

TO: Dale Crochet

DEPT. CA II

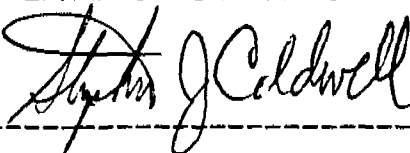
BLDG. 3601

## ANALYTICAL REPORT

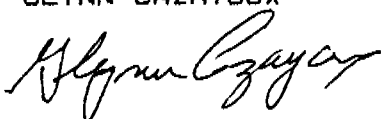
DOW CONFIDENTIAL INFORMATION

|                                                                 |                       |                         |
|-----------------------------------------------------------------|-----------------------|-------------------------|
| LASTL ANALYTICAL LABORATORIES<br>Bldg. 2503<br>Dow Chemical USA | SAMPLE NO(S).<br>6526 | REPORT DATE<br>08/25/86 |
|-----------------------------------------------------------------|-----------------------|-------------------------|

Title: Lead in Inlet Air to GT-1 Gas Turbine at Caustic

|                                                                                                                   |                   |                        |
|-------------------------------------------------------------------------------------------------------------------|-------------------|------------------------|
| Author: STEPHEN J. CALDWELL<br> | CHARGE NO.<br>38  | SAMPLE DATE<br>9/15/86 |
|                                                                                                                   | PHONE NO.<br>6237 | DATA BOOK NO.<br>4266  |

Reviewer: GLYNN CAZAYDOUX



| <u>Sample</u>     | <u>Lead (Pb)</u> |              |
|-------------------|------------------|--------------|
| Filter blank      | 1.0 ug           |              |
| Analytical filter | 1.0 ug           | LOD = 0.5 ug |

$$\text{SAMPLE} = \frac{1.0 \text{ ug}}{15 \text{ min} * 1.7 \text{ m}^3 / \text{min}} = 0.04 \text{ ug/m}^3$$

$$\text{LOD} = \frac{0.5 \text{ ug}}{15 \text{ min} * 1.7 \text{ m}^3 / \text{min}} = 0.02 \text{ ug/m}^3$$

Samples were prepared by digestion in 6 mL conc. nitric acid with heating until solution cleared. Samples were diluted to 10 mL and analyzed by ICAP emission spectroscopy.

DO 106746  
CONFIDENTIAL

ASBESTOS

1986 Jan July 2.0  
1986 July 0.2 fflc

Doug Myer  
C12

REV  
8(E)

TLV  
The ~~TLV~~ for asbestos is 2 fibers per cc greater than 5 microns in length. Asbestos fibers in the atmosphere are potentially hazardous. There are no immediate chemical or physical warning properties and effects from overexposure may appear after a latency period of 20 or more years. Asbestosis, mesothelisma and asbestos corns may result from overexposure. A pulp wagon containing wet pulp is used at CA II which eliminates any dry asbestos handling. When the wagon is empty it is brought to Cell Service for refilling. Good housekeeping is the key to keep the area clean of asbestos. Asbestos sampling is done every six months.

| <u>Date</u> | <u>Description</u>            | <u>Duration<br/>(Minutes)</u> | <u>Fibers/cc&gt;5<math>\mu</math></u> |
|-------------|-------------------------------|-------------------------------|---------------------------------------|
| 3/25/82     | Pulping Cells - OTT           | 30                            | 5.70                                  |
| 4/14/82     | Pulping Cells - OTT           | 45                            | 0.07                                  |
| 6/4/82      | Pulping Cells - SOT           | 50                            | 0.01 N/D*                             |
| 6/23/82     | Pulping Cells - OTT           | 64                            | 0.01 N/D*                             |
| 6/30/82     | Pulping Cells - OTT           | 134                           | 0.02                                  |
| 7/1/82      | Pulping Cells - OTT           | 149                           | 0.02                                  |
| 7/8/82      | Pulping Cells - OTT           | 210                           | 0.23                                  |
| 8/4/82      | Pulping Cells - OTT           | 30                            | 0.20                                  |
| 9/30/82     | Pulping Cells - OTT           | 89                            | 0.16                                  |
| 10/4/82     | Pulping Cells - OTT           | 165                           | 0.08                                  |
| 10/5/82     | Pulping Cells - OTT Refilling | 56                            | 0.20                                  |
| 10/6/82     | Pulping Cells - OTT Refilling | 108                           | 0.70                                  |
| 10/11/82    | Pulping Cells - OTT           | 74                            | 0.05                                  |
| 9/29/82     | Pulping Cells - OTT           | 124                           | 0.15                                  |

The one significant reading of 5.70 fibers should be compared to the ceiling short term limit of 10 fibers.

\* = Non-Detected

## CAUSTIC MIST

There is a ceiling limit set at 2 mg/m<sup>3</sup> for caustic dust and mist. Contact with the skin or eyes causes severe burns and must be washed off immediately. Inhalation causes coughing and painful nose and throat irritation. When working with caustic, rubber boots, rubber gloves, respirator and monogoggles must be worn.

TWA:

| <u>Date</u> | <u>Description</u>           | <u>Duration<br/>(Minutes)</u> | <u>MG/M<sup>3</sup></u> |
|-------------|------------------------------|-------------------------------|-------------------------|
| 8/2/82      | Brine OTT - General Rounds   | 480                           | .01                     |
| 7/27/82     | Caustic SOT - General Rounds | 480                           | .28                     |
| 8/25/82     | Caustic SOT - General Rounds | 480                           | .06                     |

### EXCURSION:

|          |                                |     |      |      |
|----------|--------------------------------|-----|------|------|
| 11/2/82  | Cell Crew OTT - Catching gpl's | 23  | .67  |      |
| 12/21/82 | Cell Crew OTT - Catching gpl's | 51  | .27  |      |
| 3/25/82  | Cell Crew OTT - Catching gpl's | 35  | .10  |      |
| 3/31/82  | Cell Crew OTT - Catching gpl's | 55  | .64  |      |
| 10/5/82  | Cell Crew OTT - Catching gpl's | 35  | .32  |      |
| 10/5/82  | Cell Crew OTT - Catching gpl's | 25  | 1.70 |      |
| 10/5/82  | Brine OT - General Rounds      | 240 | .01  | N/D* |
| 10/21/82 | Brine OT - General Rounds      | 240 | .24  |      |
| 10/25/82 | Brine OT - General Rounds      | 240 | .03  |      |
| 8/25/82  | Cell SOT - Catching gpl's      | 45  | .01  | N/D* |
| 10/5/82  | Caustic SOT - General Rounds   | 246 | .01  | N/D* |
| 10/21/82 | Caustic SOT - General Rounds   | 240 | .01  | N/D* |
| 10/22/82 | Cells SOT - Catching gpl's     | 30  | .14  |      |
| 10/26/82 | Caustic SOT - General Rounds   | 255 | .01  | N/D* |
| 10/29/82 | Caustic Sot - General Rounds   | 240 | .05  |      |
| 12/21/82 | Inst. - Caustic Plant          | 50  | .02  |      |
| 12/21/82 | Inst. - Iron Cell Area         | 87  | .93  |      |
| 12/10/82 | Pipefitter - Caustic Area      | 74  | .44  |      |
| 12/10/82 | Millwright - Centrifuge        | 116 | .10  |      |
| 12/9/82  | Pipefitter - Caustic Valve     | 153 | .01  | N/D* |
| 12/9/82  | Pipefitter - Caustic Valve     | 153 | .08  |      |

\* = Non-Detected

AREA:

| <u>Date</u> | <u>Description</u>        | <u>Duration<br/>(Minutes)</u> | <u>MG/M<sup>3</sup></u> |
|-------------|---------------------------|-------------------------------|-------------------------|
| 3/26/82     | Iron Cells                | 15                            | 2.20                    |
| 3/29/82     | Iron Cells                | 15                            | 1.74                    |
| 4/13/82     | Iron Cells N End          | 15                            | 2.36                    |
| 4/13/82     | Iron Cells N End          | 15                            | 4.33                    |
| 11/4/82     | SE Corner Centrifuge Deck | 15                            | 3.40                    |
| 11/4/82     | S End Iron Cells          | 15                            | .79                     |
| 11/4/82     | S End Centrifuge Deck     | 15                            | 12.58                   |
| 11/4/82     | SE Corner Iron Cells      | 15                            | 1.47                    |
| 11/4/82     | E End Centrifuge Deck     | 15                            | .68                     |

The highest reading obtained in the area sampling was in the presence of a leak on the centrifuge. The iron cell sampling average was 2.14 mg/m<sup>3</sup> and the centrifuge deck sampling average was 5.55 mg/m<sup>3</sup> to be compared with a ceiling limit of 2.0 mg/m<sup>3</sup>.

CHLORINE

Chlorine gas is irritating to the eyes, nose, throat and lungs. At high concentrations there can be a burning sensation to the skin. Chlorine has very good warning properties with an odor threshold of approximately 0.25 - 1.0 ppm. The TLV is 1 ppm ceiling. Operators are required to carry a mouth-bit respirator at all times - these are designed to help escape from chlorine. If required to work in a chlorine atmosphere under emergency conditions, Scott Air Pak equipment must be worn. Previous sampling history has shown that TWA sampling for chlorine shows minimum detection so a more concentrated effort is given to excursion job sampling.

EXCURSION:

| <u>Date</u> | <u>Description</u>               | <u>Duration<br/>(Minutes)</u> | <u>PPM</u> |      |
|-------------|----------------------------------|-------------------------------|------------|------|
| 3/30/82     | Cell Crew OTT - Running pH's     | 105                           | .1         | N/D* |
| 4/15/82     | Cell Crew OTT - Running pH's     | 35                            | .1         |      |
| 6/2/82      | Cell Crew OTT - Catching NaCl's  | 50                            | .2         |      |
| 6/4/82      | Cell Crew OTT - Running pH's     | 20                            | .1         | N/D* |
| 7/22/82     | Cell Crew OTT - Running pH's     | 35                            | .1         | N/D* |
| 8/2/82      | Cell Crew OTT - Running pH's     | 40                            | .43        |      |
| 8/3/82      | Cell Crew OTT - Catching NaCl's  | 40                            | .1         | N/D* |
| 10/5/82     | Cell Crew OTT - Running pH's     | 74                            | .1         | N/D* |
| 4/15/82     | Liq. SOT - Block Sample          | 4                             | .28        |      |
| 6/2/82      | Liq. SOT - Block Sample          | 4                             | .15        |      |
| 7/27/82     | Liq. SOT - Block Sample          | 5                             | .1         | N/D* |
| 8/2/82      | Cell SOT - Round                 | 20                            | .74        |      |
| 8/3/82      | Cell SOT - Round                 | 40                            | .1         | N/D* |
| 8/9/82      | Liq. SOT - Block Samples         | 15                            | .82        |      |
| 8/10/82     | Cell SOT - Round                 | 40                            | .1         |      |
| 10/6/82     | Liq. SOT - Block and Wet Header  | 20                            | .1         | N/D* |
| 10/6/82     | Cell SOT - Round                 | 43                            | .1         | N/D* |
| 10/20/82    | Liq. SOT - Block, W. Hdr. & Tail | 19                            | 7.79       |      |
| 10/21/82    | Liq. SOT - All samples           | 15                            | 1.20       |      |
| 10/21/82    | Cell SOT - Rounds                | 35                            | .1         | N/D* |
| 10/25/82    | Liq. SOT - All samples           | 12                            | .16        |      |
| 10/25/82    | Cell SOT - Rounds                | 18                            | .1         | N/D* |
| 10/26/82    | Cell SOT - Rounds                | 25                            | .1         | N/D* |
| 4/15/82     | OS - Cell Rounds                 | 60                            | .97        |      |
| 12/10/82    | Inst. - Cell Analyzer Shack      | 88                            | .1         | N/D* |
| 12/10/82    | Inst. - Cell Analyzer Shack      | 88                            | .1         | N/D* |
| 12/9/82     | Pipefitter - Cell Cathode        | 72                            | .1         | N/D* |
| 12/9/82     | Pipefitter - Cell Cathode        | 72                            | .1         | N/D* |
| 12/10/82    | Pipefitter - Purif. Area         | 75                            | .1         | N/D* |

AREA:

|          |                                 |     |     |      |
|----------|---------------------------------|-----|-----|------|
| 4/13/82  | Trench by GT 2                  | 450 | .53 |      |
| 4/14/82  | Trench by GT 2                  | 495 | .1  | N/D* |
| 4/15/82  | Trench by GT 2                  | 510 | .41 |      |
| 4/23/82  | Trench by GT 2 (sending out WP) | 990 | .1  | N/D* |
| 4/25/82  | Outfall                         | 435 | .17 |      |
| 10/27/82 | Haz. Waste Area - Startup       | 173 | .1  | N/D* |
| 10/27/82 | Liq. - Startup                  | 172 | .15 |      |
| 10/27/82 | Cell Area - Startup             | 173 | .1  | N/D* |

\* = Non-Detected

The significant high sample was on catching a block chlorine gas sample where operator was in a downwind position. A sniff header has been installed at this sample point to eliminate chlorine exposure, however, on this particular date, the sniff header was plugged. Personnel involved in excursion sampling were wearing respiratory protection. All other samples were in a less than 1 ppm range.

#### HYDROCHLORIC ACID

HCl has a ceiling TLV of  $7 \text{ mg/m}^3$ . The concentrated acid or gas can cause severe burns to the skin. Inhalation will irritate the nose, throat, lungs and eyes. Prolonged exposure can result in ulceration of the nose and throat.

Area:

| <u>Date</u> | <u>Description</u>       | <u>Duration<br/>(Minutes)</u> | <u>MG/M<sup>3</sup></u> |      |
|-------------|--------------------------|-------------------------------|-------------------------|------|
| 3/30/82     | Trench by GT 2           | 15                            | .01                     | N/D* |
| 12/28/82    | W End of Iron Cell Deck  | 40                            | 1.22                    |      |
| 12/28/82    | E Side of Iron Cell Deck | 40                            | 2.79                    |      |

The iron cell samples were collected during the acidizing of the cells and show no problem when compared to the limit of  $7 \text{ mg/m}^3$  ceiling.

\* = Non-Detected

## NOISE

The Louisiana Division Noise Standard states "the permissible exposure to continuous noise shall not exceed an eight hour time-weighted average of 85 db(A), with a doubling rate of 5 db(A) which means that the allowable exposure time doubles with each 5 db(A) reduction in noise level". Prolonged and repeated exposures to levels exceeding 90 db(A) may cause severe damage to the nerves in the inner ear. Caution signs are placed in the high noise level areas in addition to borders being painted on the roadway where hearing protection is required. An area survey of the plant was made using a Bruel and Kjaer Model 2205 Sound Level Meter calibrated at 94 db(A)(1000 Hz). The noise survey showed that all production areas in the block had some noise levels above 85 db(A). The following data is presented in comparison to two standards, the La. Division Standard based on 85 db(A) and the OSHA Standard of 90 db(A). The data indicates that high readings are being obtained on craft personnel. All other data collected falls under 100% .

| <u>Date</u> | <u>Description</u>       | <u>Duration</u><br><u>(Minutes)</u> | <u>La. Div.</u><br><u>85 db(A)</u> | <u>OSHA</u><br><u>90 db(A)</u> |
|-------------|--------------------------|-------------------------------------|------------------------------------|--------------------------------|
| 11/2/82     | Inst. - General          | 480                                 | 6                                  | 3                              |
| 11/3/82     | Inst. - General          | 480                                 | 0                                  | 0                              |
| 11/3/82     | Inst. - General          | 480                                 | 6                                  | 3                              |
| 10/27/82    | Inst. - Chlorine Comp.   | 480                                 | 316                                | 158                            |
| 10/28/82    | Insulator - Caustic Area | 480                                 | 400                                | 200                            |
| 11/1/82     | Pipefitter - Oil Storage | 480                                 | 0                                  | 0                              |
| 11/4/82     | Insulator - Caustic Area | 480                                 | 230                                | 115                            |
| 11/4/82     | Pipefitter - Power Area  | 480                                 | 144                                | 72                             |
| 11/4/82     | Laborer - Caustic & Liq. | 480                                 | 0                                  | 0                              |
| 4/15/82     | Brine OTT - General      | 480                                 | 148                                | 74                             |
| 5/28/82     | Brine OTT - General      | 480                                 | 2                                  | 1                              |
| 6/2/82      | Cell Crew OTT - General  | 480                                 | 0                                  | 0                              |

| <u>Date</u> | <u>Description</u>      | <u>Duration<br/>(Minutes)</u> | <u>La. Div.<br/>85 db(A)</u> | <u>OSHA<br/>90 db(A)</u> |
|-------------|-------------------------|-------------------------------|------------------------------|--------------------------|
| 10/21/82    | Cell Crew OTT - General | 480                           | 124                          | 62                       |
| 4/14/82     | Brine OT - General      | 480                           | 18                           | 9                        |
| 10/22/82    | Brine OT - General      | 480                           | 66                           | 33                       |
| 10/28/82    | OS - Power Area         | 480                           | 148                          | 74                       |
| 4/14/82     | SOT - Power             | 480                           | 1                            | 1                        |
| 4/14/82     | SOT - Caustic           | 480                           | 72                           | 36                       |
| 4/15/82     | SOT - Power             | 480                           | 6                            | 3                        |
| 4/15/82     | SOT - Caustic           | 480                           | 40                           | 20                       |
| 4/15/82     | SOT - Liq.              | 480                           | 26                           | 13                       |
| 4/16/82     | SOT - Cells             | 480                           | 2                            | 1                        |
| 5/28/82     | SOT - Liq.              | 480                           | 0                            | 0                        |
| 5/28/82     | SOT - Power             | 480                           | 0                            | 0                        |
| 6/2/82      | SOT - Cells             | 480                           | 0                            | 0                        |
| 6/2/82      | SOT - Power             | 480                           | 0                            | 0                        |
| 10/21/82    | SOT - Liq.              | 480                           | 50                           | 25                       |
| 10/21/82    | SOT - Power             | 480                           | 6                            | 3                        |
| 10/22/82    | SOT - Cells             | 480                           | 2                            | 1                        |
| 10/22/82    | SOT - Caustic           | 480                           | 98                           | 49                       |
| 10/25/82    | SOT - Liq.              | 480                           | 72                           | 36                       |
| 10/25/82    | SOT - Power             | 480                           | 0                            | 0                        |
| 10/25/82    | SOT - Caustic           | 480                           | 36                           | 18                       |
| 10/27/82    | SOT - Cells             | 480                           | 40                           | 20                       |
| 10/27/82    | SOT - Caustic           | 480                           | 2                            | 1                        |
| 10/28/82    | SOT - Caustic           | 480                           | 0                            | 0                        |
| 11/1/82     | SOT - Power             | 480                           | 34                           | 17                       |

#### SULFURIC ACID

The TLV for sulfuric acid is 1 mg/m<sup>3</sup>. Exposure to the skin causes severe chemical burns. Inhalation of the mist can produce irritation of the upper respiratory system and nasal passages. When working with sulfuric acid, a full acid suit and respirator must be worn.

EXCURSION:

| <u>Date</u> | <u>Description</u>                        | <u>Duration<br/>(Minutes)</u> | <u>MG/M<sup>3</sup></u> |      |
|-------------|-------------------------------------------|-------------------------------|-------------------------|------|
| 12/9/82     | Millwright changing seals<br>on acid pump | 53                            | .01                     | N/D* |

\* = Non-Detected

# Asbestos

|           |            |                |             |         |
|-----------|------------|----------------|-------------|---------|
| # 06955 ✓ | J. Edwards | Fire 2:44-3:14 | 1.9 - 1.9L  | 6/9/86  |
| # 06954 ✓ | R. Forte   | 9:47-11:02     | 1.8 - 1.8   | 6/11/86 |
| # 06958 ✓ | J. Edwards | 1:19 - 3:00    | 1.8 - 1.6   | 6/16/86 |
| # 06959 ✓ | R. Forte   | 12:45-1500     | 1.7 - 1.65  | 6/16/86 |
| 06962 ✓   | J. Edwards | 12:25-12:50    | 1.7 - 1.7   | 6/17/86 |
| 06963 ✓   | R. Forte   | 10:16-12:18    | 1.95 - 1.2  | 6/23/86 |
| 06964 ✓   | J. Edwards | 10:30 - 12:00  | 2.1 - 2.1   | 6/23/86 |
| 06966 ✓   | R. Forte   | 11:50 - 13:02  | 2.1 - 2.1   | 6/24/86 |
| 06965 ✓   | J. Edwards | 11:50 - 13:02  | 1.75 - 1.75 | 6/24/86 |
| 06967 ✓   | J. Edwards | 7:45 - 3:15    | 1.7 - 1.7   | 6/30/86 |
| 06967 ✓   | R. Forte   | 7:45 - 3:00    | 2.1 - 1.8   | 6/30/86 |

+ ? In day samples pending

|         |                  |               |            |          |
|---------|------------------|---------------|------------|----------|
| 03465 ✓ | Odas Oeser       | 7:30 → 1525   | 2.0 - 1.8  | 11-24-86 |
| 03463 ✓ | Jeanette Edwards | 0730 - 1530   | 2.0 - 1.4  | 11-24-86 |
| 03464 ✓ | Robert Forte     | 0730 - 1520   | 2.0 - 1.5  | 11-24-86 |
| 03466 ✓ | Jeanette Edwards | 12:45 → 13:15 | 2.0 - 1.95 | 11-25-86 |
| 03467 ✓ | Robert Forte     | 13:40 → 14:30 | 2.0 - 1.95 | 11-25-86 |
| 03468 ✓ | Robert Forte     | 12:45 → 13:45 | 2.0 - 1.9  | 12-1-86  |
| 03470 ✓ | Robert Forte     | 1305 → 1350   | 2.0 - 1.9  | 12-8-86  |
| 03471 ✓ | Jeanette Edwards | 1305 → 1350   | 2.0 - 2.0  | 12-8-86  |
| 03475 ✓ | Robert Forte     | 0730 - 1540   | 2.0 - 0.5  | 12-18-86 |
| 03476 ✓ | BEAU Dunn        | 0730 - 1540   | 2.0 - 1.0  | 12-18-86 |
| 03474 ✓ | Jeanette         | 0730 - 1540   | 2.0 - 0.8  | 12-18-86 |

# Asbestos

| #       |                  | Time        | Flow/L    | Date    |
|---------|------------------|-------------|-----------|---------|
| # 06969 | Jeanette Edwards | 7:30 - 3:00 | 2.2 - 1.8 | 7/22/86 |
| 06970   | Robert Forte     | 7:30 - 3:00 | 2.2 - 1.6 | 7/22/86 |
| 06971   | Robert Forte     | 7:45 - 3:00 | 1.8 - 1.7 | 7/23/86 |
| 06972   | Jeanette Edwards | 7:45 - 3:00 | 1.9 - 1.2 | 7/23/86 |
| 06973   | Robert Forte     | 7:30 - 3:00 | 1.9 - 1.8 | 7/24/86 |
| 06974   | Jeanette Edwards | 7:30 - 3:00 | 2.0 - 1.6 | 7/24/86 |
| 06975   | Robert Forte     | 7:00 - 3:30 | 2.0 - 1.1 | 7/25/86 |
| 06976   | Jeanette Edwards | 7:00 - 3:30 | 2.0 - 0.9 | 7/25/86 |

DO 106756  
CONFIDENTIAL

## CA II PLANT

1st Half 1986

Limit 2.0 Fibers/cc &gt; 5m

ATTACHMENT 1  
(Continued)

| <u>DATE</u> | <u>SAMPLE #</u> | <u>SAMPLE DESCRIPTION</u>                                            | <u>DURATION (MIN)</u> | <u>VOLUME (1)</u> | <u>FIBERS/<br/>25 MICRONS<br/>IN LENGTH</u> |
|-------------|-----------------|----------------------------------------------------------------------|-----------------------|-------------------|---------------------------------------------|
| 6/9/86      | 06955           | Personnel - O.T.<br>(434350) pulping<br>cells.                       | 30                    | 57.000            | 0.02                                        |
| 6/11/86     | 06954           | Personnel - O.T.<br>(433856) filled wagon<br>and pulped cells.       | 66                    | 118.800           | 0.03                                        |
| 6/16/86     | 06958           | Personnel - O.T.<br>(434350) pulping<br>cells.                       | 171                   | 290.700           | 0.02                                        |
| 6/16/86     | 06959           | Personnel - O.T.<br>(433856) filled wagon<br>and pulped cells.       | 135                   | 226.100           | <0.01                                       |
| 6/17/86     | 06962           | Personnel - O.T.<br>(434350) pulping<br>cells.                       | 25                    | 42.500            | 0.02                                        |
| 6/23/86     | 06963           | Personnel - O.T.<br>(433856) filled wagon<br>and pulped cells.       | 122                   | 192.150           | 0.01                                        |
| 6/23/86     | 06964           | Personnel - O.T.<br>(434350) pulping<br>cells.                       | 90                    | 189.000           | 0.03                                        |
| 6/24/86     | 06965           | Personnel - O.T.<br>(433856) pulping<br>cells.                       | 72                    | 126.000           | 0.03                                        |
| 6/24/86     | 06966           | Personnel - O.T.<br>(433856) pulping<br>cells.                       | 72                    | 151.200           | <0.01                                       |
| 6/24/86     | 06967           | Personnel - O.T.<br>(433856) general cell<br>crew duties and pulped. | 435                   | 848.250           | <0.01                                       |

DO 106757  
CONFIDENTIAL

CA II PLANT

ATTACHMENT 1  
(Continued)

| <u>DATE</u> | <u>SAMPLE #</u> | <u>SAMPLE<br/>DESCRIPTION</u>                                        | <u>DURATION<br/>(MIN)</u> | <u>VOLUME<br/>(1)</u> | <u>FIBERS/<br/>&lt;5 MICRONS<br/>IN LENGTH</u> |
|-------------|-----------------|----------------------------------------------------------------------|---------------------------|-----------------------|------------------------------------------------|
| 6/30/86     | 06968           | Personnel - O.T.<br>(434350) general cell<br>crew duties and pulped. | 450                       | 765.000               | 0.03                                           |

DO 106758  
CONFIDENTIAL

2nd half  
1986  
1st half 2.0  
July 21 .2

1986  
Asbestos results  
CHLOR-ALKALI II PLANT

ATTACHMENT 1

Limit 0.2 Fibers/cc <5µ

| <u>DATE</u> | <u>SAMPLE #</u> | <u>SAMPLE DESCRIPTION</u>                                        | <u>DURATION (MIN.)</u> | <u>VOLUME (L)</u> | <u>FIBERS/CC<br/>5 MICRONS<br/>IN LENGTH</u> |
|-------------|-----------------|------------------------------------------------------------------|------------------------|-------------------|----------------------------------------------|
| 07/22/86    | 06969           | Personnel - O.T.<br>Master # 434350<br>General cell crew duties. | 450                    | 900.000           | <0.01                                        |
| 07/22/86    | 06970           | Personnel - O.T.<br>Master # 433856<br>General cell crew duties. | 450                    | 855.000           | 0.02                                         |
| 07/23/86    | 06971           | Personnel - O.T.<br>Master # 433856<br>General cell crew duties. | 435                    | 543.750           | <0.01                                        |
| 07/23/86    | 06972           | Personnel - O.T.<br>Master # 434350<br>General cell crew duties. | 435                    | 674.250           | 0.01                                         |
| 07/24/86    | 06973           | Personnel - O.T.<br>Master # 433856<br>General cell crew duties. | 450                    | 832.000           | 0.01                                         |
| 07/24/86    | 06974           | Personnel - O.T.<br>Master # 434350<br>General cell crew duties. | 450                    | 810.000           | 0.02                                         |
| 07/25/86    | 06975           | Personnel - O.T.<br>Master # 433856<br>General cell crew duties. | 510                    | 790.500           | 0.01                                         |
| 07/25/86    | 06976           | Personnel - O.T.<br>Master # 434350<br>General cell crew duties. | 510                    | 739.500           | 0.02                                         |
| 11/24/86    | 03463           | Personnel - O.T.<br>Master # 434350<br>Cell crew operations      | 480                    | 816.000           | 0.01                                         |
| 11/24/86    | 03464           | Personnel - O.T.<br>Master # 433856<br>Cell crew operations      | 460                    | 805.000           | 0.01                                         |

## CHLOR-ALKALI II PLANT

## ATTACHMENT 1

| <u>DATE</u> | <u>SAMPLE #</u> | <u>SAMPLE DESCRIPTION</u>                                                                           | <u>DURATION (MIN.)</u> | <u>VOLUME (L)</u> | <u>FIBERS/CC<br/>&gt;5 MICRONS<br/>IN LENGTH</u> |
|-------------|-----------------|-----------------------------------------------------------------------------------------------------|------------------------|-------------------|--------------------------------------------------|
| 11/24/86    | 03465           | Personnel - S.O.T.<br>Master # 433967<br>Cell area operations.                                      | 475                    | 902.500           | <0.01                                            |
| 11/25/86    | 03466           | Personnel - O.T.<br>Master # 434350<br>Cell crew operations,<br>pulped cells.                       | 30                     | 59.250            | 0.02                                             |
| 11/25/86    | 03467           | Personnel - O.T.<br>Master # 433856<br>Cell crew operations,<br>pulped cells.                       | 50                     | 98.750            | <0.01                                            |
| 12/01/86    | 03468           | Personnel - O.T.<br>Master # 433856<br>Cell crew operations,<br>pulped cells; filled<br>pulp wagon. | 60                     | 117.000           | 0.01                                             |
| 12/08/86    | 03471           | Personnel - O.T.<br>Master # 434350<br>Cell crew operations,<br>pulped cells.                       | 45                     | 90.000            | 0.01                                             |
| 12/08/86    | 03470           | Personnel - O.T.<br>Master # 433856<br>Cell crew operations,<br>pulped cells.                       | 45                     | 87.750            | 0.02                                             |
| 12/18/86    | 03474           | Personnel - O.T.<br>Master # 434350<br>Cell crew operations,<br>pulped cells.                       | 490                    | 686.000           | 0.01                                             |
| 12/18/86    | 03475           | Personnel - O.T.<br>Master # 433856<br>Cell crew operations,<br>pulped cells.                       | 490                    | 612.500           | 0.01                                             |
| 12/18/86    | 03476           | Personnel - S.O.T.<br>Master # 433900<br>Cell operator,<br>General duties                           | 490                    | 735.000           | <0.01                                            |

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