HERCULES

Hercules Incorporated
West 7th Street
P.O. Box 1937
Hattiesburg, MS 39401
(601) 545-3450

August 8, 1983

RECEIVED
AUG - 8 REC'D
DEPT OF NAT. RESOURCE
BUREAU OF POLLUTION CONTROL

Mr. Dwight K. Wylie, P. E. Chief
Air Division
Bureau of Pollution Control
P. O. Box 10385
Jackson, Mississippi 39209

Dear Dwight:

Re your November 8, 1982 letter, please find the attached emissions data concerning the woodwaste boilers for July 1983.

We will continue to submit this data on a monthly basis.

Very truly yours,

Charles Jordan

Charles Jordan

CJ:ml

Attachments

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 17-1-83
17-3
Herring

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 800 | 10-S | 3 | 201 | 3-S | 1 | 1100 | 10-S | 3 | 120 | 1-S | 1 |
| 9:50 | 3-S | 1 | 205 | 2 | 5-S | | | | | | |
| 1035 | 3-S | 2 | | | | | | | | | |
| 1120 | 3-S | 2 | | | | | | | | | |
| 1135 | 5-S | 1 | | | | | | | | | |
| 1206 | 1-S | 2 | | | | | | | | | |
| 1:00 | | 1 & 2 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustmc
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-1-8[illegible]

3-[illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ime | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 4:24 | 15 Sec. | (2) | 8:15 | 5 Sec. | (3) | 8:10 | 20 Sec. | (4) |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date [illegible] 1. [illegible]
11/[illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 11:95 | 3-SEC | 2 | 4:40 | 1-SEC | 1 | | | |
| | | | 3:35 | 4-SEC | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-2-7
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:10 | 15 | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjus
3. Cleaning furna
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-2-[illegible]

3-4

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 4:05 | 10 Sec. | (2) | 4:07 | 5 Sec. | (2) | | | | 5:00 | 5 Sec. | (1) |
| 5:42 | 5 Sec. | (2) | 7:28 | 10 Sec. | (2) | | | | 5:13 | 15 Sec. | (2) |
| 7:37 | 5 Sec. | (2) | 7:36 | 10 Sec. | (2) | | | | | | |
| | | | 10:03 | 10 Sec. | (2) | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-9-[illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:45 | 2-SEC | 1 | | | | | | | 12:30 | 2-SEC | 1 |
| 3:20 | 3-SEC | 2 | | | | | | | 4:18 | 3-SEC | 2 |
| 3:55 | 4-SEC | 3 | | | | | | | | | |
| 4:28 | 3-SEC | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-3-7
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:33 | 8 c | 1 | 1:15 | 12 c | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjusti
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-3-8

3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 4:32 | 30 sec. | (2.) | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-3-8[illegible]
11/7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 12:05 | 2 sec | 1 |
| | | | | | | | | | 4:15 | 5 sec | 2 |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-4-7
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:45 | 10 c | 1 | 1:50 | 10 c | 1 | | | | 7:25 | 5 c | 1 |
| | | | 2:30 | 15 c | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-4-[illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 4:05 | 30 sec. | (2) | | | | | | | 10:00 | 10 sec. | (2) |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date [illegible] 11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 4:33 | 1-Sec | 1 | | | | 12:42 | 3-Sec | 2 |
| | | | | | | | | | 1:15 | 1-Sec | 1 |
| | | | | | | | | | 2:10 | 1-Sec | 1 |
| | | | | | | | | | 4:30 | 1-Sec | 1 |
| | | | | | | | | | 5:03 | 1-Sec | 1 |
| | | | | | | | | | 5:38 | 3-Sec | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7 - 5 - ;
7 - 3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:25 | 10 c | 1 | 8:05 | 15 c | 1 | | | | 12:00 | 10 c | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-5-8

3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:30 | 2 Sec. | (1) | | | | | | | 7:23 | 20 Sec. | (1) |
| 3:45 | 2 Sec. | (2) | | | | | | | | | |
| 3:55 | 5 Sec. | (1) | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjust
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7/5/[illegible]
'11/7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:30 | 1-Sec | 1 | 2:50 | 3-Sec | 3 | 12:30 | 2-Sec | 1 | 12:13 | 1-Sec | 2 |
| 3:45 | 2-Sec | 1 | 5:19 | 1-Sec | 1 | 12:35 | 1-Sec | 2 | 12:24 | 1-Sec | 3 |
| 3:50 | 1-Sec | 2 | 5:23 | 1-Sec | 1 | 4:58 | 2-Sec | 1 | 1:46 | 1-Sec | 1 |
| | | | 6:03 | 1-Sec | 1 | 4:59 | 1-Sec | 1 | 6:14 | 1-Sec | 2 |
| | | | | | | 5:18 | 1-Sec | 2 | | | |

NOTES:

1. Load change.
2. Fuel oil adjust
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7 - 6 - 7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 9:20 | 10 c | 1 | 1:10 | 15 c | 1 | 11:45 | 10 c | 1 | 10 c | 15 | 1 |
| 9:35 | 15 c | 1 | | | | | | | 11:50 | 7 c | 1 |
| 12:06 | 5 c | 1 | | | | | | | | | |
| 12:15 | 10 c | 1 | | | | | | | | | |
| 1:05 | 10 c | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-6-[illegible]

3-1

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:47 | 10 sec. | (2) | 5:30 | 2 sec. | (2) | 6:05 | 15 sec. | (1) | 7:10 | 10 sec. | (2) |
| 5:00 | 2 sec. | (2) | 5:40 | 5 sec. | (2) | | | | 7:15 | 15 sec. | (2) |
| 5:40 | 5 sec. | (1) | 5:55 | 10 sec. | (2) | | | | 7:18 | 10 sec. | (2) |
| 5:20 | 5 sec. | (1) | | | | | | | | | |
| [illegible] | 5 sec. | (1) | | | | | | | | | |
| 6:10 | 6 sec. | (2) | | | | | | | | | |
| 5:50 | 5 sec. | (1) | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjusti
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-6-83
11-7
Henry

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 2:30 | 3-5 | 2 | 200 | 10-5 | 2 | 10:45 | 3-19 | 1 | 1:30 | | 2+J |
| | | | 230 | 5-19 | 3 | 11:15 | 2-19 | 1 | | | |
| | | | | | | 11:20 | | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjust
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-7-8
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 715 | 30 Sec | 2 | 725 | 10 Sec | 5 | 728 | 10 Sec | 5 | 730 | [illegible] | 5 |
| | | | | | | 845 | 10 Sec | 6 | 740 | [illegible] | 3 |

NOTES:

1. Load change.
2. Fuel oil adjusti
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

6 - [illegible]
[illegible]
Hopper

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7 - 7 - 3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 6:10 | 8 c | 1 | 8:35 | 20 c | 4 | 5:25 | 10 c | 1 |

NOTES:

1. Load change.
2. Fuel oil adjust
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 12-7-83

11-7
Hearing

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 255 | 3-S | 1 | 100 | 2-M | 1 | 150 | 3-M | 3 | 240 | 10-S | 1 |
| 315 | 10-S | 1 | 115 | 2-S | 3 | 405 | 3-M | 1 | | | |
| | | | 116 | 2-M | 3 | 417 | 3-S | 1 | | | |
| | | | 150 | 3-S | 2 | | | | | | |
| | | | 215 | 6-S | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-8-
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:35 | 5 c | 1 | | | | 8:10 | 10 c | 1 | 9:55 | 5 c | 1 |
| 10:25 | 10 | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-8-83
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | 7:30 | 3 sec | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 11-8-83

11-7

1 [illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 255 | 10-S | 3 | | | | 400 | 1-S | 2 | 130 | 10-S | 3 |
| | | | | | | | | | 450 | 3-S | 2 |

NOTES:

1. Load change.
2. Fuel oil adjusti
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-9-8

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
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NOTES:

1. Load change.
2. Fuel oil adjus
3. Cleaning furna
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-9-8[illegible]
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | 6:55 | 1-Sec | 1 | | | |
| | | | | | | 7:00 | 1-Sec | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjust
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date [illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | 11:05 | 3-S | 3 | 2:00 | 3-M | 1 |
| | | | | | | 11:20 | 10-S | 3 | | | |
| | | | | | | 12:25 | | 2 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-10-7

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 8:20 | 10 Sec. | (1) |
| | | | | | | | | | 11:10 | 5 Sec. | (3) |

NOTES:

1. Load change.
2. Fuel oil adjust
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7/10/83
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 8:23 | 1-5:00 | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 11-10-83
11-7
Hewin

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | 1115 | 3-S | 3 | | | |
| | | | | | | 11:30 | 3-S | 3 | | | |
| | | | | | | 11:35 | 3-S | 3 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustme
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-11-8

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
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NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7/11/83
3/14

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:25 | 2-Sec | 1 | | | | 9:47 | 1-Sec | 2 | | | |
| | | | | | | 9:50 | 1-Sec | 1 | | | |
| | | | | | | 9:58 | 2-Sec | 1 | | | |
| | | | | | | 10:27 | 1-Sec | 3 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustme
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-11-85
11-7
[illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| me | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 35 | 1H | 5 | | | | 1100 | 2H | 3 | 315 | 2H | 3 |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-12-83

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 2:03 | 30 Sec | (1) |

NOTES:

1. Load change.
2. Fuel oil adjustme
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7/25/71

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | 4:40 | 1-Sec | 3 | 7:30 | 2-Sec | 1 |
| | | | | | | 8:07 | 2-Sec | 3 | 7:36 | 3-Sec | 1 |
| | | | | | | | | | 9:08 | 2-Sec | 1 |
| | | | | | | | | | 10:30 | 2-Sec | 1 |
| | | | | | | | | | 10:37 | 2-Sec | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 11-12-85

11:1
Hearing

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | 2:25 | 3-S | 3 | 11:35 | 1-S | 1 |
| | | | | | | 4:06 | 1-S | 1 | 2:15 | 5-S | 1 |
| | | | | | | | | | 2:25 | 5-S | 1 |
| | | | | | | | | | 3:46 | 3-S | 1 |
| | | | | | | | | | 3:48 | 3-S | 1 |
| | | | | | | | | | 4:05 | 2-S | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-13-8

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
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NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date [illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 4:25 | 1-sec | 1 | 4:14 | 1-sec | 2 | 7:45 | 2-sec | 2 |
| | | | 4:30 | 1-sec | 1 | 4:15 | 1-sec | 2 | 7:57 | 1-sec | 3 |
| | | | 4:55 | 2-sec | 2 | 9:20 | 1-sec | 1 | 8:22 | 1-sec | 2 |
| | | | 8:22 | 1-sec | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustı
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-13-11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 12:10 | 10 c | 2 | 2:08 | 10 c | 1 | | | | | | |
| 1:12 | 8 c | 2 | | | | | | | | | |
| 1:20 | 5 c | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-14-7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 8:12 | 5 Sec. | (3) | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustn
3. Cleaning furnacc
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-14-
11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 12:4 | 10 c | 1 | 11:15 | 7 c | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjusti
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date [illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 505 | | 2 | 615 | 10.5 | 1 | 500 | 3-5 | 2 |
| | | | | | | 630 | 5-5 | 3 | | | |
| | | | | | | 645 | 10-5 | 3 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-15-6

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:30 | 20 Sec. | (3) | 8:05 | 20 Sec. | (3) | | | | | | |
| | | | 10:33 | 20 Sec. | (3) | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-15-8

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:40 | 3m | 2 | 4:20 | 4m | 3 | | | | | | |
| | | | 4:55 | 4m | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjus
3. Cleaning furna
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-15-11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 5:15 | 30c | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjust
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-16-8[illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | 400 | 2-5 | 1 | | | |
| | | | | | | 615 | 4-m | 2 | | | |
| | | | | | | 650 | | 3 | | | |

NOTES:

1. Load change.
2. Fuel oil adjust
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7/16/73

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 9:35 | 9-sec | 3 | 12:10 | 3-sec | 4 | 1:50 | 3-sec | 1 | | | |

3/11

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-14-
11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 5:45 | 10 c | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjusti
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date [illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:28 | 1-sec | 1 | | | | | | | | | |
| 11:20 | 2-sec | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-17-8?

3-11

NERRIN

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 330 | L-S | 3 | 340 | 2M | 2 | | | | | | |
| | | | 600 | 3-S | 1&2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-17-11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 11:05 | 8 c | 1 | 12:35 | 10 c | 1 | | | |
| | | | 11:18 | 5 c | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustme
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-18-7
7/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 6:57 | 3-sec | 1 | 9:20 | 2-sec | | 8:20 | 4-sec | 4 | | | |
| 11:07 | 2-sec | 1 | | | | 9:05 | 6-sec | 3 | | | |
| | | | | | | 9:20 | 3-sec | 2 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-8-5

3/

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:35 | 2-sec | 1 | 6:50 | 1-sec | 2 | 3:07 | 1-sec | 1 | | | |
| 7:15 | 3-sec | 1 | 6:55 | 1-sec | 1 | 4:15 | 1-sec | 3 | | | |
| 7:45 | 1-sec | 2 | 7:10 | 1-sec | 1 | 4:24 | 1-sec | 4 | | | |
| | | | 7:14 | 3-sec | 1 | 7:20 | 1-sec | 2 | | | |
| | | | | | | 7:45 | 1-sec | 2 | | | |
| | | | | | | 7:45 | 1-sec | 3 | | | |

NOTES:

1. Load change.
2. Fuel oil adjust
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-18-11/7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 11:25 | 15c | 1 | 12:30 | 10c | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjusti
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-19-8
7/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 8:15 | 2-sec | 1 | | | | | out | |
| | | | 9:45 | 3-sec | 1 | | | | | | |
| | | | 5:20 | 2-sec | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 2/11/

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 6:10 | 1-sec | 1 | | | | | | |
| | | | 7:00 | 1/2-sec | 1 | | | | | | |
| | | | 7:55 | 2-sec | 1 | | | | | | |
| | | | 8:00 | 1-sec | 1 | | | | | | |
| | | | 9:00 | 1-sec | 1 | | | | | | |
| | | | 9:55 | 1-sec | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjust
3. Cleaning furna
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-19-
11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 11:15 | 15 | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-20-8

7/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | None | | | None | | 1057 | 3-sec | 2 | | out | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7/20/[illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 4:40 | 1-Sec | 1 | | | | | | |
| | | | | | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjusti
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7/20/83

11/7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 11:30p.m. | 1-Sec. | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjusti
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-21-8
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 815 | 5 Sec | 2 | | | | 900 | 5 Sec | 2 | | | |
| 900 | 5 Sec | 2 | | | | | | | | | |
| 1000 | 5 Sec | 2 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 1-2[illegible]
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 3:40 | 2-SEC | 1 | | | | | | |
| 4:20 | 1-SEC | | 4:35 | 3-SEC | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-21-83

11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:10 | 5-Sec. | 1 | 11:30 | 1-Sec. | 3 | | | | 12:35 | 10-Sec. | 1 |
| 11:15 | 15-Sec. | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-22-83

7/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:15 | 2-sec | 3. | 8:35 | 3-sec | 1 | | | | | None | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-2[illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 9:00 | 5 c | 1 | | | | | | | | | |
| 9:10 | 5 c | 2 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnac
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-22-83

11/7
(None)

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| — | — | — | — | — | — | — | — | — | — | — | — |
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NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 1/23/19
1/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:40 | 1-Sec | 5 | 6:20 | [illegible] | 1 | 8:00 | 1-Sec | 1 | | | |
| | | | 7:10 | 1-Sec | 1 | 8:10 | 1-Sec | 1 | | | |
| | | | 7:30 | 1-Sec | 1 | 8:12 | 1-Sec | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-23-
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 5:30 | 10 c | 1 | | | | | | | | | |
| 5:55 | 15 c | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustn
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-24-

11/7 NoNe

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| — | — | — | — | — | — | — | — | — | — | — | — |

NOTES:

1. Load change.
2. Fuel oil adjustn
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date _____

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:38 | 1-Sec | 2 | | | | | | | | | |
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NOTES:

1. Load change.
2. Fuel oil adjustn
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7 - 22 - 3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | 0 | | | 0 | | | 0 | | | 0 | |
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NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-24

11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
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NOTES:

1. Load change.
2. Fuel oil adjus
3. Cleaning furna
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date _____

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:25 | 1-Sec | 1 | | | | [illegible] | 1-Sec | 2 | | | |
| 11:26 | 3-Sec | 1 | | | | | | | | | |
| 11:27 | 1-Sec | 1 | | | | | | | | | |
| 11:45 | 1-Sec | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-25-31

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | 8:50 | 5 c | 2 | | | |
| | | | | | | 9:00 | 15 c | 3 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-25-83

11/7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:38 | 5-Sec. | 2 | | | | 2:06 | 3-Sec. | 1 | | | |
| | | | | | | 3:03 | 5-Sec. | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustn
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date / /

7/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 1:20 | 1-sec | 1 | | | | 2:25 | 1-sec | 1 | 10:45 | 1-sec | 1 |
| 10:08 | 1-sec | 1 | | | | | | | | | |
| 10:45 | 1-sec | 2 | | | | | | | | | |
| 1:20 | 1-sec | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-26-

3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 6:15 | 5 c | 1 | | | | 6:25 | 10 c | 4 | | | |
| | | | | | | 6:45 | 10 c | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7/27/[illegible]

7/[illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:25 | 1-Sec | 1 | | | | 8:15 | 1-Sec | 4 | | | |
| 9:30 | 1-Sec | 2 | | | | | | | | | |
| 9:40 | 1-Sec | 3 | | | | | | | | | |
| 11:05 | 1-Sec | 2 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-27-3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | 0 | | | 0 | | | 0 | | | 0 | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-22-8
11/75

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | out | | | | | | |
| | | | | | | | | | | | |
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# OPACITY EVALUATION - WOOD BURNING BOILERS

Date [illegible] 8

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 137 | [illegible] | 2 | | | | | | | [illegible] | [illegible] | 2 |

NOTES:

1. Load change.
2. ~~Fuel oil~~ Solvent adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date [illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 4:05 | 1-sec | 1 | | | | | | | 9:45 | 1-sec | 2 |
| 4:15 | 1-sec | 2 | | | | | | | 9:55 | 2-sec | 1 |
| 1:30 | 1-sec | 2 | | | | | | | | | |
| 1:35 | 2-sec | 1 | | | | | | | | | |
| 9:45 | 1-sec | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 12:17 | [illegible] | 3. | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7/29/83

7/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:00 | 1-sec | 2 | | | | | | | | | |
| 8:05 | 1-sec | 1 | | | | | | | | | |
| 11:50 | 1-sec | 1 | | | | | | | | | |
| 1:50 | 1-sec | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-29-83

3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 6:45 p.m. | 3 sec. | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7 [illegible] 11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | NONE | | | NONE. | | | NONE | | | NONE | |

Smoke density is not [illegible]

NOTES:

1. Load change.
2. Fuel oil adjustm[illegible]
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-30-
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | 0 | | | 0 | | | 0 | | | 0 | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7/30/8

3/11 Shig

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:30 | 3 Sec. | 1 | | | | | | | | | |
| 9:30 | 5 Sec. | 1 | | | | | | | | | |
| 9:40 | 3 Sec. | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-31-
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 10:00 | 10 c | 1 | 0 | U | T | 12:23 | 15 c | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7/31/83

2/11 Shift

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:30 | 5 Sec. | 2 | | | | | | | 8:00 | 3 Sec. | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 7-31-8[illegible]

1/7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
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NOTES:

1. Load change.
2. Fuel oil adjustm
3. Cleaning furnace
4. Meter defect.
5. Cleaning meter lenses.

Visible Emissions Evaluation Record

Plant Name: Hercules Inc.

Address: W 7th Street

City: H'ly

Emission Point:

Date: 7-29-83

Is emission point operation normal ?

V. E. Observer: Carroll Bowling

Certification Expiration: 10-21-83

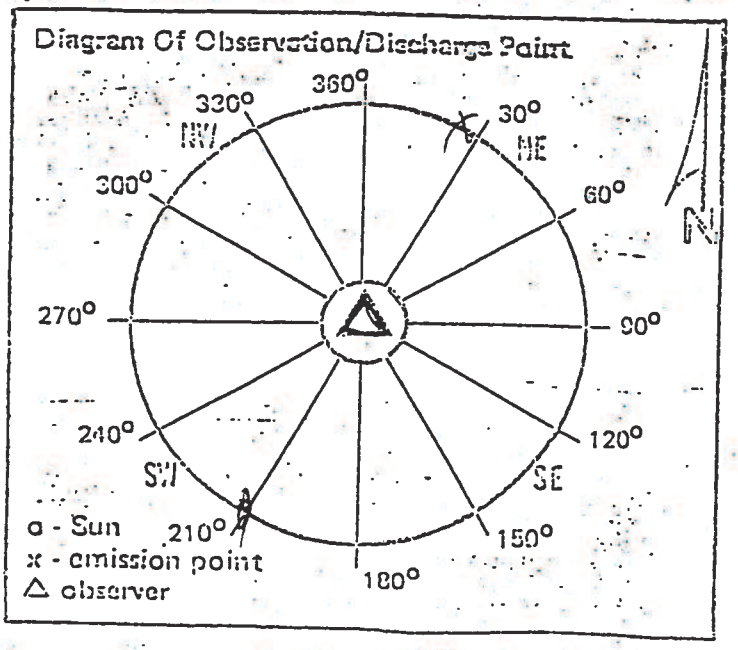
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| Fourth | 1:04 Pm | 2 Pm | 410 | 17.1 |
| | | | | |
| | | | | |

Overall Average:

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Black | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | NE | |
| Wind speed | 10 MPH | |
| Ambient temperature | 92° | |
| Discharge temperature | | |
| Sky conditions | PC | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 15 | 20 |
| 1 | 25 | 25 | 25 | 25 |
| 2 | 25 | 25 | 20 | 20 |
| 3 | 20 | 15 | 15 | 15 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: Hilly

Emission Point: /

Date: 7-29-83

Is emission point operation normal ? _____

V. E. Observer: Carroll Bowery

Certification Expiration: 10-21-83

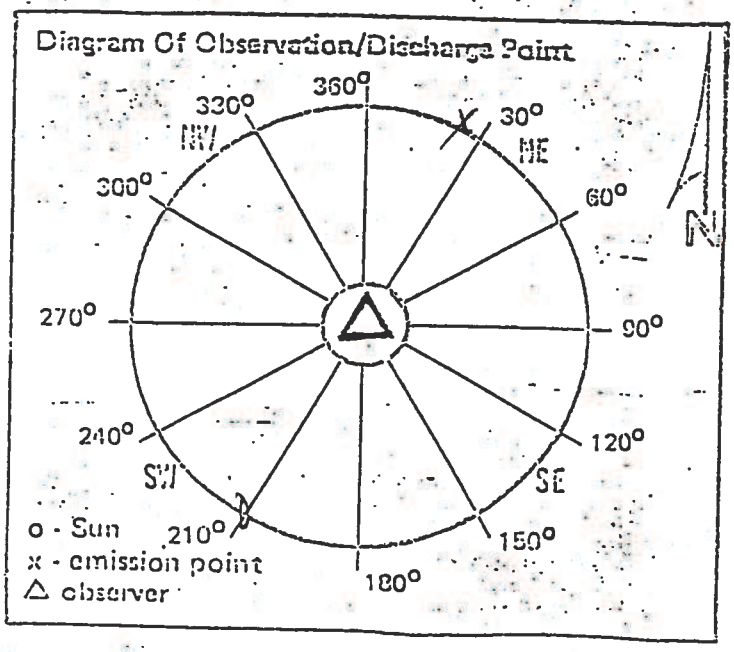
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North | 1:24pm | 2:24pm | 415 | 17.3 |
| | | | | |
| | | | | |

Overall Average: 11

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ | |
| Direction to discharge | | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Black | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | NE | |
| Wind speed | 10mph | |
| Ambient temperature | 92° | |
| Discharge temperature | | |
| Sky conditions | PC | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 20 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 20 | 20 | 20 |
| 4 | 20 | 20 | 25 | 25 |
| 5 | 30 | 35 | 30 | 25 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks: _____

Received By: _____

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: H'ley

Emission Point:

Date: 7-28-83

Is emission point operation normal ?

V. E. Observer: Carroll Lawing

Certification Expiration: 10-21-83

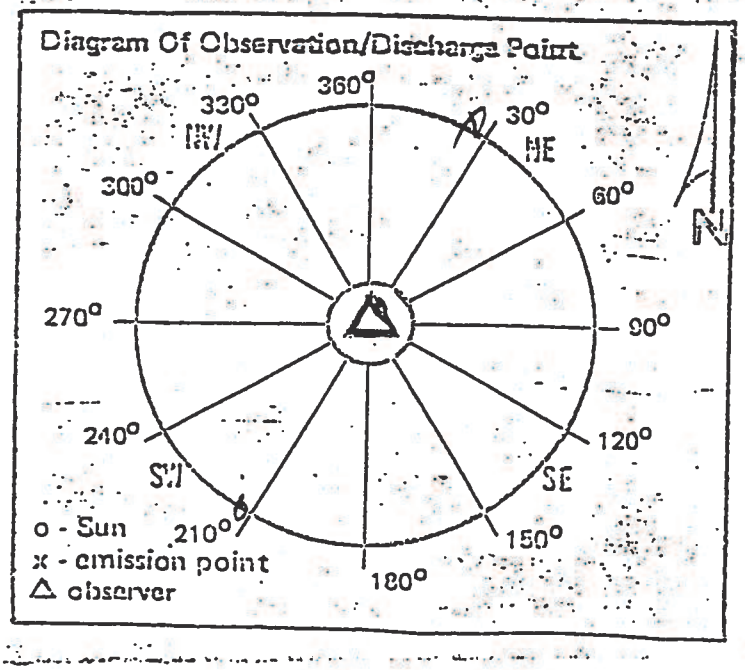
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| Fourth | 1:15 Pm | 1:21 Pm | 325 | 13.5 |
| | | | | |
| | | | | |

Overall Average:

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Black | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | SE | |
| Wind speed | 5 MPH | |
| Ambient temperature | 95 | |
| Discharge temperature | | |
| Sky conditions | Cloudy | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 15 | 15 | 15 | 15 |
| 1 | 15 | 15 | 20 | 20 |
| 2 | 20 | 20 | 20 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc.

Address: W 7th Street

City: Hly

Emission Point:

Date: 7-28-83

Is emission point operation normal ?

V. E. Observer: Carroll Pauley

Certification Expiration: 10-21-83

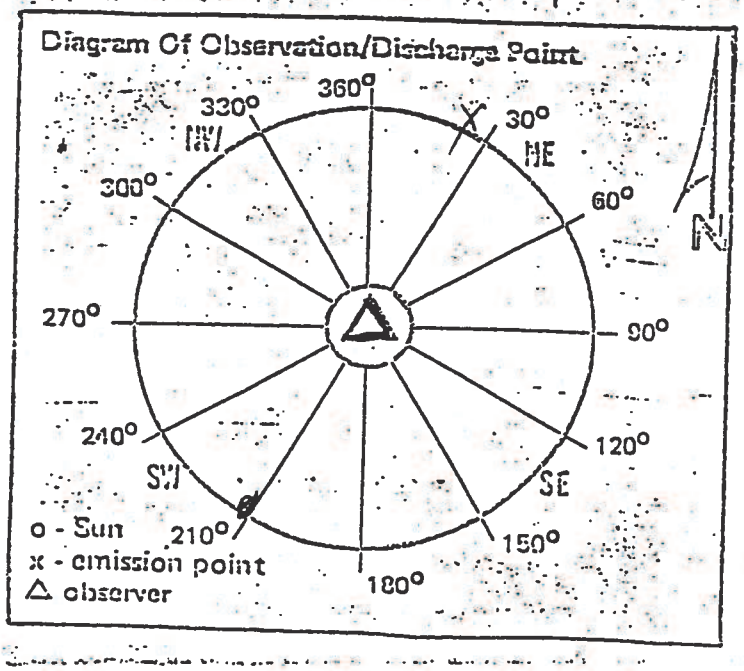
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North | 1:15 Pm | 1:21 Pm | 620 | 25.8 |
| | | | | |
| | | | | |

Overall Average:

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Black | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | SE | |
| Wind speed | 5 mi/hr | |
| Ambient temperature | 95° | |
| Discharge temperature | | |
| Sky conditions | Partly | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 25 | 25 | 25 | 25 |
| 1 | 20 | 20 | 20 | 25 |
| 2 | 25 | 30 | 25 | 25 |
| 3 | 20 | 20 | 25 | 25 |
| 4 | 25 | 25 | 25 | 25 |
| 5 | 30 | 35 | 35 | 40 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: H'ly

Emission Point:

Date: 7-27-83

Is emission point operation normal ?

V. E. Observer: Carroll Sowers

Certification Expiration: 10-21-83

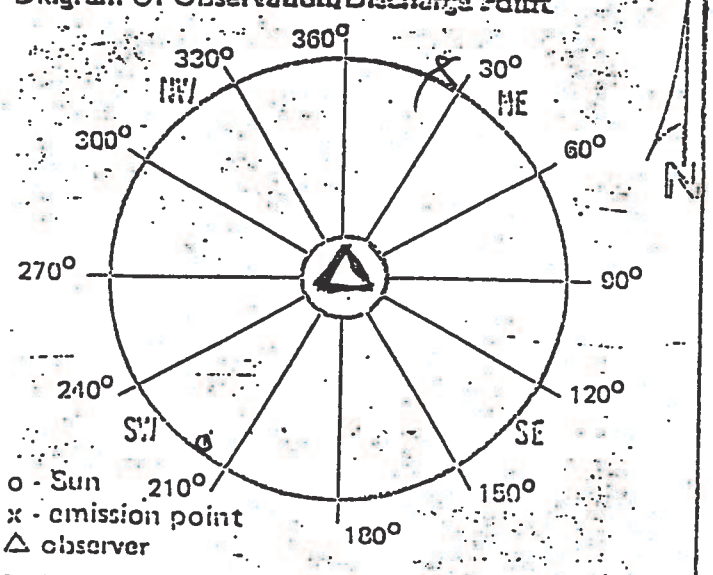
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South | 2:05 Pm | 2:11 Pm | 185 | 7.7 |
| | | | | |
| | | | | |

Overall Average:

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown | |
| Plume background | Gray + Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | S | |
| Wind speed | | |
| Ambient temperature | 94°C | |
| Discharge temperature | | |
| Sky conditions | PC | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 10 | 10 | 10 |
| 3 | 5 | 5 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W. 7th Street

City: Hilby

Emission Point:

Date: 7-27-83

Is emission point operation normal ?

V. E. Observer: Carroll Rawlins

Certification Expiration: 10-21-83

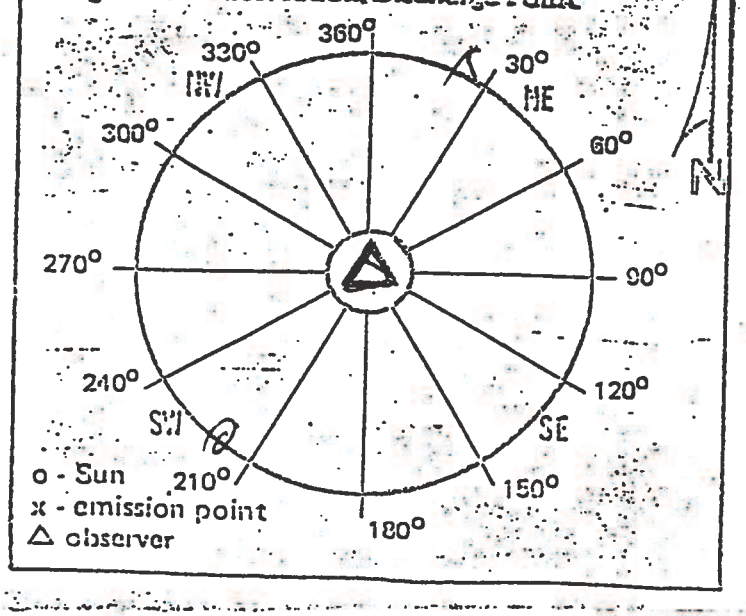
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North | 2:00 Pm | 2:11 Pm | 365 | 15.2 |
| | | | | |
| | | | | |

Overall Average:

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Blue | |
| Plume background | Gray + Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | S | |
| Wind speed | | |
| Ambient temperature | 94° | |
| Discharge temperature | | |
| Sky conditions | P/C | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 15 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 15 | 15 | 15 | 15 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 15 | 20 | 20 | 20 |
| 5 | 15 | 15 | 15 | 20 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 9th Street

City: Hilly

Emission Point:

Date: 5-26-83

Is emission point operation normal ?

V. E. Observer: Gerald Bowling

Certification Expiration: 10-21-83

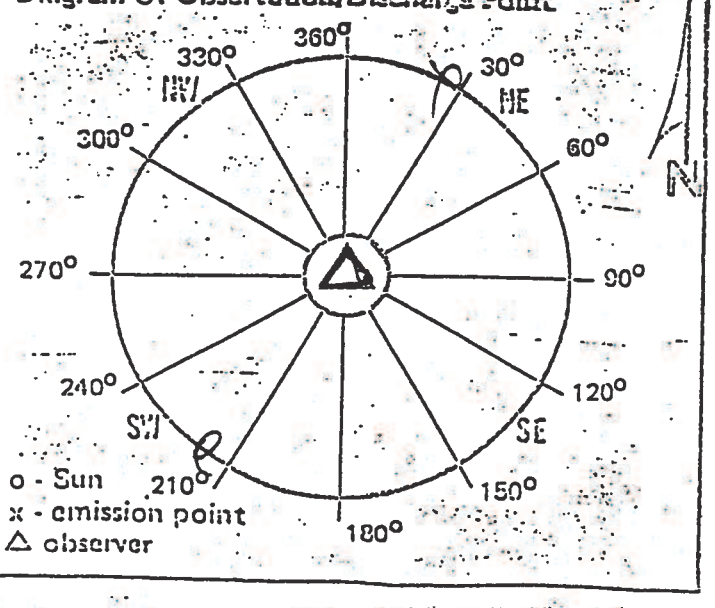
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South | 1:00 Pm | 1:36 Pm | 405 | 16.9 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1/2 L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown Black | |
| Plume background | Grey | |
| Water vapor in plume ? | | |
| Wind direction (from) | SW | |
| Wind speed | 5 mph | |
| Ambient temperature | 93° | |
| Discharge temperature | | |
| Sky conditions | PC | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 20 | 20 | 15 | 15 |
| 2 | 15 | 15 | 15 | 15 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 20 | 25 | 25 | 25 |
| 5 | 25 | 20 | 20 | 15 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: W'ly

Emission Point:

Date: 7-26-83

Is emission point operation normal ?

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown + Black | |
| Plume background | Grey | |
| Water vapor in plume ? | | |
| Wind direction (from) | SW | |
| Wind speed | 5 MPH | |
| Ambient temperature | 93° | |
| Discharge temperature | | |
| Sky conditions | PC | |

V. E. Observer: Carroll Fowler

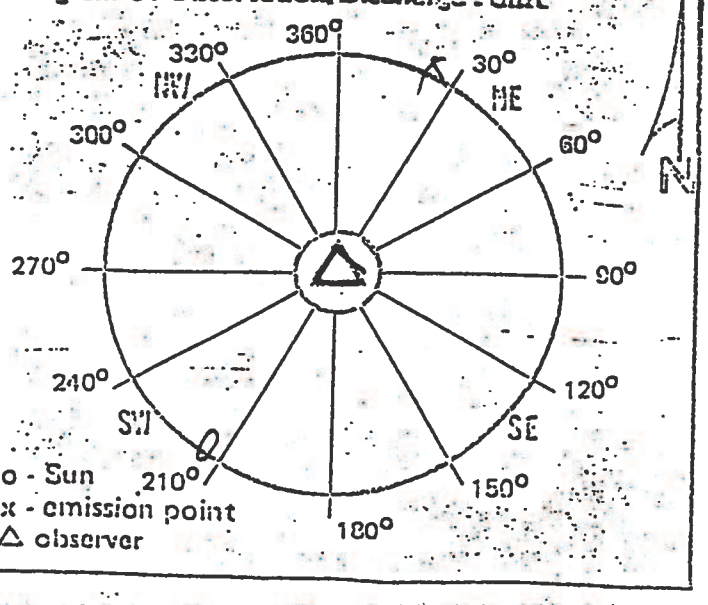
Certification Expiration: 10-21-83

| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North | 1:50 Pm | 1:56 Pm | 335 | 14.0 |
| | | | | |
| | | | | |

Overall Average: //

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 15 | 15 | 10 | 20 |
| 2 | 10 | 15 | 15 | 15 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 15 | 15 | 15 | 15 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: H'ly

Emission Point:

Date: 7-25-83

Is emission point operation normal ?

V. E. Observer: Carroll Bowling

Certification Expiration: 10-21-83

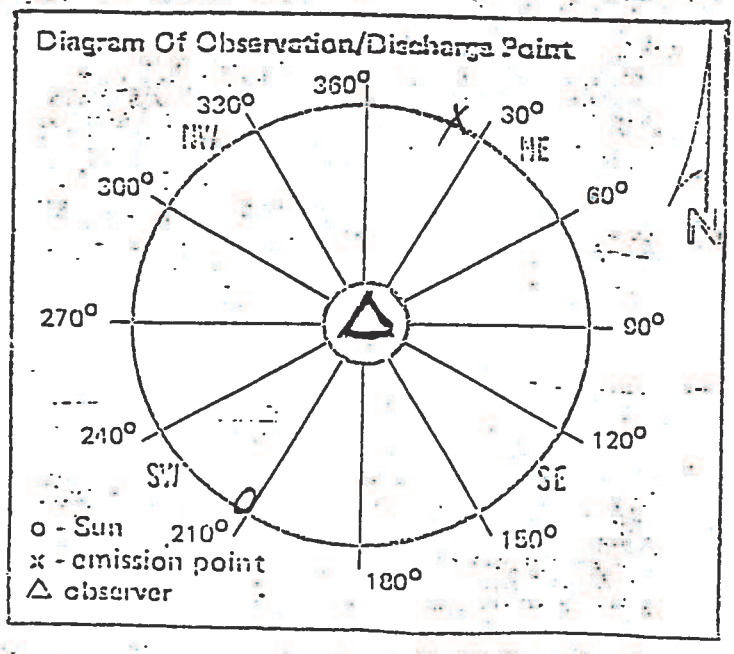
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South | 1:50 PM | 1:56 PM | 285 | 11.9 |
| | | | | |
| | | | | |

Overall Average: 11

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown & Black | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | SW | |
| Wind speed | 5 MPH | |
| Ambient temperature | 91° | |
| Discharge temperature | | |
| Sky conditions | PC | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 15 | 15 |
| 1 | 15 | 10 | 10 | 15 |
| 2 | 15 | 15 | 20 | 15 |
| 3 | 10 | 10 | 10 | 5 |
| 4 | 5 | 5 | 10 | 15 |
| 5 | 15 | 15 | 15 | 15 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc.

Address: W 7th Street

City: H'ly

Emission Point:

Date: 7-25-83

Is emission point operation normal ?

V. E. Observer: Carroll Lindsey

Certification Expiration: 10-21-83

| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| Mill | 1:50 PM | 2:10 PM | 260 | 10.8 |
| | | | | |
| | | | | |

Overall Average:

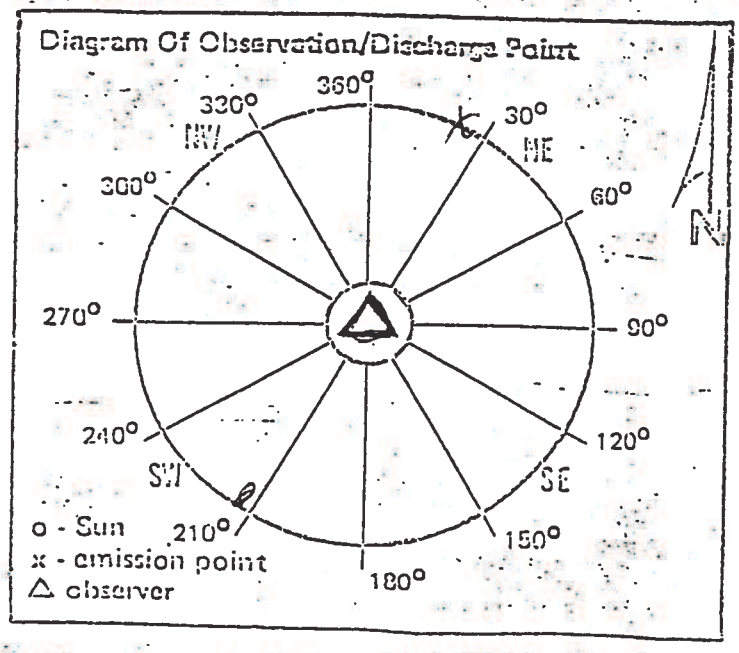
| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown/Black | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | SW | |
| Wind speed | 5 MPH | |
| Ambient temperature | 91°C | |
| Discharge temperature | | |
| Sky conditions | P.C. | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 15 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 15 |
| 2 | 15 | 15 | 15 | 15 |
| 3 | 5 | 10 | 10 | 5 |
| 4 | 5 | 5 | 10 | 10 |
| 5 | 10 | 15 | 10 | 15 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Remarks:

Received By:

Diagram Of Observation/Discharge Point



# Visible Emissions Evaluation Record

Plant Name: Hercules Inc.

Address: W 7th Street

City: H'burg Miss

Emission Point:

Date: 7-22-83

Is emission point operation normal ?

V. E. Observer: Howell Rhea

Certification Expiration: 10-21-83

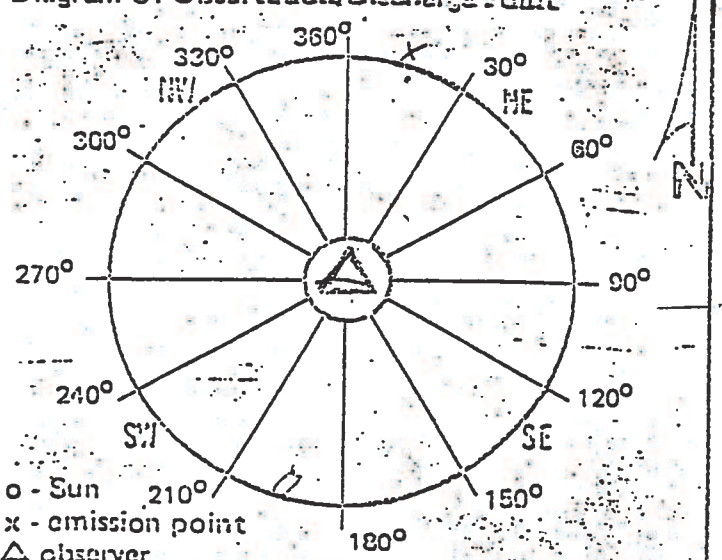
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North Stack | 12 40 | 12 45 pm | 560 | 23.3 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N.E | |
| Wind speed | 5 mph | |
| Ambient temperature | 91 | |
| Discharge temperature | | |
| Sky conditions | P. Cloudy | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 25 | 25 | 25 | 25 |
| 1 | 30 | 30 | 30 | 30 |
| 2 | 30 | 30 | 30 | 30 |
| 3 | 25 | 25 | 25 | 25 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 15 | 15 | 15 | 15 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: IN 7th Street

City: Hibury, Miss

Emission Point:

Date: 7-22-83

Is emission point operation normal ?

V. E. Observer: Howell Russ

Certification Expiration: 10-21-83

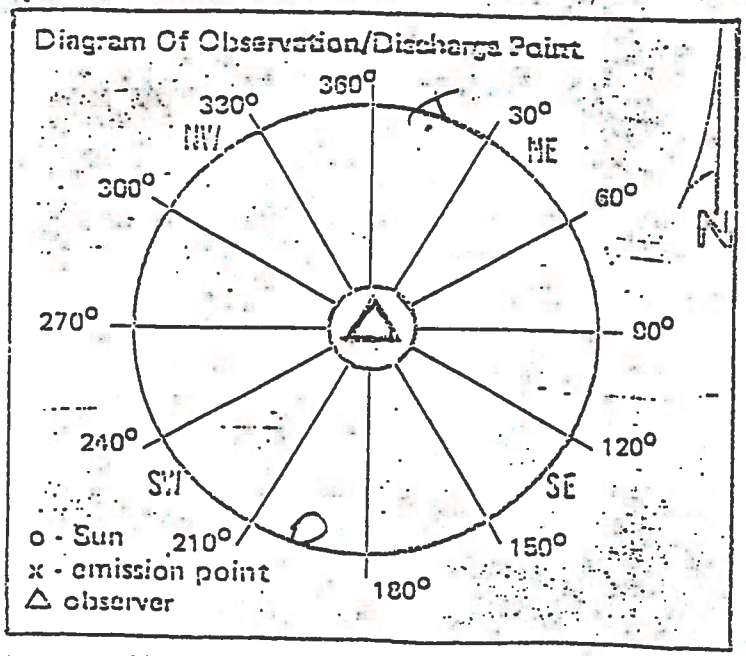
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South Stack | 12:40 pm | 12:45 pm | 300 | 12.5 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 | Lengths |
| Direction to discharge | N.E. | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N.E | |
| Wind speed | 5 mph | |
| Ambient temperature | 91 | |
| Discharge temperature | | |
| Sky conditions | Partly | |

Overall Average: 11

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 20 | 20 | 20 | 20 |
| 1 | 20 | 20 | 20 | 20 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: HERCULES, INC

Address: W 7th STREET

City: H'burg, Miss

Emission Point:

Date: 7-21-83

Is emission point operation normal ?

V. E. Observer: Howell Rives

Certification Expiration: 10-21-83

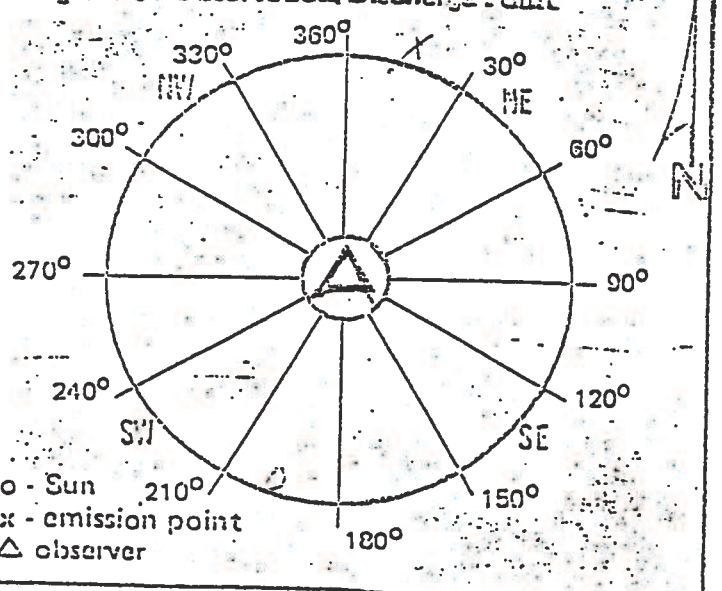
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| KRAFT STACK | 11:10 AM | 11:45 AM | 600 | 25 |
| | | | | |
| | | | | |

Overall Average: 11

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | S.W | |
| Wind speed | 5 M.P.H | |
| Ambient temperature | 87 | |
| Discharge temperature | | |
| Sky conditions | Clear | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 20 | 20 | 20 | 20 |
| 1 | 20 | 20 | 20 | 20 |
| 2 | 25 | 25 | 25 | 25 |
| 3 | 25 | 25 | 25 | 25 |
| 4 | 30 | 30 | 30 | 30 |
| 5 | 30 | 30 | 30 | 30 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules T&C

Address: W 7th Street

City: Hibbing, Minn

Emission Point:

Date: 7-21-83

Is emission point operation normal ?

V. E. Observer: Kenneth Rice

Certification Expiration: 10-21-83

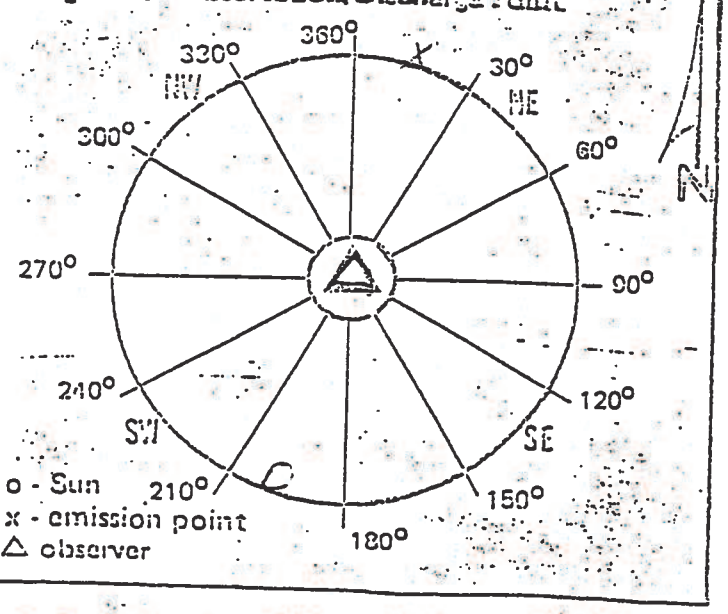
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South Stack | 11 10 AM | 11 15 AM | 420 | 17.5 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | N.E. | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | S.W | |
| Wind speed | 5 MPH | |
| Ambient temperature | 29 | |
| Discharge temperature | | |
| Sky conditions | Clear | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 15 | 15 | 15 | 15 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 20 | 20 | 20 | 20 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 20 | 20 | 20 | 20 |
| 5 | 20 | 20 | 20 | 20 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

Visible Emissions Evaluation Record

Plant Name: HERCULES INC.

Address: W 7th Street

City: H'burg Mass

Emission Point:

Date: 7-20-83

Is emission point operation normal ?

V. E. Observer: Howell Russ

Certification Expiration: 10-21-83

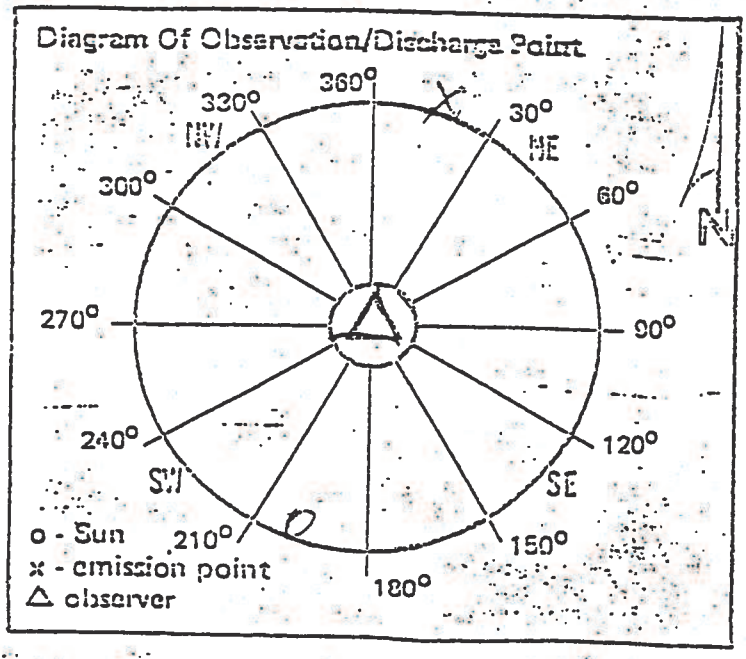
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North Stack | 100 pm | 105 pm | 260 | 11 |
| | | | | |
| | | | | |

Overall Average: 11

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 ½ Lengths | |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N.E | |
| Wind speed | 5 MPH | |
| Ambient temperature | 79 | |
| Discharge temperature | | |
| Sky conditions | P. Cloudy | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 15 | 15 | 15 | 15 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

Visible Emissions Evaluation Record

Plant Name: Hercules INC

Address: W 7th Street

City: H'burg, Miss

Emission Point:

Date: 7-20-83

Is emission point operation normal ?

V. E. Observer: Howell Ross

Certification Expiration: 10-21-83

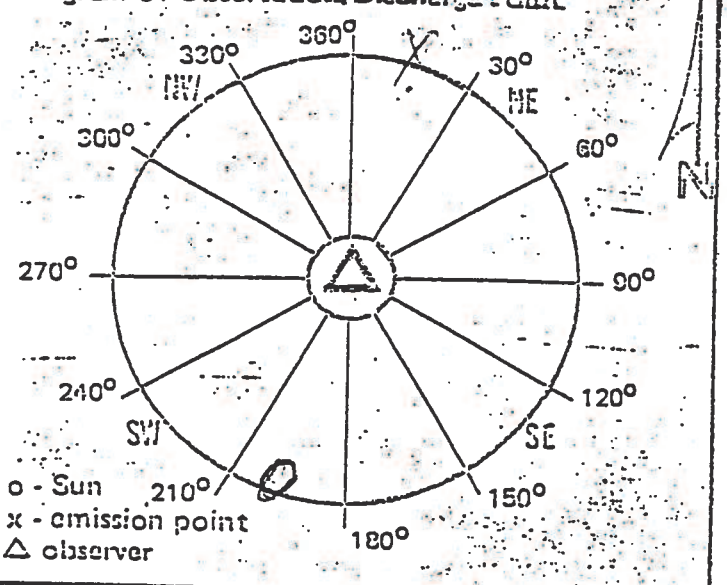
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South Stack | 1:00 pm | 1:05 pm | 440 | 18.3 |
| | | | | |
| | | | | |

Overall Average: 1

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N.E | |
| Wind speed | 5 mph | |
| Ambient temperature | 89 | |
| Discharge temperature | | |
| Sky conditions | Partly | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 20 | 20 | 20 | 20 |
| 3 | 20 | 20 | 20 | 20 |
| 4 | 25 | 25 | 25 | 25 |
| 5 | 20 | 20 | 20 | 20 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

Visible Emissions Evaluation Record

Plant Name: HERCULES INC

Address: W 7th Street

City: H'burg, Miss

Emission Point:

Date: 7-19-83

Is emission point operation normal ?

V. E. Observer: B.B. Golden Howell Reiss

Certification Expiration: 10-21-83

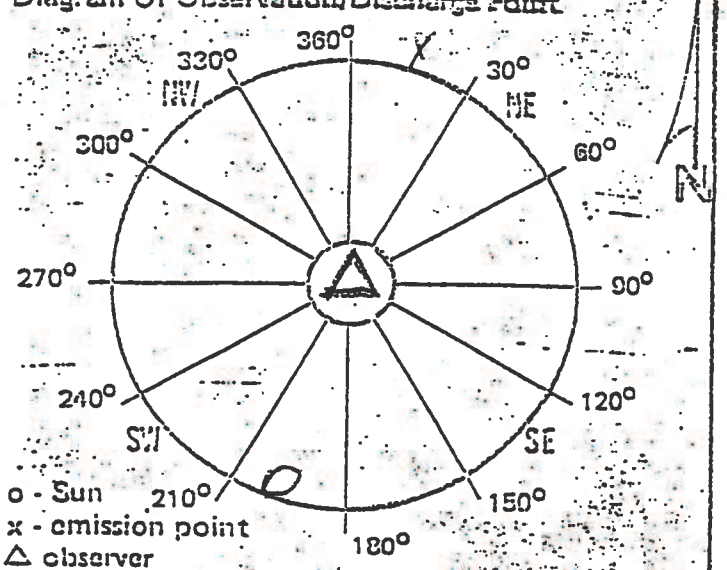
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North Stack | 11:00 Am | 11:03 Am | 460 | 19.2 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N.E | |
| Wind speed | 5 MPH | |
| Ambient temperature | 87 | |
| Discharge temperature | | |
| Sky conditions | P. Cloudy | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 20 | 20 | 20 | 20 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 15 | 15 | 15 | 15 |
| 3 | 20 | 20 | 20 | 20 |
| 4 | 20 | 20 | 20 | 20 |
| 5 | 25 | 25 | 25 | 25 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: H'burg, Miss

Emission Point:

Date: 7-19-83

Is emission point operation normal ?

V. E. Observer: Howell Rice

Certification Expiration: 10-21-83

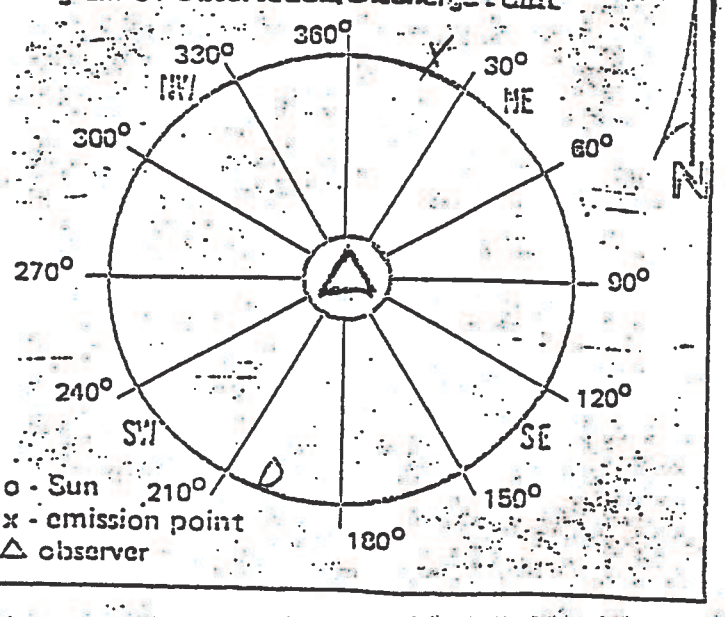
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| ~~South Stack~~ | 11:00 AM | 11:05 | 160 | 6.7 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N.E | |
| Wind speed | 5 mph | |
| Ambient temperature | 87 | |
| Discharge temperature | | |
| Sky conditions | Partly Cloudy | |

Overall Average: 7

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

Plant Name: Hercules Inc

Address: W 7th Street

City: H'burg, Miss

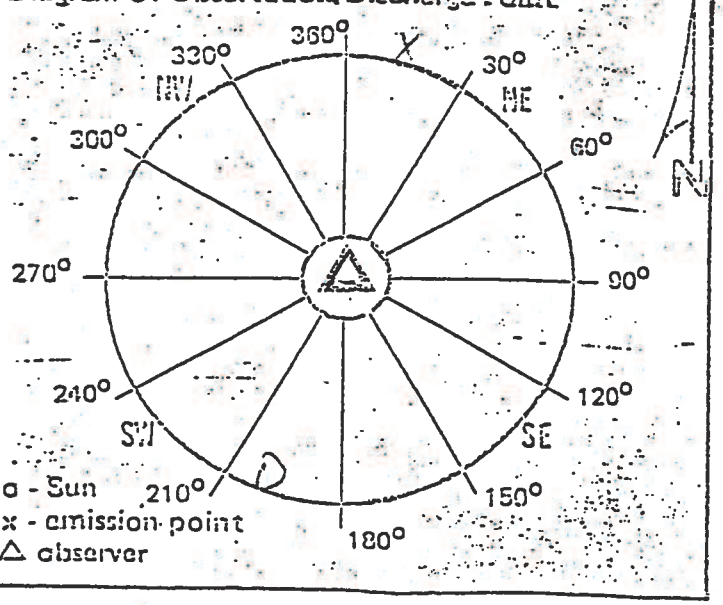
Emission Point:

Date: 7-18-83

Is emission point operation normal ?

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | S.E | |
| Wind speed | 5 Mph | |
| Ambient temperature | 87 | |
| Discharge temperature | | |
| Sky conditions | P. Cloudy | |

Diagram Of Observation/Discharge Point




V. E. Observer: Howard Russ

Certification Expiration: 10-21-83

| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North Stack | 12 20 pm | 12 25 pm | 140 | 5.8 |
| | | | | |
| | | | | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Remarks:

Received By:

Visible Emissions Evaluation Record

Plant Name: Telectics Inc

Address: W 7th Street

City: H'burg, Miss

Emission Point:

Date: 7-18-83

Is emission point operation normal ?

V. E. Observer: Howell Rives

Certification Expiration: 10-21-83

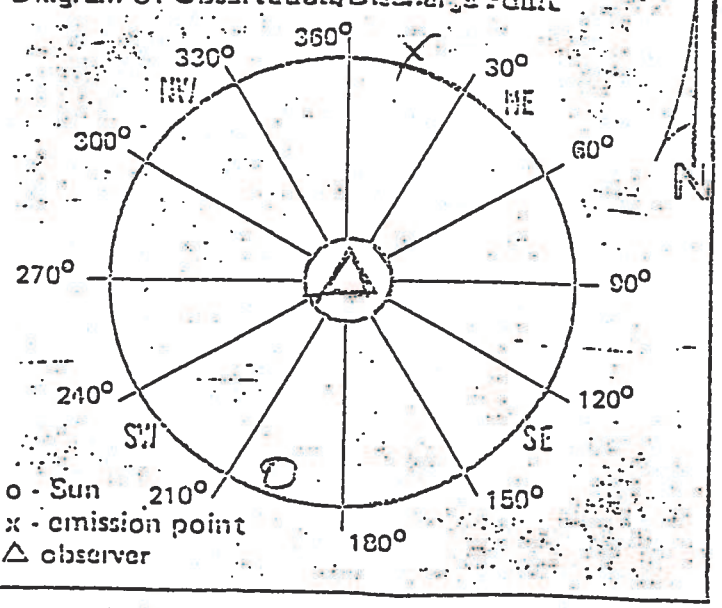
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South Stack | 12 20 pm | 12 25 pm | 435 | 18.1 |
| | | | | |
| | | | | |

Overall Average: 11

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 | LENGTHS |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | S.E | |
| Wind speed | 5 mph | |
| Ambient temperature | 87 | |
| Discharge temperature | | |
| Sky conditions | P. Cloudy | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 30 | 30 | 25 | 25 |
| 1 | 25 | 25 | 25 | 25 |
| 2 | 15 | 15 | 15 | 15 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 25 | 20 | 20 | 20 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: Hibbing, Minn

Emission Point:

Date: 7-15-83

Is emission point operation normal ?

V. E. Observer: Harold Rice

Certification Expiration: 10-24-83

| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North Stack | 10 5 pm | 1 10 pm | 140 | 5.8 |
| | | | | |
| | | | | |

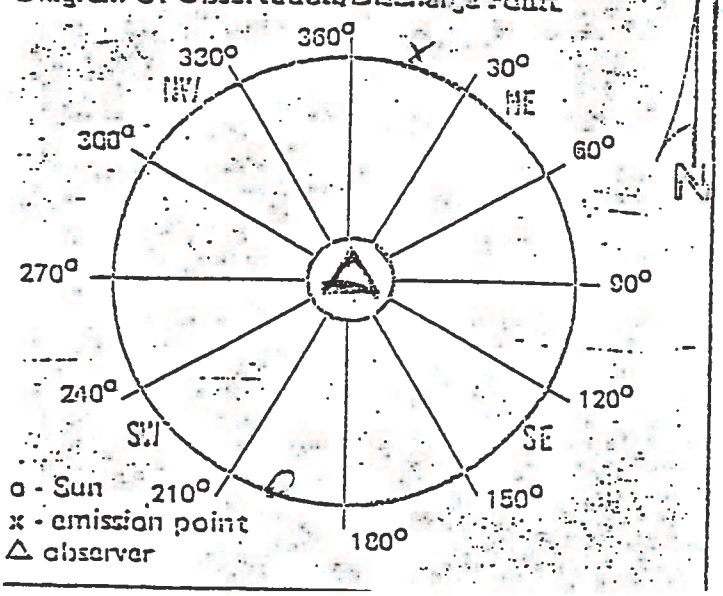
| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | N-E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | S.E | |
| Wind speed | 5 MPH | |
| Ambient temperature | 84 | |
| Discharge temperature | | |
| Sky conditions | Clear | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Remarks:

Diagram Of Observation/Discharge Point



# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: 11 7th Street

City: Hilburg Illinois

Emission Point:

Date: 7-15-23

Is emission point operation normal ?

V. E. Observer: [illegible]

Certification Expiration: 10-31-23

| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South Stack | 1:05 pm | 1:15 pm | 500 | 20.8 |
| | | | | |
| | | | | |

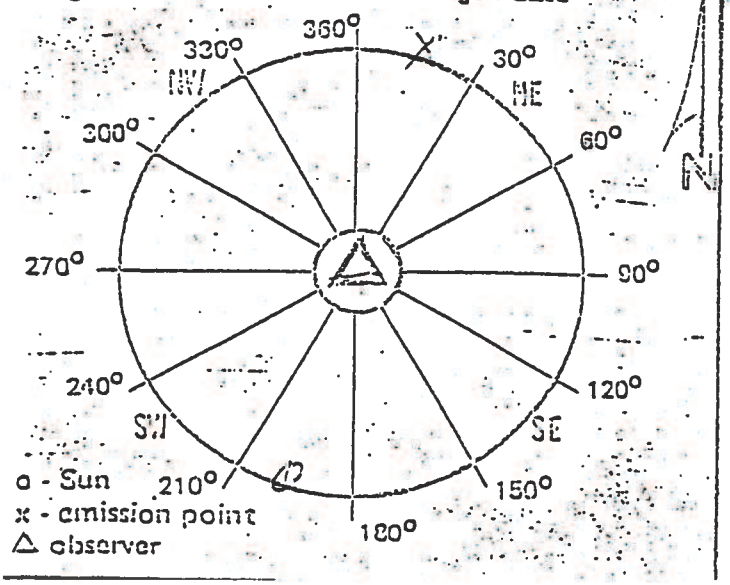
| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | White | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | SE | |
| Wind speed | 5 MPH | |
| Ambient temperature | 89 | |
| Discharge temperature | | |
| Sky conditions | Clear | |

Overall Average: 4

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 20 | 20 | 20 | 20 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 20 | 20 | 20 | 20 |
| 3 | 25 | 25 | 25 | 25 |
| 4 | 20 | 20 | 20 | 20 |
| 5 | 25 | 25 | 25 | 25 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Remarks:

Diagram Of Observation/Discharge Point



Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: H'burg, Miss

Emission Point:

Date: 7-14-83

V. E. Observer: Howell Russ

Certification Expiration: 10-21-83

| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South Stack | 1 25 pm | 1 30 pm | 260 | 10.8 |
| | | | | |
| | | | | |

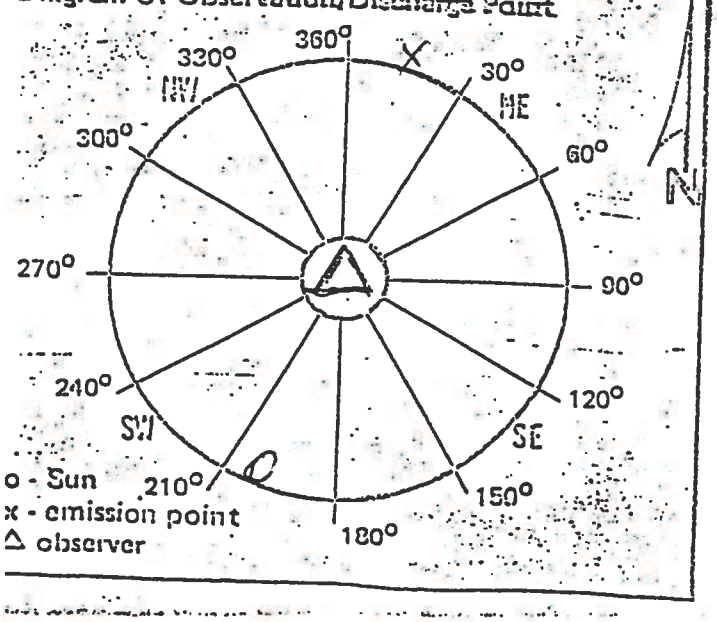
Is emission point operation normal ?

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ Lengths | |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | S.E | |
| Wind speed | 5MPH | |
| Ambient temperature | 89 | |
| Discharge temperature | | |
| Sky conditions | Clear | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc.

Address: W 7th Street

City: H'burg, Miss

Emission Point:

Date: 7-14-83

Is emission point operation normal ?

V. E. Observer: Howell Russ

Certification Expiration: 10-21-83

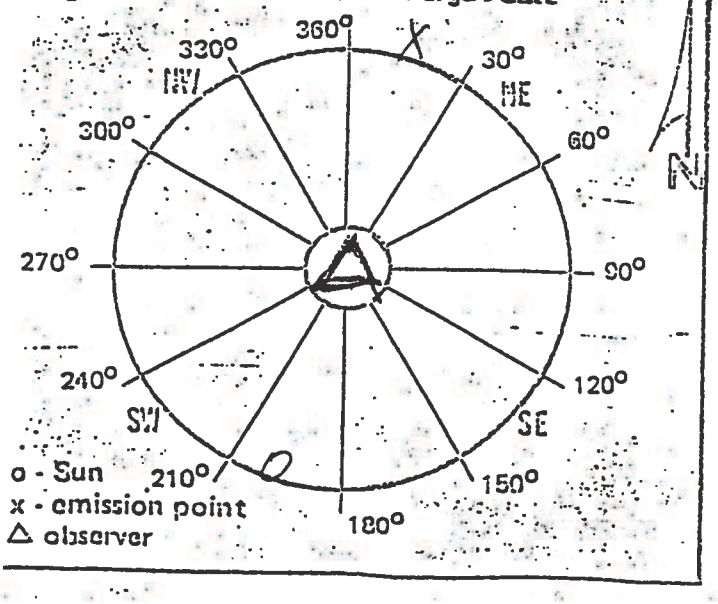
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North Stack | 1 25 pm | 1 30 pm | 560 | 23.3 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 | Lengths |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | S.E. | |
| Wind speed | 5 mph | |
| Ambient temperature | 89 | |
| Discharge temperature | | |
| Sky conditions | Clear | |

Overall Average: 4

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 20 | 25 | 20 | 20 |
| 1 | 25 | 30 | 25 | 25 |
| 2 | 20 | 25 | 30 | 30 |
| 3 | 20 | 25 | 25 | 25 |
| 4 | 20 | 20 | 20 | 20 |
| 5 | 15 | 15 | 20 | 20 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

Visible Emissions Evaluation Record

Plant Name: HERCULES, INC.

Address: 10 7th Street

City: H'Burg Miss

Emission Point:

Date: 7-13-83

Is emission point operation normal ?

V. E. Observer: [illegible]

Certification Expiration: 10-21-83

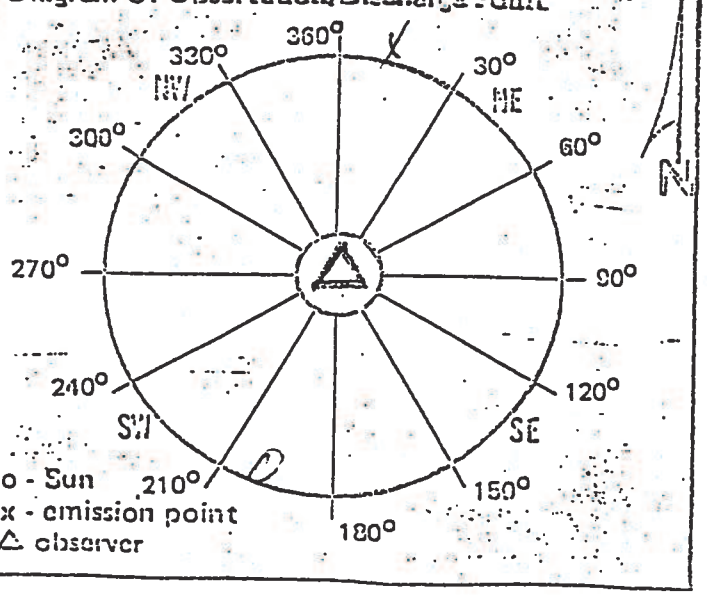
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South Stack | 1:55 pm | 2:00 pm | 525 | 22 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 | LENGTHS |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N.E | |
| Wind speed | 5 MPH | |
| Ambient temperature | 87 | |
| Discharge temperature | | |
| Sky conditions | Clear | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 15 | 15 | 15 | 20 |
| 1 | 15 | 20 | 20 | 15 |
| 2 | 10 | 10 | 15 | 15 |
| 3 | 20 | 20 | 20 | 20 |
| 4 | 30 | 30 | 30 | 30 |
| 5 | 35 | 35 | 35 | 35 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

Visible Emissions Evaluation Record

Plant Name: HERCULES INC

Address: W 7th Street

City: H'burg, Miss

Emission Point:

Date: 7-13-83

Is emission point operation normal ?

V. E. Observer: Howell Russ

Certification Expiration: 7-13-83

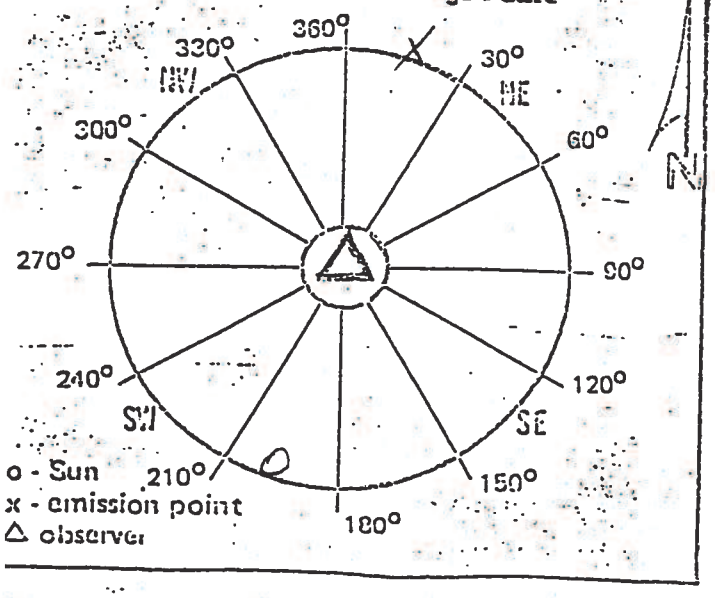
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North Stack | 1 55 pm | 2 00 pm | 720 | 30 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ Lengths | |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N.E | |
| Wind speed | 5MPH | |
| Ambient temperature | 87° | |
| Discharge temperature | | |
| Sky conditions | Clear | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 25 | 25 | 25 | 25 |
| 1 | 30 | 30 | 30 | 30 |
| 2 | 35 | 35 | 35 | 35 |
| 3 | 30 | 30 | 30 | 30 |
| 4 | 30 | 30 | 30 | 30 |
| 5 | 30 | 30 | 30 | 30 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

Visible Emissions Evaluation Record

Plant Name: HERCULES INC.

Address: W. 7th STREET

City: Hibbing Minn

Emission Point:

Date: 7-12-83

Is emission point operation normal ?

V. E. Observer: Howard Ries

Certification Expiration: 12-21-83

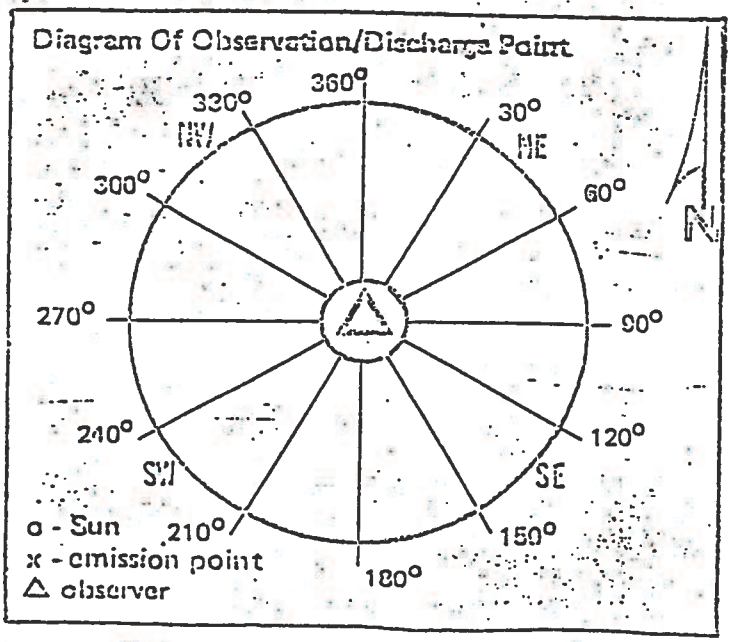
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South Stack | 2 25 pm | 2 30 pm | 220 | 9 |
| | | | | |
| | | | | |

Overall Average:

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ | Lengths |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N.E | |
| Wind speed | 5MPH | |
| Ambient temperature | 89 | |
| Discharge temperature | | |
| Sky conditions | Clear | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

Visible Emissions Evaluation Record

Plant Name: Hercules, Inc

Address: W. 7th Street

City: Hibbing Minn

Emission Point:

Date: 7-12-83

Is emission point operation normal ?

V. E. Observer: Howard Ries

Certification Expiration: 10-21-83

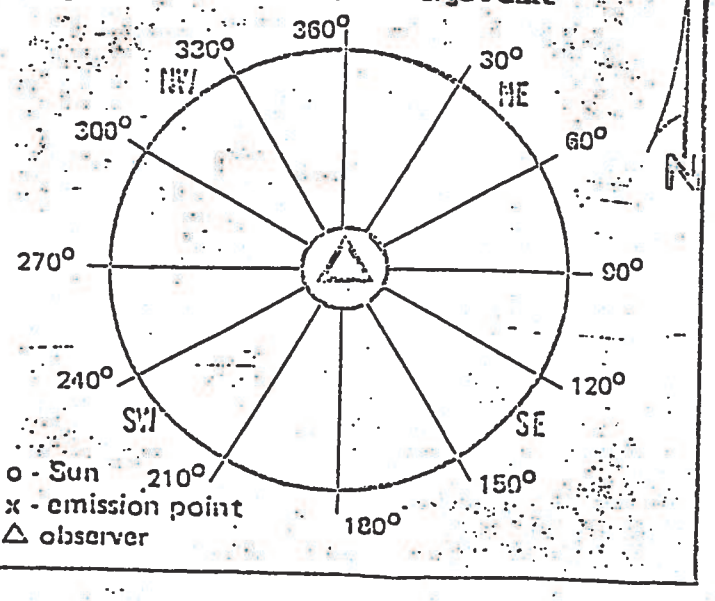
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North Stack | 2 25 pm | 2 30 pm | 300 | 12.5 |
| | | | | |
| | | | | |

Overall Average: 11

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | N.E | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N.E | |
| Wind speed | 5MPH | |
| Ambient temperature | 89 | |
| Discharge temperature | | |
| Sky conditions | Clear | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 15 | 15 | 15 | 15 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

Plant Name: HERCULES INC

Address: W 7th Street

City: Hattiesburg

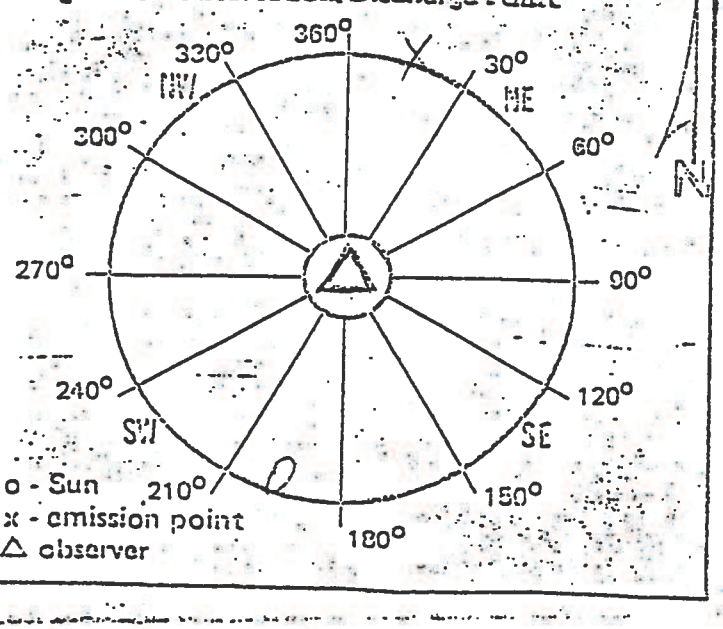
Emission Point:

Date: 7-11-83

Is emission point operation normal ?

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Length | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | NE | |
| Wind speed | 5 MPH | |
| Ambient temperature | 87 | |
| Discharge temperature | | |
| Sky conditions | Clear | |

Diagram Of Observation/Discharge Point




V. E. Observer: Howell Kress

Certification Expiration: 10-21-83

| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South | 1:30 | 1:35 | 140 | 6 |
| | | | | |
| | | | | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Remarks:

Received By:

Plant Name: Hercules, INC

Address: W 7th Street

City: Hibing, Mnn

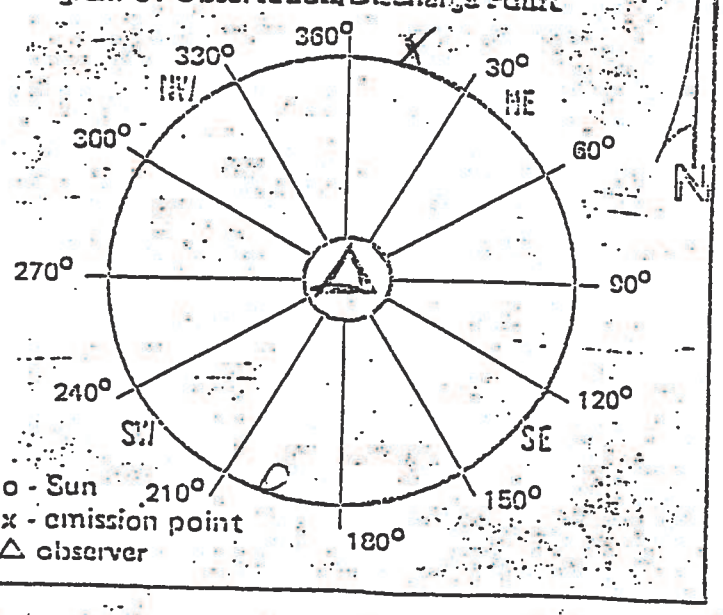
Emission Point:

Date: 7-11-83

Is emission point operation normal ?

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ Lengths | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Gray | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | NE | |
| Wind speed | 5MPH | |
| Ambient temperature | 87 | |
| Discharge temperature | | |
| Sky conditions | Clear | |

Diagram Of Observation/Discharge Point




V. E. Observer: Howell Russo

Certification Expiration: 10-21-83

| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North | 1:30 | 1:35 | 250 | 10 |
| | | | | |
| | | | | |

Overall Average: 11

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 5 | 10 | 5 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc.

Address: W 7th Street

City: Hilly

Emission Point:

Date: 7-8-83

Is emission point operation normal ?

V. E. Observer: Carroll Fawing

Certification Expiration: 10-21-83

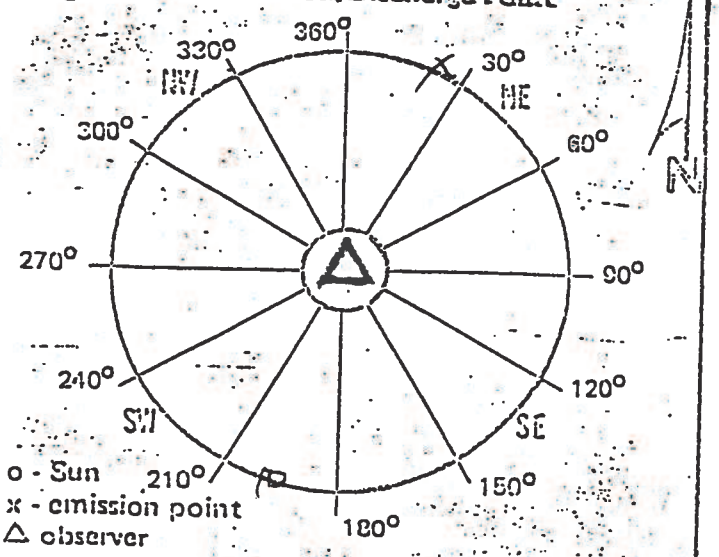
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South | 12:45 Pm | 12:57 Pm | 285 | 11.9 |
| | | | | |
| | | | | |

Overall Average:

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1/2 L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown + White | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | E | |
| Wind speed | 10 MPH | |
| Ambient temperature | 90° | |
| Discharge temperature | | |
| Sky conditions | Pl. | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 15 | 10 |
| 1 | 10 | 15 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 15 |
| 4 | 15 | 15 | 20 | 15 |
| 5 | 15 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: H'ly

Emission Point:

Date: 7-8-83

Is emission point operation normal ?

V. E. Observer: Carroll Lawing

Certification Expiration: 10-21-83

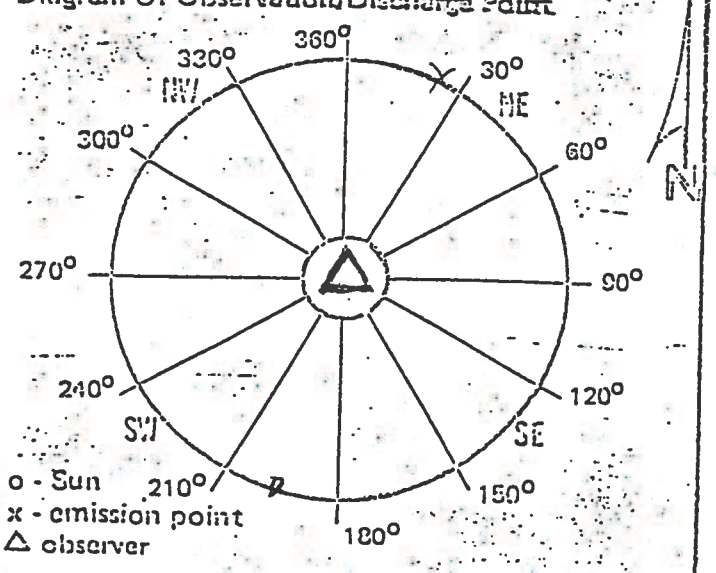
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North | 12:45PM | 12:57PM | 405 | 16.9 |
| | | | | |
| | | | | |

Overall Average:

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown & White | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | E | |
| Wind speed | 10MPH | |
| Ambient temperature | 90° | |
| Discharge temperature | | |
| Sky conditions | PC | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 15 | 15 | 15 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 15 | 15 | 15 | 20 |
| 3 | 20 | 20 | 20 | 20 |
| 4 | 20 | 20 | 20 | 20 |
| 5 | 15 | 15 | 15 | 20 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: H'ly

Emission Point:

Date: 7.7.83

Is emission point operation normal ?

V. E. Observer: Russell Rowing

Certification Expiration: 10-21-83

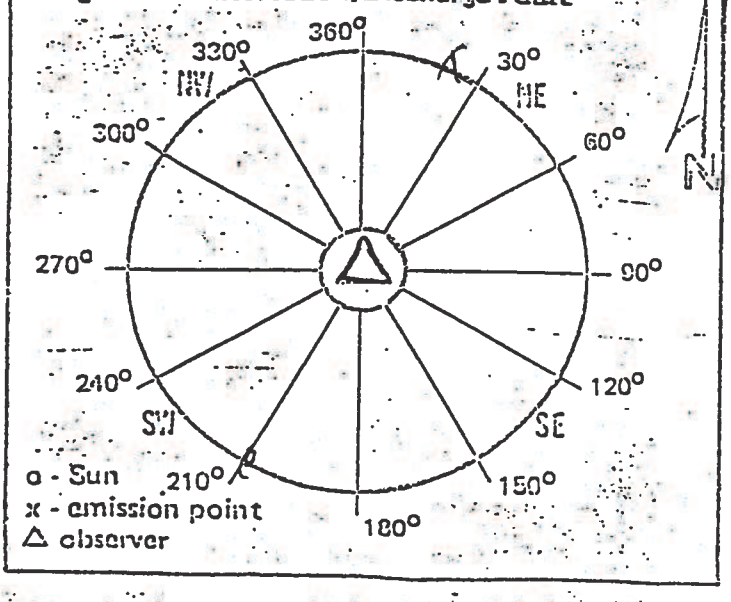
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South | 1:55Pm | 2:01Pm | 290 | 12.3 |
| | | | | |
| | | | | |

Overall Average: 11

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown + white | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N | |
| Wind speed | 10mph | |
| Ambient temperature | 84° | |
| Discharge temperature | | |
| Sky conditions | FAIR | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 15 | 10 | 10 | 10 |
| 3 | 10 | 15 | 15 | 15 |
| 4 | 10 | 10 | 15 | 15 |
| 5 | 15 | 10 | 15 | 15 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: Hibbing

Emission Point:

Date: 7-7-83

Is emission point operation normal ?

V. E. Observer: Carroll Rudey

Certification Expiration: 10-21-83

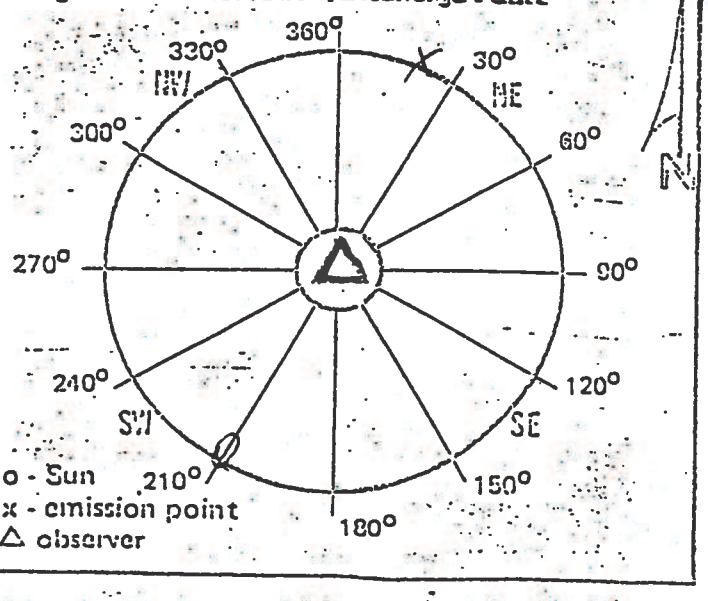
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North | 1:03 PM | 2:01 PM | 505 | 21.0 |
| | | | | |
| | | | | |

Overall Average:

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1/2 L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown + white | |
| Plume background | Blue | |
| Water vapor in plume ? | | |
| Wind direction (from) | N | |
| Wind speed | 10 MPH | |
| Ambient temperature | 89° | |
| Discharge temperature | | |
| Sky conditions | Fair | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 15 | 20 | 20 | 20 |
| 1 | 20 | 20 | 25 | 20 |
| 2 | 20 | 20 | 15 | 15 |
| 3 | 15 | 20 | 20 | 20 |
| 4 | 15 | 20 | 20 | 20 |
| 5 | 20 | 25 | 30 | 45 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: H'ley

Emission Point:

Date: 7-6-83

Is emission point operation normal ?

V. E. Observer: Carroll Lowery

Certification Expiration: 10-21-83

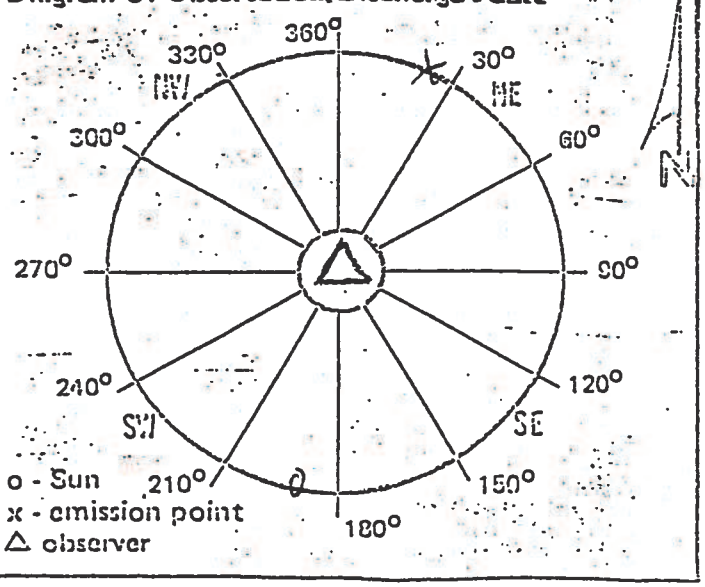
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South | 1:45 Pm | 1:57 Pm | 165 | 6.9 |
| | | | | |
| | | | | |

Overall Average:

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | white + | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | | |
| Wind speed | 5 mPH | |
| Ambient temperature | 90°c | |
| Discharge temperature | | |
| Sky conditions | PC | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 5 | 5 | 5 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: H'by

Emission Point:

Date: 7-6-83

Is emission point operation normal ?

V. E. Observer: Carroll Lowery

Certification Expiration: 10-21-83

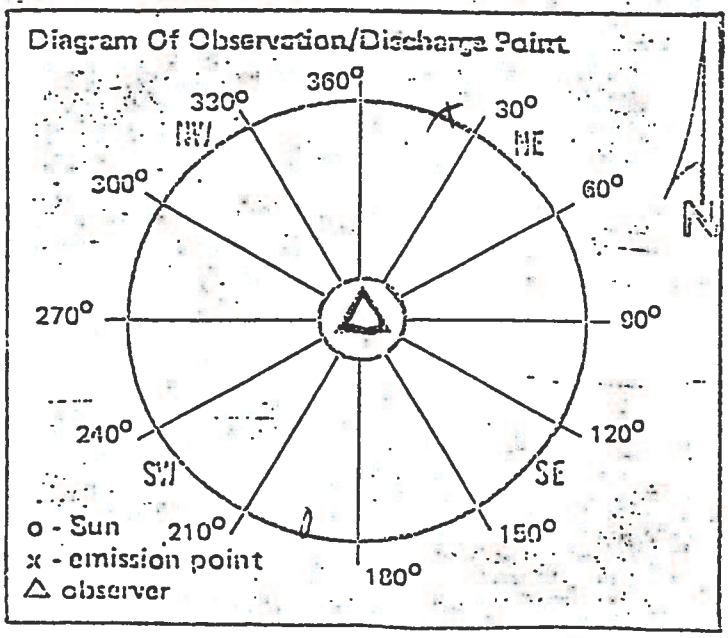
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North | 1:45 Pm | 1:57 Pm | 390 | 16.3 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | white | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | | |
| Wind speed | 3mph | |
| Ambient temperature | 90°F | |
| Discharge temperature | | |
| Sky conditions | PC | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 20 | 20 | 25 | 25 |
| 1 | 25 | 20 | 20 | 25 |
| 2 | 25 | 20 | 15 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 15 | 15 | 15 |
| 5 | 15 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: Hilly

Emission Point:

Date: 7-5-83

Is emission point operation normal ?

V. E. Observer: Carroll Lowery

Certification Expiration: 10-21-83

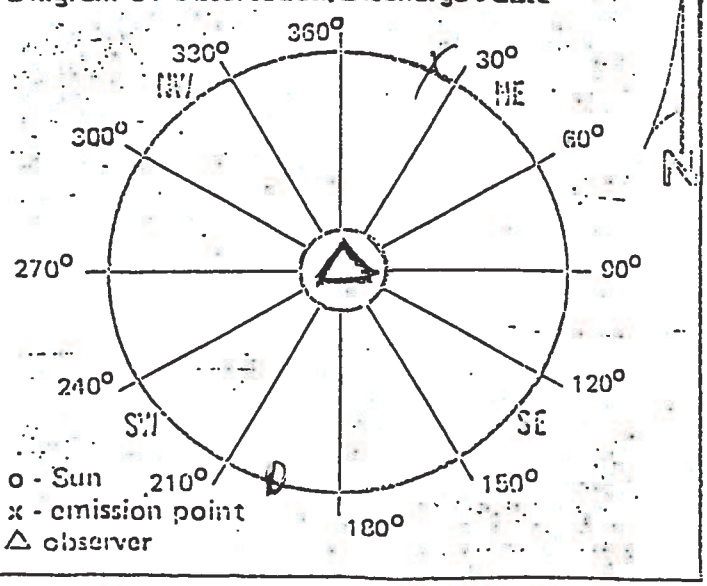
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| Fourth | 12:40 PM | 12:57 PM | 395 | 16.5 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown + Black | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | SW | |
| Wind speed | 5 MPH | |
| Ambient temperature | 90° | |
| Discharge temperature | | |
| Sky conditions | Clear | |

Overall Average:

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 30 | 30 |
| 1 | 30 | 25 | 20 | 10 |
| 2 | 10 | 10 | 15 | 15 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 15 | 15 | 15 | 15 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: Hilly

Emission Point:

Date: 7.5.83

Is emission point operation normal ?

V. E. Observer: Carroll Sewing

Certification Expiration: 10-21-83

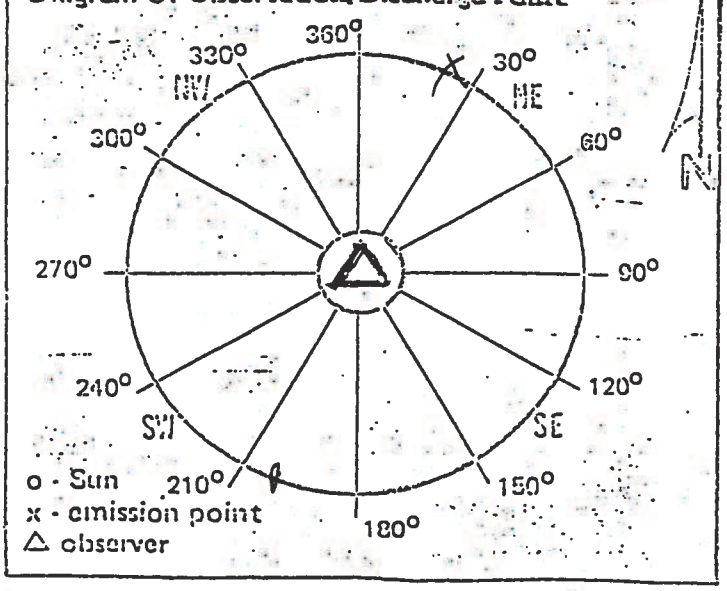
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North | 12:40 Pm | 12:57 Pm | 205 | 10.6 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown Black | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | SW | |
| Wind speed | 5 MPH | |
| Ambient temperature | 90 c | |
| Discharge temperature | | |
| Sky conditions | PC | |

Overall Average: 11

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 15 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 15 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W - 7th Street

City: H'burg, Miss

Emission Point:

Date: 7-1-83

Is emission point operation normal ?

V. E. Observer: Howell Russ

Certification Expiration: 10-21-83

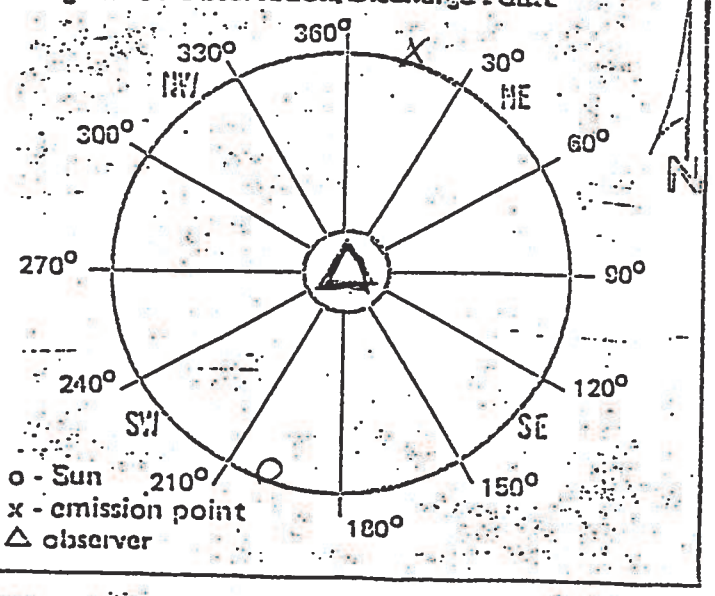
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| North Stack | 11:05 Am | 11:10 Am | 375 | 16 |
| | | | | |
| | | | | |

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | | |
| Height of observation point | N.E | |
| Height of discharge | | |
| Plume color | Black | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | S.E | |
| Wind speed | 5 Mph | |
| Ambient temperature | 84° | |
| Discharge temperature | | |
| Sky conditions | P. Cloudy | |

Overall Average: 11

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 20 | 20 | 20 | 20 |
| 1 | 25 | 25 | 25 | 25 |
| 2 | 20 | 20 | 20 | 20 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 5 | 10 | 5 | 5 |
| 5 | 10 | 10 | 5 | 5 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: H'burg, Miss

Emission Point:

Date: 7-1-83

V. E. Observer: Howell Russ

Certification Expiration: 10-21-83

| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| South Stack | 11 00 am | 11 10 Am | 250 | 10 |
| | | | | |
| | | | | |

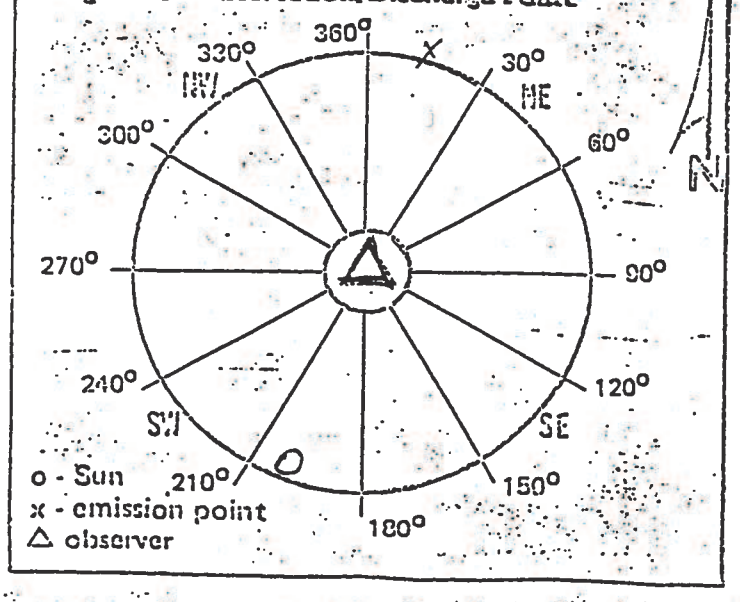
Is emission point operation normal ?

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1 1/2 Lengths | |
| Direction to discharge | N.E. | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Black | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | S.E | |
| Wind speed | 5 M.P.H | |
| Ambient temperature | 84° | |
| Discharge temperature | | |
| Sky conditions | P.Cloudy | |

Overall Average: 11

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 15 | 15 | 10 | 15 |
| 2 | 5 | 10 | 5 | 10 |
| 3 | 10 | 10 | 15 | 15 |
| 4 | 10 | 15 | 15 | 10 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

**MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES**
**Bureau of Pollution Control**
**P. O. Box 10385**
**Jackson, Mississippi 39209**
**(601) 961-5171**

# MEMORANDUM

**TO:** DON WATTS
**FROM:** MARGARET HASE
**SUBJECT:** HERCULES, INC./FORREST COUNTY/0800-00001
**DATE:** JUNE 2, 1983

---

On the above date Heidi Mowery and I conducted half-hourly V.E. Examinations at Hercules, Inc., of Hattiesburg. Said evaluations were initiated at 6:15 A.M. and continued throughout the day until 7:13 P.M. Due to the high sun angle between 12:00 noon and 12:30 P.M., a V.E.E. was not conducted during this period, although visual contact was maintained. Two locations, one for all morning V.E.E.'s and one for all afternoon V.E.E.'s, were used while monitoring the stacks. Our presence was detected by Hercules officials prior to 7:00 A.M..

As may be seen from the enclosed V.E.E. records, no emissions greater than 40% occurred throughout the day from the south stack (boilers #1 and #2); only two excursions above 40% were noted from the north stack (boilers #3 and #4). The first occurred at about 10:30 A.M. between V.E.E. sets 27 and 28, and lasted approximately 15 seconds; the second occurred at 6:15 P.M. during V.E.E. set 72, and lasted 30 seconds.

The following day, we met with Mr. Byron Golden, Mr. Jim VanDevander and Mr. Charles Jordan of Hercules, Inc., to verify their records with our findings. We were shown the opacity strip charts for each boiler, the firemen's logs of operation, opacity evaluation sheets (copies enclosed) and the steam production chart (copy enclosed) for June 2nd. Mr. VanDevander informed us that boiler #2 had been inoperative all day. From the firemen's logs can be deduced the times during our monitoring period when grates were cleaned, when load changes occurred and when the opacity monitors were off line. We were told by Mr. VanDevender that since our inspection of May 2, 1983, that the boiler operator or fireman personally makes an entry on the opacity evaluation sheet each time the alarm sounds. Additionally, the operators name appears below the date on each sheet.

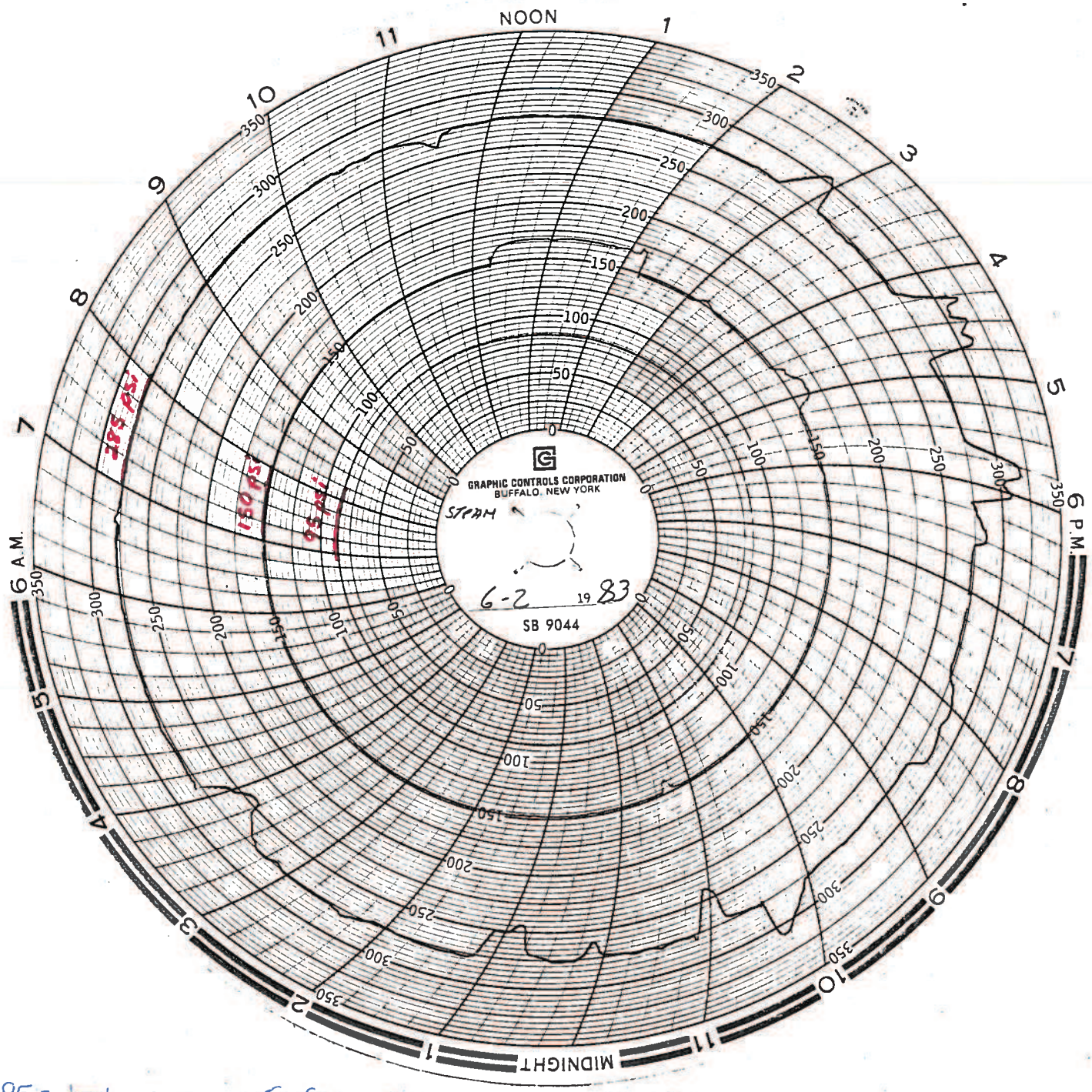
We found that appropriate entries were made for each excursion above 40% that was observed. The grates for boiler #1 were cleaned from 7:00-8:00 A.M., 11:20-12:15 P.M. and from 7:15-8:15 P.M. The grates for boiler #3 were cleaned from 8:01-9:15 A.M., 3:25-4:50 P.M. and from 8:15-9:00 P.M. The grates for boiler #4 were cleaned from 10:30-11:15 A.M. and from 4:50-6:10 P.M. The opacity charts showed no excursions for boiler #1, boiler #2 was not operating, no excursions for boiler #3 and one excursion at approximately 6:15 P.M. for boiler #4. The opacity monitor for unit #4 was out of service between 8:00-10:30 A.M.

It may be interesting to note how well excessive emissions were controlled throughout the days operations, despite the load changes, grate cleanings, etc.

If you have any questions, please contact me.

Margaret Hase

MARGARET HASE




95 = back pressure off of generator

150 = low-pressure prod. line (1/4 of plant)

285 = high-pressure prod. line (3/4 of plant)

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-2-85

7/3

?

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 715 | 15 Sec | 5 | | | | 718 | 25 Sec | 5 | 719 | 35 Sec | 5 |
| | | | | | | | | | 1032 | 5 Sec | 3 |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-2-93

3-11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 9:3[illegible] | 3-5 | 1 | | | | 6:14 | 2-3 | 1 | | | |
| 10:06 | 2-5 | 1 | | | | | | | | | |

NOTES: Heating

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-2-83

11-1

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:06 | 0.5 | 3 | | | | 4:09 | 2 Sec | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION REC
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: north stack
RECEIVED BY: [illegible]

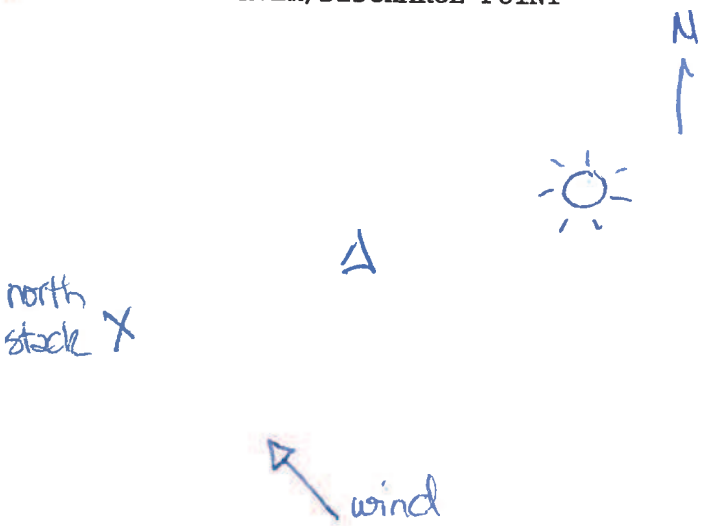
V.E. OBSERVER: Heidi Mowery
V.E. CERTIFICATION NO.: —
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 1 | 6:15 | 6:21 | 410 | 17.1 |
| 2 | 6:21 | 6:27 | 310 | 12.9 |
| 3 | 6:27 | 6:33 | 270 | 11.3 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 70° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 15 | 15 | 20 | 15 |
| 1 | 20 | 15 | 15 | 15 |
| 2 | 20 | 20 | 20 | 15 |
| 3 | 20 | 20 | 20 | 20 |
| 4 | 15 | 15 | 20 | 15 |
| 5 | 15 | 15 | 15 | 15 |
| 0 | 15 | 15 | 15 | 15 |
| 1 | 10 | 10 | 15 | 15 |
| 2 | 15 | 15 | 15 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 15 | 15 | 15 |
| 5 | 15 | 10 | 10 | 15 |
| 0 | 15 | 10 | 10 | 10 |
| 1 | 10 | 15 | 10 | 10 |
| 2 | 10 | 10 | 15 | 15 |
| 3 | 15 | 15 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 13.8%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.:

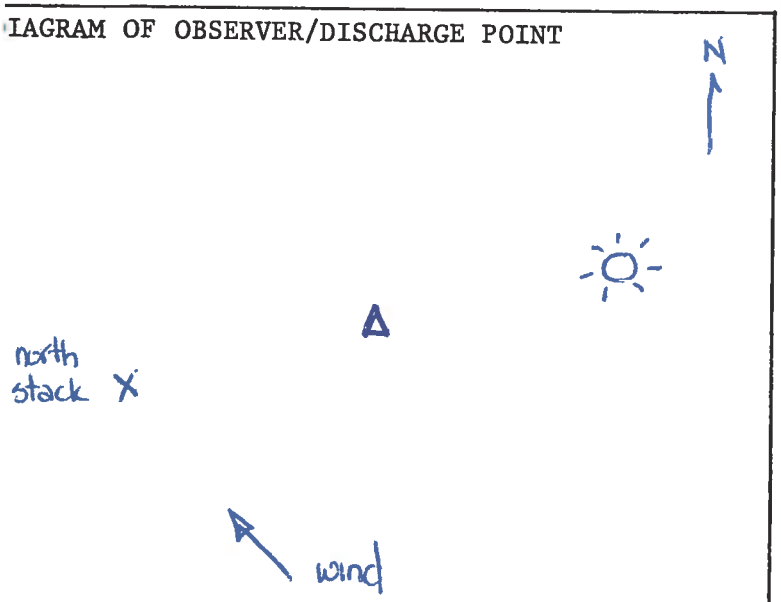
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 4 | 6:38 | 6:44 | 295 | 12.3 |
| 5 | 6:44 | 6:50 | 280 | 11.7 |
| 6 | 6:50 | 6:56 | 300 | 12.5 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 70° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 20 | 20 | 15 | 15 |
| 1 | 15 | 15 | 20 | 15 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 5 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 15 |
| 0 | 10 | 15 | 10 | 15 |
| 1 | 15 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 15 |
| 3 | 15 | 10 | 10 | 15 |
| 4 | 15 | 10 | 10 | 10 |
| 5 | 10 | 15 | 10 | 10 |
| 0 | 15 | 15 | 15 | 15 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 10 | 20 | 15 | 15 |
| 3 | 15 | 10 | 10 | 15 |
| 4 | 10 | 10 | 5 | 5 |
| 5 | 10 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 12.2%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: north stack
RECEIVED BY: [illegible]

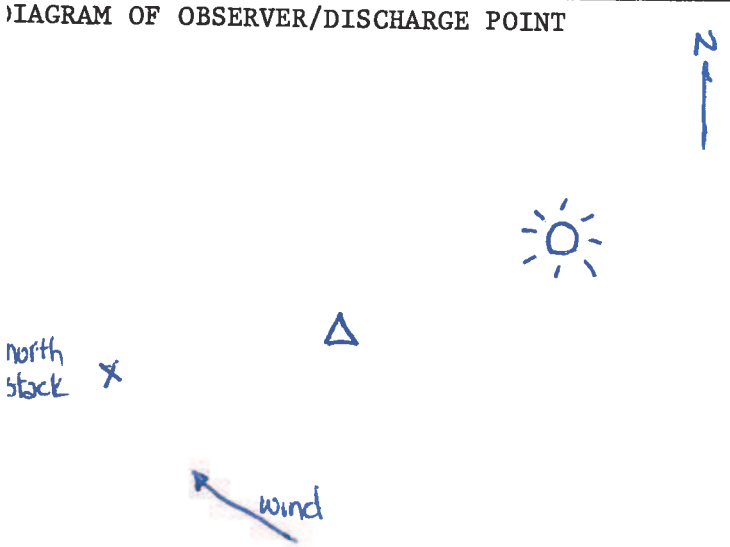
V.E. OBSERVER: Heidi Mowery
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 7 | 7:02 | 7:08 | 165 | 6.9 |
| 8 | 7:08 | 7:14 | 195 | 8.1 |
| 9 | 7:14 | 7:20 | 215 | 9.0 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 70° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 5 |
| 1 | 5 | 10 | 5 | 10 |
| 2 | 5 | 10 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 10 | 5 | 10 |
| 5 | 10 | 5 | 5 | 5 |
| 0 | 5 | 10 | 5 | 10 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 5 | 5 |
| 0 | 10 | 10 | 10 | 5 |
| 1 | 10 | 5 | 10 | 10 |
| 2 | 10 | 5 | 10 | 10 |
| 3 | 10 | 15 | 10 | 5 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 5 | 5 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 8%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: HERCULES, INC.

ADDRESS: P.O. Box 1937

CITY: HATTIESBURG

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: HEIDI MOWERY

V.E. CERTIFICATION NO.: —

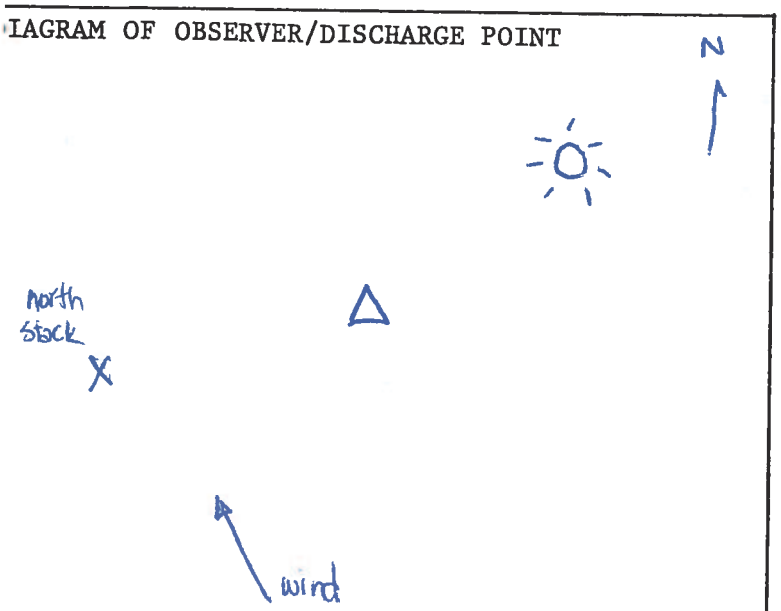
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | [illegible]' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey/brown | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 70° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 10 | 7:40 | 7:46 | 220 | 9.2 |
| 11 | 7:46 | 7:52 | 215 | 9.0 |
| 12 | 7:52 | 7:58 | 215 | 9.0 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 5 | 10 | 5 |
| 1 | 5 | 10 | 10 | 5 |
| 2 | 5 | 15 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 15 | 10 | 5 |
| 0 | 10 | 10 | 10 | 5 |
| 1 | 5 | 10 | 10 | 5 |
| 2 | 10 | 5 | 5 | 5 |
| 3 | 5 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 15 | 15 | 10 | 10 |
| 0 | 15 | 15 | 10 | 10 |
| 1 | 10 | 10 | 15 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 5 | 10 | 10 | 5 |
| 4 | 5 | 10 | 5 | 5 |
| 5 | 5 | 10 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 9.1

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: north stack
RECEIVED BY: [illegible]

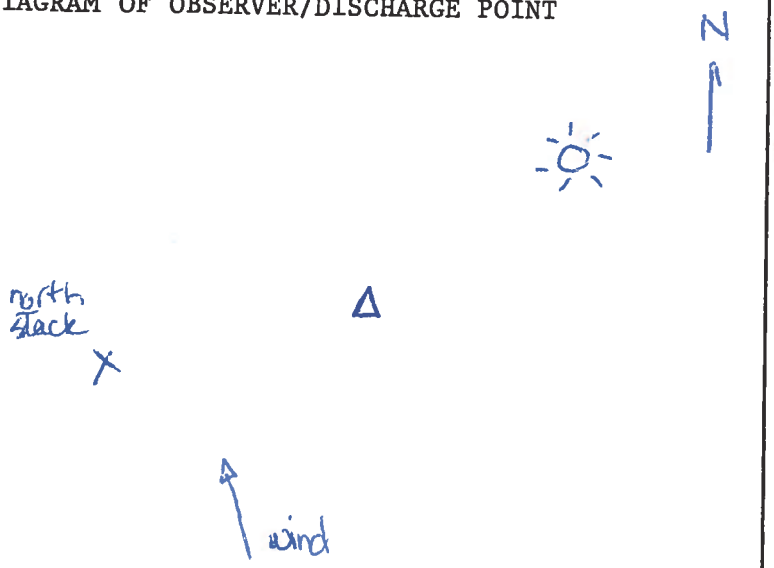
V.E. OBSERVER: Heidi Mowery
V.E. CERTIFICATION NO.: —
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 13 | 8:05 | 8:11 | 195 | 8.1 |
| 14 | 8:11 | 8:17 | 230 | 9.6 |
| 15 | 8:17 | 8:23 | 305 | 12.7 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey/brown | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | Light | |
| AMBIENT TEMPERATURE | 72° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 10 | 10 | 10 |
| 2 | 10 | 5 | 10 | 10 |
| 3 | 5 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 5 |
| 5 | 5 | 10 | 10 | 10 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 5 | 10 | 10 |
| 3 | 10 | 10 | 5 | 10 |
| 4 | 10 | 10 | 10 | 15 |
| 5 | 10 | 10 | 10 | 15 |
| 0 | 15 | 15 | 10 | 10 |
| 1 | 15 | 15 | 10 | 15 |
| 2 | 15 | 20 | 15 | 15 |
| 3 | 10 | 15 | 15 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 15 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 10.1 %

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION REC
DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack.

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

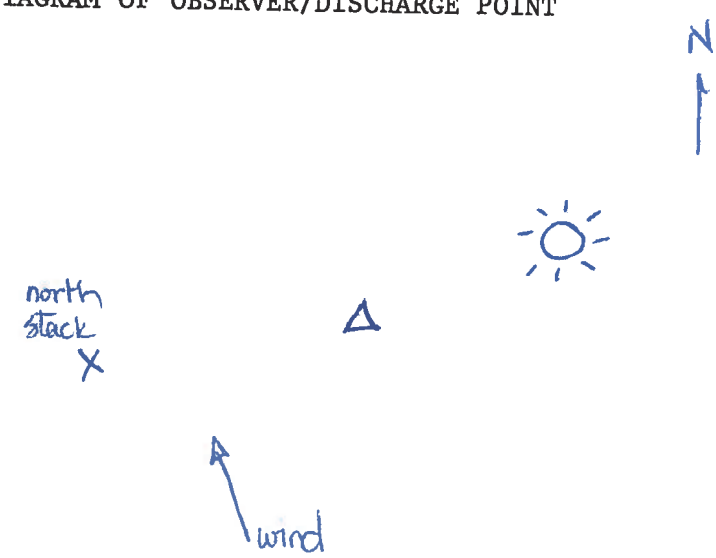
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey / brown | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 72° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 16 | 8:30 | 8:36 | 235 | 9.8 |
| 17 | 8:36 | 8:42 | 305 | 12.7 |
| 18 | 8:42 | 8:48 | 215 | 9.0 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 5 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 5 | 5 | 10 |
| 4 | 10 | 15 | 10 | 15 |
| 5 | 10 | 15 | 10 | 10 |
| 0 | 10 | 10 | 15 | 10 |
| 1 | 10 | 15 | 15 | 10 |
| 2 | 15 | 15 | 15 | 15 |
| 3 | 10 | 10 | 10 | 15 |
| 4 | 10 | 10 | 20 | 10 |
| 5 | 10 | 15 | 15 | 15 |
| 0 | 10 | 5 | 5 | 10 |
| 1 | 10 | 10 | 10 | 5 |
| 2 | 10 | 10 | 10 | 5 |
| 3 | 10 | 10 | 10 | 5 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 10.5%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowbray

V.E. CERTIFICATION NO.: ←

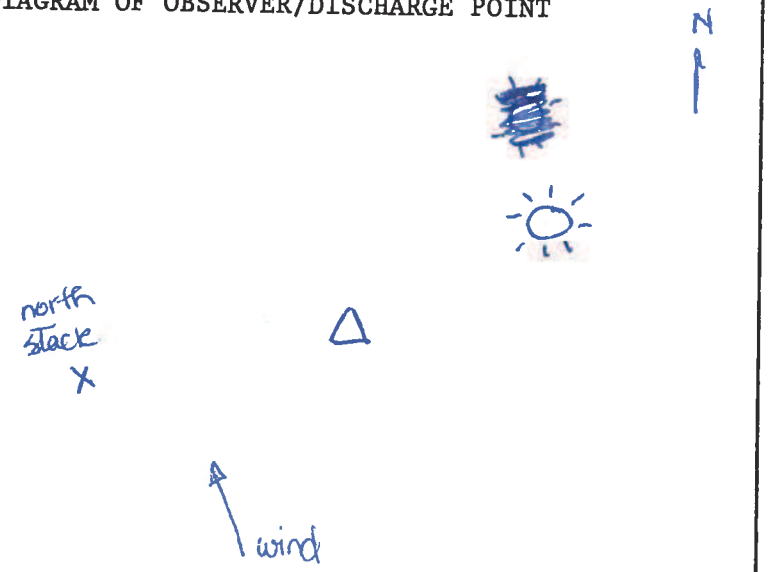
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 75° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 19 | 9:10 | 9:16 | 200 | 8.3 |
| 20 | 9:16 | 9:22 | 215 | 9.0 |
| 21 | 9:22 | 9:28 | 200 | 8.3 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 5 |
| 5 | 10 | 10 | 10 | 5 |
| 0 | 10 | 5 | 10 | 5 |
| 1 | 10 | 10 | 5 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 5 | 10 | 5 |
| 0 | 5 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 5 | 5 | 5 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 8.5%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: north stack
RECEIVED BY: BBS.

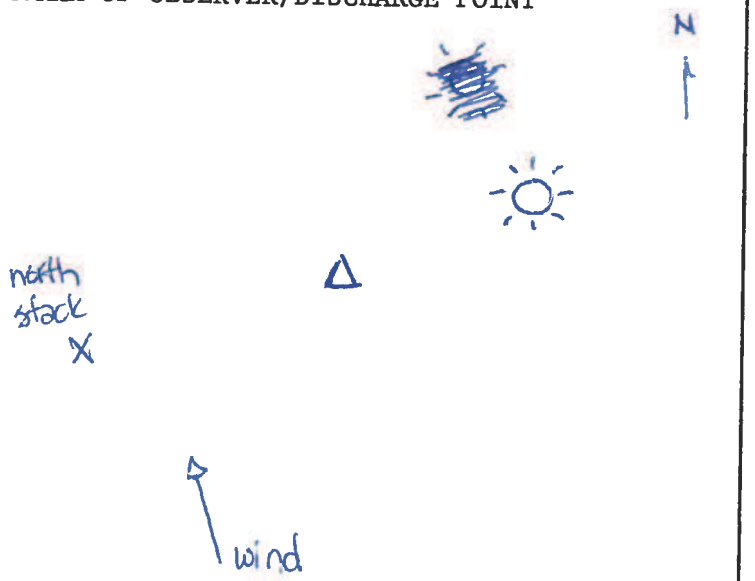
V.E. OBSERVER: Heidi Mowery
V.E. CERTIFICATION NO.: —
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light-moderate | |
| AMBIENT TEMPERATURE | 75° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 22 | 9:32 | 9:38 | 200 | 8.3 |
| 23 | 9:38 | 9:44 | 185 | 7.7 |
| 24 | 9:44 | 9:50 | 175 ~~170~~ | 7.3 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 5 |
| 2 | 5 | 10 | 10 | 10 |
| 3 | 10 | 5 | 10 | 10 |
| 4 | 10 | 10 | 5 | 5 |
| 5 | 5 | 10 | 5 | 10 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 5 | 5 | 5 |
| 3 | 10 | 5 | 5 | 10 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 10 | 5 | 5 |
| 0 | 5 | 10 | 10 | 10 |
| 1 | 5 | 5 | 10 | 5 |
| 2 | 5 | 10 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 5 | 5 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 7.8%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: BB

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

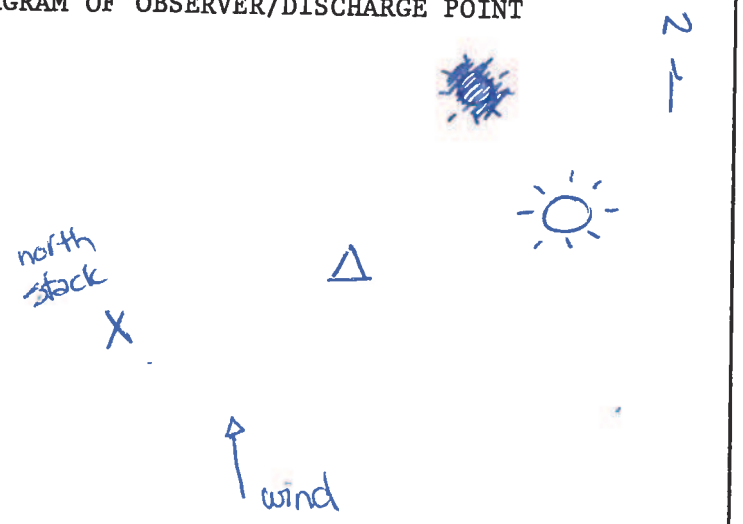
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light-moderate | |
| AMBIENT TEMPERATURE | 78° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | slight haze | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 25 | 10:00 | 10:06 | 225 | 9.4 |
| 26 | 10:06 | 10:12 | 215 | 9.0 |
| 27 | 10:12 | 10:18 | 230 | 9.6 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 5 | 10 | 5 | 5 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 5 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 5 |
| 4 | 5 | 5 | 10 | 5 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | 5 | 10 | 10 | 10 |
| 1 | 10 | 5 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 9.3%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 6' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 80° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | partly cloudy | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 28 | 10:35 | 10:41 | 255 | 10.6 |
| 29 | 10:41 | 10:47 | 270 | 11.3 |
| 30 | 10:47 | 10:53 | 265 | 11.0 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 15 | 10 | 15 | 15 |
| 1 | 15 | 10 | 10 | 15 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 5 |
| 5 | 10 | 5 | 10 | 10 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 15 | 15 | 15 |
| 3 | 15 | 15 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 15 | 10 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 15 |
| 2 | 10 | 15 | 15 | 10 |
| 3 | 15 | 15 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT

REMARKS: overall average = 11.0%
an approximate 15 sec burst of 55% opacity observed between V.E. 27 & V.E. 28.

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: north stack
RECEIVED BY: [illegible]

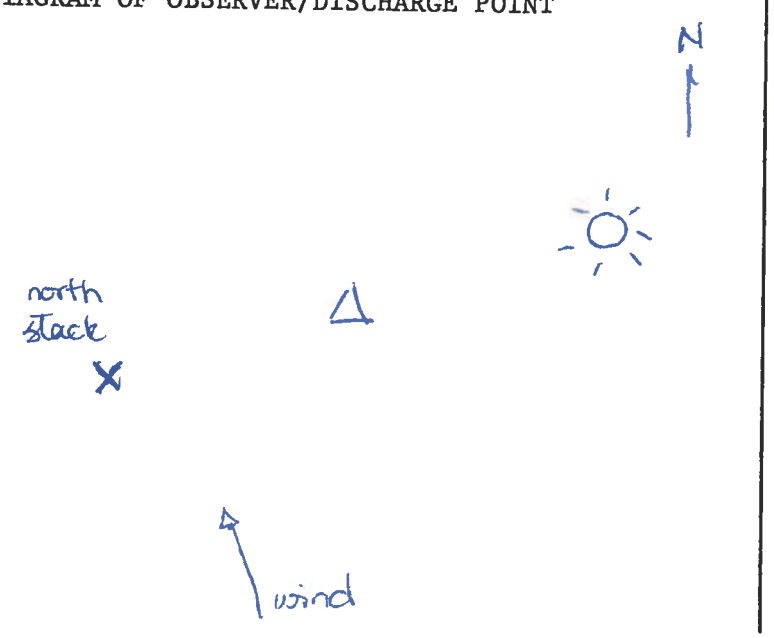
V.E. OBSERVER: Heidi Mowery
V.E. CERTIFICATION NO.: —
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 31 | 11:00 | 11:06 | 245 ~~245~~ | 10.2 ~~10.2~~ |
| 32 | 11:06 | 11:12 | 245 | 10.2 |
| 33 | 11:12 | 11:18 | 195 | 8.1 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 15 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | 15 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 15 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 5 | 10 | 10 | 10 |
| 0 | 10 | 5 | 5 | 10 |
| 1 | 5 | 5 | 10 | 10 |
| 2 | 10 | 5 | 10 | 5 |
| 3 | 10 | 5 | 10 | 10 |
| 4 | 5 | 10 | 5 | 10 |
| 5 | 10 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 9.5%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: north stack
RECEIVED BY: [illegible]

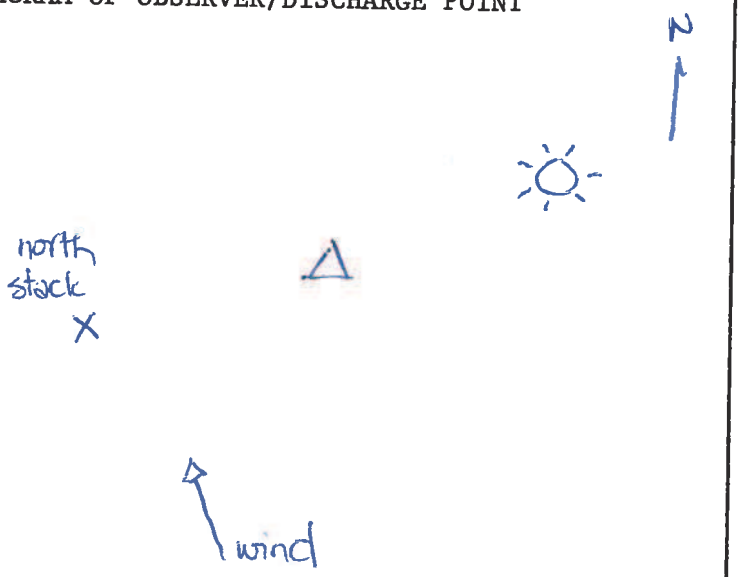
V.E. OBSERVER: Heidi Mowery
V.E. CERTIFICATION NO.: —
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 34 | 11:30 | 11:36 | 240 | 10.0 |
| 35 | 11:36 | 11:42 | 225 | 9.4 |
| 36 | 11:42 | 11:48 | 315 | 13.1 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 15 | 10 | 10 |
| 5 | 10 | 10 | 10 | 5 |
| 0 | 5 | 10 | 10 | 25 |
| 1 | 20 | 15 | 15 | 10 |
| 2 | 10 | 10 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 10 | 5 | 10 | 10 |
| 5 | 5 | 5 | 10 | 10 |
| 0 | 25 | 15 | 10 | 10 |
| 1 | 10 | 20 | 20 | 15 |
| 2 | 10 | 10 | 15 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 15 | 10 |
| 5 | 15 | 10 | 15 | 20 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 10.8%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: north stack
RECEIVED BY: [illegible]

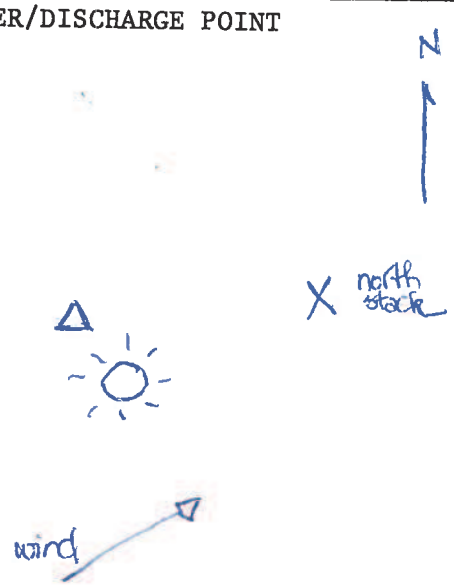
V.E. OBSERVER: Heidi Mowery
V.E. CERTIFICATION NO.: —
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 37 | 12:46 | 12:52 | 460 | 19.2 |
| 38 | 12:52 | 12:58 | 420 | 17.5 |
| 39 | 12:58 | 1:04 | 300 | 12.5 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 15 | 15 | 20 | 20 |
| 1 | 25 | 20 | 25 | 20 |
| 2 | 25 | 20 | 20 | 20 |
| 3 | 25 | 20 | 20 | 15 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 20 | 15 | 20 | 20 |
| 0 | 20 | 15 | 15 | 15 |
| 1 | 15 | 20 | 20 | 15 |
| 2 | 20 | 20 | 20 | 15 |
| 3 | 15 | 15 | 20 | 20 |
| 4 | 15 | 20 | 15 | 20 |
| 5 | 15 | 15 | 15 | 15 |
| 0 | 15 | 20 | 15 | 15 |
| 1 | 15 | 15 | 10 | 10 |
| 2 | 10 | 15 | 15 | 10 |
| 3 | 10 | 10 | 15 | 10 |
| 4 | 10 | 10 | 10 | 15 |
| 5 | 15 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 16.4%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: HERCULES, INC.

ADDRESS: P.O. Box 1937

CITY: HATTIESBURG

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: HEIDI MOWERY

V.E. CERTIFICATION NO.: —

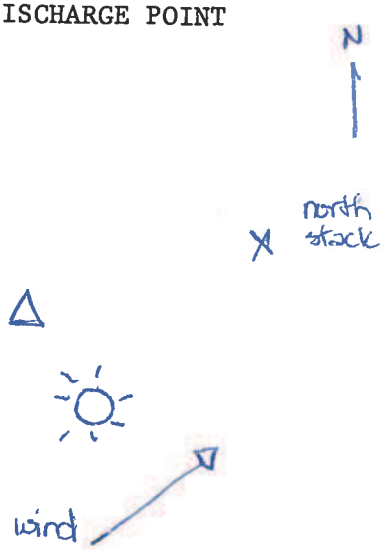
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. cloudy | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 40 | 1:10 | 1:16 | 500 | 20.8 |
| 41 | 1:16 | 1:22 | 465 | 19.4 |
| 42 | 1:22 | 1:28 | 290 | 12.1 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 20 | 25 | 25 | 20 |
| 1 | 20 | 20 | 25 | 20 |
| 2 | 25 | 25 | 20 | 25 |
| 3 | 25 | 20 | 20 | 20 |
| 4 | 25 | 20 | 20 | 20 |
| 5 | 20 | 20 | 20 | 20 |
| 0 | 25 | 25 | 25 | 25 |
| 1 | 20 | 20 | 20 | 20 |
| 2 | 20 | 20 | 25 | 20 |
| 3 | 20 | 25 | 20 | 20 |
| 4 | 15 | 15 | 10 | 15 |
| 5 | 15 | 15 | 15 | 15 |
| 0 | 20 | 20 | 20 | 20 |
| 1 | 15 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 15 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 17.4 %

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
SIBLE EMISSIONS EVALUATION REC
DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

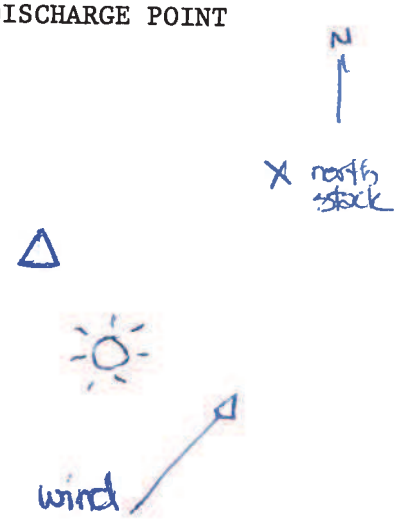
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 43 | 1:30 | 1:36 | 305 | 12.7 |
| 44 | 1:36 | 1:42 | 345 | 14.4 |
| 45 | 1.42 | 1:48 | 215 | 9.0 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 15 | 15 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 15 | 20 | 15 |
| 3 | 15 | 10 | 15 | 10 |
| 4 | 15 | 15 | 10 | 15 |
| 5 | 10 | 15 | 15 | 10 |
| 0 | 15 | 15 | 15 | 10 |
| 1 | 15 | 10 | 15 | 10 |
| 2 | 10 | 15 | 10 | 15 |
| 3 | 20 | 15 | 15 | 20 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 15 | 15 | 15 | 15 |
| 0 | 10 | 15 | 10 | 15 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 15 | 10 |
| 3 | 5 | 5 | 10 | 10 |
| 4 | 5 | 10 | 5 | 5 |
| 5 | 10 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 12.0%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

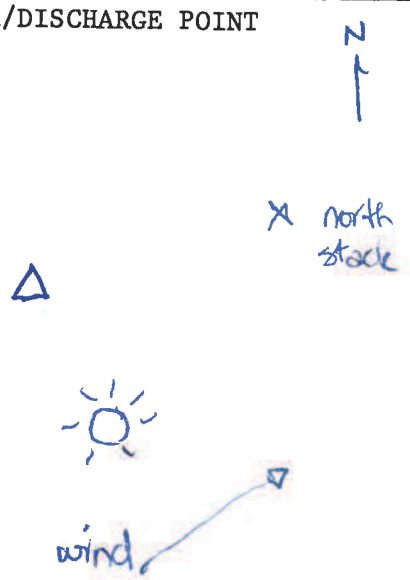
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 46 | 2:00 | 2:06 | 180 | 7.5 |
| 47 | 2:06 | 2:12 | 205 | 8.5 |
| 48 | 2:12 | 2:18 | 195 | 8.1 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SW | |
| WIND SPEED | light-moderate | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 5 | 5 |
| 1 | 5 | 5 | 10 | 10 |
| 2 | 5 | 5 | 5 | 10 |
| 3 | 10 | 5 | 5 | 10 |
| 4 | 5 | 10 | 5 | 5 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 5 | 5 |
| 3 | 10 | 10 | 10 | 5 |
| 4 | 10 | 5 | 5 | 10 |
| 5 | 10 | 5 | 10 | 5 |
| 0 | 10 | 5 | 5 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 15 | 10 | 10 |
| 3 | 10 | 10 | 5 | 5 |
| 4 | 5 | 10 | 5 | 5 |
| 5 | 10 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 8.0%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI WATER POLLUTION CONTROL COMMISSION
EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

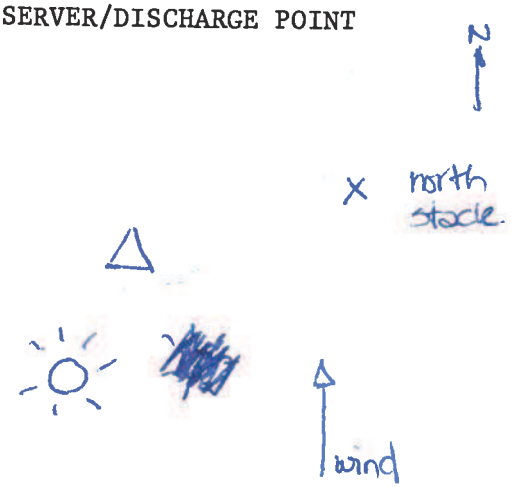
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 49 | 2:42 | 2:48 | 305 | 12.7 |
| 50 | 2:48 | 2:54 | 335 | 14.0 |
| 51 | 2:54 | 3:00 | 320 | 13.3 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | S | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 15 | 10 | 10 |
| 1 | 10 | 5 | 10 | 10 |
| 2 | 15 | 10 | 15 | 15 |
| 3 | 25 | 20 | 15 | 10 |
| 4 | 10 | 15 | 10 | 15 |
| 5 | 10 | 15 | 15 | 10 |
| 0 | 15 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 30 | 15 | 10 |
| 3 | 10 | 10 | 15 | 10 |
| 4 | 15 | 20 | 15 | 15 |
| 5 | 20 | 20 | 15 | 20 |
| 0 | 20 | 15 | 15 | 20 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 15 | 15 | 15 | 15 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 15 | 10 | 10 | 10 |
| 5 | 10 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 13.3%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI A[illegible] WATER POLLUTION CONTROL COMMISSION
[illegible]SIB[illegible] EMISSIONS EVALUATION REC[illegible]
DATE: 6/2/83

PLANT NAME: Hercules, Inc

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

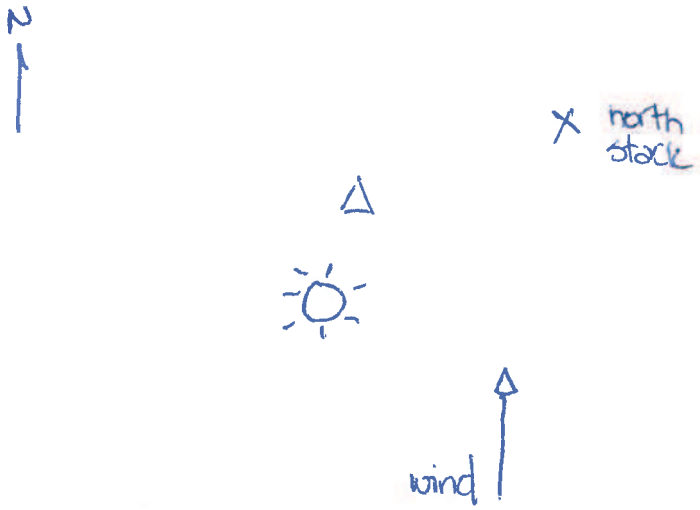
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | S | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. cloudy/clearing | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 52 | 3:05 | 3:11 | 225 | 9.4 |
| 53 | 3:11 | 3:17 | 160 | 6.7 |
| 54 | 3:17 | 3:23 | 195 | 8.1 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 5 | 10 | 10 |
| 1 | 10 | 10 | 5 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 5 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | 10 | 5 | 5 | 5 |
| 1 | 10 | 10 | 10 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 10 | 5 | 10 | 10 |
| 4 | 10 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 5 | 10 | 10 | 10 |
| 5 | 10 | 10 | 5 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 8.1%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

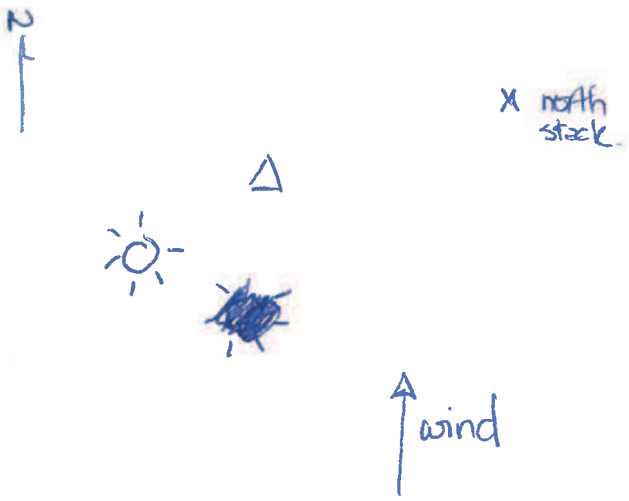
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 55 | 3:30 | 3:36 | 255 | 10.6 |
| 56 | 3:36 | 3:42 | 225 | 9.4 |
| 57 | 3:42 | 3:48 | 390 | 16.3 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | S | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p.cloudy/clearing | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 15 | 15 |
| 1 | 15 | 15 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 5 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 5 | 10 | 10 |
| 4 | 10 | 10 | 5 | 10 |
| 5 | 5 | 10 | 10 | 10 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 15 | 10 |
| 2 | 10 | 10 | 15 | 10 |
| 3 | 10 | 15 | 10 | 15 |
| 4 | 15 | 25 | 30 | 35 |
| 5 | 30 | 30 | 25 | 20 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 12.1%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

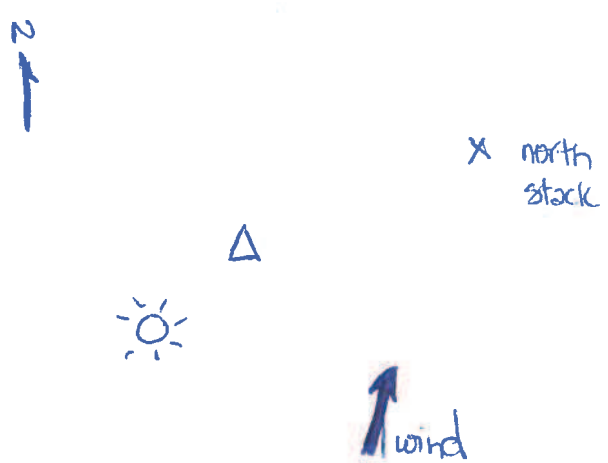
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 58 | 4:06 | 4:12 | 235 | 9.8 |
| 59 | 4:12 | 4:18 | 350 | 14.6 |
| 60 | 4:18 | 4:24 | 405 | 16.9 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light-mod. | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 5 | 5 | 5 |
| 1 | 5 | 10 | 5 | 10 |
| 2 | 10 | 10 | 15 | 10 |
| 3 | 10 | 10 | 15 | 10 |
| 4 | 10 | 15 | 10 | 10 |
| 5 | 10 | 15 | 10 | 10 |
| 0 | 15 | 15 | 15 | 15 |
| 1 | 15 | 15 | 20 | 15 |
| 2 | 15 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 15 | 10 | 15 |
| 5 | 20 | 30 | 20 | 20 |
| 0 | 15 | 15 | 25 | 30 |
| 1 | 15 | 20 | 20 | 15 |
| 2 | 15 | 15 | 20 | 20 |
| 3 | 25 | 20 | 15 | 10 |
| 4 | 10 | 15 | 20 | 15 |
| 5 | 10 | 15 | 15 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 13.8%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north Stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mawery

V.E. CERTIFICATION NO.: —

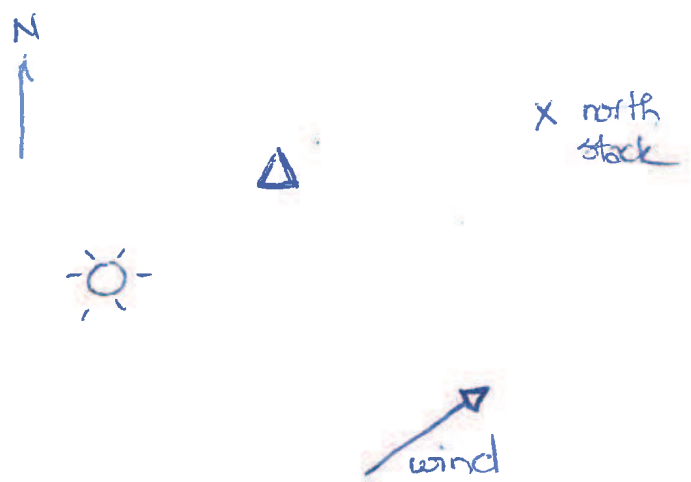
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 1000' | |
| DIRECTION TO DISCHARGE | E' | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. clear | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 61 | 4:30 | 4:36 | 225 | 9.4 |
| 62 | 4:36 | 4:42 | 225 | 9.4 |
| 63 | 4:42 | 4:48 | 210 | 8.8 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 5 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 5 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 5 | 10 | 10 | 10 |
| 5 | 10 | 10 | 5 | 10 |
| 0 | 5 | 5 | 5 | 10 |
| 1 | 10 | 5 | 10 | 10 |
| 2 | 10 | 5 | 10 | 10 |
| 3 | 5 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 9.2%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: HERCULES, INC

ADDRESS: P.O. BOX 1937

CITY: HATTIESBURG

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: HEIDI MOWERY

V.E. CERTIFICATION NO.: —

CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. clear | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 64 | 5:00 | 5:06 | 260 | 10.8 |
| 65 | 5:06 | 5:12 | 245 | 10.2 |
| 66 | 5:12 | 5:18 | 200 | 8.3 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 15 | 10 | 15 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 15 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 15 | 10 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 15 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | 5 | 10 | 10 | 10 |
| 1 | 5 | 5 | 5 | 10 |
| 2 | 10 | 5 | 5 | 5 |
| 3 | 5 | 10 | 5 | 5 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 15 | 15 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT

REMARKS: overall average = 9.8

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

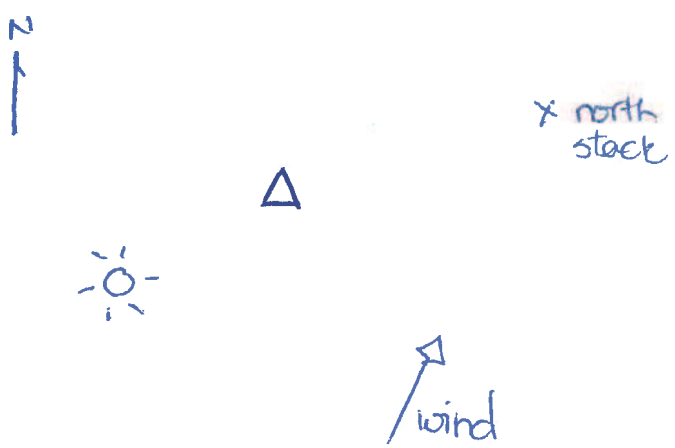
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 67 | 5:40 | 5:46 | 290 | 12.1 |
| 68 | 5:46 | 5:52 | 150 | 6.3 |
| 69 | 5:52 | 5:58 | 215 | 9.0 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light-mod. | |
| AMBIENT TEMPERATURE | 80° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 30 | 25 | 25 | 25 |
| 1 | 20 | 15 | 15 | 10 |
| 2 | 10 | 5 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 5 | 5 | 10 | 10 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 10 | 5 | 10 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 10 | 10 | 10 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 5 | 5 | 5 |
| 0 | 10 | 5 | 5 | 5 |
| 1 | 5 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 5 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 9.1%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

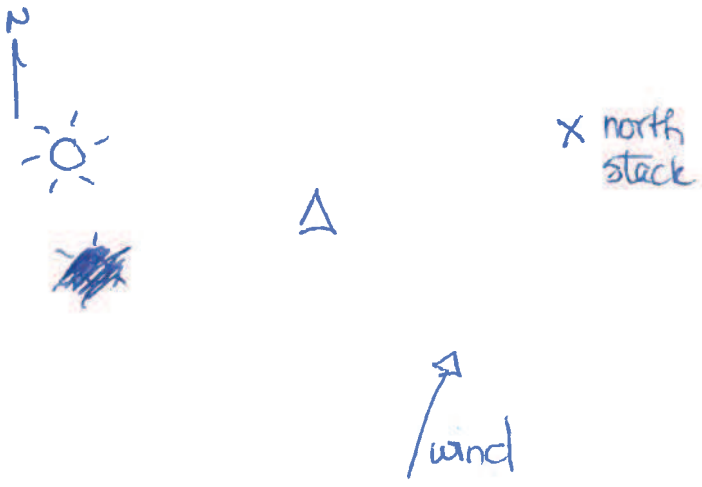
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey/brown | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 80° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. ~~clear~~ cloudy | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 70 | 6:00 | 6:06 | 290 | 12.1 |
| 71 | 6:06 | 6:12 | 390 | 16.3 |
| 72 | 6:12 | 6:18 | 655 | 27.3 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 15 | 10 | 15 | 15 |
| 1 | 10 | 15 | 15 | 10 |
| 2 | 10 | 15 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 15 | 15 |
| 5 | 10 | 10 | 15 | 15 |
| 0 | 20 | 20 | 15 | 15 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 15 | 15 | 20 | 20 |
| 3 | 15 | 15 | 15 | 20 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 15 | 15 | 15 | 20 |
| 0 | 15 | 20 | 25 | 20 |
| 1 | 20 | 20 | 15 | 15 |
| 2 | 20 | 20 | 25 | 20 |
| 3 | 90 | 90 | 30 | 20 |
| 4 | 20 | 20 | 20 | 30 |
| 5 | 20 | 25 | 25 | 30 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: Overall average = 18.6%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowbry

V.E. CERTIFICATION NO.: —

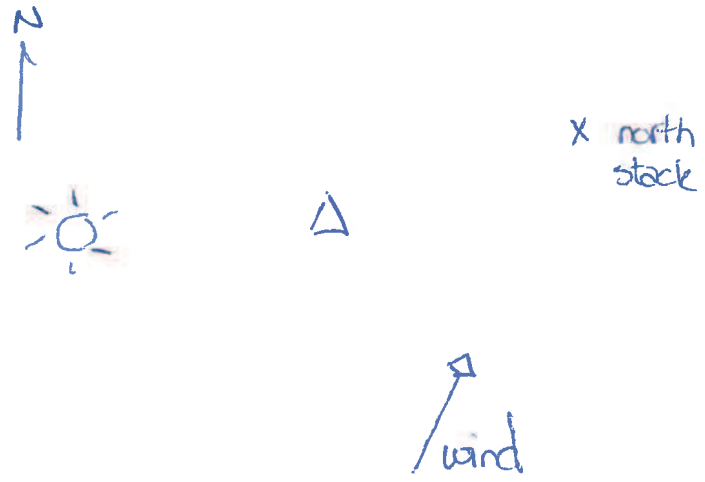
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey/brown | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 80° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. cloudy | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 73 | 6:22 | 6:28 | 640 | 26.7 |
| 74 | 6:28 | 6:34 | 440 | 18.3 |
| 75 | 6:34 | 6:40 | 440 | 18.3 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 35 | 30 | 30 | 25 |
| 1 | 30 | 25 | 20 | 20 |
| 2 | 20 | 25 | 20 | 25 |
| 3 | 30 | 20 | 35 | 35 |
| 4 | 25 | 15 | 20 | 30 |
| 5 | 25 | 35 | 35 | 30 |
| 0 | 25 | 30 | 25 | 10 |
| 1 | 10 | 15 | 15 | 15 |
| 2 | 20 | 20 | 15 | 15 |
| 3 | 15 | 15 | 20 | 10 |
| 4 | 20 | 20 | 20 | 25 |
| 5 | 20 | 20 | 20 | 20 |
| 0 | 20 | 15 | 20 | 20 |
| 1 | 20 | 15 | 20 | 20 |
| 2 | 20 | 15 | 20 | 20 |
| 3 | 15 | 20 | 15 | 20 |
| 4 | 20 | 15 | 15 | 20 |
| 5 | 15 | 20 | 20 | 20 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 21.1%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1437

CITY: Hattiesburg

EMISSION POINT: north stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Heidi Mowery

V.E. CERTIFICATION NO.: —

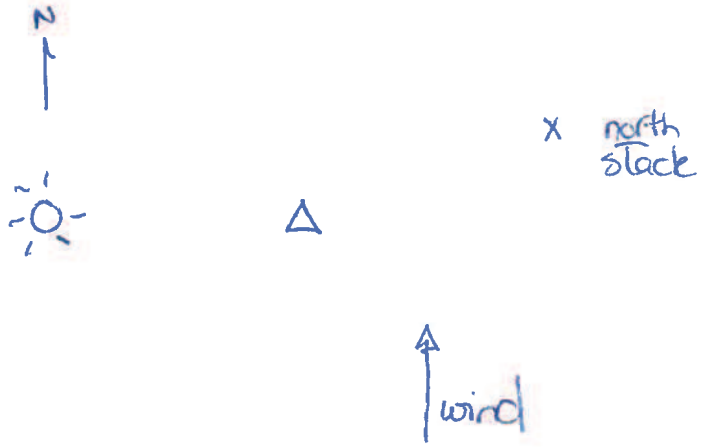
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0' | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | S | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 78° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | p. clear | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 76 | 6:55 | 7:01 | 38 0 | 15.8 |
| 77 | 7:01 | 7:07 | 240 | 10.0 |
| 78 | 7:07 | 7:13 | 240 | 10.0 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 15 | 15 | 20 | 20 |
| 1 | 20 | 20 | 15 | 15 |
| 2 | 20 | 15 | 15 | 20 |
| 3 | 15 | 20 | 15 | 15 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 15 | 10 | 10 | 10 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average = 11.9%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: south stack
RECEIVED BY: [illegible]

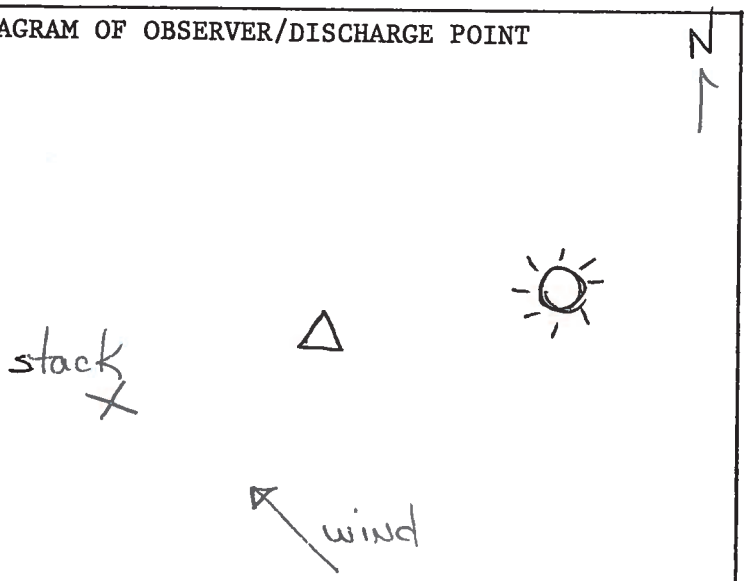
V.E. OBSERVER: M Hase
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 1 | 6:15 | 6:21 | 295 | 12.3 |
| 2 | 6:21 | 6:27 | 285 | 11.9 |
| 3 | 6:27 | 6:33 | 310 | 12.9 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 70° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 15 | 15 | 15 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 15 | 15 | 15 | 15 |
| 0 | 10 | 15 | 10 | 10 |
| 1 | 15 | 10 | 10 | 15 |
| 2 | 15 | 15 | 10 | 10 |
| 3 | 15 | 15 | 10 | 10 |
| 4 | 10 | 10 | 10 | 15 |
| 5 | 15 | 10 | 10 | 10 |
| 0 | 10 | 10 | 10 | 5 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 15 | 15 | 15 | 20 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 15 | 15 | 15 | 10 |
| 5 | 10 | 15 | 15 | 15 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 12.4

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: South stack
RECEIVED BY: [illegible]

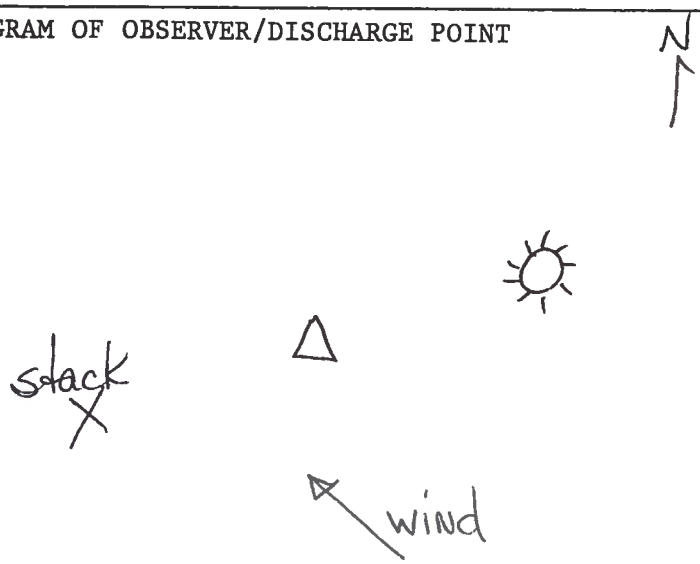
V.E. OBSERVER: M Fase
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 4 | 6:38 | 6:44 | 390 | 16.3 |
| 5 | 6:44 | 6:50 | 500 | 20.8 |
| 6 | 6:50 | 6:56 | 325 | 13.5 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 70° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 15 | 15 | 15 |
| 1 | 15 | 15 | 15 | 15 |
| 2 | 15 | 15 | 20 | 20 |
| 3 | 20 | 20 | 15 | 15 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 15 | 25 | 25 | 30 |
| 0 | 25 | 25 | 30 | 30 |
| 1 | 25 | 20 | 20 | 25 |
| 2 | 20 | 30 | 25 | 15 |
| 3 | 20 | 15 | 20 | 20 |
| 4 | 15 | 20 | 15 | 15 |
| 5 | 20 | 20 | 15 | 15 |
| 0 | 15 | 20 | 20 | 25 |
| 1 | 25 | 20 | 15 | 10 |
| 2 | 15 | 20 | 15 | 10 |
| 3 | 10 | 20 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 16.9%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: south stack
RECEIVED BY: MBE

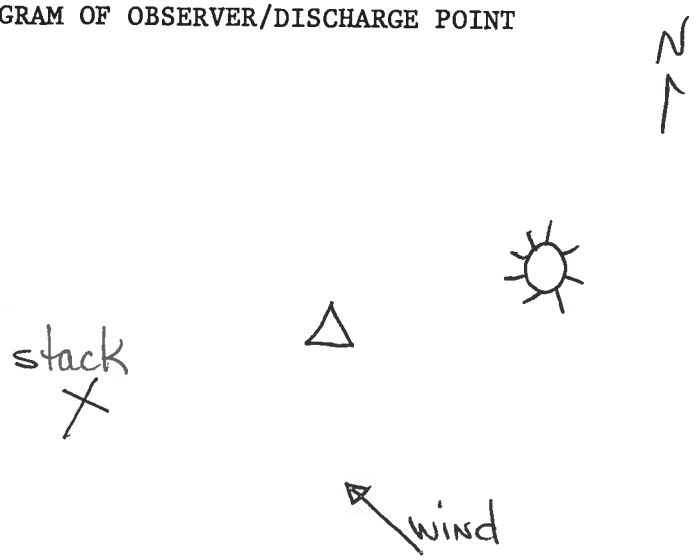
V.E. OBSERVER: MPase
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 7 | 7:02 | 7:08 | 120 | 5.0 |
| 8 | 7:08 | 7:14 | 220 | 9.2 |
| 9 | 7:14 | 7:20 | 315 | 13.1 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 70° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 5 | 10 | 10 |
| 4 | 10 | 10 | 15 | 10 |
| 5 | 10 | 15 | 15 | 10 |
| 0 | 10 | 5 | 5 | 15 |
| 1 | 15 | 15 | 25 | 20 |
| 2 | 20 | 20 | 15 | 15 |
| 3 | 15 | 15 | 10 | 15 |
| 4 | 15 | 10 | 10 | 10 |
| 5 | 5 | 10 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 9.1%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: South stack

RECEIVED BY: RBG

V.E. OBSERVER: M Pase

V.E. CERTIFICATION NO.:

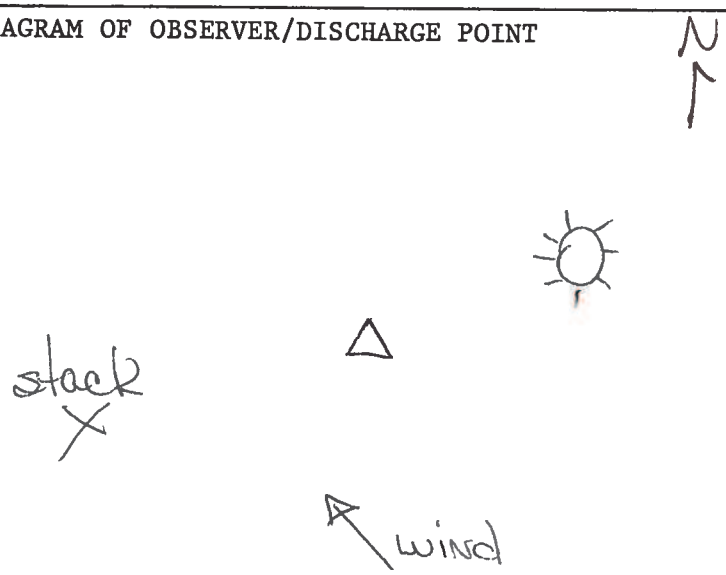
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 10 | 7:40 | 7:46 | 450 | 18.8 |
| 11 | 7:46 | 7:52 | 535 | 22.3 |
| 12 | 7:52 | 7:58 | 305 | 12.7 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | brown | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 76° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 25 | 20 | 25 | 20 |
| 1 | 20 | 20 | 20 | 20 |
| 2 | 20 | 20 | 20 | 20 |
| 3 | 20 | 20 | 20 | 15 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 15 | 15 | 15 | 20 |
| 0 | 20 | 20 | 20 | 20 |
| 1 | 15 | 15 | 15 | 20 |
| 2 | 20 | 15 | 20 | 25 |
| 3 | 30 | 30 | 25 | 20 |
| 4 | 25 | 30 | 25 | 25 |
| 5 | 25 | 25 | 25 | 25 |
| 0 | 25 | 20 | 15 | 15 |
| 1 | 20 | 25 | 15 | 10 |
| 2 | 5 | 5 | 5 | 10 |
| 3 | 20 | 20 | 20 | 15 |
| 4 | 10 | 10 | 5 | 10 |
| 5 | 5 | 5 | 5 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 17.9%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: south stack
RECEIVED BY: [illegible]

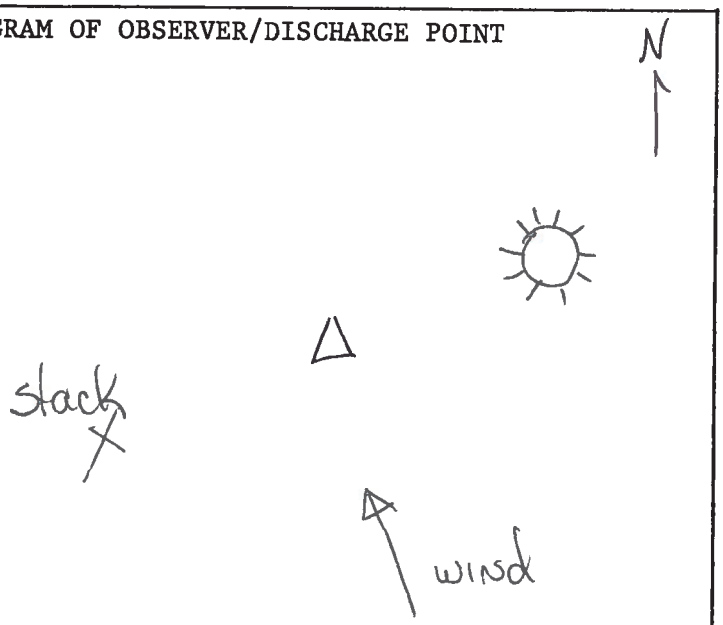
V.E. OBSERVER: M. Case
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 13 | 8:05 | 8:11 | 495 | 20.6 |
| 14 | 8:11 | 8:17 | 425 | 17.7 |
| 15 | 8:17 | 8:23 | 420 | 17.6 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | brown | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 72° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 10 | 20 |
| 1 | 20 | 20 | 20 | 20 |
| 2 | 15 | 20 | 20 | 25 |
| 3 | 20 | 25 | 25 | 30 |
| 4 | 30 | 30 | 25 | 25 |
| 5 | 25 | 20 | 20 | 20 |
| 0 | 20 | 20 | 20 | 20 |
| 1 | 20 | 15 | 10 | 10 |
| 2 | 10 | 10 | 10 | 15 |
| 3 | 10 | 10 | 10 | 20 |
| 4 | 20 | 20 | 25 | 25 |
| 5 | 25 | 25 | 25 | 30 |
| 0 | 35 | 35 | 35 | 30 |
| 1 | 30 | 35 | 30 | 25 |
| 2 | 25 | 20 | 20 | 15 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 5 | 5 | 5 | 10 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 18.6%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: south stack
RECEIVED BY: [illegible]

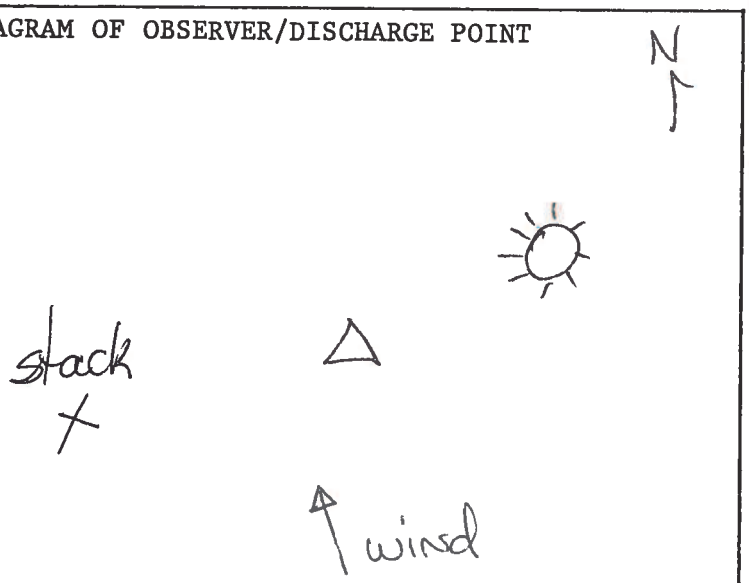
V.E. OBSERVER: M/Pase
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 16 | 8:30 | 8:36 | 120 | 5.0 |
| 17 | 8:36 | 8:42 | 135 | 5.6 |
| 18 | 8:42 | 8:48 | 190 | 7.9 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | brown | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 72° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 10 | 10 | 10 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 10 | 10 | 10 | 10 |
| 1 | 5 | 10 | 5 | 5 |
| 2 | 5 | 10 | 10 | 10 |
| 3 | 5 | 10 | 10 | 10 |
| 4 | 10 | 10 | 5 | 5 |
| 5 | 5 | 5 | 10 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 6.2

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: south stack
RECEIVED BY: [illegible]

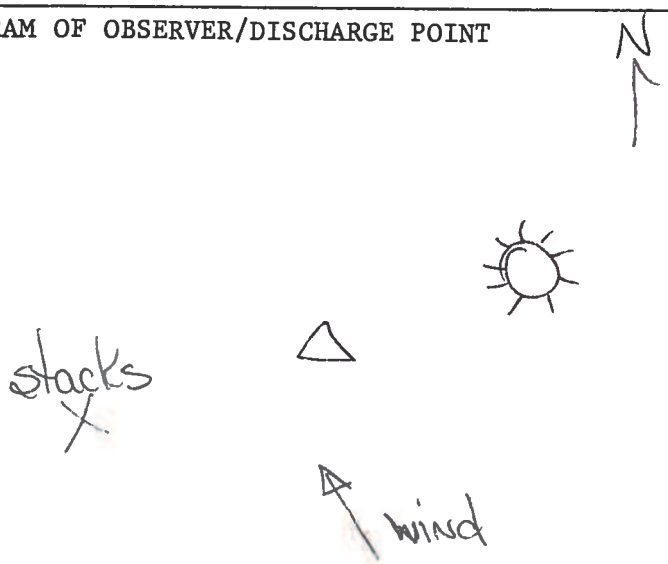
V.E. OBSERVER: M Hase
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 19 | 9:10 | 9:16 | 190 | 7.9 |
| 20 | 9:16 | 9:22 | 155 | 6.5 |
| 21 | 9:22 | 9:28 | 125 | 5.2 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | brown | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 75° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 5 | 10 | 10 |
| 4 | 5 | 5 | 10 | 10 |
| 5 | 10 | 10 | 10 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 10 | 10 | 10 |
| 3 | 5 | 5 | 10 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 10 | 5 | 10 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 10 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 6.5

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: South stack
RECEIVED BY: [illegible]

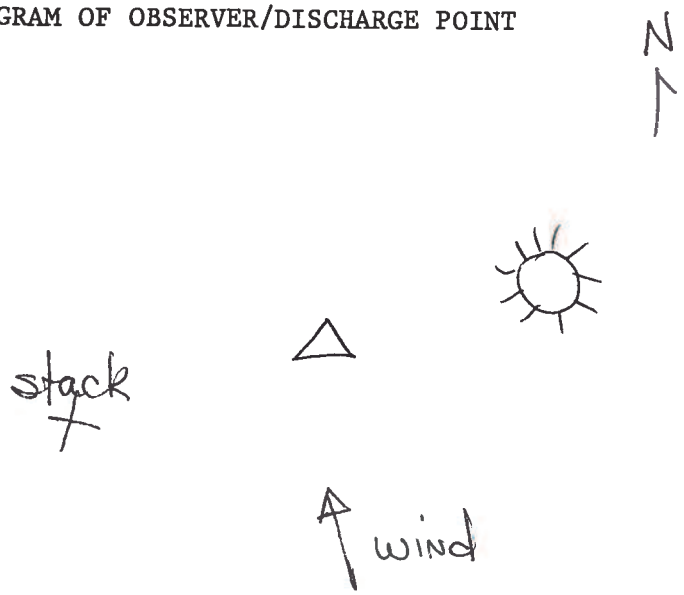
V.E. OBSERVER: Mfasp
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 22 | 9:32 | 9:38 | 180 | 7.5 |
| 23 | 9:38 | 9:44 | 140 | 5.8 |
| 24 | 9:44 | 9:50 | 135 | 5.6 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | brown-grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light-moderate | |
| AMBIENT TEMPERATURE | 75° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clear | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 5 | 5 |
| 1 | 5 | 5 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 10 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 10 | 5 |
| 3 | 10 | 10 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 10 | 10 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 10 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 6.3%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: south stack

RECEIVED BY: [illegible]

V.E. OBSERVER: [illegible]

V.E. CERTIFICATION NO.:

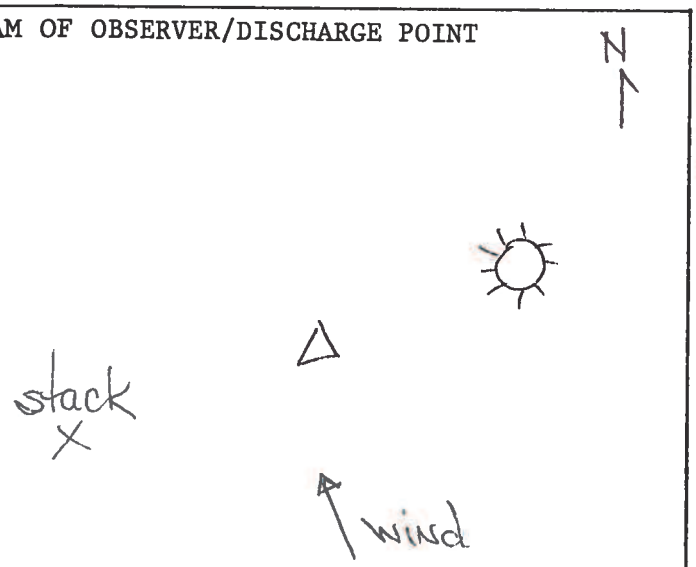
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | brown-grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light-moderate | |
| AMBIENT TEMPERATURE | 78° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | slightly hazy | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 25 | 10:00 | 10:06 | 210 | 8.8 |
| 26 | 10:06 | 10:12 | 200 | 8.3 |
| 27 | 10:12 | 10:18 | 155 | 6.5 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 5 | 10 |
| 3 | 10 | 5 | 10 | 5 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 5 | 10 | 10 | 10 |
| 0 | 10 | 10 | 10 | 5 |
| 1 | 10 | 5 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 5 | 5 | 10 | 10 |
| 4 | 10 | 5 | 5 | 5 |
| 5 | 5 | 10 | 10 | 10 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 10 | 10 |
| 2 | 5 | 10 | 5 | 10 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 10 | 10 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 7.9%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: South stack
RECEIVED BY: [illegible]

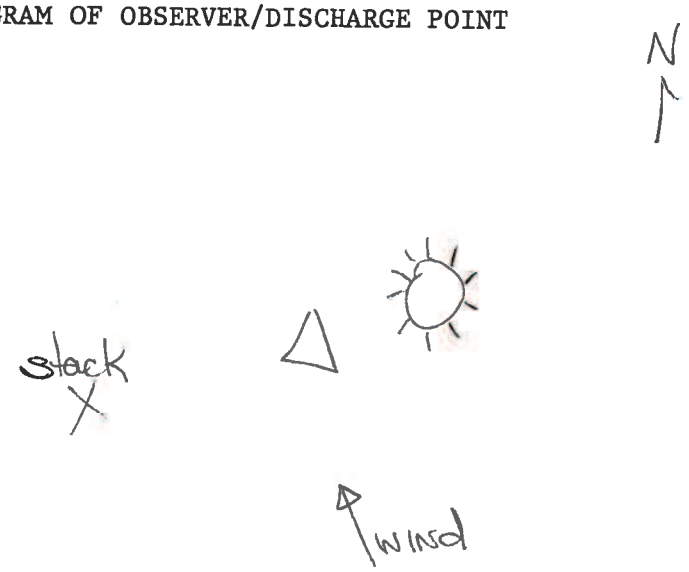
V.E. OBSERVER: M. Pase
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 28 | 10:35 | 10:41 | 150 | 6.3 |
| 29 | 10:41 | 10:47 | 180 | 7.5 |
| 30 | 10:47 | 10:53 | 130 | 5.4 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | NO | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 80° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | partly cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 10 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 10 | 10 | 5 |
| 5 | 5 | 10 | 10 | 10 |
| 0 | 10 | 5 | 10 | 10 |
| 1 | 10 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 5 |
| 5 | 5 | 5 | 5 | 10 |
| 0 | 10 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 10 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 6.4%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: South Stack
RECEIVED BY: [illegible]

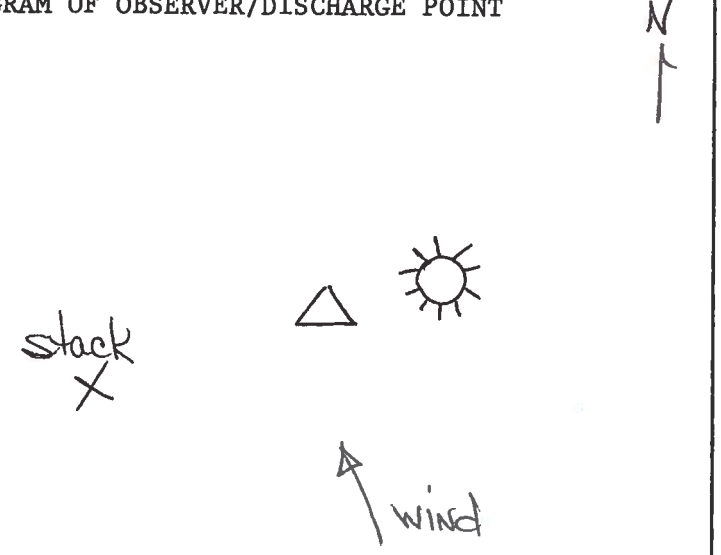
V.E. OBSERVER: M/Case
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 31 | 11:00 | 11:06 | 120 | 5.0 |
| 32 | 11:06 | 11:12 | 165 | 6.9 |
| 33 | 11:12 | 11:18 | 160 | 6.7 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | partly cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 10 | 5 | 10 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 10 | 5 | 5 | 10 |
| 3 | 5 | 10 | 10 | 5 |
| 4 | 10 | 10 | 5 | 10 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 10 | 10 | 10 |
| 3 | 10 | 10 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 10 | 5 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 6.2%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: south stack
RECEIVED BY: [illegible]

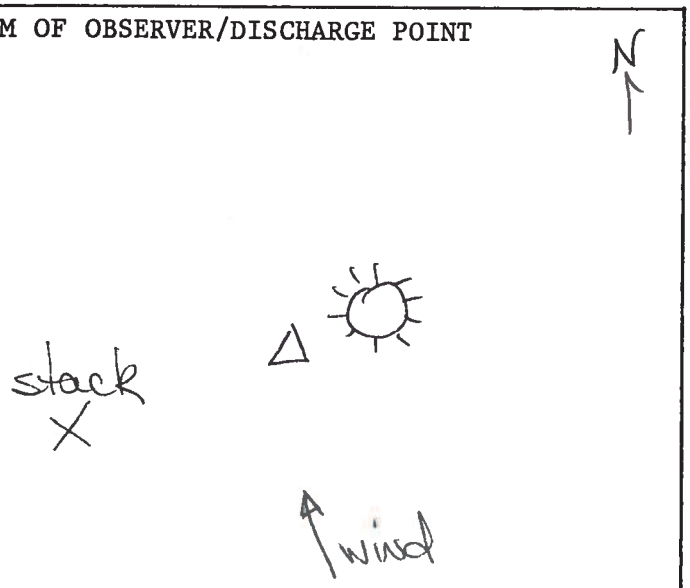
V.E. OBSERVER: M Pace
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 34 | 11:30 | 11:36 | 140 | 5.8 |
| 35 | 11:36 | 11:42 | 130 | 5.4 |
| 36 | 11:42 | 11:48 | 125 | 5.2 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 450' | |
| DIRECTION TO DISCHARGE | WSW | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | gray | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSE | |
| WIND SPEED | very light | |
| AMBIENT TEMPERATURE | 88° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | partly cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 10 |
| 4 | 5 | 5 | 5 | 10 |
| 5 | 10 | 10 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 10 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 10 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 10 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 5.5%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: south stack
RECEIVED BY: [illegible]

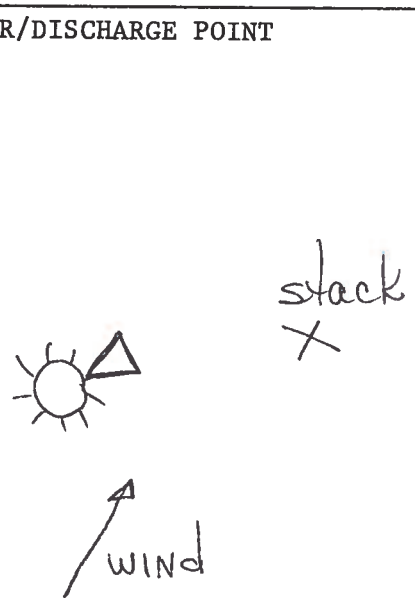
V.E. OBSERVER: M Hase
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 37 | 12:46 | 12:52 | 145 | 6.0 |
| 38 | 12:52 | 12:58 | 190 | 7.9 |
| 39 | 12:58 | 1:04 | 145 | 6.0 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | ~~NW~~ SSW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | partly cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 10 | 10 |
| 5 | 10 | 10 | 10 | 5 |
| 0 | 10 | 10 | 5 | 10 |
| 1 | 10 | 10 | 5 | 5 |
| 2 | 5 | 10 | 5 | 5 |
| 3 | 5 | 5 | 5 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 5 | 10 | 10 | 10 |
| 0 | 10 | 10 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 10 | 10 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 6.6

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: South Stack
RECEIVED BY: BBB

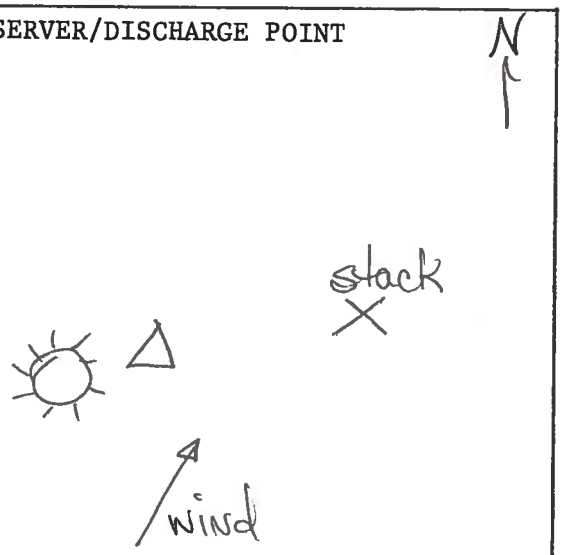
V.E. OBSERVER: M Hass
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 40 | 1:10 | 1:16 | 175 | 7.3 |
| 41 | 1:16 | 1:22 | 180 | 7.5 |
| 42 | 1:22 | 1:28 | 175 | 7.3 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | E | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | partly cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 10 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 10 | 10 | 5 | 10 |
| 3 | 10 | 5 | 5 | 5 |
| 4 | 5 | 10 | 5 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 5 |
| 3 | 5 | 5 | 10 | 10 |
| 4 | 5 | 10 | 10 | 5 |
| 5 | 5 | 5 | 10 | 5 |
| 0 | 5 | 5 | 10 | 5 |
| 1 | 5 | 5 | 10 | 10 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 7.4%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: south stack
RECEIVED BY: BBB

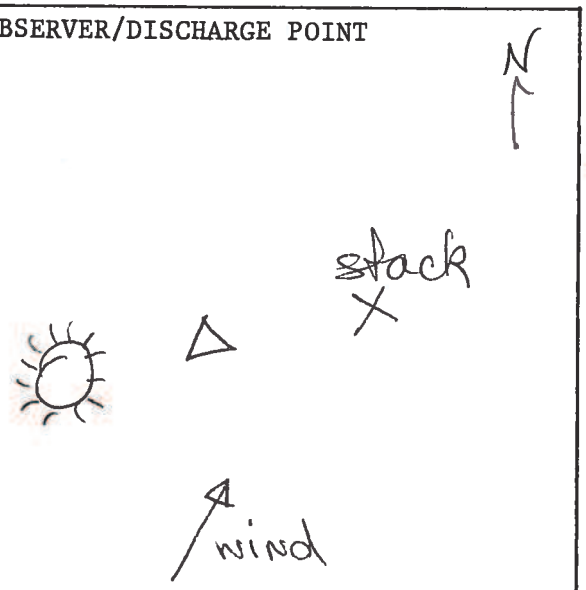
V.E. OBSERVER: M Hase
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 43 | 1:30 | 1:36 | 125 | 5.2 |
| 44 | 1:36 | 1:42 | 145 | 6.0 |
| 45 | 1:42 | 1:48 | 130 | 5.4 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | partly cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 10 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 10 | 10 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 10 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 10 | 10 | 5 |
| 0 | 10 | 10 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 5.5%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: South stack
RECEIVED BY: BBE

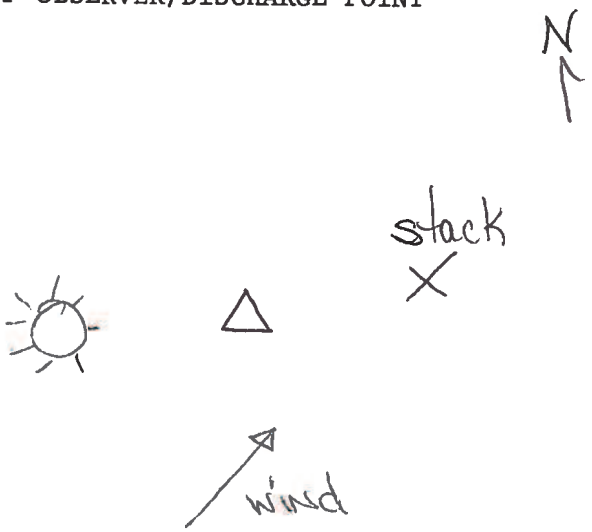
V.E. OBSERVER: Mfase
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 46 | 2:00 | 2:06 | 120 | 5.0 |
| 47 | 2:06 | 2:12 | 120 | 5.0 |
| 48 | 2:12 | 2:18 | 120 | 5.0 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SW | |
| WIND SPEED | light-mod. | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | partly cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average; 5.0%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: south stack

RECEIVED BY: [illegible]

V.E. OBSERVER: M Hase

V.E. CERTIFICATION NO.:

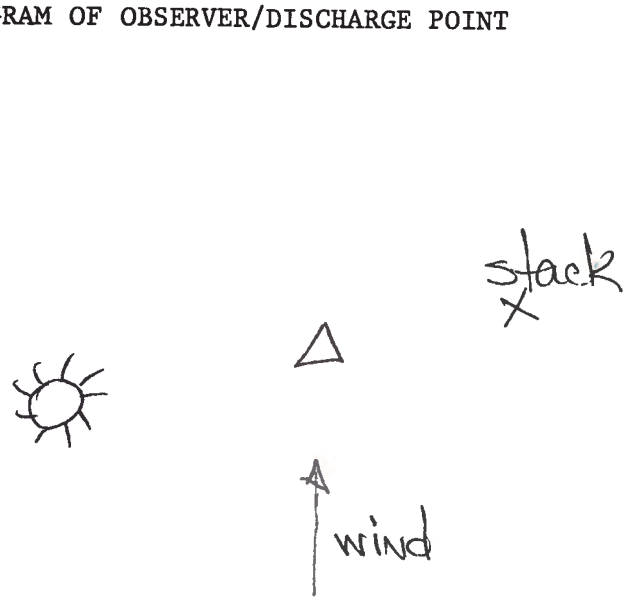
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | S | |
| WIND SPEED | light - mod. | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | partly cloudy | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 49 | 2:42 | 2:48 | 130 | 5.4 |
| 50 | 2:48 | 2:54 | 140 | 5.8 |
| 51 | 2:54 | 3:00 | 165 | 6.9 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 10 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 10 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 10 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 10 |
| 4 | 5 | 5 | 5 | 10 |
| 5 | 10 | 5 | 5 | 5 |
| 0 | 10 | 5 | 5 | 10 |
| 1 | 10 | 10 | 10 | 5 |
| 2 | 5 | 10 | 10 | 5 |
| 3 | 10 | 10 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 6.0%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: South Stack

RECEIVED BY: BBB

V.E. OBSERVER: M Hasel

V.E. CERTIFICATION NO.:

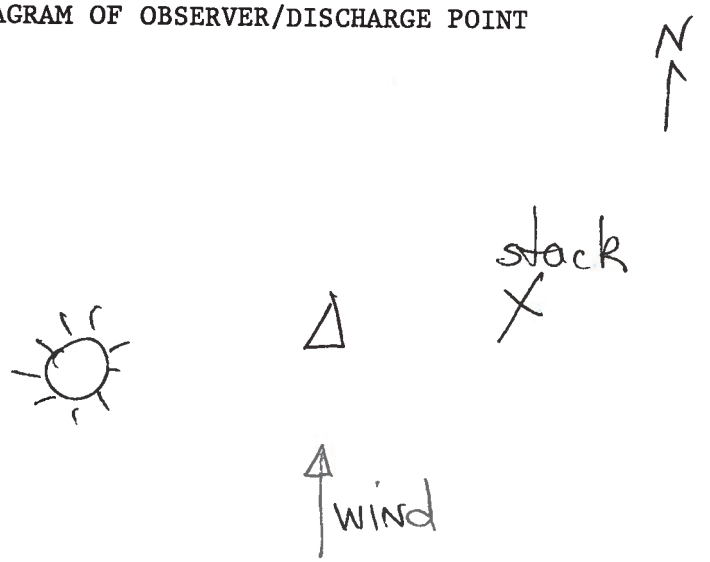
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 52 | 3:05 | 3:11 | 125 | 5.2 |
| 53 | 3:11 | 3:17 | 155 | 6.5 |
| 54 | 3:17 | 3:23 | 175 | 7.3 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | S | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clearing | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 10 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 10 |
| 1 | 5 | 10 | 10 | 10 |
| 2 | 10 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 10 | 10 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 5 | 10 | 10 |
| 4 | 10 | 10 | 5 | 5 |
| 5 | 5 | 5 | 10 | 10 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average is 6.3

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: south stack
RECEIVED BY: [illegible]

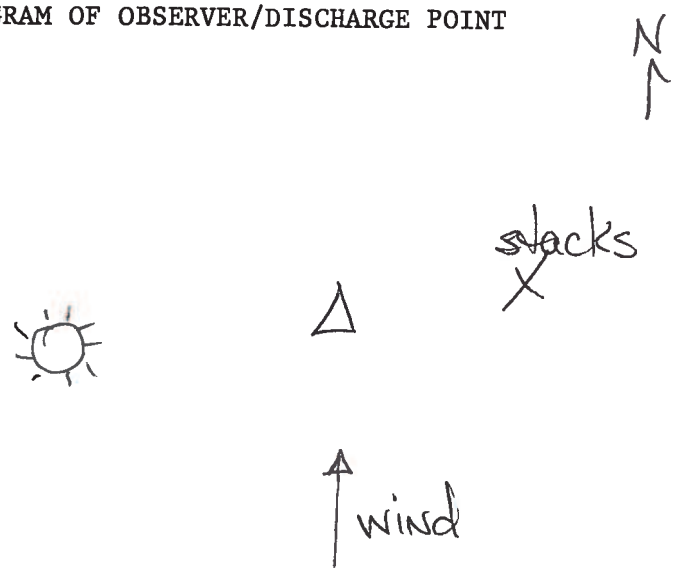
V.E. OBSERVER: [illegible]
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 55 | 3:30 | 3:36 | 140 | 5.8 |
| 56 | 3:36 | 3:42 | 150 | 6.3 |
| 57 | 3:42 | 3:48 | 130 | 5.4 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | S | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clearing | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 10 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 5 | 10 | 10 |
| 0 | 10 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 10 | 10 | 10 |
| 3 | 10 | 10 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 10 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 5.8%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: south stack
RECEIVED BY: [illegible]

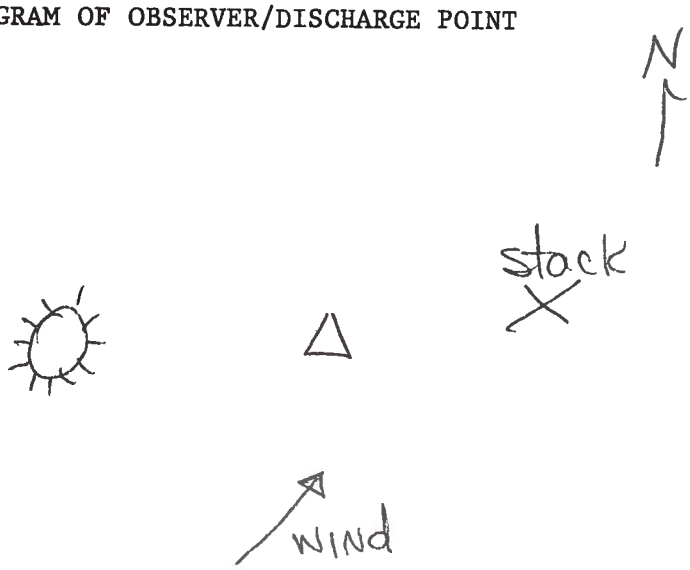
V.E. OBSERVER: Mfase
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 58 | 4:06 | 4:12 | 125 | 5.2 |
| 59 | 4:12 | 4:18 | 125 | 5.2 |
| 60 | 4:18 | 4:24 | 125 | 5.2 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light - mod. | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clearing | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 10 | 5 | 5 | 5 |
| 0 | 10 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 10 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 5.2%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: south stack

RECEIVED BY: BBG

V.E. OBSERVER: DN Pase

V.E. CERTIFICATION NO.:

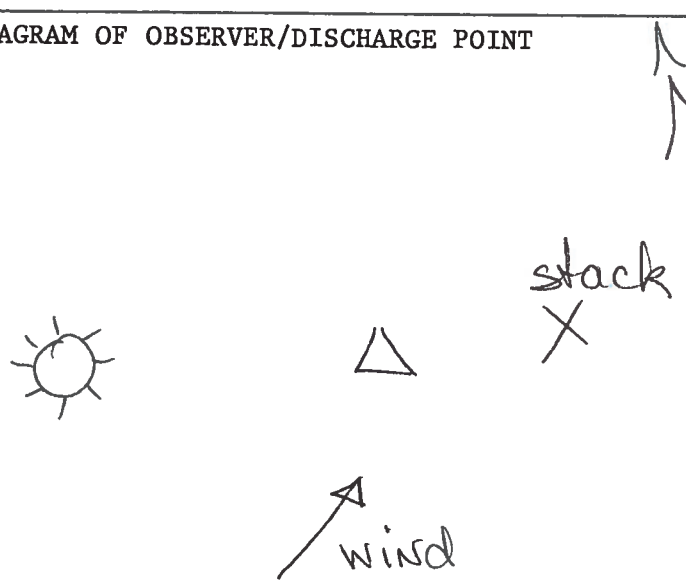
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 61 | 4:30 | 4:36 | 120 | 5.0 |
| 62 | 4:36 | 4:42 | 125 | 5.2 |
| 63 | 4:42 | 4:48 | 125 | 5.2 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clearing | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 10 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 10 | 5 | 5 |
| 5 | 5 | 5 | 10 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 5.1%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: south stack

RECEIVED BY: BBB.

V.E. OBSERVER: McFase

V.E. CERTIFICATION NO.:

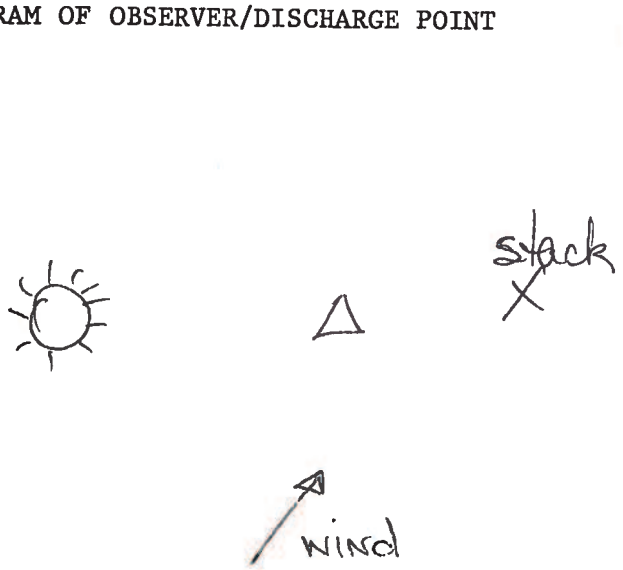
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 64 | 5:00 | 5:06 | 120 | 5.0 |
| 65 | 5:06 | 5:12 | 125 | 5.2 |
| 66 | 5:12 | 5:18 | 120 | 5.0 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 85° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clearing | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 10 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 5.1%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: South stack

RECEIVED BY: [illegible]

V.E. OBSERVER: Mfass

V.E. CERTIFICATION NO.:

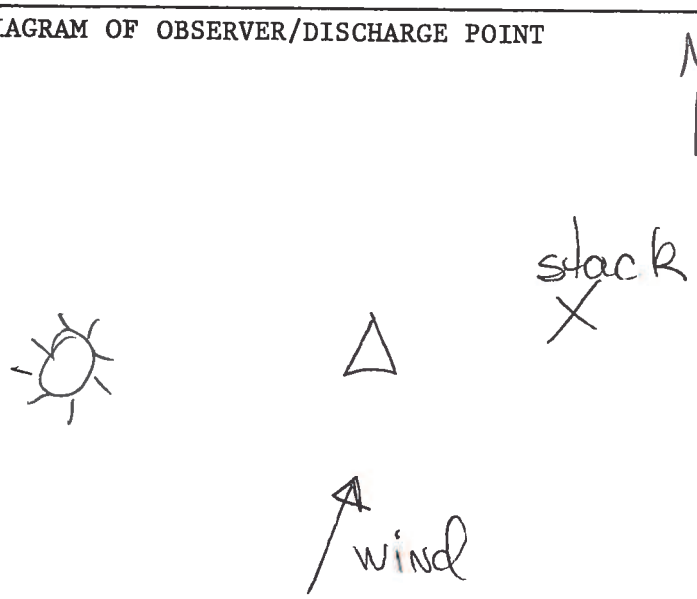
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 67 | 5:40 | 5:46 | 120 | 5.0 |
| 68 | 5:46 | 5:52 | 120 | 5.0 |
| 69 | 5:52 | 5:58 | 120 | 5.0 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light-mod. | |
| AMBIENT TEMPERATURE | 80° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | clearing | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 5.0%

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

PLANT NAME: Hercules, Inc.

ADDRESS: P.O. Box 1937

CITY: Hattiesburg

EMISSION POINT: south stack

RECEIVED BY: BBB

V.E. OBSERVER: M Hase

V.E. CERTIFICATION NO.:

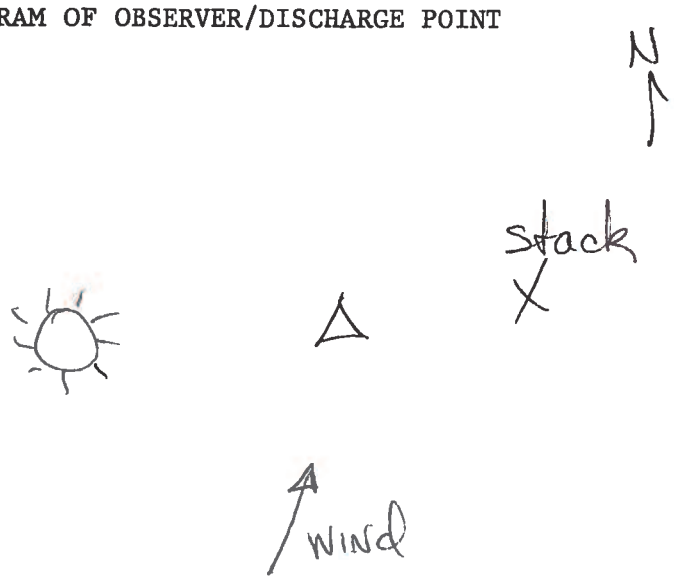
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 70 | 6:00 | 6:06 | 120 | 5.0 |
| 71 | 6:06 | 6:12 | 240 | 10.0 |
| 72 | 6:12 | 6:18 | 300 | 12.5 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 80° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | partly cloudy | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 10 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 15 |
| 0 | 15 | 15 | 15 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 10 | 10 | 10 |
| 3 | 10 | 10 | 10 | 15 |
| 4 | 15 | 15 | 15 | 15 |
| 5 | 15 | 15 | 15 | 15 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 9.2

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD
DATE: 6/2/83

PLANT NAME: Hercules, Inc.
ADDRESS: P.O. Box 1937
CITY: Hattiesburg
EMISSION POINT: South stack
RECEIVED BY: BAE

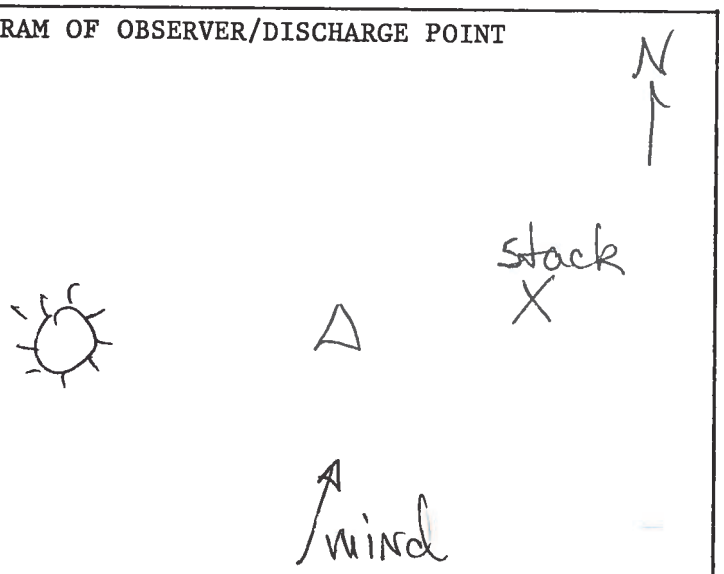
V.E. OBSERVER: M Hase
V.E. CERTIFICATION NO.:
CERTIFICATION EXPIRATION: 10/83

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey-brown | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | SSW | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 80° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | partly cloudy | |

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 73 | 6:22 | 6:28 | 340 | 14.2 |
| 74 | 6:28 | 6:34 | 390 | 16.3 |
| 75 | 6:34 | 6:40 | 165 | 6.9 |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 10 | 10 | 10 | 10 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 10 | 15 | 10 | 15 |
| 3 | 10 | 10 | 15 | 15 |
| 4 | 20 | 20 | 20 | 20 |
| 5 | 20 | 20 | 20 | 20 |
| 0 | 25 | 20 | 25 | 20 |
| 1 | 15 | 15 | 20 | 20 |
| 2 | 20 | 20 | 20 | 20 |
| 3 | 20 | 15 | 15 | 15 |
| 4 | 15 | 15 | 10 | 10 |
| 5 | 10 | 10 | 10 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 5 | 5 | 10 | 10 |
| 3 | 5 | 5 | 10 | 5 |
| 4 | 5 | 5 | 5 | 10 |
| 5 | 10 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 12.5

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

MISSISSIPPI AIR & WATER POLLUTION CONTROL COMMISSION
VISIBLE EMISSIONS EVALUATION RECORD

DATE: 6/2/83

F NAME: Hercules, Inc.

DRESS: P.O. Box 1937

ITY: Hattiesburg

EMISSION POINT: south stack

RECEIVED BY: [illegible]

V.E. OBSERVER: M/Case

V.E. CERTIFICATION NO.:

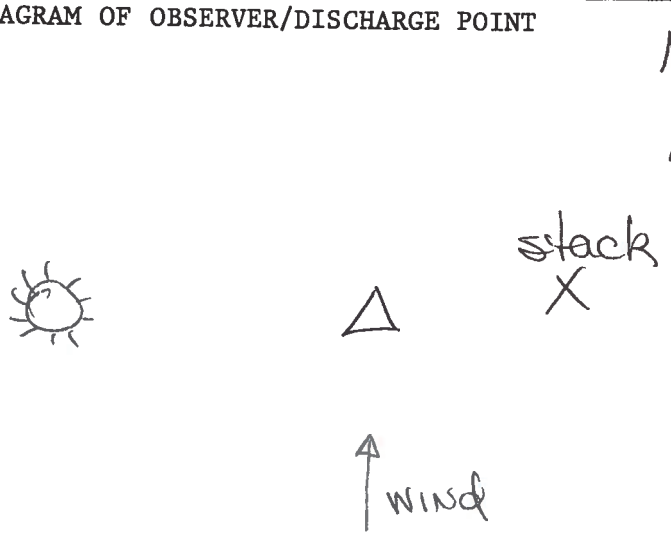
CERTIFICATION EXPIRATION: 10/83

| SET NO. | TIME | | OPACITY | |
|---|---|---|---|---|
| | START | END | SUM | AVERAGE |
| 76 | 6:55 | 7:01 | 120 | 5.0 |
| 77 | 7:01 | 7:07 | 120 | 5.0 |
| 78 | 7:07 | 7:13 | 120 | 5.0 |

| | INITIAL | FINAL |
|---|---|---|
| DISTANCE TO DISCHARGE | 600' | |
| DIRECTION TO DISCHARGE | W | |
| HEIGHT OF OBSERVATION POINT | 0 | |
| HEIGHT OF DISCHARGE | 200' | |
| PLUME COLOR | grey | |
| PLUME BACKGROUND | sky | |
| WATER VAPOR IN PLUME? | no | |
| WIND DIRECTION | S | |
| WIND SPEED | light | |
| AMBIENT TEMPERATURE | 78° | |
| DISCHARGE TEMPERATURE | — | |
| SKY CONDITIONS | slight haze | |

| MIN.* | SECONDS* 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |
| 0 | 5 | 5 | 5 | 5 |
| 1 | 5 | 5 | 5 | 5 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 |

DIAGRAM OF OBSERVER/DISCHARGE POINT




REMARKS: overall average: 5.0

*IF READING TIME INTERVAL NOT AS SHOWN, SPECIFY IN REMARKS

HERCULES

RECEIVED
JUN 8 REC'D
DEPT. OF NATURAL RESOURCE
BUREAU OF POLLUTION CONTROL

Hercules Incorporated
West 7th Street
P.O. Box 1937
Hattiesburg, MS 39401
(601) 545-3450

June 6, 1983

Mr. Dwight K. Wylie, P.E. Chief
Air Division
Bureau of Pollution Control
P. O. Box 10385
Jackson, Mississippi 39209

Dear Dwight:

Re your November 8, 1982 letter, please find the attached emissions data concerning the woodwaste boilers for May 1983.

We will continue to submit this data on a monthly basis.

Very truly yours,

Charles Jordan

Charles Jordan

CJ:gc

Attachments

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5/31/83

7/3

Noted

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 9:02 | 2 Sec | 1 | 7:12 | 2 Sec | 1 | | | | | | |
| 9:07 | 2 Sec | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-31-83

3/11

Jackson

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 4:25 | 10 sec. | 1 | | | | | | | | | |
| 6:45 | 15 sec | 1 | | | | | | | | | |
| 7:35 | 10 sec | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5/30/83

2/3

Nolan

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:20 | 2 Sec | 2 | | | | | | | | | |
| 1:12 | 3 Sec | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-30-83

3/11
Jackson

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:25 | 10 sec | 1 | | | | | | | | | |
| 4:15 | 15 sec | 2 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-30-83

11/7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
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NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-29-83

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 7:33 | 5 sec | 3 | | | | | | |
| | | | 9:50 | 10 sec. | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-29-83

3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:30 | 12 sec | 1 | | | | | | | 8:35 | 15 sec | 2 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-29-83
11-7
Stephens

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 11:42 | 2-m | 3 | 12:14 | 1-m | 3 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-28-97

7-3
SHIFT

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:30 | 5 sec | 3 | 7:15 | 20 sec | 3 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-28-63
3/11
Jackson

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:12 | 5 sec | 2 | | | | | | | | | |
| 4:30 | 8 sec | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-28-83
11-7
Stephens

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 12:22 | 2-m | 2 | | | | | | | 12:20 | 2 m | 2 |
| 4:00 | 1-m | 3 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-27-84
7-31
Repeat

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | ck 10 sec 5-27-83 | | | ck 30 sec 5-27-83 | | | ck 45 sec 5-27-83 | | | ck 10 sec 5-27-83 |
| 9:10 AM | 35 | 1 | 8:10 AM | 30 s | 3 | | | | | | |
| 1:30 PM | 10.5 | 3 | 8:39 AM | 20 s | 1 | 1:50 | 10 s | 3 | 1:50 PM | 8 s | 1 |
| 1:57 PM | 15 s | 3 | | | | | | | 1:55 | 6 s | 3 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-27-83

3-11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:40 | 10 sec | 2 | 4:50 | 5 sec | 1 | | | | | | |
| | | | 6:55 | 10 sec | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-26-83

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 0710 | 30 Sec | 3 | 0711 | 5 Sec | 5 | 0119 | 5 Sec | 5 | 0731 | 5 Sec | 5 |
| 0712 | 5 Sec | 3 | 915 | 2 Sec | 2 | | | | 800 | 3 Sec | 1 |
| 0715 | 5 Sec | 5 | 930 | 2 Sec | 2 | | | | 130 | 3 Sec | 2 |
| 1130 | 2 Sec | 2 | | | | | | | | | |
| 105 | 2 Sec | 2 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-26-83

Wilson

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 9:30 AM | 6 S | 1 | 10:30 AM | 6 S | 1 | 5:30 PM | 3 S | 1 | 3:45 PM | 20 S | 1 |
| 3:40 | 5 S | 2 | | | | | | | 6:00 PM | 15 S | 2 |
| 8:00 PM | 15 S | 2 | | | | | | | 7:30 PM | 20 S | 2 |
| | | | | | | | | | 9:30 AM | 10 S | 1 |
| | | | | | | | | | 9:45 PM | 10 S | 2 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-26-83

11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 10:45 | 5-5 | 1 |
| | | | | | | | | | 11:09 | 3-5 | 2 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-25-83

7-3
Skelton

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:45 am | 4 min | 4 | | | | | | | 7:00 am | 45 | 1 |
| 8:00 am | 3 min | 4 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-25-83
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 2:50 | 3 sec | 4+5 | | | | | | | | | |
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NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-25-85

11-7
5 Stephen

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 3:03 | 2-m | 5 |
| | | | | | | | | | 3:40 | 1-m | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-24-83

7-3 SHIFT

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | 1:44 PM 5 | CK 35-Sec 5-24-83 | | | CK 35-Sec 5-24-83 | | | CK 35 Sec 5-24-83 | | | CK-35-Sec 5-24-83 |
| | | | 7:48 AM | 30 S | 3 | | | | | | |
| 9:00 AM | 15 S | 1 | | | | | | | | | |
| 11:49 | 20 S | 3 | | | | | | | | | |
| 12:50 PM | 20 S | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-24-83

3-11 SHIFT

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:22 | 1 sec | 1 | | | | | | | | | |
| 3:24 | 3 sec | 1 | | | | | | | | | |
| 3:29 | 1 sec | 1 | | | | | | | | | |
| 3:54 | 1 sec | 1 | | | | | | | | | |
| 4:01 | 10 sec | 1 | | | | | | | | | |
| 7:05 | 15 sec | 1 | | | | | | | | | |
| 7:23 | 1 sec | 3 | | | | | | | | | |
| 7:50 | 10 sec | 3 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-24-83

11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 12:44 | 10 sec. | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-23-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 7:10 AM | 15 S | 3 | | | | 11:30 AM | 15 S | 1 |
| | | | 7:12 AM | 15 S | 5 | | | | 12:30 PM | 15 S | 1 |
| | | | 11:25 AM | 20 S | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-23-83
3-11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:20 | 5 sec | 3 | 5:18 | 15 sec | 2 | | | | 6:30 | 5 sec | 3 |
| | | | 7:15 | 2 sec | 1 | | | | | | |
| | | | 7:26 | 5 sec | 1 | | | | | | |
| | | | 7:40 | 3 sec | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-23-83

11-7
SHIFT

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 11:34 | 8 sec | 1 | 2:37 | 3 sec | 1 M | | | |
| | | | 1:30 | 4 sec | 2 | | | | | | |
| | | | 2:55 | 2 sec. | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-22-83

7-3
Telson

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 10:59 | 30 S | 1 | 8:00 AM | 35 S | 2 | | | | 1:40 | 30 S | 2 |
| | | | 12:30 AM | 20 S | 1 | | | | 1:50 | 10 S | 2 |
| | | | 1:30 | 10 S | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-22-83
3-11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 6:30 | 2 | 3-m | | | | 6:55 | 3 | 2-M |
| | | | 6:33 | 1 | 3-m | | | | 7:0 | 2 | 2-m |
| | | | 7:45 | 2 | 3-m | | | | 9:41 | 2 | 3-5 |
| | | | 10:35 | 2 | 3-m | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-22-85
11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 1:45 | 15 sec | 1 | 11:07 | 25 sec | 3 | | | | 11:55 | 3 sec | 1 |
| | | | 1:10 | 1 sec | 2 | | | | 1:08 | 1 sec | 1 |
| | | | 2:33 | 15 sec | 1 | | | | 3:35 | 1 sec | 1 |
| | | | | | | | | | 4:30 | 15 sec | 1 |
| | | | | | | | | | 5:25 | 1 MIN. | GREEN WOOD |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-21-83

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 8:50 AM | 105 | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-21-8[illegible]

3-11 Cleaning

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| [illegible] | | | [illegible] | 2 | 2-5 | | | | [illegible] | [illegible] | 10-S |
| | | | 10:42 | Rain+4 | 3-19 | | | | [illegible] | [illegible] | 2-S |
| | | | 10:26 | 2 & 21 | | | | | [illegible] | 2 | 10-S |
| | | | | | | | | | 6:59 | 3 | 3-S |
| | | | | | | | | | [illegible] | 1 | 5-S |
| | | | | | | | | | 10:02 | Rain | 6-S |
| | | | | | | | | | [illegible] | Rain+4 | 2-M |
| | | | | | | | | | 10:22 | 2 | 3-S |
| | | | | | | | | | 10:25 | 2 4 | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect. Rain
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-21-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 12:18 | 3 sec | 1 | 10:56 | 2 sec | 3 | 12:53 | 1 sec | RAIN | 10:50 | 1 sec | 1 |
| 12:53 | 2 sec | RAIN | | | | | | | 11:14 | 1 sec | 1 |
| | | | | | | | | | 11:20 | 1 sec | 1 |
| | | | | | | | | | 11:45 | 1 sec | RAIN |
| | | | | | | | | | 12:45 | 1 sec | 1 |
| | | | | | | | | | 2:30 | 1 sec | 3 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

133649.8
33649.2
.6

88619.9
88619.6
.3

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-20-83

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 6:53 | 2-5 | 1 | | | | 948 | 2 Sec | 1 | | | |
| 7:31 | | | | | | 950 | 2 Sec | 1 | | | |
| 840 | 3 Sec | 1 | | | | | | | | | |
| 915 | 3 Sec | 1 | | | | | | | | | |
| 920 | 3 Sec | 1 | | | | | | | | | |
| 922 | 3 Sec | 1 | | | | | | | | | |
| 1000 | 2 Sec | 4 | | | | | | | | | |
| 1006 | 2 Sec | 4 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-20-83

3-11
Wilson

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 255 | 5 sec | 2 | | | | 256 | 5 sec | 2 | 257 | 5 sec | 2 |
| 257 | 3 sec | 2 | | | | | | | | | |
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NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-20-83

11-7

T.C. Walker

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 11:03 | 5 sec. | 2 | 12:11 | 25 sec | 3 | | | |
| | | | 11:20 | 3 sec. | 1 | | | | | | |
| | | | 11:58 | 1 sec | 1 | | | | | | |
| | | | 3:25 | 1 sec | 1 | | | | | | |
| | | | 3:47 | 15 sec | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-19-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 700 | 1 min | change #3 | 650 | 30 sec | 2 | 703 | 1 min | 3 | 720 | 10 sec | cleaning #3 |
| 712 | 15 sec | " " | 830 | 30 sec | RAIN | 705 | 10 sec | 3 | 750 | 5 sec | 1 |
| 728 | 15 sec | " " | 840 | 30 sec | RAIN | 707 | 10 sec | 3 | 900 | 30 sec | RAIN |
| [illegible] | 5 sec | 2 | | | | 718 | 10 sec | 2 | 1000 | 10 sec | 2 |
| 7:36 | | ck 40-sec 5-19-83 | 7:38 | | ck 45-sec 5-19-83 | 7:40 | | ck 45-sec 5-19-83 | 7:41 | | ck 45-sec 5-19-83 |
| [illegible] | 2 min | RAIN | | 1½ min | RAIN | 1010 | 1½ min | RAIN | 1010 | 2 min | RAIN |
| 900 | 10 sec | 3 | | | | | | | | | |
| 910 | 5 sec | 3 | | | | | | | | | |
| 912 | [illegible] | 3 | | | | | | | | | |
| 915 | [illegible] | 2 | | | | | | | | | |
| 935 | 5 sec | 1 | | | | | | | | | |
| 1040 | [illegible] | 3 | | | | | | | | | |
| 1050 | 25 sec | 3 | | | | | | | | | |
| 1115 | 5 sec | 3 | | | | | | | | | |
| 1205 | 5 sec | 2 | | | | | | | | | |
| 1210 | 5 sec | 2 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-19-83
3-11
Stephens

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 4:05 | 2-S | 1 | | | | 7:50 | N. | 1 | | | |
| 4:12 | 2-S | 1 | | | | 8:22 | 1-m | 1 | | | |
| 4:45 | 4-S | 1 | | | | 8:28 | | | | | |
| 5:05 | 2-S | 1 | | | | 8:50 | 1-m | 1 | | | |
| 8:28 | 2-m | 3 | | | | | | | | | |
| 8:32 | 2-m | 3 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

T.C. Wilken

Date 5-19-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 10:50 | 1 sec | 1 | 1:30 | 5 sec | 1 | 11:38 | 25 sec | 3 | 11:00 | 3 sec | 2 |
| 10:55 | 1 sec | 1 | 2:25 | 2 sec | 1 | 12:12 | 20 sec | 3 | 11:04 | 2 sec | 1 |
| 2:35 | 3 sec | 3 | 3:37 | 20 sec | 3 | 12:15 | 1 sec | 3 | 11:55 | 5 sec | 1 |
| 2:45 | 10 sec | 3 | 3:53 | 5 sec | 3 | 12:48 | 1 sec | 1 | 3:15 | 2 sec | 1 |
| | | | 4:30 | 1 sec | 1 | 2:16 | 20 sec | 1 | 3:40 | 15 sec | RAINING 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-18-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | | | |
| 7:00 AM | 30 S | 2 | ~~CK 40 Sec 5-18-83~~ | | CK 40 Sec 5-18-83 | | | | 7:10 AM | 30 S | CK 40 Sec 5-18-83 1 |
| 10:40 AM | 10 S | 1 | | | | | | | 12:40 PM | 10 S | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-18-8[illegible]

3-11
Stephen

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:05 | 2-m | 3 | | | | 4:45 | | 2 | | | |
| 8:15 | 2-S | 3 | 8:57 | 2-S | 3 | | | | | | |
| 8:19 | 5-S | 3 | 9:00 | 2-S | 3 | | | | | | |
| 8:03 | 2-S | 3 | 9:51 | 3-m | 3 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

T.C. WALKER

Date 5-18-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 2:33 | 1 sec | 3 | 11:06 | 1 sec | 1 | 11:20 | 1 sec | 3 | 12:45 | 1 sec | 3 |
| 2:57 | 5 sec | 3 | 11:07 | 1 sec | 1 | 11:37 | 10 sec | 3 | 12:54 | 5 sec | 3 |
| 3:20 | 1 sec | 3 | | | | 12:04 | 2 sec | 3 | | | |
| | | | | | | 12:05 | 1 sec | 3 | | | |
| | | | | | | 5:10 | 1 sec | 1 | | | |
| | | | | | | 5:15 | 1 sec | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-17-83

7-3
Edison

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | CK 40 Sec 5-17-83 | | | CK 40 Sec 5-17-83 | | | | 7:50 AM | 6 S | CK 40 Sec 5-17-83 1 |
| 8:49 AM | 15 S | 1 | | | | | | | | | 1 |
| 9:45 AM | 30 S. | 1 | | | | | | | | | |
| 11:49 | 40 S | 3 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-17-85

3-17 Stephens

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:33 | 2-5 | 2 | | | | | | | 6:53 | 2-M | 1 |
| 7:45 | | 1 | | | | | | | 7:00 | 4-5 | 1 |
| 8:18 | 2-M | 1 | | | | | | | | | |
| 9:35 | 5-m | DON'T KNOW | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-17-83
11-7
Hearing

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 10:45 | 1 | 3-S | 11:27 | 1 | 6-S | | | | 12:15 | 1 | 3-S |
| 11:01 | 2 | 3-S | 11:26 | 1 | 3-S | | | | 12:16 | 3 | 3-S |
| 11:05 | 1 | 5-S | 11:55 | 1:42 | 5-S | | | | 12:25 | 1 | 10-S |
| 11:15 | 1 | 5-S | | | | | | | 5:55 | 2 | 3-S |
| 11:41 | 1 | 6-S | | | | | | | | | |
| 11:44 | 1 | 6-S | | | | | | | | | |
| 11:55 | 1:42 | 3-S | | | | | | | | | |
| 12:00 | 1 | 15-S | | | | | | | | | |
| 12:45 | 3 | 10-S | | | | | | | | | |
| 12:25 | 1 | 6-S | | | | | | | | | |
| 12:45 | 1 | 5-S | | | | | | | | | |
| 3:23 | 1 | 15-S | | | | | | | | | |
| 4:15 | 3 | 10-S | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

5-5

2

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-16-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | | | |
| | | ok 35 sec | | | ok 35 sec | | | | | | |
| 10 AM | 15 S | 2 | 10 AM | 30 S | 2 | | | | | | 55 sec |
| | | | | | | | | | | | |
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NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-16-83

3-11

Stjolsen

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
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NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-17-83

11-7
Hearing

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 2:48 | 1 | 5-S | | | | | | | 12:23 | 2 | 3-S |
| 2:53 | 3 | 10-S | | | | | | | | | |
| 2:59 | 1 | 10-S | | | | | | | | | |
| 3:26 | 1 | 3-S | | | | | | | | | |
| 3:33 | 1 | 10-S | | | | | | | | | |
| 3:38 | 1 | 6-S | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

Note
#4 oil gun
Repairing

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-15-83

Wilson

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:30 AM | 6 s | 1 | | | | | | | 7:10 AM | 3 s | 2 |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-15-83

Stephens

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 5:41 | 2-5 | 1 | 6:38 | 5-5 | 3 | | | | 3:45 | | 3 |
| 7:25 | 2-5 | 1 | 6:41 | | 3 | | | | 4:46 | | 1 |
| 8:18 | 1-m | 5 | 6:56 | | 3 | | | | 7:54 | | 3 |
| | | | 7:01 | 14-m | 4 | | | | 7:55 | | |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-15-83

11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 2:12 | 1 | 10-S | 3:29 | 3 | 8-S | | | | 1:08 | 1 | 10-S |
| | | | 4:27 | 3 | 15-S | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-14-83

Wilson

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:30 AM | 10 Sec. | 1 | 6:50 AM | 30 Sec. | 2 | | | | 10:30 AM | 20 Sec. | 1 |
| 11:55 AM | 20 Sec. | 1 | 12:08 PM | 15 Sec. | 2 | | | | 11:20 AM | 10 Sec. | 2 |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-14-83

Stephenson

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:15 | 3-S | 1 | | | | | | | 6:25 | 5-S | 1 |
| 4:32 | 2-S | 3 | | | | | | | 7:44 | 2 m | 5 |
| 7.47 | 10-S | 2 | | | | | | | | | |
| 9:32 | 2-m | 2 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-14-83

11-7

Heating

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 12:35 | 2+1 | 15-S | 5:00 | 1 | | | | | 12:32 | 2 | 10-S |
| 12:40 | 1 | 5-S | 4:48 | 1 | 10-S | | | | | | |
| 12:42 | 1 | 10-S | 5:18 | 1+2 | 3-19 | | | | | | |
| 12:43 | 1 | 3-S | | | | | | | | | |
| 1:38 | 1 | 10-S | | | | | | | | | |
| 1:45 | 2 | 6-S | | | | | | | | | |
| 2:58 | 1 | 30S | | | | | | | | | |
| 5:00 | 1 | 10-S | | | | | | | | | |
| 5:12 | 1 | 10-S | | | | | | | | | |
| 5:44 | 1 | 10-S | | | | | | | | | |
| 5:45 | 1 | 5-S | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

7-3

Date 5-13-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:21 | +FLY ASH 35 sec | 5 | 7:24 | 10 sec. | 5 | | | | 7:26 | 15 sec | 5 |
| 11:27 | 3 sec | 1 | 7:46 | 3 sec. | 1 | | | | 11:30 | 2 sec | 1 |
| 11:40 | 1 sec | 1 | 8:06 | 3 sec | 1 | | | | 11:38 | 1 sec | 1 |
| 11:49 | 1 sec | 1 | 8:15 | 5 sec | 2 | | | | | | |
| 11:51 | 1 sec | 1 | 8:21 | 2 sec | 1 | | | | | | |
| 11:51 | 2 sec | 1 | 8:35 | 5 sec | 2 | | | | | | |
| | | | 8:55 | 3 sec. | 1 | | | | | | |
| | | | 10:49 | 1 sec | 1 | | | | | | |
| | | | 11:45 | 2 sec | 3 | | | | | | |

DOWN

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

33564.8
N. 33563.9
.9

88462.5
S. 88447.1
15.4

# OPACITY EVALUATION - WOOD BURNING BOILERS

Wilson

Date 5-13-83

3-11 SHIFT

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:37 PM | 15 SEC | 2 | 2:55 PM | 20 SEC | 1 | | | | 4:23 PM | 6 SEC | 1 |
| 8:07 PM | 6 SEC | 2 | 3:07 PM | 10 SEC | 1 | | | | 8:43 PM | 5 Sec | 2 |
| 8:55 PM | 4 Sec | 1 | 3:57 PM | 20 Sec | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-13-83

11-7 Hearing

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:44 | 1 | 10-S | 1:35 | 1 | 1-S | — Down — | | | 2:10 | 1 | 2-S |
| 12:34 | 1 | 3-S | 1:49 | 2 | 5-S | | | | | | |
| 12:38 | 1 | 4-S | 2:20 | 1 | 3-S | | | | | | |
| 2:13 | 2 | 6-S | 2:27 | 2 | 20-S | | | | | | |
| 2:23 | 1 | 7-S | 3:40 | 1 | 10-S | | | | | | |
| 2:30 | 2 | 6-S | 3:45 | 2 | 10-S | | | | | | |
| 2:33 | 1 | 2-S | 5:00 | 1 | 3-S | | | | | | |
| 2:52 | 2 | 3-S | | | | | | | | | |
| 5:10 | 1 | 3-S | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

1 30 sec
#1

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-12-83

7-3
Wilson

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | ck 30 sec | | | ck 35 sec | | | | | | ck 35 sec |
| 1300 pm | 4 sec | 2 | 8 am | 30 sec | 3 | | | | 1 pm | 5 sec | 1 |
| 1 57 pm | 4 sec | 1 | 8 19 am | 15 sec | 1 | | | | | | |
| | | | 8 30 am | 30 sec | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

J.C. WALKER

# OPACITY EVALUATION - WOOD BURNING BOILERS

3-11 SHIFT

Date 5-12-23

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:03 | 2 sec | 1 | 3:32 | 1 sec | 1 | | | | 2:41 | 2 sec | 1 |
| 7:05 | 1 sec | 1 | 3:34 | 15 sec | 2+1 | | | | 2:44 | 3 sec | 1 |
| 7:13 | 1 Sec | 1 | 10:12 | 3 sec | 2 | | | | 4:15 | 2 sec | 2 |
| 7:15 | 1 sec | 1 | | | | | | | | | |
| 8:16 | 1 sec. | 1 | | | | | | | | | |
| 10:57 | 2 sec | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

N. 33560.4
33559.2
.6

S. 88432.7
88431.1
1.6

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-12-83

11-17

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 10:46 | 1 | 2-S | 11:15 | 1 | 2-S | | | | 10:47 | 1 | 2-S |
| 11:12 | 3 | 20-S | 11:17 | 1 | 2-S | | | | 11:04 | 1 | 2-S |
| 1:30 | 3 | 10-S | 11:25 | 2 | 12-S | | | | 11:08 | 1 | 15-S |
| 1:41 | 2 | 3-S | 11:28 | 1 | 2-S | | | | 11:14 | 2 | 3-S |
| 1:52 | 1 | 1-S | 11:55 | 1 | 15-S | | | | 11:24 | 2 | 4-S |
| 1:57 | 2 | 2-S | 1:57 | 1 | 2-S | | | | 1:30 | 1 | 15-S |
| 2:06 | 1 | 3-S | 2:31 | 1 | 2-S | | | | 1:35 | 1 | 10-S |
| 2:21 | 1 | 2-S | 4:36 | 1 | 1-S | | | | 1:43 | 1 | 3-S |
| 2:22 | 1 | 2-S | 4:58 | 1 | 10-S | | | | 1:56 | 1 | 1-S |
| 2:24 | 1 | 1-S | | | | | | | 4:15 | 1 | 10-S |
| 2:41 | 1 | 15-S | | | | | | | 4:34 | 1 | 6-S |
| 3:36 | 2 | 3-S | | | | | | | 4:41 | 1 | 10-S |
| 3:45 | 1 | 10-S | | | | | | | | | |
| 3:48 | 2 | 6-S | | | | | | | | | |
| 3:55 | 1 | 10-S | | | | | | | | | |
| 4:01 | 1 | 10-S | | | | | | | | | |
| 5:05 | 2 | 2-S | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

OPACITY EVALUATION - WOOD BURNING BOILERS

7-3 SHIFT

Date 5-11-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:10 | 15 sec. | 5 | 7:12 | 12 sec. | 5 | | | | 7:13 | 25 sec. | 5+2 |
| 7:22 | 1 sec. | 1 | 7:33 | 10 sec. | 2 | | | | 7:16 | 1 sec. | 1 |
| 7:26 | 1 sec. | 1 | 8:25 | 2 sec | 1 | | | | 8:09 | 3 sec | 3 |
| 7:29 | 1 sec. | 1 | 11:47 | 2 sec | 3 | | | | 8:29 | 2 sec | 3 |
| 7:33 | 2 sec. | 1 | 11:49 | 5 sec | 3 | | | | 8:37 | 2 sec | 1 |
| 7:45 | 1 sec | 1 | 11:54 | 1 sec | 3 | | | | 11:35 | 2 sec | 1 |
| 10:30 | 2 sec. | 3 | 2:03 | 1 sec | 1 | | | | 11:38 | 2 sec | 1 |
| 10:40 | 2 sec | 3 | | | | | | | 12:07 | 1 sec | 1 |
| 11:53 | 1 sec | 1 | | | | | | | | | |
| 1:25 | 1 sec | 1 | | | | | | | | | |
| 1:27 | 2 sec | 1 | | | | | | | | | |

DOWN

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

33554.7
N. 33550.8
3.9

88399.0
S. 88373.6
5.4

# OPACITY EVALUATION - WOOD BURNING BOILERS

3-11

Date 5-11-82

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:09 | 2-m | 2 | 4:25 | 1-m | 1 | | | | 4:27 | 5-s | 1 |
| 3:27 | 10-s | 1 | 4:27 | 1-m | 1 | | | | 5:00 | 5-s | 1 |
| 7:53 | 2-s | 1 | 7:02 | 1-m | 1 | | | | 5:01 | 20-s | 1 |
| | | | | | | | | | 8:42 | 1-m | 3 |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-11-83

11-7

Hearing

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 10:55 | 10-S | 1 | 12:45 | 3-S | 3 | | | | 11:22 | 3-S | 1 |
| 10:57 | 10-S | 1 | 1:07 | 30S | 2 | | | | 12:56 | 3-S | 1 |
| 11:01 | 20-S | 1 | 2:50 | 15-S | 1 | | | | 12-57 | 10-S | 1 |
| 11:10 | 20-S | 1 | | | | | | | 110[illegible] | 4-S | 1 |
| 12:52 | 20-S | 1 | | | | | | | 5:00 | 5-S | 1 |
| 12:55 | 3-S | 1 | | | | | | | 5:03 | 20-S | 1 |
| 1:11 | 10-S | 1 | | | | | | | 5:19 | 15-S | 1 |
| 4:50 | 20-S | 1 | | | | | | | 5:21 | 3-S | 2 |
| | | | | | | | | | 6:16 | 10-S | |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

OPACITY EVALUATION - WOOD BURNING BOILERS 7-3 SHIFT

Date 5-16-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 6:37 | 1 sec | 1 | 7:31 | 10 sec. | 5 | | | | 7:33 | 15 sec. | 5 |
| 6:42 | 1 sec. | 1 | 7:07 | 1 sec. | 3 | | | | 10:47 | 2 sec. | 1 |
| 7:30 | 15 sec. | 5 | 11:03 | 1 sec. | 1 | | | | 11:06 | 1 sec | 2 |
| 10:14 | 1 sec. | 1 | | | | | | | 11:07 | 15 sec. OFF ON | 2 |
| 10:25 | 1 sec. | 3 | | | | | | | | | |
| 10:40 | 1 sec. | 3 | | | | | | | | | |
| 12:37 | 1 sec. | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

33550.3
N. 33548.9
1.4

88392.1
S. 88390.7
1.4

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-10 83

Wilson

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:10 | 6 SEC | 1 | | | | | | | 7:40 | 3 SEC | 1 |
| 8:15 | 4 SEC | 1 | | | | | | | 9:05 | 2 SEC | 1 |
| 8:20 | 6 SEC | 2 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-10-83
11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:19 | 4-5 | 1 | | | | | | | 11:20 | 4-5 | 1 |
| | | | | | | | | | 11:45 | 30-5 | 1 |
| | | | | | | | | | 5:35 | 2-5 | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

7-3 SHIFT
T.C.W.

Date 5-9-83

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 Time | Boiler No. 1 Duration | Boiler No. 2 Time | Boiler No. 2 Duration | Boiler No. 3 Time | Boiler No. 3 Duration | Boiler No. 4 Time | Boiler No. 4 Duration |
|---|---|---|---|---|---|---|---|---|
| INSTRUMEN CHECKING | 7:10 | 20 sec. | | | | | | |
| " " | | | 7:12 | 15 sec. | | | | |
| " " | | | | | | | 7:15 | 18 sec. |
| Residue | 7:26 | 5 sec | | | | | | |
| No ? No Residue: DRAFT | 7:53 | 1/2 sec | | | | | | |
| CLEANING & BLOWING GRATS OFF | 10:40 | 10 sec | | | | | | |
| GREEN WOOD TRYING TO BURN | 10:45 | 2 sec | | | | | | |

N 33548.9
33548.2
.7

S 88388.4
88386.4
2.0

S = Seconds M = Minutes

Date 5-9-83

3-11

Gulbrand

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| To which Dept Cleaning fire | 5:55 | 12 Sec | | | | | | |
| | | | | | | | | |
| to which Dept Cleaning fire | | | 8:05 | 30 Sec | | | | |
| | | | | | | | | |
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Date 5-9-83

11-7

Stephen

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| Cleaning Boiler | 11:26 | 2-S | | | | | | |
| | 1:30 | 2-S | | | | | | |
| Cleaning Boiler | | | 1:48 | 5-S | | | | |
| | | | | | | | | |
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S = Seconds M = Minutes

Date 5-8-83
1-3
Jackson

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| dust from blowing the grates off | 11:35 | 10 S. | | | | | | |
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S = Seconds M = Minutes

Date 5-8-83
3-11
Wilson

OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| empty hopper | 515 | 6 sec | | | | | 815 | 4 sec |
| empty hopper | 6:00 | 10 sec | | | | | | |
| empty hopper | 7:15 | 4 sec | | | | | | |
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S = Seconds M = Minutes

Date 5-8-83
11-7
Steadman

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| Pitwood in fire | 11 23 | 5-5 | | | | | | |
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S = Seconds M = Minutes

Date 5-7-83
7-3
Jackson

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| oil | 10:55 | 1M. 4S. | | | | | | |
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S = Seconds M = Minutes

Date 5-1-53

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| Dust | [illegible] | [illegible] | | | | | | |
| " | 5 min | [illegible] | | | | | | |
| " | 9 min | [illegible] | | | | | | |
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S = Seconds M = Minutes

Date 5-7-83
11-2
Sunny

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| Cleaning | 1202 | 2-m | | | | | | |
| Boiler cut out | | | | | 929 | | | |
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S = Seconds M = Minutes

Date [illegible]

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 Time | Boiler No. 1 Duration | Boiler No. 2 Time | Boiler No. 2 Duration | Boiler No. 3 Time | Boiler No. 3 Duration | Boiler No. 4 Time | Boiler No. 4 Duration |
|---|---|---|---|---|---|---|---|---|
| Cleaning Stk. | 11:15 | 35 | | | | | | |
| Checking | | | 11:16 | 35-S | | | | |
| Checking | | | | | 7:18 | 35-S | | |
| Rolling wood Back in 1st Side | 7:24 | | | 9:43-S | 10:30 | 9:39-S | | |
| Draft | | | | | 7:35 | 3-S | | |
| Oil | | | [illegible] | [illegible] | | | | |
| Draft | 10:11 | 2-S | | | | | | |
| No Draft on Boiler & No oil | 10:30 | 3-S | | | | | | |
| Draft | | | 10:47 | 3-S | | | | |
| Draft | | | 11:03 | 3-S | | | | |
| Draft | | | 11:18 | 15-S | | | | |
| Putting oil on Boiler | | | 11:33 | 10-S | | | | |
| Hung Hopper | 11:41 | 10-S | | | | | | |
| Draft | 11:48 | 3-S | | | | | | |
| Outside Side Draft | 12:00 | 10-S | | | | | | |
| Hung Hopper | 2:11 | 2-S | | | | | | |
| Draft | 2:20 | 1-S | | | | | | |
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S = Seconds M = Minutes

NONE

Date 5-6-83

3-11

Wilson

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| Draft | 3:00PM | 15 sec | | | | | | |
| Draft | 5:00PM | 30 sec | | | | | | |
| Draft | 6:00PM | 15 sec | | | | | | |
| Draft | 7:00PM | 15 sec | | | | | | |
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S = Seconds M = Minutes

Date [illegible]

OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| Cleaning Boiler | 2:28 | 2-S | | | | | | |
| To much Drift | 3:22 | 20-S | | | | | | |
| To much Drift | [illegible] | 2 m | | | | | | |
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S = Seconds M = Minutes

#1 sheet

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Date 5-5-83

OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

T.C. Walle
7-3 shift

| Reason | Boiler No. 1 Time | Boiler No. 1 Duration | Boiler No. 2 Time | Boiler No. 2 Duration | Boiler No. 3 Time | Boiler No. 3 Duration | Boiler No. 4 Time | Boiler No. 4 Duration |
|---|---|---|---|---|---|---|---|---|
| DRAFT | 6:57 | 2+1 secon | | | | | | |
| OIL + DRAFT | 7:07 | 3 SECOND | | | | | | |
| DRAFT + OIL | | | | | | | 7:10 | 2+1 SECOND |
| DRAFT | 7:15 | 3 SECOND | | | | | | |
| CHANGE | | | | | 7:15 | 3 SECOND | 7:16 | |
| DRAFT | | | | | | | 7:16 | 20 SECOND |
| DRAFT INSTRUMENT WORKING | 7:19 | 1 SECOND | | | | | | |
| | | | | | 7:20 | 5 SECOND | | |
| DRAFT + SHAVEN | | | | | | | 7:23 | 2 SECOND |
| DRAFT | 7:27 | 1 SECOND | DOWN | | | | | |
| DRAFT + WOOD | 7:30 | 1 SECOND | | | | | | |
| DRAFT + WOOD | 7:31 | 1 SECOND | | | | | | |
| DRAFT + WOOD | 7:32 | 1 SECOND | | | | | | |
| DRAFT + WOOD | 7:34 | 1 SECOND | | | | | | |
| DRAFT + WOOD | | | | | | | 7:35 | 1 SECOND |
| DRAFT + WOOD | 7:36 | 1 SECOND | | | | | | |
| DRAFT + WOOD | 7:40 | 1 SECOND | | | | | | |
| DRAFT + WOOD | 7:41 | 2 SECOND | | | | | | |

S = Seconds M = Minutes

# 2-sheet

Date 5-5-83

## OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

T.C. Walker
7-3 SHIFT

| Reason | Boiler No. 1 Time | Boiler No. 1 Duration | Boiler No. 2 Time | Boiler No. 2 Duration | Boiler No. 3 Time | Boiler No. 3 Duration | Boiler No. 4 Time | Boiler No. 4 Duration |
|---|---|---|---|---|---|---|---|---|
| DRAFT + WOOD | | | | | | | 7:50 | 1 SECOND |
| JUST FINISHED CLEANING DRAFT | | | | | 8:18 | 3 SECOND | | |
| DRAFT | | | | | 8:33 | 2 SECOND | | |
| DRAFT | | | | | 1:46 | 10 SECOND | | |
| DRAFT | | | | | | | 1:05 | 1 SECOND |
| DRAFT | | | | | | | 1:10 | 1 SECOND |
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DOWN

S = Seconds M = Minutes

Date 5-5-83

3-11 shift.

Morning

OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| DRAFT + oil | | | | | | | 3:25 | 2-m |
| DRAFT | 3:27 | 10-S | | | | | | |
| oil | 3:45 | 5-S | | | | | | |
| CLEANING | 5:21 | 5-S | | | | | | |
| CLEANING | | | | | 8:39 | 5-m | | |
| CLEANING | | | | | 8:41 | 2-m | | |
| CLEANING | | | | | 8:48 | 3-S | | |
| FRESH WOOD | | | | | 9:12 | 3-m | | |
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S = Seconds M = Minutes

Date 5-5-83

11-7

Attach 1

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| Draft | | | | | 1:30 PM | 30 sec. | | |
| Draft | | | | | 3:00 | 20 Sec. | | |
| Draft | | | | | 4:00 PM | 15 Sec. | | |
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S = Seconds M = Minutes

Date 5-4-80

Heating

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| CHECK | | | | | 7:26 | 35-S | | |
| CHECK | | | | | | | 7:27 | 35-S |
| CHECK | 7:28 | 35-S | | | | | | |
| DRAFT OFF | 7:44 | 3-M | | | | | | |
| DRAFT | 8:25 | 2-S | | | | | | |
| Hung wood | 8:35 | 1-S | | | | | | |
| Putting oil on Boiler | | | | | 8:47 | 1-M | | |
| Putting oil on Boiler | | | | | 8:55 | 3-M | | |
| Hi Boiler Press | | | | | 11:00 | 2-M | | |
| Hi Boiler Press | 11:00 | | | | | 2-M | | |
| Start Back After Cleaning | 11:05 | | | | | | | |
| Draft + Oil | 11:52 | 10-S | | | 11:22 | 3-M | | |
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S = Seconds M = Minutes

Date 5 4 - 83
3/11
Jackson

OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| oil | | | | | 8:02 | 20 s. | 9:10 | 1½ M. |
| oil | | | | | | | | |
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S = Seconds M = Minutes

Date 5-4-83

Wilson

OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
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S = Seconds M = Minutes

Date 5-3-83

Hearing

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 Time | Boiler No. 1 Duration | Boiler No. 2 Time | Boiler No. 2 Duration | Boiler No. 3 Time | Boiler No. 3 Duration | Boiler No. 4 Time | Boiler No. 4 Duration |
|---|---|---|---|---|---|---|---|---|
| Oil + Draft | 7:05 | 35S | | | | | | |
| Cleaning Beam | 7:15 | 1-M | | | | | | |
| Cleaning Beam | | | | | 7:16 | 1-M | | |
| Cleaning Beam | | | | | | | 7:17 | 1-M |
| Oil & Heavy Load | 7:25 | 5M | | | | | | |
| Wood Hanging up | 7:30 | 3-M | | | | | | |
| Raising Draft | 8:01 | 30-S | | | | | | |
| Hi Press 65,000 | 7:15 | 2-S | | | | | | |
| Wood Hung up | 7:20 | 2-S | | | | | | |
| Wood Hung up | 9:18 | 1-M | | | | | | |
| " " | 10:16 | 5-S | | | 9:41 | 10-S | | |
| Raising Draft | 10:17 | 2-S | | | 9:48 | 20-S | | |
| " " | | | | | 10:00 | 2-M | | |
| Oil | | | | | 10:34 | 2-S | | |
| Too much Draft | 11:45 | 3-S | | | | | | |
| Draft | 12:01 | 2-S | | | | | | |
| " | 12:06 | 8-S | | | | | | |
| Too much Draft | | | | | | | 12:10 | 5-S |

S = Seconds M = Minutes

Date 5-5-83

Hearing

OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| Due: Fire Death | | | | | | | 1:58 | 1-S |
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S = Seconds M = Minutes

Date 5-3-83
3/11

Jackson

OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| draft | 5:10 | 5 s. | | | | | | |
| wood | 7:40 | 10 s. | | | | | | |
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S = Seconds M = Minutes

Date 5-4-83

S Stephen

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| DRIFT | | | | | 11:08 | 30-S | | |
| | | | | | | | 11:16 | 2-S |
| CLEANING BOILER | 11:23 | 10-M | | | | | | |
| CLEANING BOILER | | | | | 12:02 | 12-M | | |
| " " | | | | | 12:24 | 20-S | | |
| DON'T KNOW | | | | | 12:36 | 3-M | | |
| PUTTING WOOD IN BOILER | | | | | | | 2:43 | 2-S |
| CLEANING BOILER | | | | | | | 2:49 | 1-M |
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S = Seconds M = Minutes

Date 5-2-83

7-3

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| Trying to put oil on Boiler | | | | | 1145 | 2-5 | | |
| Put to muck DRAFT AT ONCE | | | 1215 | 1-5 | | | | |
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S = Seconds M = Minutes

Screening

Date 5 - 2 - 83
3/11

OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

Jackson

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| draft | 2:48 | 5.5 | | | 3:55 | 10.5 | | |
| draft | 3:20 | 5.5 | | | | | | |
| Sandwin | 3:40 | 3.5 | | | | | | |
| oil | 8:15 | 6.5 | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |

S = Seconds M = Minutes

Date 5-2-83

11-7

# OPACITY EVALUATION - WOOD BURNING BOILERS

Meter Opacity Data Exceeding 40% Opacity

Stephen

| Reason | Boiler No. 1 | | Boiler No. 2 | | Boiler No. 3 | | Boiler No. 4 | |
|---|---|---|---|---|---|---|---|---|
| | Time | Duration | Time | Duration | Time | Duration | Time | Duration |
| SAWDust | | | | | 11:45 | 30-S | | |
| Cleaning Boiler | | | | | 12:23 | 20-S | | |
| Cleaning Boiler | | | | | 12:26 | 15-M | | |
| To much Dr. Ft | 11:42 | 10-S | | | | | | |
| " " " | 12:47 | 10-S | | | | | | |
| " " " | 12:48 | 5 S | | | | | | |
| " " " | | | | | 1:37 | 5-S | | |
| " " " | | | | | 1:45 | 15-S | | |
| | 2:20 | 10-S | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |

S = Seconds M = Minutes

# Visible Emissions Evaluation Record

Plant Name: Hercules Inc

Address: W 7th Street

City: Hilg

Emission Point:

Date: 5-31-83

Is emission point operation normal ?

V. E. Observer: Carroll Rowley

Certification Expiration: 10-21-83

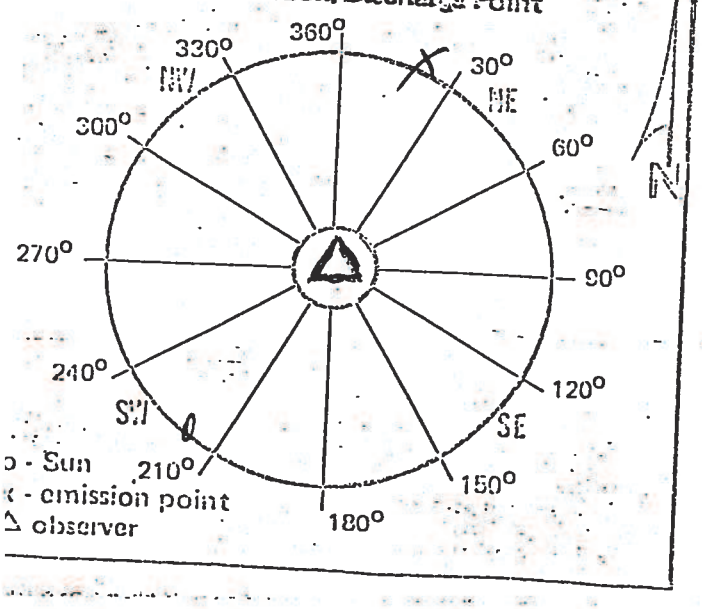
| Set No. | Time Start | Time End | Opacity Sum | Opacity Average |
|---|---|---|---|---|
| Stack A | 2:40pm | 2:55pm | 105 | 5.3 |
| Stack A | 2:40pm | 2:55pm | 260 | 13.0 |
| | | | | |

Overall Average:

| | Initial | Final |
|---|---|---|
| Distance to discharge | 1½ L | |
| Direction to discharge | NE | |
| Height of observation point | | |
| Height of discharge | | |
| Plume color | Brown-Black | |
| Plume background | Gray | |
| Water vapor in plume ? | | |
| Wind direction (from) | S W | |
| Wind speed | 10 MPH | |
| Ambient temperature | | |
| Discharge temperature | | |
| Sky conditions | Cloudy | |

| Min. | Seconds 0 | 15 | 30 | 45 |
|---|---|---|---|---|
| Stack A | | | | |
| 1 | 10 | 10 | 10 | 10 |
| 2 | 5 | 5 | 5 | 5 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 5 | 5 | 5 | 5 |
| 5 | 5 | 0 | 0 | 0 |
| Stack A | | | | |
| 1 | 20 | 20 | 20 | 15 |
| 2 | 15 | 10 | 10 | 10 |
| 3 | 15 | 15 | 15 | 15 |
| 4 | 10 | 10 | 10 | 10 |
| 5 | 10 | 10 | 10 | 10 |
| 0 | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Diagram Of Observation/Discharge Point




Remarks:

Received By:

HERCULES

Hercules Incorporated
West 7th Street
P.O. Box 1937
Hattiesburg, MS 39401
(601) 545-3450

July 5, 1983

RECEIVED
JUL - 7 REC'D
DEPT OF NAT. RESOURCE
BUREAU OF POLLUTION CONTROL

Mr. Dwight K. Wylie, P.E. Chief
Air Division
Bureau of Pollution Control
P. O. Box 10385
Jackson, Mississippi 39209

Dear Dwight:

Re your November 8, 1982 letter, please find the attached emissions data concerning the woodwaste boilers for June 1983.

We will continue to submit this data on a monthly basis.

Very truly yours,

Charles Jordan

Charles Jordan

CJ:gc

Attachments

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-1-83

11/7 Noble

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:21 | 2 Sec | 1 | | | | | | | 3:12 | 2 Sec | 1 |
| 3:50 | 2 Sec | 1 | | | | | | | 3:15 | 2 Sec | 1 |
| | | | | | | | | | 3:40 | 8 Sec | 3 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 1-1-83
Monday
11-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 6:50 | 3-S | 1 | | | | 6:55 | [illegible] | 4 | 7:23 | 3-S | 5 |
| 7:20 | 3-S | 5 | | | | 7:10 | 1-S | | | | Ck 45 Sec Dom |
| [illegible] | | Ck 45 Sec Dom | | | | 7:50 | 3-S | 5 | | | |
| 7:51 | 3 | | | | | 7:54 | 3-S | 5 | | | |
| 8:46 | 30-S | 1 | | | | 8:55 | 10-S | 3 | | | |
| 8:48 | 20-S | 1 | | | | | | | | | |
| 11:30 | 2-S | 1 | | | | | | | | | |
| 11:48 | 2-S | 3 | | | | | | | | | |
| 11:50 | 6-S | 3 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-1-83

3-11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:20 | 5 min | 1 | | | | | | | | | |
| 3:30 | 10 min | 1 | | | | | | | | | |
| 3:59 | 8 min | 3 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-2-8[illegible]

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 715 | 15 Sec | 5 | | | | 718 | 25 Sec | 5 | 719 | 35 Sec | 5 |
| | | | | | | | | | 1032 | 5 Sec | 3 |

713

NOTES: Jackson

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-2-93

3-1

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 9:35 | 3-5 | 1 | | | | 6:14 | 2-5 | 1 | | | |
| 10:06 | 2-5 | 1 | | | | | | | | | |

NOTES: Heating

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-2-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:06 | 2.5 | 3 | | | | 4:09 | 2 Sec | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-3-83
7/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:10 | 35-S | 5 | | | | 7:11 | 35-S | 5 | 7:13 | 35-S | 5 |
| 2:38 | 2-S | 1 | | | | 10:59 | 2-S | 1 | 2:35 | 2-S | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 10-3-83

311

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 6:58 | 1½ min. | (3) | | | | 9:00 | 45 sec. | (2) | 2:45 pm | 5 sec. | (1) |
| | | | | | | | | | 5:10 pm | 15 sec. | (2) |
| | | | | | | | | | 7:30 | 30 sec. | (1) |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-3-83

11/7 Adds

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 11:35 | 2 Sec | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-4-83
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:38 | 10, e | 1 | | | | 12:00 | 20 e | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6 - 4 - 83

3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:00 | 3 sec. | 17 | | | | | | | 2:45 | 30 sec. | (1) Hung up hopper |
| | | | | | | | | | 3:05 | 30 sec. | (1) Hung up hopper |
| | | | | | | | | | 6:00 | 3 min. | RAIN (1) |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION -- WOOD BURNING BOILERS

Date 6-4-83
11/7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 12:55 | 35-S | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-5-83

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:35 | 15 e | 1 | | | | | | | | | |
| 8:15 | 10 e | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-5-83

3-11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | 7135 | 2 min | (3) | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-5-83
11/7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 12:35 | 2.5 | 2- | | | | 3:21 | 15 | 1 | | | |
| 12:45 | 3-5-5 | 1- | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-6-83
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:50 | 15 c | 1 | | OUT | | 9:45 | 20 c | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-6-83
1117

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 120 | 7-C | 1 | 2:22 | 10-C | 1 | | NOT | | | | |
| | | | 2:29 | 5-C | 1 | | | | | | |
| | | | 2:55 | 10-C | 2 | | | | | | |
| | | | 4:57 | 3-C | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-7-83

11/7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 3:15 | 15 C | 1 | | OUT | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-1-83

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:40 | 45 c | ok 45 sec 6-1-83 | 8:05 | 45 c | ok 45 sec Don | | | | 8:55 | 45 c | ok 45 sec Don |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6 - 8 - 83

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | OK 45 Sec 6-8-83 | | | OK 45 Sec 6-8-83 | | OUT | | | | OK 6-8-83 |
| 7:08 | 10 c. | 1 | 7:13 | 8 c | 1 | | | | 7:18 | 10 c | 1 |
| | | | | | | | | | 11:30 | 15 c | 2 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-8-83
3 - 11 Shift

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 7:08 | 20 Sec. | (1) | | | | 3:20 | 3 sec. | (1.) |
| | | | | | | | | | 7:08 | 1 min. | (1.) |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-8-83

11-7
Herring

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 3:40 | 2-S | 3 | | | | 10:55 | 3-m | 1 |
| | | | 3:43 | | 1 | | | | 11:36 | 2-m | 3 |
| | | | 4:05 | 3-m | 5 | | | | 11:38 | 3-m | 1 |
| | | | | | | | | | 11:48 | 2-m | 1 |
| | | | | | | | | | 11:52 | 3-m | 5 |
| | | | | | | | | | 12:08 | 1-S | 1 |
| | | | | | | | | | 2:50 | 1-S | 1 |
| | | | | | | | | | 3:13 | 1-S | 1 |
| | | | | | | | | | 3:58 | 2-S | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-7-83

1-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:25 | 45 sec | 5 | 7:27 | 45 sec. | 5 | | | | 7:05 | 1 sec | 1 |
| 12:49 | 1 sec. | 1 | 7:42 | 25 sec | 3 | | | | 7:29 | 45 sec. | 5 |
| | | | | | | | | | 7:31 | 1 sec | 1 |
| | | | | | | | | | 7:41 | 1 sec | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-9-83
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:30 | 15 c | 1 | | | | | Down | | 7:50 | 15 c | 1 |
| 7:23 | 10 | 1 | | | | | | | 10:00 | 10 c | 1 |
| | | | | | | | | | 10:04 | 12 c | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-9-83

11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:50 | 3 | 3-5 | 2:05 | 2-M | 3 | | | | 11:20 | 3-m | 3 |
| | | | 2:07 | 3-m | 3 | | | | 11:35 | 2-S | 3 |
| | | | 2:15 | 1-m | 3 | | | | 11:37 | 20-S | 3 |
| | | | | | | | | | 11:40 | 3-S | 1 |
| | | | | | | | | | 3:13 | 3-m | 3 |
| | | | | | | | | | 3:21 | 2-S | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustme
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-10-87

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 8:00 | 15 c | 1 | 8:45 | 10 c | 2 | | | | | | |
| 8:05 | 10 | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-10-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:40 | 1-C | 1 | 451 | 8-C | 1 | | | | | | |
| 7:47 | 3-C | 1 | | | | | NOT | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-9-83

11-7, Herring

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 11:40 | 10 m | 3 |
| | | | | | | | | | 11:53 | 1-S | 3 |
| | | | | | | | | | 11:56 | 1-S | 3 |
| | | | | | | | | | 12:23 | 1-S | 1 |
| | | | | | | | | | 1:38 | 2-S | 1 |
| | | | | | | | | | 2:00 | 1-S | 1 |
| | | | | | | | | | 2:25 | 3-S | 3 |
| | | | | | | | | | 3:44 | 3-S | 1 |
| | | | | | | | | | 3:55 | 1-S | 1 |
| | | | | | | | | | 4:32 | 3-S | 1 |
| | | | | | | | | | 5:39 | 1-S | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-11-83

7/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 12:56 | 1 sec. | (1) | 1.00 | 10 m. | (4) | | | | 7:10 | 2 sec. | (1) |
| | | | | | | | | | 7:42 | 1 sec. | (1) |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6. 11. 83
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 2:40 | 2-m | 1 | 3:47 | 3-m | 1 | | out | | 3:05 | 2-m | 1 |
| 2:50 | 1-m | 1 | | | | | | | 3:25 | 3-m | 1 |
| 8:24 | 1-m | 1 | | | | | | | 7:50 | 4-m | 1 |
| | | | | | | | | | 8:15 | 1-m | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 5-11-83
11/7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | out | | 10:50 | 2-m | 1 |
| | | | | | | | | | 11:27 | 3-m | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-12-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 4:30 | 3-m | 1 |
| | | | | | | | | | 9:10 | 2-m | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-12-83
11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:20 | 5e | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-13-83

3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 6:45 | 4-m | 1 | | | | | out | | 4:58 | 3-m | 1 |
| 7:5 | 3m | 1 | | | | | | | 8:02 | 4-m | 1 |
| 8:57 | 6-m | 1 | | | | | | | 9:55 | 2-m | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-13-83

HT Heering

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 10:55 | 1-15 | 1 | 3:45 | 10-S | 3 | | | | 11:50 | 6-S | 2 |
| 10:55 | 1-S | 1 | | | | | | | 12:55 | 1-S | 1 |
| 11:08 | 1-S | 1 | | | | | | | 1:03 | | |
| 1:18 | 1-S | 1 | | | | | | | | | |
| 1:23 | 1-S | 1 | | | | | | | | | |
| 3:00 | 3-S | 1 | | | | | | | | | |
| 3:50 | 1-S | 2 | | | | | | | | | |
| 3:54 | 1-S | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-14-83

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:21 | 15 sec. | (1) | 7:14 | 15 sec. | (1) | | | | 7:05 | 5 sec. | ck 45 sec. |
| 11:32 | 5 sec. | (4) | 8:50 | 10 sec. | (2) | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-14 83
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 2,50 | 4-SEC | 1 | | | | | | |
| | | | 4,45 | 3-SEC | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-14-83

11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 1225 | 3-S | 1 | | | | 12:00 | 6-S | 2 |
| | | | | | | | | | 12:25 | 3-S | 1 |
| | | | | | | | | | 3:45 | 3-S | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-15-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| [illegible] | [illegible] | (6) | 7:20 | 10 sec | (1) | | | | 7:20 | [illegible] | (1) |
| 9:04 | 5 sec | (1) | 7:25 | 15 sec | (2) | | | | 7:30 | [illegible] | (1) |
| | | | 7:30 | 15 sec | (2) | | | | 7:35 | [illegible] | (1) |
| | | | 7:45 | 8 sec | (2) | | | | 7:45 | 12 sec | (2) |
| | | | 7:55 | 12 sec | (2) | | | | | | |
| | | | 8:00 | 20 sec | (3) | | | | | | |
| | | | 8:55 | 10 sec | (3) | | | | | | |
| | | | 10:32 | 5 sec | (1) | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-15-83
2/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 8:40 | 2 sec | 1 | | Out | | 3:30 | 2 sec | 1 |
| | | | 9:35 | 3-sec | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6 - 15 - 83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 1150 | 15 | 1 | | | | | | | 1110 | 20 | 4 |
| 1155 | 6 | 1 | | | | | | | 252 | 10 | 2 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-16-83
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 730 | 5 Sec | 5 | 715 | 10 Sec | 2 | | | | 738 | 5 Sec | 5 |
| | | | 736 | 5 Sec | 5 | | | | 800 | 5 Sec | 1 |
| 808 | 10 Sec | 3 | 1012 | 10 Sec | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-16-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | 5:00 | 10 Sec. | (3) | | | |
| | | | | | | 5:15 | 5 Sec. | (3) | | | |
| | | | | | | 5:35 | 5 Sec. | (1) | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

Lost all power at boilers at 6:45p. Had smoke from 6:45pm until 8:30p.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-16-78
11-1

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 4:20 | 1 | 1 |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-17-83

7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 9:50 | 10 Sec. | (1) | 11:50 | 30 Sec | (2) | | | | | | |
| | | | 12:25 | 5 Sec. | (1) | | | | | | |
| | | | 2:05 | 20 Sec. | (2) | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustmen
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-17-83

3-11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 8:05 | 5 sec. | U |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6 - 17 - 83

11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | 12:35 | 15 c | 1 | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-15-83
1/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 12:35 | 3 SEC | 1 | | | | 7:15 | 4 SEC | 1 |
| | | | | | | | | | 7:25 | 2 SEC | 1 |
| | | | | | | | | | 8:55 | 3 SEC | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-18-83

3-11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 5:18 | 2 Sec. | (1.) | | | | 3:50 | 15 Sec. | (1.) |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-18-83
11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 11:35 | 20 c | 1 |
| | | | | | | | | | 5:16 | 10 c | 1 |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-17-83
7/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | NONE | | | NONE | | | NONE | | | NONE | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-19-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | | | | | | | 2453 | 10 Sec. | (1) |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-19-83
11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 1245 | 10 c | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-20-83
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:45 | 4 SEC | 1 | 1:40 | 2-SEC | 1 | | NONE | | | NONE | |
| 9:20 | 2-SEC | 2 | | | | | | | | | |
| 12:31 | 3-SEC | 1 | | | | | | | | | |
| 1:37 | 4 SEC | 3 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-20-83

S-11
Heating

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 4:40 | 2-5 | 3 | 7:45 | 3 | 10-5 | 9:00 | 3 | | 3:45 | 10-5 | 1 |
| 8:50 | 3-5 | 1 | 7:50 | 2 | 10-5 | | | | 4:30 | 5-5 | 1 |
| 9:25 | 5-5 | 1 | 8:30 | 3 | 10-5 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-20-83
11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 2:23 | 20 | 1 | | | | 11:25 | 10 | 1 |
| | | | 2:40 | 15 | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-21-83
7/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 9:05 | 2-SEC | 1 | 8:02 | 4-SEC | 2 | 7:20 | 3-SEC | 1 | 7:35 | 3-SEC | 2 |
| 9:30 | 3-SEC | 1 | 12:35 | 3-SEC | 3 | 7:50 | 4-SEC | 2 | | | |
| 10:55 | 4-SEC | 2 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-21-83
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:20 | 3-SEC | 2 | 4:13 | 6-SEC | 1 | 3:13 | 2-SEC | 1 | 4:20 | 3-SEC | |
| 7:35 | 4-SEC | 1 | 5:51 | 3-SEC | 2 | | | | | | |
| | | | 7:20 | 2-SEC | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-21-83
11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 11:45 | 15 c | 1 | 2:35 | 10 c | 1 | 3:25 | 10 c | 1 | | | |
| | | | 2:55 | 5 | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-22-83
7-3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 11:55 | 3-SEC | 1 | | | | | | |
| | | | 12:02 | 2-SEC | 1 | | | | | | |
| | | | 1:40 | 3-SEC | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-22-83
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 3:15 | 10 c | 1 | 4:20 | 15 c | 1 | | | | | | |
| | | | 5:53 | 10 c | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-22-83

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 11:15 | 10 Sec. | (1) | | | | 11:35 | 5 Sec. | (3) |
| | | | 11:38 | 15 Sec. | (2) | | | | 3:04 | 30 Sec. | (4) |
| | | | 4:55 | 10 Sec. | (2) | | | | | | |
| | | | 5:22 | 15 Sec. | (4) | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment.
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION -- WOOD BURNING BOILERS

Date 6-13-83
7/31

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 736 | 5 Sec | 5 | 715 | 10 Sec | 2 | 716 | 10 Sec | 2 | 741 | 5 Sec | 5 |
| 800 | 5 Sec | 3 | 737 | 5 Sec | 5 | 739 | 5 Sec | 5 | 758 | 5 Sec | 3 |
| 1240 | 5 Sec | 2 | 1040 | 5 Sec | 3 | 1245 | 5 Sec | 5 | 920 | 5 Sec | 1 |
| | | | 1205 | 5 Sec | 2 | | | | | | |
| | | | 1239 | 5 Sec | 2 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-23-73
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 5:55 | 3-SEC | 2 | 8:18 | 2-SEC | 1 | | | | | | |
| | | | 9:10 | 3-SEC | 2 | | | | | | |
| | | | 9:30 | 1-SEC | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-23-83

11-7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| | | | 3:05 | 5 sec | (3) | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-29-83
7/3

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:46 | 4-SEC | 3 | 6:55 | 3-SEC | 1 | 7:45 | 4-SEC | 3 | 9:05 | 3-SEC | 3 |
| 11:10 | 3-SEC | 2 | 7:18 | 2-SEC | 2 | 7:55 | 2-SEC | 1 | 1:50 | 2-SEC | |
| | | | 7:20 | 3-SEC | 1 | | | | | | |
| | | | 8:00 | 2-SEC | 2 | | | | | | |
| | | | 10:13 | 3-SEC | 1 | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-24-8
3/11

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 7:30 | 10 c | 1 | | | | 3:25 | 15 c | 1 | 4:40 | 10 c | 1 |
| 7:35 | 12 c | 1 | | | | | | | | | |
| 7:45 | 10 c | 1 | | | | | | | | | |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.

# OPACITY EVALUATION - WOOD BURNING BOILERS

Date 6-24-83

11 - 7

| Boiler No. 1 | | | Boiler No. 2 | | | Boiler No. 3 | | | Boiler No. 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Duration | Note | Time | Duration | Note | Time | Duration | Note | Time | Duration | Note |
| 12:45 | 5 Sec. | 13 | | | | | | | 11:35 | 5 Sec. | 13 |

NOTES:

1. Load change.
2. Fuel oil adjustment
3. Cleaning furnace.
4. Meter defect.
5. Cleaning meter lenses.