ALCOA AIR SAMPLING DATA SHEET

WORKS ROCKDALE BUILDING NO. _____ DATE 77-12-05

SAMPLE NO. 1 ANALYSIS FOR ASBESTOS

OPERATION Stall Cleanout-an LOCATION POTLINE 5 - Cell 67

EMPLOYEE NAME S. PEEVEY CLOCK NO. 2275 SOC.SEC.NO. _____

Sampling position Bz

Method of Sampling personal Vacuum Source & No. RD #6

Collecting medium .8 μ FILTER + PAD Volume, ml —

Time of Sampling 9:02 AM to 10:15 AM Duration 73 min. Cal.Rate 2.0 lpm

*Stroke counter start _____ stroke counter end _____ No. sampling strokes _____

Meter temperature _____ Pressure drop _____ "Hg Volume .146 m^3

TYPE OF CONTAMINANT CONTROL _____

ENVIRONMENTAL AND OPERATING CONDITIONS

INSTRUMENTATION NOTES

Pump put on probably too late in operation to obtain representative employee exposure for entire stall cleanout operation

PLAINTIFF'S EXHIBIT AL-434

ANALYTICAL DATA AND CALCULATIONS

CONCENTRATION _____

Sampled by WLY EBP

Analyzed by _____

Checked by _____

Remarks:

ARCH 18783

ALCOA AIR SAMPLING DATA SHEET

WORKS ROCKDALE BUILDING NO. _____ DATE 77-12-05

SAMPLE NO. 2 ANALYSIS FOR ASBESTOS

OPERATION Stall Cleanout-en LOCATION Potline 5 Cell 67

EMPLOYEE NAME A. Kortis CLOCK NO. _____ SOC.SEC.NO. _____

Sampling position BZ

Method of Sampling personal Vacuum Source & No. RD #6

Collecting medium .8 u FILTER + PAD Volume, ml _____

Time of Sampling 9:07 AM to 10:16 AM Duration 69 min. Cal.Rate 2.0 lpm

*Stroke counter start _____ stroke counter end _____ No. sampling strokes _____

Meter temperature _____ Pressure drop _____ "Hg Volume .138 m^3

TYPE OF CONTAMINANT CONTROL _____

ENVIRONMENTAL AND OPERATING CONDITIONS

INSTRUMENTATION NOTES

Pump put on probably too late in operation to obtain representative employee exposure for entire stall cleanout operation.

Kortis spent more time in west end unhooking cranes than did Peevey in sample #1

ANALYTICAL DATA AND CALCULATIONS

NCENTRATION _____

Sampled by WLY / EBP

Analyzed by _____

Checked by _____

arks:

ARCH 18784

n/a. SKC type pumps only

ALCOA AIR SAMPLING DATA SHEET

WORKS FOXBORO BUILDING NO. _____ DATE 77-12-05

SAMPLE NO. 3 ANALYSIS FOR ASBESTOS

OPERATION Stell Operator - pm LOCATION POTLINE 5 CELL 67

EMPLOYEE NAME A. Kortes CLOCK NO. 2268 SOC.SEC.NO. _____

Sampling position BZ

Method of Sampling personal Vacuum Source & No. RD - 6

Collecting medium .8 μ FILTER + PAC Volume, ml —

Time of Sampling _____ to _____ Duration _____ min. Cal.Rate 2.0 lpm

*Stroke counter start _____ stroke counter end _____ No. sampling strokes _____

Meter temperature _____ Pressure drop _____ "Hg Volume 0.106 m^3

TYPE OF CONTAMINANT CONTROL _____

ENVIRONMENTAL AND OPERATING CONDITIONS

INSTRUMENTATION NOTES

18 min	12:29 – 12:47	manual shoveling - very dusty
25 min	1:12	waiting for crane, raking debris into center of pot
0 min	1:50	pump off, waiting for crane
10 min	2:00	loading dumpster
		crane failure sampling ended
53 min		

53 min × 2 lpm = 106 l

ANALYTICAL DATA AND CALCULATIONS

CONCENTRATION _____

Sampled by WLY / KPK / EBP

Analyzed by _____

Checked by _____

Remarks:

ARCH 18785

*fr. SKC type pump only

ALCOA AIR SAMPLING DATA SHEET

WORKS ROCKDALE BUILDING NO. _____ DATE 77-12-05

SAMPLE NO. 4 ANALYSIS FOR ASBESTOS

OPERATION steel cleanout-pm LOCATION POTLINE 5, Coil 67

EMPLOYEE NAME S. Peevey CLOCK NO. 2275 SOC.SEC.NO. _____

Sampling position BZ

Method of Sampling personal Vacuum Source & No. RD #7

Collecting medium .8 μ FILTER + PAD Volume, ml —

Time of Sampling _____ to _____ Duration 53 min. Cal.Rate 2.0 lpm

*Stroke counter start _____ stroke counter end _____ No. sampling strokes _____

Meter temperature _____ Pressure drop _____ "Hg Volume 0.106 m^3

TYPE OF CONTAMINANT CONTROL _____

ENVIRONMENTAL AND OPERATING CONDITIONS

INSTRUMENTATION NOTES

sampling times and description of operations same as sample #3

NALYTICAL DATA AND CALCULATIONS

:CENTRATION _____

Sampled by WLY/KPK/EBP

Analyzed by _____

Checked by _____

:arks:

ARCH 18786

*fm. SKC type pumps only

ACCUM AIR SAMPLING DATA SHEET

WORKS DOCKDALE BUILDING NO. _____ DATE 77-12-06

SAMPLE NO. A-06-1 ANALYSIS FOR ASBESTOS

OPERATION Stall Cleanout LOCATION POTROOM 26 Cell 3

EMPLOYEE NAME S Peavey CLOCK NO. 2275 SOC.SEC.NO. _____

Sampling position BZ

Method of Sampling Personal Vacuum Source & No. EHL #1

Collecting medium .8 µ FILTER + PAD Volume, ml —

Time of Sampling 8:25 to 9:52 Duration 87 min. Cal.Rate 1.68 lpm

*Stroke counter start — stroke counter end — No. sampling strokes —

Meter temperature — Pressure drop — "Hg Volume 0.146 m^3

TYPE OF CONTAMINANT CONTROL _____

ENVIRONMENTAL AND OPERATING CONDITIONS

INSTRUMENTATION NOTES

- Asbestos bagged during first 4 minutes
- Asbestos shims had disintegrated to the point that all removal was accomplished by shoveling

ANALYTICAL DATA AND CALCULATIONS

NCENTRATION _____

Sampled by WLY/KPK

Analyzed by _____

Checked by _____

arks:

ARCH 18787

fm. SKC type pump only

ALCOA AIR SAMPLING DATA SHEET

WORKS Pockdale BUILDING NO. _____ DATE 77-12-06

SAMPLE NO. A-06-2 ANALYSIS FOR Asbestos

OPERATION Stall Cleanout LOCATION Potroom 26 Cell 3

EMPLOYEE NAME A Kortis CLOCK NO. 2268 SOC.SEC.NO. _____

Sampling position Bz

Method of Sampling personal Vacuum Source & No. RO #7

Collecting medium _____ Volume, ml _____

Time of Sampling 8:25 to _____ Duration _____ min. Cal.Rate 2.0 lpm

*Stroke counter start _____ stroke counter end _____ No. sampling strokes _____

Meter temperature _____ Pressure drop _____ "Hg Volume _____

TYPE OF CONTAMINANT CONTROL _____

ENVIRONMENTAL AND OPERATING CONDITIONS

INSTRUMENTATION NOTES

- operating conditions same as sample A-06-1

pumple failure first noticed at 9:05

SAMPLE LOST

ANALYTICAL DATA AND CALCULATIONS

NCENTRATION _____

Sampled by WLY/KPK

Analyzed by _____

Checked by _____

arks:

ARCH 18788

-fn. SIS type pump

ALCOA AIR SAMPLING DATA SHEET

WORKS ROCKDALE BUILDING NO. _____ DATE 77-12-06

SAMPLE NO. A-06-03 ANALYSIS FOR ASBESTOS

OPERATION Stall Clearout LOCATION POTROOM 26 Cell 3

EMPLOYEE NAME S. Peeve; CLOCK NO. 2275 SOC.SEC.NO. _____

Sampling position BZ

Method of Sampling personal Vacuum Source & No. EHL #1

Collecting medium .8μ FILTER + PAD Volume, ml —

Time of Sampling 12:32 to 1:07 Duration 35 min. Cal.Rate 1.68

*Stroke counter start — stroke counter end — No. sampling strokes —

Meter temperature — Pressure drop — "Hg Volume 0.059 m³

TYPE OF CONTAMINANT CONTROL _____

ENVIRONMENTAL AND OPERATING CONDITIONS

INSTRUMENTATION NOTES

1:07 clearout operation completed

ANALYTICAL DATA AND CALCULATIONS

CENTRATION _____

Sampled by WLY/KPK

Analyzed by _____

Checked by _____

arks:

ARCH 18789

ALCOA AIR SAMPLING DATA SHEET

WORKS ROCKDALE BUILDING NO. _____ DATE 11-12-06

SAMPLE NO. A-06-04 ANALYSIS FOR ASBESTOS

OPERATION Stall cleanout LOCATION Pot Room 26 Cell 3

EMPLOYEE NAME A. KORTIS CLOCK NO 2268 SOC.SEC.NO. _____

Sampling position Bz

Method of Sampling personal Vacuum Source & No. RD #7

Collecting medium _____ Volume, ml —

Time of Sampling 12:32 to _____ Duration _____ min. Cal.Rate 2.0 lpm

*Stroke counter start _____ stroke counter end _____ No. sampling strokes _____

Meter temperature _____ Pressure drop _____ "Hg Volume _____

TYPE OF CONTAMINANT CONTROL _____

ENVIRONMENTAL AND OPERATING CONDITIONS

INSTRUMENTATION NOTES

1:07 cleanout operation completed

pump Fail

SAMPLE LOST

ANALYTICAL DATA AND CALCULATIONS

CONCENTRATION _____

Sampled by WLY / KPK

Analyzed by _____

Checked by _____

Remarks:

*Gipin, SKC type pumps only

ARCH 18790

ALCOA AIR SAMPLING DATA SHEET

WORKS ROCKDALE BUILDING NO. _____ DATE 77-12-07

SAMPLE NO. A-07-01 ANALYSIS FOR ASBESTOS

OPERATION Stall Cleanout LOCATION Pot Room 16 Cell 42

EMPLOYEE NAME S Peevey CLOCK NO. 2275 SOC.SEC.NO. _____

Sampling position BZ

Method of Sampling personal Vacuum Source & No. EHL #1

Collecting medium .8 μ FILTER + PAD Volume, ml —

Time of Sampling 8:39a to 10:53 Duration 134 min. Cal.Rate 1.68 lpm

*Stroke counter start — stroke counter end — No. sampling strokes —

Meter temperature — Pressure drop — "Hg Volume 0.225 m^3

TYPE OF CONTAMINANT CONTROL _____

ENVIRONMENTAL AND OPERATING CONDITIONS

INSTRUMENTATION NOTES

- Asbestos bagged for first 10 minutes of sample
- nearly ½ of asbestos skins were intact and could be removed manually
- approx 75% of all asbestos was removed from cradles & bagged

entire operation start to finish completed in 134 min (not representative of normal stall cleanout operations)

ANALYTICAL DATA AND CALCULATIONS

CONCENTRATION _____

Sampled by KPK

Analyzed by _____

Checked by _____

Remarks:

ARCH 18791

*Gilian, SKC type pumps only

ALCOA AIR SAMPLING DATA SHEET

WORKS ROCKDALE BUILDING NO. _____ DATE 77-12-07

SAMPLE NO. A-07-02 ANALYSIS FOR ASBESTOS

OPERATION Stall cleanout LOCATION POTROOM 16 Cell 42

EMPLOYEE NAME A. KORTS CLOCK NO 2268 SOC.SEC.NO. _____

Sampling position BZ

Method of Sampling personal Vacuum Source & No. RD #6

Collecting medium .8 μ FILTER + PAD Volume, ml _____

Time of Sampling 8:39 to 10:53 Duration 134 min. Cal.Rate 2.0 L/min

*Stroke counter start _____ stroke counter end _____ No. sampling strokes _____

Meter temperature _____ Pressure drop _____ "Hg Volume .268 m^3

TYPE OF CONTAMINANT CONTROL _____

ENVIRONMENTAL AND OPERATING CONDITIONS

INSTRUMENTATION NOTES

all notes for sample A07-01 apply here

ANALYTICAL DATA AND CALCULATIONS

CONCENTRATION _____

Sampled by KPK

Analyzed by _____

Checked by _____

Remarks:

ARCH 18792

*Gipin, SKC type pumps only

THIS COPY FOR MR. T. B. BONNEY, PITTSBURGH

FROM E. B. PARKER
ROCKDALE WORKS

TO MR. G. H. LANTZ
ROCKDALE WORKS

KPK wmp 23
TBBf

1978 November 03

RE: MONTHLY ENVIRONMENTAL REPORT - 1978 OCTOBER

Government Agency Contacts

An application was submitted to the Texas Department of Water Resources requesting that additional outfalls for the discharge of mine water be added to the existing permit.

An application was submitted to the Texas Air Control Board for a construction permit to install a new lignite primary crusher in the south mining area and to refurbish and extend an existing conveyor from the new crusher to the power plant area.

A modification to the Construction Permit for Bldg. 160, the new anode baking furnace, was received from the Texas Air Control Board. The modification allows firing the new furnace on a 40-hour cycle provided any increase in carbon produced as a result is offset by an equivalent reduction in carbon produced in the existing furnaces.

Mr. Gary Naler, Texas Air Control Board staff, telephoned to inquire about Alcoa's progress in completing the testing of No.2 boiler in the power plant. He indicated that the staff is anxious to resolve the question of BTU determination during emissions testing and asked that we schedule a meeting with them as soon as possible. The meeting has been scheduled for 1978 December 7.

An Industrial Surface Impoundment Assessment questionnaire was completed and sent to the Texas Department of Water Resources.

A letter was received from the Austin Area OSHA office granting a three-month extension to the abatement date for the bath crusher dust exposure problem.

The Texas Air Control Board was advised of the following emissions incidents:

1. Dusting from the Carbon Plant precipitator stack
2. High opacity of emissions when No.3 boiler in the power plant was shut down to repair a tube leak

ARCH 18793

ALCOA

Other Environmental Activity

Another series of limestone injection tests were conducted on No.3 power plant boiler. Again, no SO_2 reduction was observed. Additional laboratory work is planned in order to define and optimize the variables in the process. Once this has been done, further testing at Rockdale may be warranted.

A Continuous Monitoring Compliance questionnaire was received from an organization called Research Triangle Institute. The questionnaire dealt with the continuous monitoring requirements for the new anode baking furnace. It was filled out and returned to Dr. P. R. Atkins for review before being submitted to RTI. The questionnaire reflected Alcoa's belief the continuous monitoring requirements do not apply in this case.

The original Class I waste disposal pit was levelled in order to determine its remaining capacity. It appeared that enough volume remained to last perhaps six months.

Contact was made with Mr. Jim Boyt, Pittsburgh Environmental Control, concerning a proposed study of the waste water streams being discharged into Alcoa Lake. The study will provide direction in developing plans to control these discharges and preserve the quality of the lake.

In September, a Research-Cottrell service representative visited Rockdale in connection with Carbon Plant precipitator problems. He made several recommendations to improve the unit's performance, all of which were completed in October. In spite of this, the precipitator still performs erratically. Consequently, arrangements have been made for Research-Cottrell's most knowledgeable precipitator expert to visit Rockdale in early November. Meanwhile, Engineering is proceeding with preparation of an RFA to replace the precipitator.

Requisitions were placed for "sound control walls" to be installed at the crusher and at the stripping press hydraulic unit in the Rodding Room.

The electrical package for the project to replace batch cars in the anode mixing area with screw conveyors was released to Construction.

Evaluation of the 3M whitecap helmet and powered air purifier for use on bath crushing vehicles continued to look good. A decision is expected in early November concerning the acceptance of this equipment as the abatement strategy to control employee exposure to dust in the bath crushing area.

Respiratory protection program audits were conducted in the Potlining, Utility, Environmental Control, Ingot and Properzi, Mechanical Maintenance, and Atomizer areas. In general, the audits were satisfactory. However, it was found that plans to insure periodic refresher training were needed.

Emissions Testing Results

Source	Date	Pollutant	Actual Emissions	Allowable Emissions
Carbon Plant Prec.	78-09-29 (1)	TSP	118.2 lbs/hr	28.5 lbs/hr
	78-10-13 (2)	TSP	87.8 lbs/hr	27.7 lbs/hr
	78-10-13-	Opacity	Max. 30%	30%
	78-10-27	(13 Observations)	Avg. 24%	-
			Min. 19%	-
B79 Dust Collector	78-09-29	TSP	13.1 lbs/hr	19.4 lbs/hr
L6 Roof Monitor	78-08-17	TSP	3.9 lbs/ton Al	-
		Total F^-	2.21 lbs/ton Al	-
		SO_2	1.09 lbs/ton Al	-
	78-09-12	TSP	2.62 lbs/ton Al	-
		Total F^-	4.30 lbs/ton Al	-
		SO_2	1.79 lbs/ton Al	-
L8 Roof Monitor	78-07-31	TSP	7.56 lbs/ton Al	-
		Total F^-	9.79 lbs/ton Al	-
		SO_2	4.66 lbs/ton Al	-
	78-09-14	TSP	2.59 lbs/ton Al	-
		Total F^-	3.96 lbs/ton Al	-
		SO_2	1.92 lbs/ton Al	-

(1) Test run before installation of new rappers
(2) Test run after installation and adjustment of new rappers and alignment of frame

General

E. B. Parker and Ken Allison (Engineering Science, Inc.) met in Pittsburgh with Dr. P. R. Atkins and Mr. R. H. Carwile to discuss SO_2 dispersion modeling.

E. B. Parker participated in a meeting in Pittsburgh concerned with a timetable for installation of Alcoa 398 systems to replace scrubbers at Wenatchee and Rockdale.

E. B. Parker, C. L. Green, W. E. Michalke, John Barnett, and K. K. Adams met in Dallas with Messrs. V. W. Rieke, M. W. Wei, Dr. P. R. Atkins, and representatives of Texas Power and Light to discuss SO_2 emissions from the Sandow Generating Station.

Mr. Dick Shakelford, Hearing Conservation Noise Control, paid a routine visit to Rockdale in connection with the Hearing Conservation Program.

E. B. PARKER

EBP:cw

Copy - P. R. Atkins, Pittsburgh
V. W. Rieke, Pittsburgh
T. B. Bonney, Pittsburgh
J. C. Mayfield, Pt. Comfort
R. C. Hinkle, Badin
C. L. Green, Rockdale
J. W. Havins, Rockdale
W. D. Essary, Rockdale
A. G. Clayton, Rockdale
J. J. Congleton, Rockdale
W. J. Drake, Rockdale

THIS COPY FOR MR. T. B. BONNEY, PITTSBURGH

FROM E. B. PARKER
ROCKDALE WORKS

TO MR. G. H. LANTZ
ROCKDALE WORKS

1978 October 04

RE: MONTHLY ENVIRONMENTAL REPORT - 1978 SEPTEMBER

Government Agency Contacts

Mr. Steve Blackhurst, Texas Air Control Board regional staff, conducted a routine inspection of Rockdale Works. He was particularly interested in the lignite handling and drying operations, the new dust collection facilities in the Rodding Room and the Building 160 carbon cleaning machines.

An application for a permit to operate the new anode baking furnace was submitted to the Texas Air Control Board. The application was accompanied by a report detailing the results of NSPS testing of the furnace's emissions. The same report was submitted to the EPA.

Both the EPA and the Texas Air Control Board were advised that the firing schedule of the new anode baking furnace was being changed from 48 hours to 40 hours for performance evaluation purposes. Additional testing at the new rate may be required.

An application was submitted for amendments to Rockdale's Texas Department of Water Resources discharge permit. The amendments will add a number of outfalls in the surface mining area. Previously, the TDWR had disclaimed jurisdiction over surface mining discharges, saying that such discharges were regulated by the Surface Mining Division of the Railroad Commission. Recently, this responsibility was given to the TDWR, thus permit amendments to Rockdale's permit became necessary.

The Texas Air Control Board was advised of the following emissions incidents:

1. Excessive dusting from the carbon plant precipitator - this appeared to be the result of a smoldering fire in the unit.

2. High opacity during the restart of No.3 Boiler in the power plant.

3. Excessive dusting from the lignite dryer shuttle house rotoclone - corrosion and resulting leaks in the water pan beneath the rotoclone made it necessary to run the unit without water. The pan will be replaced.

4. Excessive dusting from an Alcoa 446 reactor dust collector caused by bad bags.

5. High opacity when No.1 Boiler in the power plant was shut down.

6. High opacity from lignite dryers when the No.2 scrubber fan was shut down for excessive vibration.

ARCH 18796

ALCOA

SF-4563 (REV 11-68)

A quarterly progress report was submitted to OSHA describing progress made in abating violations cited during an industrial hygiene inspection in 1977 November. Requests for extensions in abatement dates were requested as follows:

Does NIOSH pending certification of the Airstream Helmet affect abatement plans? KPL

1. Front-end loader operator overexposed to dust in the bath crushing area - Airstream helmets were not accepted by OSHA as a permanent solution. Asked for an extension until 1978 December 31 to complete evaluation and selection of acceptable powered air purifying systems.

2. Employees overexposed to coal tar pitch volatiles in anode mixer area - The initial abatement plan which includes mixer modifications and fume exhaust improvements will be complete by the abatement date. However, an extension until 1979 July 31 to permit completion of the batch car replacement project was requested. The batch car project was not included in the initial abatement plan.

3. An employee was overexposed to noise in the rodding room - The original abatement plan depended on noise reduction associated with rodding room modernization. After modernization was complete, overexposure was still found. Asked for an extension of abatement until 1979 June 30 to complete additional noise control projects.

Other Environmental Activity

A representative of Research-Cottrell, manufacturer of the carbon plant precipitator, spent several days at Rockdale trouble-shooting the unit. He made several recommendations aimed at improving the unit's performance. These will be completed in early October. If performance is still unsatisfactory, replacement of the unit will be considered.

Rockdale enlisted the services of a consulting firm, Engineering Science,Inc., to perform an SO_2 dispersion modeling study aimed at predicting the effect of increased SO_2 emissions from the power plant boiler stacks. Results of the study indicated that SO_2 emissions could increase significantly without causing a violation of national ambient air quality standards or without using up the available P.S.D. increment. The study is part of a plan to seek relief in the form of a standards change from the Texas Air Control Board.

Another segment of the study predicted that SO_2 emissions from the smelter alone would result in violation of the annual average SO_2 concentration in an area on Alcoa property about one mile north of the plant. Mr. Ken Allison, Engineering Science, and Mr. E. B. Parker will review the study results with Dr. P. R. Atkins' group in Pittsburgh on October 9.

A third limestone injection test for SO_2 removal from power plant boiler effluent is planned for October 13.

On Labor Day, 1978 September 04, a complaint was received from a local resident concerned about excessive dusting from the carbon plant precipitator. Investigation revealed a smoldering fire in the unit. Apparently a similar complaint had been lodged with the TACB earlier.

Subsequent to OSHA's determination that Airstream helmets did not constitute a permanent solution to dust exposure experienced by bath crusher front-end loader operators, a 3M powered air purifier to be used with a 3M white cap helmet was obtained for trial. Initial response from the operators was favorable.

Construction of the potroom roof monitor sampling station in Room 10 continued. At month's end, the ductwork had been balanced and was ready for installation.

The fall urinary survey is scheduled to begin October 16.

Emissions Testing Results

Source	Date	Pollutant	Actual Emissions	Allowable Emissions
L6 Roof Monitor	78-07-10	TSP	3.95 lbs/ton Al	-
		Gas F^-	1.95 lbs/ton Al	-
		Part F^-	1.60 lbs/ton Al	-
		Total F^-	3.54 lbs/ton Al	-
		SO_2	.36 ppm	-
L8 Roof Monitor	78-07-18	TSP	7.79 lbs/ton Al	-
		Gas F^-	4.37 lbs/ton Al	-
		Part F^-	2.45 lbs/ton Al	-
		Total F^-	6.82 lbs/ton Al	-
		SO_2	.97 ppm	-
IGC Boiler #2	78-08-29 thru 78-09-01	TSP (F Factor)	.23 lbs/10^6 BTU	.3 lbs/10^6 BTU
		SO_2 (F Factor)	3.67 lbs/10^6 BTU	3.0 lbs/10^6 BTU
		SO_2 (Lignite Analysis)	3.19 lbs/10^6 BTU	3.0 lbs/10^6 BTU

E. B. PARKER

EBP:cw

Copy - P. R. Atkins, Pittsburgh
V. W. Rieke, Pittsburgh
T. B. Bonney, Pittsburgh
J. C. Mayfield, Pt. Comfort
R. C. Hinkle, Badin
C. L. Green, Rockdale
J. W. Havins, Rockdale
D. L. Smith, Rockdale
A. G. Clayton, Rockdale
J. J. Congleton, Rockdale
W. J. Drake, Rockdale

THOMAS B. BONNEY 4/16/98 ~~KPE~~

TO:

Ken

per your question —

Don't believe so. OSHA decided that Air Stream was not an adequate solution when they observed employees working with the visors up on the Air Stream Helmets

Tom

ALCOA

1501 Alcoa Building
Pittsburgh, Pennsylvania 15219