FROM PATRICK R. ATKINS

PITTSBURGH OFFICE

DR. L. OLMTAK

SURINAME OPERATIONS

[redacted]

1977-06-06

RE: HEALTH IMPLICATIONS OF MOENGO KILN DISCHARGES

George Farrah examined a sample from Moengo Kiln No. 10 which was collected several years ago as part of a study to determine engineering design characteristics of pollution control equipment. Visual and chemical analyses of these particles have led Tom Bonney and Bert Dinman to the conclusion that there should not be a health hazard associated with these emissions. Therefore, the major reason for kiln control efforts at Moengo should be the nuisance factor. As I stated in my report concerning Suriname Operations, I am of the opinion that every effort should be made to reduce emissions through process control, but at this time Suriname Operations ought not to embark upon a capital intensive program to install abatement equipment.

Miles Colwell has indicated to me that if emissions cannot be reduced by process control he feels that the nuisance situation should be considered carefully before a decision is made not to control those emissions by abatement equipment. You and your colleagues are in the best position to make that determination and recommend strategy.

I will be happy to continue our discussions on this subject with you at any time.

Patrick R. Atkins

PRA:mh

Attachments

cc: Dr. M. O. Colwell - 29
Dr. B. D. Dinman - 7
Mr. T. B. Bonney - 7
Mr. G. H. Farrah - ATC

ALCOA

THOMAS B. BONNEY
HEALTH & ENVIRONMENT DEPARTMENT
PITTSBURGH OFFICE, 7AB

DR. P. R. ATKINS

PITTSBURGH 7AB

1977 May 13

RE: BAUXITE DUST, PARANAM

Reference is made to the analytical reports of the captioned sample obtained from Paranam Kiln No. 10 stack. None of the materials detected are of any significant health concern. It is the analyst's convention to report the elements found as oxides, the most likely form in which they are present. However, in the case of silicon, reported as 4% SiO_2, it is highly unlikely that crystalline silica, a potentially harmful material, is present in any significant amount. It is expected that most, if not all, of the silicon is present as a relatively harmless silicate. This is typical of most of the bauxites we mine. If crystalline silica were present in any significant concentration (e.g. greater than 0.5%), it would have been seen on the x-ray diffraction report.

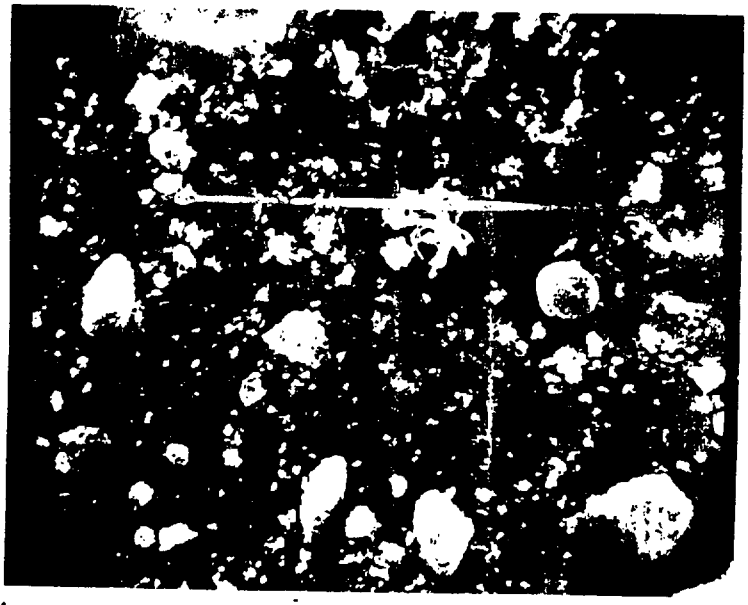
On the basis of the x-ray diffraction and x-ray fluorescence analytical reports, we conclude that the most likely problem to be created by emissions from the No. 10 kiln is that of nuisance.

THOMAS B. BONNEY

TBB:lmn

COPY

ALCOA



1mm = 5μ



ALCOA RESEARCH LABORATORIES
ANALYTICAL CHEMISTRY DIVISION

MATERIAL Bauxite | ASSIGNED TO Kramer(17) XRF(14) | J.O. 77-031407

SOURCE [illegible] | DATE SUBMITTED 3/14/77 | S.O. 79A50494

REPORT TO G.H. Farrah | DATE REPORTED | NO. SPLE. 1

cc: P.R. Atkins - Pgh.

Submitted: Partially calcined bauxite

Determine: XRD and XRF for presence of toxic elements, compounds, crystalline forms

XRF detects the presence of silicon. It cannot determine the form in which the silicon is present. [illegible] chose to report the elements present as oxides. Since XRD detected no crystalline silica (sensitivity [illegible]) we must assume that the silicon is present as a silicate.

% COMPOSITION

					SiO_2	4.00					
					Fe_2O_3	4.35					
					TiO_2	4.78					
					Al_2O_3	80.0					
					CaO	.02					
					MnO	.01					
					Cr_2O_3	.12					
					P_2O_5	.14					
					ZrO_2	.16					
					SO_3	.32					
					CuO	.03					
					ZnO	.02					
					Ga_2O_3	.04					
					MgO	—					
					LOF	5.6					

LAB REF 033177 | ANALYZED BY [illegible] 04/15/77 | APPROVED BY [illegible] 4/15/77

TEST SHEET

468415 0064

ALCOA RESEARCH LABORATORIES
ANALYTICAL CHEMISTRY DIVISION

MATERIAL **Bauxite** ASSIGNED TO **Kramer (17) XRF (14)** J.O. **77-031407**

SOURCE **KHL** DATE SUBMITTED **3/14/77** S.O. **79A50494**

REPORT TO **G.N. Farrah** DATE REPORTED NO. SPLE. **1**

cc: **P.R. Atkins - Pgh.**

Submitted: Partially calcined bauxite

Determine: XRD and XRF for presence of toxic elements, compounds, crystalline forms

RECEIVED
APR 18 1977
PATRICK R. ATKINS

XRD

ALPHA	Al_2O_3 (CORUNDUM)	MAJOR
	TiO_2 (ANATASE)	MINOR
ALPHA	Fe_2O_3 (HEMATITE)	TRACE
UNIDENTIFIED		MINOR

No crystalline silica detected above limit of detection about 0.5%

LAB REF X-881 ANALYZED BY R. KRAMER APPROVED BY 4/15/77

TEST SHEET

468415 0065

GEORGE H. FARRAH
ENVIRONMENTAL HEALTH LABORATORY
ALCOA TECHNICAL CENTER - C

DR. P. R. AIKINS

PITTSBURGH OFFICE - 7

RECEIVED
APR 1 4 1977
PAT...

April 14, 1977

RE: BAUXITE DUST, PARANAM - I.H. No. 2833

A specimen of bauxite dust, collected at Paranam Kiln No. 10 stack and submitted by Mr. B. I. Grant for determination of particle size distribution, has been reexamined by scanning electron microscopy as you requested. Attached are the photomicrographs taken at 50X, 200X, and 500X by AL-Physical Metallurgy Division.

GEORGE H. FARRAH

GHF:ds

Attachments (3)

ALCOA

468415 0066

GEORGE H. FARRAH
ENVIRONMENTAL HEALTH LABORATORY
ALCOA TECHNICAL CENTER - C

DR. P. R. ATKINS

PITTSBURGH OFFICE - 7

RECEIVED
JUN 1 1977

CORRECTED REPORT

1977-05-31

PATRICK R ATKINS

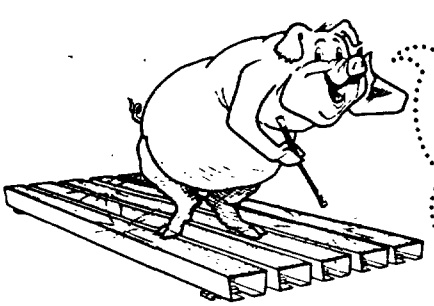
RE: BAUXITE DUST, SURINAME

The sample of bauxite dust reported 1977 April 14 under the caption "Bauxite Dust, Paranam - I.H. No. 2833" was incorrectly identified. The specimen is correctly identified as Bauxite Dust, Moengo - I.H. No. 2635.

GEORGE H. FARRAH

GHF:ds

ALCOA



Alcoa
Sooey-Slats
for swine farrowing, nursing and finishing

~~BOD~~
PRA

Bart,

Is this stuff good
bad or O.K. Major
Al_2O_3 alpha

Pat

Wouldn't say it's good - but it
ain't bad. See comments on analytical
reports

T.C.B.

468415 0068

THOMAS B. BONNEY
HEALTH & ENVIRONMENT DEPARTMENT
PITTSBURGH OFFICE, 7AB

DR. P. R. ATKINS

PITTSBURGH 7AB

RECEIVED
MAY 16 1977
PATRICK R. ATKINS

1977 May 13

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THOMAS B. BONNEY

TBB:lmn

