JERSEY INFRARED CONSULTANTS

P.O. Box 39
Burlington, NJ 08016
Phone: (609) 386-1281
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INFRASONIC™ STEAM SURVEY

for

ABC Company
123 Main Street
Anytown, USA

Our Job Number: 16-1234.5

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(Date)

Mr. Smith
ABC Company
123 Main Street
Anytown, USA

RE: INFRASONIC™ STEAM SYSTEM SURVEY REPORT
OUR JOB NUMBER: 16-1234.5

Dear Mr. Smith:

Here is our completed report in hard copy and electronic formats for the Infrasonic™ Steam System Survey performed at the ABC Company facility located at 123 Main Street, Anytown USA on (date).

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,

MC
Level III
Infraspection Institute Certified Infrared Thermographer

MC:clt
Enclosure

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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.

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(Date)

ABC Company
123 Main Street
Anytown, USA

THERMOGRAPHER'S COMMENTS
OUR JOB NUMBER: 16-1234.5

On (date), 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.

MC
Level III
Infraspection Institute Certified Infrared Thermographer

MC:clt

ABC Company
Our Job Number: 16-1234.5
(Date)

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	

ABC Company
Our Job Number: 16-1234.5
(Date)

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	

Area/Picture No. 1 **Job No.** 16-2801.14R **Date** 2/1/16

Location Sub-Basement, West Fan Room

Equipment Fan 128, Trap 115

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

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

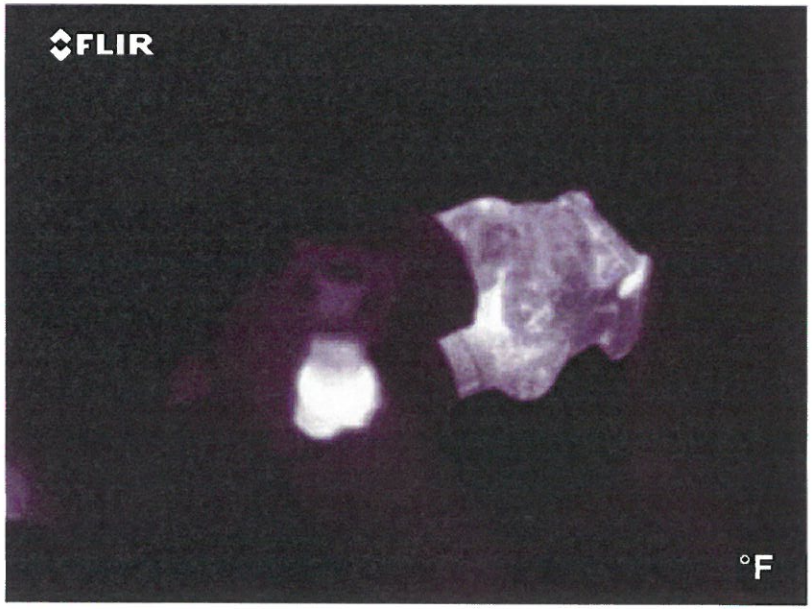
Rated Load N/A **Measured Load** N/A **% Load**

Ambient Temp 78°F N/A **° Rise Over** N/A

Comments Ultrasonic unit detected trap not closing.

Inlet: 227°F
Outlet: 226°F

Repair Check Date **° Rise Over**



Area/Picture No. 1F **Job No.** 16-2801.15 **Date** 4/15/16

Location Sub-Basement, West Fan Room

Equipment Fan 128, Trap 115

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

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

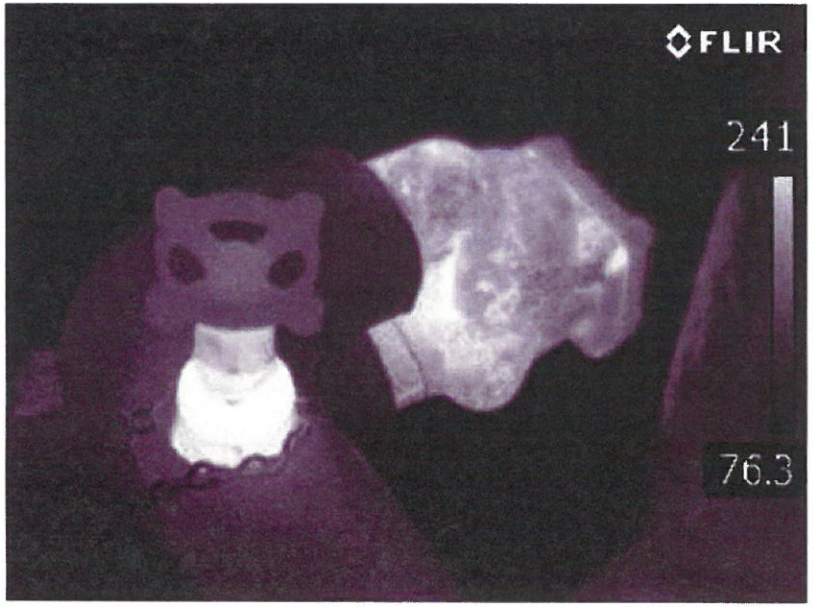
Rated Load N/A **Measured Load** N/A **% Load**

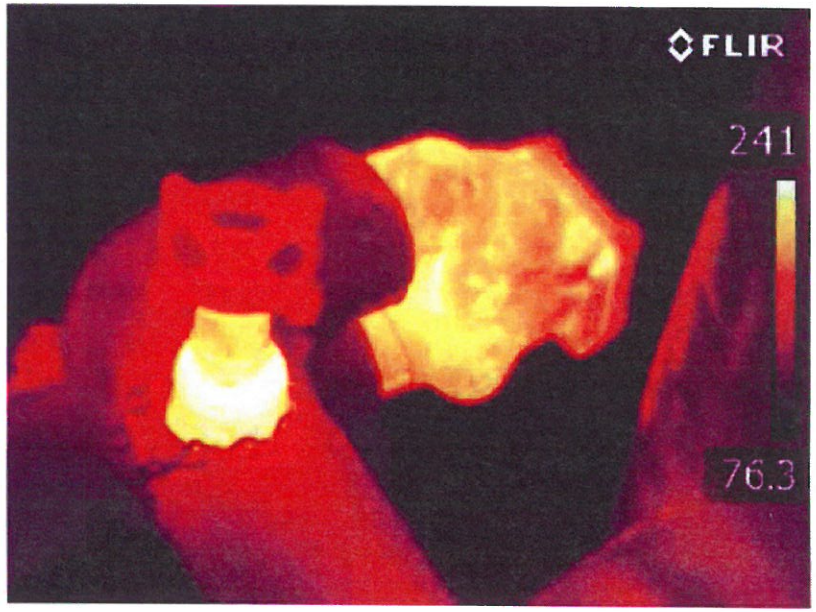
Ambient Temp 78°F N/A **° Rise Over** N/A

Comments Ultrasonic unit confirmed the trap is opening and closing normally.

Inlet: 216°F
Outlet: 214°F

Repair Check Date 4/15/2016 **° Rise Over**





Area/Picture No. 3 **Job No.** 16-2801.14R **Date** 2/3/16

Location 8th Floor, MER

Equipment Fan 132B, Trap 063

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 N/A N/A **° Rise Over** N/A

Comments Leaking Trap

Repair Check Date **° Rise Over**

Area/Picture No. 3F **Job No.** 16-2801.15 **Date** 4/15/16

Location 8th Floor, MER

Equipment Fan 132B, Trap 063

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

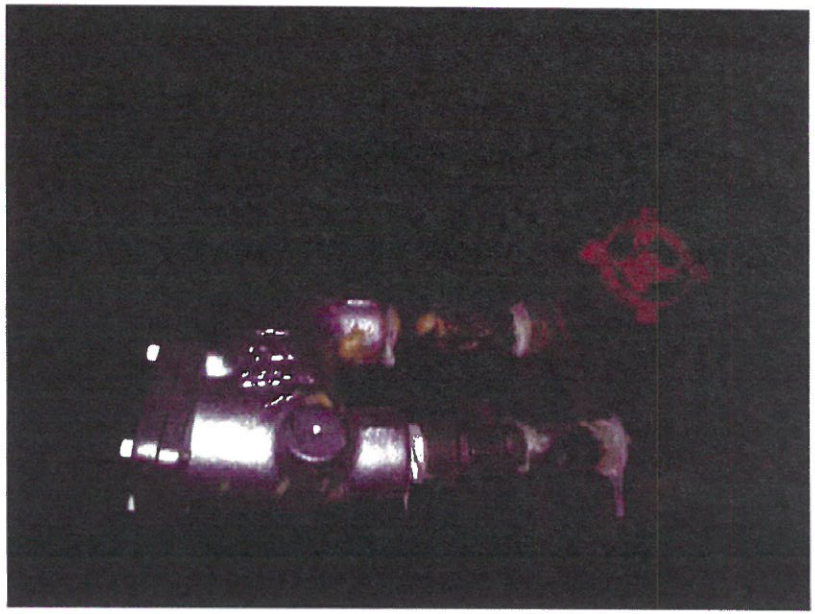
Emiss. 1.00 **B/G** N/A° **Distance** 5' **Lens** 1x

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

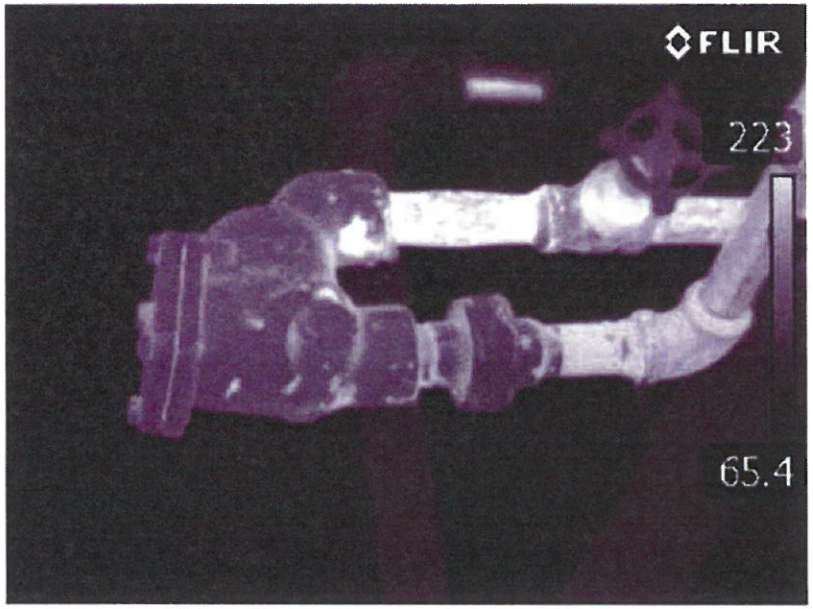
Ambient Temp N/A N/A **° Rise Over** N/A

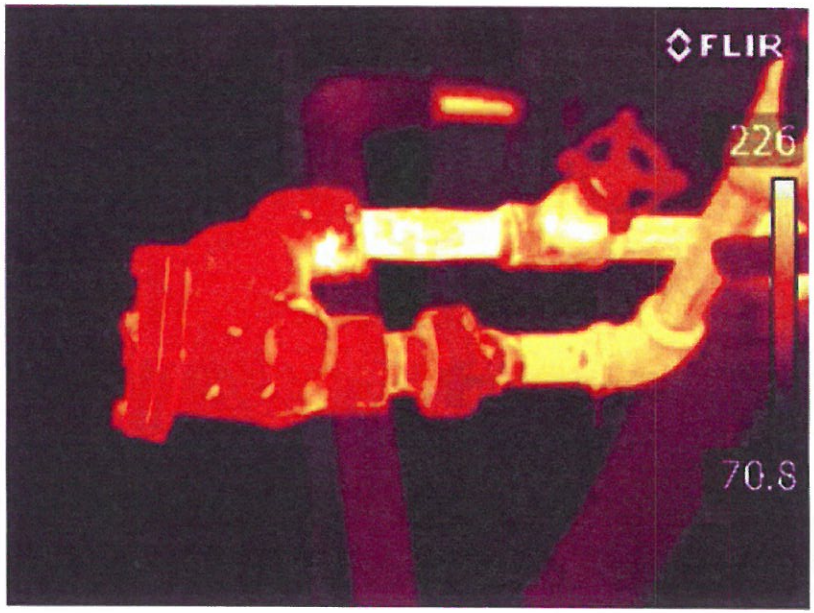
Comments Ultrasonic unit confirmed the trap is opening and closing properly and the leak is repaired.

Inlet: 225°F
Outlet: 219°F



Repair Check Date 4/15/2016 **° Rise Over**





Area/Picture No. 4 **Job No.** 16-2801.14R **Date** 2/3/16

Location 8th Floor, MER

Equipment Valve at 045 Trap

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

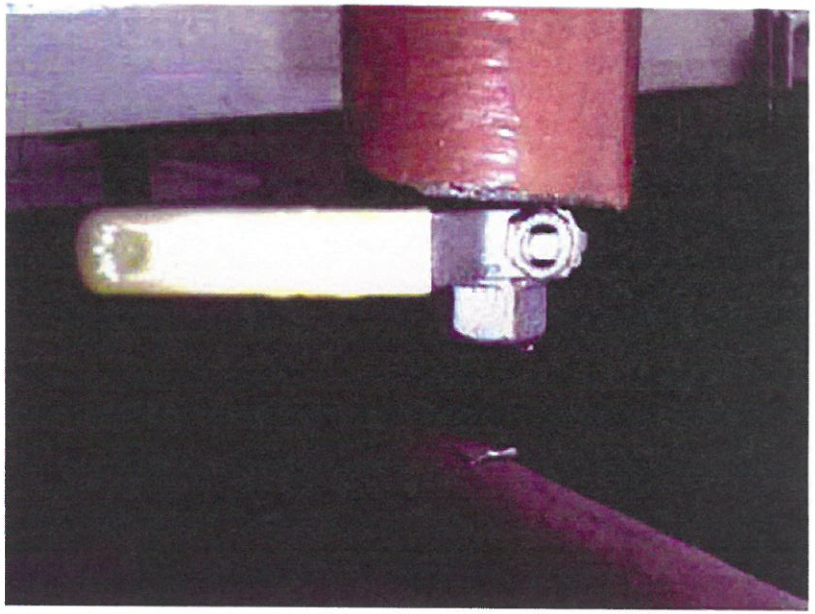
Emiss. 1.00 **B/G** N/A° **Distance** 5' **Lens** 1x

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

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

Comments Valve leaking while closed.

Repair Check Date **° Rise Over**



Area/Picture No. 4F **Job No.** 16-2801.15 **Date** 4/15/16

Location 8th Floor, MER

Equipment Valve at 045 Trap

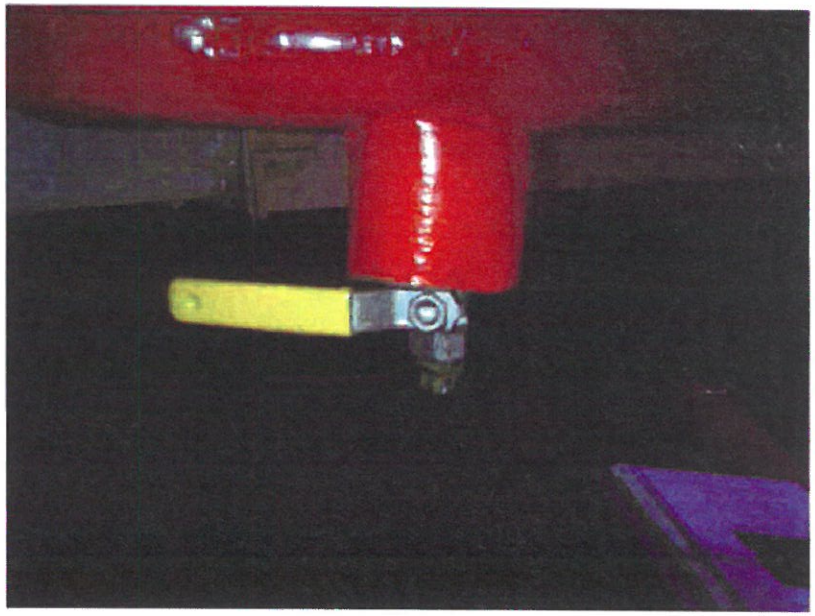
Wind Speed N/A **Wind From** N/A **Sky** Indoor

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

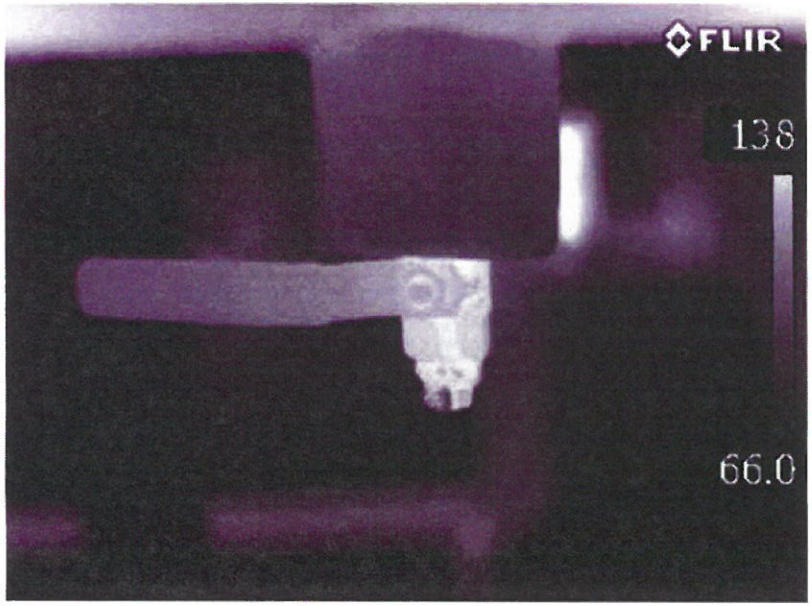
Rated Load N/A **Measured Load** N/A **% Load**

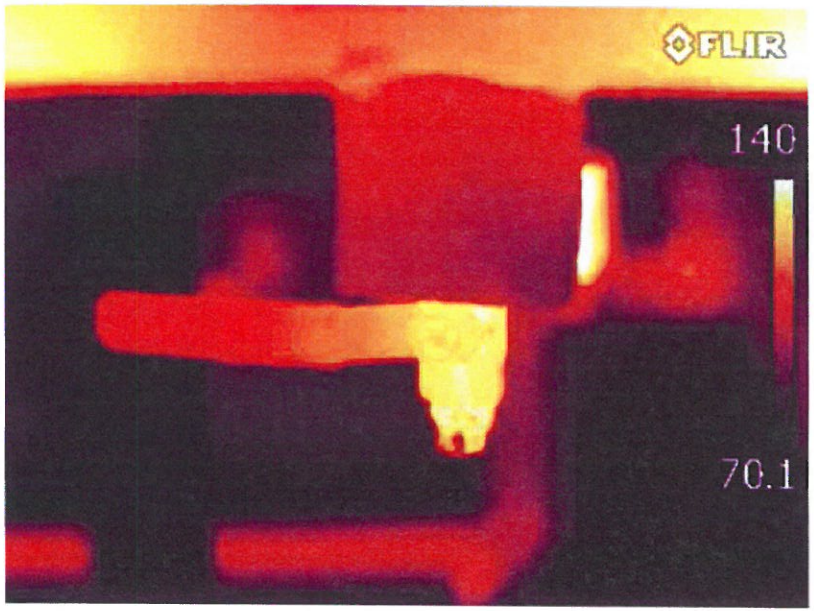
Ambient Temp N/A N/A **° Rise Over** N/A

Comments A plug has been installed and no leak was occurring at the time of the Survey.



Repair Check Date 4/15/2016 **° Rise Over**





Area/Picture No. 5 **Job No.** 16-2801.14R **Date** 2/3/16

Location 8th Floor, MER

Equipment LP Main Drip 2, Trap 077

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

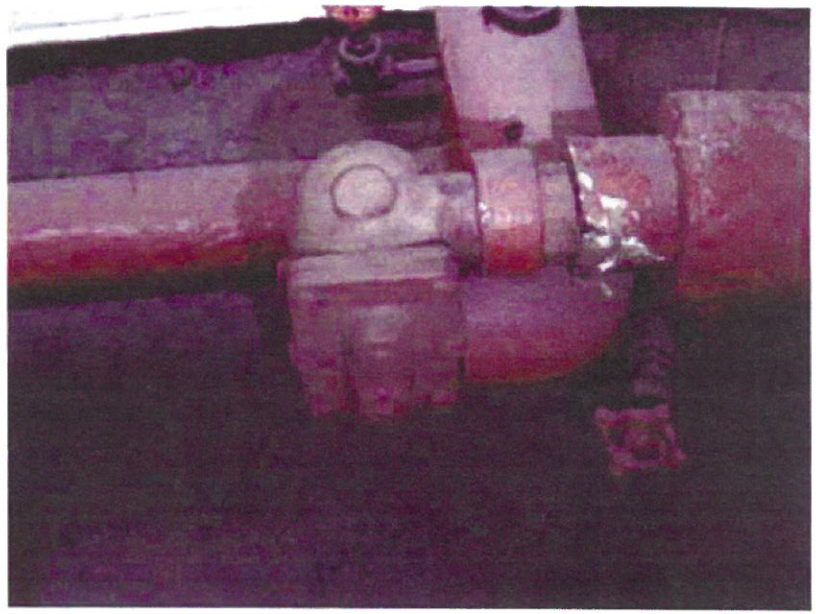
Emiss. 1.00 **B/G** N/A° **Distance** 5' **Lens** 1x

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

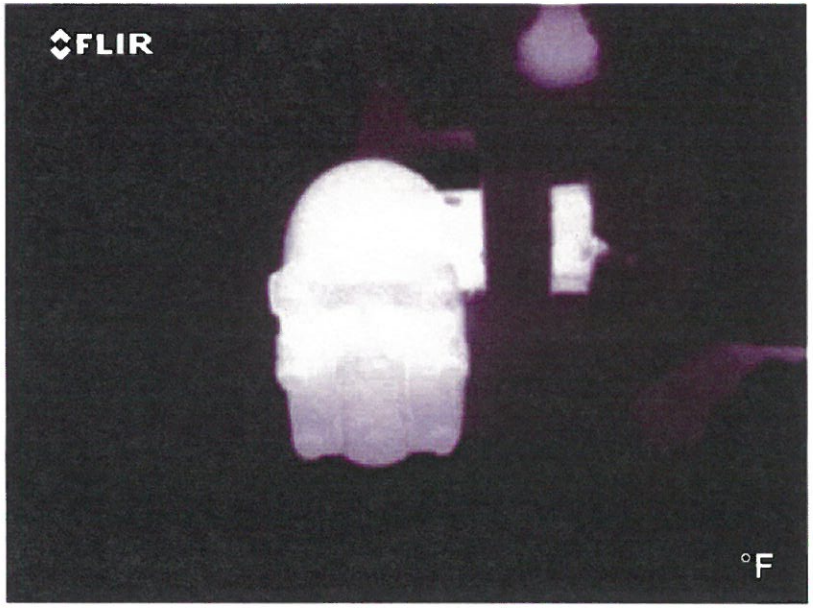
Ambient Temp 81°F N/A **° Rise Over** N/A

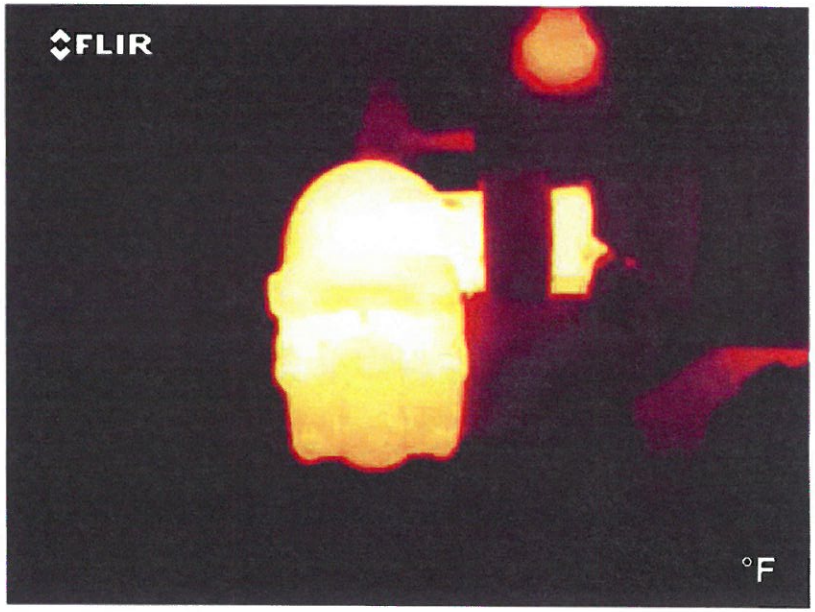
Comments Ultrasonic unit detected trap not closing:

Inlet: 228°F
Outlet: 215°F



Repair Check Date **° Rise Over**





Area/Picture No. 5F **Job No.** 16-2801.15 **Date** 4/15/16

Location 8th Floor, MER

Equipment LP Main Drip 2, Trap 077

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

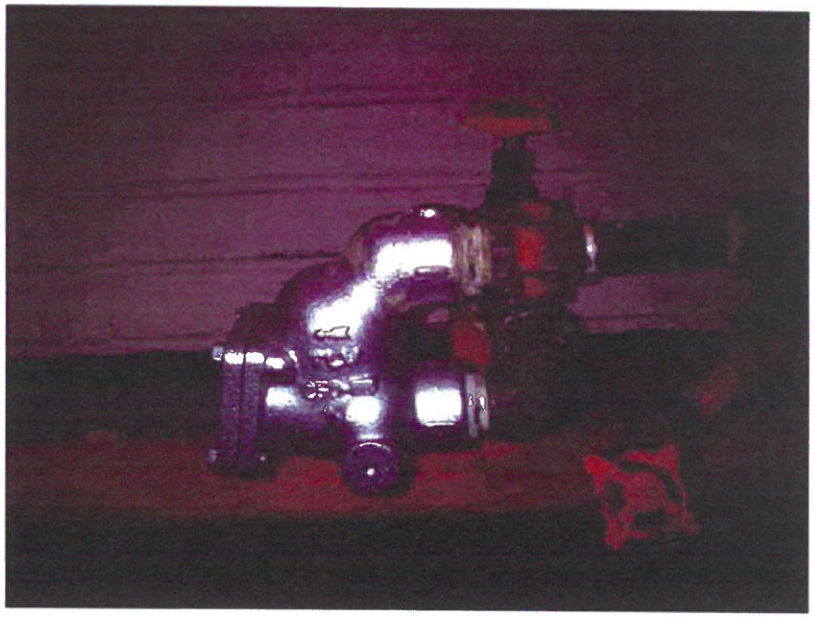
Emiss. 1.00 **B/G** N/A° **Distance** 5' **Lens** 1x

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

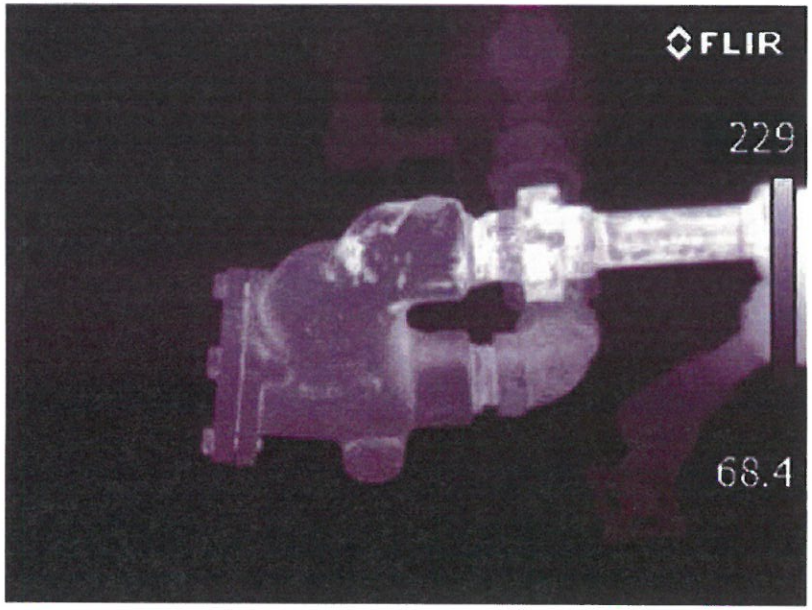
Ambient Temp 81°F N/A **° Rise Over** N/A

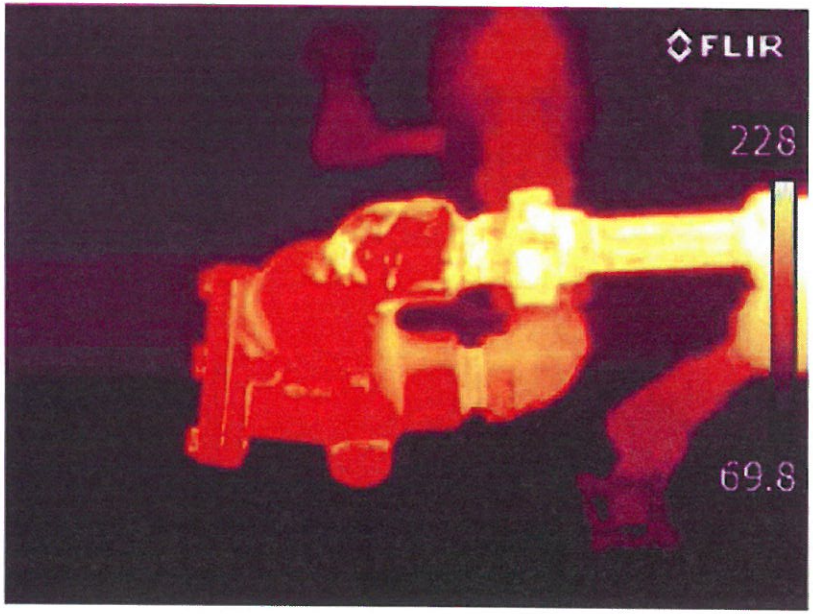
Comments Trap has been replaced. Ultrasonic unit confirmed the trap is opening and closing normally.

Inlet: 228°F
Outlet: 215°F



Repair Check Date 4/15/2016 **° Rise Over**





Area/Picture No. 7 **Job No.** 16-2801.14 **Date** 2/2/16

Location Sub-Basement, East Fan Room

Equipment Fan 119, Trap 138

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

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

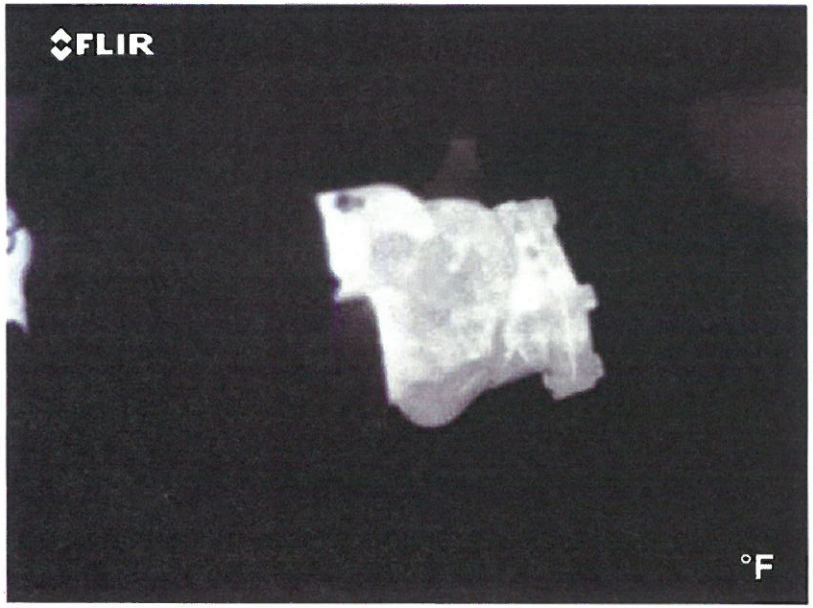
Rated Load N/A **Measured Load** N/A **% Load**

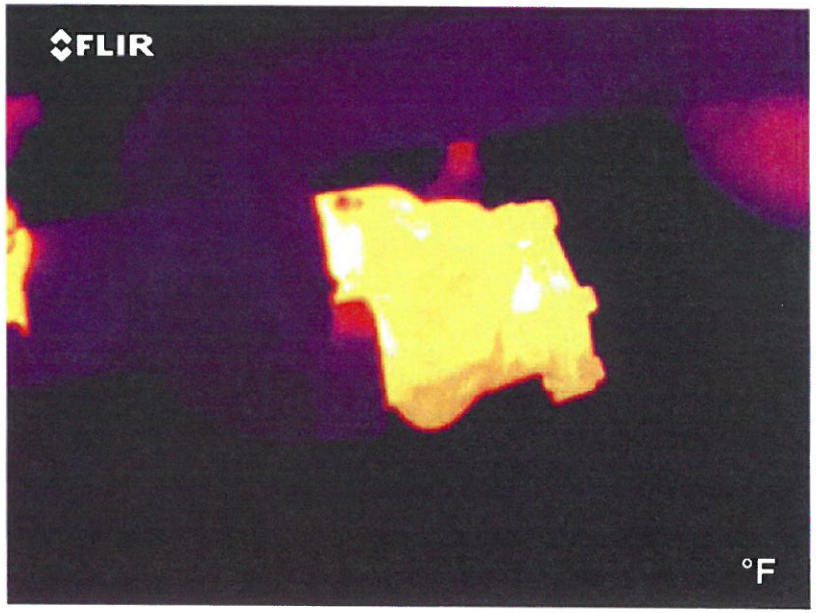
Ambient Temp 77°F N/A ° **Rise Over** N/A

Comments Ultrasonic unit detected trap not closing.

Inlet: 235°F
Outlet: 228°F

Repair Check Date **° Rise Over**





Area/Picture No. 9 **Job No.** 16-2801.14 **Date** 2/3/16

Location 8th Floor, MER

Equipment Fan 132B, Trap 063

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

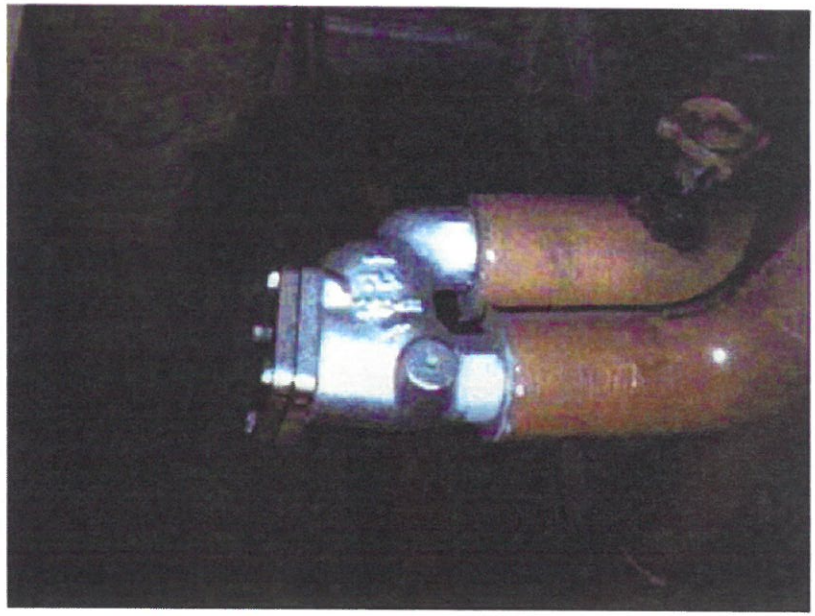
Emiss. 1.00 **B/G** N/A° **Distance** 5' **Lens** 1x

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

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

Comments Leaking Trap

Repair Check Date **° Rise Over**



Area/Picture No. 10 **Job No.** 16-2801.14 **Date** 2/3/16

Location 8th Floor, MER

Equipment Valve at 045 Trap

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

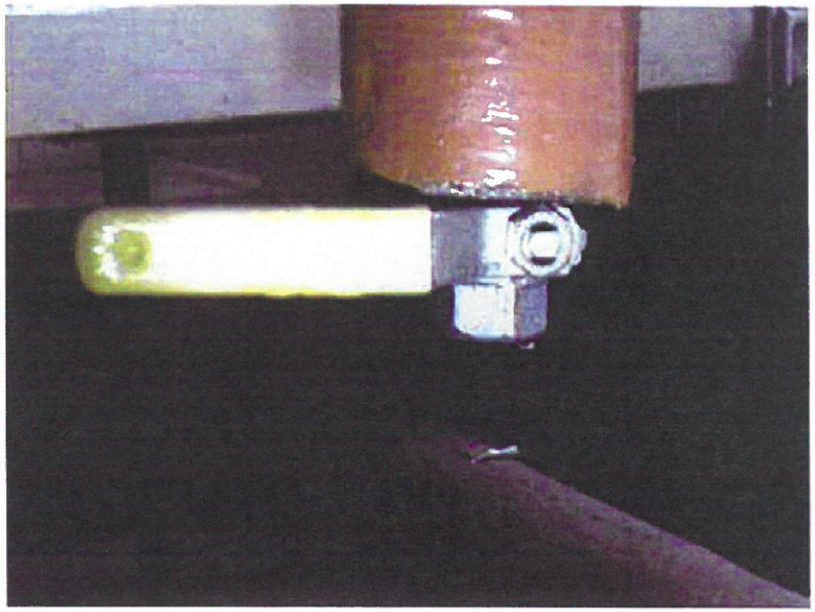
Emiss. 1.00 **B/G** N/A° **Distance** 5' **Lens** 1x

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

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

Comments Valve leaking while closed.

Repair Check Date **° Rise Over**



Area/Picture No. 11 **Job No.** 16-2801.14 **Date** 2/3/16

Location 8th Floor, MER

Equipment LP Main Drip 2, Trap 077

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

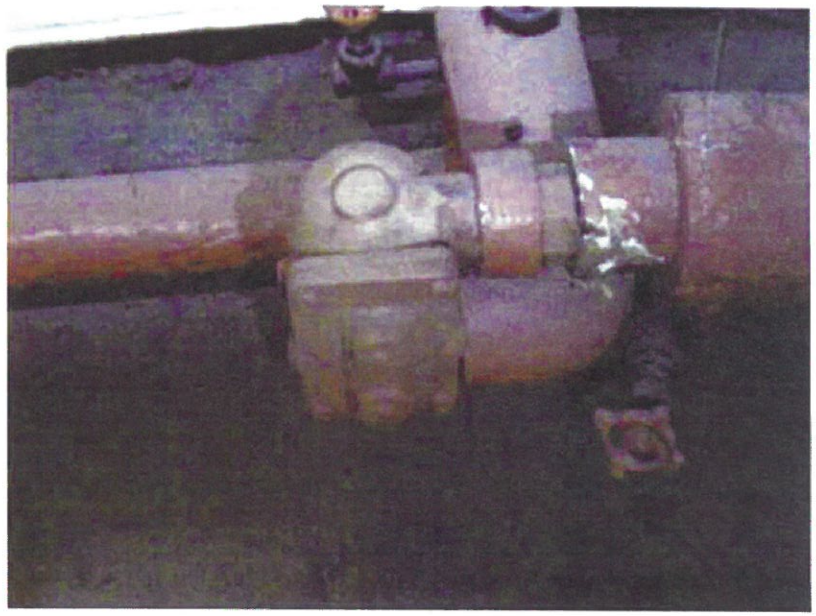
Emiss. 1.00 **B/G** N/A° **Distance** 5' **Lens** 1x

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

Ambient Temp 81°F N/A **° Rise Over** N/A

Comments Ultrasonic unit detected trap not closing.

Intake: 228°F
Output: 215°F



Repair Check Date **° Rise Over**