

Sent from Cleveland
COPY

February 3, 1945

Mr. F.R. Miller, Chief Chemist
Aluminum Company of America
Niagara Falls, New York

PLAINTIFF'S EXHIBIT

AL-2400

Dear Mr. Miller:

The results which you submitted regarding the comparative amounts of dust and gas found in the pot room are most interesting and in general agree with the results found in another reduction plant. The work you have done with the electrostatic precipitator is sufficient to give the general information which we needed. I would greatly appreciate it if you would express the electrostatic instrument to the following address:

Sanitary Engineer (R) Harry E. Seifert
Division of Industrial Hygiene
Bureau of State Service, U. S. Public Health Service
Bethesda 14, Maryland

There will be some additional samples needed in the pot room but those may be obtained by the standard impinger. In the near future, I will write again to discuss the remaining program which will embrace, in addition to the pot room study, operation which were previously considered.

I would prefer delaying the dust count until such time that I can be present to help in their determination, *especially* Especially since it will be necessary to obtain a microscope for this purpose. It is probable that the microscope can be made available from my office.

At the earliest possible date, I will arrange to come up for a general discussion of the program.

According to the newspapers, I gather that the weather is somewhat different from that of the west coast.

Lester

916285 0028

Myra Draft

Dear Lloyd:

In connection with the industrial hygiene study the following locations and operations must be taken into consideration in calculating the amount of exposure of the various workmen.

1. place ~~where workmen~~ in the factory where the workmen ~~are~~ when not attending the gate.

2. Milling. Light
3. Churning Carbon
4. Tapping.
5. Game Lab.

It is difficult to predict just how many samples will be required at each of these locations. It is my present belief that at least three samples (in separate days) will be required necessary as a minimum. I would like to have your ideas on this.

Other locations for sampling which were discussed earlier with Messrs. Volk and Kasper were:

1. Removing ~~butte~~ ~~from~~ ~~the~~ ~~site~~
2. ~~Swinging~~ ~~(Hillman)~~
3. ~~cleaning~~ ~~inert~~ ~~rock~~
4. ~~Post~~ ~~dropping~~ ~~(removal of debris)~~
5. ~~Removal of~~ ~~study~~ ~~from~~ ~~site~~
6. ~~Removal of~~ ~~study~~ ~~from~~ ~~site~~
7. Looking and looking but care
8. Looking at the line
9. Screening both end material from catch pan
10. Looking crystals and aluminum fluoride

Any ideas which you have on the above program will be greatly appreciated. I hope to be able to visit your facilities in March.

C.C. D. A. Damm, Pittsburgh

Best regards,
P. T.

916285 0029

SUMMARY SHEET

Surf File

DUST COUNT

Works Niagara Operation General Potroom Date 10/16-18/44

<u>Sample No.</u>	<u>Location*</u>	<u>Dust Count, mppcf**</u>
D-1	Line 1	3.0
D-2	Line 1	9.2
D-3	Line 4	1.4
D-4	Line 4	3.8
D-5	Line 3	2.0
D-6	Line 2	2.6
D-7	Line 1	1.8
D-8	Line 1	2.8
D-9	Line 3	4.8
D-10	Line 4	1.6
D-11	Line 2	3.0
D-12	Line 3	5.0

*All are general aisle samples.

**Using light field technique

Analyzed by: L. V. Cralley

916285 0030

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-1

Analysis desired Dust Count

Sample taken: Date 10-16-44

Time 3:45 PM

Operation General Refractor

Location Zone 2

SAMPLING DATA

Position Central aisle sample

Time of Sampling 3:40 PM, to 4:10 PM

Method of Sampling Wetjet impinger

Absorbing Medium Wetjet alcohol 9% Volume 10 ml

Suction Apparatus Wetjet impinger pump

Sample Volume 3 ft³ Temp. 71° F

Duration 30 Min., Air Volume 0.1 cfm.

Remarks: Some are being filled

Sample collected by: Foster V. Crally

ANALYTICAL DATA

Dust Count 3.0 million particles per cubic foot of air

CALCULATIONS

RESULTS 3.0 MPPCF

Wetjet field technique

WEATHER CONDITIONS

Temp. of Sampling °F, Humidity %, Sky

Temp. Outside °F, Wind

Percentage of Windows Open

REMARKS

Wetjet method is efficient for the collection of dust
but not for fumes

916285 0031

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-2

Analysis desired Dust Count
SiO₂

Sample taken: Date 90-17-4
Time 10:00 AM

Operation General pit room

Location Line 1

SAMPLING DATA

Position General ash sample
Center section

Time of Sampling 10:00 AM to 10:30 AM

Method of Sampling Wedge sampler

Absorbing Medium nickel arsenate 95% Volume 10 ml

Suction Apparatus Wedge sampler pump

Sample Volume 3 ft³ Temp. 78°F

Duration 30 Min., Air Volume 0.1 cfm.

Remarks:

Sample collected by: Feiter V. Cralley

ANALYTICAL DATA

CALCULATIONS

RESULTS 9.2 4PPCF (million particles per cubic foot of air)
per feet³ volume

WEATHER CONDITIONS

Temp. of Sampling _____ °F, Humidity _____ %, Sky _____

Temp. Outside _____ °F, Wind _____

Percentage of Windows Open _____

REMARKS

916285 0032

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-3

Analysis desired Direct Count
SiO₂

Sample taken: Date 10-17-44
Time 10:30 AM

Operation General pit run

Location Line 4

SAMPLING DATA

Position General well sample
40 pit section

Time of Sampling 10:30 AM to 11:00 AM

Method of Sampling nutlet sampler

Absorbing Medium methyl alcohol 95% Volume 10 ml

Suction Apparatus nutlet sampler pump

Sample Volume 3.0 ft³ Temp. 78 °F

Duration 30 Min., Air Volume 0.1 cfm.

Remarks:

- over rolling deck.

Sample collected by: Fester V. Crall

ANALYTICAL DATA

CALCULATIONS

RESULTS 1.4 MPPCF

WEATHER CONDITIONS

Temp. of Sampling °F, Humidity % Sky

Temp. Outside °F, Wind

Percentage of Windows Open

REMARKS

916285 0033

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-4

Analysis desired Dust Count
Sio₂

Sample taken: Date 10-17-44
Time 11:00 AM

Operation General pot room

Location Line 4

SAMPLING DATA

Position General acid sample
Chrysina section

Time of Sampling 11:00 AM to 11:30 AM

Method of Sampling Wulstet sampler

Absorbing Medium Wetted alcohol 95% Volume 10 ml

Suction Apparatus Wulstet sampler pump

Sample Volume 3 ft³ Temp. 78°F

Duration 30 Min., Air Volume 0.1 cfm.

Remarks: pot being cleaned out on this line

Sample collected by: Arthur V. Crall

ANALYTICAL DATA

CALCULATIONS

RESULTS 3.8 MPACF

WEATHER CONDITIONS

Temp. of Sampling °F, Humidity %, Sky

Temp. Outside °F, Wind

Percentage of Windows Open

REMARKS

916285 0034

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-5

Analysis desired Dust Count

Sample taken: Date 10-17-44
Time 1:40 PM

Operation General Dust Run

Location Line 3

SAMPLING DATA

Position General well sample
Chippewa section

Time of Sampling 1:40 PM, to 2:10 PM

Method of Sampling Widger Injurer

Absorbing Medium moist alcohol 75% Volume 10 ml

Suction Apparatus Widger Injurer Pump

Sample Volume 3 ft³ Temp. 78° F

Duration 30 Min., Air Volume 0.1 cfm.

Remarks:

Sample collected by: Feeder V. Crall

ANALYTICAL DATA

CALCULATIONS

RESULTS 2.0 MPRCF

WEATHER CONDITIONS

Temp. of Sampling °F, Humidity %, Sky

Temp. Outside °F, Wind

Percentage of Windows Open

REMARKS

916285 0035

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-6

Analysis desired Dust count
2:02

Sample taken: Date 10-17-44
Time 2:25 PM

Operation General Pot room

Location Line 2

SAMPLING DATA

Position General mill sample
Chippewa section

Time of Sampling 2:25 PM to 2:55 PM

Method of Sampling widget sampler

Absorbing Medium with 10% alcohol Volume 10 ml

Suction Apparatus widget sampler pump

Sample Volume 3 ft³ Temp. 78° F

Duration 30 Min., Air Volume rate cfm.

Remarks:

Sample collected by: Arthur V. Cralley

ANALYTICAL DATA

CALCULATIONS

RESULTS 2.6 MPPCF

WEATHER CONDITIONS

Temp. of Sampling °F, Humidity %. Sky

Temp. Outside °F, Wind

Percentage of Windows Open

REMARKS

916285 0036

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-7

Analysis desired out count
LiO₂

Sample taken: Date 10-17-44
Time 3:15 PM

Operation General pot room

Location Line 1

SAMPLING DATA

Position General airtight sample
chip area section

Time of Sampling 3:05 PM, to 3:30 PM

Method of Sampling midt sampler

Absorbing Medium methyl alcohol 95% Volume 10 ml

Suction Apparatus midt sampler pump

Sample Volume 3 ft³ Temp. 78° F

Duration 30 Min., Air Volume 0.1 cfm.

Remarks:

Sample collected by: Fester V. Cralley

ANALYTICAL DATA

CALCULATIONS

RESULTS 1.8 H.P.C.F

WEATHER CONDITIONS

Temp. of Sampling °F, Humidity %. Sky

Temp. Outside °F, Wind

Percentage of Windows Open

REMARKS

916285 0037

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-8

Analysis desired Direct count
Li-6

Sample taken: Date 10-17-44
Time 4:00 PM

Operation General pot room

Location Line 1

SAMPLING DATA

Position General acid sample
40 pot section

Time of Sampling 4:00 AM to 4:30 PM

Method of Sampling widget syringe

Absorbing Medium nitrogen dioxide Volume 10 ml

Suction Apparatus widget syringe pump

Sample Volume 3 ft³ Temp. 78° F

Duration 31 Min., Air Volume 0.1 cfm.

Remarks: Considerable pot working and
are being being filled

Sample collected by: Feather V. Crally

ANALYTICAL DATA

CALCULATIONS

RESULTS 2.8 MPPCF

WEATHER CONDITIONS

Temp. of Sampling °F, Humidity %, Sky

Temp. Outside °F, Wind

Percentage of Windows Open

REMARKS

916285 0038

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-9

Analysis desired Dust count
side

Sample taken: Date 10-18-44
Time 9:00 AM

Operation General Pot Room

Location Line 3

SAMPLING DATA

Position General airtight sample
center section

Time of Sampling 9:00 AM to 9:30 PM

Method of Sampling nutlet syringe

Absorbing Medium distilled water Volume 10 ml

Suction Apparatus nutlet syringe pump

Sample Volume 3 ft³ Temp. 75.0 F

Duration 3.5 Min., Air Volume rate 0.1 cfm.

Remarks: considerable working of pot

Sample collected by: Arthur V. Gally

ANALYTICAL DATA

CALCULATIONS

RESULTS 4.8 MPPCF

WEATHER CONDITIONS

Temp. of Sampling °F. Humidity %, Sky

Temp. Outside °F. Wind

Percentage of Windows Open

REMARKS

916285 0039

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-10

Analysis desired Swiff Count
LiO

Sample taken: Date 10-18-44
Time 9:45 A.M.

Operation General pit run

Location Line 4

SAMPLING DATA

Position General ash sample
center section

Time of Sampling 9:45 AM to 10:15 AM

Method of Sampling Wulpet mixer

Absorbing Medium distilled water Volume 10 ml

Suction Apparatus Wulpet mixer Sample

Sample Volume 3 ft³ Temp. 75° F

Duration 30 Min., Air Volume 100 cu ft

Remarks:

Sample collected by: Peter V. Gally

ANALYTICAL DATA

CALCULATIONS

RESULTS 1.6 MPPCF

WEATHER CONDITIONS

Temp. of Sampling °F, Humidity %, Sky

Temp. Outside °F, Wind

Percentage of Windows Open

REMARKS

916285 0040

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-11

Analysis desired Dust Count

Sample taken: Date 10-18-44
Time 10:25 AM

Operation General Pot room

Location Line 2

SAMPLING DATA

Position General mill sample
40 pot section

Time of Sampling 10:25 AM to 10:55 AM

Method of Sampling rubber siphon

Absorbing Medium distilled water Volume 10 ml

Suction Apparatus rubber siphon pump

Sample Volume 3.0 ml Temp. 75°F

Duration 30 Min., Air Volume 0.1 cfm.

Remarks:

Tapping

Sample collected by: Frederic V. Cralle

ANALYTICAL DATA

CALCULATIONS

RESULTS 3.0 M.P.P.C.F

WEATHER CONDITIONS

Temp. of Sampling °F, Humidity %, Sky

Temp. Outside °F, Wind

Percentage of Windows Open

REMARKS

916285 0041

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-12

Analysis desired Dust Count
Lib

Sample taken: Date 10-18-44

Time 11:00 AM

Operation General pit room

Location Line 3

SAMPLING DATA

Position General acid sample
40 ft section

Time of Sampling 11:00 AM to 11:30 AM

Method of Sampling midgey syringe

Absorbing Medium distilled water Volume 10 ml

Suction Apparatus midgey syringe pump

Sample Volume 3.0 ft³ Temp. 75°F

Duration 30 Min., Air Volume 0.1 cfm.

Remarks:

Normal activity

Sample collected by: Lester V. Cralley

ANALYTICAL DATA

CALCULATIONS

5.0

RESULTS MPPCA

WEATHER CONDITIONS

Temp. of Sampling °F, Humidity %, Sky

Temp. Outside °F, Wind

Percentage of Windows Open

REMARKS

916285 0042

ALUMINUM COMPANY OF AMERICA
NIAGARA WORKS

Atmospheric Tests

Department

Bldg.

Sample No. D-13

Analysis desired but count

Sample taken: Date 10-18-44
Time 2:30 PM

Operation metal mining (electric truck)

Location 3rd floor

SAMPLING DATA

Position general area sample - in aisle between two stairs leading to 4th room

Time of Sampling 2:30 ~~PM~~ to 3:00 ~~PM~~

Method of Sampling midjet neyinger

Absorbing Medium distilled water Volume 10 ml.

Suction Apparatus midjet neyinger pump

Sample Volume 3.0 ~~lts~~ Temp. _____

Duration 30 Min., Air Volume rate ~~0.1~~ cfm.

Remarks: Some of the dust in this area was the result of the trucking activity. Also some of the dust came from the open floor (unloading car of aluminum ore from Burlington).

Sample collected by: Lester V. Crally

ANALYTICAL DATA

CALCULATIONS

RESULTS 1.7 MPPCF

WEATHER CONDITIONS

Temp. of Sampling _____ of Humidity _____ % Sky _____

Temp. Outside _____ of Wind _____

Percentage of Windows Open _____

REMARKS

916285 0043