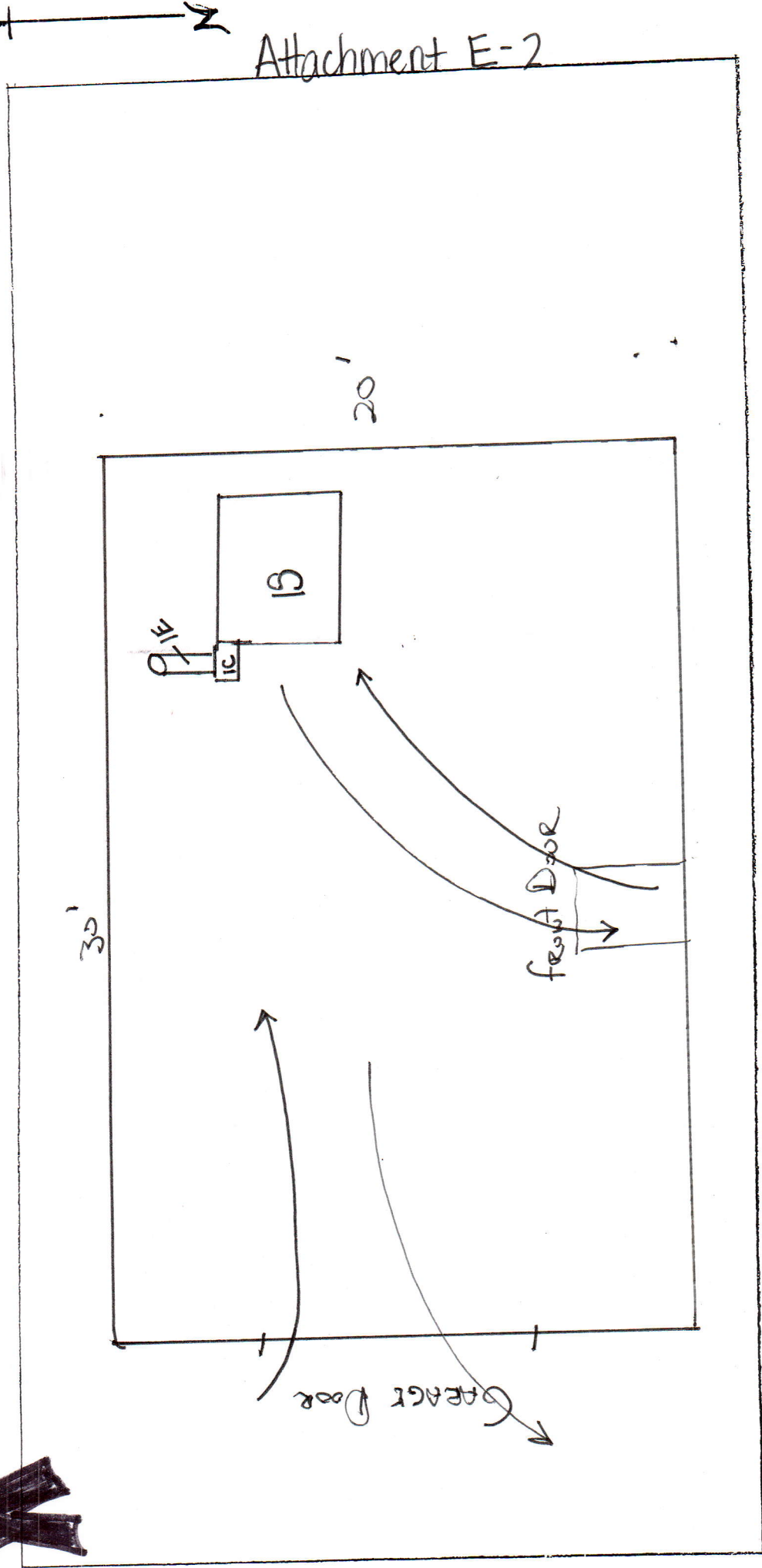
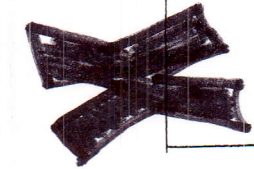
NEAREST OCCUPIED STRUCTURE - RESIDENCE

PAVED

U.S. 119 North

Elk River Road - PAVED

Attachment E-2



PAVED ROAD - CEMETERY ROAD

ELK VALLEY PET CREMATORIUM, LLC

UTM: N 4248.5195 ZONE 17

E 454.494

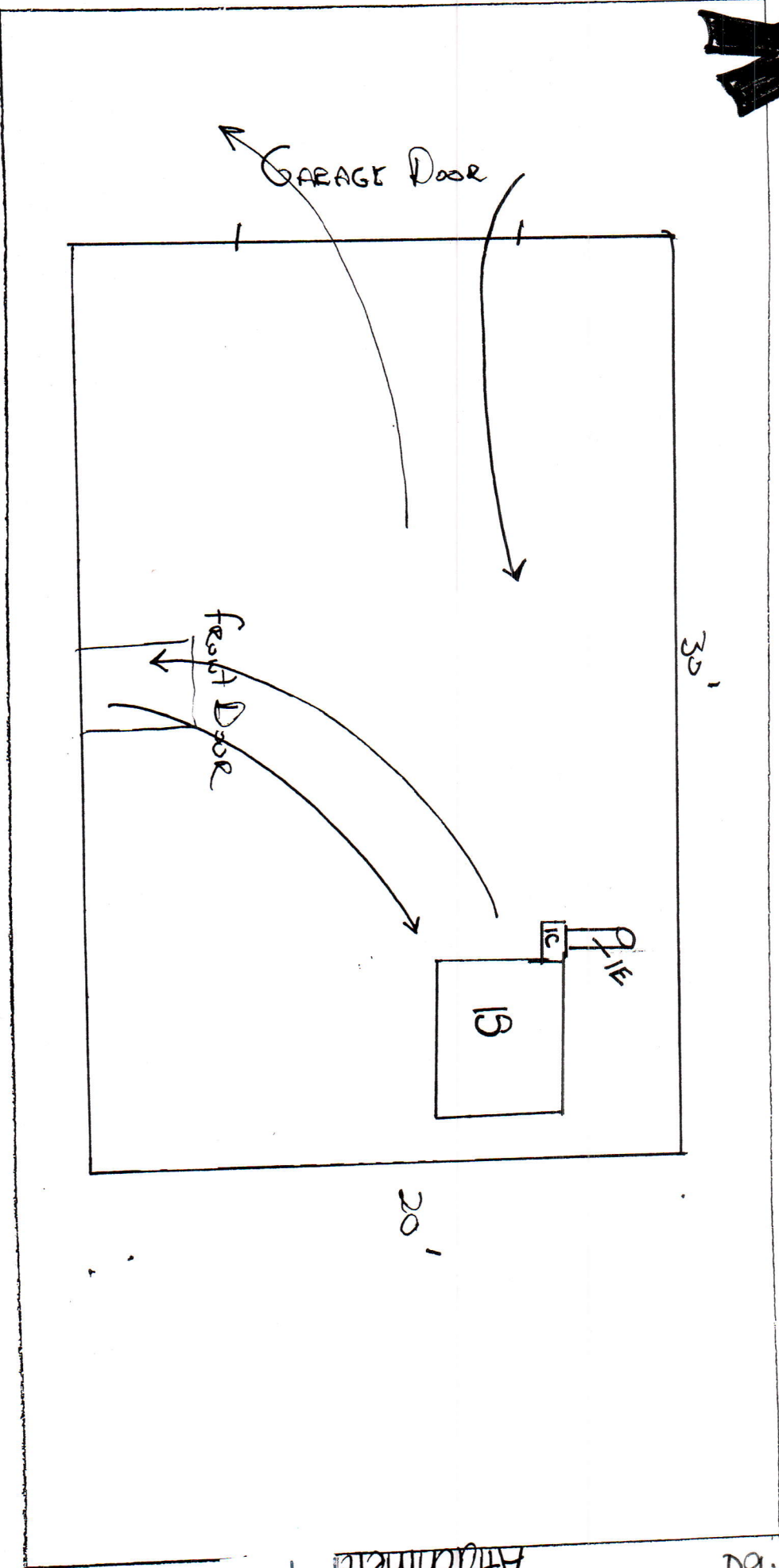
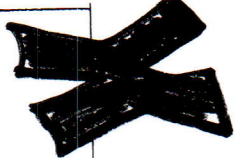
ELEVATION - 657'



1" = 5'

V.

Attachment F. Detailed Process Flow Diagram

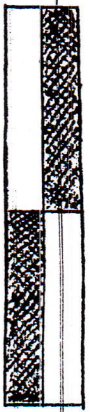


657061.6d

Attachment F

PAVED ROAD - CEMETERY ROAD

1" = 5'



ELK VALLEY PET CREMATORIUM, LLC

UTM: N 4248.5195 ZONE 17

E 454.494

ELEVATION - 657'

VI.

Attachment G. Process Description



Bestech Environmental Resources Inc.
138 Industrial Park Drive
Woodstock, AL. 35188
Phone: (205) 428-0210
Fax: (205) 428-0211

June 24, 2016

Therm-Tec Model S-27 Small Animal Crematory

Process Description:

1. Batch load primary chamber with individual or multiple deceased small animals.
2. Adjust burn timer according to total weight of load.
3. Start unit with push button.
4. After secondary has reached operating temperature primary burner and auxiliary combustion air blower will start.
5. After burn down and cool down of unit, remains are removed and returned to customer or disposed of in general refuse.

VII.

Attachment I. Emissions Units Table

VIII.

Attachment J. Emission Points Data Summary Sheet

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. (Must match Emission Units Table & Plot Plan)	Emission Point Type ¹	Emission Unit Vented Through This Point (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)		Vent Time for Emission Unit (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS ³ (Speciate VOCs & HAPS)	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase (At exit conditions, Solid, Liquid or Gas/Vapor)	Est. Method Used ⁶	Emission Concentration ⁷ (ppmv or mg/m ⁴)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
1E	stack	15	pet crendit -0-4	1C	after burner	N/A	N/A	CO	0.007	0.007	0.007	0.007	gas	ST	0.6
"	"	"	"	"	"	"	"	NOX	0.13	0.13	0.13	0.13	gas	ST	N/A
								PM ₁₀	0.07	0.07	0.07	0.07	solid	ST	N/A
								SO ₂	0.11	0.11	0.11	0.11	gas	ST	N/A
								VOCs	0.13	0.13	0.13	0.13	gas	ST	N/A
								PM	0.26	0.26	0.26	0.26	solid	MB	N/A

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

- Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.
- Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (i.e., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).
- List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. DO NOT LIST H₂, H₂O, N₂, O₂, and Noble Gases.
- Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
- Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
- Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).
- Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

IX.

Attachment L. Emission Unit Data Sheet

Attachment L
Emission Unit Data Sheet
(INCINERATOR)

Control Device ID No. (must match List Form): S-1

Equipment Information

1. Manufacturer: Therm-Tec	2. Model No. S-27
3. On a separate sheet sketch or draw the proposed incinerator showing the location and dimensions (inside and out) of (1) the primary combustion chamber, (2) the secondary combustion chamber, (3) the flame port, (4) auxiliary burners, and (5) dampers with special emphasis on dimensions of the flame port and secondary combustion chambers (inside) . Also, sketch in the minimum distance the gas travels through the secondary combustion chamber.	
4. Rated capacity of the incinerator for the type of waste to be burned:	
Maximum:	85 lb/hr
Typical:	40 lb/hr
Annual:	88.4 tons/yr
5. By what means is waste charged? <input checked="" type="checkbox"/> Batch <input type="checkbox"/> Continuous <input type="checkbox"/> Periodically	
6. Type: <input checked="" type="checkbox"/> Multiple Chamber <input type="checkbox"/> Single Chamber <input type="checkbox"/> Other, specify:	
7. Projected operating schedule: 8 hr/day 260 day/yr	

Primary Combustion Chamber

8. Volume: 27 ft ³	9. Effective grate area: NA ft ²
10. Maximum temperature: 1,500 °F	11. Burning rate: 9.55 lb/ft ² /hr
12. Heat release in primary chamber: 5000,000/18,518 BTU/hr/ft ³	13. Total heat release in incinerator: 750,000/22,935 BTU/hr/ft ³

Secondary Combustion Chamber

14. Volume: 5.7 ft ³	15. Cross sectional area: .92 ft ²
16. Volume of gas through secondary combustion chamber: 1,250 ACFM @ 1491 °F	17. Gas velocity through secondary combustion chamber: 20.8 ft/sec
18. Minimum gas temperature: 1,400 °F	19. Minimum retention time of gas: 1/3 sec
20. Minimum distance of gas travel through secondary combustion chamber: 6'2" ft	21. Location of air admission: Top of Stack

Flame Port

22. Flame port area: .35 ft ²	23. Velocity through flame port: 10.4 ft/sec
--	--

Dampers

24. Type: None	25. Number NA
26. Diameter: NA inches	27. Capacity: NA ACFM @ NA °F

Combustion Air

28. Type of draft: <input type="checkbox"/> Sliding damper <input type="checkbox"/> Barometric damper Windshielding? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Forced <input type="checkbox"/> Induced	29. If draft is forced or induced, describe ID fans or blowers: Number: NA HP rating: _____ HP Rated flow: _____ ft ³ /min Rated speed: _____ RPM Fan rated draft: _____ in. H ₂ O Volume: _____ CFM
30. Theoretical air/refuse ratio: 1.8 lb air/lb refuse	
31. Percent of total air applied as: NA overfire air NA underfire air	

Auxiliary Burners

32. Proposed type and fuel:	
33. Primary Burner Capacity: .8 MMBTU/hr Number: 1 Manufacture: Midco Model: J-83-DS Estimated capacity: 400,000 BTU/hr Fuel: Natural Gas How controlled? Off/On Is there a temperature indicator? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No How temperature recorded?	34. Secondary Burner Capacity: .8 MMBTU/hr Number: 1 Manufacture: Midco Model: J-83-DS Estimated capacity: 450,000 BTU/hr Fuel: Natural Gas How controlled? High/Low/Off Is there a temperature indicator? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No How temperature recorded?

Miscellaneous Devices and Controls

35. Automatic loading device. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe.	36. Self closing doors. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
37. Sparks arrestor <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	38. Flame failure protection equipment <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
39. Method of creating turbulence for combustion gases. Describe. Tangential Air Supply piping Two Zones 6 Pipes Each Burner mounted tangential to Flow	40. Method of cleaning secondary or settling chamber. Describe. Vertical-Self Cleaning
41. Other interlocking devices or controls. If yes, describe. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Installation

42. Indoor Installation: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe method of supplying combustion air. Forced Air Ventilation Fan and Louvers	43. Outdoor Installation: <input type="checkbox"/> Yes <input type="checkbox"/> No
--	--

Stack or Vent Data

44. Inside diameter or dimensions: 1.166 ft	45. Gas exit temperature: 1490 °F
46. Height: 18.166 ft	47. Stack serves: <input checked="" type="checkbox"/> This equipment only <input type="checkbox"/> Other equipment also (submit type and rating of all other equipment exhausted through this stack or vent)
48. Gas flow rate: 1250 ft/min	
49. Estimated percent of moisture: %	

Waste

50. Source of waste: <input type="checkbox"/> Hospital <input type="checkbox"/> Restaurant <input type="checkbox"/> Store <input type="checkbox"/> Industry <input type="checkbox"/> Apartment <input checked="" type="checkbox"/> Crematory <input type="checkbox"/> Warehouse <input type="checkbox"/> Public Institution <input type="checkbox"/> Other, specify:	
51. Describe fully, in detail, the composition of waste feed to the incinerator: Small Deceased Animal	
52. Expected BTU/lb as fired: 1000 BTU/lb	53. Daily amount: 400 lb
54. Does incinerator have a charge hopper <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	55. What is the volume of the charge hopper? NA ft ³
56. Does the charge hopper have automatic control? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	57. Is the waste charged to the incinerator weighed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
58. Is the secondary chamber preheated prior to charging waste? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	59. At what secondary temperature does waste charging begin? 1,400 °F
60. Is the ash waste quenched? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	61. Is all the waste burned generated on site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
62. For hospital waste, is the ash inspected for recognizable combustible components? <input type="checkbox"/> Yes <input type="checkbox"/> No	
63. For hospital waste, are recognizable combustible components of the ash reburned? <input type="checkbox"/> Yes <input type="checkbox"/> No	
64. Is any waste received from outside the local government boundary? <input type="checkbox"/> Yes <input type="checkbox"/> No	
65. Are hazardous or special waste burned? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please describe:	66. Are potential infectious waste burned? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
67. How will the waste material from process and control equipment be disposed of? Remains Returned to Owner	
68. Method of charging waste solids: <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Manual charge hopper <input type="checkbox"/> Automatic charge hopper <input type="checkbox"/> Other, specify:	69. Method of feeding liquids: <input type="checkbox"/> Lab pack <input type="checkbox"/> Injection as a primary burner fuel <input type="checkbox"/> Injection as a secondary burner fuel <input type="checkbox"/> Other, specify: NA
70. Rated steam flow – heat recovery boiler: NA lbs/hr	71. Rated pressure – recovery boiler: NA PSIG

Emissions Stream

72. Emission rates:

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA	Tons per Year Tons/yr	Parts per Million ppm
CO	.007		1,490		.007	.6
Hydrocarbons	NA				NA	NA
NO _x	.13		1,490		.13	NA
Pb	NA				NA	NA
PM ₁₀	.07		1,490		.07	NA
SO ₂	.11		1,490		.11	NA
VOCs	.13		1,490		.13	NA
Other (specify)						

73. If an *Air Pollution Control Device* is not submitted, the emission rates should be the same as those reported home "Maximum Potential and Maximum Actual Emissions" on the *Emission Points Data Summary Sheet*.

74. Emissions rates should be substantiated by submitting *stack test data* and/or *calculations*.

Fuel Usage Data

75. Estimated annual fuel cost: \$7,500		\$
76. Firing rate: Maximum: .85 mmBTU/hr Typical: .45 mmBTU/hr Design: 1.6 mmBTU/hr	77. Fuel type: <input checked="" type="checkbox"/> Natural Gas <input type="checkbox"/> Coal <input type="checkbox"/> Fuel Oil, No. <input type="checkbox"/> Other, specify:	
78. Typical heating content of fuel: 1000 Btu/Cu/Ft	79. Typical fuel sulfur content: NA	wt. %
80. Typical fuel ash content: NA	81. Annual fuel usage: 936 MMBTU	wt. %
82. Please complete an <i>Air Pollution Control Device Sheet(s)</i> for the control(s) used on this Emission Unit, if applicable.		
83. Have you included the air pollution rates on the Emissions Points Data Summary Sheet?		

84. Proposed Monitoring, Recordkeeping, Reporting, and Testing

Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING PLAN: Please list (1) describe the process parameters and how they were chosen (2) the ranges and how they were established for monitoring to demonstrate compliance with the operation of this process equipment operation or air pollution control device.

Manually load up to 400 lbs of animal per batch
Visually observe secondary and primary temperature

TESTING PLAN: Please describe any proposed emissions testing for this process equipment or air pollution control device.

Stach Test Provided

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

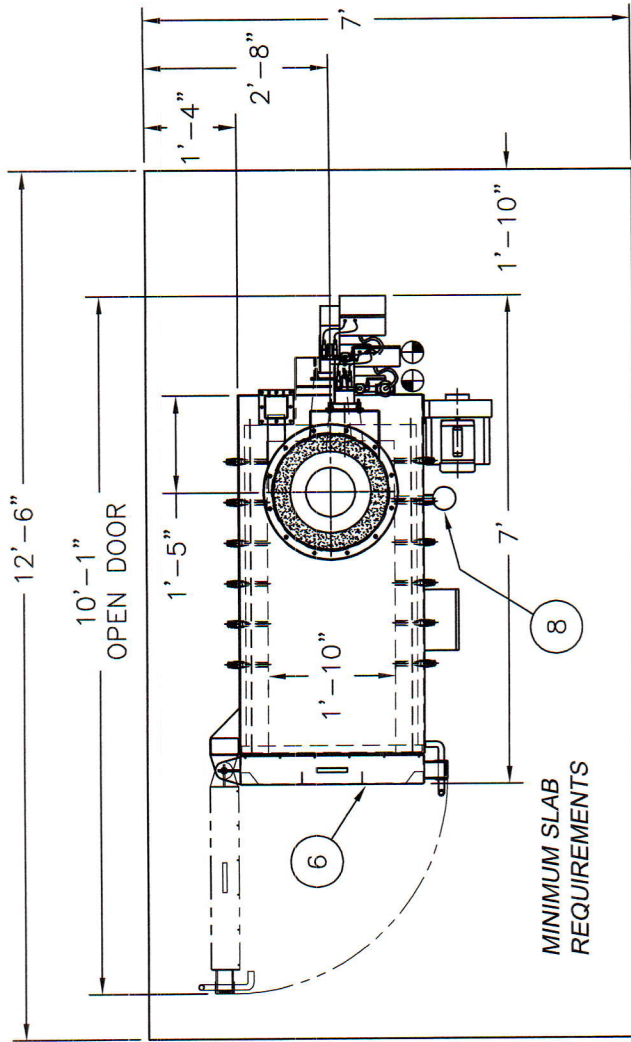
Hours of Operation
Daily Load Rate

REPORTING: Please describe the proposed frequency of reporting of the recordkeeping.

As Required

85. Please describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.

Charge Rate of 400 lbs per day or less
Secondary Chamber to operate below 2,000 deg. F
Primary Chamber to operate below 1,600 deg. F
Inspect refractory, burners, controller, and thermocouples...repair or replace as needed.



MINIMUM SLAB REQUIREMENTS

1	PRIMARY CHAMBER
2	CONTROL CELL (AFTERBURNER)
3	PRIMARY BURNER
4	SECONDARY BURNER
5	COMBUSTION AIR BLOWER
6	LOAD DOOR
7	CONTROL PANEL
8	THERMOCOUPLES
9	AIR PORT CLEAN-OUT CAPS
10	STACK SECTIONS (2)
11	TEST PORTS
12	LIQUID CONTROL DAM
⊕	FUEL SERVICE LINE (BY OTHERS)
⊖	ELECTRICAL SERVICE (BY OTHERS)

SCALE: 3/8" = 1' - 0"

DRAWN BY: T.SROFE

DATE: 07/24/98

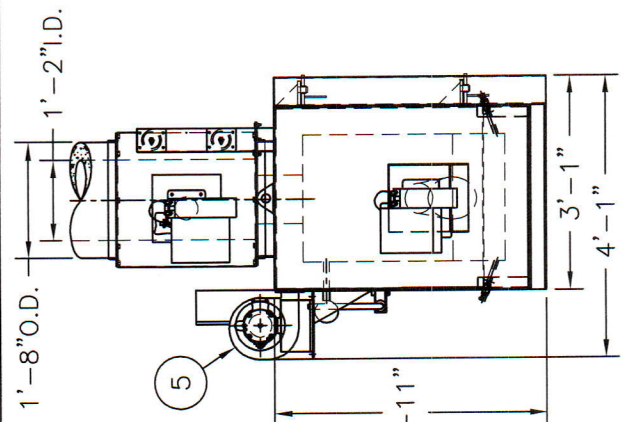
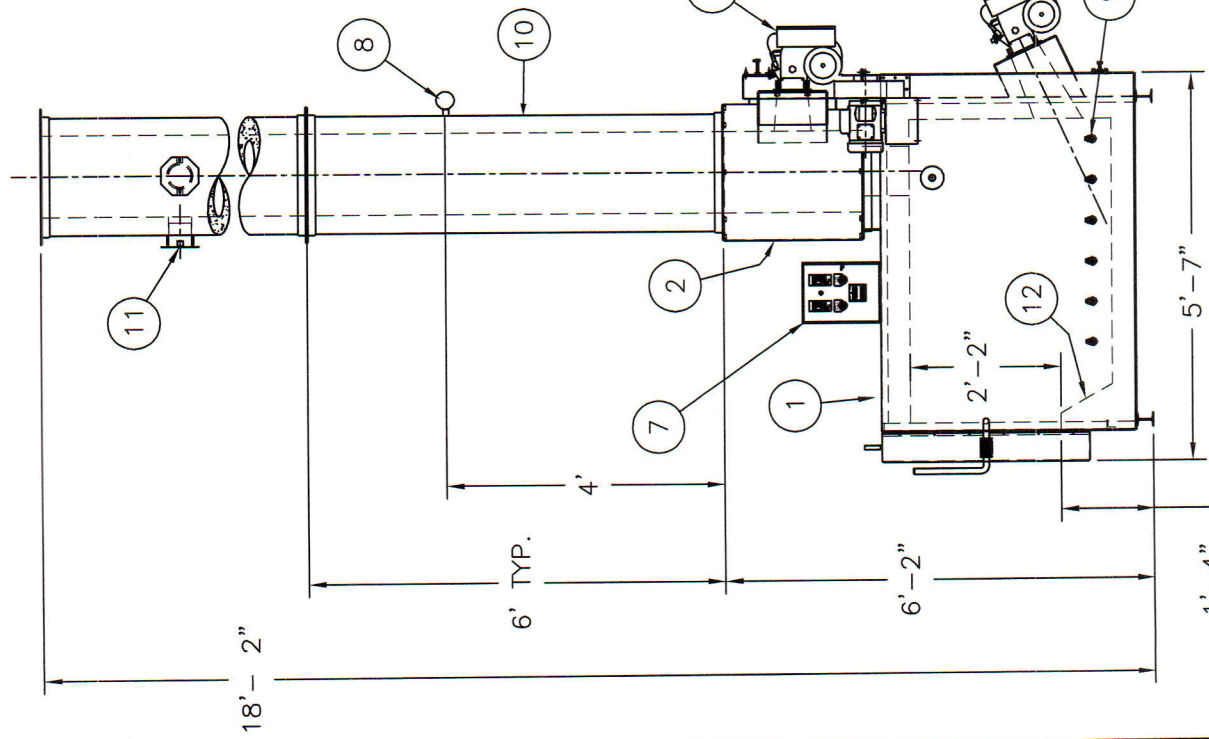
CHECKED BY:

TOLERANCES (EXCEPT AS NOTED): ± 1"

CHANGE: ASG-2147 SHEET 1 OF 2 C

therm-tec
SHERWOOD, OREGON 97140

GENERAL ARRANGEMENT
S-27 ANIMAL CREMATORY

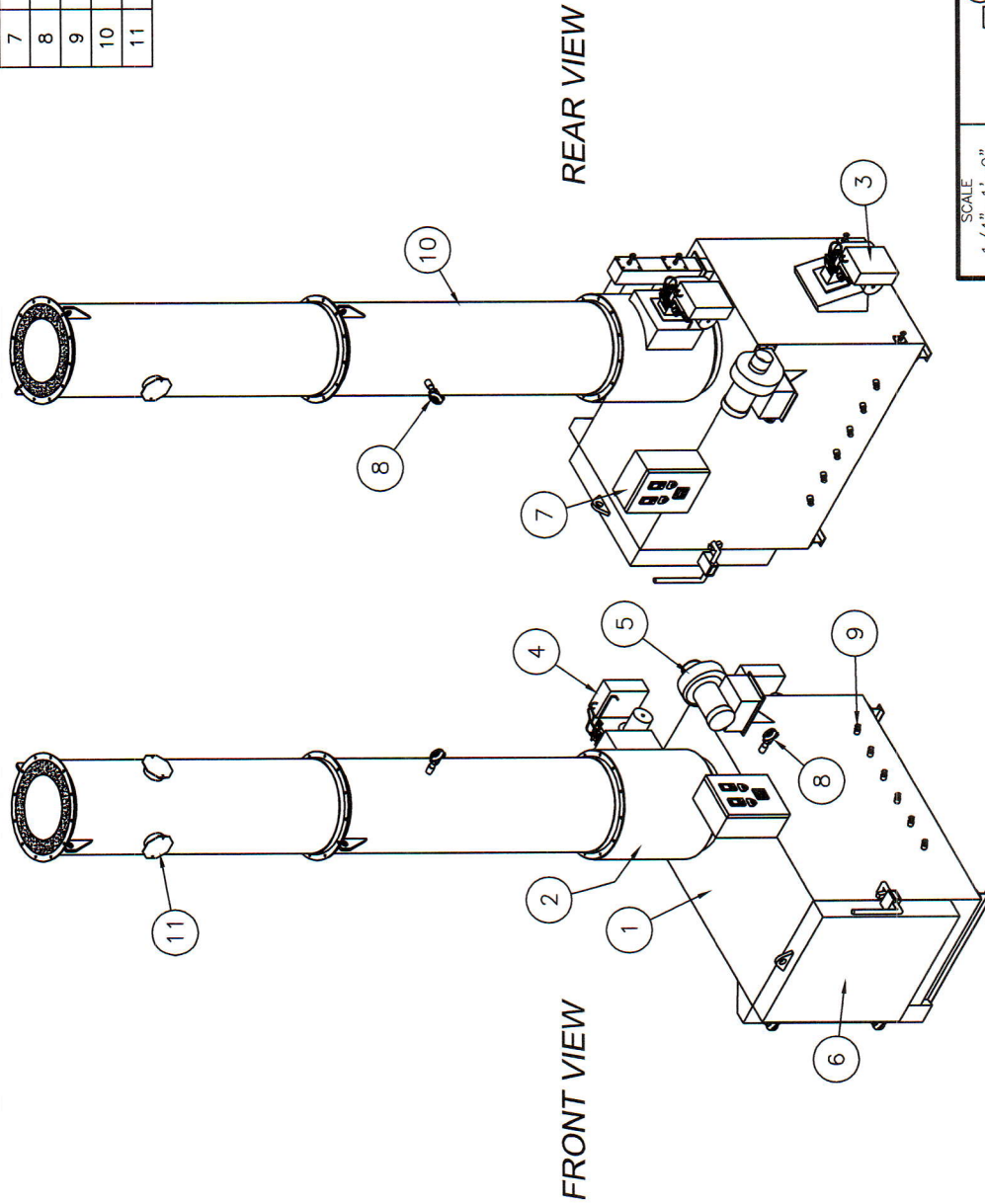


REVISION	DATE	TPS	BY	DESCRIPTION
C	09/05/07			CHANGED TO 20" AFTERBURNER & STACKS

L/C

THIS DOCUMENT DISCLOSES SUBJECT MATTER TO WHICH THERM-TEC, INC., SHERWOOD, OREGON HAS PROPRIETARY RIGHTS AND IS NOT TO BE USED IN ANY WAY WITHOUT CONSENT OF THERM-TEC, INC., SHERWOOD, OREGON.

1	PRIMARY CHAMBER
2	SECONDARY CHAMBER
3	PRIMARY BURNER
4	SECONDARY BURNER
5	COMBUSTION AIR BLOWER
6	LOAD DOOR
7	CONTROL PANEL
8	THERMOCOUPLES
9	AIR PORT CLEAN-OUT CAPS
10	STACK SECTIONS (2)
11	TEST PORTS



SCALE: 1/4" = 1' - 0"

DRAWN BY: T.SROFE

DATE: 07/24/98

CHECKED BY:

TOLERANCES (EXCEPT AS NOTED): ± 1"

1.SROFE 140348 03/24/08

therm-tec
SHERWOOD, OREGON 97140





GENERAL ARRANGEMENT
S-27 ANIMAL CREMATORY

ASG-2147
SHEET 2 OF 2

CHANGE C

REVISION	DATE	TPS	BY	DESCRIPTION	L/C
C	09/05/07			CHANGED TO 20" AFTERBURNER & STACKS	

THIS DOCUMENT DISCLOSES SUBJECT MATTER TO WHICH THERM-TEC, INC., SHERWOOD, OREGON HAS PROPRIETARY RIGHTS AND IS NOT TO BE USED IN ANY WAY WITHOUT CONSENT OF THERM-TEC, INC., SHERWOOD, OREGON.

1	REFUSE CHAMBER
2	CONTROL CELL (AFTERBURNER)
3	REFUSE (PRIMARY) BURNER
4	EMISSION CONTROL (SECONDARY) BURNER
5	TEMPERATURE SENSORS (THERMOCOUPLES)
6	72" STACK SECTIONS
7	UNDERFIRE AIR PORTS (EACH SIDE)
8	PREHEATED COMBUSTION AIR GALLERIES
	BLOWER SUPPLIED COMBUSTION AIR
	GAS OR OIL BURNER FLAME
	FLUE GAS (PRODUCTS OF COMBUSTION)
	FLUE GAS (FINAL DISCHARGE)

REVISION SET BY DATE

DESCRIPTION

SCALE

DATE

1/32"

SCALE: 1/8" = 1'-0"


DESIGNED BY: T.P. SCOTT

DATE: 09/27/06

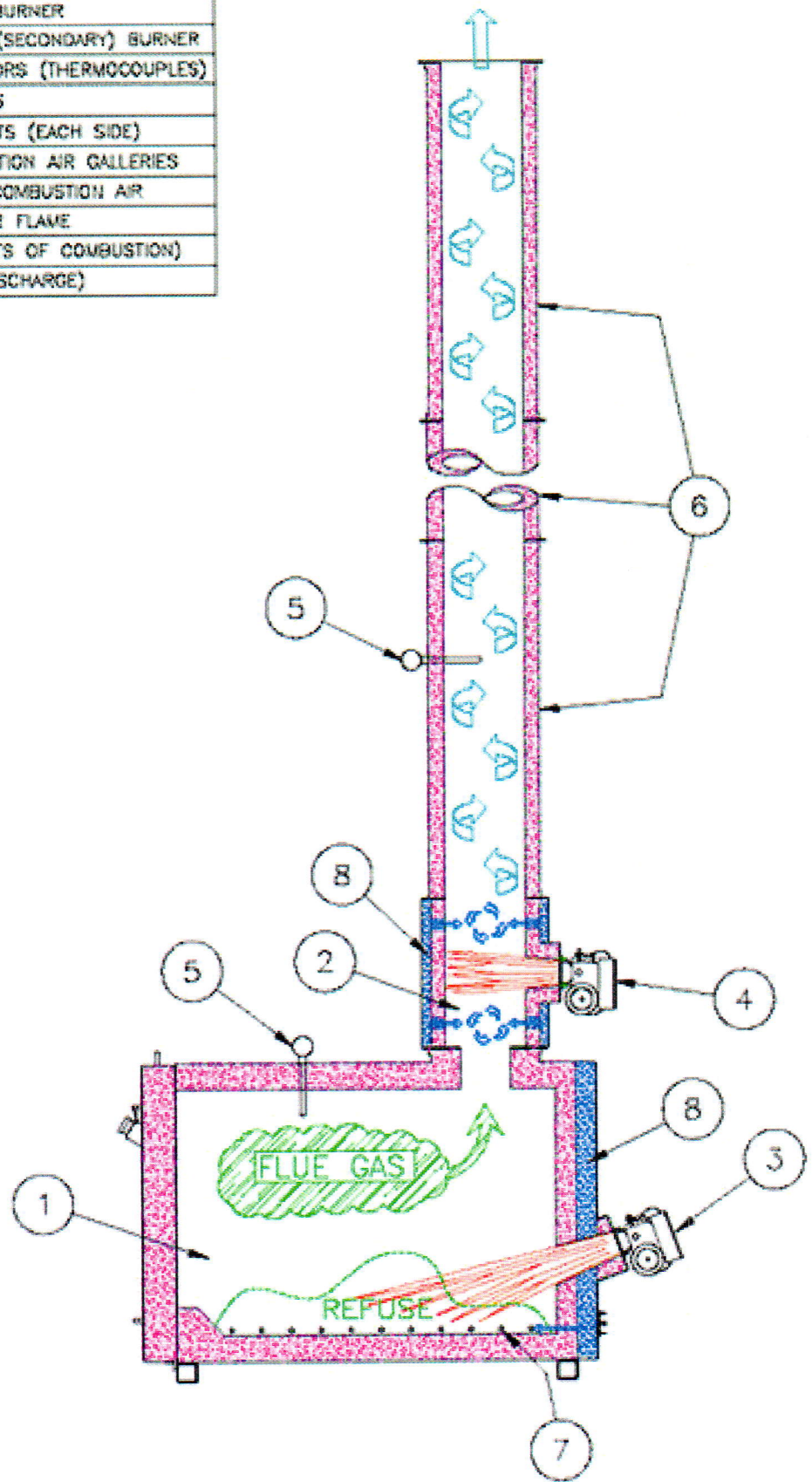
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ASG-2155

PROCESS FLOW DIAGRAM



ETHEMBERG
SOLUTIONS
CORPORATION





Bestech Environmental Resources Inc.
138 Industrial Park Drive
Woodstock, AL. 35188
Phone: (205) 428-0210
Fax: (205) 428-0211

Afterburner System

Therm Tec Model S-27 Afterburner:

The afterburner (control chamber) consist of a vertical combustion chamber setting on top of the primary chamber. The afterburner has two distinct auxiliary combustion air zones, each with six air injectors installed for tangential air injection, creating cyclonic air flow to assure complete mixing of the exhaust gas with the combustion air. The auxiliary combustion air volume is controlled by a modulating air damper based on afterburner temperature.

See flow diagram.

X.

Attachment N. Supporting Emissions Calculations

Attachment N-1

Therm Tec, Inc.

P.O. Box 1105 Tualatin, Oregon 97062
 Phone (503) 625-7575 (800) 292-9163 Fax (53) 625-6161

Calculations Based On Information From Air Pollution Engineering Manual AP-42
 And "FIRE 6.22" Emissions Factors Program From U.S. EPA
 Reference Calculations Provided For : SCC-5-02-001-1
 (Standard Commercial Code Number For Human & Animal Cremation)

Calculations For :

Model Number **S-27** Animal Crematory

Operating Schedule		Throughput			
			Pounds	Tons	
Hrs/Day	8	Lbs/Hr	85	85	0.0425
Days/Yr	260	Hr/Day	8	680	0.34
		Days/Wk	5	3,400	1.7
Hrs/Yr (Avg)	2080	Weeks/Yr	52	176,800	88.4

Days/Year	260
Ton/Year	88.4

Factors are From
 EPA Guidelines

Pollutants
 PM-10 (Particulate)
 SOx Table
 NOx
 VOC Table
 CO

Fire 6.22 Factor (Lbs/ton) Burned
--

	Lbs/Hr	Lbs/Day	Lbs/Year	Tons/Year	
PM-10 (Particulate)	0.20	1.60	415	0.21	*
SOx Table	0.11	0.85	221	0.11	
NOx	0.13	1.02	265	0.13	
VOC Table	0.13	1.02	265	0.13	
CO	0.04	0.34	88	0.04	*
Totals	0.60	4.83	1,255	0.63	

(ACTUAL) From Test Report
0.07
0.10
0.12
0.12
0.01

Total Discharge Using AP-42 - Fire 6.22 Calculation

Total Using ACTUAL Test Reports For PM-10 & CO And EPA Factors
 (About 50% less than calculated at the minimum levels considered by EPA

0.46

Actual Performance As Recorded From Independent Test Laborator

* M-10 (Particulate)	0.07	0.56	145.60	0.07
* CO	0.007	0.06	14.56	0.01

Average acceptable Pollutants per a single category is approximately 25 tons per yea
 (or a total of 125 tons per year from a facility)

Combustion Efficiency : 99.995%

Note : Test Reports Conducted & on file At DEQ For:
 (PM-10 Lower than Fire 6.22 calculation used for the above)

Therm-Tec, Inc.
 20525 SW Cipole Road
 Sherwood, Orgon 97140

Attachment N-1

Therm Tec, Inc.

P.O. Box 1105 Tualatin, Oregon 97062
 Phone (503) 625-7575 (800) 292-9163 Fax (53) 625-6167

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 And "FIRE 6.22" Emissions Factors Program From U.S. EPA
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Calculations For :

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Operating Schedule		Throughput			
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Days/Yr	260	Hr/Day	8	680	0.34
		Days/Wk	5	3,400	1.7
Hrs/Yr (Avg)	2080	Weeks/Yr	52	176,800	88.4

Days/Year	260
Ton/Year	88.4

Factors are From
 EPA Guidelines

Pollutants
 PM-10 (Particulate)
 SOx Table
 NOx
 VOC Table
 CO

Fire 6.22 Factor (Lbs/ton) Burned
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	Lbs/Hr	Lbs/Day	Lbs/Year	Tons/Year
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 (or a total of 125 tons per year from a facility)

Combustion Efficiency : 99.995%

Note : Test Reports Conducted & on file At DEQ For:
 (PM-10 Lower than Fire 6.22 calculation used for the above)

Therm-Tec, Inc.
 20525 SW Cipole Road
 Sherwood, Orgon 97140



Animal Cremation Series

Model S-27

Specifically Designed For :

- Humane Societies
- Animal Control Facilities
- Private Pet Cremation Services
- Veterinary Practices

Capacity

S-27

400 lbs Batch Load Capacity

Easy To Load --- Easy To Operate

16" Load Height

22" x 26" Load Opening

No Visible Emission - No Odors

Meets State And Federal Regulations

No Grease Leakage

Built In Liquid Retention Dam

Built For Long Life

Constructed Of 10 Ga. Steel, Lined With 1" 1,900 Insulation And 3" Heavy Duty Refractory

Pre-piped & Pre-wired And Assembled At Factory

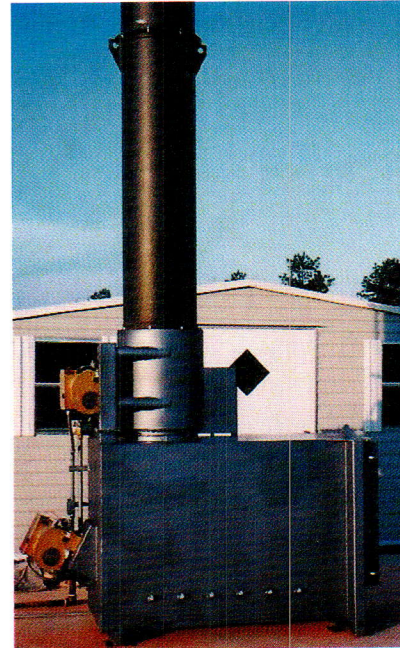
(Stack Sections Installed On Site)

Automatic Temperature Control For Maximum Efficiency

High - Low Control for Secondary Burner

On - Off Control for Primary Burner

Fuel Saving Preheated Air For Primary & Secondary Chambers



CONSTRUCTION		S-27
Dimensions: W x L x H		37"x 82"x73"
Primary Chamber Volume		27.05
Stack Sections, 20" x 6" Flanged		Total 18'
(12 Gauge With 3" 2,300°F Refractory Lining)		
Load Door Lined With Hi-Temp Composite		4"
Load Door / Clean Out Door Size		26" x 22"
Primary Burner Firing Rate		400,000 Avg.
Secondary Burner Firing Rate		450,000 Avg.
Control Panel, NEMA 12, U.L. #508A		Included
Natural Gas Requirements		850 CFH Avg.
Electrical Requirements		115/60/1 30AMP
Paint & Primer, Hi-Temp		800°F To 1,200°F
Weight		8,134 Pounds

Recommended Pad Size: 8'x12'
 Recommended Room or Pad with
 Fence Size: 12'x16'

Distributed by:
 Bestech Environmental Resources, Inc.
 138 Industrial Park Drive
 Woodstock, AL 35188
 Phone: (205) 428-0210 Fax: (205) 428-0211
 www.bestechinc.com – info@bestechinc.com



Attachment N-2

13585 N.E. Whitaker Way • Portland, OR 97230
Phone (503)255-5050 • Fax (503)255-0505
www.horizonengineering.com

Project No. 1730

SOURCE EVALUATION TEST REPORT

**THERM-TEC, INC.
Model S-27 Incinerator Exhaust**

**Particulate and Opacity
Pathological Waste Burning**

January 22 & 23, 2002

Prepared for
Therm-Tec, Inc.
20525 SW Cipole Road
Sherwood, Oregon 97140

by
Michele R. Kinney &
David R. Rossman, P.E.



Expires 12/31/02

Attachment N-2

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APPENDIX

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Attachment N-2

1. CERTIFICATIONS

1.1 Field Technician

I hereby certify that the test detailed in this report, to the best of my knowledge, was accomplished in conformance with applicable rules and good practices. The results submitted herein are accurate and true to the best of my knowledge.

Name: Tim J. Hertel

Signature Tim J Hertel Date 2/25/02

1.2 Report Reviewer

I hereby certify that I have reviewed this report and find it to be true and accurate, and in conformance with applicable rules and good practices, to the best of my knowledge.

Name: David R. Rossman, P.E.

Signature David Rossman Date 2/26/02

Attachment N-2

2. INTRODUCTION

- 2.1 Client:** Therm Tec, Inc.
- 2.2 Physical Location:** 20525 SW Cipole Road
Sherwood, Oregon 97140
- 2.3 Mailing Address:** P.O. Box 1105
Tualatin, Oregon 97062

2.4 Test Log

Test Date	Source Name	Pollutants and Test Methods (EPA <i>unless otherwise specified</i>)
January 22 & 23, 2002	Incinerator Model S-27	Method 5 Particulate Method 10 for CO

2.5 Test Purpose: Testing on the incinerator was for air quality information.

2.6 Background Information: None.

2.7 Participants

Horizon Personnel:

- Tim J. Hertel, Team Leader
- Brian Galvin, Field Technician
- Michael E. Wallace, QA/QC Officer
- David R. Rossman, P.E., Report Review
- Michele R. Kinney, Technical Writer

Test Arranged by and Test Plan Sent to: Dean Robbins, Therm Tec, Inc.

Source Operator: Gary Thorn

3. SUMMARY OF RESULTS

3.1 Table of Results

Table 1

Therm-Tec, Inc. Incinerator Model S-27 Exhaust – Test Results

Test Date: January 22 & 23, 2002

	Units	Run 1	Run 2	Run 3	Average
Start Time		11:53	1437	10:10	
End Time		13:10	16:01	11:54	
Sampling Time	minutes	60	60	60	60
Sampling Results					
Particulate Conc.(Actual)	gr/scfd	0.037	0.027	0.020	0.028
Conc. @ 7% O ₂	gr/scfd	0.046	0.035	0.023	0.035
Rate	lb/hr	0.1	0.06	0.05	0.07
Opacity	%	0	0	0	0
Sample Volume	dscf	40.3	32.2	39.9	37.4
Sample Weight, Total	mg	97.7	55.3	52.1	68.4
Percent Isokinetic	%	104	100	105	104
O ₂	%	9.7	10.5	8.6	9.6
CO ₂	%	7.8	7.0	8.0	7.6
CO Concentration	ppmv	14	0	2	6
Rate	lb/hr	0.02	0.00	0.003	0.007
Source Parameters					
Flow Rate (Actual)	acf/min	1,400	1,070	1,280	1,250
Flow Rate (Standard)	dscf/min	306	252	301	286
Temperature	°F	1,594	1,435	1,446	1,491
Moisture	%	14.2	14.7	15.2	14.4
Process/Production Data					
Fuel – natural gas					
Waste Charge Weight (dogs)	lbs	441----→	Cont. R1	156	
Control Burner Temp.	°F	1,681	1,651	1,640	1,657
Refuse Burner Temp.	°F	1,444	1,681	1,138	1,421

***** HORIZON ENGINEERING *****

3.2 Description of Collected Samples:

Filters: Dark Gray, Light Gray and Spotted Tan
 Impinger Contents: Clear

3.3 Discussion of Errors and Quality Assurance Procedures

This table is taken from a paper entitled "Significance of Errors in Stack Sampling Measurements", by R.T. Shigahara, W.F. Todd and W.S. Smith. It summarizes the maximum error expressed in percent, which may be introduced into the particulate test procedures by equipment or instrument limitations.

Measurement	% Max Error
Stack Temperature T_s	1.4
Meter Temperature T_m	1.0
Stack Gauge Pressure P_s	0.42
Meter Gauge Pressure P_m	0.42
Atmospheric Pressure P_{atm}	0.21
Dry Molecular Weight M_d	0.42
Moisture Content B_{ws} (Absolute)	1.1
Differential Pressure Head ΔP	10.0
Orifice Pressure Differential ΔH	5.0
Pitot Tube Coefficient C_p	2.4
Orifice Meter Coefficient K_m	1.5
Diameter of Probe Nozzle D_n	0.80

QA procedures outlined in the test methods were followed, including equipment specifications and operation, calibrations, sample recovery and handling, calculations and performance tolerances. On-site quality control procedures include pre- and post-test leak checks on trains and pitot systems. If pre-test checks indicate problems, the system is fixed and rechecked before starting testing. If post-test leak checks are not acceptable, the test run is voided and the run is repeated. Thermocouples and readouts are verified in the field to read ambient prior to the start of any readings.

The results of the quantifiable QA checks for the test runs are on the Field Data sheets and are summarized on Table 2a. Table 2b is a compilation of equipment calibration checks.

Table 2a
QA/QC Checks – Manual Sample Train Operations

Acceptable Result	Meter Leak Checks		Pitot System Leak Check	
	Pre-test <0.02 cfm ¹	Post-test <0.02 cfm ¹	Pre-test stable for 15 seconds @ >3 in.	Post-test stable for 15 seconds @ >3 in.
Incinerator Exhaust				
Run 1	0.003	0.004	stable	stable
Run 2	0.010	0.008	stable	stable
Run 3	0.008	0.013	stable	stable

Table 2b
QA/QC Checks – Manual Sampling Equipment Calibrations

Acceptable Results	Meter Calibration		y within 5% last calib.
	y between 0.97 and 1.03	y within 5% last calib.	
	<u>Pre-test</u>	<u>Post-test</u>	
No. 6	1.00669	1.00018	0.7%

Note: y is the ratio of reading of standard meter to test meter

Analyzer system checks performed are noted on the Calibration Field Record sheet, with procedures documented in the QA/QC section in the Appendix. All calibration standards used in the testing were EPA Protocol 1 or traceable to NIST standards. Certificates for the gases are in the Appendix. Tables 2c and 2d summarize the quantifiable QA checks for the continuous emissions monitors.

¹ <0.02 cfm (pre-test at 15 inches Hg vacuum; post-test at vacuum >highest vacuum during test for post-test) or 4% of average sampling rate (whichever is less).

Table 2c
QA/QC Checks – Continuous Analyzers, Daily Checks

	Cal. Error <2% span or <5% span ²	System Bias <5%	Cylinder value, % of span ³	Instrument Span
O₂:				25%
high	0%	--	84%	
mid	0%	0%	46%	
zero	0%	0%	0%	
CO₂:				25%
high	0%	--	87%	
mid	1%	0%	50%	
zero	0%	0%	0%	
CO:				1000 ppmv
high	0%	--	87%	
mid	0%	3%	50%	
zero	0%	0%	0%	
Response Time:		30-seconds		

Table 2d
QA/QC Checks – Continuous Analyzers Individual Run Checks

	O ₂	CO ₂	CO
Zero Drift (<3% span)			
Run 1	0%	0%	0%
Run 2	0%	0%	0%
Run 3	0%	0%	0%
Calibration Drift <3% span			
Mid-Range			
Run 1	--	--	--
Run 2	--	--	--
Run 3	--	--	--

² Calibration Error specifications: 2% for Methods 3A, 6C, and 7E; 5% for Method 25A.

³ Acceptable values for all calibration gases except VOC: High-level=80-100% of span, mid-level=40-60% of span; for VOC calibration gases: high-level=80-90%, mid-level=45-55%, low-level=25-35%.

Attachment N-2

Mid-Range

Run 1	--	--	--
Run 2	--	--	--
Run 3	--	--	--

Mid-Range

Run 1	0%	0%	0%
Run 2	0%	0%	2%
Run 3	0%	0%	0%

High-range

Run 1	--	--	--
Run 2	--	--	0%
Run 3	1%	0%	1%

4. SOURCE DESCRIPTION AND OPERATION**4.1 Process and Control Device Description and Operation:**

The incinerator is a Therm-Tec Model S-27 for pathological waste burning. One batch (burned through Runs 1 and 2) consisted of about 440 pounds of waste (dogs) during the testing. Primary and secondary burners were both fired by natural gas.

The refractory lined stack has an outer diameter of 18 inches and an inner diameter of about 12 inches. Process flow diagrams in the Appendix describe the unit.

4.2 Test Ports: Ports and traverse points are described and diagrammed on the Field Data sheets.

4.2.1 Test Duct Characteristics:

Construction: Steel
 Shape: Circular
 Size: 12 7/16-inch inner diameter
 Orientation: Vertical
 Flow straighteners: None

Attachment N-2

Extension: None

Cyclonic Flow: No Cyclonic flow expected.

Meets EPA M-1 Criteria: Yes

4.3 Operating Parameters: See Production/Process Data section of Appendix.

4.4 Process Startups/Shutdowns or Other Operational Changes During Tests: Process was continuous during testing.

4.5 On-Site Photographs

Figure 1
Sampling Location and Setup



5. SAMPLING AND ANALYTICAL PROCEDURES

5.1 Sampling Procedures

5.1.1 Sampling and Analytical Methods

Testing was conducted in accordance with EPA Methods in Title 40 Code of Federal Regulations Part 60 (40 CFR 60), Appendix A, July 1, 2000.

Flow Rate: EPA Methods 1 and 2 (S-type pitot w/particulate traverses)

Moisture: EPA Method 4 (incorporated w/ M-5)

Particulate: EPA Method 5 (front and back halves)

CO₂ and O₂: EPA Method 3A

CO: EPA Method 10

Opacity: EPA Method 6 (six minutes per test)

5.1.2 Method Modifications or Deviations

None.

5.2 Sampling Train Diagrams

Figure 2
EPA Methods 1, 2, 4, & 5 Particulate Sample Train Diagram

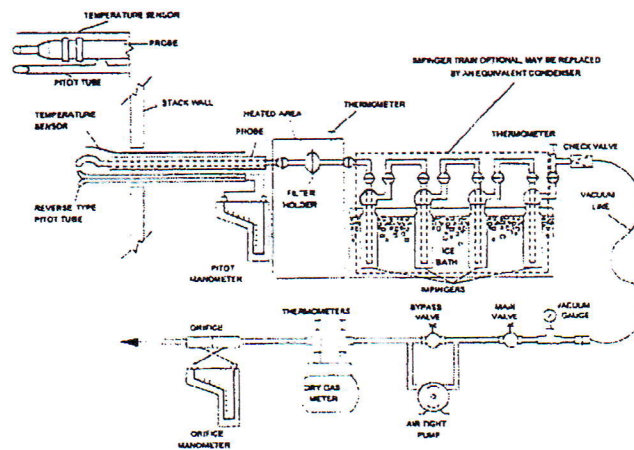
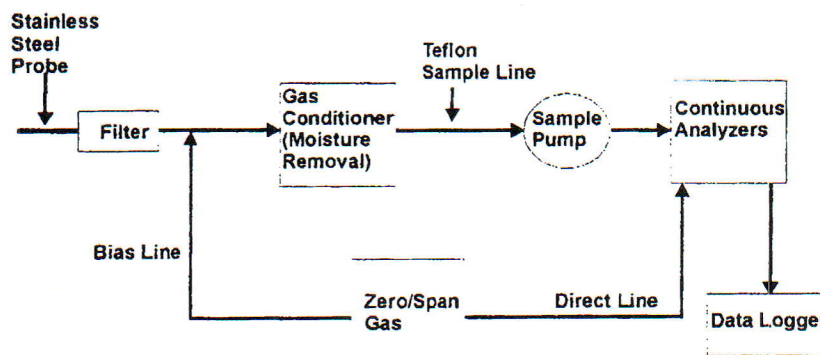


Figure 5-1. Particulate Sampling Train

Attachment N-2

Figure 3
EPA Methods 3A & 10 Analyzer Sample System Diagram



5.3 Horizon Test Equipment

5.3.1 Support Equipment

<u>Equipment Name</u>	<u>Identification</u>
Meter Box	Graseby Model 2010A, Horizon No. 6
Inclined Liquid Manometer	Incorporated with H.E. No. 6
Pitots and Thermocouples	3s-1
Electronic Micromanometer	Shortridge Micromanometer No. 2
Nozzles	Quartz
Barometer	Test Van II

A bare quartz probe with integral nozzle was used for the particulate sampling. A separate pitot was used to check velocity pressure at the sampling points.

5.3.2 Continuous Emissions Monitors and Methods

Gas	Brand	Model	Range	Measurement Method Method	
O ₂	Servomex	1400	0-25%	Paramagnetic	3A
CO ₂	Servomex	1400	0-25%	Chopperless NDIR	3A
CO	Thermo Env	48	0-1000 ppm	Gas Filter Correlation	10

5.3.3 Continuous Emissions Monitors Sampling Setup

Sampling: Above listed gases.
Probe: Stainless
Conditioning: Ice-Cooled Sample Conditioner
Sample Line(s): Teflon, unheated
Pump: Teflon lined
Data Logger: ESC Model 8816

6. DISCUSSION

The results of the testing should be valid in all respects. All quality assurance checks including leak checks, instrument checks, and calibrations, were within method-allowable tolerances.

XI.

Attachment P. Public Notice

AIR QUALITY PERMIT NOTICE Notice of Application

Notice is given that Elk Valley Pet Crematorium, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Construction Permit for a crematory located at 4705 Pennsylvania Avenue, near Charleston, in Kanawha County, West Virginia. The latitude and longitude coordinates are: 38.405685, -81.532363.

The applicant estimates potential to discharge the following Regulated Air Pollutants will be:

CO-0.01TPY

NOx-0.2TPY

PM10-0.1TPY

SO2-0.2TPY

VOCs-0.2TPY

PM-0.2TPY

Startup of operation is planned to begin on or about the 1st day of September, 2016. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1250, during normal business hours.

Dated this the 4 day of July, 2016

By: Elk Valley Pet Crematorium, LLC Elizabeth Smith, Member P.O. Box 12086 Charleston, WV, 25302

XII.

Attachment R. Authority Forms

**Attachment R
AUTHORITY OF CORPORATION
OR OTHER BUSINESS ENTITY (DOMESTIC OR FOREIGN)**

TO: The West Virginia Department of Environmental Protection,
Division of Air Quality

DATE: June 27, 2016

ATTN.: Director

Corporation's / other business entity's Federal Employer I.D. Number 81-2837593

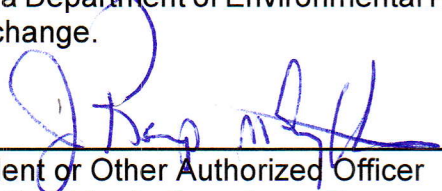
The undersigned hereby files with the West Virginia Department of Environmental Protection, Division of Air Quality, a permit application and hereby certifies that the said name is a trade name which is used in the conduct of an incorporated business or other business entity.

Further, the corporation or the business entity certifies as follows:

(1) James K. McLaughlin + Elizabeth Smith (is/are) the authorized representative(s) and in that capacity may represent the interest of the corporation or the business entity and may obligate and legally bind the corporation or the business entity.

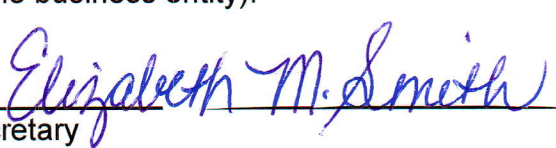
(2) The corporation or the business entity is authorized to do business in the State of West Virginia.

(3) If the corporation or the business entity changes its authorized representative(s), the corporation or the business entity shall notify the Director of the West Virginia Department of Environmental Protection, Division of Air Quality, immediately upon such change.



President or Other Authorized Officer
(Vice President, Secretary, Treasurer or other
official in charge of a principal business function of
the corporation or the business entity)

(If not the President, then the corporation or the business entity must submit certified minutes or bylaws stating legal authority of other authorized officer to bind the corporation or the business entity).



Secretary

Elk Valley Pet Crematorium, LLC

Name of Corporation or business entity