



# **JERSEY INFRARED CONSULTANTS**

P.O. Box 39  
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## **INFRASONIC™ STEAM SURVEY**

*for*

*ABC Company  
123 Main Street  
Anytown, USA*

*February 19, 2013*

*Our Job Number: 13-1479.37*



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February 19, 2013

Mr. Smith  
ABC Company  
123 Main Street  
Anytown, USA

RE: INFRASONIC™ STEAM SYSTEM SURVEY REPORT  
OUR JOB NUMBER: 13-1479.37

Dear Mr. Smith:

Here is our completed report and CD-ROM for the Infrasonic™ Steam System Survey performed at the ABC Company facility located at 123 Main Street, Anytown, USA on February 19, 2013.

Thank you for this opportunity to serve you. If you have any questions or if we can be of further assistance, please feel free to call.

Very truly yours,

RSR  
Level III  
Infraspection Institute Certified Infrared Thermographer

RSR:clt  
Enclosure

## INTRODUCTION TO THE INFRASONIC™ STEAM SYSTEM SURVEY

Infrared thermography is a form of non-contact, non-destructive testing used to detect and document thermal patterns and associated temperatures across a given surface. Performed regularly, infrared inspections can help to identify latent equipment failures.

Our Infrasonic™ Steam System Surveys are performed by Certified Thermographers using both an ultrasonic listening device and a portable infrared imaging system called FLIR ThermaCAM. This equipment detects infrared energy emitted from an object and converts it into an image which is displayed on a monitor screen.

Because infrared energy is a direct and proportional function of temperature, the video image is designed to depict temperature levels on the monitor. This thermal image looks very similar to a black and white television picture where the various shades of gray represent different temperature levels throughout the chosen temperature range. Black corresponds to a lower temperature and white indicates a higher temperature.

Our FLIR ThermaCAM equipment has the capability to sense object temperatures from -10° Celsius to +1500° Celsius, with a sensitivity of as little as 0.07 Celsius degrees.

When an area with an unusual temperature pattern is located, our thermal imager is used to measure the temperature of the problem area.

For steam traps, an ultrasonic listening device is employed to actually listen to each trap operate. By using the information obtained from our readings, we are able to determine if the trap is operating properly and the amount of condensate load the trap is exposed to.

Once the location of a problem area has been noted, a photograph is taken of the image displayed on the FLIR ThermaCAM monitor. These Thermograms, along with a standard photograph and our problem definition, provide you with the necessary information to correct a problem before it becomes serious.

While some of the problems identified in this report may seem insignificant, the ultimate decision to repair them is the customer's responsibility.

February 19, 2013

ABC Company  
123 Main Street  
Anytown, USA

THERMOGRAPHER'S COMMENTS  
OUR JOB NUMBER: 13-1479.37

On February 19, 2013, an Infrasonic™ Steam System Survey was performed at the ABC Company facility located at 123 Main Street, Anytown, USA.

The Survey covered steam traps in the following areas listed on the attached data sheets.

Six (6) problems were located during the Survey, all of which required thermograms. All problems were photographically recorded. These photographs, along with their respective thermograms and a brief description of each problem, appear on the following pages.

It is recommended that the cause of each problem be investigated and that the corrective measures be taken. A follow-up Survey should then be performed once repairs have been made. Infrasonic™ surveys are then recommended at least once a year as part of a preventive maintenance program.

Please note that all inspections are performed with the steam system in an "as found" condition. No attempt is made to verify that the system is under full load at the time of the Infrasonic™ survey.

This report depicts thermal patterns in steam system components at the time of the Infrasonic™ Survey. Assurances regarding the integrity of the steam system are neither provided nor implied.

RSR  
Level III  
Infraspection Institute Certified Infrared Thermographer

RSR:clt

Infrasonic™ is a trademark of Jersey Infrared Consultants

ABC Company

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4	L22S, ANTI Room Ceiling	Steam Trap 3"
5	L22A, ANTI Room Ceiling	Steam Trap 3/4"
6	Roof, Unites	Steam Trap #144

ABC Company  
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Location 1	Location 2	Trap#/Tag ID	Size/Pressure	Trap Type	Mfr. & Model	Pass/Fail	Prob. No.
W09N	Annex Warehouse, Ceiling	N/A	3/4" - 15PSI	FT		No Load	
W09N	Annex Warehouse, Ceiling	N/A	3/4" - 15PSI	FT		Pass	
W09N	Annex Warehouse, Ceiling	3	3/4" - 15PSI	FT		Pass	
W049	Main Warehouse, Ceiling	N/A	3/4" - 15PSI	FT		Pass	
W049	Main Warehouse, Ceiling	N/A	3/4" - 15PSI	FT		No Load	
W049	Main Warehouse, Ceiling	N/A	3/4" - 15PSI	FT		Pass	
W049	Main Warehouse, Ceiling	N/A	3/4" - 15PSI	FT		No Load	
L23W Business	Ceiling	N/A	3/4" - 15PSI	FT		No Load	
L23N Business	Ceiling Top Trap	N/A	3/4" - 15PSI	FT		Pass	
L23N Business	Ceiling	N/A	3/4" - 15PSI	FT		No Load	
L23N Business	Ceiling	N/A	3/4" - 15PSI	FT		No Load	
L23N	Hallway by L23N	N/A	3/4" - 15PSI	FT		No Load	
L23N	Hallway by L23N	14	3/4" - 15PSI	FT		Fail	1
L24N	Machine Shop	12	3/4" - 15PSI	FT		Pass	
L26N	Electronics Shop	N/A	3/4" - 15PSI	FT		Pass	
L26N	Electronics Shop	N/A	3/4" - 15PSI	FT		No Load	
L26N	Electronics Shop	N/A	3/4" - 15PSI	FT		No Load	
L26N	Electronics Shop	N/A	3/4" - 15PSI	FT		No Load	
Rear Entrance	Ceiling	N/A	3/4" - 15PSI	FT		No Load	
Rear Entrance	Ceiling	N/A	3/4" - 15PSI	Term		Pass	
Rear Entrance	Ceiling by Bulletin Board	N/A	3/4" - 15PSI	FT		No Load	

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Location 1	Location 2	Trap#/Tag ID	Size/Pressure	Trap Type	Mfr. & Model	Pass/Fail	Prob. No.
L20N	Cubicle	N/A	3/4" - 15PSI	FT		Pass	
L18N	Hall	15	3/4" - 15PSI	FT		Pass	
L18N	Hall	16	3/4" - 15PSI	FT		No Load	
L16N	Ceiling	N/A	3/4" - 15PSI	FT		Pass	
L13N	Cubicle Ceiling	21	3/4" - 15PSI	FT		Fail	2
L13N	Cubicle Ceiling	22	3/4" - 15PSI	FT		No Load	
L11N	Hallway Ceiling	23	3/4" - 15PSI	FT		Pass	
L11N	Hallway Ceiling	24	3/4" - 15PSI	FT		Pass	
L08N	Hallway Ceiling From L08N	25	3/4" - 15PSI	FT		Pass	
L08N	Hallway Ceiling	26	3/4" - 15PSI	FT		Fail	3
L06N	Hallway Ceiling	27	3/4" - 15PSI	FT		No Load	
L06N	Hallway Ceiling	28	3/4" - 15PSI	FT		No Load	
L01N	Lab Ceiling	36	3/4" - 15PSI	FT		Pass	
L01N	Above PP DEV-2	29	3/4" - 15PSI	FT		Pass	
L01N	Above PP DEV-2	30	3/4" - 15PSI	FT		Pass	
Pilot Plant	Hallway Ceiling	34	3/4" - 15PSI	FT		Fail	
Pilot Plant	Hallway Ceiling, Humidifier	N/A	3/4" - 15PSI	FT		No Load	
Pilot Plant	Hallway Ceiling, Humidifier	N/A	3/4" - 15PSI	FT		No Load	
Pilot Plant	Hallway Ceiling	37	3/4" - 15PSI	FT		Pass	
Pilot Plant	Hallway Ceiling	38	3/4" - 15PSI	FT		No Load	
L35N	Ceiling By L35NA	N/A	3/4" - 15PSI	FT		No Load	

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Location 1	Location 2	Trap#/Tag ID	Size/Pressure	Trap Type	Mfr. & Model	Pass/Fail	Prob. No.
L30N	Hallway Ceiling	18	3/4" - 15PSI	FT		Pass	
L36N	Hazardous Storage Ceiling	39	3"	FT		No Load	
L36N	Hazardous Storage Ceiling	40	3/4" - 15PSI	FT		Pass	
L36N	Hazardous Storage Ceiling	41	3/4" - 15PSI	FT		No Load	
L36N	Hazardous Storage Ceiling	42	3/4" - 15PSI	FT		No Load	
L36N	Hazardous Storage Ceiling	43	3/4" - 15PSI	FT		Pass	
L36N	Hazardous Storage Ceiling	44	3/4" - 15PSI	FT		No Load	
L36N	Hazardous Storage Ceiling	45	3/4" - 15PSI	FT		No Load	
L02N	Metallurgy Lab Ceiling	31	3/4" - 15PSI	FT		Pass	
L02N	Metallurgy Lab Ceiling	32	3/4" - 15PSI	FT		No Load	
L02N	Metallurgy Lab Ceiling	33	3/4" - 15PSI	FT		No Load	
L37N	Dock Ceiling	N/A	3/4" - 15PSI	FT		Pass	
C08S	Kitchen Ceiling	N/A	3/4" - 15PSI	FT		Pass	
C08S	Cafeteria	N/A	3/4" - 15PSI	FT		No Load	
L06S	Tech Station, Not Found	N/A	3/4" - 15PSI	FT		N/A	
L17N	Over L17N Ceiling	N/A	3/4" - 15PSI	FT		No Load	
L14S	Hallway	60	3/4" - 15PSI	FT		No Load	
L14S	Hallway	61	3/4" - 15PSI	FT		N/A	
L07S	Tech Station	65	3/4" - 15PSI	FT		Pass	
L07S	Tech Station	66	3/4" - 15PSI	FT		No Load	
L19S	Boiler Room	AMU #1	3/4" - 15PSI	FT		Pass	



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Location 1	Location 2	Trap#/Tag ID	Size/Pressure	Trap Type	Mfr. & Model	Pass/Fail	Prob. No.
L21S	Board Room	N/A	3/4" - 15PSI	FT		Pass	
L21S	Board Room	N/A	3/4" - 15PSI	TD		No Load	
L21S	Board Room	N/A	3/4" - 15PSI	TD		Pass	
L21S	Board Room Frm Training Rm	N/A	3/4" - FT	DISK		No Load	
L21S	Board Room	N/A	3/4" - FT	FT		Pass	
L21S	Board Room	N/A	3/4" - FT	FT		No Load	
L22S	ANTI Room Ceiling	N/A	3" - FT	FT		Fail	4
L22S	ANTI Room Ceiling	N/A	3/4" - 15PSI	FT		Fail	5
L03S	SEM Lab Ceiling	N/A	3" 15PSI	FT		No Load	
L03S	SEM Lab Ceiling	N/A	3/4" - 15PSI	FT		No Load	
L03S	SEM Lab Ceiling	N/A	3/4" - 15PSI	FT		No Load	
L03S	SEM Lab Ceiling	N/A	3/4" - 15PSI	DISK		Pass	
15SA & B	Training Room	N/A	3/4" - 15PSI	FT		Pass	
15SA & B	Training Room	N/A	3/4" - 15PSI	FT		Pass	
15SA & B	Training Room	N/A	3/4" - 15PSI	FT		No Load	
15SC	Training Room	N/A	3/4" - 15PSI	DISK		No Load	
15SC	Training Room	N/A	3/4" - 15PSI	FT		No Load	
15SA & B	Training Room	#57	3/4" - 15PSI	FT		Pass	
15SA & B	Training Room	N/A	3/4" - 15PSI	FT		No Load	
15SA & B	Training Room	N/A	3/4" - 15PSI	FT		No Load	
L02SA	Heat Exchange Room	N/A	3/4" - 15PSI	FT		Pass	

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<b>Location 1</b>	<b>Location 2</b>	<b>Trap#/Tag ID</b>	<b>Size/Pressure</b>	<b>Trap Type</b>	<b>Mfr. &amp; Model</b>	<b>Pass/Fail</b>	<b>Prob. No.</b>
Roof	Units	135	3/4" - 15PSI	FT		Pass	
Roof	Units	136	3/4" - 15PSI	FT		Pass	
Roof	Units	143	3/4" - 15PSI	FT		Pass	
Roof	Units	144	3/4" - 15PSI	FT		Pass	6
L17S	QA	N/A	3/4" - 15PSI	FT		Pass	
L17S	QA	N/A	3/4" - 15PSI	FT		No Load	
L17S	QA	N/A	3/4" - 15PSI	FT		Pass	
L17S	Hallway Ceiling	N/A	3/4" - 15PSI	FT		Pass	

Area/Picture No. 1 Job No. 13-1479.37 Date 2/19/13

Location L23N Business

Equipment Steam Trap #14

Wind Speed N/A Wind From N/A Sky Indoor

Emiss. 1.00 B/G N/A° Distance 5' Lens 1x

Rated Load N/A Measured Load N/A % Load

Ambient Temp 68°F N/A ° Rise Over N/A

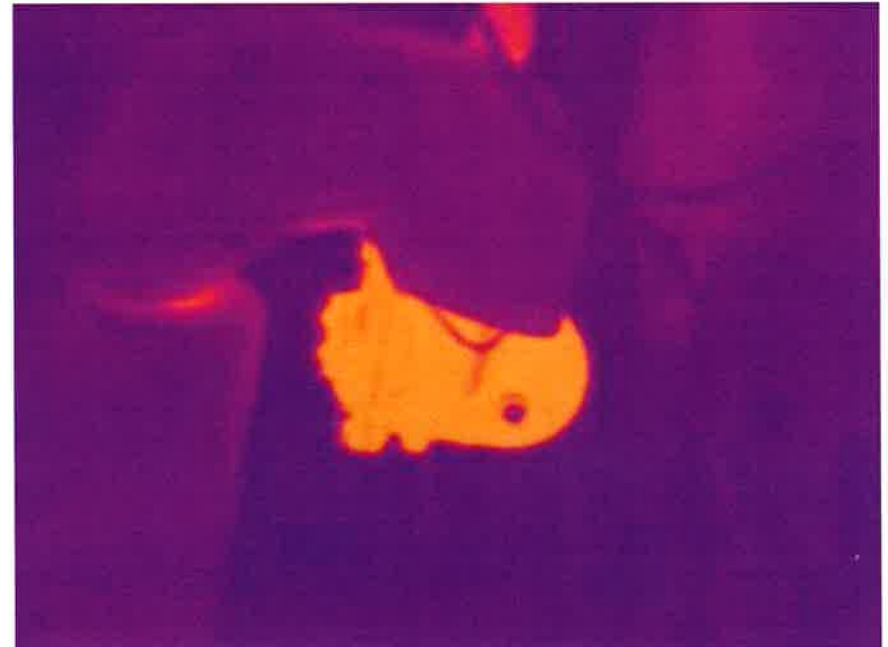
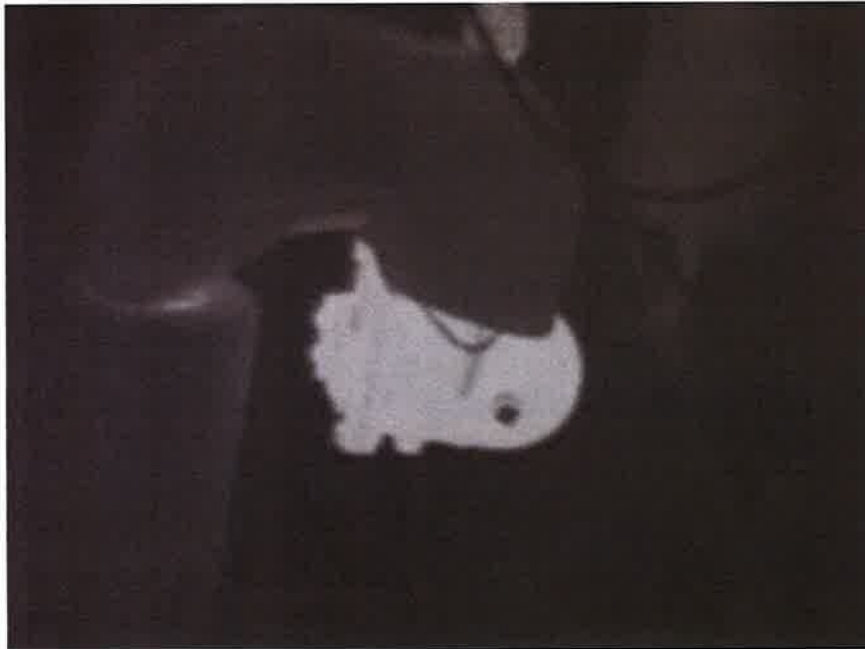
Comments Trap Temperatures:

Inlet	Outlet
216°F	216°F

Note: Ultrasonic unit detected steam passing.

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Repair Check Date ° Rise Over



Area/Picture No. 2 Job No. 13-1479.37 Date 2/19/13

Location L13N, Cubicle Ceiling

Equipment Steam Trap #21

Wind Speed N/A Wind From N/A Sky Indoor

Emiss. 1.00 B/G N/A° Distance 5' Lens 1x

Rated Load N/A Measured Load N/A % Load

Ambient Temp 68°F N/A ° Rise Over N/A

Comments Trap Temperatures:

Inlet	Outlet
216°F	212°F

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Repair Check Date

° Rise Over



Area/Picture No. 3 Job No. 13-1479.37 Date 2/19/13

Location L08N, Hallway Ceiling

Equipment Steam Trap #26

Wind Speed N/A Wind From N/A Sky Indoor

Emiss. 1.00 B/G N/A° Distance 5' Lens 1x

Rated Load N/A Measured Load N/A % Load

Ambient Temp 68°F N/A ° Rise Over N/A

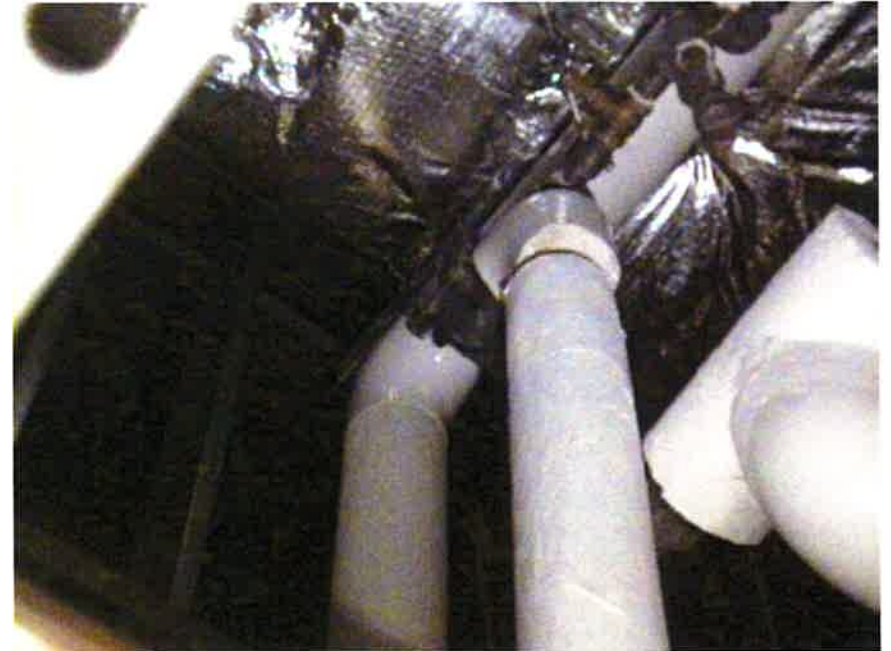
Comments Trap Temperatures:

Inlet	Outlet
221°F	214°F

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Repair Check Date

° Rise Over



Area/Picture No. 4 Job No. 13-1479.37 Date 2/19/13

Location L22S, ANTI Room Ceiling

Equipment Steam Trap 3"

Wind Speed N/A Wind From N/A Sky Indoor

Emiss. 1.00 B/G N/A° Distance 5' Lens 1x

Rated Load N/A Measured Load N/A % Load

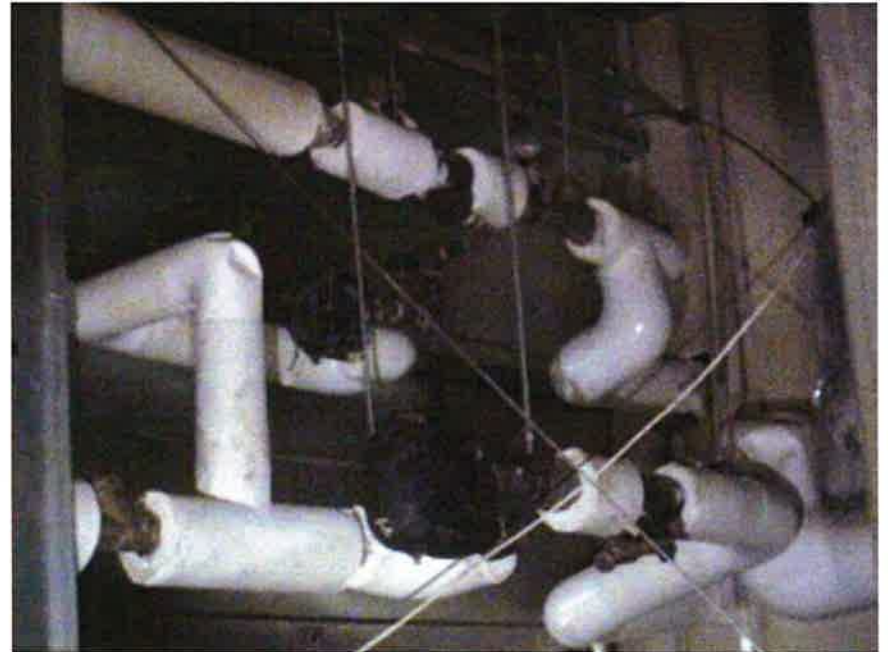
Ambient Temp 69°F N/A ° Rise Over N/A

Comments Trap Temperatures:

Inlet	Outlet
218°F	218°F

---

Repair Check Date ° Rise Over



**Area/Picture No.** 5      **Job No.** 13-1479.37      **Date** 2/19/13

**Location** L22A, ANTI Room Ceiling

**Equipment** Steam Trap 3/4"

**Wind Speed** N/A      **Wind From** N/A      **Sky** Indoor

**Emiss.** 1.00    **B/G** N/A°    **Distance** 5'      **Lens** 1x

**Rated Load** N/A      **Measured Load** N/A      **% Load**

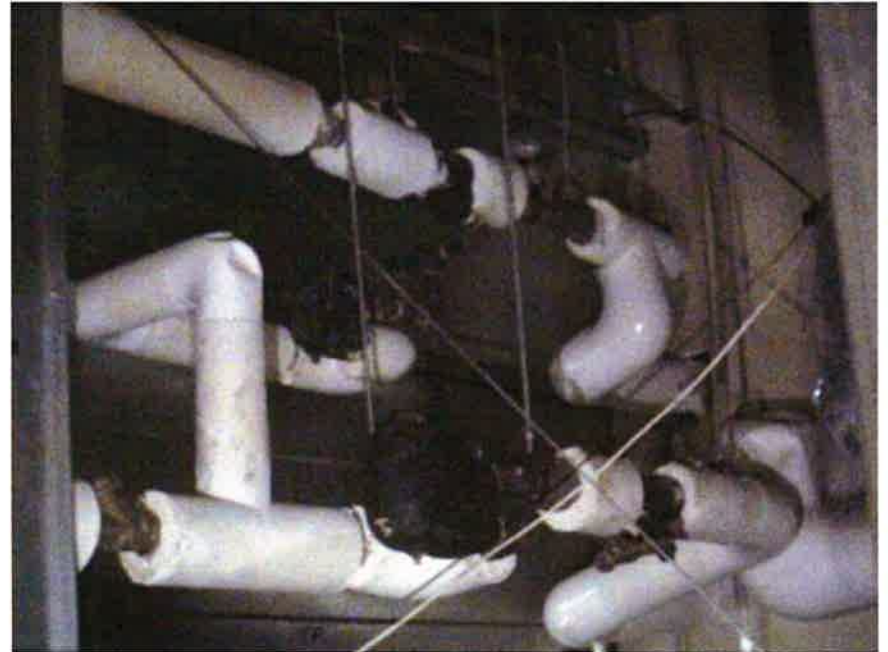
**Ambient Temp** 69°F      **N/A ° Rise Over** N/A

**Comments** Trap Temperatures:

Inlet	Outlet
218°F	211°F

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**Repair Check Date**      **° Rise Over**



Area/Picture No. 6 Job No. 13-1479.37 Date 2/19/13

Location Roof, Units

Equipment Steam Trap #144

Wind Speed N/A Wind From N/A Sky N/A

Emiss. 1.00 B/G N/A° Distance 5' Lens 1x

Rated Load N/A Measured Load N/A % Load

Ambient Temp 48°F N/A ° Rise Over N/A

Comments Trap Temperatures:

Inlet 214°F  
Outlet 212°F

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Repair Check Date ° Rise Over

