



5309 Mohican Rd., Bethesda, Md. 20816 301-320-2870

## STEAM TRAP INSPECTION

**CLIENT:** Major Widgets

**ADDRESS:** 100 Industrial Lane  
**Westtown, Maryland 30025**

**DATE:** October 5, 1999

**SUBJECT:** Steam Trap Survey of Fabrication Facility



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Mid Atlantic Infrared Services Steam Trap Surveys are conducted using both Ultrasound and Temperature tests.

Our proprietary trap database contains physical and operating data on thousands of trap. This data permits us to estimate steam losses due to blowing traps.

Our survey process will produce a comprehensive trap inventory, attach an ID tag to every trap surveyed, and provide complete documentation of all findings and recommendations.

Our reports consist of a collection of data tables that are completely customizable for each project.

All data may be provided on electronic media in all popular spread sheet, word processor or data base formats.

Importantly, our surveys will find not only trap deficiencies, but system design deficiencies as well.

## TRAP INVENTORY REPORT

| TrapID | Room   | Location                       | TrapType             | TrapUse        | TrapBrand   | TrapModel | TrapSize | MaxPressure |
|--------|--------|--------------------------------|----------------------|----------------|-------------|-----------|----------|-------------|
| 1      | P1 MER | MN STEAM ENTRY,4'              | Bucket               | Drip Leg       | Sarco       | B1H 125   | 0.75     | 125         |
| 2      | P1 MER | MN STEAM ENTRY,4'              | Bucket               | Drip Leg       | Sarco       | B1H 125   | 0.75     | 125         |
| 3      | P1 MER | MN STEAM ENTRY,4'              | Bucket               | Drip Leg       | Sarco       | B1H 125   | 0.75     | 125         |
| 4      | P1 MER | above dom water pump - 8'      | Float & Thermostatic | Drip Leg       | Sarco       | FT15      | 1        | 15          |
| 5      | P1 MER | above Culligan Tanks - 8'      | Float & Thermostatic | Flash Tank     | Sarco       | FTB125    | 2.5      | 125         |
| 6      | P1 MER | above Culligan Tanks - 8'      | Float & Thermostatic | Flash Tank     | Sarco       | FTB125    | 2.5      | 125         |
| 7      | P1 MER | below A/H IVI - 4'             | Float & Thermostatic | Drip Leg       | Sarco       | FT15      | 0.75     | 15          |
| 8      | P1 MER | MN STEAM ENTRY,4'              | Bucket               | Drip Leg       | Armstrong   | 800       | 0.75     | 20          |
| 9      | PH A   | Hot water conv at exh fans-2'  | Float & Thermostatic | Heat Exchanger | Sarco       | FT15      | 1        | 15          |
| 10     | PH A   | Hot water conv by stm sta - 4' | Float & Thermostatic | Heat Exchanger | Dunham Bush | 40-215A   | 0.75     | 15          |
| 11     | PH A   | Hot water conv by stm sta - 4' | Float & Thermostatic | Heat Exchanger | Dunham Bush | 40-215A   | 0.75     | 15          |
| 12     | PH A   | Hot water conv by stm sta - 4' | Float & Thermostatic | Heat Exchanger | Dunham Bush | 40-215A   | 0.75     | 15          |
| 13     | PH A   | High pressure drip - floor     | Bucket               | Steam Station  | Sarco       | B1H 125   | 0.75     | 125         |
| 14     | PH A   | High pressure drip - floor     | Float & Thermostatic | Flash Tank     | Dunham Bush | 40-215A   | 0.75     | 15          |
| 15     | PH A   | High pressure drip - floor     | Float & Thermostatic | Flash Tank     | Dunham Bush | 40-215A   | 0.75     | 15          |
| 16     | PH A   | High pressure drip - floor     | Float & Thermostatic | Steam Station  | Dunham Bush | 40-215A   | 0.75     | 15          |
| 17     | PH A   | High pressure drip - floor     | Bucket               | Steam Station  | Dunham Bush | OBS-BSAA  | 0.5      | 175         |
| 18     | PH A   | Hot wtr htr @ stm station,1'   | Float & Thermostatic | Heat Exchanger | Dunham Bush | 40-215A   | 0.75     | 15          |
| 19     | PH A   | Humidifier@AHU5E,1'            | Float & Thermostatic | Drip Leg       | Sarco       | FT15      | 0.75     | 15          |
| 20     | PH A   | drip trap @AHU5E - 8'          | Float & Thermostatic | Drip Leg       | Dunham Bush | 41-215    | 0.75     | 15          |
| 21     | PH A   | drip trap @AHU5E - 8'          | Float & Thermostatic | Humidifier     | Dunham Bush | 41-215    | 0.75     | 15          |
| 22     | PH A   | AHU4E - 8'                     | Float & Thermostatic | Drip Leg       | Dunham Bush | 40-215A   | 0.75     | 15          |
| 23     | PH C/D | HELIPAD HEATER                 | Float & Thermostatic | Drip Leg       | Sarco       | FT15      | 0.75     | 15          |
| 24     | PH C/D | HELIPAD HEATER                 | Float & Thermostatic | Heat Exchanger | Sarco       | FT15      | 1.5      | 15          |
| 25     | PH C/D | HELIPAD HEATER                 | Float & Thermostatic | Heat Exchanger | Sarco       | FT15      | 1.5      | 15          |
| 26     | PH C/D | GEN SW GEAR,7'                 | Float & Thermostatic | Drip Leg       | Hoffman     | 55        | 0.75     | 15          |
| 27     | PH C/D | GEN ROOM - 8'                  | Float & Thermostatic | Unit Heater    | Sarco       | FT15      | 1.5      | 15          |
| 28     | PH C/D | GEN ROOM - 8'                  | Float & Thermostatic | Unit Heater    | Sarco       | FT15      | 1.5      | 15          |
| 29     | PH E   | EXCHANGER@STAT,4'              | Float & Thermostatic | Heat Exchanger | Dunham Bush | 40-215A   | 0.75     | 15          |
| 30     | PH E   | EXCHANGER@STAT,4'              | Float & Thermostatic | Heat Exchanger | Dunham Bush | 40-215A   | 0.75     | 15          |
| 31     | PH E   | EXCHANGER@STAT,4'              | Float & Thermostatic | Heat Exchanger | Dunham Bush | 40-215A   | 0.75     | 15          |
| 32     | PH E   | STEAM STATION                  | Bucket               | Steam Station  | Dunham Bush | OBS-BSAA  | 0.75     | 175         |
| 33     | PH E   | STEAM STATION                  | Float & Thermostatic | Flash Tank     | Dunham Bush | 41-215A   | 0.75     | 15          |

## General Trap Survey Results

| TrapID | Room           | TrapType             | TrapUse        | Inlet Temp | Outlet Temp | Pressure | Operation      | Recommend       |
|--------|----------------|----------------------|----------------|------------|-------------|----------|----------------|-----------------|
| 1      | P1 MECHANINCAL | Bucket               | Drip Leg       | 319        | 218         | 120      | Good           | None            |
| 2      | P1 MECHANINCAL | Bucket               | Drip Leg       | 290        | 221         | 74       | Good           | None            |
| 3      | P1 MECHANINCAL | Bucket               | Drip Leg       | 300        | 176         | 88       | Good           | None            |
| 4      | P1 MECHANINCAL | Float & Thermostatic | Drip Leg       | 215        | 186         | 8        | Good           | None            |
| 5      | P1 MECHANINCAL | Float & Thermostatic | Flash Tank     | 228        | 187         | 15       | Good           | None            |
| 6      | P1 MECHANINCAL | Float & Thermostatic | Flash Tank     | 221        | 191         | 11       | Blowing        | Service/Replace |
| 7      | P1 MECHANINCAL | Float & Thermostatic | Drip Leg       | 215        | 192         | 8        | Good           | None            |
| 8      | P1 MECHANINCAL | Bucket               | Drip Leg       | 312        | 235         | 109      | Blowing        | Service/Replace |
| 9      | PH A           | Float & Thermostatic | Heat Exchanger | 157        | 150         | 0        | No Steam       | None            |
| 10     | PH A           | Float & Thermostatic | Heat Exchanger | 117        | 117         | 0        | No Steam       | None            |
| 11     | PH A           | Float & Thermostatic | Heat Exchanger | 117        | 117         | 0        | No Steam       | None            |
| 12     | PH A           | Float & Thermostatic | Heat Exchanger | 117        | 117         | 0        | No Steam       | None            |
| 13     | PH A           | Bucket               | Steam Station  | 304        | 183         | 94       | Good           | None            |
| 14     | PH A           | Float & Thermostatic | Flash Tank     | 222        | 192         | 12       | Good           | None            |
| 15     | PH A           | Float & Thermostatic | Flash Tank     | 161        | 140         | 0        | No Steam       | None            |
| 16     | PH A           | Float & Thermostatic | Steam Station  | 212        | 195         | 7        | Good           | None            |
| 17     | PH A           | Bucket               | Steam Station  | 260        | 197         | 40       | Good           | None            |
| 18     | PH A           | Float & Thermostatic | Heat Exchanger | 209        | 180         | 6        | Good           | None            |
| 19     | PH A           | Float & Thermostatic | Drip Leg       | 80         | 80          | 0        | Out of Service | None            |
| 20     | PH A           | Float & Thermostatic | Drip Leg       | 214        | 187         | 8        | Good           | None            |
| 21     | PH A           | Float & Thermostatic | Humidifier     | 221        | 178         | 11       | Good           | None            |
| 22     | PH A           | Float & Thermostatic | Drip Leg       | 206        | 179         | 5        | Good           | None            |
| 23     | PH C/D         | Float & Thermostatic | Drip Leg       | 211        | 196         | 7        | Good           | None            |
| 24     | PH C/D         | Float & Thermostatic | Heat Exchanger | 80         | 80          | 0        | Out of Service | None            |
| 25     | PH C/D         | Float & Thermostatic | Heat Exchanger | 80         | 80          | 0        | Out of Service | None            |
| 26     | PH C/D         | Float & Thermostatic | Drip Leg       | 210        | 174         | 6        | Good           | None            |
| 27     | PH C/D         | Float & Thermostatic | Unit Heater    | 203        | 178         | 4        | Good           | None            |
| 28     | PH C/D         | Float & Thermostatic | Unit Heater    | 204        | 188         | 4        | Good           | None            |
| 29     | PH E           | Float & Thermostatic | Heat Exchanger | 140        | 140         | 0        | No Steam       | None            |
| 30     | PH E           | Float & Thermostatic | Heat Exchanger | 140        | 140         | 0        | No Steam       | None            |
| 31     | PH E           | Float & Thermostatic | Heat Exchanger | 140        | 140         | 0        | No Steam       | None            |
| 32     | PH E           | Bucket               | Steam Station  | 302        | 212         | 92       | Good           | None            |
| 33     | PH E           | Float & Thermostatic | Flash Tank     | 204        | 178         | 4        | Good           | None            |

### Failed Trap Detail Report

| Building | Room                | TrapID | Location                | TrapType             | TrapBrand   | TrapModel | Operate       | Recommend       | Notes  |
|----------|---------------------|--------|-------------------------|----------------------|-------------|-----------|---------------|-----------------|--|
| NONE     | P1 MECHANICAL       | 8      | MN STEAM ENTRY,4'       | Bucket               | Armstrong   | 800       | Blowing       | Service/Replace | The trap band is unknown. The trap pressure is 40lb on a 125 lb leg. Install a 125 lb trap here.   |
| YELLOW   | INT BETWEEN G&1     | 53     | JC 80 panel             | Bucket               | Sarco       | B1H 125   | Failed Closed | Service/Replace | STRAINER IS GOOD   |
| YELLOW   | INT BETWEEN G&1     | 57     | E11                     | Bucket               | Armstrong   | 800       | Good          | None            | blew down clogged strainer   |
| YELLOW   | Inter space S level | 59     | Col D 11 HW CONV        | Bucket               | Sarco       | B1H 75    | Good          | None            | check pressure rating of trap  |
| YELLOW   | Inter space S level | 63     | Hh/w conv reg           | Orifice              | Flexitallic | DUM-T     | Failed Closed | Service/Replace | blew down trap failed  |
| YELLOW   | Inter space S level | 65     | elevator 5              | Float & Thermostatic | Sarco       | FT15      | Blowing       | Service/Replace | check pressure rating of trap  |
| YELLOW   | Inter space S level | 75     | COL H7                  | Orifice              | Flexitallic | DUM-T     | Failed Closed | Service/Replace | CHECK STRAINER   |
| YELLOW   | Inter space S level | 76     | COL 5G                  | Orifice              | Flexitallic | DUM-T     | Failed Closed | Service/Replace | CHECK STRAINER   |
| GREEN    | S LEVEL             | 79     | COL F19 @WALL           | Float & Thermostatic | Sarco       | FT14-14   | Blowing       | Service/Replace | Check trap sizing.   |
| BLUE     | S1 LEVEL            | 104    | COL D17 @ TELEPHONE PNL | Orifice              | Flexitallic | DUM-T     | Blowing       | Service/Replace | Steam loss is understated. The orifice in this trap is failed and therefore larger than specified. |
| ORANGE   | S1 LEVEL            | 108    | COL J7, ACU12A          | Orifice              | Flexitallic | DUM-T     | Failed Closed | Service/Replace | 15 LB trap needed here. Could not check strainer blowdown.   |
| ORANGE   | S1 LEVEL            | 109    | COL J7, ACU12A          | Orifice              | Flexitallic | DUM-T     | Failed Closed | Service/Replace | 30 LB trap needed here. Could not check strainer blowdown.   |
| GREEN    | S2 LEVEL            | 125    | ACU4B                   | Float & Thermostatic | Sarco       | FT15      | Good          | None            | Bypass steam valve is passing steam when closed. Repair/replace valve.                             |
| GREEN    | S2 LEVEL            | 126    | ACU4B                   | Float & Thermostatic | Sarco       | FT15      | Good          | None            | Bypass steam valve is passing steam when closed. Repair/replace valve.                             |
| GREEN    | S2 LEVEL            | 128    | acu 5b                  | Float & Thermostatic | Sarco       | FT15      | Blowing       | Service/Replace | Appears to be thermostatic leak. Steam loss volume may be overstated.                              |

### Steam Losses From Blowing Traps

| TrapID | Room     | Location                  | TrapType             | TrapBrand   | TrapModel | TrapSize | TrapUse        | Inlet Press. | Orifice | Loss (lb/hr) |
|--------|----------|---------------------------|----------------------|-------------|-----------|----------|----------------|--------------|---------|--------------|
| 6      | P1 MER   | above Culligan Tanks - 8' | Float & Thermostatic | Sarco       | FTB125    | 2.5      | Flash Tank     | 11           | 2.125   | 3750         |
| 8      | P1 MER   | MN STEAM ENTRY,4'         | Bucket               | Armstrong   | 800       | 0.75     | Drip Leg       | 109          | 0.1875  | 141          |
| 48.2   | S LEVEL  | ACU 1B1                   | Float & Thermostatic | Sarco       | FT15      | 1        | Drip Leg       | 8            | 0.218   | 35           |
| 65     | S level  | elevator 5                | Float & Thermostatic | Sarco       | FT15      | 0.75     | Drip Leg       | 42           | 0.218   | 87           |
| 78     | S level  | ACU-2V1                   | Float & Thermostatic | Sarco       | FT15      | 1.25     | Air Handler    | 7            | 0.312   | 68           |
| 79     | S LEVEL  | COL F19 @WALL             | Float & Thermostatic | Sarco       | FT14-14   | 0.75     | Drip Leg       | 50           | 0.079   | 13           |
| 81     | S LEVEL  | COL G15, CONVERTER        | Float & Thermostatic | Sarco       | FT15      | 0.75     | Drip Leg       | 8            | 0.218   | 35           |
| 95     | S1 LEVEL | G7 @ WALL                 | Bucket               | Sarco       | B1H 30    | 0.75     | Drip Leg       | 19           | 0.1875  | 38           |
| 104    | S1 LEVEL | COL D17 @ TELEPHONE PNL   | Orifice              | Flexitallic | DUM-T     | 0.75     | Drip Leg       | 35           | 0.02    | 1            |
| 128    | S2 LEVEL | acu 5b                    | Float & Thermostatic | Sarco       | FT15      | 2        | Air Handler    | 6            | 0.625   | 261          |
| 133    | S2 LEVEL | CONVERTER 2B              | Float & Thermostatic | Sarco       | FT15      | 2        | Heat Exchanger | 5            | 0.625   | 249          |
| 145    | S2 LEVEL | COL F7                    | Float & Thermostatic | Trane       | 55AL      | 1        | Drip Leg       | 3            | 0.218   | 27           |
| 148    | S2 LEVEL | ACU11B                    | Float & Thermostatic | Sarco       | FT15      | 1.5      | Air Handler    | 6            | 0.5     | 167          |
| 165    | S3 LEVEL | COL D19, 4', acu6CP       | Orifice              | Flexitallic | DUM-T     | 0.75     | Humidifier     | 5            | 0.02    | 0            |
| 167    | S3 LEVEL | ACU 25 C 3'               | Float & Thermostatic | Sarco       | FT15      | 1.25     | Air Handler    | 7            | 0.312   | 68           |
| 177    | S3 LEVEL | ACU9C, 4'                 | Float & Thermostatic | Sarco       | FT15      | 1.25     | Air Handler    | 4            | 0.312   | 59           |
| 178    | S3 LEVEL | ACU9C, 4'                 | Float & Thermostatic | Sarco       | FT15      | 1.25     | Air Handler    | 4            | 0.312   | 59           |