

INDUSTRIAL HYGIENE SURVEY (IHS 90-07)

RIVERSIDE A/C PIPE PLANT

MARCH 30 - APRIL 1, 1990

CTD007602

Interoffice Memo**CertainTeed** 

To	Mail Code	From	Mail Code	Ext
J. Burke	#260	Janis Woodson	1125/4	7713
Subject			Date	
Industrial Hygiene Survey - Riverside			5/8/90	

cc: L. Todd - Riverside #260
J. McGinley - 2125/2B

Attached is the report for the Industrial Hygiene Survey conducted at your plant the week of March 30 - April 1, 1990. The report contains two recommendations that require your attention. Please provide a written response to Corporate Health and Safety within sixty (60) days of receipt of this report as to the corrective actions taken.

If you have any questions or comments, please contact me.

Attachments

RECEIVED

MAY 10 1990

Industrial Hygiene Survey (IHS 90-7)
Riverside A/C Pipe Plant
March 30 - April 1, 1990

An Industrial Hygiene Survey was conducted at the Riverside A/C Pipe Plant by Janis Woodson of Corporate Health and Safety on March 30 - April 1, 1990.

This survey was conducted to supplement the in-plant Asbestos exposure surveillance program. Samples were also taken to assess compliance with the OSHA excursion limit of 1.0 f/cc averaged over a sampling period of thirty minutes.

This report is an employee exposure record as defined in Corporate Procedure GE003.02 and OSHA Standard 29CFR1910.20 and must be retained for thirty years. Upon request, this record must be made available to those Federal officials, employee designees or employees as provided for in Corporate Procedure AD011, Paragraphs 7 and 8.

Appendix I of this report documents the air sampling methodologies, the analysis techniques and the current standards used in evaluating the data. The field and in-house laboratory notes on this survey are on file in Corporate Health and Safety.

SUMMARY

The sample results ranged from 0.008 to 0.27 f/cc. Of the fourteen 8-hour time weighted averages (TWA) calculated for this survey, two were found to exceed the OSHA permissible exposure limit of 0.2 f/cc. The employees involved were the Crusher Operator and a maintenance person checking dust collectors. The maintenance employee also had a sample that exceeded the excursion limit of 1 f/cc. Both employees wore respiratory protection while performing their jobs.

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RECOMMENDATIONS:

- IHS 90 - 7 1. Continue to evaluate engineering controls
 and work practices to reduce exposures at
 the crusher operation. Document all
 changes and forward that documentation to
 Corporate Health and Safety.
2. Inform employees of the results of this
 survey.

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DISCUSSION

This survey was primarily to accomplish sampling for 30 minute excursion limit exposures during down day maintenance. The job positions selected for excursion samples during this survey were based on the results of the last EL samples and the employee's potential for higher than normal exposures during certain work activities.

As in the past, at the beginning of each sampling day each employee to be monitored was consulted to determine when they felt their highest exposure would occur during the shift.

The samples from this survey ranged from 0.005 to 1.56 f/cc, the TWA's ranged from 0.008 to 0.27 f/cc. Of the TWA's calculated for this survey, two exceeded the 0.2 f/cc OSHA PEL. One sample exceeded the 1 f/cc excursion limit.

The results of samples are presented in Table I. In the remarks column, care was taken to note the activities performed during the samples as well as the type of personal protection used.

Table II lists sample results for each position in which EL samples were taken. The results highlighted in the TWA column, exceed the PEL of 0.2 f/cc; and in the EL column exceed the excursion limit (EL) of 1 f/cc.

Maintenance Employees

Samples were taken on five maintenance employees on Sunday, April 1, while performing routine "down day" maintenance. Only one maintenance employee, Whitaker, had a TWA exposure exceeding the 0.2 f/cc PEL (0.27 f/cc). This employee also had one of his excursion samples to exceed the 1 f/cc excursion limit. During Whitaker's entries into the dust collectors he wore a full-faced high efficiency particulate air (HEPA) filter respirator and a Tyvek coverall.

The other four maintenance employees had TWA's within the the acceptable limits. Some of the jobs they performed were:

- worked on the savall
- repaired the stripper
- worked on the pipe machine
- repaired the pump in the recirculating pit
- worked on the nash pumps and process pumps
- worked in the forklift shop

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Crusher Operator

The Crusher operator's 8-hour TWA exposure resulted in 0.20 f/cc. This job position continues to have exposure levels above the action level, and approaching the PEL. As we have noted several times before, sample results are variable depending on individual work practices, work speed, equipment used and the type of material to be crushed.

During this survey the highest exposure (30 minute) for the Crusher Operator resulted when he crushed coupling rings, the EL sample resulted in 0.73 f/cc. When using the guillotine his exposure was also elevated, 0.35 f/cc.

We are again repeating our recommendation to reduce exposures at this operation.

Based on the exposure levels found in this survey, the activities of this job position continue to require a respirator when handling potentially dusty material. During this sampling period the employee was observed to wear a 1/2 mask cartridge respirator with a HEPA filter for the entire day which provides adequate protection for this job position. Of course, this practice should continue.

In-house Surveillance

In my November survey report, it was recommended (IHS 89-26) that the plant share the results of their in-house monitoring with Corporate Health and Safety. Twelve fiber exposure notification forms (FEN) were received from L. Todd for samples taken during 1989.

In order to input this information into the computer we need the information submitted on the Asbestos Monitoring Data Sheet (AMDS) which contains sampling information and pump flow rates. If this information is available, for these samples please forward it to Corporate Health and Safety.

In-house sampling is being conducted on a regular basis. This year the plant has sampled three employees, of which I have received the AMDS. These samples were analyzed in-house by L. Todd.

The in-house analysis should be limited to samples that are not needed for official recording purposes, i.e., engineering samples. However, we will continue to input them in the computer but will keep them separate from the official data. All samples such as:

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Those samples taken on employees working at operations exceeding the action or excursion levels.

Samples taken for compliance with excursion limit sampling.

Samples taken on individual employees on the two year basis.

are all considered official samples and should be sent to Corporate Health and Safety for analysis by our outside, certified lab. The results will then become a part of the official record.

To assist you, in conducting sampling on the two year scheudle, I have included Table IV, which lists the present employees by date of their last official exposure monitoring.

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INDUSTRIAL HYGIENE SURVEY - (90-07)
RIVERSIDE A/C PIPE PLANT
MARCH 30-31, APRIL 1, 1990
TABLE I - ASBESTOS EXPOSURES

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NO.	POSITION/AREA (NAME)	ANALYSIS (DATE/SHIFT)	TIME	MIN	RESULT	TWA	REMARKS
90	SOC SEC NBR	DEPT/LINE					
0001A1	COUPLING CUT OFF OPERATOR COOLEY, DENNIS 344-30-3938	ASBESTOS 900330 1ST	7:20- 11:00	220	0.055 F/CC	.	OSHA PEL = 0.2 F/CC EMPLOYEE WORE FULL FACE RESPIRATOR DURING HOOD ENTRIES
0001B1	COUPLING CUT OFF OPERATOR COOLEY, DENNIS 344-30-3938	ASBESTOS 900330 1ST	11:40- 13:00	80	0.017 F/CC	.	OSHA PEL = 0.2 F/CC
0001C1	COUPLING CUT OFF OPERATOR COOLEY, DENNIS 344-30-3938	ASBESTOS 900330 1ST	13:00- 15:00	120	0.043 F/CC	0.044	OSHA PEL = 0.2 F/CC
0002A1	1/4 LATHE OPERATOR GOODWIN, L 546-76-9626	ASBESTOS 900331 1ST	7:10- 14:27	437	> 0.077 F/CC	> 0.077	OSHA PEL = 0.2 F/CC 2:20 STARTED WORKING AS LINE 3 HANDLER
0003A1	CRUSHER OPERATOR HAMILTON, CHRIS 555-74-5800	ASBESTOS 900330 1ST	7:25- 9:36	131	0.095 F/CC	.	OSHA PEL = 0.2 F/CC ATTENDED MEETING 1 HR. EMPLOYEE WORE 1/2 MASK RESPIRATOR AT ALL TIMES
0003B1	CRUSHER OPERATOR HAMILTON, CHRIS 555-74-5800	ASBESTOS 900330 1ST	9:36- 10:01	25	0.732 F/CC	.	OSHA EL = 1.0 F/CC CRUSHED COUPLING RINGS
0003C1	CRUSHER OPERATOR HAMILTON, CHRIS 555-74-5800	ASBESTOS 900330 1ST	10:01- 13:44	223	> 0.205 F/CC	> .	OSHA PEL = 0.2 F/CC
0003D1	CRUSHER OPERATOR HAMILTON, CHRIS 555-74-5800	ASBESTOS 900330 1ST	13:44- 14:10	26	0.352 F/CC	.	OSHA EL = 1.0 F/CC USED GUILLOTINE 20 MINUTES

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TABLE I - ASBESTOS EXPOSURES

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NO.	POSITION/AREA (NAME)	ANALYSIS (DATE/SHIFT)	TIME	MIN	RESULT	TWA	REMARKS
90	SOC SEC NBR	DEPT/LINE					
0003E1	CRUSHER OPERATOR HAMILTON, CHRIS 555-74-5800	ASBESTOS 900330 1ST	14:10- 15:00	50	0.116 F/CC	0.201	OSHA PEL = 0.2 F/CC
0004A1	INSPECTOR WILSON, CHARLES 422-56-9672	ASBESTOS 900330 1ST	7:10- 8:00	50	F/CC	.	OSHA PEL = 0.2 F/CC VOIDED SAMPLE
0005A1	INSPECTOR WILSON, CHARLES 422-56-9672	ASBESTOS 900331 1ST	7:05- 14:25	440	> 0.047 F/CC	> 0.047	OSHA PEL = 0.2 F/CC
0006A1	INSPECTOR MONTE, GARCIA 527-50-6060	ASBESTOS 900331 1ST	7:20- 9:00	100	F/CC	.	OSHA PEL = 0.2 F/CC VOIDED SAMPLE - MALFUNCTION
0007A1	FORKLIFT OPERATOR SANDERS, ANG 431-64-0728	ASBESTOS 900331 1ST	7:29- 14:40	431	0.019 F/CC	0.019	OSHA PEL = 0.2 F/CC
0008A1	FORKLIFT OPERATOR STANFIELD, RICHARD 548-58-3160	ASBESTOS 900331 1ST	7:17- 14:31	434	0.010 F/CC	0.010	OSHA PEL = 0.2 F/CC
0009A1	LAB TECHNICIAN GRANILLO, BENNY 557-56-8670	ASBESTOS 900330 1ST	7:15- 8:17	62	0.128 F/CC	.	OSHA PEL = 0.2 F/CC
0009B1	LAB TECHNICIAN GRANILLO, BENNY 557-56-8670	ASBESTOS 900330 1ST	8:17- 8:40	23	0.115 F/CC	.	OSHA EL = 1.0 F/CC 13 MINUTES COLLECTED FIBER & CEMENT SAMPLES. WORE 1/2 MASK RESPIRATOR

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MARCH 30-31, APRIL 1, 1990
TABLE I - ASBESTOS EXPOSURES

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NO.	POSITION/AREA (NAME)	ANALYSIS (DATE/SHIFT)	TIME	MIN	RESULT	TWA	REMARKS
90	SOC SEC NBR	DEPT/LINE					
0009C1	LAB TECHNICIAN GRANILLO, BENNY 557-56-8670	ASBESTOS 900330 1ST	8:40- 14:55	375	> 0.031 F/CC	> 0.049	OSHA PEL = 0.2 F/CC
0010A1	LOADER BRYANT, BIRK 266-82-7813	ASBESTOS 900330 1ST SHIPPING	8:05- 15:20	435	> 0.029 F/CC	> 0.029	OSHA PEL = 0.2 F/CC
0011A1	STOREROOM CLERK WALL, BUD 118-22-5805	ASBESTOS 900330 1ST	8:00- 15:15	435	> 0.017 F/CC	> 0.017	OSHA PEL = 0.2 F/CC
0012A1	MECHANIC CARRON, A 002-22-0623	ASBESTOS 900401 1ST SUNDAY DOWN DAY MAIN	7:10- 8:21	71	0.031 F/CC	.	OSHA PEL = 0.2 F/CC WORKED ON SAVALL & MEZZANINE
0012B1	MECHANIC CARRON, A 002-22-0623	ASBESTOS 900401 1ST SUNDAY DOWN DAY MAIN	8:21- 12:28	247	0.005 F/CC	.	OSHA PEL = 0.2 F/CC WORKED AT STRIPPER & PIPE MACHINE
0012C1	MECHANIC CARRON, A 002-22-0623	ASBESTOS 900401 1ST SUNDAY DOWN DAY MAIN	12:28- 14:40	132	. F/CC	0.008	OSHA PEL = 0.2 F/CC SAMPLE VOIDED - PUMP MALFUNCTION
0013A1	MECHANIC - FORKLIFT CHUTE, GAIL 556-13-5705	ASBESTOS 900401 1ST SUNDAY DOWN DAY MAIN	7:14- 7:45	31	0.054 F/CC	.	OSHA EL = 1.0 F/CC WORKED ON PUMP IN RECIRCULATING PIT
0013B1	MECHANIC - FORKLIFT CHUTE, GAIL 556-13-5705	ASBESTOS 900401 1ST SUNDAY DOWN DAY MAIN	7:45- 12:28	283	> 0.019 F/CC	> .	OSHA PEL = 0.2 F/CC WORKED IN FORKLIFT SHOP

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RIVERSIDE A/C PIPE PLANT
MARCH 30-31, APRIL 1, 1990
TABLE I - ASBESTOS EXPOSURES

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NO.	POSITION/AREA	ANALYSIS	TIME	MIN	RESULT	TWA	REMARKS
	(NAME)	(DATE/SHIFT)					
90	SOC SEC NBR	DEPT/LINE					
0013C1	MECHANIC - FORKLIFT CHUTE, GAIL 556-13-5705	ASBESTOS 900401 1ST SUNDAY DOWN DAY MAIN	12:28- 14:40	132	0.007 F/CC	0.018	OSHA PEL = 0.2 F/CC WORKED IN FORKLIFT SHOP
0014A1	MECHANIC MCFANN, JOE 567-46-5755	ASBESTOS 900401 1ST DOWN DAY MAIN	7:11- 7:47	36	0.033 F/CC	.	OSHA EL = 1.0 F/CC WORKED ON PUMP IN RECIRRCULATING PIT
0014B1	MECHANIC MCFANN, JOE 567-46-5755	ASBESTOS 900401 1ST DOWN DAY MAIN	7:47- 9:12	85	0.007 F/CC	.	OSHA PEL = 0.2 F/CC WORKED AT STRIPPER
0014C1	MECHANIC MCFANN, JOE 567-46-5755	ASBESTOS 900401 1ST DOWN DAY MAIN	9:12- 10:40	88	0.004 F/CC	.	OSHA PEL = 0.2 F/CC WORKED AT STRIPPER
0014D1	MECHANIC MCFANN, JOE 567-46-5755	ASBESTOS 900401 1ST DOWN DAY MAIN	10:40- 12:28	108	0.013 F/CC	.	OSHA PEL = 0.2 F/CC WORKED AT PRESS SECTION
0014E1	MECHANIC MCFANN, JOE 567-46-5755	ASBESTOS 900401 1ST DOWN DAY MAIN	12:28- 14:40	132	0.016 F/CC	0.013	OSHA PEL = 0.2 F/CC WORKED ON FIBER ELEVATOR
0015A1	MECHANIC STEEN, TED 107-32-3415	ASBESTOS 900401 1ST DOWN DAY MAIN	7:12- 9:24	132	0.040 F/CC	.	OSHA PEL = 0.2 F/CC WORKED ON TAILING PUMPS
0015B1	MECHANIC STEEN, TED 107-32-3415	ASBESTOS 900401 1ST DOWN DAY MAIN	9:24- 13:15	231	0.022 F/CC	.	OSHA PEL = 0.2 F/CC WORKED ON ACID PUMPS NEAR OFFICE & CURING OVEN

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RIVERSIDE A/C PIPE PLANT
MARCH 30-31, APRIL 1, 1990
TABLE I - ASBESTOS EXPOSURES

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NO.	POSITION/AREA	ANALYSIS	TIME	MIN	RESULT	TWA	REMARKS
	(NAME) SOC SEC NBR	(DATE/SHIFT) DEPT/LINE					
0015C1	MECHANIC STEEN, TED 107-32-3415	ASBESTOS 900401 1ST DOWN DAY MAIN	1:15- 14:40	85	.042 F/CC	.030	OSHA PEL = 0.2 F/CC WORKED ON WASH PUMPS & PROCESS PUMPS
0016A1	MECHANIC WOODROW, WHITAKER 294-40-4086	ASBESTOS 900401 1ST	7:13- 7:54	41	0.014 F/CC	.	OSHA EL = 1.0 F/CC CHECKING DUST COLLECTORS WORE FULL FACE RESPIRATOR AT ALL TIMES INSIDE DUST COLLECTORS
0016B1	MECHANIC WOODROW, WHITAKER 294-40-4086	ASBESTOS 900401 1ST	7:54- 8:24	30	F/CC	.	OSHA PEL = 0.2 F/CC SAMPLE VOIDED - SAMPLE OVERLOADED
0016C1	MECHANIC WOODROW, WHITAKER 294-40-4086	ASBESTOS 900401 1ST	8:24- 9:15	51	> 1.559 F/CC	> .	OSHA PEL = 0.2 F/CC IN DUST COLLECTOR; ALSO 15 MIN BREAK
0016D1	MECHANIC WOODROW, WHITAKER 294-40-4086	ASBESTOS 900401 1ST	9:15- 11:14	119	> 0.311 F/CC	> .	OSHA PEL = 0.2 F/CC CHECKING DUST COLLECTORS
0016E1	MECHANIC WOODROW, WHITAKER 294-40-4086	ASBESTOS 900401 1ST	11:14- 13:06	112	0.012 F/CC	.	OSHA PEL = 0.2 F/CC 1/2 HR LUNCH; CHECKING DUST COLLECTORS
0016F1	MECHANIC WOODROW, WHITAKER 294-40-4086	ASBESTOS 900401 1ST	13:06- 14:40	94	0.027 F/CC	0.271	OSHA PEL = 0.2 F/CC CHECKING DUST COLLECTORS

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INDUSTRIAL HYGIENE SURVEY - (90-07)

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RIVERSIDE A/C PIPE PLANT
MARCH 30-31, APRIL 1, 1990
PERSONAL AND AREA EXPOSURES

EMPLOYEE NAME	JOB POSITION	SMPL DATE	CONTAMINANT	RESULT	UNITS RPTD IN	TWA	OSHA PEL
BRYANT, BIRK	LOADER	900330	ASBESTOS	> 0.029	F/CC	> 0.029	OSHA PEL = 0.2 F/CC
CARRON, A	MECHANIC	900401	ASBESTOS	0.031	F/CC	.	OSHA PEL = 0.2 F/CC
CARRON, A	MECHANIC	900401	ASBESTOS	0.005	F/CC	.	OSHA PEL = 0.2 F/CC
CARRON, A	MECHANIC	900401	ASBESTOS	.	F/CC	0.008	OSHA PEL = 0.2 F/CC
CHUTE, GAIL	MECHANIC - FORKLIFT	900401	ASBESTOS	0.054	F/CC	.	OSHA EL = 1.0 F/CC
CHUTE, GAIL	MECHANIC - FORKLIFT	900401	ASBESTOS	> 0.019	F/CC	> .	OSHA PEL = 0.2 F/CC
CHUTE, GAIL	MECHANIC - FORKLIFT	900401	ASBESTOS	0.007	F/CC	0.018	OSHA PEL = 0.2 F/CC
COOLEY, DENNIS	COUPLING CUT OFF OPERATOR	900330	ASBESTOS	0.055	F/CC	.	OSHA PEL = 0.2 F/CC
COOLEY, DENNIS	COUPLING CUT OFF OPERATOR	900330	ASBESTOS	0.017	F/CC	.	OSHA PEL = 0.2 F/CC
COOLEY, DENNIS	COUPLING CUT OFF OPERATOR	900330	ASBESTOS	0.043	F/CC	0.044	OSHA PEL = 0.2 F/CC
GOODWIN, L	1/4 LATHE OPERATOR	900331	ASBESTOS	> 0.077	F/CC	> 0.077	OSHA PEL = 0.2 F/CC
GRANILLO, BENNY	LAB TECHNICIAN	900330	ASBESTOS	0.128	F/CC	.	OSHA PEL = 0.2 F/CC
GRANILLO, BENNY	LAB TECHNICIAN	900330	ASBESTOS	0.115	F/CC	.	OSHA EL = 1.0 F/CC
GRANILLO, BENNY	LAB TECHNICIAN	900330	ASBESTOS	> 0.031	F/CC	> 0.049	OSHA PEL = 0.2 F/CC
HAMILTON, CHRIS	CRUSHER OPERATOR	900330	ASBESTOS	0.095	F/CC	.	OSHA PEL = 0.2 F/CC
HAMILTON, CHRIS	CRUSHER OPERATOR	900330	ASBESTOS	0.732	F/CC	.	OSHA EL = 1.0 F/CC
HAMILTON, CHRIS	CRUSHER OPERATOR	900330	ASBESTOS	> 0.205	F/CC	> .	OSHA PEL = 0.2 F/CC
HAMILTON, CHRIS	CRUSHER OPERATOR	900330	ASBESTOS	0.352	F/CC	.	OSHA EL = 1.0 F/CC
HAMILTON, CHRIS	CRUSHER OPERATOR	900330	ASBESTOS	0.116	F/CC	0.201	OSHA PEL = 0.2 F/CC
MCFANN, JOE	MECHANIC	900401	ASBESTOS	0.033	F/CC	.	OSHA EL = 1.0 F/CC
MCFANN, JOE	MECHANIC	900401	ASBESTOS	0.007	F/CC	.	OSHA PEL = 0.2 F/CC
MCFANN, JOE	MECHANIC	900401	ASBESTOS	0.004	F/CC	.	OSHA PEL = 0.2 F/CC
MCFANN, JOE	MECHANIC	900401	ASBESTOS	0.013	F/CC	.	OSHA PEL = 0.2 F/CC
MCFANN, JOE	MECHANIC	900401	ASBESTOS	0.016	F/CC	0.013	OSHA PEL = 0.2 F/CC
MONTE, GARCIA	INSPECTOR	900331	ASBESTOS	.	F/CC	0.000	OSHA PEL = 0.2 F/CC
SANDERS, ANGY	FORKLIFT OPERATOR	900331	ASBESTOS	0.019	F/CC	0.019	OSHA PEL = 0.2 F/CC
STANFIELD, RICHARD	FORKLIFT OPERATOR	900331	ASBESTOS	0.010	F/CC	0.010	OSHA PEL = 0.2 F/CC
STEEN, TED	MECHANIC	900401	ASBESTOS	0.040	F/CC	.	OSHA PEL = 0.2 F/CC
STEEN, TED	MECHANIC	900401	ASBESTOS	0.022	F/CC	.	OSHA PEL = 0.2 F/CC
STEEN, TED	MECHANIC	900401	ASBESTOS	0.04	F/CC	0.03	OSHA PEL = 0.2 F/CC
WALL, BUD	STOREROOM CLERK	900330	ASBESTOS	> 0.017	F/CC	> 0.017	OSHA PEL = 0.2 F/CC
WILSON, CHARLES	INSPECTOR	900330	ASBESTOS	.	F/CC	0.000	OSHA PEL = 0.2 F/CC
WILSON, CHARLES	INSPECTOR	900331	ASBESTOS	> 0.047	F/CC	> 0.047	OSHA PEL = 0.2 F/CC
WOODROW, WHITAKER	MECHANIC	900401	ASBESTOS	0.014	F/CC	.	OSHA EL = 1.0 F/CC
WOODROW, WHITAKER	MECHANIC	900401	ASBESTOS	0.000	F/CC	.	OSHA PEL = 0.2 F/CC
WOODROW, WHITAKER	MECHANIC	900401	ASBESTOS	> 1.559	F/CC	> .	OSHA PEL = 0.2 F/CC
WOODROW, WHITAKER	MECHANIC	900401	ASBESTOS	> 0.311	F/CC	> .	OSHA PEL = 0.2 F/CC
WOODROW, WHITAKER	MECHANIC	900401	ASBESTOS	0.012	F/CC	.	OSHA PEL = 0.2 F/CC
WOODROW, WHITAKER	MECHANIC	900401	ASBESTOS	0.027	F/CC	0.271	OSHA PEL = 0.2 F/CC

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TABLE II

Sample Result Summary
Excursion Samples

<u>Job Position</u>	<u>TWA</u>	<u>Results (f/cc)</u>	
		<u>EL</u>	<u>Activity During EL Sample</u>
Crusher Operator	0.20	0.73	Crushing Coupling Rings
		0.35	Crushing Lg pipe using Guillotine
Lab Technician	0.05	0.12	Collected fiber and cement samples
Maintenance	0.02	0.05	Worked on recirculating pump
Maintenance	0.01	0.03	worked on recirculating pump
Maintenance	0.27	0.01	checking dust collectors
		1.56	in dust collector

OSHA PEL - 0.2 f/cc TWA

OSHA EL - 1.0 f/cc for 30 minutes

TABLE III

Riverside A/C Pipe Plant
Asbestos Sample Results (8-hour TWA's - f/cc)
August, 1986 through April, 1990

	8/86	12/86	3/87	8/87	2/88	4/88	8/88	10/88	3/89	11/89	4/90
1/4 Lathe Oper.	.31	.23	.26	.02	.07		.01 .01	.02 .02			>.08
Cplg C/O Oper.	1.6	.27	.05 .05 .22	.10 .07 .04		.05	.04 .01 .07 .07	.10	.07 .04	.09	.04
Wet Tester	.06 .03	.41		* .	.21	.03	.01 .01 .01				
Crusher Oper.	.16	.31	.10	.10 .09 .07		.01	.01 .07	.28	.15 .09	.13	.20
Saw Operator	.12 .11			.03	.42	.01	.01 .09 .13	.03	.06 .04 .10	.09	
Fittings Oper.	.12			<Dt	.04		<Dt	.01		.05	
Fittings Insp	.15			.09 .02	.04		.02 .03				>.05

* Samples taken on employees working at this machine, during this survey, were not representative of normal operations due to extended down time for mechanical repairs. The samples ranged from < 0.001 to 0.1 f/cc.

<Dt - less than detectable <0.001 f/cc.

> -result may actually be greater, as the filter was heavily loaded with particulate, possibly obscuring fibers.

TABLE IV

CURRENT RIVERSIDE EMPLOYEES (3/29/90)
DATE OF LAST OFFICIAL EXPOSURE MONITORING

LOLIE, KEVIN	PRESS OPERATOR	860819
MARTINEZ, PETE	STRIPPER	860819
SONCRANT, GLEN	STRIPPER	860820
CORRAL, RICHARD	WET TESTER	861030
MORGAN, JW	FORKLIFT-SHIPPING	861030
COLE, HARRY	TRAY LOADER	861204
LEDFORD, JOE	TRUCK OPERATOR	870107
MARROW, DOUG	RELIEF OPERATOR	870810
EVANS, GEORGE	LATHE OPERATOR	870811
AESCHLIMAN, KEN	MACHINE TENDER	870812
BIVENS, JANET	TRUCK OPERATOR	870812
BRADY, JEFF	PRESS OPERATOR	870812
GIL, L	FM LATHE OPERATOR	870813
PLAZA, MANUAL	MANDREL HANDLER	870813
COOPER, H	PIPE HANDLER	880823
FOOSE, DENNIS	TRAY LOADER	880823
ASKEW, W	MIXER OPERATOR	880824
CONTRERAS, JOE	WET TESTER	880825
SUAREZ, ANDRES	PIPE HANDLER	881015
VILLAPANDO, A	PRESS OPERATOR	881015
PERRY, DALE	MAINTENANCE OILER	881107
MEIER, STEVEN	TRAY LOADER	890330
AVERY, ALBERT	LATHE OPERATOR	891116
CLAUSON, J	REWORK SAW	891116
GALVIN, DENNIS	CRUSHER	891116
CANTRELL, N	MANDREL HANDLER	891117
DOBBS, P	BORING MILL	891117
MORALES, D	MACHINE TENDER	891117
PASILLAS, DAVE	LATHE OPERATOR	891117
RENFRO, E	RELIEF OPERATOR	891117
REYES, P	MIXER OPERATOR	891117
BASTAANS, HENRY	MECHANIC	891118
MICHEL, ROBERTO	MECHANIC	891118
COOLEY, DENNIS	COUPLING CUT OFF	900330
GRANILLO, B	Q C LAB TECHNICIAN	900330
HAMILTON, CHRIS	FITTINGS MAKER	900330
WALL, BUD	STOREROOM CLERK	900330
BRYANT, BIRK	LOADER	900331
GARCIA, MONTE	INSPECTOR	900331
GOODWIN, L	1/4 LATHE OPERATOR	900331
SANDERS, ANZY	FITTINGS TRUCK OPERATOR	900331
STANFIELD, DICK	FORKLIFT-LATHE	900331
WILSON, CHARLES	FITTINGS INSPECTOR	900331
CARRON, A	MECHANIC	900401
CHUTE, GAIL	MECHANIC - FORKLIFT	900401
MCFANN, JOE	MECHANIC	900401
STEEN, THEODORE	MECHANIC	900401
WHITAKER, WOODROW	MAINTENANCE	900401

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APPENDIX I

Sampling and Analytical Methods 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.

We request that each employee be informed of exposure results in this survey as outlined in the corporate procedure. Employees whose asbestos and noise exposures exceed the PEL, action level and excursion level respectively, must be informed accordingly to OSHA regulation.

We suggest that a copy of the attached tables be posted on the employees bulletin board. Also, a Fiber Notification Form (FEN) must be completed as outlined in the Health Maintenance Manual, Asbestos Unit Program Section VII, for each employee sampled for asbestos. Alternately, the employees, including those in similar positions to those measured, can be informed personally.

Asbestos (19 B and C)

The sampling and analysis was conducted following the current OSHA Standard 29CFR1910.1001, Appendix A ORM (Mandatory).

Personal samples were obtained open faced on a 25mm 0.8 micron mixed cellulose ester Millipore filter with an electrically conductive 50mm extension cowl. DuPont Alpha I, air sampling pumps were calibrated before and after each sampling day to approximately 1 liter per minute for all samples except excursion limit samples. For the 30 minute excursion samples pumps were calibrated to approximately 1.7 liters per minute. In most cases, a series of two, three or four

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different filter samples were obtained for the person, to establish an 8-hour time-weighted average (TWA) concentration.

The analysis was conducted by NATLSCO Labs, Long Grove, Illinois. The counts were made following the A counting rules as described in the Standard, Appendix A.

The current Standard calls for a personal exposure limit of 0.2 fibers, longer than 5 microns per cubic centimeter of air (f/cc), an action limit of 0.1 f/cc and an excursion limit (EL) of 1 f/cc for 30 minutes.

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