

**INDUSTRIAL HYGIENE SURVEY**  
**IHS 91-08**  
**LAKE CHARLES PLANT**  
**JUNE 17 - 19, 1991**

**CTL031570**

## RECOMMENDATIONS

- IHS 91-08     1.    Complete the evaluation of the pressure demand airline respirator system and take the necessary steps to rectify the problem.
- IHS 91-08     2.    The Lake Charles in-house VCM monitoring and analysis program should be upgraded to include:
- a) side by side samples on 10% of your monthly samples be sent to an outside accredited lab for analysis.
  - b) participation a round-robin sample swapping program with other local VCM laboratories (Vista, PPG, etc.)
  - c) strengthen the plant's sampling QC program by writing a formal program of policies and procedures and submitting it to Corporate Health and Safety.
- IHS 91-08     3.    Reduce the MSDS log books to only contain the currently used products in the plant by August 30, 1991 and submit a copy of these MSDSs to Corporate Health & Safety for inclusion into the Chem Master program's master chemical inventory file.
- IHS 91-08     4.    Maintain an accurate chemical inventory using the Chem Master program. Submit annually to Corporate H&S by March 1st of each year the Tier II reports and the plant chemical inventory on a diskette using Chem Master Consolidation Module.
- IHS 91-08     5.    Forward plant exposure monitoring data from June 1990 to present and current data on a regular basis as it becomes available.
- IHS 91-08     6.    Inform the employees of the sampling results by posting Appendix II on the bulletin board.

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immediate area of the prepo hatch showed levels less than the PEL, the vessel entry procedure should continue to require that the watchman wear an airline respirator in the immediate vicinity of the Prepo hatch. It is quite probable that the levels outside the immediate Prepo hatch vicinity could be higher under slightly different conditions.

I was informed by employees that there was some problem with the amount of air available, via the airline respirator, to the two Process Operators working inside the Prepo. This situation was quickly remedied and the workers then returned to their tasks. This same problem was identified by M. Kennedy during the last industrial hygiene survey in which a recommendation (IHS 90-15.2) was made to remedy this situation. A status report, dated 11/15/91, indicated work was accomplished on the system. Apparently the problem has not been completely rectified. I understand R. Bullock and F. Conrad are presently evaluating this system. Considering this is a repeat recommendation from our last industrial hygiene survey, I recommend this safety concern receive immediate attention.

#### **Comparison of VCM Monitoring Results**

As in the past, side by side personal and area samples were collected to provide an indication of the plant's overall quality control program. A total of 10 personal and 6 area side by side samples were collected during this survey. These sampling results are compared in Table II.

We have used these samples as a screening method to evaluate the plant's in-house laboratory sampling and analytical procedures. A review of the paired sampling results again show a somewhat poor correlation between the samples collected by Lake Charles and Corporate Health and Safety.

In general, the results obtained by Corporate Health and Safety are lower with the exception of samples taken on Jimmy Parker (0.28 ppm vs 0.04) which is at the lower limit of detection. Table II, Column 3 shows the +/- range of 35%, the acceptable criteria by which to judge side by side samples. Only five of the sixteen samples were within the +/- 35% range.

From my observations during this survey, and as discussed in prior Industrial Hygiene survey reports, the difference in the reported results is probably not attributed to the actual sample collection since both Lake Charles and Corporate Health and Safety use essentially the same methods, i.e., charcoal tubes with pumps that are pre and post calibrated with a primary standard. A more likely explanation is the difference in the analytical procedure.

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buildings appeared to have risen roughly 2 to 3 decibels higher than in the previous survey performed in August 1990. The increase in the noise level may be attributed to the completion of the north wall of the Polymerization building (due to the recent addition of the franco autoclave prior to the August 1990 survey, this wall was not complete during that sound level survey), as well as different equipment in operation during this survey. If you would like to recheck the noise levels in these areas, a sound level meter can be obtained from the Corporate Health & Safety Department.

As part of the plant's hearing conservation program, audiometric examinations are being conducted on an annual basis as required by OSHA and the CertainTeed Hearing Conservation Program for all employees exposed to an action level of 85 decibels. Since hearing protection is readily available at the plant, the only other major requirement of a hearing conservation program is annual training. As recommended in the last survey (IHS 90-15.4), this training is now documented in the same manner as the training for the respiratory protection and hazard communication programs.

### Respiratory Protection

The respiratory protection program is well administered with training conducted annually and documented. As previously stated in the discussion of the Prepo cleaning task, the plant should complete the evaluation of the air supply compressor and make the necessary corrections as soon as possible.

### Hazard Communication/ChemMaster

The hazard communication program is well administered and fulfills the four primary requirements of the OSHA Standard and the CertainTeed Hazard Communication Program (material safety data sheets, the chemical list, labeling and training). Of these four areas, the training and labelling requirements are being fulfilled above the recommended standards.

A recommendation was made during the last industrial hygiene survey to maintain an accurate chemical inventory using the ChemMaster program. We understand the plant now has the necessary computer hardware to accomplish this project.

In order to maintain an accurate inventory of chemicals at your location, your MSDS log books should contain only MSDS's of currently used products at your plant. This was discussed with Bruce Brocka and Art Gelner at the time of this survey. They assigned the completion date on this project to be August 30, 1991.

A copy of all the current MSDSs not already listed on the plant's ChemMaster indexes should then be sent to Corporate Health & Safety to be entered into Chem Master program master chemical inventory file. The Health & Safety Department will then down load a diskette of the Lake Charles chemicals and send it to you during the next update, scheduled for January 1992. This will then help you to maintain your chemical inventory list, and to also assist you in meeting the chemical inventory requirements of the Haz Com Program and in filing your SARA reports.

As a reminder, inventory quantity data for all plant chemicals for the preceding year, along with a copy of the Tier II reports, should be submitted annually before March 1st to Corporate Health and Safety. This can be accomplished using a diskette and the Chemical Inventory Consolidation module found in Chem Master. This was not accomplished for the 1990 Tier II reports.

Lak Charles Plant VCM Monitoring Data

We currently have the plants monitoring data for samples taken through June 1990. We have not received any data after June 1990. Please forward exposure data to us on a regular basis as it becomes available.

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TABLE I - VINYL CHLORIDE &amp; RES DUST DATA

| Seq                    | Job Location        | Job Position             | Employee Name | Soc Sec Nbr | Date       | Shift | TWA         | Units | Exposure Limit                                                |
|------------------------|---------------------|--------------------------|---------------|-------------|------------|-------|-------------|-------|---------------------------------------------------------------|
| Department: PRODUCTION |                     |                          |               |             |            |       |             |       |                                                               |
| 0017                   | CLASSIFICATION BLDG | AREA SAMPLE<br>1ST FLOOR | AREA          |             | 06/19/1991 | 1ST   | 0.0390 PPM  |       | OSHA PEL = 1 PPM                                              |
|                        | (Vinyl Chloride)    |                          |               |             |            |       |             |       |                                                               |
|                        | Start Stop Min      | Conc                     |               |             |            |       |             |       |                                                               |
| 1.                     | 07:43 13:45 362     | 0.0390                   |               |             |            |       |             |       |                                                               |
|                        |                     |                          |               |             |            |       |             |       | Comments                                                      |
|                        |                     |                          |               |             |            |       |             |       | SAMPLE TAKEN ON THE SOUTH END OF THE 1ST<br>FLOOR OF BUILDING |
| 0018                   | CLASSIFICATION BLDG | AREA SAMPLE<br>1ST FLOOR | AREA          |             | 06/19/1991 | 1ST   | <0.0370 PPM |       | OSHA PEL = 1 PPM                                              |
|                        | (Vinyl Chloride)    |                          |               |             |            |       |             |       |                                                               |
|                        | Start Stop Min      | Conc                     |               |             |            |       |             |       |                                                               |
| 1.                     | 07:43 13:45 362     | <0.0370                  |               |             |            |       |             |       |                                                               |
|                        |                     |                          |               |             |            |       |             |       | Comments                                                      |
|                        |                     |                          |               |             |            |       |             |       | SAMPLE TAKEN ON THE NORTH END OF THE 1ST<br>FLOOR OF BUILDING |
| 0002                   | CONTROL ROOM        | OPERATOR                 | DAVIS, C.     | 433-96-1775 | 06/18/1991 | 1ST   | <0.0300 PPM |       | OSHA PEL = 1 PPM                                              |
|                        | (Vinyl Chloride)    |                          |               |             |            |       |             |       |                                                               |
|                        | Start Stop Min      | Conc                     |               |             |            |       |             |       |                                                               |
| 1.                     | 07:30 13:10 340     | <0.0300                  |               |             |            |       |             |       | Comments                                                      |
|                        |                     |                          |               |             |            |       |             |       |                                                               |
| 0001                   | POLY BLDG           | AREA SAMPLE<br>1ST FLOOR | AREA          |             | 06/19/1991 | 1ST   | <0.0280 PPM |       | OSHA PEL = 1 PPM                                              |
|                        | (Vinyl Chloride)    |                          |               |             |            |       |             |       |                                                               |
|                        | Start Stop Min      | Conc                     |               |             |            |       |             |       |                                                               |
| 1.                     | 07:35 13:45 370     | <0.0280                  |               |             |            |       |             |       |                                                               |
|                        |                     |                          |               |             |            |       |             |       | Comments                                                      |
|                        |                     |                          |               |             |            |       |             |       | SAMPLE TAKEN ON THE SOUTH END OF THE 1ST<br>FLOOR OF BUILDING |
| 0016                   | POLY BLDG           | AREA SAMPLE<br>1ST FLOOR | AREA          |             | 06/19/1991 | 1ST   | <0.0380 PPM |       | OSHA PEL = 1 PPM                                              |
|                        | (Vinyl Chloride)    |                          |               |             |            |       |             |       |                                                               |
|                        | Start Stop Min      | Conc                     |               |             |            |       |             |       |                                                               |
| 1.                     | 07:38 13:45 367     | <0.0380                  |               |             |            |       |             |       |                                                               |
|                        |                     |                          |               |             |            |       |             |       | Comments                                                      |
|                        |                     |                          |               |             |            |       |             |       | SAMPLE TAKEN ON THE NORTH END OF THE 1ST<br>FLOOR OF BUILDING |
| 0013                   | POLY BLDG           | AREA SAMPLE<br>3RD FLOOR | AREA          |             | 06/19/1991 | 1ST   | 0.4300 PPM  |       | OSHA PEL = 1 PPM                                              |
|                        | (Vinyl Chloride)    |                          |               |             |            |       |             |       |                                                               |
|                        | Start Stop Min      | Conc                     |               |             |            |       |             |       |                                                               |
| 1.                     | 07:31 09:13 102     | 0.4300                   |               |             |            |       |             |       |                                                               |
|                        |                     |                          |               |             |            |       |             |       | Comments                                                      |
|                        |                     |                          |               |             |            |       |             |       | SAMPLE TAKEN DIRECTLY OUTSIDE THE PREPO<br>CLEANING HATCH     |

Continued...

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### TABLE I - VINYL CHLORIDE & RES DUST DATA

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TABLE I - VINYL CHLORIDE &amp; RES DUST DATA

| Seq                     | Job Location | Job Position | Employee Name | Soc Sec Nbr | Date                                    | Shift | TWA     | Units | Exposure Limit     |
|-------------------------|--------------|--------------|---------------|-------------|-----------------------------------------|-------|---------|-------|--------------------|
| 0008                    | UTILITY      | OPERATOR     | CLICK, J.     | 438-13-0630 | 06/18/1991                              | 1ST   | 0.0680  | MG/M3 | OSHA PEL = 5 MG/M3 |
| (Respirable Dust)       |              |              |               |             |                                         |       |         |       |                    |
|                         | Start        | Stop         | Min           | Conc        | Comments                                |       |         |       |                    |
| 1.                      | 07:36        | 13:12        | 336           | 0.0680      | LOADED 2 RAILCARS & CLEANED 1 OUT TODAY |       |         |       |                    |
| 0007                    | UTILITY      | OPERATOR     | CLICK, J.     | 438-13-0630 | 06/18/1991                              | 1ST   | <0.0340 | PPM   | OSHA PEL = 1 PPM   |
| (Vinyl Chloride)        |              |              |               |             |                                         |       |         |       |                    |
|                         | Start        | Stop         | Min           | Conc        | Comments                                |       |         |       |                    |
| 1.                      | 07:36        | 13:12        | 336           | <0.0340     | LOADED 2 RAILCARS & CLEANED 1 OUT TODAY |       |         |       |                    |
| Department: MAINTENANCE |              |              |               |             |                                         |       |         |       |                    |
| 0009                    | GENERAL      | ELECTRICIAN  | BROUSSARD, G. | 433-82-9519 | 06/18/1991                              | 1ST   | <0.0320 | PPM   | OSHA PEL = 1 PPM   |
| (Vinyl Chloride)        |              |              |               |             |                                         |       |         |       |                    |
|                         | Start        | Stop         | Min           | Conc        | Comments                                |       |         |       |                    |
| 1.                      | 07:35        | 13:26        | 351           | <0.0320     |                                         |       |         |       |                    |
| 0010                    | GENERAL      | MECHANIC     | VASSAR, R.    | 439-60-9174 | 06/18/1991                              | 1ST   | <0.0260 | PPM   | OSHA PEL = 1 PPM   |
| (Vinyl Chloride)        |              |              |               |             |                                         |       |         |       |                    |
|                         | Start        | Stop         | Min           | Conc        | Comments                                |       |         |       |                    |
| 1.                      | 07:38        | 13:16        | 338           | <0.0260     |                                         |       |         |       |                    |

\* \* \* End Of Report \* \* \* REYNOLJW

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RIH06

Listing of Contaminants Used for Survey:91-08

Date: 08/09/1991 16:25:50

| Survey | Contaminant | Name            |                                          |         |                           |
|--------|-------------|-----------------|------------------------------------------|---------|---------------------------|
| -----  | -----       | ----            |                                          |         |                           |
| 91-08  | RD O CY     | Respirable Dust | CT 5u PVC & 10mm Cyc/M0600 CT Nuisa.RESP | Blank1: | 0.000000 Blank2: 0.000000 |
| 91-08  | VC V C2     | Vinyl Chloride  | Char Tube 100/50 mg /OSHA METHOD 04      | Blank1: | 0.000000 Blank2: 0.000000 |

\*\*\* End Of Report \*\*\* REYNOLJW

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SIDE BY SIDE CHARCOAL TUBE COMPARISON  
OF VCM SAMPLING RESULTS  
JUNE 18 & 19, 1991

TABLE II

| EMPLOYEE                  | DATE | LAKE CHARLES<br>(ppm) | H & S<br>(ppm) | +/- 35% |
|---------------------------|------|-----------------------|----------------|---------|
| PERSONAL SAMPLES          |      |                       |                |         |
| Baronet, Bill             | 6/18 | 0.25                  | 0.11           | 0.15    |
| Baronet, Bill*            | 6/19 | 70.6                  | 25.2           | 34.     |
| Broussard, Gayland        | 6/18 | 0.04                  | <0.03          | 0.04    |
| Click, John E.            | 6/18 | 0.02                  | <0.03          | 0.02    |
| Davis, Clifton            | 6/18 | 0.04                  | <0.03          | 0.04    |
| Parker, Jimmy             | 6/18 | 0.04                  | 0.28           | 0.18    |
| Pearson, Stuart           | 6/18 | 4.85                  | 1.6            | 2.16    |
| Robinson, Adrian          | 6/18 | 1.51                  | 0.57           | 0.77    |
| Robinson, Adrian*         | 6/19 | 75.6                  | 47.7           | 64.4    |
| Vassar, Richard           | 6/18 | 0.02                  | <0.03          | 0.02    |
| * short term task samples |      |                       |                |         |
| AREA SAMPLES              |      |                       |                |         |
| 1st Flr Poly (North)      | 6/19 | 0.04                  | <0.04          | -       |
| 1st Flr Poly (South)      | 6/19 | 0.09                  | <0.03          | 0.04    |
| Prepo Hatch Area- 0'      | 6/19 | 1.62                  | 0.43           | 0.58    |
| Prepo Hatch Area- 8'      | 6/19 | 1.44                  | 0.55           | 0.74    |
| 1st Flr Clss (North)      | 6/19 | 0.07                  | <0.04          | 0.05    |
| 1st Flr Clss (South)      | 6/19 | 0.12                  | 0.04           | 0.05    |

Note: Highlighted numbers indicate results are within the +/- 35% acceptable range for comparison.

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## TABLE III - AUDIODOSIMETRY RESULTS

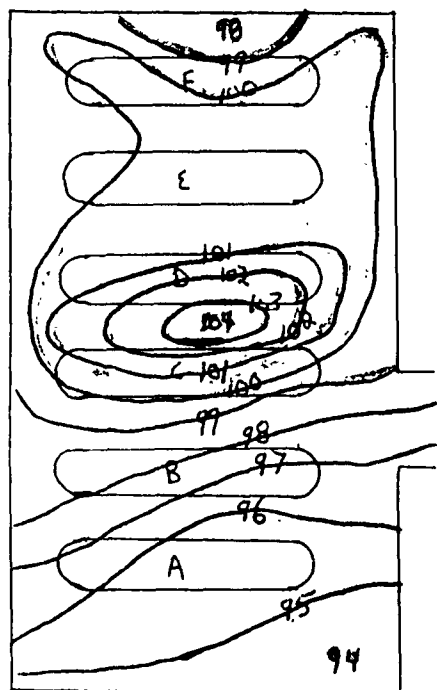
| Seq                     | Job Location | Job Position | Employee Name | Soc Sec Nbr                                            | Date                                | Shift                                                      |
|-------------------------|--------------|--------------|---------------|--------------------------------------------------------|-------------------------------------|------------------------------------------------------------|
| Department: PRODUCTION  |              |              |               |                                                        |                                     |                                                            |
| 0003                    | CONTROL ROOM | OPERATOR     | DAVIS, C.     | 433-96-1775                                            | 06/19/1991                          | 1ST                                                        |
|                         | (NOISE)      |              |               |                                                        |                                     |                                                            |
|                         | Start Stop   | Min          | Results       | Comments                                               | Requirements                        |                                                            |
|                         | 07:05 13:33  | 388          | 72.0 dB       |                                                        | BELOW 8-HOUR ACTION LEVEL (85DBA)   | HEARING PROTECTION OPTIONAL                                |
| 0005                    | POLY BLDG    | OPERATOR     | Pearson, S.   | 436-21-8804                                            | 06/19/1991                          | 1ST                                                        |
|                         | (NOISE)      |              |               |                                                        |                                     |                                                            |
|                         | Start Stop   | Min          | Results       | Comments                                               | Requirements                        |                                                            |
|                         | 07:18 13:27  | 369          | 95.0 dB       |                                                        | EXCEEDS 8 HOUR PEL (90DBA)          | PROTECTION MANDATORY<br>EMPLOYEE WORE HEARING PROTECTION   |
| 0006                    | POLY BLDG    | OPERATOR     | FERRELL, C.   | 436-90-7561                                            | 06/19/1991                          | 1ST                                                        |
|                         | (NOISE)      |              |               |                                                        |                                     |                                                            |
|                         | Start Stop   | Min          | Results       | Comments                                               | Requirements                        |                                                            |
|                         | 07:21 13:27  | 366          | 95.1 dB       |                                                        | EXCEEDS 8 HOUR PEL (90DBA)          | PROTECTION MANDATORY<br>EMPLOYEE WORE HEARING PROTECTION   |
| 0008                    | POLY BLDG    | OPERATOR     | BARONET, W.   | 434-88-8240                                            | 06/19/1991                          | 1ST                                                        |
|                         | (NOISE)      |              |               |                                                        |                                     |                                                            |
|                         | Start Stop   | Min          | Results       | Comments                                               | Requirements                        |                                                            |
|                         | 07:15 13:26  | 371          | 95.0 dB       | PERFORMED PREPO CLEANING FOR FIRST PART OF THIS SAMPLE | EXCEEDS 8 HOUR PEL (90DBA)          | PROTECTION MANDATORY<br>EMPLOYEE WORE HEARING PROTECTION   |
| 0004                    | UTILITY      | OPERATOR     | CLICK, J.     | 438-13-0630                                            | 06/19/1991                          | 1ST                                                        |
|                         | (NOISE)      |              |               |                                                        |                                     |                                                            |
|                         | Start Stop   | Min          | Results       | Comments                                               | Requirements                        |                                                            |
|                         | 07:09 13:26  | 377          | 89.6 dB       | LOADED 1.5 RAILCARS DURING THE SHIFT TODAY             | EXCEEDS 8-HOUR ACTION LEVEL (85DBA) | PROTECTION RECOMMENDED<br>EMPLOYEE WORE HEARING PROTECTION |
| Department: MAINTENANCE |              |              |               |                                                        |                                     |                                                            |
| 0007                    | GENERAL      | ELECTRICIAN  | BROUSSARD, G. | 433-82-9519                                            | 06/19/1991                          | 1ST                                                        |
|                         | (NOISE)      |              |               |                                                        |                                     |                                                            |
|                         | Start Stop   | Min          | Results       | Comments                                               | Requirements                        |                                                            |
|                         | 07:26 13:23  | 357          | 91.7 dB       |                                                        | EXCEEDS 8 HOUR PEL (90DBA)          | PROTECTION MANDATORY<br>EMPLOYEE WORE HEARING PROTECTION   |
| 0001                    | GENERAL      | MECHANIC     | ELLZEY, J.    | 435-92-3417                                            | 06/19/1991                          | 1ST                                                        |
|                         | (NOISE)      |              |               |                                                        |                                     |                                                            |
|                         | Start Stop   | Min          | Results       | Comments                                               | Requirements                        |                                                            |
|                         | 07:01 13:26  | 385          | 91.8 dB       |                                                        | EXCEEDS 8 HOUR PEL (90DBA)          | PROTECTION MANDATORY<br>EMPLOYEE WORE HEARING PROTECTION   |

Continued...

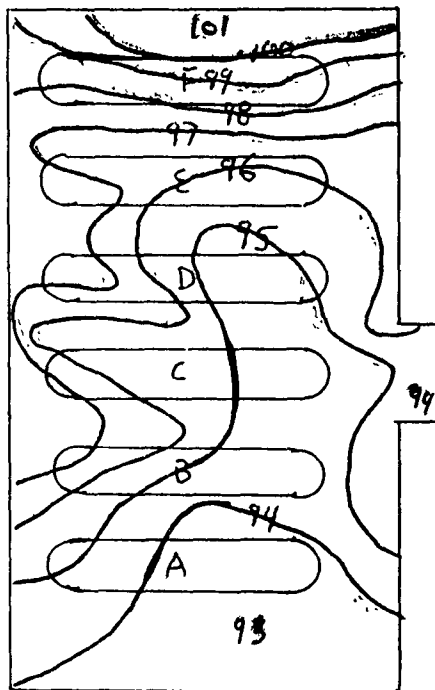
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# NOISE CONTOUR MAP POLYMERIZATION BUILDING

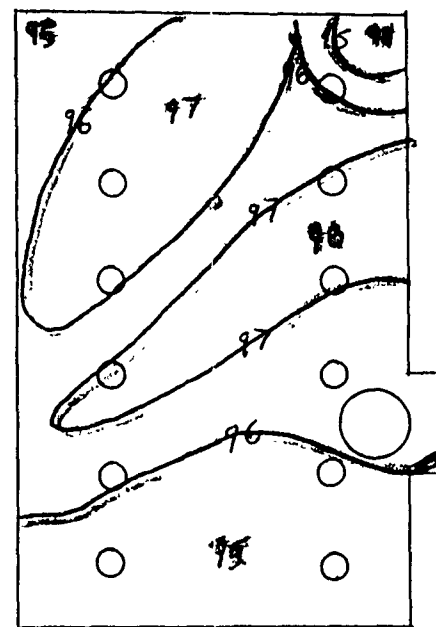
Figure 1



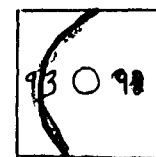
1st Floor



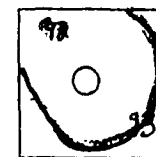
2nd Floor



3rd Floor



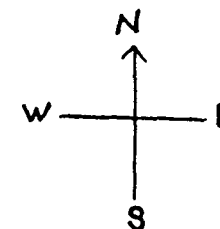
5th Floor



4th Floor

## KEY TO FIGURE 1

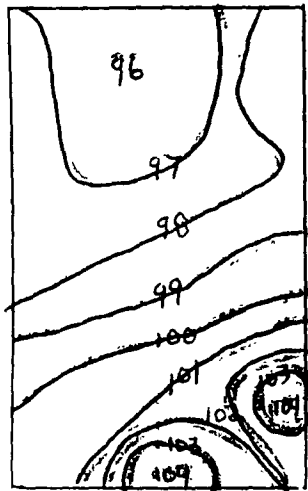
| COLOR                                                                               | KEY WORD | SOUND LEVEL      | RESPONSE                       |
|-------------------------------------------------------------------------------------|----------|------------------|--------------------------------|
|  | STOP!    | 90 dB AND HIGHER | HEARING PROTECTION REQUIRED    |
|  | CAUTION! | 85 - 89 dB       | HEARING PROTECTION RECOMMENDED |
|  | GO!      | BELOW 85 dB      | HEARING PROTECTION OPTIONAL    |



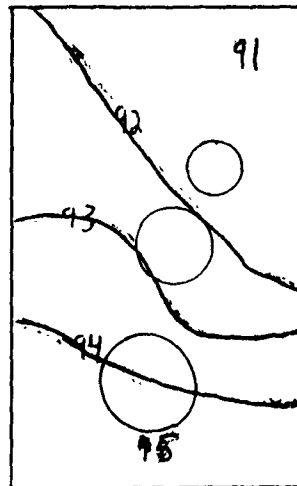
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# NOISE CONTOUR MAP CLASSIFICATION BUILDING

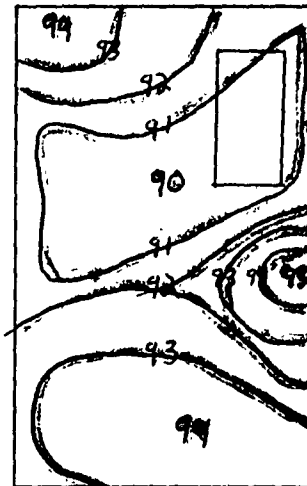
Figure 2



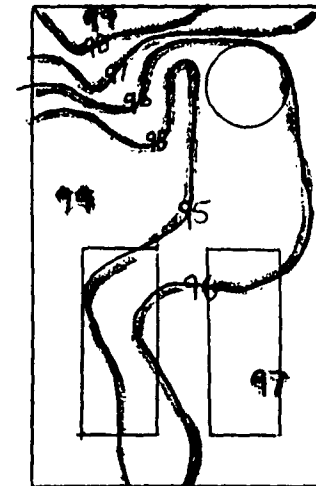
1st Floor



2nd Floor



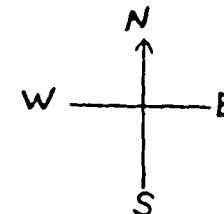
3rd Floor



4th Floor

## KEY TO FIGURE 2

| COLOR | KEY WORD | SOUND LEVEL      | RESPONSE                       |
|-------|----------|------------------|--------------------------------|
|       | STOP!    | 90 dB AND HIGHER | HEARING PROTECTION REQUIRED    |
|       | CAUTION! | 85 - 89 dB       | HEARING PROTECTION RECOMMENDED |
|       | GO!      | BELOW 85 dB      | HEARING PROTECTION OPTIONAL    |



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Lake Charles, LA (IHS 91-08)  
June 17 - 19, 1991

**Appendix I  
Sampling and Analytical Procedures  
and  
Current Standards**

It is our standard procedure in taking personal exposure samples to inform each employee of the purpose of the sample and what they should and should not do to invalidate the results.

Specific do's and don'ts are: To go about their work as normal, not to remove the sampler, disconnect the tubing or filter holder, or purposely contaminate the sampling tube or filter, not to shout into a dosimeter microphone or otherwise violate the sample by artificially exposing it to loud noises.

We request they inform us of any loss of integrity of the sample such as sampling tube or cassette accidentally coming off, dropping or otherwise subjecting the devices to unnecessary impacts. We strongly encourage plant management to similarly inform the employees when conducting their sampling programs.

Vinyl Chloride Monomer

The vinyl chloride samples were obtained and analyzed following the OSHA Method 04. Personal and area samples were collected on 600 mg charcoal tubes. DuPont Alpha II pumps were used. Alpha II pumps were calibrated to 30 - 50 cc/min before and after each sampling day.

Samples were analyzed by NATLSCO of Long Grove, Illinois using the OSHA Method 04. The OSHA permissible exposure limit is 1 ppm. The Action Level is 0.5 ppm (29 CFR 1910.1017).

Respirable Dust Sampling

Respirable dust samples were obtained on MSA FWS-B 5 micron polyvinyl chloride filters. Gravimetric analyses were accomplished on a Cahn C-25 electrobalance according to methods given in the OSHA Industrial Hygiene Field Operations Manual, April 2, 1979.

DuPont Model 2500 air sampling pumps were utilized for personal samples, and were calibrated at approximately 1.7 liters per minute before and after each sampling day. All respirable dust samples were obtained through the use of 10 millimeter nylon cyclones (MSA Respirable Dust Lapel Samplers).

The limit for respirable inert or nuisance dust is 5 mg/m<sup>3</sup> per the

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current OSHA standard, 29CFR1910.1000, Table Z3.

### Noise

A Bruel & Kjaer (B & K) 2230 precision sound level meter with a B & K 4165 1/2-inch microphone, was utilized to obtain sound pressure level measurements. Calibrations were made with B & K 4230 calibrator before and after this survey. When obtaining sound level measurements in the plant, a 3-inch foam sphere was used as a microphone windscreen. The reference for all sound pressure level measurements is 0.0002 microbar.

The Metrosonics db-301 dosimeters & 653 Metrologging System was utilized during this survey. The db-301 dosimeters are used for collecting the basic sound level data as both a time history and statistical distribution. The db-653 receives the data from the dosimeter, processes it, and provides a printout in two program formats. The 80 Db cutoff mode is incorporated into these programs.

The db-301 audiodosimeters were calibrated before and after each survey day with a Metrosonics Cl-304 calibrator.

The permissible OSHA noise exposure, (29CFR1910.95), ranges between 90 decibels for 8 hours per day through 115 decibels for a maximum duration of 1/4-hour per day. The maximum permissible audiodosimeter dose is 100% which is equivalent to 90 decibels for an 8-hour day.

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Lake Charles, LA (IHS 91-08)  
Jun 17 - 19, 1991

**Appendix II  
Industrial Hygiene Survey  
Sampling Results Information Sheet**

There are a number of terms and abbreviations used in the sample results posted. A brief explanation will be given of these terms. If you have any further questions about the results contact your supervisor.

PPM - parts per million of contaminant in the air.

MG/M3 - stands for milligrams of dust or fume per cubic meter of air.

OSHA PEL - OSHA stands for the Occupational Safety and Health Administration which is a part of the Department of Labor. It sets limits on the chemical exposures, develops safety standards and establishes other regulations to protect worker health and safety. The PEL is the permissible exposure limit set for the chemical measured.

dba - decibel; a unit of measure for noise.

TWA - time-weighted average. It is used to average multiple samples taken on an employee for his full shift to get his average daily exposure.

INDUSTRIAL HYGIENE SURVEY: 91-08  
VINYL BLDG PROD GRP LAKE CHARLES  
JUNE 17 - 19, 1991  
PERSONAL EXPOSURES

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IH POSTING

| EMPLOYEE NAME        | JOB POSITION | SAMPLE DATE | CONTAMINANT     | TWA     | UNITS | EXPOSURE LIMIT     |
|----------------------|--------------|-------------|-----------------|---------|-------|--------------------|
| BARONET, WILLIAM M.  | OPERATOR     | 06/18/1991  | Vinyl Chloride  | 0.1100  | PPM   | OSHA PEL = 1 PPM   |
| BARONET, WILLIAM M.  | OPERATOR     | 06/19/1991  | Vinyl Chloride  | 25.2000 | PPM   | OSHA PEL = 1 PPM   |
| BROUSSARD, GAYLAN J. | ELECTRICIAN  | 06/18/1991  | Vinyl Chloride  | <0.0320 | PPM   | OSHA PEL = 1 PPM   |
| CLICK, JOHN E.       | OPERATOR     | 06/18/1991  | Vinyl Chloride  | <0.0340 | PPM   | OSHA PEL = 1 PPM   |
| CLICK, JOHN E.       | OPERATOR     | 06/18/1991  | Respirable Dust | 0.0680  | MG/M3 | OSHA PEL = 5 MG/M3 |
| DAVIS, CLIFTON       | OPERATOR     | 06/18/1991  | Vinyl Chloride  | <0.0300 | PPM   | OSHA PEL = 1 PPM   |
| PARKER, JIMMY L.     | SUPERVISOR   | 06/18/1991  | Vinyl Chloride  | 0.2800  | PPM   | OSHA PEL = 1 PPM   |
| Pearson, Stuart      | OPERATOR     | 06/18/1991  | Vinyl Chloride  | 1.6000  | PPM   | OSHA PEL = 1 PPM   |
| ROBINSON, ADRIAN B.  | OPERATOR     | 06/18/1991  | Vinyl Chloride  | 0.5700  | PPM   | OSHA PEL = 1 PPM   |
| ROBINSON, ADRIAN B.  | OPERATOR     | 06/19/1991  | Vinyl Chloride  | 47.4000 | PPM   | OSHA PEL = 1 PPM   |
| VASSAR, RICHARD J.   | MECHANIC     | 06/18/1991  | Vinyl Chloride  | <0.0260 | PPM   | OSHA PEL = 1 PPM   |

\* \* \* END OF REPORT \* \* \* REYNOLJW

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INDUSTRIAL HYGIENE SURVEY: 91-08  
VINYL BLDG PROD GRP LAKE CHARLES  
JUNE 17 - 19, 1991  
AUDIO DOSIMETRY RESULTS

| EMPLOYEE NAME        | JOB POSITION | SAMPLE DATE | DBA_TWA | REQUIREMENTS                                                  |
|----------------------|--------------|-------------|---------|---------------------------------------------------------------|
| BARONET, WILLIAM M.  | OPERATOR     | 06/19/1991  | 95.00   | EXCEEDS 8 HOUR PEL (90DBA) PROTECTION MANDATORY               |
| BROUSSARD, GAYLAN J. | ELECTRICIAN  | 06/19/1991  | 91.70   | EXCEEDS 8 HOUR PEL (90DBA) PROTECTION MANDATORY               |
| CLICK, JOHN E.       | OPERATOR     | 06/19/1991  | 89.60   | EXCEEDS 8-HOUR ACTION LEVEL (85DBA) PROTECTION RECOMMENDED    |
| DAVIS, CLIFTON       | OPERATOR     | 06/19/1991  | 72.00   | BELOW 8-HOUR ACTION LEVEL (85DBA) HEARING PROTECTION OPTIONAL |
| ELLZEY, JIMMY R.     | MECHANIC     | 06/19/1991  | 91.80   | EXCEEDS 8 HOUR PEL (90DBA) PROTECTION MANDATORY               |
| FERRELL, CALVIN K.   | OPERATOR     | 06/19/1991  | 95.10   | EXCEEDS 8 HOUR PEL (90DBA) PROTECTION MANDATORY               |
| MAY, SHELBY R.       | MECHANIC     | 06/19/1991  | 91.90   | EXCEEDS 8 HOUR PEL (90DBA) PROTECTION MANDATORY               |
| Pearson, Stuart      | OPERATOR     | 06/19/1991  | 95.00   | EXCEEDS 8 HOUR PEL (90DBA) PROTECTION MANDATORY               |

\*\*\* END OF REPORT \*\*\* HOWARDSA

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