file Asbestos Task Force

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PLAINTIFF'S
EXHIBIT
AL-947

Organization Resources Counselors, Inc.

Memorandum

May 26, 1987

To: ORC Asbestos Task Force

From: Rebecca L. Daiss RLD

Subject: ORC Asbestos Data Collection Project

How would this for. big jobs differ
What is your criteria?

Attached for your review is: 1) the final draft of the ORC Asbestos Sampling Data Sheet for Small Jobs; 2) the instructions for completing the sampling sheet; 3) the introduction to and rationale for the ORC Asbestos Data Collection Project; and 4) the requirements for participation in the Asbestos Data Collection Project.

We would appreciate receiving your comments on the attached material before June 23 as we want to begin collecting data by July 1 from those companies who have already made the commitment to take part in the survey. We will send the same package, revised according the comments we receive, to the ORC Occupational Safety and Health Group at that time in an effort to broaden participation in the survey.

The Asbestos Removal (large job) Sampling Data Sheet and accompanying documentation is being revised and will be sent out for your review and comment upon completion.

BD/3

ASBESTOS SAMPLING DATA SHEET

1. **SHEET NUMBER** _____

2. **TASK** (REMOVAL OF ACM IS NOT PRIMARY GOAL)
Other Activity (Removal of acm not p goal

a. **TASK DESCRIPTION**
(CHECK ONE PER SAMPLING ACTIVITY)

- O Open ceiling tiles
- O Remove cable cover
- O Cable maintenance
- O Splicing cable
- O Pulling cable
- O Task clean-up
- O Equipment installation
- O Equipment removal
- O Brake work
- O Clutch work
- O Gasket work
- O Boiler maintenance
- O Pipe maintenance
- O Valve maintenance
- O Other equipment maintenance_____
- O Shipwork_____
- O Other_____

b. **ACM ACTIVITY RESULTING FROM TASK** (non-telecom/utility)
(CHECK ALL THAT APPLY)

- O Wetting
- O Removal
- O Bagging
- O Transporting
- O Drilling/cutting/grinding
- O Incidental disturbing
- O Other_____
- O None

c. **ACM FORM**
(CHECK ALL THAT APPLY)

- O Sprayed on insulation
- O Troweled on insulation
- O Equipment insulation
- O Boiler insulation
- O Pipe insulation (g.t. 12" diameter)
- O Pipe insulation (l.t. 12")
- O Pipe fittings
- O Transite Pipe
- O Floor tiles
- O Ceiling tiles
- O Transite Board
- O Roofing
- O Asbestos cement
- O ACM fabricated items
- O Other

d. **ACM LOCATION**
(CHECK ALL THAT APPLY)
(Telecom/Utility Specific)

- O Above hung ceiling
- O Beams/columns
- O Crawl space
- O Tunnel
- O Manhole
- O Cable vaults
- O Piping
- O Other

e. **LOCATION OF JOB WITH RESPECT TO ACM**
(Telecom/Utility Specific)

- O Adjacent to
- O On
- O Through
- O Other

f. **DISTANCE TO ACM**
(Telecom/Utilty Specific)

- O < 1 ft.
- O 1-3 ft.
- O 3-5 ft.
- O 5-10 ft.
- O 10-20 ft
- O > 20 ft.

3. **TYPE OF ASBESTOS**
(INDICATE % IF KNOWN)

- O _____% amosite
- O _____% chrysotile
- O _____% crocidolite
- O Unknown

4. **ACM CONDITION**

- O Loose/friable
- O Hardened/non-friable
- O Encapsulated

5. **ESTIMATED AMOUNT OF ACM REMOVED**

- _____ square feet
- _____ cubic feet
- _____ linear feet
- _____ unknown
- _____ none

6. **ACM DISTURBED**

O Yes O No

7. **OTHER FIBROUS MATERIALS PRESENT**

O Yes O No O Unknown

8. **PHYSICAL CONDITIONS**

a. O Indoor
O Outdoor

b. O Elevated
O Ground level

c. Temp. of Equipment (if applicable)

O approximately ambient
O above ambient
O below ambient

d. Air Temperature

O > 32 F
O < 32 F

e. Wind speed (if applicable)
O _____ mph

9. **STRUCTURE OWNERSHIP**

O Company Owned
O Leased
O Customer Premise

10. **STRUCTURE**
(CHECK ONE)

a. Type of Building

O School
O Hospital
O Office
O Telecom Central Office
O Warehouse
O Factory
O Garage
O Residential

b. Structure if other than building (specify, ex. tower, boiler etc.)

_____

11. **CONTROL METHODS**
(CHECK ALL THAT APPLY)

O Enclosure (without negative pressure)
O Enclosure (with negative pressure)
O Power tool with exhaust ventilation
O Local exhaust ventilation with fiber capture
O Wetting agent
O Glove bag
O Hepa vac
O Wet wipe
O Alternate route y (telecom/utility)
O Removal of entire structure
O Mini Enclosure
O Other
O None

12. **SAMPLING/ANALYTICAL METHOD**

O Appendix A OSHA Standard
O Appendix A OSHA Standard; (37 mm cassette)
O Confirmatory Analysis (by SEM, TEM, XRD, PLM)

_____

O Other _____

13. **SAMPLING COMPLETED BY**

O In-house
O Contractors

14. **REMARKS**

SHEET NUMBER _____

redundant info
This exists on field sampling sheet and should not be reiterated for purposes of this study

B. AIR SAMPLING DATA

1. Cassette #: _____
(One worker only)
(One task only)

2. Date of Sample: ____/____/____
(month) (day) (year)

3. Sample duration: (minutes) _____

4. Fiber Concentration: (f/cc) _____

5. Fiber Count: (f/100 fields) (if available) I prefer sheet w/ spaces for the 5 samples

6. Actual TWA Exposure: _____

7. 8 hour TWA Exposure: Is this for a single task only? This may not be meaningful what if other tasks w/ ACM occurred this same day?

8. Pump flow rate: (ltr/min) Pre-sample_____ Post-sample_____

Date Checked: ____/____/____
(month) (day) (day)

9. Pump Serial Number _____

10. Date of Sample: ____/____/____ Same as D.
(month) (day) (year)

11. Worker ID (if applicable): _____

12. Upset conditions ___Yes ___No

Comments (spills, unplanned events, etc.)

Signature/title of person filling out form

Print name in full:_____Phone No._____

Company name (print)_____

City_____ State_____

INSTRUCTIONS FOR FILLING OUT ASBESTOS SAMPLING DATA SHEET FOR SMALL JOBS

1. Sheet Number

The sheet number will be preassigned.

2. Task

The Asbestos Sampling Data Sheet is to be completed only for jobs in which removal of asbestos containing material (ACM) is not the primary goal.

a. Task Description

What is the nature of the actual work being performed? Check the one entry which best describes the task.

b. ACM Activity Resulting from Task (non-telecom/utility)

What was done in regard to actually working with or handling the acm:

c. ACM Form

What is the form of the ACM encountered on the task? Check all that apply.

Questions 2(d), 2(e) and 2(f) are to be completed only by telecommunications and utility industry employees.

c. ACM Location

Where is the specific location of the ACM encountered on the task?
Check all that apply.

d. Location of Job with Respect to ACM

Where, in relation to the ACM, is the task being performed?

e. Distance to ACM

What is the distance between the site of the task and the ACM.

3. Type of Asbestos (Indicate % if known)

What type of asbestos is present - amosite, crocidolite, chrysotile, unknown?
Check all that apply and, if possible, indicate the percentage of amosite, crocidolite, and/or chrysotile present in the ACM.

4. ACM Condition

Is the material being removed loose, crumbly, - does it flake off, when worked with; is it hard to the touch; or has it been encapsulated with another material?
Check the appropriate box.

5. Amount of Asbestos Removed During Sample

How much asbestos was removed if any? Estimate in lengths of pipe removed, square feet of boiler insulation, or tiles etc. Fill in the appropriate amount.

6. ACM Disturbed?

Was the ACM disturbed during the task.
Check the appropriate box

7. Other Fibrous Materials Present

Are fibrous materials other than asbestos present?
Check the appropriate box.

8. Physical Conditions

a. Location

Is the task being performed indoors or outdoors?
Check the appropriate box.

b. Elevation

Is the task being performed at ground level or above ground level?
Check the appropriate box.

c. Temperature of Equipment

If the task involves working on equipment that has ACM content, indicate the temperature of the equipment.

d. Air Temperature

Is the workplace temperature above or below freezing?
Check the appropriate box.

9. Structure Ownership

Is the task being performed on a company owned premise, company leased premise, or customer owned premise?
Check the appropriate box.

10. Structure

a. Type of Building

If in a building, in what type of building is the task being performed?
Check the appropriate box.

b. Structure if Other than a Building
If other than a building, identify the type of structure the task is being done in, or on (ex., tower, boiler, etc.)

11. Control Methods

What method(s) are being used to minimize the release or generation of airborne asbestos fibers?
Check all that apply.

12. Sampling/Analytical Method

What method is being used to analyze samples for the presence of asbestos, and if that test indicates the presence of asbestos, what kind of confirmatory analysis is performed?
Check the appropriate box or identify alternate method of analysis.

13. Sampling Completed By:

Was the sampling done by company employees, or an outside consultant/contractor?
Check the appropriate box.

Each Task is to be Monitored from Start to Finish for the Purposes of this Survey

B. AIR SAMPLING DATA

1. Cassette #, One Worker Only, One Task Only

   Each cassette should be given a distinct identification number. If more than one cassette is used per task, record a separate number for each in this space, record the data for the task, and indicate the reason for using more than one cassette in the comment section.

2. Date of Sample:

   Enter month, day and year.

3. Sample Duration (Minutes)

   Sampling should begin when the task is initiated and end when the task is completed. The sample duration should be identical to the duration of the task.

4. Fiber Concentration

   The fiber concentration (fibers per cc) as determined from the laboratory analysis. Use "GT" and "LT" for "greater than" and "less than" (respectively). If the sample filter is overloaded, note GT before the result.

5. Fiber Count (f/100 fields)

   Enter fibers/100 fields fiber count if this information is available or obtainable.

6. Actual TWA Exposure

   What was the time weighted average exposure for the duration of the job.

7. 8 Hour Time Weighted Average Exposure

   If more than one sample was taken on a person during a shift, a time weighted average should be calculated using the below formula:

$$\frac{C1T1 + C2T2 + \ldots CnTn}{T1 + T2 \ldots Tn}$$

   Cn = the fiber concentration for sample n
   Tn = the sample duration for sample n

8. Pump Flow Rate: (Liters/Min)

The pump flowrate should be the averaged flowrate as determined by calibration with a primary standard such as a bubble tube. Enter the date the flow rate was checked.

9. Pump Serial Number:

Enter the pump serial number

10. Worker ID:

Enter the worker identification number, if any, used by your company.

11. Upset Conditions

Was there a greater than normal exposure to asbestos due to an unplanned event? Specify the event in the comments section. Mark the appropriate box.

DKM/20

INTRODUCTION TO THE

ORC ASBESTOS DATA COLLECTION PROJECT

GOALS

To build a data base on the levels of airborne asbestos fibers generated during the completion of a variety of routine jobs in the chemical, petrochemical, telecommunications and utility industries.

INTENDED USE

This data base is intended to allow the participating companies to meet the requirements of the Occupational Safety and Health Administration for "objective data". The source of the data will be kept confidential with only ORC retaining knowledge of it. ORC needs to be able to contact the submitting company should questions about the data arise.

METHODS

The intent is to monitor a variety of separate jobs, and to establish a TWA exposure for each job. This would be done in the chemical, petrochemical, telecommunications and utilities industries. For the purposes of this study we are less concerned with the overall exposure of the individual (8 hour TWA) than we are with the actual fiber concentrations generated by each specific task.

THE BENEFITS

If, as expected the data shows exposures to be consistently below the action level of 0.1 f/cc, this "objective data" should provide participants with a valid data base upon which to defend a decision not to perform "initial monitoring" each time a small asbestos removal job, or other small job involving asbestos, is started so long as standard techniques are used.

In the telecommunications industry this data base can help document the kinds of exposures that can be expected in routine telephone and cable installation jobs where it is known that asbestos is present. Protective measures appropriate to the known hazard can then be put in place to meet the requirements of the OSHA standard, and adequately protect workers.

In those industries where it is not always known whether or not asbestos is present, the monitoring of a large number of randomly selected, short duration, low exposure jobs across the country, should give a solid indication of the probability, on any particular like job, of encountering levels of asbestos at or above the 0.1 fibers per cubic centimeter of air, the action level in OSHA's asbestos standard.

HIGH CREDIBILITY NECESSARY

The requirements that OSHA is establishing for the collection of this "historical objective data" are strict. Therefore, for the data base to be credible and thus usable, all data must be collected in strict accordance with the rules of the study.

If we accurately collect monitoring data relating to levels of airborne asbestos fibers generated during certain operations, it can be used with confidence to meet our obligations under the OSHA Asbestos Standards. If we do not make every effort to be as accurate as possible in this study, we will be wasting both our money and our time.

REQUIREMENTS OF THE STUDY

The following are the general requirements that all participants in the study have been asked to meet in order to insure the smooth functioning and high quality of the study:

1. This study will require that participating companies monitor a significant number (to be determined internally) of their employees engaged in activities where they may potentially be exposed to airborne asbestos fibers.

2. Documentation information will be collected for each operation monitored, recorded on the ORC forms and send to ORC in a timely fashion.

3. The data base development, data entry, and analysis of results will be done by a contractor, selected by ORC and approved by the Task Force, at a price agreed upon by the Task Force.

5. The cost of the study will be divided equally among those participating in the study.

6. Each participating company will receive a block of numbers that are reserved for its use. These numbers will be used sequentially to identify the sampling data sheets.

7. Each sheet will be the data for one person and one task performed.

8. For each job an actual TWA and 8 hour TWA will be calculated.

9. All participants will follow the relevant requirements of the OSHA Construction Asbestos Standard (1926) or the General Industry Asbestos Standard, 1910.1001.

10. All participants agree that sampling data will be for those doing "hands-on" work, not supervisors or observers.

11. All participants agree that all analytical work done for the purposes of this study will be performed by laboratories certified under the existing Proficiency Analytical Testing (PAT), or the American Industrial Hygiene Association (AIHA) Asbestos Accreditation Program.

12. Where possible, the data collection forms should be filled out by industrial hygienists using their organizations monitoring data forms.

13. The sampling data forms will be signed by the person filling them out. The company name and address and a phone number for the person signing the sheet should be included. After data entry this information will be removed from sheets.

14. Where reasonable, a certain amount of third party, (contractor/consultant) monitoring should done as part of the study and identified as such on the data sheet.

15. Each participating company should submit once, a separate company cover sheet to ORC. This sheet will include overall information about the percent of the potentially exposed employee population that was monitored, the total number of employees monitored, and total number of employees in the corporation.

16. The company cover sheet should discuss how jobs enter the system, and how the particular job site and individual(s) who do the work are chosen. This needs to be done to document the method used internally to obtain a representative selection of samples.

17. Detailed data from this study will be available only to those organizations that participated in the study.

18. Companies not having participated in the study initially, but wishing to have access to detailed data from the study after it is completed, must agree to do a certain minimum amount of sampling using the agreed upon task force protocol and data collection forms, the results to be entered into the data base.

19. Once the information on the sampling data sheets has been entered into the data base, a summary of the compiled data will be provided to participating companies. Participants will have access to the original data, except for company names, through ORC.

20. The final results of the study will be written up and, upon review and majority approval of the task force, they will be submitted for publication to the AIHA Journal.

This data is to be collected with all participants using the same sampling and analytical techniques, and the data recorded on the same form. This information will form the data base of "objective data", documenting the levels of airborne asbestos fibers generated in a variety of jobs, across 4 large industrial classifications, and many individual corporations.

This monitoring data is to be collected with a high degree of accuracy, and thoroughly documented. It is intended that this study be highly credible and able to withstand close examination and criticism.

Many of the jobs that this project will examine are similar across a variety of industries. For instance, removing asbestos insulation from around a valve before working on it. This job, if done in accordance with accepted, good industrial hygiene and safety practices, will be performed similarly in the chemical, petrochemical, or utility industries. With similar jobs and procedures, one would expect that actual levels of airborne asbestos fibers generated would also be similar across different industries; the study may tell us if this assumption is correct.

Sampling Data Sheets

Two sets of sampling data sheets will be used; one intended for use in "small scale" work as defined by OSHA, and the other for primary removal, demolition and renovation.

Small scale work would include a variety of jobs in the chemical, petrochemical, telecommunications and utilities industries where the removal of asbestos was incidental to the accomplishment of the job. Large scale jobs would include those where asbestos is being removed from buildings, where asbestos containing pipe insulation is be removed and will be replaced with other insulation. and other operations where the removal of asbestos is the main purpose of the job.

Each set of sampling data sheets will have two pages of questions designed to collect background data, and one air sampling data sheet to record the actual monitoring data.

B. AIR SAMPLING DATA

	1	2	3	4
1. Cassette # (One worker only) (One job only)				
2. Sample duration: (minutes)				
3. Fiber Concentration: (f/cc)				

4. Duration of job: (total min. pump ran) _____
(total individual sample durations from 4)

5. Actual TWA

6. 8 hour TWA:

7. Pump flow rate: (ltr/min) Pre-sample_____ Post-sample_____

8. Pump Calibration:_____ Pump Cereal Number_____

9. Date: _____/_____/_____
Month Day Year

10. Worker ID (if applicable):_____

11. Upset conditions ___Yes ___No

Comments (spills, unplanned events, etc.)

Signature/title of person filling out form

Print name in full:_____Phone No._____

Company name (print)_____

City_____ State_____

ORC Asbestos Data Collection Project

ASBESTOS REMOVAL SAMPLING DATA SHEET

1. **ACM FORM**
(CHECK ALL THAT APPLY)

- O Sprayed on insulation
- O Equipment insulation
- O Pipe insulation
- O Boiler insulation
- O Floor tiles
- O Ceiling tiles
- O Clutches
- O Brakes
- O Gaskets
- O Pipe fittings
- O Large diameter pipe > 12"
- O Small diameter pipe
- O Asbestos cement
- O Roofing
- O Transite Board
- O Transite Pipe
- O Other

2. **AMOUNT OF ACM REMOVED**

_____ square ft. O None
_____ cubic ft. O Unknown

3. **TYPE OF ASBESTOS**
(INDICATE % IF KNOWN)

- O _____% amosite
- O _____% chrysotile
- O _____% crocidolite
- O Unknown

4. **OTHER FIBROUS MATERIALS PRESENT**

O Yes O No

5. **ACM CONDITION**

- O Loose/friable
- O Hardened/non-friable
- O Encapsulated

6. **CONTROL METHODS**
(CHECK ALL THAT APPLY)

- O Enclosure (without negative pressure)
- O Enclosure (with negative pressure)
- O Power tools with exhaust ventilation
- O Wetting agent
- O Glove bag
- O Hepa vac
- O Wet wipe
- O Alternate route
- O Ventilate
- O None

8. **STRUCTURE OWNERSHIP**

- O Company Owned
- O Leased

9. **STRUCTURE**
(CHECK ONE)

- O School
- O Hospital
- O Office Building
- O Warehouse
- O Factory
- O Garage
- O Residential
- O Chemical Plant
- O Refinery

9. **ACM LOCATION**

- O Inside
- O Outside

10. **AIR TEMPERATURE**

- O > 32° F
- O < 32° F

11. **SAMPLING/ANALYTICAL METHOD**

- O NIOSH 7400
- O Appendix A OSHA Standard
- O Other (specify)
- O Confirmatory Analysis (by SEM, TEM)

12. **SAMPLING COMPLETED BY**

- O In-house
- O Contractors

11. **REMARKS**